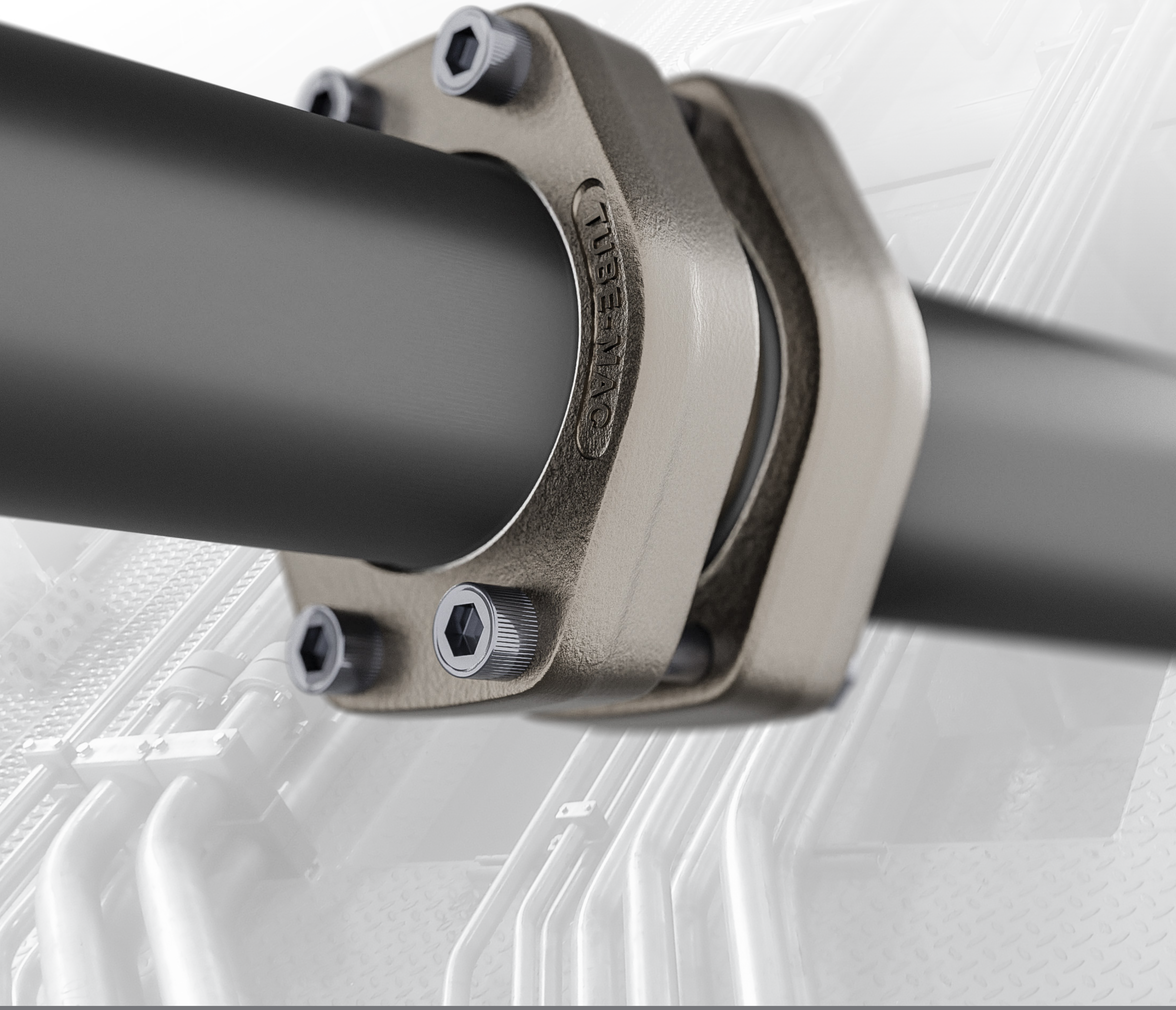
Product Catalogue V.62



tube-mac.com

Non-welded flange piping systems and components

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CANADA | USA | AUSTRIA | SPAIN

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Special Notes

1. Tube-Mac reserves the right to alter the design or discontinue any of the products or services without notice.
2. Diagrams and 3-D Models are not to scale. They are for illustrative purposes only.
3. Dimensions and weights are nominal (not exact) and may be subject to change.
4. The entire catalogue is subject to misprints and errors

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Tube-Mac®

Setting the Standard in non-welded Piping Systems

Tube-Mac® was founded in 1977 by our progressive thinking founder always seeking new ideas and methods to join pipes together quickly, cleanly and “without welding”. Quality and integrity is an integral part of Tube-Mac’s commitment to supplying the finest hydraulic/ lubrication piping systems and services on the market today.

By the early 1980’s Tube-Mac® was the first company to introduce the 37° Flare Flange and Retain Ring Flange systems to North America. A complete understanding of hydraulics and uncompromising dedication to cleanliness are what propelled Tube-Mac® to the forefront of these types of worldwide piping installations. Continuous investments in cutting edge machining and pipe fabrication technologies plus continuous product improvements keep Tube-Mac ahead of it competition. The TMI® 37° Flare Flange and TMI® Retain Ring Flanges systems were primarily used in various hydraulic oil and lubrication applications but over the years new applications are being introduced such as high pressure air, to expand its customer base. After more than 45 years, Tube-Mac® has thousands of successful projects and satisfied customers around the globe.

Tube-Mac® has offices in four countries and authorized distributors/installers in over thirty countries around the globe. It is this network of Quality People that service our customers. For an office or distributor near you please visit www.tube-mac.com

Headquarters: Stoney Creek, Ontario Canada

Tube-Mac USA

Tube-Mac Spain

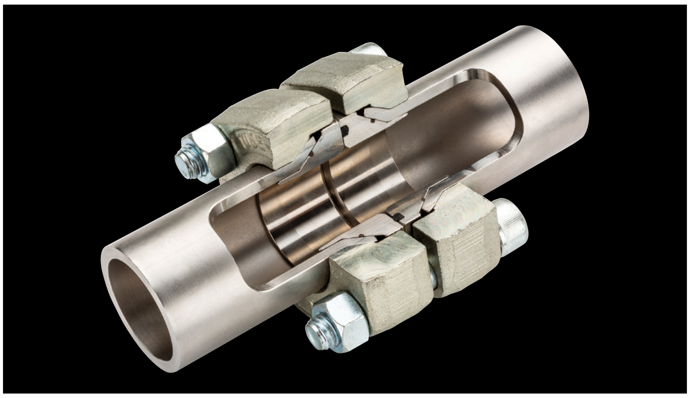
Tube-Mac Austria

Tube-Mac®

Speed

With construction schedules becoming more and more compacted, today's piping installations demand ***SPEED***.

The Tube-Mac piping systems rise to the challenge, setting a new standard with state-of-the-art, leak-free pipe connections.

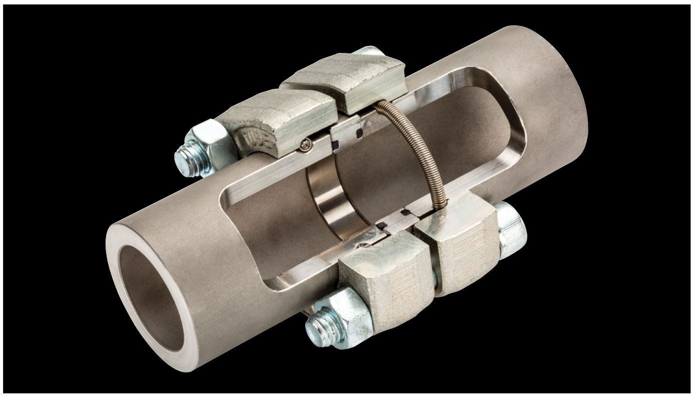


Method 1: TMI® 37° Flared System.

For low, medium and high pressure systems this configuration is the quickest, most economical and easiest system to fabricate and install. Cut and debur the ends of the pipe. Slide the flare flanges onto to each pipe. Using a TFM-01 flaring machine, flare the pipe ends 37° and then insert an O-ring face cone in one end and a Flat face cone in the other end. Slide the flanges together, install the bolts and nuts then tighten to the recommended torque values.

Method 2: TMI® Retain Ring System.

For very high pressures with heavy wall pipes, this configuration is the choice of engineers. This method requires some engineering and pipe layout. The pipes are machined to precise dimensions and a groove is cut on the outside diameter. After machining, the retain ring flange is slid onto the pipe and a retain ring is sprung over the pipe end and into the groove. The union is completed by inserting an O-ring seal retainer between the pipe ends. Slide the flanges together, install the bolts and nut then tighten to the recommended torque values.



Also available are butt weld adapters suitable for a variety of outside diameters and wall thicknesses as well as for low and high low pressure applications. These are pre-machined butt weld adapters with or without a retain ring groove. Pipe ends are prepared with a bevel for butt weld. The flanges are slid onto the pipe and the butt weld adapters are then welded to the pipe end. After cleaning the weld, the retain ring in sprung over the adapter and into the groove. Slide the flanges together, install the bolts and nut then tighten to the recommended torque values. For extreme high pressure applications where external high shock is evident such as forging presses, then it is highly recommended to use butt weld adapters with no retain ring groove. In such cases, the retain ring profile is machined as part of the butt weld adapter. This makes for a much more robust connection. Finally to Speed up the overall installation and commissioning time cold drawn, phosphated pipes along with cold bending techniques to install its piping systems. Portable pipe benders used in the field offer large bend radii with great flow characteristics and low pressure drops. For confined areas where tighter radii are required, mandrel pipe benders are utilized.

Both processes bend the pipe cold without introducing any heat. It is because of the non-welded flange connections and cold pipe bending philosophies Tube-Mac® is able to eliminate all the high labour costs associated with welding.

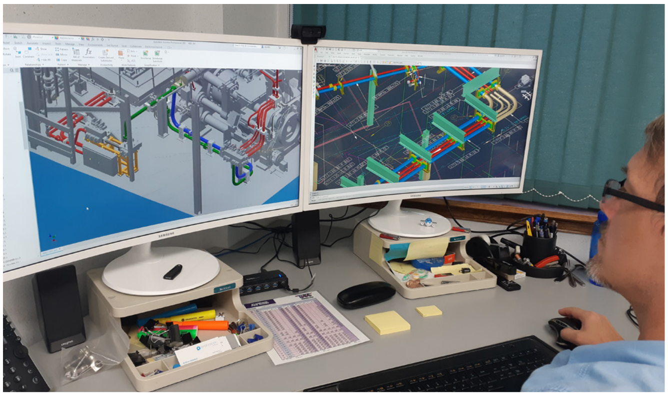
- No special skilled labour required vs. qualified welder
- Actual flaring time is measured in "seconds" vs. "hours" for a welded joint
- No special hot work permits
- No fire watch personnel required
- No leaks as a result of stress fatigue cracks as seen in welds
- No cost to x-ray welds
- No cost to rework welds
- No acid flush chemicals and neutralizers required
- No added cost or environmental issues to dispose of chemical wastes
- Field bend and fabrication – reduces engineering design time

Tube-Mac®

Total Piping Service

With years of applied hydraulics expertise and the latest technologies at our disposal, Tube-Mac® is able to offer ***TOTAL PIPING SERVICE.***

Through continued education and total team effort, Tube-Mac® is able to support all phases of a piping installation before, during, and after construction.

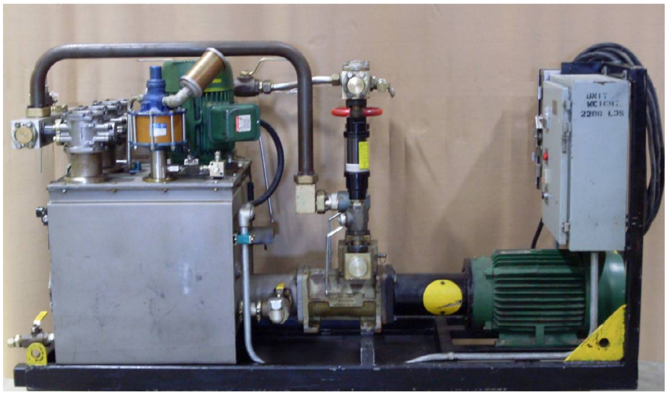


Engineering

Close contact between the field technicians and Tube-Mac® project managers is maintained throughout the duration of each project. This interaction provides each project with the immediate service that is required. While utilizing state-of-the-art AutoCAD software, practical engineered piping solutions can also be generated at the design phase, which enhances the installation even further.

Field Coordination

Tube-Mac® Field technicians accompany virtually all piping installations. Each technician is well versed in hydraulic logic and is a qualified instructor on proper bending and installation procedures. While helping to assume the task of crew coordination and total quality assurance, the Tube-Mac® technician is a significant cost saver to the installation contractor.



Flushing & Testing

In the spirit of total piping system commitment, Tube-Mac® has developed the means to flush and pressure test all Tube-Mac® piping installations. This is possible through the use of a portable flushing and testing units. Tube-Mac® can filter each piping system to customer specified cleanliness levels, while at the same time, hydrostatically test each system.

Component Sales

Tube-Mac® offers for independent sale a complete line of hydraulic piping accessories from a large inventory allowing for the fastest possible service.

After market availability of all Tube-Mac® product has led to worldwide customer Satisfaction.

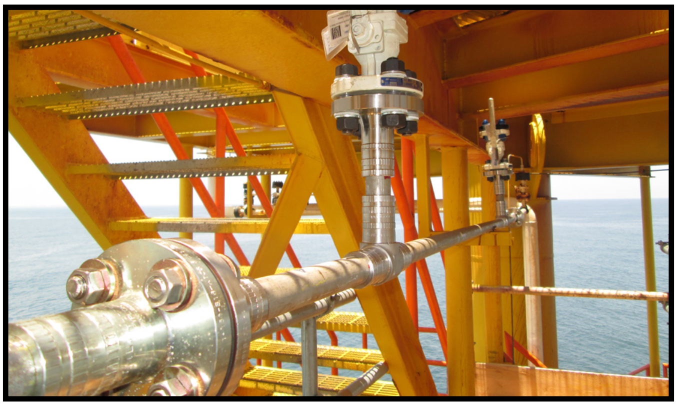
Tube-Mac®

Cleanliness

For effecient hydraulic/lube system start-ups and longevity, it is essential to insist upon ***CLEANLINESS.*** Tube-Mac® Keeps cleanliness at the forefront of all hydraulic/lube piping installations. Today's equipment increases the demand for extremely clean piping. Sensitive piston pumps, servo and proportional valves as well as bearings require the cleanest oil because of tight tolerances. Tube-Mac provides the piping that will meet these demands.

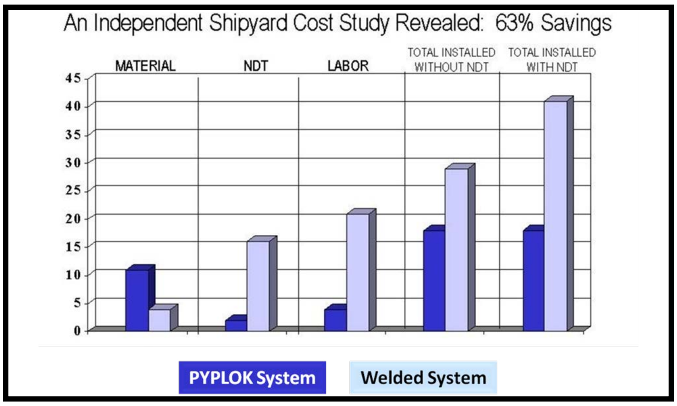
The key to Tube-Mac®'s superior hydraulic cleanliness is our pipe. Our tube quality piping used for working pressure lines is cold drawn during the manufacturing process leaving it internally and externally free of scale. To protect all hydraulic/lube piping, Tube-Mac® has standardized on phosphating. This surface conditioning procedure inhibits rusting, this maintaining the pipe cleanliness both during storage and installation.

Tube-Mac®'s mechanical joint system eliminates all the contamination pitfalls of typical welded system. The fear of pipe or weld particle migration is no longer a concern with Tube-Mac® hydraulic piping system. Expensive pump groups and sensitive servo systems are now more likely to avoid internal failure.



Because of scale-free, weld-free field installation of the Tube-Mac® piping system, the need for costly internal chemical flushing is a thing of the past.
With Tube-Mac® piping, all that is necessary is an independent filtering unit utilizing system fluid for removal of loose contaminants. This method of oil flushing not only removes loose contaminants but at the same time polishes the system fluid. Now, instead of chemical disposal, the customer has a hydraulic system full of clean fluid that is ready for commissioning.

When considering a hydraulic/lube piping installation it is important to think in terms of overall installed economics. Keeping in mind the significant labour savings, the greatly reduced flushing time, and the elimination of hazardous chemical disposal, it is easy to see why a Tube-Mac® piping system installs with an overall cost savings.



Tube-Mac®

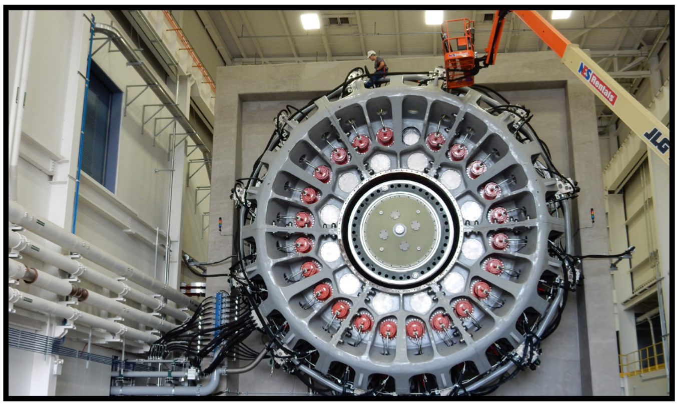
Quality

In order to stand the test of time in today's industrial market, the corner stone of a company must be ***QUALITY.***

Tube-Mac®'s uncompromising commitment to quality had led to the assembly of the most sound, cost effective hydraulic/lube piping system available.

Material

For high pressure hydraulic applications it is important to realize the need for strong components. All Tube-Mac® supplied flanges are manufactured from steel to ensure the ability to withstand the shock and dynamics inherent to hydraulic systems.

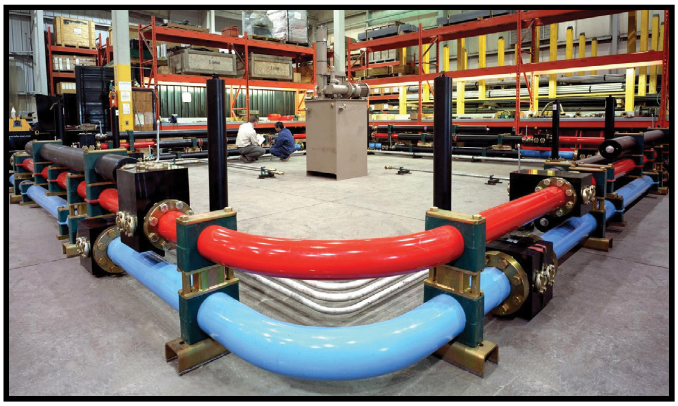


Preparation

All Tube-Mac® components are conditioned with zinc nickel plating to ensure the longest life before and after installation.

Components

In order to complete the total hydraulic/lube piping system, it is important to have quality accessories. For example Tube-Mac® has standardized on a vibration dampening clamping system. To minimize noise and fatigue due to hydraulic shock, proper support is essential.



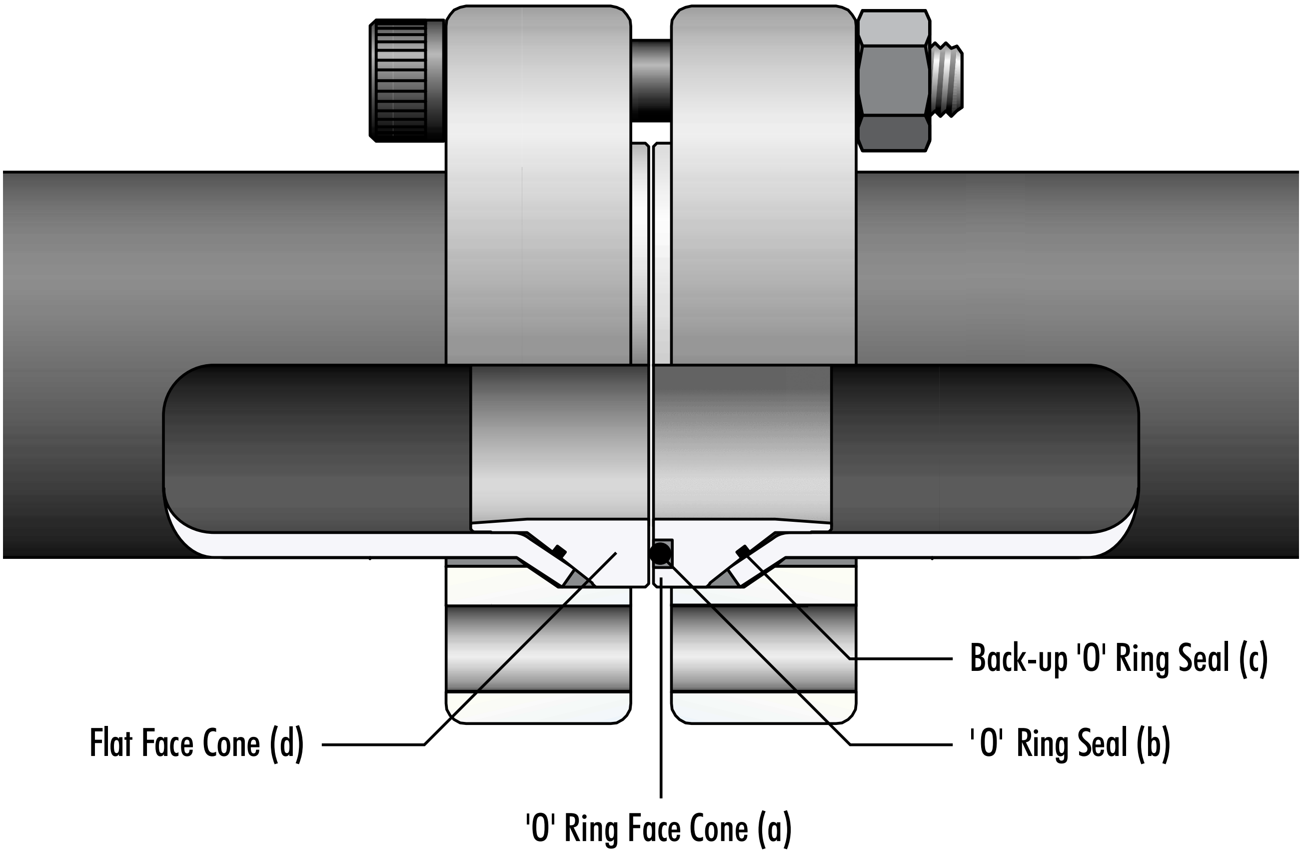
Tube-Mac® also supplies and uses only the finest hydraulic hoses and couplings which meet and exceed SAE standards. Also, with our trained personnel manufacturing hose assemblies, the results are reliable, safe and with quality products you can depend on.

The heavy duty hydraulic hose couplings supplied by Tube-Mac® are the industry's finest and feature a tapered flange head, thicker tube walls and a solid one-piece design with NO brazed/weld joints.

Top quality piping components promote expedited installations for which Tube-Mac® has become internationally renowned. With locations in Canada, the USA, Spain and Austria, Tube-Mac® provides customers with the assurance of dealing with an organization that can fulfill their technical needs, and also deliver quality products supported by friendly service in a timely manner.

Notes

Flared System



The flared configuration is based on flaring the pipe ends to 37° and utilizing flanges and internal cones. ‘O’ring face cone (a) with ‘o’ring seal (b) mating to flat face cone (d). Both internal cones have back-up ‘o’rings (c).

Standard flare flanges and NPS pipe sizes are available from:

- 1/2” schedule 40 up to 10” schedule 40
- 1/2” schedule 80 up to 4” schedule 80
- 1-1/2” schedule 160 up to 3” schedule 160

Standard flare flanges and Metric pipe sizes are available from:

- 20mm up to 273mm various thin wall
- 20mm up to 90mm various wall thickness
- 56mm up to 97mm heavy wall

PREPARATION:

The flange is slipped onto the pipe before flaring. After flaring, the cone is located into the pipe. Bolting the flanges together draws the flared pipes and cones in contact with each other providing a leakfree connection.

The standard connection styles offered conform to SAE and ISO 4-bolt flanges. Other flange patterns may also be available.

3D step models available upon request

Flared System

TMI® 37° Flaring and Connection Procedure

The Flare Flange connection consists of pipe suitable for cold forming, flare flanges, flare cones with elastomer seals and bolting hardware.

Step 1: Cut pipe end square, deburr and clean. Slip flange onto the pipe before flaring. Place pipe into the flaring machine with the correct dies and flaring cone to suit the pipe size.

Step 2: Pipe is to protrude to the stop on the die. Lubricate the flaring cone, start the machine, flare the pipe end until fully formed against the die. Stop the machine, remove the pipe from the die.

Step 3: Clean and visually inspect the flare. The surface of the flare should be smooth and free of any defects.

Step 4: Select the correct pipe cone style (ref. pgs. B3-B4). Insert pipe cone into the flared end of the pipe (use rubber hammer if required).

Step 5: Select the required bolting hardware.

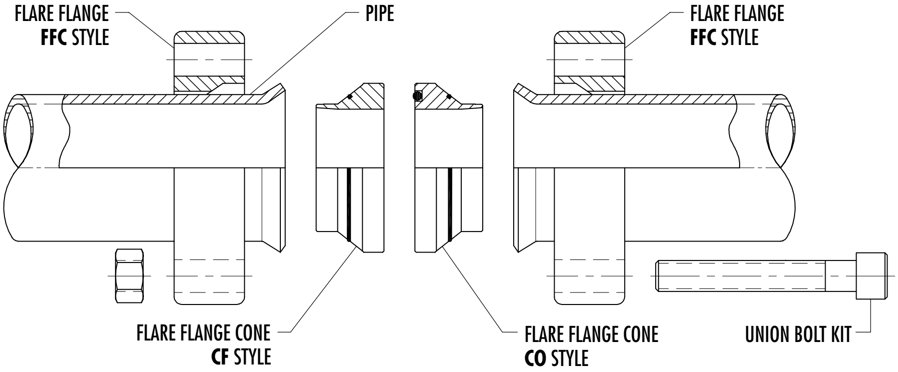
Step 6: Tighten bolts to the torque values specified. Always tighten bolts in a cross-over sequence and ensure that the flanges are parallel.

3D step models available upon request

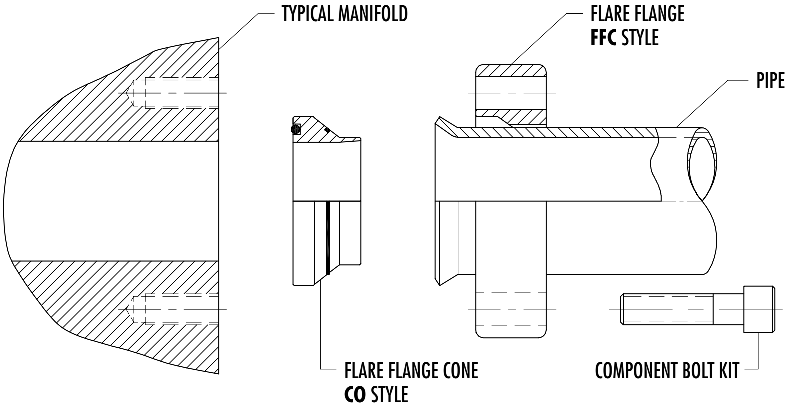
Flared System

Flare Flange Connections - Schedule 40/80/160

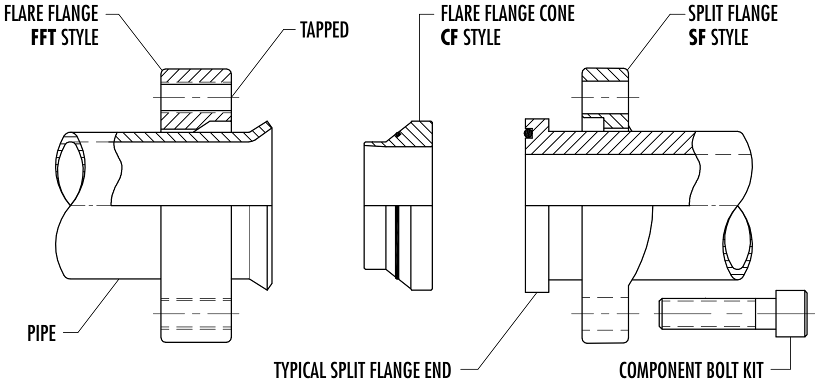
Typical Flare Union Connection



Typical Flare (‘O’ Ring Face) to Flat Face Component Connection



Typical Flare (Flat Face) to Split Flange Connection

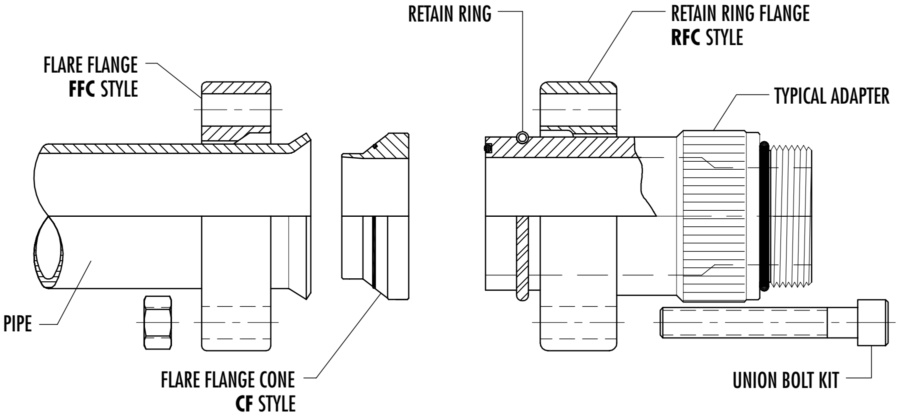


3D step models available upon request

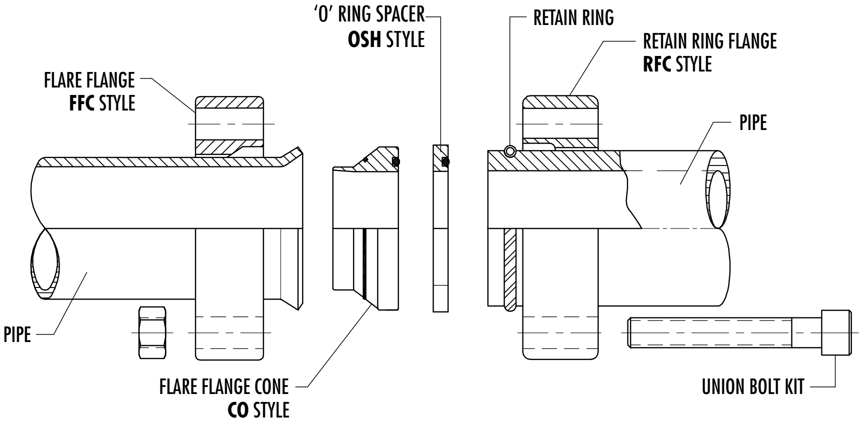
Flared System

Flare Flange Connections - Schedule 40/80/160

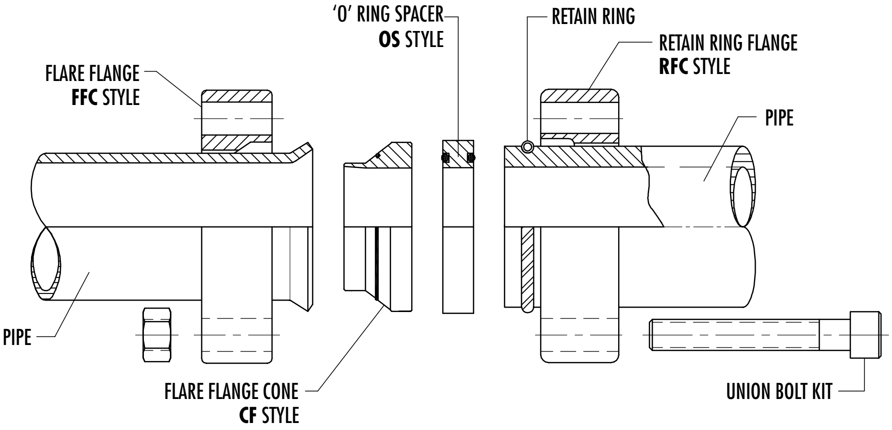
Typical Flare (Flat Face) to 'O' Ring Face Component Connection



Typical Flare ('O' Ring Face) to Retain Ring Pipe Connection

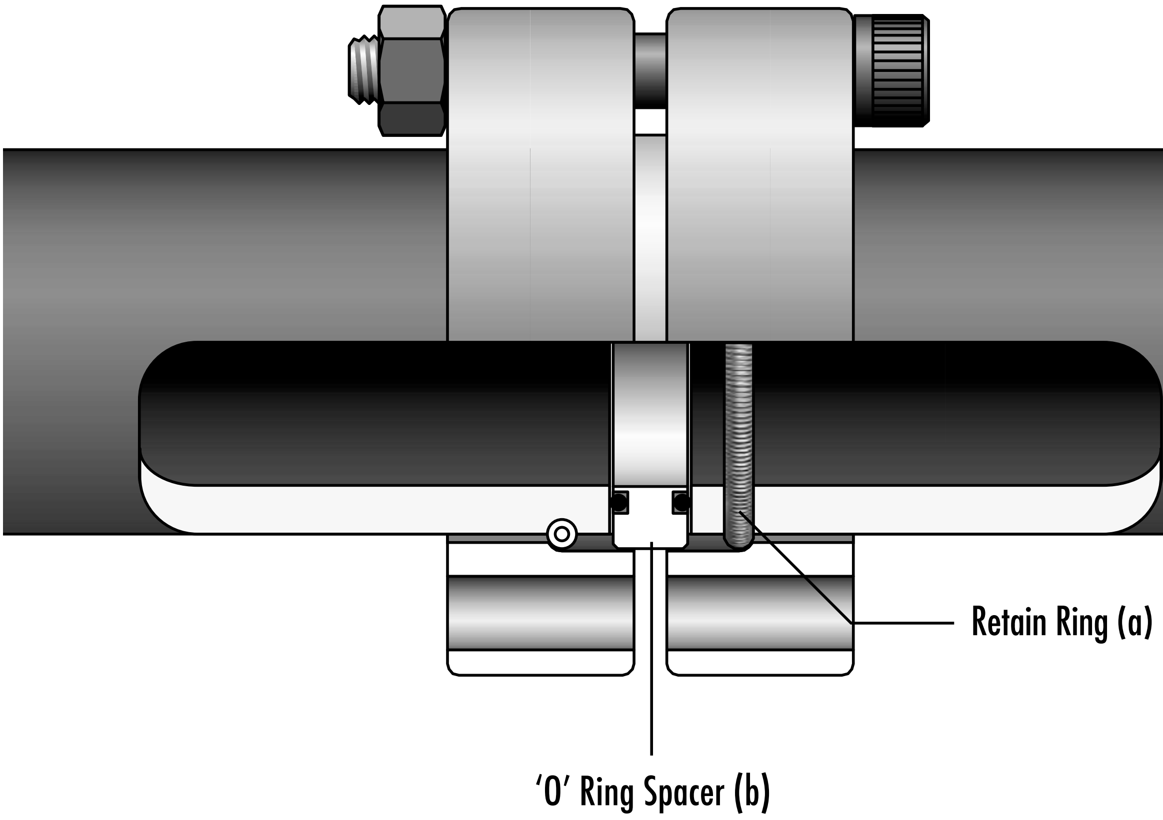


Typical Flare (Flat Face) to Retain Rin g Pipe Connection



3D step models available upon request

Retain Ring System



The retain ring configuration uses heavy wall pipe and has a machined butt end face, along with an annular groove on the outside diameter.

After machining, the flange is slipped onto the pipe and a retain ring (a) which consists of a segmented stainless steel ring bound by a spiral wound stainless steel spring is sprung over the pipe's outside diameter nesting in the annular groove. Bolting the flanges together draws them against the retain rings with the 'o'ring spacer (b) captive within the connection.

Pipe sizes 1 1/2" through 10" are available for use with retain ring flanges.

The standard connection styles offered conform to SAE and ISO 4-bolt flanges along with Tube-Mac® Industries 8-bolt/12-bolt proprietary flanges. Other flange patterns may also be available. Pipe sizes 1 1/2" through 10" are available for use with retain ring flanges.

The standard connection styles offered conform to SAE and ISO 4-bolt flanges along with Tube-Mac® Industries 8-bolt/12-bolt proprietary flanges. Other flange patterns may also be available.

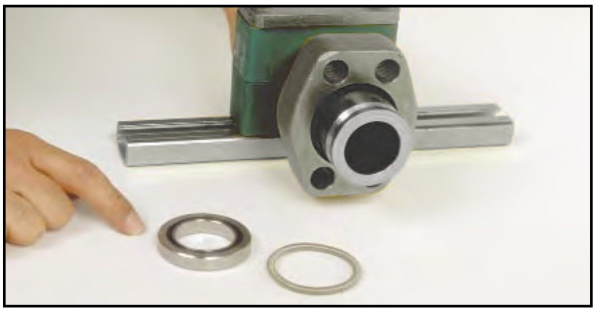
3D step models available upon request

Retain Ring System

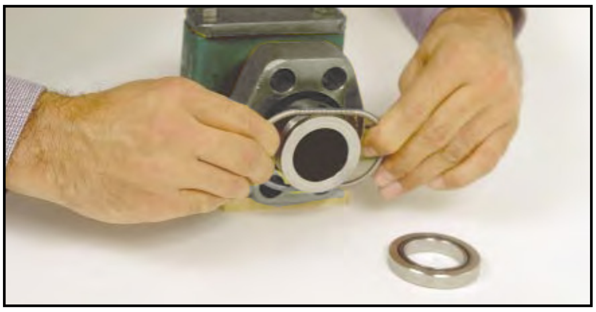
TMI® Retain Ring Flange Connection Procedure

The retain ring flange connection consists of machined pipe, retain ring flanges, retain rings, 'o' ring spacer and bolting hardware.

Step 1: Pipe supplied with butt end machined along with an annular groove on the outside diameter.

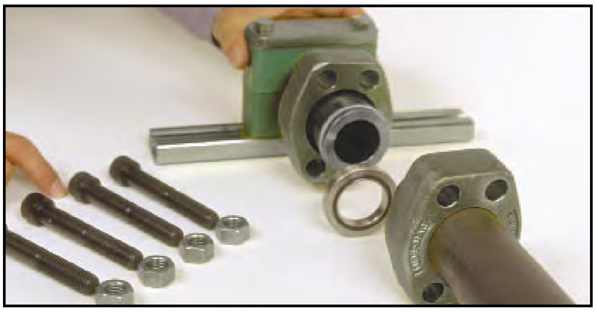


Step 2: Slip flange onto the pipe.

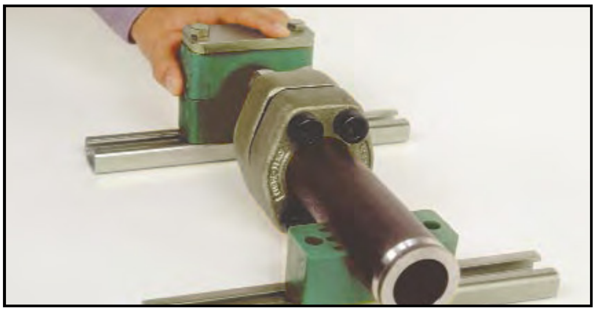


Step 3: Retain ring is sprung over the pipe's outside diameter nesting in the annular groove.

Step 4: Select the correct 'o' ring spacer style. The 'o' ring provides a seal against the butt end of the pipe.



Step 5: Select the required bolting hardware from Section R of this catalogue. Carefully place the 'o' ring spacer in between the pipe ends. Slide the flanges forward and the 'o' ring seal retainer becomes captive within the flanges.



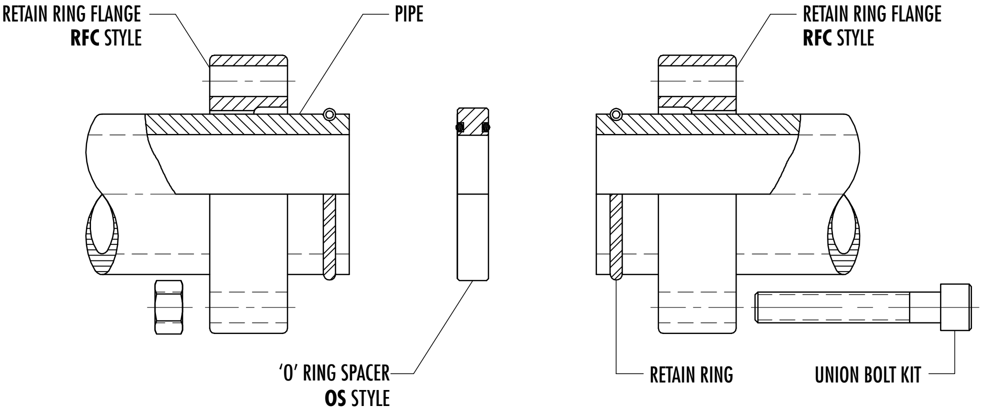
Step 6: Tighten bolts to the torque values specified. Always tighten bolts in a cross-over sequence and ensure that the flanges are parallel.

3D step models available upon request

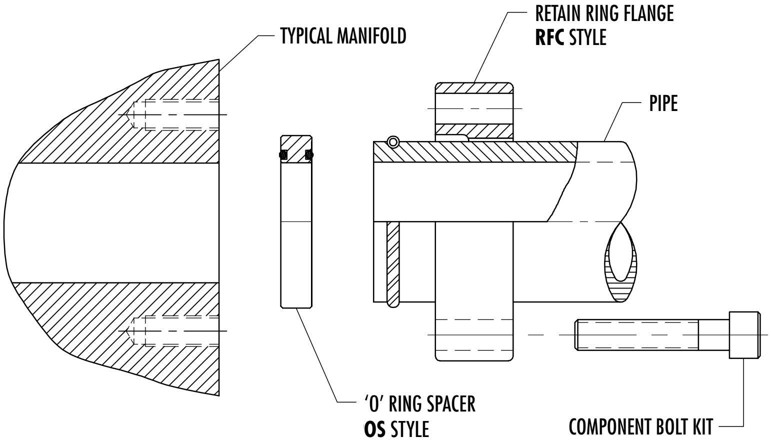
Retain Ring System

Retain Ring Flange Connections - Heavy Wall Pipe

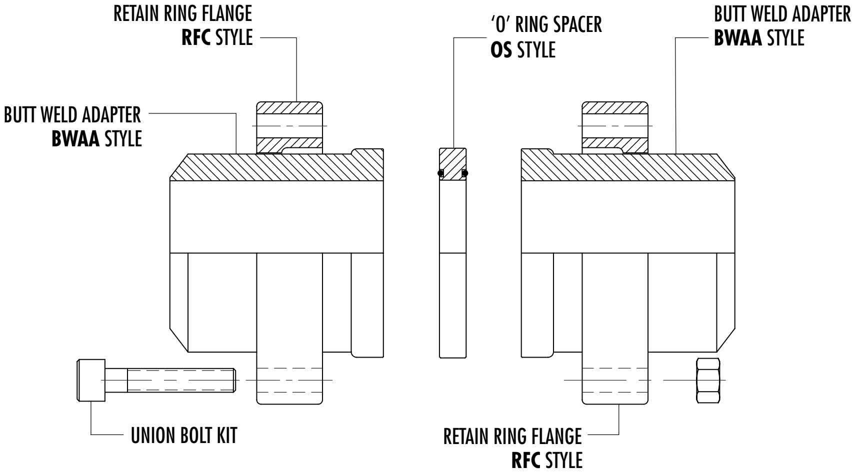
Typical Pipe Union Connection



Typical Pipe to Flat Face Connection



Typical Butt Weld Adapter Union Connection

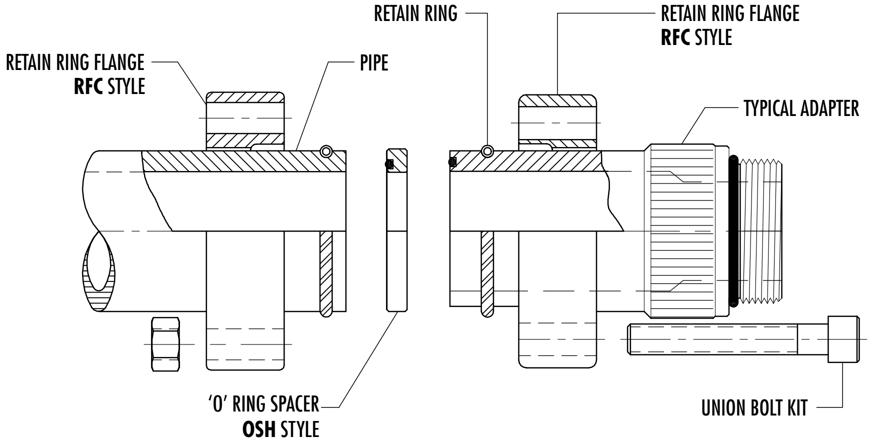


3D step models available upon request

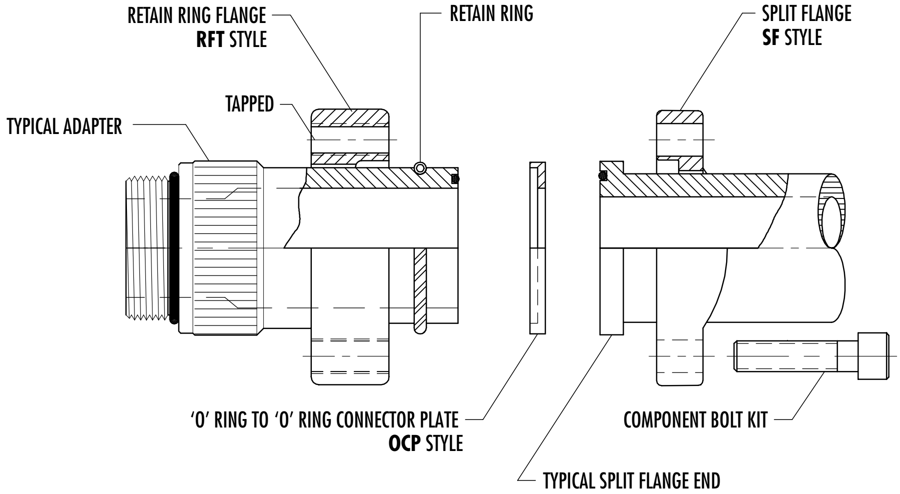
Retain Ring System

Retain Ring Flange Connections - Heavy Wall Pipe

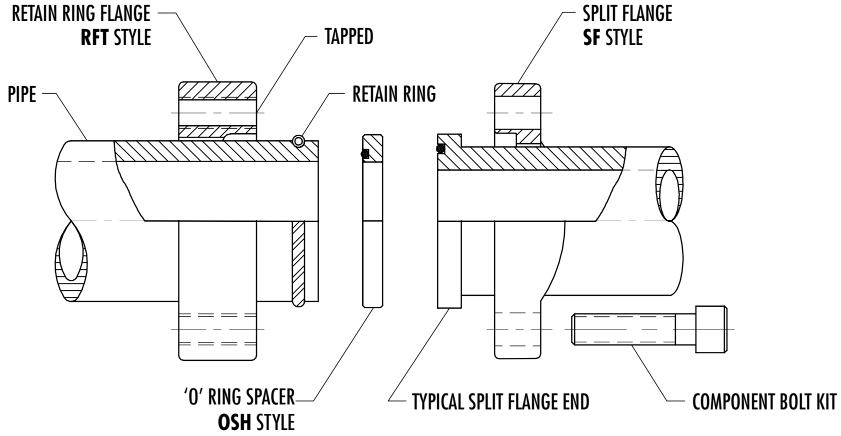
Typical Pipe to 'O' Ring Face Retain Ring Component Connection



Typical 'O' Ring Face Retain Ring Component to SAE Split Flange Connection

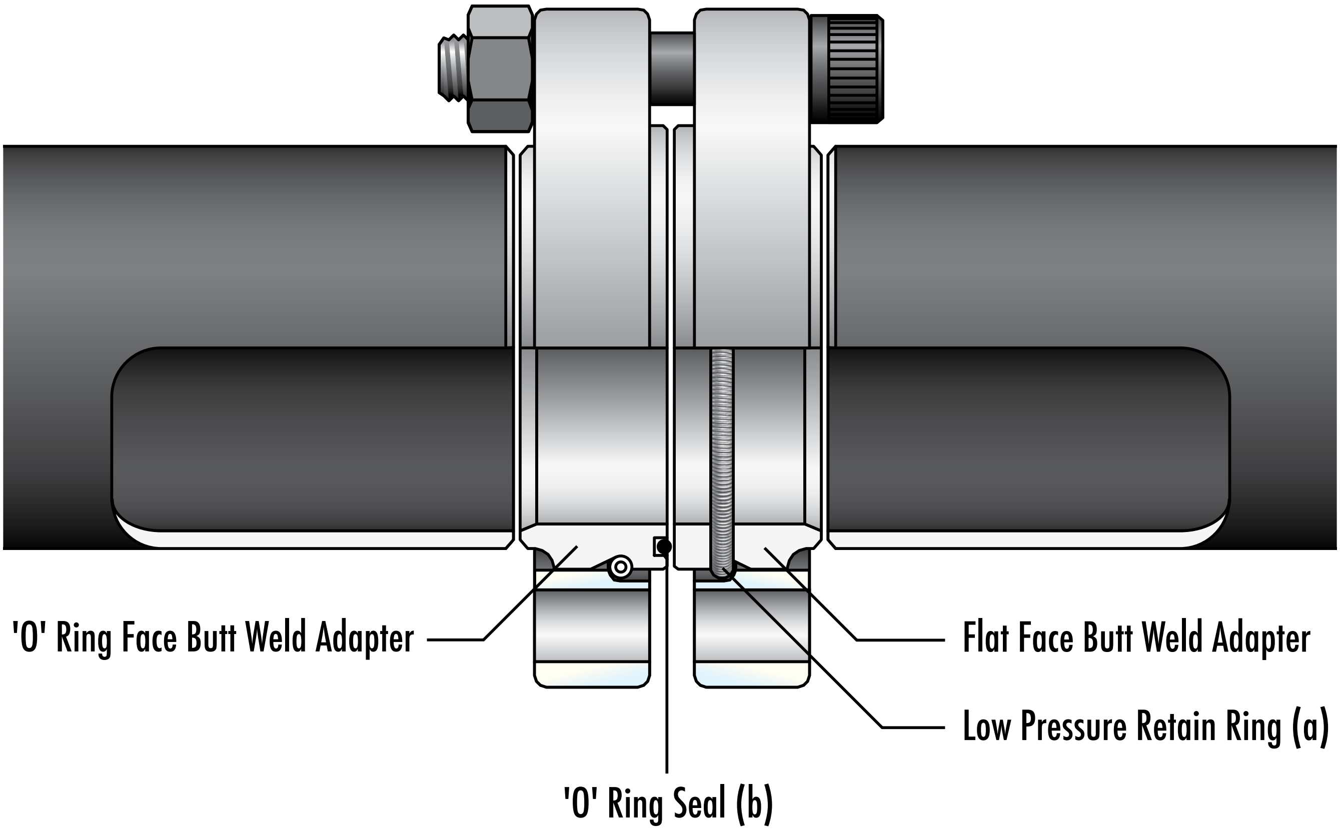


Typical Pipe to SAE Split Flange Connection



3D step models available upon request

Low Pressure Retain Ring System



The low pressure retain ring configuration uses butt weld adapters, (1) ‘o’ring face and (1) flat face, with an groove on the outside diameter.

After pipe preparation, the adapter is welded onto the pipe. The flange is slipped onto the pipe and a low pressure retain ring (a) which consists of a segmented stainless steel ring bound by a spiral wound stainless steel spring is sprung over the adapter’s outside diameter nesting in the groove.

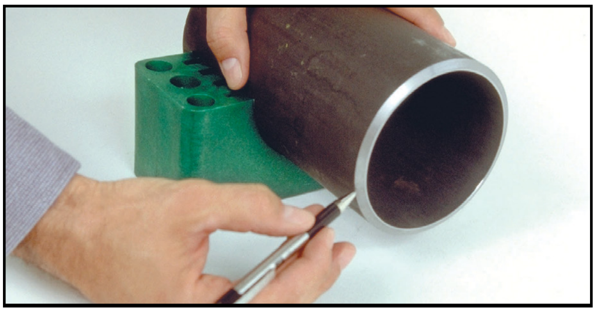
Bolting the connection together draws the flanges against the retain rings with the o-ring seal (b) captive within the connection. Adapter sizes 2 1/2” through 8” are available for use with low pressure retain ring flanges.

The standard connection styles are SAE J518 Code 61 (ISO 6162-1) and Tube-Mac® proprietary 6-Bolt and 8-Bolt flanges.

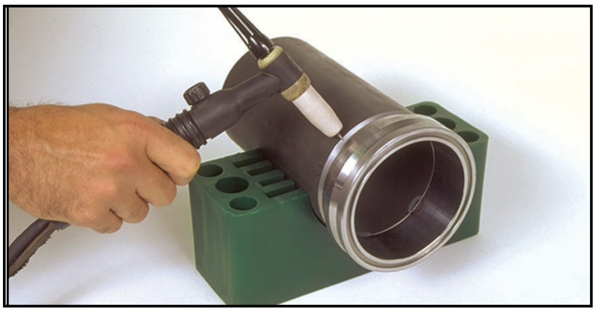
3D step models available upon request

TMI® Low Pressure Retain Ring Flange Connection Procedure

The low pressure retain ring flange connection consists of pipe, butt weld adapters with elastomer seal, retain ring flanges, retain rings, and bolting hardware.

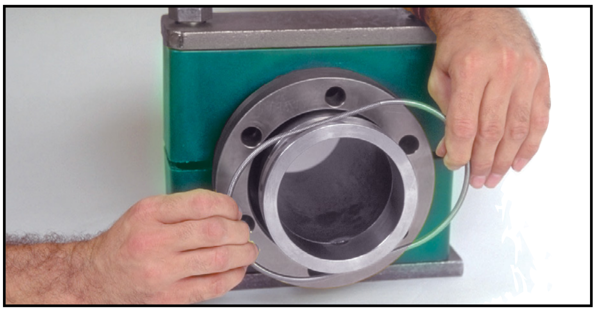


Step 1: Cut pipe end square, and bevel for butt weld.

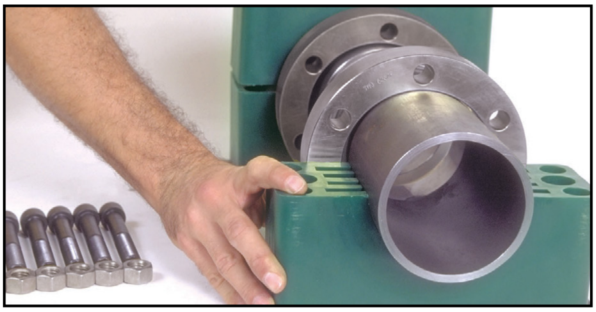


Step 2: Select the correct low pressure retain ring butt weld adapter to suit the pipe size. Weld the root pass with tig, then use #7018 welding stick for the filler and weld cap.

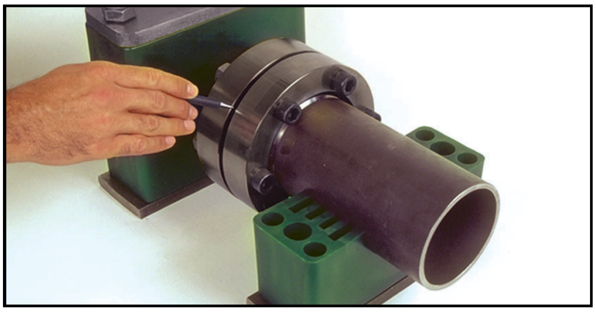
Step 3: Grind the weld on the inside of the pipe using a pencil type grinder. Clean the inside of the pipe after grinding.



Step 4: Slip flange onto the pipe. Retain ring is sprung over the pipe adapter's outside diameter nesting in the groove.



Step 5: Select the required bolting hardware.



Step 6: Tighten bolts to the torque values specified. Always tighten bolts in a cross-over sequence and ensure the flanges are parallel.

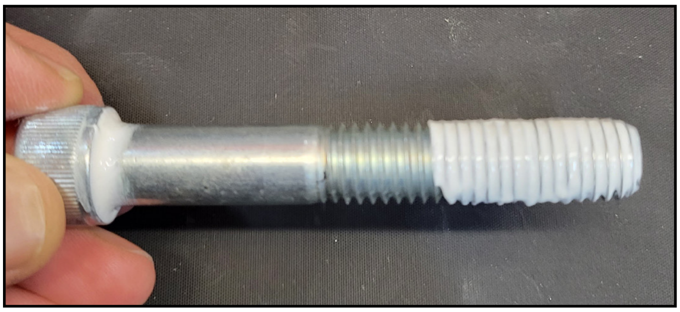
3D step models available upon request

TMI® Flange Systems

Procedure for Tightening of the bolts

Most carbon steel socket head cap screw bolts are oiled from the factory.

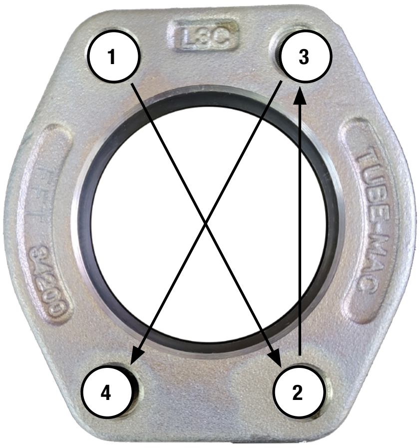
For stainless steel bolts and hot dipped galvanized bolts lubricate the threads with Never Seez Regular Grade White Lubricant or equivalent as shown.



1. Bolting to a component apply lubricant to the threads and bolt head shoulder. (Shown in the photo)
2. Bolting a union, lubricate the threads and hex nut face on the flange side. (Hex nut is not shown in the photo)

Tighten bolts in diagonal sequence 1 thru 4 in small increments to appropriate torque level.

See illustrated example below:



Tightening of the bolts should start immediately after greasing the threads and hex nuts.

Step 1: Tighten lightly with an Allen key and/or wrench.

Step 2: Tighten crosswise as shown with 30% of the recommended torque.

Step 3: Tighten crosswise as shown with 70% of the recommended torque.

Step 4: Tighten crosswise as shown with 100% of the recommended torque.

Note:

The distance between the flanges of a union or the flange and the component's mating surface must be equal around the flange. Never torque one bolt fully at a time. Torquing of the bolts must be done equally in the sequence shown.

3D step models available upon request

TMI® Flange Systems

Torque Values for Lubricated Bolts

1000 PSI (70 bar) TMI® Low Pressure

Size	Flange (NPS)	Bolt Size (UNC)	Torque (ft-lbs)	Flange (Metric)	Bolt Size (Metric)	Torque (Nm)
1-1/2"	14-150	1/2”	80-90	M14-150	M12	22-27
2"	14-200	1/2”	80-90	14-200	M12	25-30
2-1/2”	14-250	1/2”	80-90	M14-250	M12	30-35
3”	14-300	5/8”	110-120	M14-300	M16	40-45
3-1/2”	14-350	5/8”	110-120	M14-350	M16	50-55
4”	14 and 34-400	5/8”	110-120	14 and 34-400	M16	55-60
5”	14 and 34-500	5/8"	110-120	14 and M34-500	M16	65-70
6”	16-600	5/8”	110-120	M16-600	M16	175-180
8”	18-800	3/4”	120-130	M18-80	M20	175-180
10”	18-1000	3/4”	120-130	18-1000	M20	175-180

3000 PSI (210 bar) SAE Code 61 (ISO 6162-1)

Size	Flange (NPS)	Bolt Size (UNC)	Torque (ft-lbs)	Flange (Metric)	Bolt Size (Metric)	Torque (Nm)
1/2"	34-050	5/16”	15-18	M34-050	M8	22-27
3/4"	34-075	3/8”	20-30	M34-075	M10	25-30
1”	34-100	3/8”	20-30	M34-100	M10	30-35
1-1/4”	34-125	7/16”	40-50	M34-125	M10	40-45
1-1/2”	34-150	1/2”	55-60	M34-150	M12	50-55
2”	34-200	1/2”	80-90	M34-200	M12	55-60
2-1/2”	34-250	1/2"	80-90	M34-250	M12	65-70
3”	34-300	5/8”	110-120	M34-300	M16	175-180
3-1/2”	34-350	5/8”	110-120	M34-350	M16	175-180
4”	34-400	5/8”	110-120	M34-400	M16	175-180

6000 PSI (420 bar) SAE Code 62 (ISO 6162-2)

Size	Flange (NPS)	Bolt Size (UNC)	Torque (ft-lbs)	Flange (Metric)	Bolt Size (Metric)	Torque (Nm)
1/2"	64-050	5/16”	16-18	M64-050	M8	22-27
3/4"	64-075	3/8”	20-30	M64-075	M10	30-35
1”	64-100	7/16”	40-50	M64-100	M12	45-50
1-1/4”	64-125	1/2"	55-60	M64-125	M12	60-65
1-1/4”(2)	-	-	-	M64-125-M14	M14	80-85
1-1/2”	64-150	5/8”	110-120	M64-150	M16	120-130
2”	64-200	3/4"	120-130	M64-200	M20	150-160

3D step models available upon request

TMI® Flange Systems

Torque Values for Lubricated Bolts

5800 PSI (400 bar) ISO 6164 and TMI® 8-Bolt

Size	Flange (NPS)	Bolt Size (UNC)	Torque (ft-lbs)	Flange (Metric)	Bolt Size (Metric)	Torque (Nm)
1-1/2"	74-150	5/8”	110-120	M74-150	M16	120-130
2"	74-200	5/8”	110-120	M74-200	M16	120-130
2-1/2”	74-250	3/4”	120-130	M74-250	M20	155-160
3”	74-300	1”	350-400	M74-300	M24	325-330
4”	74-400	1-1/8”	500-550	M74-400	M30	520-530
4-1/2”	48-450	3/4"	190-200	48-450	M20	320-330
5”	48-500	1”	350-400	48-500	M24	370-380
6”	48-600	1-1/8”	500-550	48-600	M30	800-810
8”(1)	48-800-290BC	1-1/8”	500-550	48-800-290BC	M30	800-810
8”	48-800	1-1/2”	1100-1200	48-800	M36	1550-1620
10”	412-1000	1-1/2”	1100-1200	412-1000	M36	1550-1620

10000 PSI (690 bar) Pattern acc. to SAE Code 62 (ISO 6162-2)

Size	Flange (NPS)	Bolt Size (UNC)	Torque (ft-lbs)	Flange (Metric)	Bolt Size (Metric)	Torque (Nm)
1/2"	104-050	5/16”	20	M104-050	M8	30
3/4"	104-075	3/8”	30	M104-075	M10	35
1”	104-100	7/16”	50	M104-100	M12	45
1-1/4”	104-125	1/2"	60	M104-125	M12	65
1-1/4”(2)	-	-	-	M104-125-M14	M14	85
1-1/2”	104-150	5/8”	120	M104-150	M16	135
2”	104-200	3/4"	130	M104-200	M20	165
2-1/2”	104-250	1”	350	M104-250	M24	330
3”	104-300	1-1/8”	500	M104-300	M30	520

Note:
Above 10000 PSI (690 bar) Flange is only available for SCHXXS NPS Duplex Pipe.
Flanges with Metric Threads available.

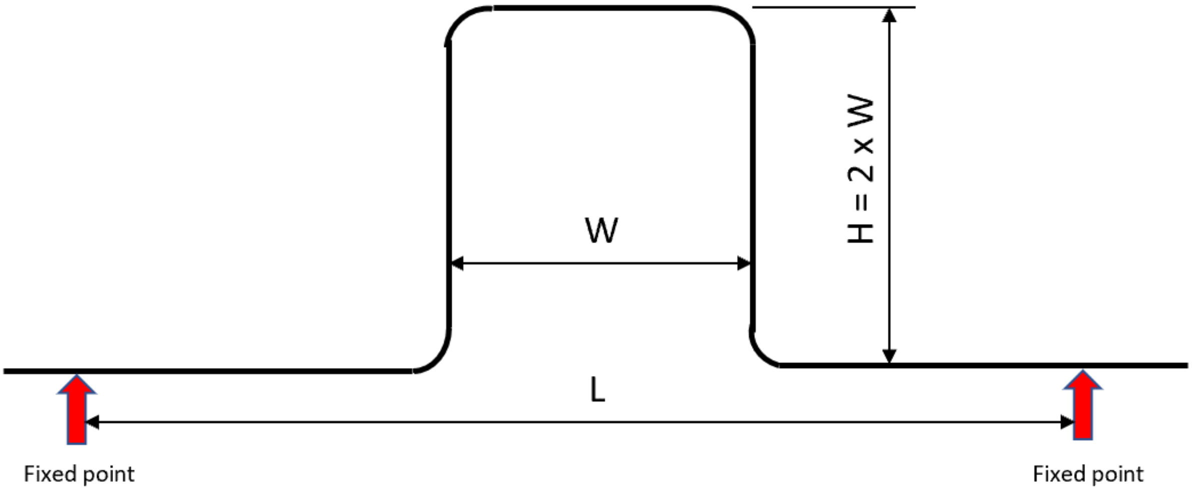
TMI® Flange Systems

Expansion Loop for High Pressure Pipes

Thermal expansion will occur between all fixed points in a piping system. The fixed points should be solid anchor points and not pipe clamps. The pipe is free to expand between the fixed points. The expansion loop, as a rule, should be located in the centre distance between the two fixed points.

The height of the expansion loop is normally twice the width. The exception happens when more than one line runs parallel in a bank of lines. Then the dimensions of the loops must be increased to allow nesting of the additional lines.

See illustration below:



Calculations

1. The formula for calculating thermal expansion:
   ΔL = C x L x (Tf - Tg) x 12in./ ft.
   Coefficient of thermal expansion (C):
   Steel (C) = 6.5 x 10-6 in./ in.°F

   Distance between fixed points (L) in feet.
   Temperature of fluid (Tf)
   Temperature of ground (Tg)

2. After calculating the expansion, find the expansion loop size from the charts for the applicable pipe or tube. Loop sizes are taken to the nearest half foot on the height and width.

Example

Find the loop size for a 4” diameter steel pipe hydraulic oil 120°F with 200 ft between fixed points and an average ground temperature of 70°F.

Given:
Steel (C) = 6.5 x 10-6 in./ in.°F
Distance (L) = 200 ft.
Temp. Diff. (ΔT)= (120°F - 70°F) = 50°F
Pipe Diam. (D) = 4”

Calculations:
ΔL = C x L x (Tf - Tg) x 12in./ ft.
ΔL = 6.5 x 10-6 x 200 x (120 - 70) x 12
ΔL = 0.78 in. (thermal expansion)

From the expansion loop chart for carbon steel on the following page B15
Nominal 4” Pipe Size
Thermal Expansion calculated at 0.78 in.
The Expansion Loop is 6 feet high x 3 feet wide.

Note: The recommendation for using an expansion loop:

- Carbon steel pipes, every 100 feet (30 meters)
- Stainless steel pipes, every 65 feet (20 meters)

3D step models available upon request

TMI® Flange Systems

Expansion Loop Sizes for Carbon Steel Pipes

Based on (ΔL) Thermal Expansion

Pipe Size (in)	ΔL (in)	Loop Size (ft)	
		H	W
3/4”	0.00 - 1.50	4	2
	1.50 - 6.00	6	3
1”	0.00 - 1.00	4	2
	1.00 - 4.14	6	3
1-1/4”	0.00 - 0.93	4	2
	0.93 - 3.33	6	3
	3.33 - 5.56	8	4
1-1/2”	0.00 - 0.88	4	2
	0.88 - 2.75	6	3
	2.75 - 4.75	8	4
2”	0.00 - 0.85	4	2
	0.85 - 2.38	6	3
	2.38 - 4.00	8	4
2-1/2”	0.00 - 0.78	4	2
	0.78 - 2.14	6	3
	2.14 - 3.71	8	4
	3.71 - 5.31	10	5
3”	0.00 - 0.72	4	2
	0.72 - 1.78	6	3
	1.78 - 3.00	8	4
	3.00 - 4.35	10	5
3-1/2”	0.00 - 0.68	4	2
	0.68 - 1.35	6	3
	1.35 - 2.70	8	4
	2.70 - 3.84	10	5
	3.84 - 5.00	12	6
4”	0.00 - 0.63	4	2
	0.63 - 1.45	6	3
	1.45 - 2.41	8	4
	2.41 - 3.45	10	5
	3.45 - 4.52	12	6
5”	0.00 - 0.42	4	2
	0.42 - 1.27	6	3
	1.27 - 2.12	8	4
	2.12 - 3.00	10	5
	3.00 - 3.96	12	6
	3.96 - 4.13	14	7

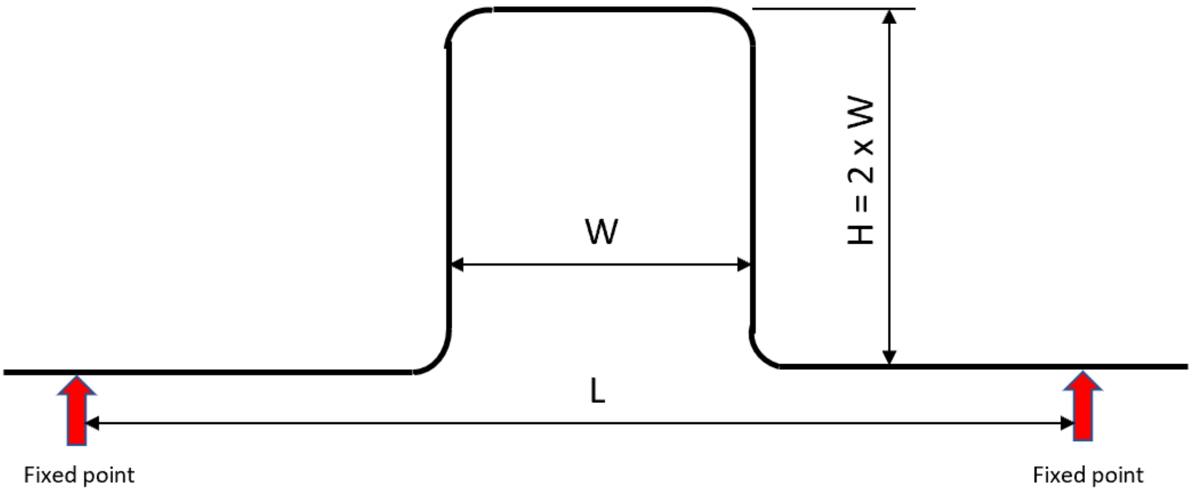
Pipe Size (in)	ΔL (in)	Loop Size (ft)	
		H	W
6”	0.00 - 0.46	4	2
	0.46 - 1.16	6	3
	1.16 - 1.87	8	4
	1.87 - 2.35	10	5
	2.35 - 3.51	12	6
	3.51 - 4.26	14	7
8”	0.00 - 0.54	4	2
	0.54 - 1.00	6	3
	1.00 - 1.64	8	4
	1.64 - 2.30	10	5
	2.30 - 2.95	12	6
	2.95 - 3.64	14	7
	3.64 - 4.35	16	8
10”	0.00 - 0.42	4	2
	0.42 - 0.91	6	3
	0.92 - 1.44	8	4
	1.44 - 2.00	10	5
	2.00 - 2.57	12	6
	2.57 - 3.16	14	7
	3.16 - 3.80	16	8
	3.80 - 4.14	18	9
12” & 14”	0.00 - 0.39	4	2
	0.39 - 0.87	6	3
	0.87 - 1.34	8	4
	1.34 - 1.88	10	5
	1.88 - 2.43	12	6
	2.43 - 3.00	14	7
	3.00 - 3.57	16	8
	3.57 - 4.14	18	9
16”	0.00 - 0.41	4	2
	0.41 - 0.85	6	3
	0.85 - 1.32	8	4
	1.32 - 1.83	10	5
	1.83 - 2.34	12	6
	2.34 - 2.86	14	7
	2.86 - 3.43	16	8
	3.43 - 4.00	18	9

Courtesy of Thermacor 9.20.21

TMI® Flange Systems

Guideline for Expansion Loop of High Pressure Pipes

Refer to illustration below.



The charts below are a guideline for carbon steel pipe sizes based on hydraulic oil systems with ΔT= (120°F - 70°F) = 50°F

NPS Pipe Size (Schedule)	L (ft)	H (ft)	W (ft)
2” SCH 160/XXS	100	4	2
2-1/2” SCH 80	100	4	2
2-1/2” SCH 160/XXS	100	4	2
3” SCH 80	100	4	2
3” SCH 160/XXS	100	4	2
4” SCH 80	200	6	3
4” SCH160/XXS	200	6	3
5” SCH160/XXS	200	6	3
6” SCH160/XXS	300	8	4
8” SCH160/XXS	300	8	4

Metric Pipe Size (OD x Wall)	L (m)	H (mm)	W (mm)
60 x 8.0mm	30	1200	610
66 x 8.5mm	30	1200	610
73 x 7.0mm	30	1200	610
80 x 10mm	30	1200	610
90 x 9.0mm	30	1200	610
97 x 12mm	60	1829	914
115 x 15mm	60	1829	914
130 x 15mm	60	1829	914
150 x 15mm	60	1829	914
190 x 20mm	90	2439	1219
250 x 25mm	90	2439	1219

Note: The recommendation for using an expansion loop:

- Carbon steel pipes, every 100 feet (30 meters)
- Stainless steel pipes, every 65 feet (20 meters)

3D step models available upon request

Temperature and Pressure Conversion

Temperature Conversion Table

Celsius to Fahrenheit		Fahrenheit to Celsius	
°C	°F	°F	°C
150	302	340	171
145	293	330	166
140	284	320	160
135	275	310	154
130	266	300	149
125	257	290	143
120	248	280	138
115	239	270	132
110	230	260	127
105	221	250	121
100	212	240	116
95	203	230	110
90	194	220	104
85	185	210	99
80	176	200	93
75	167	190	88
70	158	180	82
65	149	170	77
60	140	160	71
55	131	150	66
50	122	140	60
45	113	130	54
40	104	120	49
35	95	110	43
30	86	100	38
25	77	90	32
20	68	80	27
15	59	70	21
10	50	60	16
5	41	50	10
0	32	40	4
-5	23	30	-1
-10	14	20	-7
-15	5	10	-12
-20	-4	0	-18
-25	-13	-10	-23
-30	-22	-20	-29
-35	-31	-30	-34
-40	-40	-40	-40
-45	-49	-50	-46
-50	-58	-60	-51

Pressure Conversion Table

bar to psi		psi to bar	
bar	psi	psi	bar
1000	14505	10000	689
800	11604	9000	620
600	8703	7000	483
500	7253	6000	414
400	5802	4000	276
250	3626	3000	207
160	2321	2500	172
100	1451	1000	69
60	870	900	62
40	580	600	41
35	508	500	34
25	363	400	28
16	232	250	17
10	145	150	10.3
6	87	100	6.9
4	58	90	6.2
2.5	36	60	4.1
1.6	23	40	2.8
1	15	25	1.7
		19	0.7

Temperature Conversion Factor

Degree Celsius (°C x 9/5) + 32 = Fahrenheit °F

Pressure Conversion Factor

bars x 14.5 = PSI

3D step models available upon request

Introduction
Technical Data
Pipe Selection Guide
16 bar, 90° Flare
ANSI 150#, 300# Flare
SAE 1000, 70 bar
SAE 3000, 210 bar
SAE 6000, 420 bar
SAE 10000, 690 bar
ISO 6164, 400 bar
ISO 6164, 400 bar F10° Flare
Clamp Supports - Heavy Series
Valves, Ball and Check

TMI® Flange Systems

Fluid Conditioning and Cleanliness

The cleanliness of the hydraulic piping is a key factor in the overall success of any system. Approximately 75% of operational failures of a hydraulic system is related to contaminates in the system. Impurities introduced into the system by welding is the number one cause of system failures.

The cleanliness of the hydraulic fluid (oil) directly affects the reliabiity and longevity of the hydraulic system and components. Contaminants in the oil accelerates component wear and fatigue. Performance is comprised and valves can malfunction. Components with small bores can become blocked if the fluid has particles of debris within it. Clearing a blockage can be difficult, time consuming and very expensive. Therefore it is common to specify that the hydraulic fluid used in the system is cleaned to a measurable degree of cleanliness.

Types of Contaminates

There are various types of contaminates, such as;

- Particulates (dirt, sand, rust, dust, fibres, elastomer pieces and paint chips)
- Water
- Sealants (Teflon tape and pastes)
- Wear metals from pumps and valves
- Sludge, oxidation, and other corrosion particulates
- Acids and other chemicals

Sources of Contamination

Contaminants can be introduced into the hydraulic system from various sources such as:

- Fabrication and Assembly of the hydraulic piping system
- New hydraulic fluid (oil)
- Induced during routine maintenance of the system
- Externally ingested from the surrounding environment
- Internally generated from wear and tear of components

Fabrication and Assembly: During the fabrication and assembly of the hydraulic piping contamination may be introduced into the system such as:

- Dust and dirt from storage and handling
- Burrs, chips and weld splatter –
- Fibres from rags
- Sandblasting residue
- Paint chips or overspray
- Pipe sealants and tape from assembly
- Other lubricants such as Never Seez used when torquing up the bolts during assembly

Welded pipe joints or flanges is not recommended by Tube-Mac. Only a non-welded piping solution should be used for hydraulic piping systems along with cold drawn, seamless, carbon steel pipe, phosphate and oiled inside and outside. Stainless Steel pipe is recommended for corrosive environments. Deburr all sharp edges of the cut pipe ends prior to flaring or grooving the pipe. To protect contaminates from entering the pipe, caps or plugs on the end of each pipe or heat shrink bags over the flanged ends of each pipe is recommended. These are to be removed just prior to installation. Tube-Mac's Installation and Hydraulic Oil Flushing Procedures will aid in the elimination of these contaminants.

TMI® Flange Systems

Fluid Conditioning and Cleanliness

New Hydraulic Fluid: new hydraulic fluid (referred herein as “oil”) supplied from a tote or drum may not be necessarily clean. Typically, new oils have a cleanliness level of approximately ISO 23/21/18.

Before the oil is extracted, an oil sample from each supplied tote or drum must be taken for analysis to establish the cleanliness of the supplied oil.

Flushing New Systems: Whenever a new hydraulic piping system is installed, or a repair/modification is performed, the system must be flushed with oil prior to start-up. Tube-Mac recommends the “system oil” be used for flushing a Tube-Mac non-welded piping system and upon completion the “system oil” remains in the piping for the operation of the equipment.

ISO 4406 Cleanliness Code

ISO Code Number	No. of Particles per ml	
	More Than	Up to and Including
24	80 000	160 000
23	40 000	80 000
22	20 000	40 000
21	10 000	20 000
20	5 000	10 000
19	2 500	5 000
18	1 300	2 500
17	640	1 300
16	320	640
15	160	320
14	80	160
13	40	80
12	20	40
11	10	20
10	5	10
9	2.5	5
8	1.3	2.5
7	0.64	1.3
6	0.32	0.64

The use of Tube-Mac’s **Pressure Testing and Oil Flushing Unit** along with a Tube-Mac fully trained Flushing Technician is highly recommended. Prior to filling the pipes, the hoses are disconnected at the major equipment such as hydraulic motors, cylinders, valve stands and power units. They are then temporarily looped together at each end. Then the oil can be transferred from the tote or drum to fill the reservoir and pipes using the Oil Flushing Unit with filtration. The system is then pressurized to 1.5 times normal operating pressure and checked for any leaks. Once confirmed, the oil is then circulated throughout the system for several hours taking oil samples at various intervals for analysis until the desire cleanliness level is reached.

Upon completion the hoses are reconnected to all major equipment and the system is ready for commissioning.

The cleanliness level is predetermined by the system designer or OEM to maximize component life. Many OEMs have established guidelines on the allowable contamination levels at start-up that range from 20 – 1000 particles/milliliter.

The two most common cleanliness measuring standards in the oil & gas, and process industries are The ISO 4406, and The NAS 1638 cleanliness standards. The ISO Cleanliness Code, ISO 4406:2021 is perhaps the most widely used international standard for representing the particle contamination level of industrial fluid power systems. The contamination code consists of three (3) numbers. The first number represents the number of particles per milliliter that are 4 micrometres or larger. The second number 6 micrometres or larger and the third number 14 micrometres or larger.

For example, 18/16/13. Using the ISO particle count table above, an oil with a cleanliness rating of 18/16/13 would mean that it contained:

1300 - 2500 particles greater than 4 micron in size

320 - 640 particles greater than 6 micron in size, and

40 - 80 particles greater than 14 microns in size.

TMI® Flange Systems

Fluid Conditioning and Cleanliness

NAS 1638 Cleanliness Code

Class	Maximum No. of Particles / 100 ml				
	5 - 15	15 - 25	25 - 50	50 - 100	> 100
00	125	22	4	1	0
0	250	44	8	2	0
1	500	89	16	3	1
2	1 000	178	32	6	1
3	2 000	356	63	11	2
4	4 000	712	126	22	4
5	8 000	1 425	253	45	8
6	16 000	2 850	506	90	16
7	32 000	5 700	1 012	180	32
8	64 000	11 400	2 025	360	64
9	128 000	22 800	4 050	720	128
10	256 000	45 600	8 100	1 440	256
11	512 000	91 200	16 200	2 880	512
12	102 400	182 400	32 400	5 760	1 024

The **NAS 1638 Cleanliness Standard** was originally developed for aerospace components in the US but is still widely used for industrial fluid power applications. NAS 1638 is comprised of fluid cleanliness classes, each class defined in terms of maximum allowed particle counts per 100ml for designated particle size ranges.

In **NAS 1638** classification the code number refers to a maximum quantity of particles within a specific size class. Most users use a single code number based on the highest particle count in any of the size ranges.

See the NAS 1638 Cleanliness Code chart for the various cleanliness levels.

Converting Oil Cleanliness Standards - ISO to NAS

In many situations, there is a requirement to be able to compare these cleanliness classification codes. The chart below provides a good comparison between the NAS and ISO cleanliness codes as related to particle count data.

Example: ISO 18/16/13 is equivalent to NAS 7.

Since 2001, however, the official Aerospace Standard used to measure the degree of fluid cleanliness is SAE AS4059. As such, the NAS 1638 standard is now considered obsolete; however, it is still widely used.

SAE AS4059, which supplied the old standard, is considered more accurate.

In fact, the quality of the new standard has made it widely accepted by companies in the sector, especially on the European continent. Additional information on understanding how SAE AS4059 works can be found at www.sae.org/standards/content/as4059/.

Cleanliness Code Comparisons

ISO Code	NAS Class
23/21/18	12
22/20/18	-
22/20/17	11
22/20/16	-
21/19/16	10
19/17/14	8
18/16/13	7
17/15/12	6
16/14/12	-
16/14/11	5
15/13/10	4
14/12/09	3
13/11/08	2
12/10/08	-
12/10/07	1
12/10/06	-

ISO Certification of Registration

CERTIFICATE
OF REGISTRATION

This is to certify that

Tube-Mac® Piping Technologies Ltd.

853 Arvin Avenue, Stoney Creek, Ontario L8E 5N8 Canada

operates a

Quality Management System

which complies with the requirements of

ISO 9001:2015

for the following scope of certification

Manufacturer and Supplier of Non-Welded Piping Systems and Components.

Tube-Mac® Piping Technologies Ltd. operates a Quality Management System compliant to ISO 9001:2015 and certified by SAI GLOBAL an ANAB* Accredited Management Certification Company.

*(ANAB) The ANSI National Accreditation Board

Offshore and Marine Type Approvals

IACS Members

ABS	American Bureau of Shipping
LR	Lloyds Register
DNV	Det Norske Veritas
CCS	China Classification Society
RMRS	Russian Maritime Register of Shipping

3D step models available upon request

Notes

Pipes & Tubes

Tube-Mac maintains a large stock of Carbon Steel NPS pipes and METRIC tubes in strategic locations around the world for use on hydraulic oil, lubrication, and many other piping systems. Tube-Mac also has a vast supply chain for stainless steel type 316, duplex and super duplex.

Material
Carbon steel
EN 10305-4 E235+N (ST37.4)
EN 10305-4 E355+N (ST52.4)
*ASTM A106 Grade B
Stainless steel
ASTM A269 TP316L / DIN 2391
ASTM A312 / A530 Grade TP316L
DUPLEX UNS S32205

Other specifications

Tube-Mac recommends the use of carbon steel, **Cold Drawn, Seamless** pipes, and tubes according to EN 10305-4. This standard specifies the technical delivery conditions for the pipes and tubes used in high pressure hydraulic and pneumatic power systems. Tubes according to EN 10305-4 are characterised by having precisely defined tolerances on dimensions and a specified surface roughness. These cold formed pipes and tubes are normalized without oxygen so there is no mill scale inside or outside surfaces. The pipes and tubes are clean and have an excellent surface for 37° roll flaring. As a comparison, hot rolled tubes will always have some mill scale both inside and out due to the manufacturing process.

All Tube-Mac precision carbon steel pipes and tubes are supplied with MTR's (Material Test Reports). Trace or heat numbers, pipe size by Schedule or OD x Wall and Tube-Mac's name are stencilled along the outside diameter of each pipe and tube. If an MTR certificate is required, the customer must specify at the time of order.

To further ensure quality and traceability Tube-Mac delivers the pipes and tubes with EN-10204.3.2 certificates in accordance with EU standard EN 10204 – DIN 50049.

Welded Pipe and Tubes according to the above specification and have been re-drawn over a mandrel are acceptable however seamless pipes and tubes are recommended. Note the pressure capability may be reduced due to the welding seam and the quality of the weld may affect the roll flaring.

Hot Rolled Pipes and Tubes are not recommended for roll flaring as the tolerances are much broader and the pipe or tube may slip in the flaring dies. Also, there is mill scale inside and outside of the pipe and tube which damage the flaring pin, cause a poor flare, and contaminate the fluid of the system.

*ASTM A106 Grade B are mechanically cleaned & oiled. Recommended for Retain Ring piping connection system only

3D step models available upon request

Designers Guide

Pipe Type, Size, Schedule or OD x Wall Selection

1. Given: The system design pressure (PSI) or (bar).
2. Given: The flow rate through the pipe in US gal/min. or ltr./min.
3. Recommended line velocity in Table 1. FPS (ft/sec.) or Table 2. (m/s)

Recommended Oil Velocities Table 1. (FPS)

Suction Lines	Return Lines	Pressure Lines						
		150-375 psi	375-750psi	750-1500 psi	1500-2250 psi	2250-3000 psi	3000-5000 psi	5000-6000 psi
≤ 5 FPS	≤10 FPS	≤12 FPS	≤13 FPS	≤14 FPS	≤16 FPS	≤18 FPS	≤20 FPS	≤22 FPS

Recommended Oil Velocities Table 2. (m/s)

Suction Lines	Return Lines	Pressure Lines						
		10-30 bar	30-50 bar	50-100 bar	100-155 bar	155-210 bar	210-350 bar	350-420 bar
≤ 1.5 m/s	≤ 3.0 m/s	≤ 3.7 m/s	≤ 4.0 m/s	≤ 4.3 m/s	≤ 4.9 m/s	≤ 5.5 m/s	≤ 6.0 m/s	≤ 6.7 m/s

4. Go to Table 3. (NPS)
   Under the selected line velocity column (FPS) read down until the approximate flow rate (GPM) is found.
   Read across to the left column showing the nominal pipe size and schedule required.
5. Go to Table 4. (Metric)
   Under the selected line velocity column (m/s) read down until the approximate flow rate (ltr./min.) is found.
   Read across to the left column showing the pipe OD x wall required.
6. Go to Pressure Rating Guide Pages below for NPS Pipe.
   Page C5 for Carbon Steel, E235+N (ST 37.4), E355+N (ST 52.4) and A106 Grade B.
   Page C6 for Stainless Steel Types 304/316.
   Page C7 for Duplex Stainless steel UNS S32205.

   For the NPS (nominal pipe size) and schedule selected, read down the Working Pressure column showing the corresponding pressure rating to meet the design criteria. The connection type is also provided based on the pipe size and schedule.
7. Go to Pressure Rating Guide Pages below for METRIC Pipe.
   Page C8 for Carbon Steel E235+N (ST 37.4) acc to DNV Rules for Marine and Offshore.
   Page C9 for Carbon Steel E235+N (ST 37.4) acc to DIN Rules for Land Based and Industrial Applications.
   Page C10 for Carbon Steel E355+N (ST 52.4) acc to DNV Rules for Marine and Offshore.
   Page C11 for Carbon Steel E355+N (ST 52.4) acc to DIN Rules for Land Based and Industrial Applications.
   Page C12 for Stainless Steel 316/316L acc to DNV Rules for Marine and Offshore.
   Page C13 for Stainless Steel 316/316L acc to DIN Rules for Land Based and Industrial Applications.

   For the METRIC pipe OD x wall selected, read down the Working Pressure column showing the corresponding pressure rating to meet the design criteria. The connection type is also provided based on the pipe OD and wall.

Example:
System delivering 250 GPM at 3500 PSI with a design velocity of around 20 FPS using carbon steel pipe.

Selection:
TMP52CD pipe, flared, schedule 80, 2-1 /2” size would meet the design requirement of this example.

3D step models available upon request

Pipe Flow/Velocity Guide, NPS

Table 3 (NPS)

Nominal Pipe Size (in)	Wall Schedule	Internal Area (in^2)	Bore Dia. (in)	Flow (GPM)						
				2 FPS	5 FPS	10 FPS	15 FPS	20 FPS	25 FPS	30 FPS
1/2”	SCH40	0.304	0.622	1.9	4.7	9.5	14.2	18.9	23.7	28.4
	SCH80	0.234	0.546	1.5	3.6	7.3	10.9	14.6	18.2	21.9
	SCH160	0.171	0.466	1.1	2.7	5.3	8.0	10.6	13.3	15.9
	SCHXXS	0.050	0.252	0.3	0.8	1.6	2.3	3.1	3.9	4.7
3/4”	SCH40	0.533	0.824	3.3	8.3	16.6	24.9	33.2	41.5	49.8
	SCH80	0.432	0.742	2.7	6.7	13.5	20.2	26.9	33.7	40.4
	SCH160	0.296	0.614	1.8	4.6	9.2	13.8	18.4	23.1	27.7
	SCHXXS	0.148	0.434	0.9	2.3	4.6	6.9	9.2	11.5	13.8
1”	SCH40	0.864	1.049	5.4	13.5	26.9	40.4	53.8	67.3	80.7
	SCH80	0.719	0.957	4.5	11.2	22.4	33.6	44.8	56.0	67.2
	SCH160	0.522	0.815	3.3	8.1	16.3	24.4	32.5	40.6	48.8
	SCHXXS	0.282	0.599	1.8	4.4	8.8	13.2	17.6	21.9	26.3
1-1/4”	SCH40	1.496	1.380	9.3	23.3	46.6	69.9	93.2	116.5	139.8
	SCH80	1.283	1.278	8.0	20.0	40.0	60.0	79.9	99.9	119.9
	SCH160	1.057	1.160	6.6	16.5	32.9	49.4	65.8	82.3	98.8
	SCHXXS	0.593	0.869	3.7	9.2	18.5	27.7	37.0	46.2	55.4
1-1/2”	SCH40	2.036	1.610	12.7	31.7	63.4	95.1	126.9	158.6	190.3
	SCH80	1.767	1.500	11.0	27.5	55.0	82.6	110.1	137.6	165.1
	SCH160	1.406	1.338	8.8	21.9	43.8	65.7	87.6	109.5	131.4
	SCHXXS	0.950	1.100	5.9	14.8	29.6	44.4	59.2	74.0	88.8
2”	SCH40	3.356	2.067	20.9	52.3	104.5	156.8	209.1	261.4	313.6
	SCH80	2.953	1.939	18.4	46.0	92.0	138.0	184.0	230.0	276.0
	SCH160	2.235	1.687	13.9	34.8	69.6	104.4	139.3	174.1	208.9
	SCHXXS	1.774	1.503	11.1	27.6	55.3	82.9	110.5	138.2	165.8
2-1/2”	SCH40	4.788	2.469	29.8	74.6	149.2	223.7	298.3	372.9	447.5
	SCH80	4.238	2.323	26.4	66.0	132.0	198.0	264.0	330.1	396.1
	SCH160	3.547	2.125	22.1	55.2	110.5	165.7	221.0	276.2	331.5
	SCHXXS	2.463	1.771	15.3	38.4	76.7	115.1	153.5	191.8	230.2
3”	SCH40	7.393	3.068	46.1	115.2	230.3	345.5	460.6	575.8	690.9
	SCH80	6.605	2.900	41.2	102.9	205.8	308.6	411.5	514.4	617.3
	SCH160	5.408	2.624	33.7	84.2	168.5	252.7	336.9	421.2	505.4
	SCHXXS	4.155	2.300	25.9	64.7	129.4	194.2	258.9	323.6	388.3
4”	SCH40	12.730	4.026	79.3	198.3	396.6	594.9	793.1	991.4	1,189.7
	SCH80	11.500	3.826	71.7	179.1	358.3	537.4	716.5	895.6	1,074.8
	SCH160	9.283	3.438	57.8	144.6	289.2	433.8	578.4	723.0	867.6
	SCHXXS	7.803	3.152	48.6	121.5	243.1	364.6	486.2	607.7	729.3
5”	SCH40	20.006	5.047	124.6	311.6	623.2	934.9	1,246.5	1,558.1	1,869.7
	SCH160	14.610	4.313	91.0	227.6	455.1	682.7	910.3	1,137.8	1,365.4
	SCHXXS	12.965	4.063	80.8	202.0	403.9	605.9	807.8	1,009.8	1,211.7
6”	SCH40	28.890	6.065	180.0	450.0	900.0	1,350.0	1,800.0	2,250.0	2,700.0
	SCH160	21.147	5.189	131.8	329.4	658.8	988.2	1,317.6	1,647.0	1,976.4
	SCHXXS	18.834	4.897	117.3	293.4	586.7	880.1	1,173.5	1,466.9	1,760.2
8”	SCH40	50.027	7.981	311.7	779.2	1,558.5	2,337.7	3,117.0	3,896.2	4,675.4
	SCH160	36.456	6.813	227.1	567.8	1,135.7	1,703.5	2,271.4	2,839.2	3,407.1
	SCHXXS	37.122	6.875	231.3	578.2	1,156.5	1,734.7	2,312.9	2,891.2	3,469.4
10”	SCH40	78.854	10.020	491.3	1,228.3	2,456.5	3,684.8	4,913.1	6,141.3	7,369.6
	SCH160	56.745	8.500	353.6	883.9	1,767.8	2,651.6	3,535.5	4,419.4	5,303.3

* Flow is shown in US Gallons/min

3D step models available upon request

TMI Pipe Flow/Velocity Guide, Metric

Table 4 (Metric)

OD x Wall (mm)	Internal Area (mm2)	Bore Dia. (mm)	Flow (litres/min) based on Line Velocity (m/s)					
			2 m/s	3 m/s	4.5 m/s	6 m/s	8 m/s	10 m/s
20 x 2.0	201.1	16	24.1	36.2	54.3	72.4	95.6	120.6
20 x 2.5	176.7	15	21.2	31.8	47.7	63.6	84.8	106.0
20 x 3.0	153.9	14	18.5	27.7	41.5	55.5	73.9	92.4
25 x 2.5	314.2	20	37.7	56.5	84.8	113.1	150.8	188.5
25 x 3.0	283.5	19	34.0	51.0	76.5	102.1	136.1	170.1
25 x 4.0	227.0	17	27.2	40.8	61.3	81.7	108.9	136.2
30 x 3.0	452.4	24	54.3	81.4	122.1	162.9	217.1	271.4
30 x 4.0	380.1	22	45.6	68.4	102.6	136.8	182.5	228.1
30 x 5.0	314.2	20	37.7	56.5	84.8	113.1	150.8	188.5
38 x 3.0	804.2	32	96.5	144.7	217.1	289.5	386.0	482.5
38 x 4.0	706.9	30	84.8	127.2	190.8	254.5	339.3	424.1
38 x 5.0	615.8	28	73.9	110.8	166.2	221.7	295.5	369.4
42 x 3.0	1017.9	36	122.1	183.2	274.8	366.4	488.6	610.7
42 x 4.0	907.9	34	108.9	163.4	245.1	326.8	435.8	544.7
50 x 3.0	1520.5	44	182.4	273.7	410.5	547.4	729.8	912.3
50 x 5.0	1256.6	40	150.8	226.2	339.3	452.4	603.2	754.0
50 x 6.0	1134.1	38	136.1	204.1	306.2	408.3	544.4	680.5
56 x 8.5	1194.6	39	143.3	215.0	322.5	430.1	573.4	716.7
60 x3.0	2290.2	54	274.8	412.2	618.4	824.5	1099.3	1374.1
60 x 5.0	1963.5	50	235.6	353.4	530.1	706.9	942.5	1178.1
60 x 6.0	1809.6	48	217.1	325.7	488.6	651.4	868.6	1085.7
60 x 8.0	1520.5	44	182.5	273.7	410.5	547.4	729.8	912.3
66 x 8.5	1885.7	49	226.3	339.4	509.1	680.6	905.1	1131.4
73 x 7.0	2734.0	59	328.1	492.1	738.2	984.2	1312.3	1640.4
75 x 3.0	3739.3	69	448.7	673.1	1009.6	1346.1	1794.8	2243.6
75 x 5.0	3318.3	65	398.2	597.3	895.9	1194.6	1592.8	1991.0
75 x 7.0	2922.5	61	350.7	526.0	789.1	1052.1	1402.8	1753.5
80 x 10	2827.4	60	339.3	508.9	763.4	1017.9	1357.2	1696.5
90 x 3.5	5410.6	83	649.3	973.9	1460.8	1947.8	2597.1	3246.4
90 x 5.0	5026.6	80	603.2	904.8	1357.2	1809.6	2412.7	3015.9
90 x 9.0	4071.5	72	488.6	732.9	1099.3	1465.7	1954.3	2442.9
97 x 12	4185.4	73	502.2	753.4	1130.1	1506.7	2009.0	2511.2
100 x 4.0	6647.6	92	797.7	1196.6	1794.8	2393.1	3190.8	3,988.60
115 x4.0	8992.0	107	1079.0	1618.6	2427.8	3237.1	4316.2	5395.2
115 x 15	5674.5	85	680.9	1021.4	1532.1	2042.8	2723.7	3404.7
130 x 15	7854.0	100	942.5	1413.7	2120.6	2827.4	3769.9	4712.4
140 x 4.5	13478.2	131	1617.4	2426.1	3639.1	4852.2	6469.5	8086.9
150 x 15	11309.8	120	1357.2	2035.7	3053.6	4071.5	5428.7	6785.8
165 x 5.0	18869.2	155	2264.3	3396.4	5094.7	6792.9	9057.2	11321.5
190 x 20	17671.5	150	2120.6	3180.9	4771.3	6361.7	8482.3	10602.9
220 x 6.0	33979.5	208	4077.5	6116.3	9174.5	12232.6	16310.1	20387.7
220 x 20	25447.0	180	3053.6	4580.4	6870.7	9160.9	12214.5	15268.1
250 x 25	31416.0	200	3769.9	5645.9	8482.3	11309.7	15079.6	18849.6
273 x 6.0	53502.2	261	6420.3	9630.4	14445.6	19260.7	25681.0	32101.3
273 x 28.6	36575.8	215.8	4397.2	6595.8	9893.8	13191.7	17588.9	21986.1

* Flow is shown in litres/min

Pressure Rating Guide, NPS Carbon Steel Pipes,

According to ASME B31.3

Nominal Pipe Size (in)	Wall Schedule	Connection Type	Material Type/Grade	Pipe OD x Wall (in)	Pipe OD x Wall (mm)	Working Pressure PSI (bar)	Burst Pressure PSI (bar)	Weight lbs/ft	Weight kg/mtr
1/2”	SCH40	Flare	E235+N (ST37.4 NBK)	0.840 x 0.109	21.34 x 2.77	5410 (373)	16230 (1119)	0.851	1.29
	SCH80	Flare	E235+N (ST37.4 NBK)	0.840 x 0.147	21.34 x 3.73	7570 (522)	22710 (1566)	1.088	1.64
	SCH160	Retain Ring	A106 Grade B	0.840 x 0.187	21.34 x 4.78	9230 (636)	27690 (1909)	1.304	1.95
3/4”	SCH40	Flare	E235+N (ST37.4 NBK)	1.050 x 0.113	26.67 x 2.81	4410 (304)	13230 (912)	1.131	1.71
	SCH80	Flare	E235+N (ST37.4 NBK)	1.050 x 0.154	26.67 x 3.91	6200 (428)	18600 (1283)	1.474	2.22
	SCH160	Retain Ring	A106 Grade B	1.050 x 0.218	26.67 x 5.56	8502 (586)	25506 (1793)	1.937	2.89
1”	SCH40	Flare	E235+N (ST37.4 NBK)	1.315 x 0.133	33.40 x 3.38	4120 (284)	12360 (852)	1.679	2.54
	SCH80	Flare	E235+N (ST37.4 NBK)	1.315 x 0.179	33.40 x 4.55	5700 (393)	17100 (1179)	2.172	3.28
	SCH80	Flare	E355+N (ST52.4 NBK)	1.315 X 0.179	33.40 X 4.55	6500 (448)	19500 (1345)	2.172	3.28
	SCH160	Retain Ring	A106 Grade B	1.315 x 0.250	33.40 x 6.35	7675 (540)	23025 (1588)	2.844	4.23
1-1/4”	SCH40	Flare	E235+N (ST37.4 NBK)	1.660 x 0.140	42.16 x 3.56	3394 (234)	10182 (702)	2.273	3.43
	SCH80	Flare	E355+N (ST52.4 NBK)	1.660 x 0.191	42.16 x 4.85	5400 (372)	16200 (1116)	2.997	4.54
	SCH160	Retain Ring	A106 Grade B	1.660 x 0.250	42.16 x 6.35	5892 (406)	17676 (1219)	3.765	5.60
	SCHXXS	Retain Ring	A106 Grade B	1.660 x 0.382	42.16 x 9.70	9601 (662)	28803 (1986)	5.214	7.75
1-1/2”	SCH40	Flare	E235+N (ST37.4 NBK)	1.900 x 0.145	48.26 x 3.68	3050 (210)	9150 (631)	2.718	4.11
	SCH80	Flare	E355+N (ST52.4 NBK)	1.900 x 0.200	48.26 x 5.08	4900 (338)	14700 (1014)	3.631	5.48
	SCH160	Flare & Retain Ring	E355+N (ST52.4 NBK)	1.900 x 0.281	48.26 x 7.14	6930 (478)	20790 (1434)	4.859	7.23
	SCHXXS	Retain Ring	A106 Grade B	1.900 x 0.400	48.26 x 10.16	8642 (596)	25926 (1788)	6.408	9.54
2”	SCH40	Flare	E235+N (ST37.4 NBK)	2.375 x 0.154	60.30 x 3.91	2570 (177)	7710 (532)	3.653	5.51
	SCH80	Flare	E355+N (ST52.4 NBK)	2.375 x 0.218	60.30 x 5.54	4200 (290)	12600 (870)	5.022	7.58
	SCH160	Flare & Retain Ring	E355+N (ST52.4 NBK)	2.375 x 0.343	60.30 x 8.74	6750 (465)	20250 (1395)	7.444	11.10
	SCHXXS	Retain Ring	A106 Grade B	2.375 x 0.436	60.30 x 11.07	7373 (508)	22119 (1525)	9.029	13.44
2-1/2”	SCH40	Flare	E235+N (ST 37.4 NBK)	2.875 x 0.203	73.00 x 5.16	2810 (194)	8430 (581)	5.793	8.75
	SCH80	Flare	E355+N (ST52.4 NBK)	2.875 x 0.276	73.00 x 7.01	4500 (310)	13500 (930)	7.661	11.57
	SCH160	Flare & Retain Ring	E355+N (ST52.4 NBK)	2.875 x 0.375	73.00 x 9.53	6030 (415)	18090 (1245)	10.01	14.90
	SCHXXS	Retain Ring	A106 Grade B	2.875 x 0.552	73.00 x 14.02	7763 (535)	23289 (1606)	13.69	20.39
3”	SCH40	Flare	E235+N (ST 37.4 NBK)	3.500 x 0.216	88.9 x 5.49	2440 (168)	7320 (505)	7.576	11.45
	SCH80	Flare	E355+N (ST52.4 NBK)	3.500 x 0.300	88.9 x 7.67	3900 (270)	11700 (810)	10.25	15.48
	SCH160	Retain Ring	A106 Grade B	3.500 x 0.438	88.9 x 11.13	4800 (331)	14400 (993)	14.32	21.30
	SCHXXS	Retain Ring	A106 Grade B	3.500 x 0.600	88.9 x 15.24	6818 (470)	20454 (1410)	18.58	27.65
3-1/2”	SCH40	Flare	E235+N (ST 37.4 NBK)	4.0 x 0.226	101.6 x 5.74	2226 (154)	6678 (461)	9.109	13.96
4”	SCH40	Flare	E235+N (ST 37.4 NBK)	4.500 x 0.237	114.3 x 6.07	2069 (143)	6207 (428)	10.79	16.30
	SCH80	Flare	E355+N (ST52.4 NBK)	4.500 x 0.337	114.3 x 8.56	3420 (236)	10260 (708)	14.98	22.62
	SCH160	Retain Ring	A106 Grade B	4.500 x 0.531	114.3 x 13.49	4502 (310)	13500 (931)	22.51	33.51
	SCHXXS	Retain Ring	A106 Grade B	4.500 x 0.674	114.3 x 17.12	5856 (404)	17568 (1211)	27.54	40.99
5”	SCH40	Flare	E235+N (ST 37.4 NBK)	5.563 x 0.258	141.3 x 6.55	1814 (125)	5442 (375)	14.62	22.09
	SCH160	Retain Ring	A106 Grade B	5.563 x 0.625	141.3 x 15.88	4268 (294)	12804 (883)	27.04	49.04
	SCHXXS	Retain Ring	A106 Grade B	5.563 x 0.750	141.3 x 19.05	5210 (359)	15630 (1078)	32.96	57.37
6”	SCH40	Flare	E235+N (ST 37.4 NBK)	6.625 x 0.280	168.3 x 7.11	1648 (114)	4944 (341)	18.97	28.65
	SCH160	Retain Ring	A106 Grade B	6.625 x 0.718	168.3 x 18.26	4105 (283)	12315 (849)	45.30	67.47
	SCHXXS	Retain Ring	A106 Grade B	6.625 x 0.864	168.3 x 21.95	5023 (346)	15069 (1039)	53.16	79.11
8”	SCH40	Flare	E235+N (ST 37.4 NBK)	8.625 x 0.322	219.1 x 8.18	1450 (100)	4350 (300)	28.55	43.12
	SCH160	Retain Ring	A106 Grade B	8.625 x 0.906	219.1 x 23.00	3968 (274)	11904 (821)	74.69	111.18
	SCHXXS	Retain Ring	A106 Grade B	8.625 x 0.875	219.1 x 22.20	3822 (264)	11466 (790)	72.42	107.80
10”	SCH40	Flare	E235+N (ST 37.4 NBK)	10.750 x 0.365	273.0 x 9.27	1316 (91)	3948 (272)	40.48	61.14
	SCHXS	Retain Ring	A106 Grade B	10.750 x 0.500	273.0 x 12.70	2008 (138)	6024 (415)	54.74	82.67
	SCH160	Retain Ring	A106 Grade B	10.750 x 1.125	273.0 x 28.60	3952 (272)	11856 (817)	115.6	172.01

*Other sizes on request

Note:

1. Working Pressure Rating according to ASME B31.3 includes manufacturing tolerance
2. Material Type E355+N (ST52.4 NBK) Allowable Stress - 24,000 PSI per ASME B31.3
3. Material Type E235+N (ST37.4 NBK) Allowable Stress - 21,000 PSI per ASME B31.3
4. Material Type A106 Grade B Allowable Stress - 20,000 PSI per ASME B31.3

3D step models available upon request

Pressure Rating Guide, NPS Stainless Steel Type 304/316 Pipes, According to ASME B31.3

Nominal Pipe Size (in)	Wall Schedule	Connection Type	Pipe OD x Wall (in)	Pipe OD x Wall (mm)	Working Pressure PSI (bar)	Burst Pressure PSI (bar)	Weight lbs/ft	Weight kg/mtr
1/2”	SCH40	Flare	0.840 x 0.109	21.34 x 2.77	4995 (344)	14985 (1033)	0.851	1.29
	SCH80	Flare	0.840 x 0.147	21.34 x 3.73	6980 (481)	20940 (1444)	1.088	1.64
	SCH160	Retain Ring	0.840 x 0.187	21.34 x 4.78	9230 (636)	27690 (1909)	1.304	1.95
	SCHXXS	Retain Ring	0.840 x 0.294	21.34 x 7.47	16302 (1124)	47064 (3245)	1.714	2.55
3/4”	SCH40	Flare	1.050 x 0.113	26.67 x 2.81	4074 (281)	12222 (843)	1.131	1.71
	SCH80	Flare	1.050 x 0.154	26.67 x 3.91	5721 (394)	17163 (1183)	1.474	2.22
	SCH160	Retain Ring	1.050 x 0.218	26.67 x 5.56	8502(586)	25506 (1793)	1.937	2.89
	SCHXXS	Retain Ring	1.050 x 0.308	26.67 x 7.82	12850 (886)	38550 (2658)	2.441	3.64
1”	SCH40	Flare	1.315 x 0.133	33.40 x 3.38	3810 (263)	11430 (788)	1.679	2.54
	SCH80	Flare	1.315 x 0.179	33.40 x 4.55	5266 (363)	15798 (1089)	2.172	3.28
	SCH160	Retain Ring	1.315 x 0.250	33.40 x 6.35	7675 (540)	23025 (1588)	2.844	4.23
	SCHXXS	Retain Ring	1.315 x 0.358	33.40 x 9.09	11675 (805)	35025 (2415)	3.659	5.45
1-1/4”	SCH40	Flare	1.660 x 0.140	42.16 x 3.56	3137 (216)	9411 (649)	2.273	3.43
	SCH80	Flare	1.660 x 0.191	42.16 x 4.85	4380 (302)	13140 (906)	2.997	4.54
	SCH160	Retain Ring	1.660 x 0.250	42.16 x 6.35	5892 (406)	17676 (1219)	3.765	5.60
	SCHXXS	Retain Ring	1.660 x 0.382	42.16 x 9.70	9601 (662)	28803 (1986)	5.214	7.75
1-1/2”	SCH40	Flare	1.900 x 0.145	48.26 x 3.68	2822 (195)	8466 (584)	2.718	4.11
	SCH80	Flare	1.900 x 0.200	48.26 x 5.08	3977 (274)	11931 (823)	3.631	5.48
	SCH160	Flare & Retain Ring	1.900 x 0.281	48.26 x 7.14	5774 (398)	17322 (1194)	4.859	7.23
	SCHXXS	Retain Ring	1.900 x 0.400	48.26 x 10.16	8642 (596)	25926 (1788)	6.408	9.54
2”	SCH40	Flare	2.375 x 0.154	60.30 x 3.91	2377 (164)	7131 (492)	3.653	5.51
	SCH80	Flare	2.375 x 0.218	60.30 x 5.54	3433 (237)	10299 (710)	5.022	7.58
	SCH160	Flare & Retain Ring	2.375 x 0.343	60.30 x 8.74	5623 (388)	16869 (1163)	7.444	11.10
	SCHXXS	Retain Ring	2.375 x 0.436	60.30 x 11.07	7373 (508)	22119 (1525)	9.029	13.44
2-1/2”	SCH40	Flare	2.875 x 0.203	73.00 x 5.16	2600 (180)	7800 (540)	5.793	8.75
	SCH80	Flare	2.875 x 0.276	73.00 x 7.01	3602 (248)	10806 (745)	7.661	11.57
	SCH160	Flare & Retain Ring	2.875 x 0.375	73.00 x 9.53	5024 (346)	15072 (1039)	10.01	14.90
	SCHXXS	Retain Ring	2.875 x 0.552	73.00 x 14.02	7763 (535)	23289 (1606)	13.69	20.39
3”	SCH40	Flare	3.500 x 0.216	88.9 x 5.49	2258 (156)	6774 (467)	7.576	11.45
	SCH80	Flare	3.500 x 0.300	88.9 x 7.67	3191 (220)	9573 (660)	10.25	15.48
	SCH160	Retain Ring	3.500 x 0.438	88.9 x 11.13	4800 (331)	14400 (993)	14.32	21.30
	SCHXXS	Retain Ring	3.500 x 0.600	88.9 x 15.24	6818 (470)	20454 (1410)	18.58	27.65
3-1/2”	SCH40	Flare	4.0 x 0.226	101.6 x 5.74	2059 (142)	6177 (426)	9.109	13.96
4”	SCH40	Flare	4.500 x 0.237	114.3 x 6.07	1914 (132)	5742 (396)	10.79	16.30
	SCH80	Flare	4.500 x 0.337	114.3 x 8.56	2766 (191)	8298 (572)	14.98	22.62
	SCH160	Retain Ring	4.500 x 0.531	114.3 x 13.49	4502 (310)	13500 (931)	22.51	33.51
	SCHXXS	Retain Ring	4.500 x 0.674	114.3 x 17.12	5856 (404)	17568 (1211)	27.54	40.99
5”	SCH40	Flare	5.563 x 0.258	141.3 x 6.55	1678 (116)	5034 (347)	14.62	22.09
	SCH160	Retain Ring	5.563 x 0.625	141.3 x 15.88	4268 (294)	12804 (883)	27.04	49.04
	SCHXXS	Retain Ring	5.563 x 0.750	141.3 x 19.05	5210 (359)	15630 (1078)	32.96	57.37
6”	SCH40	Flare	6.625 x 0.280	168.3 x 7.11	1524 (105)	4572 (315)	18.97	28.65
	SCH160	Retain Ring	6.625 x 0.718	168.3 x 18.26	4105 (283)	12315 (849)	45.30	67.47
	SCHXXS	Retain Ring	6.625 x 0.864	168.3 x 21.95	5023 (346)	15069 (1039)	53.16	79.11
8”	SCH40	Flare	8.625 x 0.322	219.1 x 8.18	1342 (92.5)	4026 (278)	28.55	43.12
	SCH160	Retain Ring	8.625 x 0.906	219.1 x 23.00	3968 (274)	11904 (821)	74.69	111.18
	SCHXXS	Retain Ring	8.625 x 0.875	219.1 x 22.20	3822 (264)	11466 (790)	72.42	107.80
10”	SCH40	Flare	10.750 x 0.365	273.0 x 9.27	1217 (84)	3651 (252)	40.48	61.14
	SCHXS	Retain Ring	10.750 x 0.500	273.0 x 12.70	2008 (138)	6024 (415)	54.74	82.67
	SCH160	Retain Ring	10.750 x 1.125	273.0 x 28.60	3952 (272)	11856 (817)	115.6	172.01

*Other sizes on request

Note:

1. Working Pressure Rating according to ASME B31.3 includes manufacturing tolerance
2. Material Grade A312 Type 304 and Type 316 Allowable Stress - 20,000 PSI per ASME B31.3

3D step models available upon request

Pressure Rating Guide, NPS DUPLEX Stainless Steel Pipes,

According to ASME B31.3

Nominal Pipe Size (in)	Wall Schedule	Connection Type	Pipe OD x Wall (in)	Pipe OD x Wall (mm)	Working Pressure PSI (bar)	Burst Pressure PSI (bar)	Weight lbs/ft	Weight kg/mtr
1/2"	SCH40	Flare	0.840 x 0.109	21.34 x 2.77	7729 (533)	23187 (1600)	0.851	1.29
	SCH80	Flare	0.840 x 0.147	21.34 x 3.73	10812 (746)	32436 (2237)	1.088	1.64
	SCH160	Retain Ring	0.840 x 0.187	21.34 x 4.78	14316 (987)	42948 (2962)	1.304	1.95
	SCHXXS	Retain Ring	0.840 x 0.294	21.34 x 7.47	25267 (1743)	75801 (5228)	1.714	2.55
3/4"	SCH40	Flare	1.050 x 0.113	26.67 x 2.81	6300 (435)	18900 (1303)	1.131	1.71
	SCH80	Flare	1.050 x 0.154	26.67 x 3.91	8855 (611)	26565 (1832)	1.474	2.22
	SCH160	Retain Ring	1.050 x 0.218	26.67 x 5.56	13182 (909)	39546 (2727)	1.937	2.89
	SCHXXS	Retain Ring	1.050 x 0.308	26.67 x 7.82	20081 (1385)	60243 (4155)	2.441	3.64
1"	SCH40	Flare	1.315 x 0.133	33.40 x 3.38	5891 (406)	17673 (1219)	1.679	2.54
	SCH80	Flare	1.315 x 0.179	33.40 x 4.55	8149 (562)	24447 (1686)	2.172	3.28
	SCH160	Retain Ring	1.315 x 0.250	33.40 x 6.35	11894 (820)	35682 (2461)	2.844	4.23
	SCHXXS	Retain Ring	1.315 x 0.358	33.40 x 9.09	18285 (1261)	54855 (3783)	3.659	5.45
1-1/4"	SCH40	Flare	1.660 x 0.140	42.16 x 3.56	4849 (334)	14547 (1003)	2.273	3.43
	SCH80	Flare	1.660 x 0.191	42.16 x 4.85	6774 (467)	20322 (1402)	2.997	4.54
	SCH160	Retain Ring	1.660 x 0.250	42.16 x 6.35	9122 (629)	27366 (1887)	3.765	5.60
	SCHXXS	Retain Ring	1.660 x 0.382	42.16 x 9.70	14894 (1027)	44682 (3081)	5.214	7.75
1-1/2"	SCH40	Flare	1.900 x 0.145	48.26 x 3.68	4233 (292)	12699 (876)	2.718	4.11
	SCH80	Flare	1.900 x 0.200	48.26 x 5.08	5966 (411)	17898 (1234)	3.631	5.48
	SCH160	Retain Ring	1.900 x 0.281	48.26 x 7.14	8661 (597)	25983 (1792)	4.859	7.23
	SCHXXS	Retain Ring	1.900 x 0.400	48.26 x 10.16	12963 (984)	38889 (2682)	6.408	9.54
2"	SCH40	Flare	2.375 x 0.154	60.30 x 3.91	3566 (245)	10698 (738)	3.653	5.51
	SCH80	Flare	2.375 x 0.218	60.30 x 5.54	5150 (355)	15450 (1065)	5.022	7.58
	SCH160	Retain Ring	2.375 x 0.343	60.30 x 8.74	8435 (582)	25305 (1745)	7.444	11.10
	SCHXXS	Retain Ring	2.375 x 0.436	60.30 x 11.07	11059 (763)	33177 (2288)	9.029	13.44
2-1/2"	SCH40	Flare	2.875 x 0.203	73.00 x 5.16	3900 (269)	11700 (807)	5.793	8.75
	SCH80	Flare	2.875 x 0.276	73.00 x 7.01	5403 (373)	16209 (1118)	7.661	11.57
	SCH160	Retain Ring	2.875 x 0.375	73.00 x 9.53	7536 (520)	22608 (1559)	10.01	14.90
	SCHXXS	Retain Ring	2.875 x 0.552	73.00 x 14.02	11645 (803)	34935 (2409)	13.69	20.39
3"	SCH40	Flare	3.500 x 0.216	88.9 x 5.49	3386 (234)	10158 (700)	7.576	11.45
	SCH80	Flare	3.500 x 0.300	88.9 x 7.67	4787 (330)	14361 (990)	10.25	15.48
	SCH160	Retain Ring	3.500 x 0.438	88.9 x 11.13	7201 (497)	21603 (1490)	14.32	21.30
	SCHXXS	Retain Ring	3.500 x 0.600	88.9 x 15.24	10227 (705)	30681 (2116)	18.58	27.65

*Other sizes on request

Note:

1. Working Pressure Rating according to ASME B31.3 includes manufacturing tolerance
2. Material Type DUPLEX UNS S32205 (EN1.4462) Allowable Stress - 30,000 PSI per ASME B31.3

Pressure Rating Guide, Metric Carbon Steel Tubes

Type E235+N (ST 37.4 NBK)

According to DNV Rules for Marine and Offshore Applications

Cr (VI) Free plated or phosphated and oiled inside and outside.

Tube OD x Wall mm	Connection Type	1. DNV Working Pressure bar	2. DNV Working Pressure bar	3. Burst Pressure bar	Weight kg/mtr
20 x 2.0	Flare	185	212	702	0.89
20 x 2.5	Flare	246	282	878	1.08
20 x 3.0	Flare	309	356	1053	1.26
25 x 2.5	Flare	193	221	702	1.39
25 x 3.0	Flare	242	277	842	1.63
25 x 4.0	Flare	344	397	1123	2.07
30 x 3.0	Flare	198	227	702	2.00
30 x 4.0	Flare	281	323	936	2.56
30 x 5.0	Flare	368	425	1170	3.08
38 x 3.0	Flare	154	176	554	2.59
38 x 4.0	Flare	217	248	739	3.35
38 x 5.0	Flare	282	324	924	4.07
42 x 3.0	Flare	139	158	501	2.89
42 x 4.0	Flare	194	223	669	3.75
50 x 3.0	Flare	115	132	421	3.58
60 x 3.0	Flare	95	109	351	4.22
75 x 3.0	Flare	76	86	281	5.32
90 x 3.5	Flare	75	85	273	7.47
100 x 4.0	Flare	78	89	281	9.47
115 x 4.0	Flare	68	77	244	10.98
140 x 4.5	Flare	63	72	226	15.04
165 x 5.0	Flare	60	68	213	19.73
220 x 6.0	Flare	55	62	191	31.66
273 x 6.0	Flare	44	50	154	39.51

*Other sizes on request

Note:

1. Working Pressure for bent pipe including manufacturing and corrosion tolerances.
2. Working Pressure for straight pipe including manufacturing and corrosion tolerances.
3. Burst Pressure including manufacturing tolerances.

3D step models available upon request

Pressure Rating Guide, Metric Carbon Steel Tubes

Type E235+N (ST 37.4 NBK)

Pressure Rating according to DIN Rules for Land Based & Industrial Application

Cr (VI) Free plated or phosphated and oiled inside and outside.

Tube OD x Wall mm	Connection Type	1. DIN 2413 I Working Pressure bar	2. DIN 2413 III Working Pressure bar	3. Burst Pressure bar	Weight kg/mtr
20 x 2.0	Flare	282	248	702	0.89
20 x 2.5	Flare	353	303	878	1.08
20 x 3.0	Flare	423	357	1053	1.26
25 x 2.5	Flare	282	248	702	1.39
25 x 3.0	Flare	338	292	842	1.63
25 x 4.0	Flare	451	378	1123	2.07
30 x 3.0	Flare	282	248	702	2.00
30 x 4.0	Flare	376	321	936	2.56
30 x 5.0	Flare	470	391	1170	3.08
38 x 3.0	Flare	223	199	554	2.59
38 x 4.0	Flare	297	260	739	3.35
38 x 5.0	Flare	371	318	924	4.07
42 x 3.0	Flare	201	181	501	2.89
42 x 4.0	Flare	269	237	669	3.75
50 x 3.0	Flare	169	154	421	3.58
60 x 3.0	Flare	141	129	351	4.22
75 x 3.0	Flare	113	104	281	5.32
90 x 3.5	Flare	110	101	273	7.47
100 x 4.0	Flare	113	104	281	9.47
115 x 4.0	Flare	98	91	244	10.98
140 x 4.5	Flare	91	84	226	15.04
165 x 5.0	Flare	85	80	213	19.73
220 x 6.0	Flare	77	72	191	31.66
273 x 6.0	Flare	62	58	154	39.51

*Other sizes on request

Note:

1. Static Working Pressure for straight pipe including manufacturing tolerances.
2. Dynamic Working Pressure for straight pipe including manufacturing tolerances.
3. Burst Pressure including manufacturing tolerances.

Pressure Rating Guide, Metric Carbon Steel Tubes

Type E355+N (ST 52.4 NBK)

Pressure Rating according to DNV Rules for Marine and Offshore Applications

Cr (VI) Free plated or phosphated and oiled inside and outside.

Tube OD x Wall mm	Connection Type	1. DNV Working Pressure bar	2. DNV Working Pressure bar	3. Burst Pressure bar	Weight kg/mtr
20 x 2.5	Flare	371	426	1199	1.08
20 x 3.0	Flare	467	537	1439	1.26
25 x 3.0	Flare	365	418	1151	1.63
25 x 4.0	Flare	519	599	1535	2.07
30 x 4.0	Flare	424	487	1279	2.56
30 x 5.0	Flare	555	641	1599	3.08
38 x 3.0	Flare	233	266	757	2.37
38 x 4.0	Flare	327	375	1010	3.35
38 x 5.0	Flare	426	490	1262	4.07
42 x 3.0	Flare	209	239	685	2.89
42 x 4.0	Flare	294	336	914	3.75
50 x 5.0	Flare	315	361	959	5.55
50 x 6.0	Flare	390	448	1151	6.50
56 x 8.5	Flare & Retain Ring	516	595	1456	9.96
60 x 5.0	Flare	259	297	800	6.78
60 x 6.0	Flare	319	366	959	7.97
66 x 8.5	Flare & Retain Ring	429	494	1236	12.05
73 x 7.0	Flare	309	353	920	11.22
75 x 5.0	Flare	205	234	640	8.63
80 x 10	Flare & Retain Ring	418	481	1199	17.21
90 x 5.0	Flare	169	193	533	10.48
90 x 9.0	Flare	326	374	959	17.98
97 x 12	Flare & Retain Ring	416	478	1187	25.15
115 x 15	Retain Ring	444	511	1251	36.95
130 x 15	Retain Ring	388	445	1107	42.54
150 x 15	Retain Ring	332	380	959	49.94
190 x 20	Retain Ring	353	405	1010	83.84
250 x 25	Retain Ring	335	384	959	138.72

*Other sizes on request

Note:

1. Working Pressure for bent pipe including manufacturing and corrosion tolerances.
2. Working Pressure for straight pipe including manufacturing and corrosion tolerances.
3. Burst Pressure including manufacturing tolerances.

Pressure Rating Guide, Metric Carbon Steel Tubes

Type E355+N (ST 52.4 NBK)

Pressure Rating according to DIN Rules for Land Based and Industrial Applications

Cr (VI) Free plated or phosphated and oiled inside and outside.

Tube OD x Wall mm	Connection Type	1. DIN 2413 I Working Pressure bar	2. DIN 2413 III Working Pressure bar	3. Burst Pressure bar	Weight kg/mtr
20 x 2.5	Flare	533	357	1199	1.08
20 x 3.0	Flare	639	420	1439	1.26
25 x 3.0	Flare	511	344	1151	1.63
25 x 4.0	Flare	682	445	1535	2.07
30 x 4.0	Flare	568	379	1279	2.56
30 x 5.0	Flare	710	461	1599	3.08
38 x 3.0	Flare	336	234	757	2.37
38 x 4.0	Flare	448	306	1010	3.35
38 x 5.0	Flare	561	374	1262	4.07
42 x 3.0	Flare	304	213	685	2.89
42 x 4.0	Flare	406	279	914	3.75
50 x 5.0	Flare	426	292	959	5.55
50 x 6.0	Flare	511	344	1151	6.50
56 x 8.5	Flare & Retain Ring	647	425	1456	9.96
60 x 5.0	Flare	355	247	800	6.78
60 x 6.0	Flare	426	292	959	7.97
66 x 8.5	Flare & Retain Ring	549	367	1236	12.05
73 x 7.0	Flare	408	281	920	11.22
75 x 5.0	Flare	284	200	640	8.63
80 x 10	Flare & Retain Ring	533	357	1199	17.21
90 x 5.0	Flare	237	168	533	10.48
90 x 9.0	Flare	426	292	959	17.98
97 x 12	Flare & Retain Ring	527	354	1187	25.15
115 x 15	Retain Ring	556	371	1251	36.95
130 x 15	Retain Ring	492	332	1107	42.54
150 x 15	Retain Ring	426	292	959	49.94
190 x 20	Retain Ring	448	306	1010	83.84
250 x 25	Retain Ring	426	292	959	138.72

*Other sizes on request

Note:

1. Static Working Pressure for straight pipe including manufacturing tolerances.
2. Dynamic Working Pressure for straight pipe including manufacturing tolerances.
3. Burst Pressure including manufacturing tolerances.

Pressure Rating Guide, Metric Stainless Steel Tubes

Type ASTM A269 Type 316/316L

Pressure Rating according to DNV Rules for Marine and Offshore Applications

Tube OD x Wall mm	Connection Type	1. DNV Working Pressure bar	2. Burst Pressure bar	Weight kg/mtr
20 x 2.0	Flare	298	954	0.90
20 x 2.5	Flare	380	1193	1.10
20 x 3.0	Flare	467	1431	1.28
25 x 2.5	Flare	298	954	1.41
25 x 3.0	Flare	363	1145	1.65
25 x 4.0	Flare	476	1524	2.07
30 x 3.0	Flare	298	954	2.03
30 x 4.0	Flare	409	1272	2.60
30 x 5.0	Flare	498	1590	3.08
38 x 3.0	Flare	231	753	2.63
38 x 4.0	Flare	315	1004	3.41
38 x 5.0	Flare	403	1255	4.12
42 x 3.0	Flare	207	681	2.89
42 x 4.0	Flare	277	908	3.75
50 x 3.0	Flare	115	572	3.53
50 x5.0	Flare	173	954	5.63
50 x 6.0	Flare	363	1145	6.61
56 x 8.5*	Flare & Retain Ring	446	1447	9.97
60 x 3.0	Flare	143	477	4.28
60 x 5.0	Flare	244	795	6.89
60 x 6.0	Flare	297	954	8.00
66 x 8.5*	Flare & Retain Ring	393	1229	12.24
73 x 7.0	Flare	284	915	11.57
75 x 3.0	Flare	113	382	5.41
75 x 5.0	Flare	193	636	8.76
75 x 7.0	Flare	274	889	12.00
80 x 10*	Flare & Retain Ring	380	1193	17.53
90 x 3.5	Flare	110	370	7.48
90 x 5.0	Flare	159	582	10.49
90 x 9.0	Flare	294	954	17.98
97 x 12*	Flare & Retain Ring	376	1180	25.54

Other sizes on request

* Non-stock in stainless steel, special order.

Note:

1. Working Pressure for bent pipe including manufacturing and corrosion tolerances.
2. Burst Pressure including manufacturing tolerances.

3D step models available upon request

Pressure Rating Guide, Metric Stainless Steel Tubes

Type ASTM A269 Type 316/316L

Pressure Rating according to DIN Rules for Land Based and Industrial Applications

Tube OD x Wall mm	Connection Type	1. DIN 2413 I Working Pressure bar	2. Burst Pressure bar	Weight kg/mtr
20 x 2.0	Flare	294	954	0.90
20 x 2.5	Flare	368	1193	1.10
20 x 3.0	Flare	441	1431	1.28
25 x 2.5	Flare	294	954	1.41
25 x 3.0	Flare	353	1145	1.65
25 x 4.0	Flare	470	1524	2.07
30 x 3.0	Flare	294	954	2.03
30 x 4.0	Flare	392	1272	2.60
30 x 5.0	Flare	490	1590	3.08
38 x 3.0	Flare	232	753	2.63
38 x 4.0	Flare	309	1004	3.41
38 x 5.0	Flare	387	1255	4.12
42 x 3.0	Flare	210	681	2.93
42 x 4.0	Flare	280	908	3.75
50 x 3.0	Flare	176	572	3.53
50 x5.0	Flare	294	954	5.63
50 x 6.0	Flare	353	1145	6.61
56 x 8.5*	Flare & Retain Ring	446	1447	9.97
60 x 3.0	Flare	147	477	4.28
60 x 5.0	Flare	245	795	6.89
60 x 6.0	Flare	294	954	8.00
66 x 8.5*	Flare & Retain Ring	379	1229	12.24
73 x 7.0	Flare	282	915	11.57
75 x 3.0	Flare	118	382	5.41
75 x 5.0	Flare	196	636	8.76
75 x 7.0	Flare	274	889	12.00
80 x 10*	Flare & Retain Ring	368	1193	17.53
90 x 3.5	Flare	114	370	7.48
90 x 5.0	Flare	163	582	10.49
90 x 9.0	Flare	294	954	17.98
97 x 12*	Flare & Retain Ring	364	1180	25.54

Other sizes on request
* Non-stock in stainless steel, special order.

Note:
1. Static Working Pressure for straight pipe including manufacturing tolerances.
2. Burst Pressure including manufacturing tolerances.

Pressure Calculations for Marine & Offshore Applications

According to DNV Rules Part 4, Chapter 6, Section 6.

Working Pressure of Carbon Steel and Stainless Steel tubes acc. to DNV Rules

$$P = \frac{20 \text{ x } \delta t \text{ x } e \text{ x } t_o}{D - to}$$

P = permissible working pressure (bar)

δt = permissible stress (N/mm2) calculated from the lower value of:

Carbon Steel:

$$\delta t = \frac{R_m}{2.7} \text{ or } \frac{K}{1.8}$$

Stainless Steel:

$$\delta t = \frac{R_m}{2.7} \text{ or } \frac{K}{1.6}$$

to = tube wall thickness without allowances (mm)
to = tn x a-c-b
where;
tn = tube wall thickness (mm)
a = factor for wall thickness allowance (mm)
= 0.9 for tubes with an OD ≥ 10 mm
= 0.9 for all stainless steel tubes
b = bending allowance

$$B = 0.1333 \text{ x to (at R/D=3)} \longrightarrow \text{to} = \frac{\text{tn x a -c}}{1.13333}$$

c = corrosion tolerance, c = 0.3mm for hydraulic steel tube and c = 0 mm for stainless steel
e = strength ratio. Note for seamless tubes e = 1
D = tube outside diameter (mm)
Rm = minimum tensile strength (N/mm2)
K = minimum yield strength or minimum 0.2% proof stress (N/mm^2)

Material Type	Specification	Yield (minimum)	Tensile (minimum)	Permissible Stress
E235+N (St 37.4)	DIN EN 10305-4	235 N/mm^2	340 N/mm^2	126 N/mm^2 (tensile strength/2.7)
E355+N (St 52.4)	DIN EN 10305-4	355 N/mm^2	490 N/mm^2	181 N/mm^2 (tensile strength/2.7)
Dual Spec 316/316L Metric Tube	DIN EN 10216-5 ASTM 269/A213	210 N/mm^2	500 N/mm^2	131 N/mm^2 (0.2% proof stress/1.6)[1]
Dual Spec 316/316L Schedule Pipe	ASTM A312	234 N/mm^2	515 N/mm^2	146 N/mm^2 (0.2% proof stress/1.6)[1]

1. Pressure rating calculation based on manufacturers certification according to 3.1 EN 10204 that confirms the mechanical properties.

Pressure Calculations for Land Based & Industrial Applications

According to DIN Rules. Corrosion allowances are not considered in the calculations.

DIN 2413 I, for static load

$$P = \frac{20 \times K \times s \times c}{S \times D}$$

where;
P = permissible working pressure (bar)
K = minimum yield strength (N/mm2)
s = tube wall thickness (mm)
c = factor for wall thickness allowance (mm)
= 0.9 for tubes with an OD ≥ 10 mm
= 0.9 for all stainless steel tubes
S = Safety Factor of 1.5
D = tube outside diameter (mm)

DIN 2413 III, for dynamic load

$$P = \frac{20 \times K \times s \times c}{S \times (D + s \times c)}$$

where;
P = permissible working pressure (bar)
K = fatigue strength (N/mm2)
s = tube wall thickness (mm)
c = factor for wall thickness allowance (mm)
= 0.9 for tubes with an OD ≥ 10 mm
= 0.9 for all stainless steel tubes
S = Safety Factor of 1.5
D = tube outside diameter (mm)

Burst Pressure Calculations

$$BP = \frac{20 \times R_m \times s \times c}{D}$$

where;
BP = Burst Pressure
Rm = minimum tensile strength
s = tube wall thickness
c = factor for wall thickness allowance (mm)
= 0.9 for tubes with an OD ≥ 10 mm
= 0.9 for all stainless steel tubes
D = tube outside diameter (mm)

Material Type	Specification	Yield (minimum)	Tensile (minimum)	Fatigue Strength	Elongation
E235+N (St 37.4)	DIN EN 10305-4	235 N/mm^2	340 N/mm^2	225 N/mm2	Min. 25%
E355+N (St 52.4)	DIN EN 10305-4	355 N/mm^2	490 N/mm^2	265 N/mm2	Min. 22%
Dual Spec 316/316L Metric Tube	DIN EN 10216-5 ASTM 269/A213	210 N/mm^2	500 N/mm^2	220 N/mm2	Min. 35%
Dual Spec 316/316L Schedule Pipe	ASTM A312	234 N/mm^2	515 N/mm^2	146 N/mm2	Min 40%

Note:
All tube and pipes are cold drawn, seamless, materials.

Pressure Calculations for NPS Pipe

According to ASME B31.3 Rules includes manufacturing tolerance.

Corrosion allowances are not considered in the calculations.

$$P = \frac{2S \times t \times E}{D - (2Y \times t)}$$

where;
P = permissible working pressure (PSI)
S = allowable stress (PSI)
E = quality factor
Y = co-efficient factor
t = nominal wall thickness less manufacturing tolerance (inches)
D = tube outside diameter (inches)

Carbon Steel		
	E235+N (St 37.4)	**E355+N (St 52.4)**
S = allow stress (PSI)	20000	24000
E = Quality Factor	1.00	1.00
Y = co-efficient factor	0.40	0.40
T = wall thickness (inches) less % manufacturing tolerance	-12.5%	-10%
D = pipe OD (inches)	See Page C5	

Stainless Steel			
ASTM A312 304L & 316L	**ASTM A312 304 & 316**	**Duplex UNS S32205 1/2" up to 1-1/4"**	**Duplex UNS S32205 1-1/2" and larger**
16700	20000	30000	30000
1.00	1.00	1.00	1.00
0.40	0.40	0.40	0.40
-12.5%	-12.5%	-10%	-12.5%
See Page C6 and C7			

3D step models available upon request

Ordering Examples for NPS Carbon Steel Pipe

TMP52 CD-SCH80-150 x 240

37 [E235+N (St 37.4)]
52 [E355+N (St 52.4)]

Cold Drawn

Schedule (wall)
SCH40
SCH80
SCH160

Nominal Pipe Size

1/2”	050
3/4”	075
1”	100
1-1/4”	125
1-1/2”	150
2”	200
2-1/2”	250
3”	300
3-1/2”	350
4”	400
5”	500
6”	600
8”	800
10”	1000

Length in inches

TMP106 HR-SCH160-600 x 240

106 (A106 Grade B)

Hot Rolled

Schedule (wall)
SCH160
SCHXXS

Nominal Pipe Size

1/2”	050
3/4”	075
1”	100
1-1/4”	125
1-1/2”	150
2”	200
2-1/2”	250
3”	300
4”	400
5”	500
6”	600
8”	800
10”	1000

Length in inches

*ASTM A106 Grade B are mechanically cleaned & oiled. Recommended for Retain Ring piping connection system only

3D step models available upon request

Ordering Examples for NPS Stainless Steel Pipe, 304 & 316

TMP316 SS-SCH80-150 x 240

304 [A312 Type 304]
316 [A312 Type 316]

Stainless Steel

Schedule (wall)
SCH40
SCH80
SCH160
SCHXXS

Nominal Pipe Size

1/2”	050
3/4”	075
1”	100
1-1/4”	125
1-1/2”	150
2”	200
2-1/2”	250
3”	300
3-1/2”	350
4”	400
5”	500
6”	600
8”	800
10”	1000

Length in inches

Ordering Examples for NPS Stainless Steel Pipe, DUPLEX

TMP2205 SS-SCH80-150 x 240

2205 [DUPLEX UNS S32205]

Stainless Steel

Schedule (wall)
SCH40
SCH80
SCH160
SCHXXS

Nominal Pipe Size

1/2”	050
3/4”	075
1”	100
1-1/4”	125
1-1/2”	150
2”	200
2-1/2”	250
3”	300

Length in inches

Ordering Examples for Carbon Steel Metric Tubes, St 37.4

TMP37 CD - 50 x 3.0 x 6000

37 [E235+N (St 37.4)]

Cold Drawn

Outside Diameter (mm)
20
25
30
38
42
50
60
75
90
100
115
140
165
220
273

Wall Thickness (mm)
2.0
2.5
3.0
3.5
4.0
4.5
5.0
6.0

Length (mm)

Note:
For the correct OD x Wall selection please refer to the Pressure Rating Guide on Pages C8 and C9.

3D step models available upon request

Ordering Examples for NPS Stainless Steel Pipe, 304 & 316

TMP52 CD - 50 x 5.0 x 6000

52 [E355+N (St 52.4)]

Cold Drawn

Outside Diameter (mm)
20
25
30
38
42
50
56
60
66
73
75
80
90
97
115
130
150
190
250

Wall Thickness (mm)
2.5
3.0
4.0
5.0
6.0
7.0
8.5
6.0
9.0
10
12
15
20
25

Length (mm)

Note:
For the correct OD x Wall selection please refer to the Pressure Rating Guide on Pages C10 and C11.

Ordering Examples for Stainless Steel Metric Tubes Dual Spec 316/316L

TMP316-SS-50 x 5.0 x 6000

316 [A269 Type 316]

Stainless Steel

Outside Diameter (mm)
20
25
30
38
42
50
56
60
66
73
75
80
90
97

Wall Thickness (mm)
2.0
2.5
3.0
4.0
5.0
6.0
7.0
8.5
9.0
12

Length (mm)

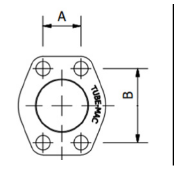
Note:
For the correct OD x Wall selection please refer to the Pressure Rating Guide on Page C12.

3D step models available upon request

Notes

Notes

16 bar, 90° Flare Reference Guide



90° Flare Flange Dimensions

Page D1

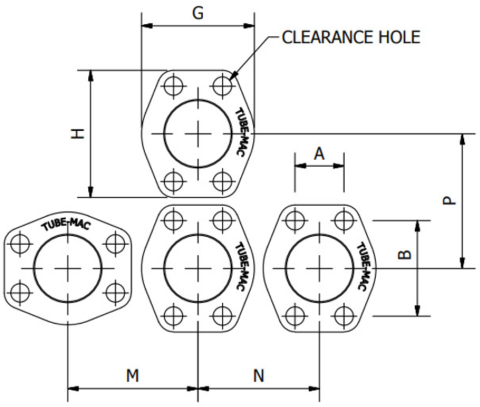
90° Flare Flange Clearance Holes Metric only

FFCN14, FFCN34, FFCN18

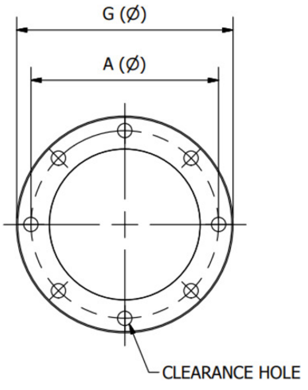
Page D2

16 bar 90º Flare Flange Dimensions

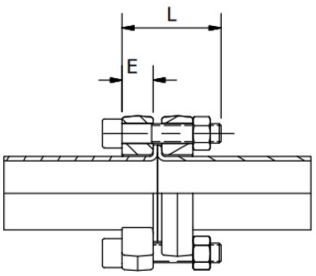
½” through 5” Flange pattern according to SAE J518 Code 61 (ISO 6162-1)

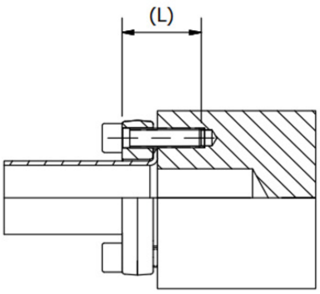


1/2" - 5" FLANGES



6" - 8" FLANGES





Metric Flange Dimensions (Millimeters) Only available in Metric Sizes

Size	Dimensions (mm)								SHCS Bolt (mm)* L (L)	Working Pressure PSI (bar)
	A	B	G	H	M	N	P	E		
1/2"	17.5	38.1	46.0	56.9	52.1	49.0	58.9	20	M8 x 55 (40)	230 (16)
3/4"	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20	M10 x 60 (40)	230 (16)
1”	26.2	52.3	58.7	70.1	67.1	62.0	72.9	20	M10 x 65 (40)	230 (16)
1-1/4"	30.2	58.7	73.2	79.0	79.0	75.9	82.0	20	M10 x 65 (40)	230 (16)
1-1/2"	35.8	69.9	82.6	93.0	90.9	85.1	96.0	20	M12 x 70 (45)	230 (16)
2"	42.9	77.7	96.8	102.1	102.1	100.1	104.9	20	M12 x 75 (50)	230 (16)
2-1/2"	50.8	88.9	108.7	114.0	114.0	111.0	117.1	20	M12 x 80 (55)	230 (16)
3"	62.0	106.4	131.1	134.1	135.9	133.1	136.9	25	M16 x 80 (60)	230 (16)
4"	77.7	130.3	152.4	162.1	160.0	154.9	165.1	30	M16 x 90 (70)	230 (16)
5”	92.1	152.4	180.0	184.0	185.0	183.0	186.0	40	M16 x 110 (70)	230 (16)
6”	208.0	-	236.0	-	249.0	249.0	249.0	40	M16 x 110 (70)	230 (16)
8”	275.0	-	317.0	-	330.0	330.0	330.0	40	M20 x 120 (75)	230 (16)

*** SHCS Bolt Specification**

Carbon Steel: DIN 912/ISO 4762, Minimum Grade 8.8
316 Stainless Steel: A4-70, DIN 912/ISO 4762

3D step models available upon request

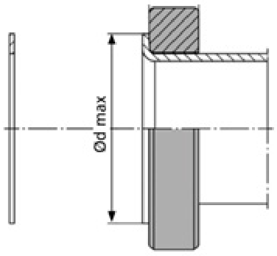
16 bar 90º Flare Flange

with Clearance Holes, Metric Tube Only

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)

1-1/2" – 5" Flanges

6 - 8 Flanges



FFCN14, FFCN34, FFC18 Flare Flange with Clearance Holes, Metric

Size	Tube O.D. x wall mm	Standard Part Number	Working Pressure PSI (bar)	Weight lbs (kg)	ød Max (mm)	Gasket Part Number
1/2"	25 x 2.0	FFCN34-050-25MM-*	230 (16)	0.44 (0.20)	33.0	08NG
3/4"	30 x 2.0	FFCN34-075-30MM-*	230 (16)	0.44 (0.20)	41.5	12NG
1”	38 x 2.5	FFCN34-100-38MM-*	230 (16)	0.44 (0.20)	47.3	16NG
1-1/4”	42 x 3.0	FFCN34-125-42MM-*	230 (16)	0.88 (0.40)	54.0	20NG
1 1/2”	50 x 3.0	FFCN14-150-50MM-*	230 (16)	1.10 (0.50)	65.3	24NG
2”	60 x 3.0	FFCN14-200-60MM-*	230 (16)	1.54 (0.70)	76.0	32NG
2-1/2”	73 x 3.0	FFCN14-250-73MM-*	230 (16)	1.76 (0.80)	90.0	40NG
3”	90 x 3.0	FFCN14-300-90MM-*	230 (16)	3.08 (1.40)	106.0	48NG
4”	115 x 4.0	FFCN14-400-115MM-*	230 (16)	4.40 (2.00)	135.0	64NG
5”	140 x 3.5	FFCN14-500-140MM-*	230 (16)	7.04 (3.20)	161.5	80NG
6”	165 x 3.5	FFCN18-600-165MM-*	230 (16)	13.64 (6.20)	191.5	96NG
8”	220 x 4.0	FFCN18-800-220MM-*	230 (16)	24.20 (11.00)	254.0	128NG

Ordering Example: FFCN14-150-50MM-SS

* Insert Material

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.

HDG = Carbon Steel, Hot Dip Galvanized.

SS = Stainless Steel, Type 316.

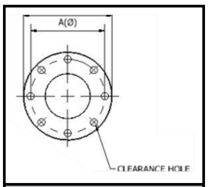
Gasket Material:

KLINGERSIL C-4430 or equivalent, outstanding stress retention, resistance to hot water and steam as well as to oils, gases, salt solutions, fuels, alcohols, hydrocarbons, lubricants and refrigerants.

- Optimum combination of synthetic fibers bonded with NBR. Thickness 3.0mm
- DNV-GL Type Approved
- Fire-Safe according to ISO 19921
- Meets ASTM F104

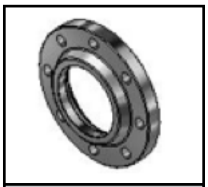
Notes

ANSI 150# and 300# Flare Flange Reference Guide

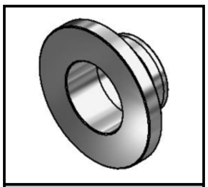


ANSI Flare Flange Dimensions

Page E1



ANSI Flare Flange Clearance Holes
NPS only
FFC150, FFC300
Page E2

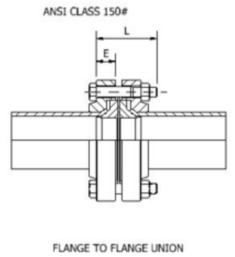


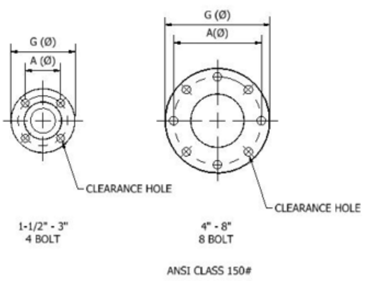
ANSI Flare Cones

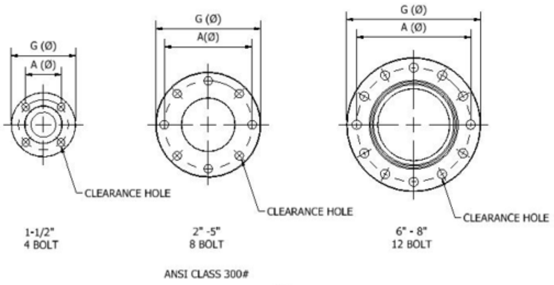
NPS only
CFPH-SCH40
Page E3

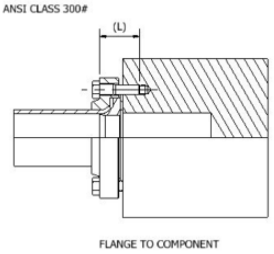
ANSI Flare Flange Dimensions

Flange pattern according to ANSI / ASME B16.5









ANSI Class 150# Flare Flange Dimensions (Inches)

Size	Dimensions (in)				HEX Bolt (in)* L (L)	Number of Bolts	Working Pressure** PSI (bar)
	Bolt Circle A ø	Outside Diameter G ø	Flange Thickness E	Hole Diameter			
1 1/2"	3.88	5.00	1.00	0.63	1/2"-13 UNC x 3.00 (2.00)	4	285 (20)
2"	4.75	6.00	0.69	0.75	5/8"-11 UNC x 2.50 (2.00)	4	285 (20)
2 1/2"	5.50	7.00	0.88	0.75	5/8"-11 UNC x 3.00 (2.25)	4	285 (20)
3"	6.00	7.50	1.19	0.75	5/8"-11 UNC x 3.50 (2.50)	4	285 (20)
4”	7.50	9.00	0.94	0.75	5/8"-11 UNC x 3.00 (2.25)	8	285 (20)
5”	8.50	10.00	0.88	0.88	3/4"-10 UNC x 3.00 (2.25)	8	285 (20)
6”	9.50	11.00	0.94	0.88	3/4"-10 UNC x 3.25 (2.50)	8	285 (20)
8”	11.75	13.50	1.10	0.88	3/4"-10 UNC x 3.50 (2.50)	8	285 (20)

<u>*Hex Bolt Specification</u>
Carbon Steel: SAE J429 Grade 8
316 Stainless Steel: ASTM – B8M Class. 1

<u>Note: for 3/4” SS Bolts and larger ASTM – B8M Class. 2</u>
**The flange working pressure is the maximum pressure for flanges of classes 150 and 300 at <100° F (38° C)

ANSI Class 300# Flare Flange Dimensions (Inches)

Size	Dimensions (in)				HEX Bolt (in)* L (L)	Number of Bolts	Working Pressure** PSI (bar)
	Bolt Circle A ø	Outside Diameter G ø	Flange Thickness E	Hole Diameter			
1 1/2"	4.50	6.13	1.13	0.88	3/4"-10 UNC x 3.50 (2.50)	4	740 (50)
2"	5.00	6.50	0.88	0.75	5/8"-11 UNC x 3.00 (2.25)	8	740 (50)
2 1/2"	5.88	7.50	1.00	0.88	3/4"-10 UNC x 3.25 (2.50)	8	740 (50)
3"	6.63	8.25	1.19	0.88	3/4"-10 UNC x 3.75 (2.75)	8	740 (50)
4”	7.88	10.00	1.25	0.88	3/4"-10 UNC x 3.75 (2.75)	8	740 (50)
5"	9.25	11.00	1.33	0.88	3/4"-10 UNC x 4.00 (3.00)	8	740 (50)
6”	10.63	12.50	1.38	0.88	3/4"-10 UNC x 4.00 (3.00)	12	740 (50)
8”	13.00	15.00	1.56	1.00	3/4"-10 UNC x 4.50 (3.00)	12	740 (50)

<u>*Hex Bolt Specification</u>
Carbon Steel: SAE J429 Grade 8
316 Stainless Steel: ASTM – B8M Class. 1

<u>Note: for 3/4” SS Bolts and larger ASTM – B8M Class. 2</u>
**The flange working pressure is the maximum pressure for flanges of classes 150 and 300 at <100° F (38° C)

3D step models available upon request

ANSI Flare Flange with Clearance Holes

Flange pattern according to ANSI / ASME B16.5

ANSI Class 150# Flare Flange with Clearance Holes, NPS

Size	Pipe O.D. in. (mm)	Standard Part No.	Working Pressure** PSI (bar)	WT lbs. (kg)
1 1/2”	1.900” (48.26)	FFC-150-ANSI-150	285 (20)	3.91 (1.77)
2”	2.375” (60.33)	FFC-150-ANSI-200	285 (20)	4.17 (1.89)
2 1/2”	2.875” (70.03)	FFC-150-ANSI-250	285 (20)	7.39 (3.35)
3”	3.500” (88.90)	FFC-150-ANSI-300	285 (20)	10.27 (4.66)
4”	4.500” (114.3)	FFC-150-ANSI-400	285 (20)	11.65 (5.28)
5”	5.563” (141.30)	FFC-150-ANSI-500	285 (20)	12.15 (5.51)
6”	6.625” (168.28)	FFC-150-ANSI-600	285 (20)	14.71 (6.67)
8”	8.625” (219.08)	FFC-150-ANSI-800	285 (20)	20.60 (9.34)

*** Materials:**

- Standard, No Designation = Carbon Steel, Zinc Nickel Plated
- HDG = Carbon Steel, Hot Dip Galvanized.
- SS = Stainless Steel, Type 316.

Ordering Example: FFC-150-ANSI-250-SS

* Insert Material

**The flange working pressure is the maximum pressure
for flanges of class 150# at <100° F (38° C)

ANSI Class 300# Flare Flange with Clearance Holes, NPS

Size	Pipe O.D. in. (mm)	Standard Part No.	Working Pressure** PSI (bar)	WT lbs. (kg)
1 1/2”	1.900” (48.26)	FFC-300-ANSI-150	740 (50)	7.30 (3.31)
2”	2.375” (60.33)	FFC-300-ANSI-200	740 (50)	5.99 (2.72)
2 1/2”	2.875” (70.03)	FFC-300-ANSI-250	740 (50)	9.35 (4.24)
3”	3.500” (88.90)	FFC-300-ANSI-300	740 (50)	12.69 (5.76)
4”	4.500” (114.3)	FFC-300-ANSI-400	740 (50)	20.64 (9.36)
5”	5.563” (141.30)	FFC-300-ANSI-500	740 (50)	25.42 (11.53)
6”	6.625” (168.28)	FFC-300-ANSI-600	740 (50)	30.35 (13.77)
8”	8.625” (219.08)	FFC-300-ANSI-800	740 (50)	45.02 (20.42)

*** Materials:**

- Standard, No Designation = Carbon Steel, Zinc Nickel Plated
- HDG = Carbon Steel, Hot Dip Galvanized.
- SS = Stainless Steel, Type 316.

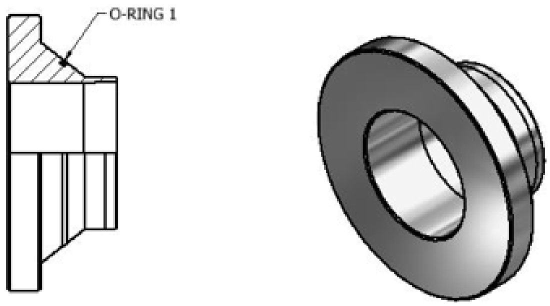
Ordering Example: FFC-300-ANSI-250-SS

* Insert Material

**The flange working pressure is the maximum pressure
for flanges of class 300# at <100° F (38° C)
for flanges of classes 150 and 300 at <100° F (38° C)

ANSI Class 150# and 300# Cone Inserts

for Flare Flange Connections, NPS



TYPE CFPH

CFPH – ANSI Class 150# and 300# Cone Insert with Phonographic Face, NPS

Size	Pipe Size)	Standard Part No.	O-ring 1 Part Number	WT lbs. (kg)
1 1/2”	1-1/2” SCH40	CFPH-SCH40-150-*	OR^-4315	0.66 (0.30)
2”	2” SCH40	CFPH-SCH40-200-*	OR^-5615	0.94 (0.43)
2 1/2”	2-1/2” SCH40	CFPH-SCH40-250-*	OR^-2-036	1.52 (0.69)
3”	3” SCH40	CFPH-SCH40-300-*	OR^-2-040	2.36 (1.07)
4”	4” SCH40	CFPH-SCH40-400-*	OR^-2-044	3.37 (1.53)
5”	5” SCH40	CFPH-SCH40-500-*	OR^-2-159	4.18 (1.90)
6”	6” SCH40	CFPH-SCH40-600-*	OR^-2-163	6.80 (3.08)
8”	8” SCH40	CFPH-SCH40-800-*	OR^-2-172	10.11 (4.59)

*** Materials:**

- Standard, No Designation = Carbon Steel, Zinc Nickel Plated
- HDG = Carbon Steel, Hot Dip Galvanized.
- SS = Stainless Steel, Type 316.

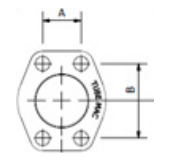
Ordering Example: CFPH-SCH40-250-SS

* Insert Material

3D step models available upon request

Notes

SAE 1000 PSI, 70 bar Reference Guide



Flare Flange
Dimensions

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Flare Flange
Clearance Holes NPS
FFC14, FFC34,
FFC16, FFC18
Page F2

Flare Flange
Clearance Holes Metric
FFCM14, FFCM34,
FFCM16, FFCM18
Page F2

Flare Flange
Threaded Holes
NPS, Metric
FFT14, FFTM14
Page F3

Flare Flange Set
O-Ring Face Cone
Clearance Holes NPS
FFC14-CO
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Flare Flange Set
O-Ring Face Cone
Clearance Holes Metric
FFCM14-CO
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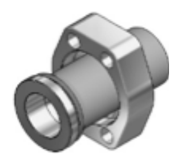

Flare Flange Set
Flat Face Cone
Clearance Holes NPS
FFC14-CF
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Flare Flange Set
Flat Face Cone
Clearance Holes Metric
FFCM14-CF
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Flare Flange Set
Double Cone
Clearance Holes NPS
FFC14-CD
Page F8

Flare Flange Set
Double Cone
Clearance Holes Metric
FFCM14-CD
Page F9

Flare Flange
Cone Inserts
NPS
CO, CF, CD
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Flare Flange
Cone Inserts
with Pilot Port NPS
COP, CFP
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Flare Flange
Cone Inserts
Metric
CO, CF, CD
Page F12

Flare Flange
Cone Inserts
with Pilot Port Metric
COP, CFP
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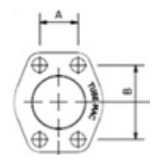

Low Pressure
Retain Ring Flange
Dimensions

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Low Pressure
Retain Ring Flange
Clearance Holes
RFC14
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Low Pressure
Butt Weld Adapter
O-ring Face, NPS
A/LBWAO
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Low Pressure
Butt Weld Adapter
Flat Face, NPS
A/LBWAF
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Low Pressure
Butt Weld Adapter
O-ring Face, Metric
A/LBWAO
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Low Pressure
Butt Weld Adapter
Flat Face, Metric
A/LBWAF
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Low Pressure
Retain Ring

LR
Page F20

Low Pressure
O-ring Connector
to Hose End
LOCP
Page F21

Low Pressure
O-ring Face Pilot Tee
Between NPS, Metric
LPPT, LPPTM
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Low Pressure
Flat Face Pilot Tee
Between NPS, Metric
LPPTF, LPPTFM
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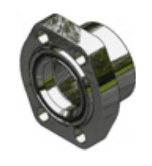

Low Pressure
BSPP Female
Thread Adapter
A/LFBTA
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Low Pressure Flare
Flange Pipe Assembly
NPS, Metric
LPAR
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Low Pressure Flare
Flange Bent Pipe
Assembly NPS
LBPAF
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Low Pressure Flare
Flange Bent Pipe
Assembly Metric
LBPAF
Page F29, F30

Low Pressure Retain
Ring Pipe Assembly
NPS, Metric
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Low Pressure
Retain Ring Bent
Pipe Assembly NPS
LBPAR
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Low Pressure Retain Ring Bent Pipe Assembly Metric
BPAF
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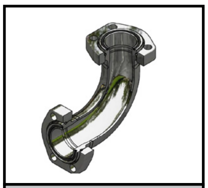
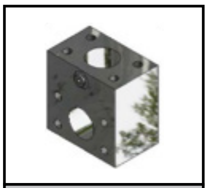


Low Pressure Retain Ring Flange Bend Elbow
A/LRE
Page F37



Block Elbow

NPS, Metric
BE34, BEM34
Page F38

Low Pressure Retain Ring Flange Tee
A/LRT
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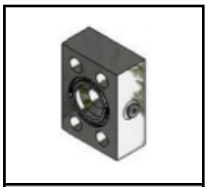
Block Tee

NPS, Metric
BT34, BTM34
Page F40

Reducing Branch Block Tee NPS, Metric
BTR34, BTRM34
Page F41



Transition Plate Reducer Manifold Mount NPS, Metric
TPRO34, TPROM34
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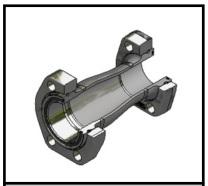

Low Pressure Retain Ring Flange Reducer
A/LLR
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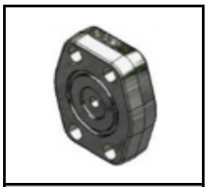

Blanking Flange O-Ring Face with Clearance Holes, NPS, Metric
BFO, BFOM
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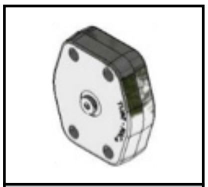

Blanking Flange Flat Face with Threaded Holes, NPS, Metric
BFFO, BFFM
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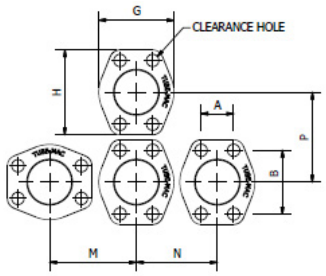
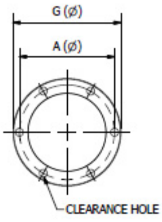
SAE 1000 PSI Flare Flange Dimensions

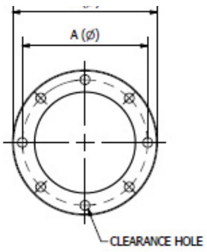
1-1/2” through 5” Flange pattern according to SAE J518 Code 61 (ISO 6162-1)



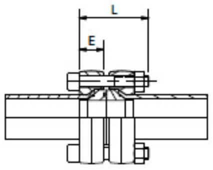
1-1/2" - 5" FLANGES



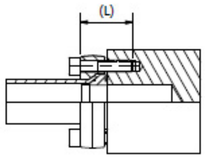
6" FLANGE



8" - 10" FLANGES



FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Flare Flange Dimensions, NPS

Size	Dimensions (in)								SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1-1/2"	1.41	2.75	3.25	3.66	3.58	3.35	3.78	0.79	1/2"-13 UNC x 3.00 (2.00)	1000 (70)
2"	1.69	3.06	3.81	4.02	4.02	3.94	4.13	0.98	1/2"-13 UNC x 3.50 (2.00)	1000 (70)
2-1/2"	2.00	3.50	4.28	4.49	4.49	4.37	4.61	1.18	1/2"-13 UNC x 4.00 (2.50)	1000 (70)
3"	2.44	4.19	5.16	5.28	5.35	5.24	5.39	1.18	5/8"-11 UNC x 4.50 (2.75)	1000 (70)
3-1/2"	2.75	4.75	5.50	6.00	5.85	5.60	6.15	1.18	5/8"-11 UNC x 5.00 (2.50)	1000 (70)
4"	3.06	5.13	6.00	6.38	6.30	6.10	6.50	1.44	5/8"-11 UNC x 4.00 (2.75)	1000 (70)
5”	3.63	6.00	7.12	7.24	7.28	7.20	7.32	1.58	5/8"-11 UNC x 4.75 (2.75)	1000 (70)
6”	8.19	-	9.29	-	9.79	9.79	9.79	1.58	5/8"-11 UNC x 4.75 (2.75)	725 (50)
8”	10.83	-	12.48	-	13.00	13.00	13.00	1.58	3/4"-10 UNC x 4.75 (2.75)	725 (50)
10”	13.58	-	16.14	-	16.60	16.60	16.60	2.00	3/4"-10 UNC x 5.50 (3.00)	725 (50)

<u>* SHCS Bolt Specification</u>
Carbon Steel: ASTM A574
316 Stainless Steel: ASTM A193 - B8M Class.1
For 3/4" SS Bolts and larger ASTM A-193-B8M Class.2

Flare Flange Dimensions, Metric

Size	Dimensions (mm)								SHCS Bolt (mm)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1-1/2"	35.8	69.9	82.6	93.0	90.9	85.1	96.0	20	M12 x 75 (50)	1000 (70)
2"	42.9	77.7	96.8	102.1	102.1	100.1	104.9	25	M12 x 90 (50)	1000 (70)
2-1/2"	50.8	88.9	108.7	114.0	114.0	111.0	117.1	30	M12 x 100 (65)	1000 (70)
3"	62.0	106.4	131.1	134.1	135.9	133.1	136.9	30	M16 x 120 (70)	1000 (70)
3-1/2"	69.9	120.7	139.7	152.4	148.6	142.2	156.2	30	M16 x 130 (65)	1000 (70)
4"	77.7	130.3	152.4	162.1	160.0	154.9	165.1	39	M16 x 100 (70)	1000 (70)
5”	92.1	152.4	180.0	184.0	185.0	183.0	186.0	39	M16 x 120 (70)	1000 (70)
6”	208.0	-	236.0	-	249.0	249.0	249.0	39	M16 x 120 (70)	725 (50)
8”	275.0	-	317.0	-	330.0	330.0	330.0	39	M20 x 120 (70)	725 (50)
10”	345.0	-	410.0	-	422.0	422.0	422.0	50	M20 x 140 (80)	725 (50)

<u>* SHCS Bolt Specification</u>
Carbon Steel: DIN 912/ISO 4762, Minimum Grade 8.8
316 Stainless Steel: A4-70, DIN 912/ISO 4762
M16 and M20 SS Bolts, A4-80 DIN 912/ISO 4762

3D step models available upon request

SAE 1000 PSI Flare Flange with Clearance Holes

1-1/2” through 5” Flange pattern according to SAE J518 Code 61 (ISO 6162-1)

1-1/2" - 5" FLANGES

6" FLANGE

8" - 10" FLANGES

FFC14, FFC34, FFC16, FFC18 - Flare Flange with Clearance Holes, NPS

Size	Pipe O.D. in. (mm)	Standard Part Number	Working Pressure PSI (bar)	WT lbs (kg)
1-1/2”	1.900” (48.26)	FFC14-150-*	1000 (70)	1.10 (0.50)
2”	2.375” (60.33)	FFC14-200-*	1000 (70)	1.90 (0.86)
2-1/2”	2.875” (70.03)	FFC14-250-*	1000 (70)	2.17 (0.99)
3”	3.500” (88.90)	FFC14-300-*	1000 (70)	3.80 (1.73)
3-1/2"	4.000” (101.6)	FFC14-350-*	1000 (70)	4.38 (1.99)
4”	4.500” (114.30)	FFC34-400-*	1000 (70)	8.61 (3.91)
5”	5.563” (141.30)	FFC34-500-*	1000 (70)	9.80 (4.45)
6”	6.625” (168.28)	FFC16-600-*	725 (50)	10.50 (4.77)
8”	8.625” (219.08)	FFC18-800-*	725 (50)	23.20 (10.55)
10”	10.750” (273.05)	FFC18-1000-*	725 (50)	51.30 (23.32)

Ordering Example: FFC14-150-SS
* Insert Material

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

FFCM14, FFCM34, FFCM16, FFCM18 - Flare Flange with Clearance Holes, Metric

Size	Pipe O.D. (mm)	Standard Part Number	Working Pressure PSI (bar)	WT lbs (kg)
1-1/2”	50	FFCM14-150-50MM-*	1000 (70)	1.10 (0.50)
2”	60	FFC14-200-*	1000 (70)	1.90 (0.86)
2-1/2”	75	FFCM14-250-75MM-*	1000 (70)	2.17 (0.99)
3”	90	FFCM14-300-90MM-*	1000 (70)	3.80 (1.73)
3-1-2”	100	FFCM14-350-100MM-*	1000 (70)	4.38 (1.99)
4”	115	FFC34-400-*	1000 (70)	8.61 (3.91)
5”	140	FFCM34-500-140MM-*	1000 (70)	9.80 (4.45)
6”	165	FFCM16-600-165MM-*	725 (50)	10.50 (4.77)
8”	220	FFCM18-800-220MM-*	725 (50)	23.20 (10.55)
10”	273	FFC18-1000-*	725 (50)	51.30 (23.32)

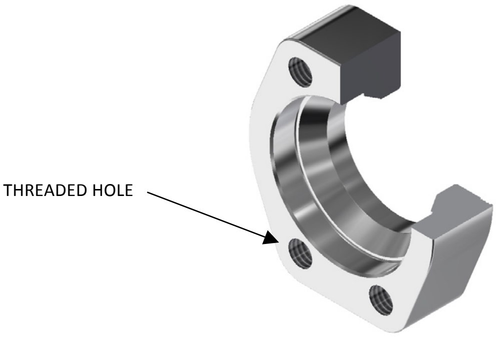
Ordering Example: FFCM14-150-50MM-SS
* Insert Material

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

3D step models available upon request

SAE 1000 PSI Flare Flange with Threaded Holes

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)



FFT14 - Flare Flange with Threaded Holes, NPS

Size	Pipe O.D. in (mm)	Standard Part Number	Working Pressure PSI (bar)	Weight lbs (kg)
1-1/2"	1.900” (48.26)	FFT14-150-*	1000 (70)	1.10 (0.50)
2"	2.375” (60.33)	FFT14-200-*	1000 (70)	1.90 (0.86)
2-1/2"	2.875” (70.03)	FFT14-250-*	1000 (70)	2.17 (0.99)
3"	3.500” (88.90)	FFT14-300-*	1000 (70)	3.80 (1.73)

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: FFT14-200-SS
* Insert Material

FFTM14 - Flare Flange with Threaded Holes, Metric

Size	Pipe O.D. (mm)	Standard Part Number	Working Pressure PSI (bar)	Weight lbs (kg)
1-1/2"	50	FFTM14-150-50MM-*	1000 (70)	1.10 (0.50)
2"	60	FFTM14-200-60MM*	1000 (70)	1.90 (0.86)
2-1/2"	75	FFTM14-250-75MM*	1000 (70)	2.17 (0.99)
3"	90	FFTM14-300-90MM*	1000 (70)	3.80 (1.73)

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

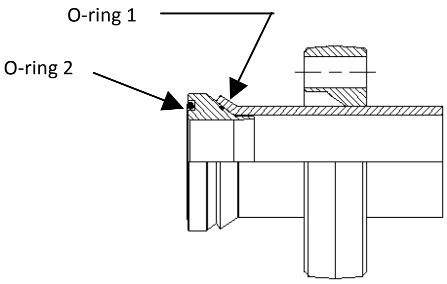
Ordering Example: FFTM14-200-60MMSS
* Insert Material

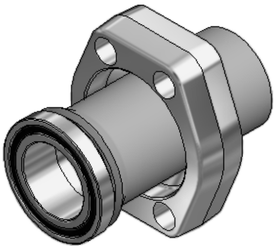
3D step models available upon request

SAE 1000 PSI Flare Flange Set

O-Ring Face with Clearance Holes, NPS

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page F1)

FFC14-CO, FFC34-CO, FFC16-CO, FFC18-CO - Flare Flange Set O-Ring Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	1-1/2" SCH40	FFC14-CO-SCH40-150-*-^	1.93 (0.88)	FFC14-150-*	CO-SCH40-150-*-^	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	FFC14-CO-SCH80-150-*-^	1.93 (0.88)	FFC14-150-*	CO-SCH80-150-*-^	ORV-4315	OR^-2-225
2"	2" SCH40	FFC14-CO-SCH40-200-*-^	2.67 (1.21)	FFC14-200-*	CO-SCH40-200-*-^	ORV-5615	OR^-2-228
2"	2" SCH80	FFC14-CO-SCH80-200-*-^	2.67 (1.21)	FFC14-200-*	CO-SCH80-200-*-^	ORV-5515	OR^-2-228
2-1/2"	2-1/2" SCH40	FFC14-CO-SCH40-250-*-^	4.01 (1.82)	FFC14-250-*	CO-SCH40-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH80	FFC14-CO-SCH80-250-*-^	4.01 (1.82)	FFC14-250-*	CO-SCH80-250-*-^	ORV-2-036	OR^-2-232
3"	3" SCH40	FFC14-CO-SCH40-300-*-^	6.33 (2.87)	FFC14-300-*	CO-SCH40-300-*-^	ORV-2-041	OR^-2-237
3"	3" SCH80	FFC14-CO-SCH80-300-*-^	6.33 (2.87)	FFC14-300-*	CO-SCH80-300-*-^	ORV-2-041	OR^-2-237
3-1/2"	3-1/2" SCH40	FFC14-CO-SCH40-350-*-^	6.60 (3.00)	FFC14-350-*	CO-SCH40-350-*-^	ORV-2-043	OR^-2-241
4"	4" SCH40	FFC34-CO-SCH40-400-*-^	6.90 (3.13)	FFC34-400-*	CO-SCH40-400-*-^	ORV-2-044	OR^-2-245
4"	4" SCH80	FFC34-CO-SCH80-400-*-^	6.90 (3.13)	FFC34-400-*	CO-SCH80-400-*-^	ORV-2-044	OR^-2-245
5"	5" SCH40	FFC34-CO-SCH40-500-*-^	12.20 (5.55)	FFC34-500-*	CO-SCH40-500-*-^	ORV-2-159	OR^-2-253
6"	6" SCH40	FFC16-CO-SCH40-600-*-^	14.20 (6.45)	FFC16-600-*	CO-SCH40-600-*-^	ORV-2-163	OR^-2-259
8"	8" SCH40	FFC18-CO-SCH40-800-*-^	30.30 (13.77)	FFC18-800-*	CO-SCH40-800-*-^	ORV-2-171	OR^-3-372
10"	10" SCH40	FFC18-CO-SCH40-1000-*-^	61.00 (27.73)	FFC18-1000-*	CO-SCH40-1000-*-^	ORV-2-273	OR^-2-377

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

<u>^ O-Ring 2 Type:</u>

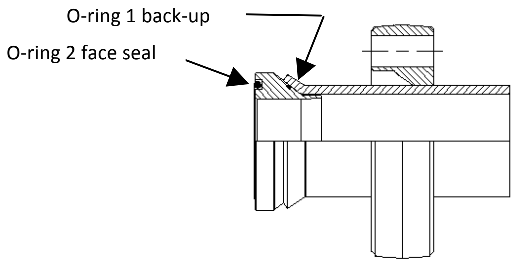
Standard, No Designation = Buna Nitrile.
V = Viton.

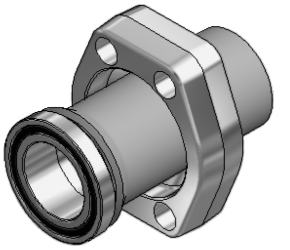
Ordering Example: FFC14-CO-SCH40-200-SS-V*
*Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

SAE 1000 PSI Flare Flange Set
O-Ring Face with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page F1)

FFCM14-CO, FFCM34-CO, FFCM16-CO, FFCM18-CO - Flare Flange Set O-Ring Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	50x3.0	FFCM14-CO-50x3.0-150-*-^	1.91 (0.87)	FFCM34-150-50MM-*	CO-50x3.0-150-*-^	ORV-4715	OR^-2-225
2”	60x3.0	FFC14-CO-60x3.0-200-*-^	2.63 (1.20)	FFC14-200-*	CO-60x3.0-200-*-^	ORV-5715	OR^-2-228
2-1/2"	75x3.0	FFCM14-CO-75x3.0-250-*-^	4.07 (1.85)	FFCM14-250-75MM-*	CO-75x3.0-250-*-^	ORV-2-037	OR^-2-232
3”	90x3.5	FFCM14-CO-90x3.5-300-*-^	5.92 (2.69)	FFCM14-300-90MM-*	CO-90x3.5-300-*-^	ORV-2-041	OR^-2-237
3-1/2"	100x4.0	FFCM14-CO-100x4.0-250-*-^	6.60 (3.00)	FFCM14-350-100MM-*	CO-100x4.0-350-*-^	ORV-2-043	OR^-2-241
4”	115x4.0	FFC34-CO-115x4.0-400-*-^	6.90 (3.13)	FFC34-400-*	CO-115x4.0-400-*-^	ORV-2-044	OR^-2-245
5”	140x4.5	FFCM34-CO-140x4.5-500-*-^	12.20 (5.55)	FFCM34-500-140MM-*	CO-140x4.5-500-*-^	ORV-2-159	OR^-2-253
6”	165x5.0	FFCM16-CO-165x5.0-600-*-^	14.20 (6.45)	FFCM16-600-165MM-*-^	CO-165x5.0-600-*-^	ORV-2-163	OR^-2-259
8”	220x6.0	FFCM18-CO-220x6.0-800-*-^	30.30 (13.77)	FFCM18-800-220MM-*-^	CO-220x6.0-800-*-^	ORV-2-171	OR^-3-372
10”	273x6.0	FFC18-CO-273x6.0-1000-*-^	61.00 (27.73)	FFC18-1000-*-^	CO-273x6.0-1000-*-^	ORV-2-273	OR^-2-377

Ordering Example: FFCM14-CO-50x3.0-150-SS-V
*Insert Material
^ Insert O-Ring 2 Type

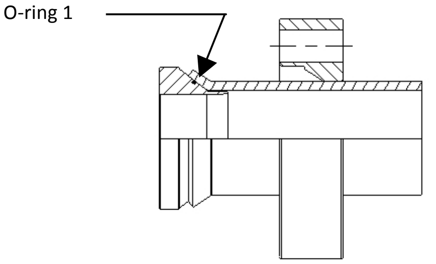
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

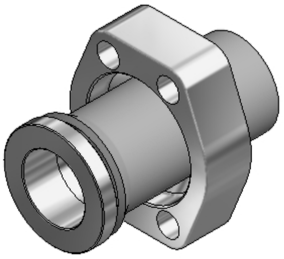
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

SAE 1000 PSI Flare Flange Set

Flat Face with Clearance Holes, NPS

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page F1)

FFC14-CF, FFC34-CF, FFC16-CF, FFC18-CF - Flare Flange Set Flat Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	1-1/2" SCH40	FFC14-CF-SCH40-150-*	1.93 (0.88)	FFC14-150-*	CF-SCH40-150-*	ORV-4315
1-1/2"	1-1/2" SCH80	FFC14-CF-SCH80-150-*	1.93 (0.88)	FFC14-150-*	CF-SCH80-150-*	ORV-4315
2"	2” SCH40	FFC14-CF-SCH40-200-*	2.67 (1.21)	FFC14-200-*	CF-SCH40-200-*	ORV-5615
2"	2” SCH80	FFC14-CF-SCH80-200-*	2.67 (1.21)	FFC14-200-*	CF-SCH80-200-*	ORV-5515
2-1/2"	2-1/2" SCH40	FFC14-CF-SCH40-250-*	4.01 (1.82)	FFC14-250-*	CF-SCH40-250-*	ORV-2-036
2-1/2"	2-1/2" SCH80	FFC14-CF-SCH80-250-*	4.01 (1.82)	FFC14-250-*	CF-SCH80-250-*	ORV-2-036
3"	3" SCH40	FFC14-CF-SCH40-300-*	6.33 (2.87)	FFC14-300-*	CF-SCH40-300-*	ORV-2-041
3"	3" SCH80	FFC14-CF-SCH80-300-*	6.33 (2.87)	FFC14-300-*	CF-SCH80-300-*	ORV-2-041
3-1/2"	3-1/2” SCH 40	FFC14-CF-SCH40-350-*	6.64 (3.02)	FFC14-350-*	CF-SCH40-350-*	ORV-2-043
4"	4" SCH40	FFC34-CF-SCH40-400-*	6.90 (3.13)	FFC34-400-*	CF-SCH40-400-*	ORV-2-044
4"	4" SCH80	FFC34-CF-SCH80-400-*	6.90 (3.13)	FFC34-400-*	CF-SCH80-400-*	ORV-2-044
5”	5” SCH40	FFC34-CF-SCH40-500-*	12.20 (5.55)	FFC34-500-*	CF-SCH40-500-*	ORV-2-159
6”	6” SCH40	FFC16-CF-SCH40-600-*	14.20 (6.45)	FFC16-600-*	CF-SCH40-600-*	ORV-2-163
8”	8” SCH40	FFC18-CF-SCH40-800-*	30.30 (13.77)	FFC18-800-*	CF-SCH40-800-*	ORV-2-171
10”	10” SCH40	FFC18-CF-SCH40-1000-*	61.00 (27.73)	FFC18-1000-*	CF-SCH40-1000-*	ORV-2-273

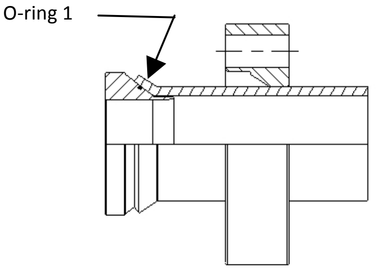
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

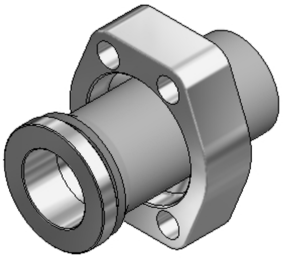
Ordering Example: FFC14-CF-SCH40-200-SS
* Insert Material

SAE 1000 PSI Flare Flange Set

Flat Face with Clearance Holes, Metric

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page F1)

FFCM14-CF, FFCM34-CF, FFCM16-CF, FFCM18-CF - Flare Flange Set Flat Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	50x3.0	FFCM14-CF-50x3.0-150-*	1.93 (0.88)	FFCM14-150-50MM-*	CF-50x3.0-150-*	ORV-4715
2"	60x3.0	FFC14-CF-60x3.0-200-*	2.67 (1.21)	FFC14-200-*	CF-60x3.0-200-*	ORV-5715
2-1/2"	75x3.0	FFCM14-CF-75x3.0-250-*	4.01 (1.82)	FFCM14-250-75MM-*	CF-75x3.0-250-*	ORV-2-037
3"	90x3.5	FFCM14-CF-90x3.5-300-*	6.33 (2.87)	FFCM14-300-90MM-*	CF-90x3.5-300-*	ORV-2-041
3-1/2"	100x4.0	FFCM14-CF-100x4.0-350-*	6.64 (3.02)	FFCM14-350-100MM-*	CF-100x4.0-400-*	ORV-2-043
4"	115x4.0	FFC34-CF-115x4.0-400-*	6.93 (3.15)	FFC34-400-*	CF-115x4.0-400-*	ORV-2-044
5”	140x4.5	FFCM34-CF-140x4.5-500-*	12.25 (5.57)	FFCM34-500-140MM-*	CF-140x4.5-500-*	ORV-2-159
6”	165x5.0	FFCM16-CF-165x5.0-600-*	14.25 (6.47)	FFCM16-600-165MM-*	CF-165x5.0-600-*	ORV-2-163
8”	220x6.0	FFCM18-CF-220x6.0-800-*	30.38 (13.81)	FFCM18-800-220MM-*	CF-220x6.0-800-*	ORV-2-171
10”	273x6.0	FFC18-CF-273x6.0-1000-*	61.14 (27.80)	FFC18-1000--*	CF-273x6.0-1000-*	ORV-2-273

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

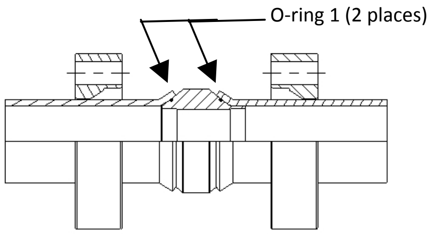
Ordering Example: FFCM14-CF-50x3-150-SS

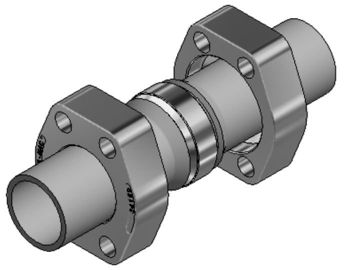
* Insert Material

SAE 1000 PSI Flare Flange Double Cone Union Set

with Clearance Holes, NPS

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page F1)

FFC14-CD, FFC34-CD, FFC16-CD, FFC18-CD - Flare Flange Double Cone Union Set with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	1-1/2" SCH40	FFC14-CD-SCH40-150-*	2.00 (0.91)	FFC14-150-*	CD-SCH40-150-*	ORV-4315
1-1/2"	1- 1/2" SCH80	FFC14-CD-SCH80-150-*	2.00 (0.91)	FFC14-150-*	CD-SCH80-150-*	ORV-4315
2"	2” SCH40	FFC14-CD-SCH40-200-*	2.90 (1.32)	FFC14-200-*	CD-SCH40-200-*	ORV-5615
2"	2” SCH80	FFC14-CD-SCH80-200-*	2.90 (1.32)	FFC14-200-*	CD-SCH80-200-*	ORV-5515
2-1/2"	2-1/2" SCH40	FFC14-CD-SCH40-250-*	4.62 (2.10)	FFC14-250-*	CD-SCH40-250-*	ORV-2-036
2-1/2"	2-1/2" SCH80	FFC14-CD-SCH80-250-*	4.62 (2.10)	FFC14-250-*	CD-SCH80-250-*	ORV-2-036
3"	3" SCH40	FFC14-CD-SCH40-300-*	6.90 (3.13)	FFC14-300-*	CD-SCH40-300-*	ORV-2-041
3"	3" SCH80	FFC14-CD-SCH80-300-*	6.90 (3.13)	FFC14-300-*	CD-SCH80-300-*	ORV-2-041
3-1/2"	3-½” SCH40	FFC14-CD-SCH40-350-*	6.94 (3.15)	FFC14-350-*	CD-SCH40-350-*	ORV-2-043
4"	4" SCH40	FFC34-CD-SCH40-400-*	7.86 (3.57)	FFC34-400-*	CD-SCH40-400-*	ORV-2-044
4"	4" SCH80	FFC34-CD-SCH80-400-*	7.86 (3.57)	FFC34-400-*	CD-SCH80-400-*	ORV-2-044
5”	5" SCH40	FFC34-CD-SCH40-500-*	13.40 (6.09)	FFC34-500-*	CD-SCH40-500-*	ORV-2-159
6”	6" SCH40	FFC16-CD-SCH40-600-*	15.90 (7.23)	FFC14-600-*	CD-SCH40-600-*	ORV-2-259
8”	8" SCH40	FFC18-CD-SCH40-800-*	33.80 (15.36)	FFC14-800-*	CD-SCH40-800-*	ORV-2-372
10”	10" SCH40	FFC18-CD-SCH40-1000-*	66.10 (30.04)	FFC14-1000-*	CD-SCH40-1000-*	ORV-2-178

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

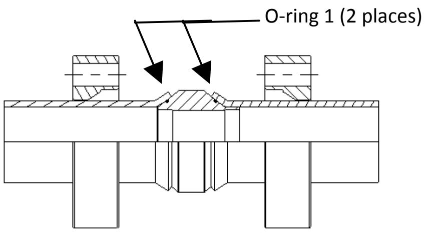
Ordering Example: FFC14-CD-SCH40-200-SS*
*Insert Material

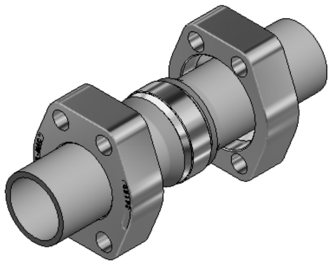
3D step models available upon request

SAE 1000 PSI Flare Flange Double Cone Union Set

with Clearance Holes, Metric

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page F1)

FFCM14-CD, FFCM34-CD, FFCM16-CD, FFCM18-CD - Flare Flange Double Cone Union Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	50x3.0	FFCM14-CD-50x3.0-150-*	2.00 (0.91)	FFCM14-150-*	CD-50x3.0-150-*	ORV-4715
2"	60x3.0	FFC14-CD-60x3.0-200-*	2.90 (1.32)	FFC14-200-*	CD-60x3.0-200-*	ORV-5715
2-1/2"	75x3.0	FFCM14-CD-75x3.0-250-*	4.62 (2.10)	FFCM14-250-*	CD-75x3.0-250-*	ORV-2-037
3"	90x3.5	FFCM14-CD-90x3.5-300-*	6.90 (3.13)	FFCM14-300-*	CD-90x3.5-300-*	ORV-2-041
3-1/2"	100x4.0	FFCM14-CD-100x4.0-350-*	6.94 (3.15)	FFCM14-350-*	CD-100x4.0-350-*	ORV-2-043
4"	115x4.0	FFC34-CD-115x4.0-400-*	7.86 (3.57)	FFC34-400-*	CD-115x4.0-400-*	ORV-2-044
5”	140x4.5	FFCM34-CD-140x4.5-500-*	13.40 (6.09)	FFCM34-500-*	CD-140x4.5-500-*	ORV-2-159
6”	165x5.0	FFCM16-CD-165x5.0-600-*	15.90 (7.23)	FFCM16-600-*	CD-165x5.0-600-*	ORV-2-163
8”	220x6.0	FFCM18-CD-220x6.0-800-*	33.80 (15.36)	FFCM18-800-*	CD-220x6.0-800-*	ORV-2-171
10”	273x6.0	FFC18-CD-273x6.0-1000-*	66.10 (30.04)	FFC18-1000-*	CD-273x6.0-1000-*	ORV-2-273

*** Materials:**

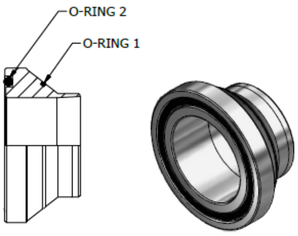
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

Ordering Example: FFCM14-CD-50x3.0-150-SS
*Insert Material

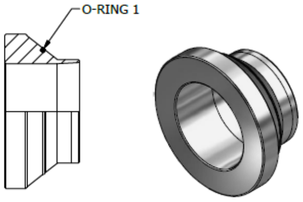
SAE 1000 PSI Cone Inserts

for Flare Flange Connections, NPS

SAE J518 Code 61 (ISO 6162-1)



TYPE CO



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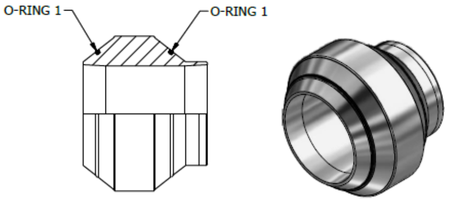


TYPE CD

CO, CF and CD – Cone Inserts for Flare Flange Connections, NPS

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	Weight lbs (kg)	Double Cone Insert Part Number (Type CD)	Weight lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	1-1/2" SCH40	CO-SCH40-150-*-^	0.41 (0.19)	CF-SCH40-150-*	0.45 (0.20)	CD-SCH40-150-*	0.72 (0.33)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	CO-SCH80-150-*-^	0.41 (0.19)	CF-SCH80-150-*	0.45 (0.20)	CD-SCH80-150-*	0.72 (0.33)	ORV-4315	OR^-2-225
2"	2" SCH40	CO-SCH40-200-*-^	0.47 (0.21)	CF-SCH40-200-*	0.52 (0.24)	CD-SCH40-200-*	0.84 (0.38)	ORV-5615	OR^-2-228
2"	2" SCH80	CO-SCH80-200-*-^	0.47 (0.21)	CF-SCH80-200-*	0.52 (0.24)	CD-SCH80-200-*	0.84 (0.38)	ORV-5515	OR^-2-228
2-1/2"	2-1/2" SCH40	CO-SCH40-250-*-^	0.99 (0.45)	CF-SCH40-250-*	1.01 (0.46)	CD-SCH40-250-*	1.60 (0.73)	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH80	CO-SCH80-250-*-^	0.99 (0.45)	CF-SCH80-250-*	1.01 (0.46)	CD-SCH80-250-*	1.60 (0.73)	ORV-2-036	OR^-2-232
3"	3" SCH40	CO-SCH40-300-*-^	1.33 (0.60)	CF-SCH40-300-*	1.39 (0.63)	CD-SCH40-300-*	2.17 (0.99)	ORV-2-041	OR^-2-237
3"	3" SCH80	CO-SCH80-300-*-^	1.33 (0.60)	CF-SCH80-300-*	1.39 (0.63)	CD-SCH80-300-*	2.17 (0.99)	ORV-2-041	OR^-2-237
3-1/2"	3-1/2" SCH40	CO-SCH40-350-*-^	1.50 (0.68)	CF-SCH40-350-*	1.60 (0.73)	CD-SCH40-350-*	2.50 (1.14)	ORV-2-043	OR^-2-241
4"	4" SCH40	CO-SCH40-400-*-^	1.80 (0.82)	CF-SCH40-400-*	1.90 (0.86)	CD-SCH40-400-*	3.00 (1.36)	ORV-2-044	OR^-2-245
4"	4" SCH80	CO-SCH80-400-*-^	1.80 (0.82)	CF-SCH80-400-*	1.90 (0.86)	CD-SCH80-400-*	3.00 (1.36)	ORV-2-044	OR^-2-245
5"	5" SCH40	CO-SCH40-500-*-^	2.40 (1.09)	CF-SCH40-500-*	2.50 (1.14)	CD-SCH40-500-*	3.90 (1.77)	ORV-2-159	OR^-2-253
6"	6" SCH40	CO-SCH40-600-*-^	4.70 (2.14)	CF-SCH40-600-*	4.80 (2.18)	CD-SCH40-600-*	7.40 (3.36)	ORV-2-163	OR^-2-259
8"	8" SCH40	CO-SCH40-800-*-^	7.10 (3.23)	CF-SCH40-800-*	7.30 (3.32)	CD-SCH40-800-*	11.68 (5.31)	ORV-2-171	OR^-3-372
10"	10" SCH40	CO-SCH40-1000-*-^	16.80 (7.64)	CF-SCH40-1000-*	17.00 (7.73)	CD-SCH40-1000-*	27.20 (12.36)	ORV-2-178	OR^-2-377

* Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type
Standard, No Designation = Buna Nitrile.
V = Viton.

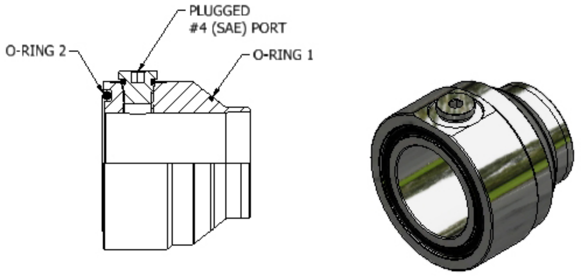
Ordering Example: CO-SCH40-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

SAE 1000 PSI Cone Inserts with Pilot Port

for Flare Flange Connections, NPS

SAE J518 Code 61 (ISO 6162-1)



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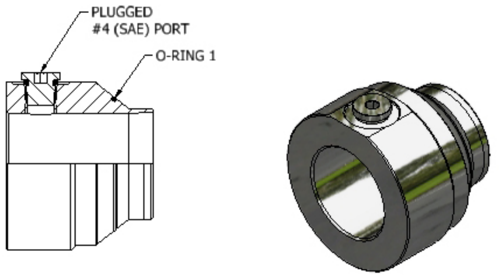


TYPE CFP

COP and CFP Cone Inserts with Pilot Port for Flare Flange Connections, NPS

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COP)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CFP)	Weight lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	1-1/2" SCH40	COP-SCH40-150-*-^	1.31 (0.59)	CFP-SCH40-150-*	1.31 (0.59)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	COP-SCH80-150-*-^	1.31 (0.59)	CFP-SCH80-150-*	1.31 (0.59)	ORV-4315	OR^-2-225
2"	2" SCH40	COP-SCH40-200-*-^	1.70 (0.77)	CFP-SCH40-200-*	1.70 (0.77)	ORV-5615	OR^-2-228
2"	2" SCH80	COP-SCH80-200-*-^	1.70 (0.77)	CFP-SCH80-200-*	1.70 (0.77)	ORV-5515	OR^-2-228
2-1/2"	2-1/2" SCH40	COP-SCH40-250-*-^	2.51 (1.14)	CFP-SCH40-250-*	2.51 (1.14)	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH80	COP-SCH80-250-*-^	2.51 (1.14)	CFP-SCH80-250-*	2.51 (1.14)	ORV-2-036	OR^-2-232
3"	3" SCH40	COP-SCH40-300-*-^	3.39 (1.54)	CFP-SCH40-300-*	3.39 (1.54)	ORV-2-041	OR^-2-237
3"	3" SCH80	COP-SCH80-300-*-^	3.39 (1.54)	CFP-SCH80-300-*	3.39 (1.54)	ORV-2-041	OR^-2-237
3-1/2"	3-1/2" SCH40	COP-SCH40-350-*-^	3.91 (1.78)	CFP-SCH40-350-*	3.91 (1.78)	ORV-2-043	OR^-2-241
4"	4" SCH40	COP-SCH40-400-*-^	4.70 (2.14)	CFP-SCH40-400-*	4.70 (2.14)	ORV-2-044	OR^-2-245
4"	4" SCH80	COP-SCH80-400-*-^	4.70 (2.14)	CFP-SCH80-400-*	4.70 (2.14)	ORV-2-044	OR^-2-245
5"	5" SCH40	COP-SCH40-500-*-^	6.11 (2.78)	CFP-SCH40-500-*	6.11 (2.78)	ORV-2-159	OR^-2-253
6"	6" SCH40	COP-SCH40-600-*-^	11.30 (5.14)	CFP-SCH40-600-*	11.30 (5.14)	ORV-2-163	OR^-2-259
8"	8" SCH40	COP-SCH40-800-*-^	14.85 (6.75)	CFP-SCH40-800-*	14.85 (6.75)	ORV-2-171	OR^-3-372
10"	10" SCH40	COP-SCH40-1000-*-^	32.29 (14.68)	CFP-SCH40-1000-*	32.29 (14.68)	ORV-2-178	OR^-2-377

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

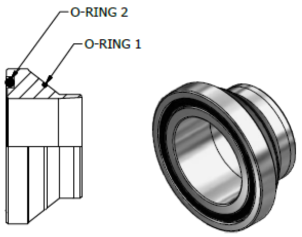
^ O-Ring 2 Type
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: COP-SCH40-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

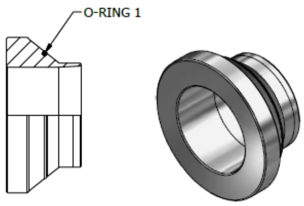
3D step models available upon request

SAE 1000 PSI Cone Inserts
for Flare Flange Connections, Metric

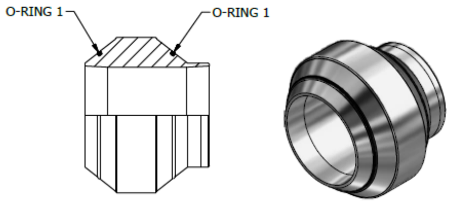
SAE J518 Code 61 (ISO 6162-1)



TYPE CO



TYPE CF



TYPE CD

CO, CF and CD – Cone Inserts for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	Weight lbs (kg)	Double Cone Insert Part Number (Type CD)	Weight lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	50x3.0	CO-50x3.0-150-*-^	0.50 (0.23)	CF-50x3.0-150-*	0.50 (0.23)	CD-50x3.0-150-*	0.98 (0.45)	ORV-4715	OR^-2-225
2"	60x3.0	CO-60x3.0-200-*-^	0.56 (0.25)	CF-60x3.0-200-*	0.56 (0.25)	CD-60x3.0-200-*	1.10 (0.50)	ORV-5715	OR^-2-228
2-1/2"	75x3.0	CO-75x3.0-250-*-^	1.00 (0.45)	CF-75x3.0-250-*	1.00 (0.45)	CD-75x3.0-250-*	1.91 (0.87)	ORV-2-037	OR^-2-232
3"	90x3.5	CO-90x3.5-300-*-^	1.50 (0.68)	CF-90x3.5-300-*	1.50 (0.68)	CD-90x3.5-300-*	2.70 (1.22)	ORV-2-041	OR^-2-237
3-1/2"	100x4.0	CO-100x4.0-350-*-^	1.50 (0.68)	CF-100x4.0-350-*	1.60 (0.73)	CD-100x4.0-350-*	2.50 (1.14)	ORV-2-043	OR^-2-241
4"	115x4.0	CO-115x4.0-400-*-^	1.80 (0.82)	CF-115x4.0-400-*	1.90 (0.86)	CD-115x4.0-400-*	3.00 (1.36)	ORV-2-044	OR^-2-245
5”	140x4.5	CO-140x4.5-500-*-^	2.40 (1.09)	CF-140x4.5-500-*	2.50 (1.14)	CD-140x4.5-500-*	3.90 (1.77)	ORV-2-159	OR^-2-253
6"	165x5.0	CO-165x5.0-600-*-^	4.70 (2.14)	CF-165x5.0-600-*	4.80 (2.18)	CD-165x5.0-600-*	7.40 (3.36)	ORV-2-163	OR^-2-259
8”	220x6.0	CO-220x6.0-800-*-^	7.10 (3.23)	CF-220x6.0-800-*	7.30 (3.32)	CD-220x6.0-800-*	11.68 (5.31)	ORV-2-171	OR^-3-372
10”	273x6.0	CO-273x6.0-1000-*-^	16.80 (7.64)	CF-273x6.0-1000-*	17.00 (7.73)	CD-273x6.0-1000-*	27.20 (12.36)	ORV-2-273	OR^-2-377

* Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type

Standard, No Designation = Buna Nitrile.
V = Viton.

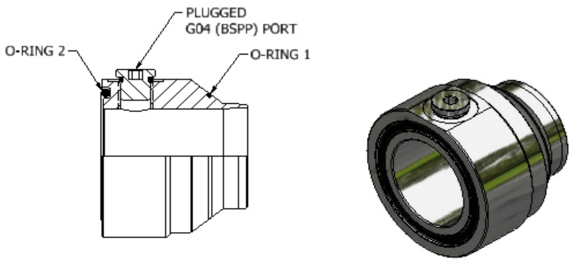
Ordering Example: CO-SCH40-200-SS-V*
Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

SAE 1000 PSI Cone Inserts with Pilot Port

for Flare Flange Connections, Metric

SAE J518 Code 61 (ISO 6162-1)



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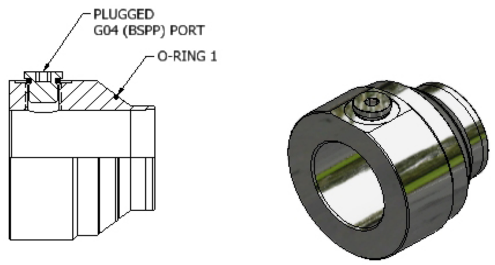


TYPE CFP

COP and CFP Metric Cone Inserts with Pilot Port for Flare Flange Connections

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COP)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CFP)	Weight lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	50x3.0	COP-50x3.0-150-*-^	1.31 (0.59)	CFP-50x3.0-150-*	1.31 (0.59)	ORV-4715	OR^-2-225
2"	60x3.0	COP-60x3.0-200-*-^	1.70 (0.77)	CFP-60x3.0-200-*	1.70 (0.77)	ORV-5715	OR^-2-228
2-1/2"	75x3.0	COP-75x3.0-250-*-^	2.60 (1.18)	CFP-75x3.0-250-*	2.60 (1.18)	ORV-2-037	OR^-2-232
3"	90x3.5	COP-90x3.5-300-*-^	3.46 (1.57)	CFP-90x3.5-300-*	3.46 (1.57)	ORV-2-041	OR^-2-237
3-1/2"	100x4.0	COP-100x4.0-350-*-^	3.60 (1.64)	CFP-100x4.0-350-*	3.60 (1.64)	ORV-2-043	OR^-2-241
4"	115x4.0	COP-115x4.0-400-*-^	4.10 (1.86)	CFP-115x4.0-400-*	4.10 (1.86)	ORV-2-044	OR^-2-245
5”	140x4.5	COP-140x4.5-500-*-^	5.00 (2.27)	CFP-140x4.5-500-*	5.00 (2.27)	ORV-2-159	OR^-2-253
6"	165x5.0	COP-165x5.0-600-*-^	9.00 (4.10)	CFP-165x5.0-600-*	9.00 (4.10)	ORV-2-163	OR^-2-259
8”	220x6.0	COP-220x6.0-800-*-^	13.20 (6.00)	CFP-220x6.0-800-*	13.20 (6.00)	ORV-2-171	OR^-3-372
10”	273x6.0	COP-273x6.0-1000-*-^	28.70 (13.05)	CFP-273x6.0-1000-*	28.70 (13.05)	ORV-2-273	OR^-3-377

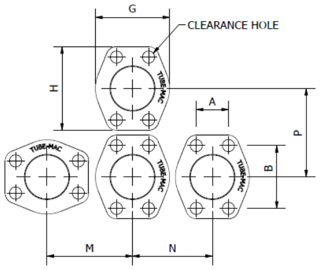
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type
Standard, No Designation = Buna Nitrile.
V = Viton.

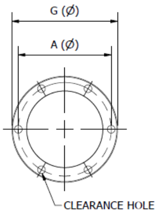
Ordering Example: COP-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

SAE 1000 PSI Retain Ring Flange Dimensions

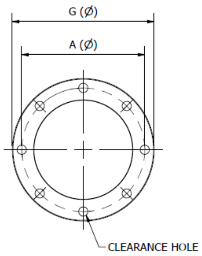
1-1/2” through 5” Flange pattern according to SAE J518 Code 61 (ISO 6162-1)



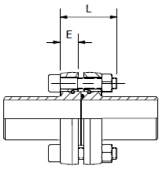
1-1/2" - 5" FLANGES



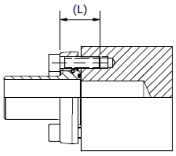
6" FLANGE



8" FLANGE



FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Retain Ring Flange Dimensions, NPS

Size	Dimensions (in)								SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1-1/2"	1.41	2.75	3.25	3.66	3.58	3.35	3.78	0.79	1/2"-13 UNC x 3.00 (2.00)	1000 (70)
2"	1.69	3.06	3.81	4.02	4.02	3.94	4.13	0.79	1/2"-13 UNC x 3.50 (2.00)	1000 (70)
2-1/2"	2.00	3.50	4.28	4.49	4.49	4.37	4.61	0.79	1/2"-13 UNC x 4.00 (2.50)	1000 (70)
3"	2.44	4.19	5.16	5.28	5.35	5.24	5.39	1.00	5/8"-11 UNC x 4.50 (2.75)	1000 (70)
4"	3.06	5.13	6.00	6.38	6.30	6.10	6.50	1.18	5/8"-11 UNC x 4.00 (2.75)	1000 (70)
5”	3.63	6.00	7.09	7.24	7.28	7.20	7.32	1.57	5/8"-11 UNC x 4.75 (2.75)	1000 (70)
6”	8.19	-	9.29	-	-	-	-	1.57	5/8"-11 UNC x 4.75 (2.75)	725 (50)
8”	10.83	-	12.48	-	-	-	-	1.57	3/4"-10 UNC x 4.75 (2.75)	725 (50)

*** SHCS Bolt Specification**
Carbon Steel: ASTM A574/ SAE J429 Grade 8
316 Stainless Steel: ASTM A193 - B8M Class.1

Retain Ring Flange Dimensions, Metric

Size	Dimensions (mm)								SHCS Bolt (mm)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1-1/2"	35.8	69.9	82.6	93.0	90.9	85.1	96.0	20	M12 x 75 (50)	1000 (70)
2"	42.9	77.7	96.8	102.1	102.1	100.1	104.9	20	M12 x 90 (50)	1000 (70)
2-1/2"	50.8	88.9	108.7	114.0	114.0	111.0	117.1	20	M12 x 100 (65)	1000 (70)
3"	62.0	106.4	131.1	134.1	135.9	133.1	136.9	25	M16 x 120 (70)	1000 (70)
4"	77.7	130.3	152.4	162.1	160.0	154.9	165.1	30	M16 x 100 (70)	1000 (70)
5”	92.1	152.4	180.0	184.0	185.0	183.0	186.0	40	M16 x 120 (70)	1000 (70)
6”	208.0	-	236.0	-	-	-	-	40	M16 x 120 (70)	725 (50)
8”	275.0	-	317.0	-	-	-	-	40	M20 x 120 (70)	725 (50)

*** SHCS Bolt Specification**
Carbon Steel: DIN 912/ISO 4762, Minimum Grade 8.8
316 Stainless Steel: A4-70, DIN 912/ISO 4762

3D step models available upon request

SAE 1000 PSI Retain Ring Flange with Clearance Holes

1-1/2” through 5” Flange pattern according to SAE J518 Code 61 (ISO 6162-1)
6” Flange Pattern TMI 6-bolt
8” Flange Pattern TMI 8-bolt

1-1/2" - 5" FLANGES

6" FLANGE

8" FLANGES

RFC14, RFC34, RFC16, RFC18 - Flare Flange with Clearance Holes

Size	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1-1/2”	RFC14-150-*	1000 (70)	1.10 (0.50)
2”	RFC14-200-*	1000 (70)	1.90 (0.86)
2-1/2”	RFC14-250-*	1000 (70)	2.17 (0.99)
3”	RFC14-300-*	1000 (70)	3.80 (1.73)
4”	RFC14-400-*	1000 (70)	8.61 (3.91)
5”	RFC14-500-*	1000 (70)	9.80 (4.45)
6”	RFC16-600-*	725 (50)	10.50 (4.77)
8”	RFC18-800-*	725 (50)	23.20 (10.55)

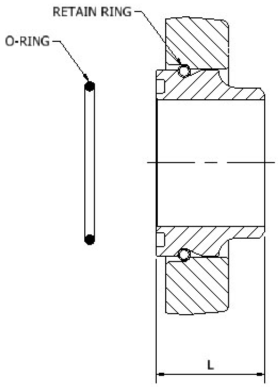
Ordering Example: RFC14-150-SS
* Insert Material

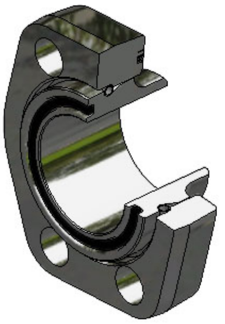
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Note: Flanges can be used on NPS and Metric Low Pressure Butt Weld Adapters.

SAE 1000 PSI Low Pressure Butt Weld Adapter Assembly, O-Ring Face with Clearance Holes, NPS

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring
- One (1) O-ring

To be Ordered Separately:
- Bolt Kit (See Page F14)

A/LBWAO Low Pressure Butt Weld Adapter Assembly, O-Ring Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part No.	"O" Ring (Buna) Part No.
1-1/2"	1-1/2" SCH10	A/LBWAO-SCH10-150-FC14-*	1.75 (0.80)	1.38	LBWAO-SCH10-150-*	RFC14-150-*	LR-150	OR*-2-225
1-1/2"	1-1/2" SCH40	A/LBWAO-SCH40-150-FC14-*	1.90 (0.86)	1.38	LBWAO-SCH40-150-*	RFC14-150-*	LR-150	OR*-2-225
2"	2" SCH10	A/LBWAO-SCH10-200-FC14-*	2.76 (1.25)	1.38	LBWAO-SCH10-200-*	RFC14-200-*	LR-200	OR*-2-228
2"	2" SCH40	A/LBWAO-SCH40-200-FC14-*	2.90 (1.32)	1.38	LBWAO-SCH40-200-*	RFC14-200-*	LR-200	OR*-2-228
2-1/2"	2-1/2" SCH10	A/LBWAO-SCH10-250-FC14-*	3.40 (1.55)	1.38	LBWAO-SCH10-250-*	RFC14-250-*	LR-250	OR*-2-232
2-1/2"	2-1/2" SCH40	A/LBWAO-SCH40-250-FC14-*	3.59 (1.63)	1.38	LBWAO-SCH40-250-*	RFC14-250-*	LR-250	OR*-2-232
3"	3" SCH10	A/LBWAO-SCH10-300-FC14-*	6.00 (2.73)	1.57	LBWAO-SCH10-300-*	RFC14-300-*	LR-300	OR*-2-237
3"	3" SCH40	A/LBWAO-SCH40-300-FC14-*	6.13 (2.79)	1.57	LBWAO-SCH40-300-*	RFC14-300-*	LR-300	OR*-2-237
4"	4" SCH10	A/LBWAO-SCH10-400-FC14-*	10.30 (4.68)	1.58	LBWAO-SCH10-400-*	RFC14-400-*	LR-400	OR*-2-245
4"	4" SCH40	A/LBWAO-SCH40-400-FC14-*	10.84 (4.93)	1.58	LBWAO-SCH40-400-*	RFC14-400-*	LR-400	OR*-2-245
5"	5" SCH10	A/LBWAO-SCH10-500-FC14-*	12.80 (5.82)	1.77	LBWAO-SCH10-500-*	RFC14-500-*	LR-500	OR*-2-253
5"	5" SCH40	A/LBWAO-SCH40-500-FC14-*	13.31 (6.05)	1.77	LBWAO-SCH40-500-*	RFC14-500-*	LR-500	OR*-2-253
6"	6" SCH10	A/LBWAO-SCH10-600-FC16-*	15.75 (15.60)	1.97	LBWAO-SCH10-600-*	RFC16-600-*	LR-600	OR*-2-259
6"	6" SCH40	A/LBWAO-SCH40-600-FC16-*	16.15 (7.34)	1.97	LBWAO-SCH40-600-*	RFC16-600-*	LR-600	OR*-2-259
8"	8" SCH10	A/LBWAO-SCH10-800-FC18-*	32.47 (14.76)	2.36	LBWAO-SCH10-800-*	RFC18-800-*	LR-800	OR*-2-372
8"	8" SCH40	A/LBWAO-SCH40-800-FC18-*	33.77 (15.35)	2.36	LBWAO-SCH40-800-*	RFC18-800-*	LR-800	OR*-2-372

Ordering Example: A/LBWAO-SCH40-200-FC14-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

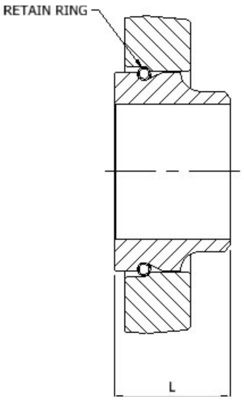
Note:

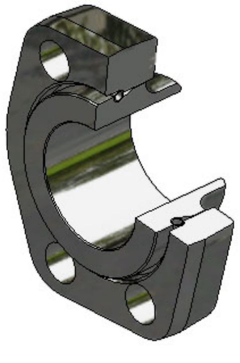
1. To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.
2. Please refer to pressure rating chart for SCH10 pipe.

3D step models available upon request

SAE 1000 PSI Low Pressure Butt Weld Adapter Assembly, Flat Face with Clearance Holes, NPS

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:
- Bolt Kit (See Page F14)

A/LBWAF Low Pressure Butt Weld Adapter Assembly, Flat Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part No.
1-1/2"	1-1/2" SCH10	A/LBWAF-SCH10-150-FC14-*	1.87 (0.85)	1.38	LBWAF-SCH10-150-*	RFC14-150-*	LR-150
1-1/2"	1-1/2" SCH40	A/LBWAF-SCH40-150-FC14-*	1.93 (0.88)	1.38	LBWAF-SCH40-150-*	RFC14-150-*	LR-150
2"	2" SCH10	A/LBWAF-SCH10-200-FC14-*	2.86 (1.30)	1.38	LBWAF-SCH10-200-*	RFC14-200-*	LR-200
2"	2" SCH40	A/LBWAF-SCH40-200-FC14-*	2.94 (1.33)	1.38	LBWAF-SCH40-200-*	RFC14-200-*	LR-200
2-1/2"	2-1/2" SCH10	A/LBWAF-SCH10-250-FC14-*	3.53 (1.61)	1.38	LBWAF-SCH10-250-*	RFC14-250-*	LR-250
2-1/2"	2-1/2" SCH40	A/LBWAF-SCH40-250-FC14-*	3.64 (1.66)	1.38	LBWAF-SCH40-250-*	RFC14-250-*	LR-250
3"	3" SCH10	A/LBWAF-SCH10-300-FC14-*	6.05 (2.75)	1.57	LBWAF-SCH10-300-*	RFC14-300-*	LR-300
3"	3" SCH40	A/LBWAF-SCH40-300-FC14-*	6.20 (2.82)	1.57	LBWAF-SCH40-300-*	RFC14-300-*	LR-300
4"	4" SCH10	A/LBWAF-SCH10-400-FC14-*	10.72 (4.87)	1.58	LBWAF-SCH10-400-*	RFC14-400-*	LR-400
4"	4" SCH40	A/LBWAF-SCH40-400-FC14-*	10.95 (4.98)	1.58	LBWAF-SCH40-400-*	RFC14-400-*	LR-400
5"	5" SCH10	A/LBWAF-SCH10-500-FC14-*	13.13 (5.97)	1.77	LBWAF-SCH10-500-*	RFC14-500-*	LR-500
5"	5" SCH40	A/LBWAF-SCH40-500-FC14-*	13.48 (6.13)	1.77	LBWAF-SCH40-500-*	RFC14-500-*	LR-500
6"	6" SCH10	A/LBWAF-SCH10-600-FC16-*	15.85 (7.20)	1.97	LBWAF-SCH10-600-*	RFC16-600-*	LR-600
6"	6" SCH40	A/LBWAF-SCH40-600-FC16-*	16.42 (7.46)	1.97	LBWAF-SCH40-600-*	RFC16-600-*	LR-600
8"	8" SCH10	A/LBWAF-SCH10-800-FC18-*	33.22 (15.10)	2.36	LBWAF-SCH10-800-*	RFC18-800-*	LR-800
8"	8" SCH40	A/LBWAF-SCH40-800-FC18-*	34.27 (15.58)	2.36	LBWAF-SCH40-800-*	RFC18-800-*	LR-800

Ordering Example: A/LBWAF-SCH40-200-FC14-SS

* Insert Material

*** Materials:**

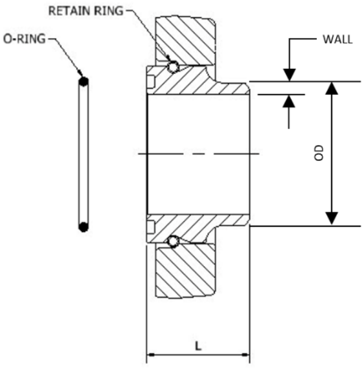
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

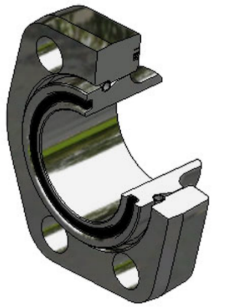
Note:

1. To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.
2. Please refer to pressure rating chart for SCH10 pipe.

SAE 1000 PSI Low Pressure Butt Weld Adapter Assembly, O-Ring Face with Clearance Holes, Metric

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring
- One (1) O-ring

To be Ordered Separately:
- Bolt Kit (See Page F14)

A/LBWAO Low Pressure Butt Weld Adapter Assembly, O-Ring Face with Clearance Holes, Metric

Size	Pipe Size OD x wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part No.	"O" Ring (Buna) Part No.
1-1/2"	50 x 3.0	A/LBWAO-50x3-150-FC14-*	1.75 (0.80)	35	LBWAO-50x3-150-*	RFC14-150-*	LR-150	OR*-2-225
1-1/2"	50 x 5.0	A/LBWAO-50x5-150-FC14-*	1.90 (0.86)	35	LBWAO-50x5-150-*	RFC14-150-*	LR-150	OR*-2-225
2"	60 x 3.0	A/LBWAO-60x3-200-FC14-*	2.76 (1.25)	35	LBWAO-60x3-200-*	RFC14-200-*	LR-200	OR*-2-228
2"	60 x 5.0	A/LBWAO-60x5-200-FC14-*	2.90 (1.32)	35	LBWAO-60x5-200-*	RFC14-200-*	LR-200	OR*-2-228
2-1/2"	73 x 3.0	A/LBWAO-73x3-250-FC14-*	3.40 (1.55)	35	LBWAO-73x3-250-*	RFC14-250-*	LR-250	OR*-2-232
2-1/2"	75 x 3.0	A/LBWAO-75x3-250-FC14-*	3.59 (1.63)	35	LBWAO-75x3-250-*	RFC14-250-*	LR-250	OR*-2-232
3"	90 x 3.5	A/LBWAO-90x3.5-300-FC14-*	6.00 (2.73)	40	LBWAO-90x3.5-300-*	RFC14-300-*	LR-300	OR*-2-237
3"	90 x 5.0	A/LBWAO-90x5-300-FC14-*	6.13 (2.79)	40	LBWAO-90x5-300-*	RFC14-300-*	LR-300	OR*-2-237
4"	115 x 4.0	A/LBWAO-115x4-400-FC14-*	10.30 (4.68)	40	LBWAO-115x4-400-*	RFC14-400-*	LR-400	OR*-2-245
4"	114.3 x 4.5	A/LBWAO-114.3x4.5-400-FC14-*	10.84 (4.93)	40	LBWAO-114.3x4.5-400-*	RFC14-400-*	LR-400	OR*-2-245
5"	139.7 x 5.6	A/LBWAO-139.7x5.6-500-FC14-*	12.80 (5.82)	45	LBWAO-139.7x5.6-500-*	RFC14-500-*	LR-500	OR*-2-253
5"	140 x 4.5	A/LBWAO-140x4.5-500-FC14-*	13.31 (6.05)	45	LBWAO-140x4.5-500-*	RFC14-500-*	LR-500	OR*-2-253
6"	165 x 5.0	A/LBWAO-165x5-600-FC16-*	15.75 (15.60)	50	LBWAO-165x5-600-*	RFC16-600-*	LR-600	OR*-2-259
6"	168.3 x 7.1	A/LBWAO-SCH40-600-FC16-*	16.15 (7.34)	50	LBWAO-SCH40-600-*	RFC16-600-*	LR-600	OR*-2-259
8"	220 x 6.0	A/LBWAO-220x6-800-FC18-*	32.47 (14.76)	60	LBWAO-220x6-800-*	RFC18-800-*	LR-800	OR*-2-372
8"	219 x 8.18	A/LBWAO-SCH40-800-FC18-*	33.77 (15.35)	60	LBWAO-SCH40-800-*	RFC18-800-*	LR-800	OR*-2-372

Ordering Example: A/LBWAO-60x3-200-FC14-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

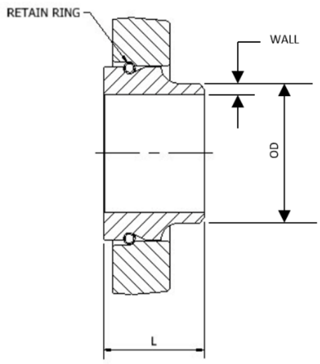
Note:

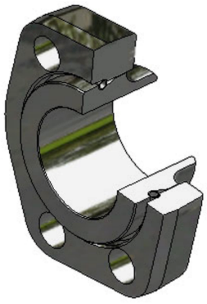
1. To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.
2. Please refer to pressure rating chart for SCH10 pipe.

3D step models available upon request

SAE 1000 PSI Low Pressure Butt Weld Adapter Assembly, Flat Face with Clearance Holes, Metric

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:

- Bolt Kit (See Page F14)

A/LBWAF Low Pressure Butt Weld Adapter Assembly, Flat Face with Clearance Holes, Metric

Size	Pipe Size OD x wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part No.
1-1/2"	50 x 3.0	A/LBWAF-50x3-150-FC14-*	1.87 (0.85)	35	LBWAF-50x3-150-*	RFC14-150-*	LR-150
1-1/2"	50 x 5.0	A/LBWAF-50x5-150-FC14-*	1.93 (0.88)	35	LBWAF-50x5-150-*	RFC14-150-*	LR-150
2”	60 x 3.0	A/LBWAF-60x3-200-FC14-*	2.86 (1.30)	35	LBWAF-60x3-200-*	RFC14-200-*	LR-200
2”	60 x 5.0	A/LBWAF-60x5-200-FC14-*	2.94 (1.33)	35	LBWAF-60x5-200-*	RFC14-200-*	LR-200
2-1/2"	73 x 3.0	A/LBWAF-73x3-250-FC14-*	3.53 (1.61)	35	LBWAF-73x3-250-*	RFC14-250-*	LR-250
2-1/2"	75 x 3.0	A/LBWAF-75x3-250-FC14-*	3.64 (1.66)	35	LBWAF-75x3-250-*	RFC14-250-*	LR-250
3”	90 x 3.5	A/LBWAOF-90x3.5-300-FC14-*	6.05 (2.75)	40	LBWAF-90x3.5-300-*	RFC14-300-*	LR-300
3”	90 x 5.0	A/LBWAF-90x5-300-FC14-*	6.20 (2.82)	40	LBWAF-90x5-300-*	RFC14-300-*	LR-300
4”	115 x 4.0	A/LBWAF-115x4-400-FC14-*	10.72 (4.87)	40	LBWAF-115x4-400-*	RFC14-400-*	LR-400
4”	114.3 x 4.5	A/LBWAF-114.3x4.5-400-FC14-*	10.95 (4.98)	40	LBWAF-114.3x4.5-400-*	RFC14-400-*	LR-400
5”	139.7 x 5.6	A/LBWAF-139.7x5.6-500-FC14-*	13.13 (5.97)	45	LBWAF-139.7x5.6-500-*	RFC14-500-*	LR-500
5”	140 x 4.5	A/LBWAF-140x4.5-500-FC14-*	13.48 (6.13)	45	LBWAF-140x4.5-500-*	RFC14-500-*	LR-500
6”	165 x 5.0	A/LBWAF-165x5-600-FC16-*	15.85 (7.20)	50	LBWAF-165x5-600-*	RFC16-600-*	LR-600
6”	168.3 x 7.1	A/LBWAF-SCH40-600-FC16-*	16.42 (7.46)	50	LBWAF-SCH40-600-*	RFC16-600-*	LR-600
8”	220 x 6.0	A/LBWAF-220x6-800-FC18-*	33.22 (15.10)	60	LBWAF-220x6-800-*	RFC18-800-*	LR-800
8”	219 x 8.18	A/LBWAF-SCH40-800-FC18-*	34.27 (15.58)	60	LBWAF-SCH40-800-*	RFC18-800-*	LR-800

Ordering Example: A/LBWAF-60x3-200-FC14-SS

* Insert Material

*** Materials:**

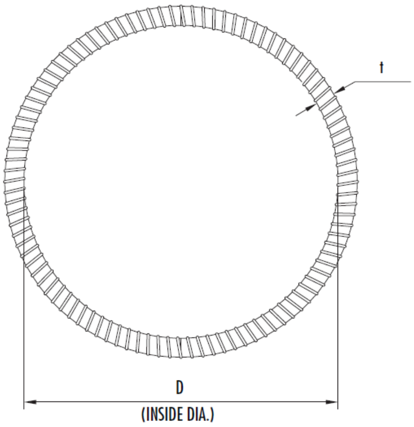
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

Note:

1. To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.
2. Please refer to pressure rating chart for SCH10 pipe.

3D step models available upon request

SAE 1000 PSI Low Pressure Retain Ring



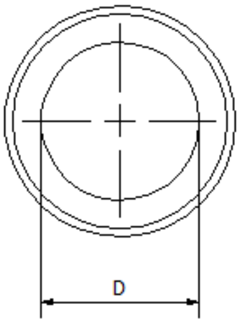
Flange Dimensions , NPS

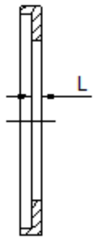
Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
		D	t	
1-1/2”	LR-150	2.165 (55)	.158 (4)	0.02 (0.01)
2”	LR-200	2.560 (65)	.158 (4)	0.03 (0.014)
2-1/2”	LR-250	2.992 (76)	.158 (4)	0.04 (0.02)
3”	LR-300	3.622 (92)	.197 (5)	0.09 (0.04)
4”	LR-400	4.685 (119)	.197 (5)	0.11 (0.05)
5”	LR-500	5.630 (143)	.236 (6)	0.19 (0.09)
6”	LR-600	6.811 (173)	.236 (6)	0.21 (0.10)
8”	LR-800	9.110 (231)	.315 (8)	0.59 (0.27)

Materials:
Stainless Steel –AISI 316 Spring Temper

3D step models available upon request

SAE 1000 PSI Low Pressure O-Ring Connector Plate





LOCP – Low Pressure O-Ring Connector Plate

Size	Connector Plate Part Number	Dimensions in (mm)		WT lbs (kg)
		D	L	
1-1/2”	LOCP-150-*	1.50 (38.1)	0.13 (3.18)	0.13 (0.06)
2”	LOCP-200-*	1.94 (49.3)	0.13 (3.18)	0.15 (0.07)
2-1/2”	LOCP-250-*	2.47 (62.74)	0.13 (3.18)	0.17 (0.08)
3”	LOCP-300-*	3.07 (78.00)	0.13 (3.18)	0.25 (0.11)
4”	LOCP-400-*	4.03 (102.36)	0.13 (3.18)	0.33 (0.15)
5”	LOCP-500-*	4.91 (124.71)	0.19 (4.75)	0.57 (0.26)
6”	LOCP-600-*	5.91 (150.00)	0.19 (4.75)	0.79 (0.36)
8”	LOCP-800-*	7.98 (202.69)	0.19 (4.75)	1.34 (0.61)

*** Materials:**

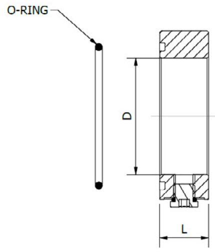
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.

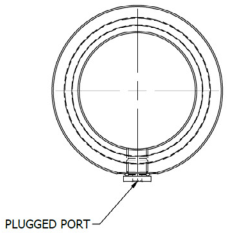
SS = Stainless Steel, Type 316.

Ordering Example: LOCP-200-SS

* Insert Material

SAE 1000 PSI Low Pressure Pilot Tee Between





LPPT – Low Pressure Pilot Tee Between with #4 SAE Port (Plugged), NPS

Size	Part Number	Dimensions in (mm)		O-Rings (Buna) Part Number	WT lbs (kg)
		D	L		
1-1/2”	LPPT-150-*-^	1.61 (40.89)	1.00 (25.4)	OR^-3-924	86.9 (39.50)
2”	LPPT-200-*-^	2.00 (50.08)	1.00 (25.4)	OR^-3-928	1.13 (0.54)
2-1/2”	LPPT-250-*-^	2.50 (63.50)	1.00 (25.4)	OR^-2-232	1.47 (0.67)
3”	LPPT-300-*-^	3.00 (76.20)	1.00 (25.4)	OR^-2-237	1.92 (0.87)
4”	LPPT-150-*-^	4.00 (101.60)	1.00 (25.4)	OR^-2-245	2.69 (1.22)
5”	LPPT-200-*-^	5.00 (127.00)	1.00 (25.4)	OR^-2-253	3.54 (1.61)
6”	LPPT-250-*-^	6.00 (152.40)	1.00 (25.4)	OR^-2-259	4.08 (1.85)
8”	LPPT-300-*-^	8.00 (203.20)	1.25 (31.75)	OR^-2-372	10.55 (4.80)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: LPPT-200-SS-V
* Insert Material
^ Insert O-Ring Type

LPPTM – Low Pressure Pilot Tee Between with G 1/8 Port (Plugged), Metric

Size	Part Number	Dimensions in (mm)		O-Rings (Buna) Part Number	WT lbs (kg)
		D	L		
1-1/2”	LPPTM-150-*-^	1.61 (40.89)	1.00 (25.4)	OR^-3-924	86.9 (39.50)
2”	LPPTM-200-*-^	2.00 (50.08)	1.00 (25.4)	OR^-3-928	1.13 (0.54)
2-1/2”	LPPTM-250-*-^	2.50 (63.50)	1.00 (25.4)	OR^-2-232	1.47 (0.67)
3”	LPPTM-300-*-^	3.00 (76.20)	1.00 (25.4)	OR^-2-237	1.92 (0.87)
4”	LPPTM-150-*-^	4.00 (101.60)	1.00 (25.4)	OR^-2-245	2.69 (1.22)
5”	LPPTM-200-*-^	5.00 (127.00)	1.00 (25.4)	OR^-2-253	3.54 (1.61)
6”	LPPTM-250-*-^	6.00 (152.40)	1.00 (25.4)	OR^-2-259	4.08 (1.85)
8”	LPPTM-300-*-^	8.00 (203.20)	1.25 (31.75)	OR^-2-372	10.55 (4.80)

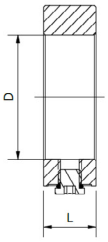
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

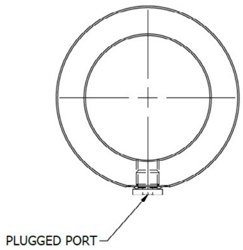
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: LPPTM-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 1000 PSI Low Pressure Pilot Tee Between Flat Face





LPPTF – Low Pressure Pilot Tee Between Flat Face with #4 SAE Port (Plugged), NPS

Size	Part Number	Dimensions in (mm)		WT lbs (kg)
		D	L	
1-1/2”	LPPTF-150-*-^	1.61 (40.89)	1.00 (25.4)	86.9 (39.50)
2”	LPPTF-200-*-^	2.00 (50.08)	1.00 (25.4)	1.13 (0.54)
2-1/2”	LPPTF-250-*-^	2.50 (63.50)	1.00 (25.4)	1.47 (0.67)
3”	LPPTF-300-*-^	3.00 (76.20)	1.00 (25.4)	1.92 (0.87)
4”	LPPTF-150-*-^	4.00 (101.60)	1.00 (25.4)	2.69 (1.22)
5”	LPPTF-200-*-^	5.00 (127.00)	1.00 (25.4)	3.54 (1.61)
6”	LPPTF-250-*-^	6.00 (152.40)	1.00 (25.4)	4.08 (1.85)
8”	LPPTF-300-*-^	8.00 (203.20)	1.25 (31.75)	10.55 (4.80)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: LPPTF-200-SS-V
* Insert Material
^ Insert O-Ring Type

LPPTFM – Low Pressure Pilot Tee Between Flat Face with G 1/8 Port (Plugged), Metric

Size	Part Number	Dimensions in (mm)		WT lbs (kg)
		D	L	
1-1/2”	LPPTFM-150-*-^	1.61 (40.89)	1.00 (25.4)	86.9 (39.50)
2”	LPPTFM-200-*-^	2.00 (50.08)	1.00 (25.4)	1.13 (0.54)
2-1/2”	LPPTFM-250-*-^	2.50 (63.50)	1.00 (25.4)	1.47 (0.67)
3”	LPPTFM-300-*-^	3.00 (76.20)	1.00 (25.4)	1.92 (0.87)
4”	LPPTFM-150-*-^	4.00 (101.60)	1.00 (25.4)	2.69 (1.22)
5”	LPPTFM-200-*-^	5.00 (127.00)	1.00 (25.4)	3.54 (1.61)
6”	LPPTFM-250-*-^	6.00 (152.40)	1.00 (25.4)	4.08 (1.85)
8”	LPPTFM-300-*-^	8.00 (203.20)	1.25 (31.75)	10.55 (4.80)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

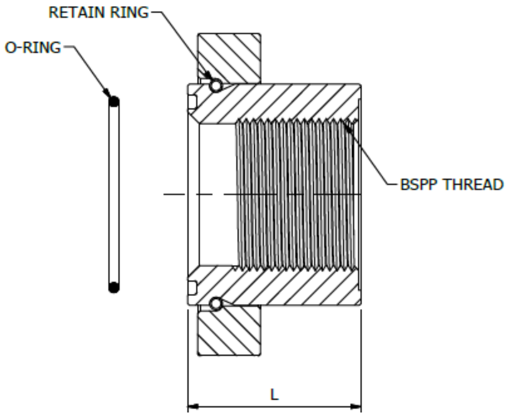
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

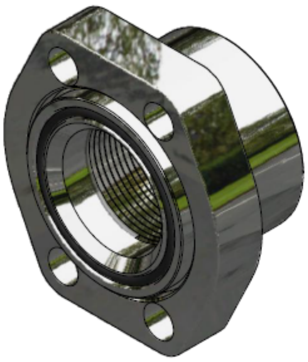
Ordering Example: LPPTFM-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 1000 PSI Low Pressure Female Thread Adapter, BSPP Complete Assembly

Flange pattern according to SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Female Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page F14)

A/LFBTA Low Pressure Female Thread Adapter, BSPP – Complete Assembly Complete with Buna O-Ring

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size	O-Ring Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L	R				
1-1/2"x 1-1/4"	A/LFBTA-150x125-FC14-*-^	1.77 (45.00)	1 1/4"	OR^-2-225	0.99 (0.45)	LFBTA-150x125-*-^	1.2 (0.54)
2"x 1-1/2"	A/LFBTA-200x150-FC14-*-^	2.17 (55.00)	1 1/2"	OR^-2-228	1.65 (0.75)	LFBTA-200x150-*-^	2.0 (0.92)
2-1/2"x 2"	A/LFBTA-250x200-FC14-*-^	3.15 (80.00)	2"	OR^-2-232	3.35 (1.52)	LFBTA-250x200-*-^	3.5 (1.59)
3"x 2-1/2"	A/LFBTA-300x250-FC14-*-^	3.35 (85.00)	2 1/2"	OR^-2-237	4.65 (2.11)	LFBTA-300x250-*-^	4.8 (2.16)

Flange Option:
Standard, FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange.
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded Flange.
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

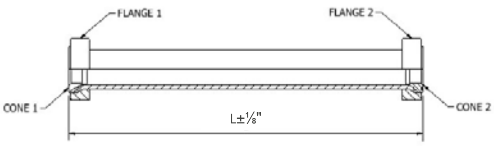
Ordering Example: A/LFBTA-200x150-FC34-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

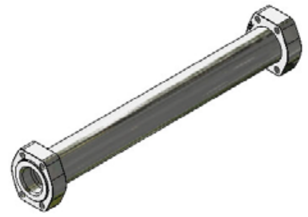
3D step models available upon request

SAE 1000 PSI Flare Flange Pipe Assembly, NPS

SAE J518 Code 61 (ISO 6162-1)

Typical LPAF Assembly





Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cone inserts
- Buna O-rings as required

Code | **LPAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **End 1** - **End 2** - **Lgth** - **Options**

Bent Pipe Assembly - Flared		**LPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	SCH40-125
		SCH80-125
	2”	SCH40-200
		SCH80-200
	2-1/2”	SCH40-250
		SCH80-250
	3”	SCH40-300
		SCH80-300
	4”	SCH40-400
		SCH80-400
	5”	SCH40-500
	6”	SCH40-600
	8”	SCH40-800
	10”	SCH40-1000
End Style	Flat Face	CF
	‘O’ Ring Face	CO
Length	L	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

TMP52CD (E355+N) PIPE IS AVAILBLE IN 1-1/2” UP TO 3” SCHEDULE 40 PIPE SIZES AND 1-1/2” UP TO 4” SCHEDULE 80 PIPE SIZES

♦♦TMP37CD (E235+N) PIPE IS AVAILABLE IN 2 1/2” THROUGH 10” SCHEDULE 40 PIPE SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LPAF/52-SCH40150-CF-CO-240

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

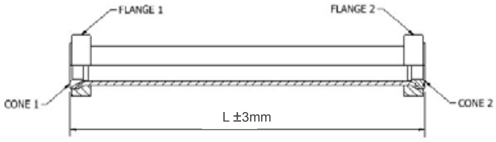
SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

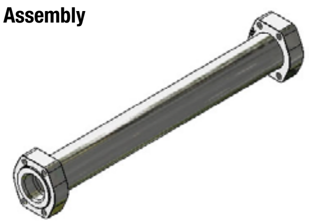
3D step models available upon request

SAE 1000 PSI Flare Flange Pipe Assembly, Metric

SAE J518 Code 61 (ISO 6162-1)

Typical LPAF Assembly





Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cone inserts
- Buna O-rings as required

Code | **LPAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **End 1** - **End 2** - **Lgth** - **Options**

Bent Pipe Assembly - Flared		**LPAF**
Pipe & Cone Material Carbon Steel	**♦♦TMP37CD**	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	50 x 3.0
	2”	60 x 3.0
	2-1/2”	75 x 3.0
	3”	90 x 3.5
	4”	115 x 4.0
	5”	140 x 4.5
	6”	165 x 5.0
	8”	220 x 6.0
	10”	273 x 6.0
End Style	Flat Face	CF
	‘O’ Ring Face	CO
Length	L	(mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

♦♦TMP37CD (E235+N) PIPE IS AVAILABLE IN ALL SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LPAF/37-50x 3.0-150-CF-CO-6000

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

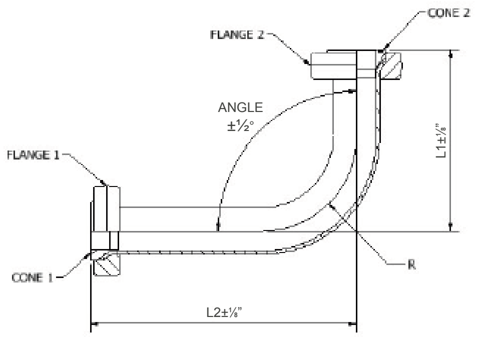
SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

3D step models available upon request

SAE 1000 PSI Flare Flange Bent Pipe Assembly, NPS

SAE J518 Code 61 (ISO 6162-1)

Typical LBPAF Assembly



Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

Size	R1		R2		R3	
	Dimensions (in)		Dimensions (in)		Dimensions (in)	
	L(min.)	R	L(min.)	R	L(min.)	R
1-1/2”	7.50	3.80	9.25	5.70	13.50	9.50
2”	8.50	4.75	10.75	7.13	16.00	11.87
2-1/2”	9.75	5.75	12.63	8.63	18.00	14.38
3”	11.00	7.00	14.50	10.50	22.00	17.50
4”	-	-	17.50	13.50	26.50	22.50
5”	-	-	19.00	15.00	29.00	25.00
6”	-	-	22.00	18.00	34.00	30.00
8”	-	-	28.00	24.00	44.00	40.00
10”	-	-	34.00	30.00	54.00	50.00

Note:

1. RADIUS R1 IS NOT AVAILABLE FOR PIPE SIZES 4” AND ABOVE.
2. SIZES 5”, 6”, 8” AND 10” ARE FACTORY BENDS ONLY – CANNOT BE DONE WITH PORTABLE BENDERS

3D step models available upon request

Flare Flange Bent Pipe Assembly, NPS

SAE J518 Code 61 (ISO 6162-1)

BPAF / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Cone 1** - **Cone 2** - **Rad.** - **Lgth L1** - **Angle** - **Lgth L2** - **Options**

		Code
Bent Pipe Assembly - Flared		**BPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	SCH40-150
		SCH80-150
	2”	SCH40-200
		SCH80-200
	2-1/2”	SCH40-250
		SCH80-250
	3”	SCH40-300
		SCH80-300
	4”	SCH40-400
		SCH80-400
	5”	SCH40-500
	6”	SCH40-600
	8”	SCH40-800
	10”	SCH40-1000
End Type	Flat Face	CF
	‘O’ Ring Face	CO
Radius	Factory Manufactured	R1
	Factory Manufactured	R2
	Field Manufactured	R3
Length	L1	Specify (in)
Angle	Max 90º	Specify (º)
Length	L2	Specify (in)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

♦♦TMP37CD (E235+N) PIPE IS AVAILABLE IN ALL SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LPAF/52-SCH40-150-CO-CF-R1-25-90-11

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

METRIC PIPE BENDING INFORMATION CONSULT FACTORY.

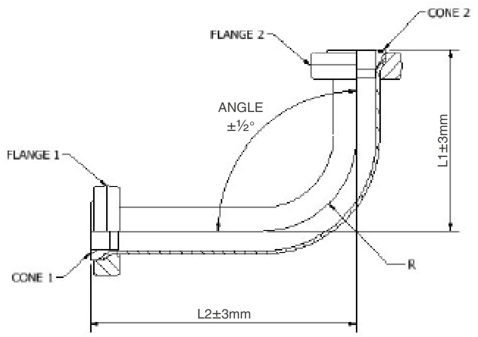
3D step models available upon request

SAE 1000 PSI Flare Flange Bent Pipe Assembly,

Metric

SAE J518 Code 61 (ISO 6162-1)

Typical LBPAF Assembly



Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

Pipe Size	Flange Size	R1		R2		R3	
		Dimensions (mm)		Dimensions (mm)		Dimensions (mm)	
		L(min.)	R	L(min.)	R	L(min.)	R
50 x 3.0	1-1/2”	194	100	244	150	294	200
60 x 3.0	2”	215	120	275	180	335	240
75 x 3.0	2-1/2”	264	150	339	225	225	414
90 x 3.5	3”	294	180	384	270	474	360
115 x 4.0	4”	-	-	450	345	675	575
140 x 4.5	5”	-	-	530	420	800	700
165 x 5.0	6”	-	-	600	495	925	825
220 x 6.0	8”	-	-	710	610	1120	1016
273 x 6.0	10”	-	-	865	762	1370	1270

Note:

1. RADIUS R1 IS NOT AVAILABLE FOR PIPE SIZES 115mm AND ABOVE.
2. SIZES 140mm, 165mm, 220mm AND 273mm ARE FACTORY BENDS ONLY – CANNOT BE DONE WITH PORTABLE BENDERS

3D step models available upon request

Flare Flange Bent Pipe Assembly, Metric

SAE J518 Code 61 (ISO 6162-1)

BPAF / Pipe & Cone Material - Pipe Size & Schedule - Cone 1 - Cone 2 - Rad. - Lgth L1 - Angle - Lgth L2 - Options

		Code
Bent Pipe Assembly - Flared		**BPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	50x3.0
	2”	60x3.0
	2-1/2”	75x3.0
	3”	90x3.5
	4”	115x4.0
	5”	140x4.5
	6”	165x5.0
	8”	220x6.0
	10”	273x6.0
End Type	Flat Face	CF
	‘O’ Ring Face	CO
Radius	Factory Manufactured	R1
	Factory Manufactured	R2
	Field Manufactured	R3
Length	L1	Specify (mm)
Angle	Max 90º	Specify (º)
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

TMP52CD (E355+N) PIPE IS AVAILABLE IN 50mm UP TO 115mm SIZES

♦♦TMP37CD (E235+N) PIPE IS ONLY AVAILABLE IN 50mm UP TO 273mm SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LBPAF/52-50x3-CO-CF-R1-3175-90-292

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

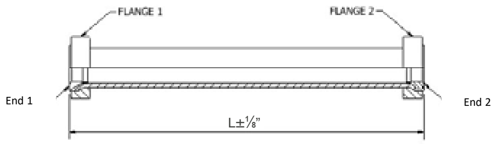
METRIC PIPE BENDING INFORMATION CONSULT FACTORY.

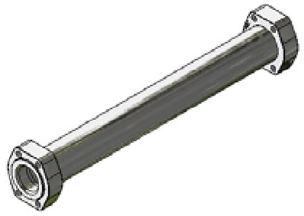
3D step models available upon request

SAE 1000 PSI Retain Ring Flange Pipe Assembly, NPS

SAE J518 Code 61 (ISO 6162-1)

Typical LPAR Assembly





Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) LP retain ring flanges
- Two (2) LP butt weld adapters
- Two (2) LP retain rings
- Buna O-rings as required

Code | **LPAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **End 1** - **End 2** - **Lgth** - **Options**

Bent Pipe Assembly - Flared		**LPAR**
Pipe & Cone Material Carbon Steel	**TMP52CD**	42
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2"**	SCH40-125 SCH80-125
	2"	SCH40-200 SCH80-200
	2-1/2"	SCH40-250 SCH80-250
	3"	SCH40-300 SCH80-300
	4"	SCH40-400 SCH80-400
	5"	SCH40-500
	6"	SCH40-600
	8"	SCH40-800
	10"	SCH40-1000
End Style	Flat Face	LF
	'O' Ring Face	LO
Length	L	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

TMP52CD (E355+N) PIPE IS AVAILBLE IN 1-1/2" UP TO 3" SCHEDULE 40 PIPE SIZES AND 1-1/2" UP TO 4" SCHEDULE 80 PIPE SIZES

♦♦TMP37CD (E235+N) PIPE IS AVAILABLE IN ALL SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LPAR/52-SCH40-150-LF-LO-240

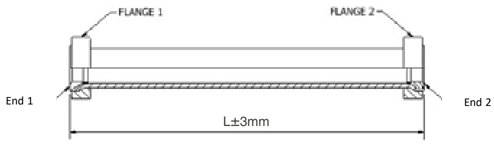
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

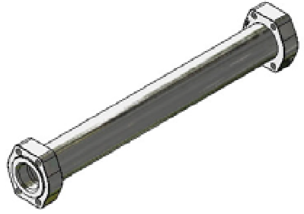
3D step models available upon request

SAE 1000 PSI Retain Ring Flange Pipe Assembly, Metric

SAE J518 Code 61 (ISO 6162-1)



Typical LPAR Assembly



Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) LP retain ring flanges
- Two (2) LP butt weld adapters
- Two (2) LP retain rings
- Buna O-rings as required

Code | **LPAR** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **End 1** - **End 2** - **Lgth** - **Options**

Bent Pipe Assembly - Flared		**LPAR**
Pipe & Cone Material Carbon Steel	**♦♦TMP37CD**	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	50 x 3.0
	2”	60 x 3.0
	2-1/2”	75 x 3.0
	3”	90 x 3.5
	4”	115 x 4.0
	5”	140 x 4.5
	6”	165 x 5.0
	8”	220 x 6.0
	10”	273 x 6.0
End Style	Flat Face	LF
	‘O’ Ring Face	LO
Length	L	(mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

♦♦TMP37CD (E235+N) PIPE IS AVAILABLE IN ALL SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LPAR/37-50x3.0-150-LF-LO-6000

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

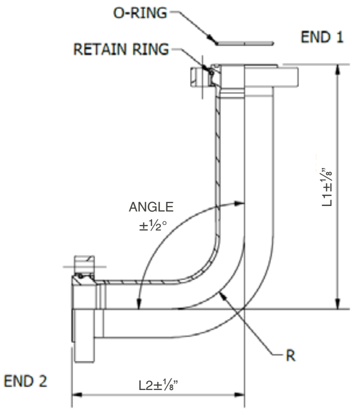
SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

3D step models available upon request

SAE 1000 PSI Retain Ring Flange Bent Pipe Assembly, NPS

SAE J518 Code 61 (ISO 6162-1)

Typical LBPAR Assembly



Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) LP retain ring flanges
- Two (2) LP butt weld adapters
- Two (2) LP retain rings
- Buna O-rings as required

Size	R1		R2		R3	
	Dimensions (in)		Dimensions (in)		Dimensions (in)	
	L(min.)	R	L(min.)	R	L(min.)	R
1-1/2"	7.50	3.80	9.25	5.70	13.50	9.50
2"	8.50	4.75	10.75	7.13	16.00	11.87
2-1/2"	9.75	5.75	12.63	8.63	18.00	14.38
3"	11.00	7.00	14.50	10.50	22.00	17.50
4"	-	-	17.50	13.50	26.50	22.50
5"	-	-	19.00	15.00	29.00	25.00
6"	-	-	22.00	18.00	34.00	30.00
8"	-	-	28.00	24.00	44.00	40.00

Note:

1. RADIUS R1 IS NOT AVAILABLE FOR PIPE SIZES 4" AND ABOVE.
2. SIZES 5", 6", 8" AND 10" ARE FACTORY BENDS ONLY – CANNOT BE DONE WITH PORTABLE BENDERS

SAE 1000 PSI Retain Ring Flange Bent Pipe Assembly, NPS

SAE J518 Code 61 (ISO 6162-1)

Code | **LBPAR** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **End 1** - **End 2** - **Rad.** - **Lgth L1** - **Angle** - **Lgth L2** - **Options**

		Code
Bent Pipe Assembly - Flared		**LBPAR**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	SCH40-150
		SCH80-150
	2”	SCH40-200
		SCH80-200
	2-1/2”	SCH40-250
		SCH80-250
	3”	SCH40-300
		SCH80-300
	4”	SCH40-400
		SCH80-400
	5”	SCH40-500
	6”	SCH40-600
	8”	SCH40-800
	10”	N/A
End Type	Flat Face	LF
	‘O’ Ring Face	LO
Radius	Factory Manufactured	R1
	Factory Manufactured	R2
	Field Manufactured	R3
Length	L1	Specify (in)
Angle	Max 90º	Specify (º)
Length	L2	Specify (in)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

TMP52CD (E355+N) PIPE IS AVAILABLE IN 1-1/2” UP TO 3” SCHEDULE 40 SIZES AND 1-1/2” UP TO 4” SCHEDULE 80 PIPE SIZES

♦♦TMP37CD (E235+N) PIPE IS ONLY AVAILABLE IN 2-1/2” UP TO 8” SCHEDULE 40 SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LBPAR/52-SCH40-150-LO-LF-R1-125-90-11

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

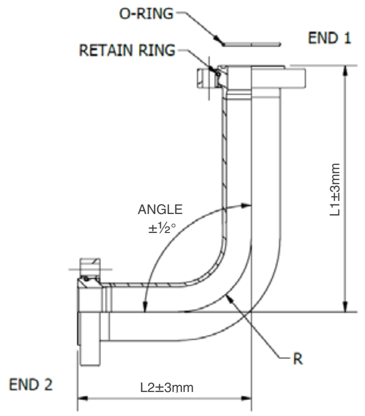
METRIC PIPE BENDING INFORMATION CONSULT FACTORY.

3D step models available upon request

SAE 1000 PSI Retain Ring Flange Bent Pipe Assembly, Metric

SAE J518 Code 61 (ISO 6162-1)

Typical LBPAR Assembly



Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) lp retain ring flanges
- Two (2) LP butt weld adapters
- Two (2) LP retain rings
- Buna O-rings as required

Pipe Size	Flange Size	R1		R2		R3	
		Dimensions (mm)		Dimensions (mm)		Dimensions (mm)	
		L(min.)	R	L(min.)	R	L(min.)	R
50 x 3.0	1-1/2"	194	100	244	150	294	200
60 x 3.0	2"	215	120	275	180	335	240
75 x 3.0	2-1/2"	264	150	339	225	225	414
90 x 3.5	3"	294	180	384	270	474	360
115 x 4.0	4"	-	-	450	345	675	575
140 x 4.5	5"	-	-	530	420	800	700
165 x 5.0	6"	-	-	600	495	925	825
220 x 6.0	8"	-	-	710	610	1120	1016

Note:

1. RADIUS R1 IS NOT AVAILABLE FOR PIPE SIZES 115mm AND ABOVE.
2. SIZES 140mm, 165mm, 220mm AND 273mm ARE FACTORY BENDS ONLY – CANNOT BE DONE WITH PORTABLE BENDERS

3D step models available upon request

Flare Flange Bent Pipe Assembly, Metric

SAE J518 Code 61 (ISO 6162-1)

LBPAF / Pipe & Cone Material - Pipe Size & Schedule - Cone 1 - Cone 2 - Rad. - Lgth L1 - Angle - Lgth L2 - Options

		Code
Bent Pipe Assembly - Flared		**LBPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	50x3.0
	2”	60x3.0
	2-1/2”	75x3.0
	3”	90x3.5
	4”	115x4.0
	5”	140x4.5
	6”	165x5.0
	8”	220x6.0
	10”	N/A
End Type	Flat Face	LF
	‘0’ Ring Face	LO
Radius	Factory Manufactured	R1
	Factory Manufactured	R2
	Field Manufactured	R3
Length	L1	Specify (mm)
Angle	Max 90º	Specify (º)
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Note:

TMP52CD (E355+N) PIPE IS AVAILABLE IN 50mm UP TO 115mm SIZES

♦♦TMP37CD (E235+N) PIPE IS ONLY AVAILABLE IN 50mm UP TO 220mm SIZES

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): LBPAF/52-50x3-CO-CF-R1-3175-90-292

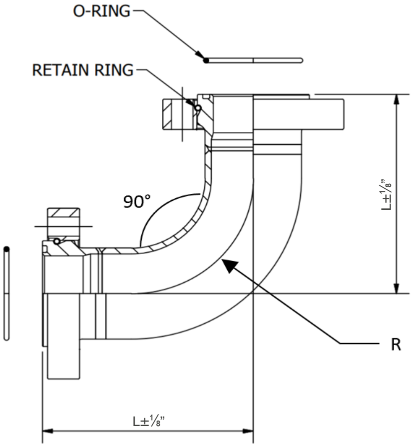
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

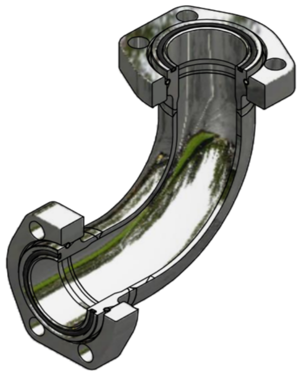
SEE REFERENCE PAGES INDICATED ABOVE FOR PRESSURE RATINGS

METRIC PIPE BENDING INFORMATION CONSULT FACTORY.

SAE 1000 PSI Low Pressure Retain Ring Flange Elbow **Complete Assembly**

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flange Elbow
- Two (2) Retain Ring Flanges
- Two (2) Retain Rings
- Two (2) Face O-Rings

To be Ordered Separately:

- Bolt Kit

A/LRE – Low Pressure Retain Ring Flange Elbow Complete Assembly

Size	Complete Assembly Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L	LL					
1-1/2"	A/LRE-150-FC14-*-^	2.98 (75.7)	2.25 (57.1)	OR^-3-924	5.34 (2.43)	LRE-150-*-^	3.10 (1.41)	1000 (70)
2”	A/LRE-200-FC14-*-^	4.50 (114.3)	3.00 (76.2)	OR^-3-928	8.26 (3.75)	LRE-200-*-^	4.40 (2.00)	1000 (70)
2-1/2"	A/LRE-250-FC14-*-^	5.22 (132.5)	3.75 (95.3)	OR^-2-232	10.48 (4.76)	LRE-250-*-^	6.06 (2.75)	1000 (70)
3”	A/LRE-300-FC14-*-^	6.19 (157.2)	4.50 (114.3)	OR^-2-237	16.98 (7.72)	LRE-300-*-^	9.50 (4.32)	1000 (70)
4”	A/LRE-400-FC14-*-^	7.69 (195.3)	6.00 (152.4)	OR^-2-245	19.85 (9.02)	LRE-400-*-^	13.24 (6.02)	1000 (70)
5”	A/LRE-500-FC14-*-^	9.36 (237.7)	7.50 (190.5)	OR^-2-253	30.75 (13.98)	LRE-500-*-^	22.14 (10.06)	1000 (70)
6”	A/LRE-600-FC16-*-^	11.13 (282.7)	9.00 (228.6)	OR^-2-259	45.17 (20.53)	LRE-600-*-^	35.37 (16.08)	725 (50)
8”	A/LRE-800-FC18-*-^	14.44 (366.8)	12.00 (304.8)	OR^-2-372	89.20 (40.54)	LRE-800-*-^	69.95 (31.80)	725 (50)

Flange Option:

FC14 = 1-1/2” Thru 5” SAE Code 61 (ISO 6162-1) Flange Pattern with Clearance Holes.
FC16 = 6” Round Flange with 6 Bolt Clearance Hole Pattern.
FC18 = 8” Round Flange with 8 Bolt Clearance Hole Pattern.

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

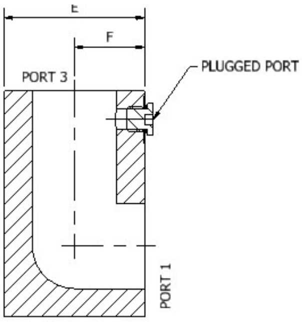
Standard, No Designation = Buna Nitrile.
V = Viton.

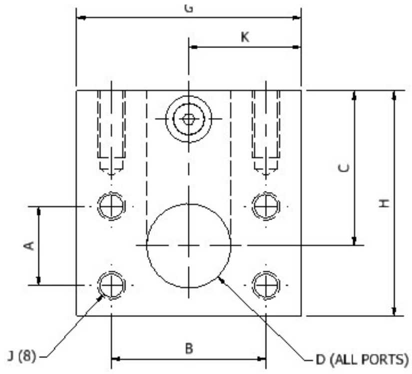
Ordering Example: A/LRE-200-FC14-SS-V

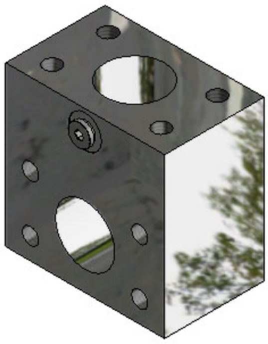
Flange Option
* Insert Material
^ Insert O-Ring Type

Block Elbow

Drilled to SAE J518 Code 61 (ISO 6162-1) Flange Style







BE34 - Block Elbow Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Elbow Part Number	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1-1/2”	BE34-150-*	1.41	2.75	2.75	1.50	2.50	1.25	4.00	4.00	2.00	1/2”-13	8.60 (3.90)	4000 (280)
2”	BE34-200-*	1.69	3.06	3.00	1.94	3.00	1.50	4.00	4.50	2.00	1/2”-13	10.60 (4.81)	4000 (280)
2-1/2”	BE34-250-*	2.00	3.50	3.25	2.38	3.50	1.75	5.00	5.00	2.50	1/2”-13	17.40 (7.89)	3000 (210)
3”	BE34-300-*	2.44	4.19	3.75	2.88	4.00	2.00	5.50	6.00	2.75	5/8”-11	25.60 (11.61)	3000 (210)
4”	BE34-400-*	3.06	5.13	4.13	2.88	6.00	3.00	5.50	7.00	3.25	5/8”-11	51.40 (23.30)	1000 (70)

Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BE34-200-SS
* Insert Material

Note:
The working pressure is dependent upon the flange and pipe selected.

BEM34 - Block Elbow Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size	Block Elbow Part Number	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1-1/2”	BEM34-150-*	35.8	69.9	69.9	38.1	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	8.60 (3.90)	4000 (280)
2”	BEM34-200-*	42.9	77.7	76.2	49.3	76.2	38.1	101.6	114.3	50.8	M12 x 1.75	10.60 (4.81)	4000 (280)
2-1/2”	BEM34-250-*	50.8	88.9	82.6	60.5	88.9	44.5	127.0	127.0	63.5	M12 x 1.75	17.40 (7.89)	3000 (210)
3”	BEM34-300-*	62.0	106.4	95.3	73.2	101.6	50.8	139.70	152.4	69.9	M16 x 2.00	25.60 (11.61)	3000 (210)
4”	BEM34-400-*	77.7	130.0	104.9	101.6	152.4	76.2	165.1	177.8	82.5	M16 x 2.00	51.40 (23.30)	1000 (70)

Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BEM34-200-SS
* Insert Material

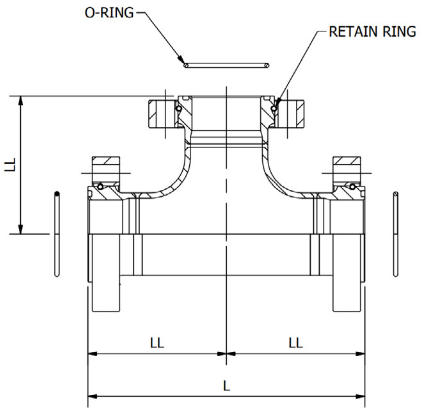
Note:
The working pressure is dependent upon the flange and pipe selected.

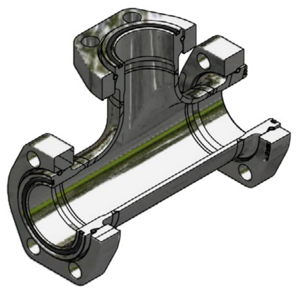
3D step models available upon request

SAE 1000 PSI Low Pressure Retain Ring Flange Tee

Complete Assembly

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flange Tee
- Three (3) Retain Ring Flanges
- Three (3) Retain Rings
- Three (3) Face O-Rings

To be Ordered Separately:

- Bolt Kit

A/LRT - Retain Ring Flange Tee Complete Assembly Complete with Buna O-Ring

Size	Complete Assembly Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L	LL					
1-1/2"	A/LRT-150-FC14-*-^	7.44 (189.0)	3.72 (94.5)	OR^-3-924	8.30 (3.77)	LRT-150-*-^	4.90 (2.23)	1000 (70)
2”	A/LRT-200-FC14-*-^	7.94 (201.7)	4.00 (101.6)	OR^-3-928	13.70 (12.05)	LRT-200-*-^	7.10 (3.23)	1000 (70)
2-1/2"	A/LRT-250-FC14-*-^	8.95 (227.3)	4.47 (113.5)	OR^-2-232	16.77 (7.63)	LRT-250-*-^	9.06 (4.12)	1000 (70)
3"	A/LRT-300-FC14-*-^	10.10 (256.5)	5.05 (128.3)	OR^-2-237	22.95 (10.45)	LRT-300-*-^	11.28 (5.13)	1000 (70)
4"	A/LRT-400-FC14-*-^	11.60 (294.6)	5.80 (147.3)	OR^-2-245	44.79 (20.36)	LRT-400-*-^	18.63 (8.47)	1000 (70)
5”	A/LRT-500-FC14-*-^	13.48 (342.4)	6.74 (171.2)	OR^-2-253	60.96 (27.71)	LRT-500-*-^	30.96 (14.07)	1000 (70)
6"	A/LRT-600-FC16-*-^	15.44 (392.2)	7.75 (195.8)	OR^-2-260	82.44 (37.47)	LRT-600-*-^	50.31 (22.87)	725 (50)
8"	A/LRT-800-FC18-*-^	18.91 (480.3)	9.45 (240.0)	OR^-2-372	156.33 (71.06)	LRT-800-*-^	84.93 (38.60)	725 (50)

Ordering Example: A/LRT-200-FC14-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

Note:

FC16=Round 6-bolt flange and FC18=Round 8-bolt flange

Flange Options:
FC14 = SAE Code 61 (ISO 6162-1) Clearance Flange
FT14 = SAE Code 61 (ISO 6162-1) UNC Threaded Flange
FTM14 = SAE Code 61 (ISO 6162-1) Metric Threaded Flange

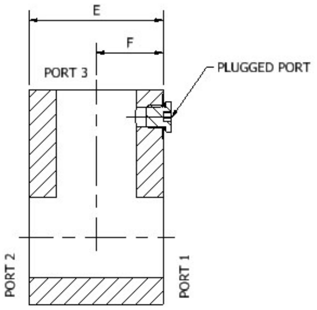
Materials:
No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

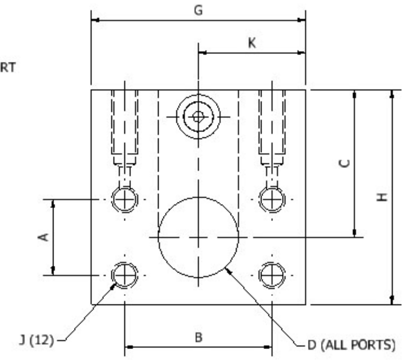
^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton.

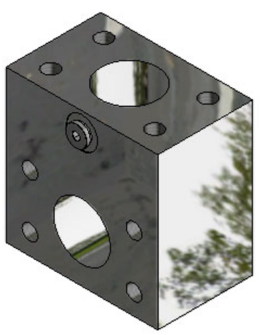
3D step models available upon request

Block Tee

Drilled to SAE J518 Code 61 (ISO 6162-1) Flange Style







BT34 - Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Tee Part No	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1-1/2”	BT34-150-*	1.41	2.75	2.75	1.50	2.50	1.25	4.00	4.00	2.00	1/2”-13	8.20 (3.72)	4000 (280)
2”	BT34-200-*	1.69	3.06	3.00	1.94	3.00	1.50	4.00	4.50	2.00	1/2”-13	10.00 (4.54)	4000 (280)
2-1/2”	BT34-250-*	2.00	3.50	3.25	2.38	3.50	1.75	5.00	5.00	2.50	1/2”-13	16.30 (7.39)	3000 (210)
3”	BT34-300-*	2.44	4.19	3.75	2.88	4.00	2.00	5.50	6.00	2.75	5/8”-11	23.70 (10.75)	3000 (210)
4”	BT34-400-*	3.06	5.13	4.13	4.00	6.00	3.00	6.50	7.00	3.25	5/8”-11	45.80 (20.60)	1000 (70)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BT34-200-SS
* Insert Material

Note:

The working pressure is dependent upon the flange and pipe selected.

BTM34 - Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (inch)	Block Tee Part No	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1-1/2”	BTM34-150-*	35.8	69.9	69.9	38.1	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	8.20 (3.72)	4000 (280)
2”	BTM34-200-*	42.9	77.7	76.2	49.3	76.2	38.1	101.6	114.3	50.8	M12 x 1.75	10.00 (4.54)	4000 (280)
2-1/2”	BTM34-250-*	50.8	88.9	82.6	60.5	88.9	44.5	127.0	127.0	63.5	M12 x 1.75	16.30 (7.39)	3000 (210)
3”	BTM34-300-*	62.0	106.4	95.3	73.2	101.6	50.8	139.7	152.4	69.9	M16 x 2.00	23.70 (10.75)	3000 (210)
4”	BTM34-400-*	77.7	130.3	104.9	101.6	152.4	76.2	165.1	177.8	82.5	M16 x 2.00	45.80 (20.60)	1000 (70)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTM34-200-SS
* Insert Material

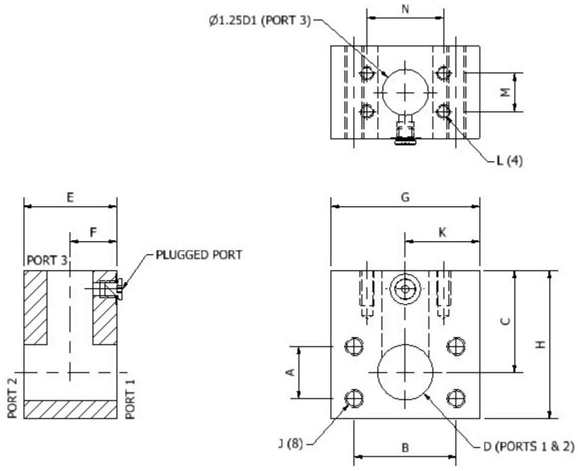
Note:

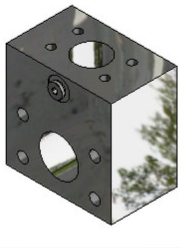
The working pressure is dependent upon the flange and pipe selected.

3D step models available upon request

Reducing Branch Block Tee

Drilled to SAE J518 Code 61 (ISO 6162-1) Flange Style





BTR34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Tee Part Number	Dimensions (in)												Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
2”x1-1/2”	BTR34-200x150-*	1.69	3.06	3.00	1.94	1.50	3.00	1.50	4.00	4.50	2.00	1.41	2.75	1/2”-13	1/2”-13	11.60 (5.26)	4000 (280)
2-1/2”x1/2”	BTR34-250x050-*	2.00	3.50	3.25	2.38	0.50	3.50	1.75	5.00	5.00	2.50	0.69	1.50	1/2”-13	5/16”-18	19.40 (8.80)	3000 (210)
2-1/2”x1-1/2”	BTR34-250x150-*	2.00	3.50	3.25	2.38	1.50	3.50	1.75	5.00	5.00	2.50	1.41	2.75	1/2”-13	1/2”-13	18.30 (8.30)	3000 (210)
2-1/2”x2”	BTR34-250x200-*	2.00	3.50	3.25	2.38	1.94	3.50	1.75	5.00	5.00	2.50	1.69	3.06	1/2”-13	1/2”-13	17.56 (7.97)	3000 (210)
3”x1-1/2”	BTR34-300x150-*	2.44	4.19	3.75	2.88	1.50	4.00	2.00	5.50	6.00	2.75	1.41	2.75	5/8”-11	1/2”-13	27.67 (12.55)	3000 (210)
3”x2”	BTR34-300x200-*	2.44	4.19	3.75	2.88	1.94	4.00	2.00	5.50	6.00	2.75	1.69	3.06	5/8”-11	1/2”-13	26.87 (12.19)	3000 (210)
3”x2-1/2”	BTR34-300x250-*	2.44	4.19	3.75	2.88	2.38	4.00	2.00	5.50	6.00	2.75	2.00	3.50	5/8”-11	1/2”-13	25.30 (11.48)	3000 (210)
4”x1-1/2”	BTR34-400x150-*	3.06	5.13	3.75	4.00	1.50	3.50	1.75	6.50	7.00	3.25	1.41	2.75	5/8”-11	1/2”-13	29.20 (13.25)	1000 (70)
2”x2”	BTR34-400x200-*	3.06	5.13	3.75	4.00	1.94	6.00	3.00	6.50	7.00	3.25	1.69	3.06	5/8”-11	1/2”-13	52.60 (23.85)	1000 (70)
4”x2-1/2”	BTR34-400x250-*	3.06	5.13	3.75	4.00	2.38	6.00	3.00	6.50	7.00	3.25	2.00	3.50	5/8”-11	1/2”-13	51.80 (23.50)	1000 (70)
4”x3”	BTR34-400x300-*	3.06	5.13	3.75	4.00	2.88	6.00	3.00	6.50	7.00	3.25	2.44	2.44	5/8”-11	5/8”-11	50.40 (22.91)	1000 (70)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTR34-200x050-SS
* Insert Material

BTRM34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)												Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
2”x1-1/2”	BTRM34-200x150-*	42.9	77.7	76.2	49.3	38.1	76.2	38.1	101.6	114.3	50.8	35.8	69.9	M12 X 1.75	M12 X 1.75	11.60 (5.26)	4000 (280)
2-1/2”x1-1/2”	BTRM34-250x150-*	50.8	88.9	82.6	60.5	38.1	88.9	44.5	127.0	127.0	63.5	35.8	69.9	M12 X 1.75	M12 X 1.75	18.30 (8.30)	3000 (210)
2-1/2”x2”	BTRM34-250x200-*	50.8	88.9	82.6	60.5	49.3	88.9	44.5	127.0	127.0	63.5	42.9	77.7	M12 X 1.75	M12 X 1.75	17.56 (7.97)	3000 (210)
3”x1-1/2”	BTRM34-300x150-*	62.0	106.4	95.3	73.2	38.1	101.6	50.8	139.7	152.4	69.9	35.8	69.9	M16 X 2.00	M12 X 1.75	27.67 (12.55)	3000 (210)
3”x2”	BTRM34-300x200-*	62.0	106.4	95.3	73.2	49.3	101.6	50.8	139.7	152.4	69.9	42.9	77.7	M16 X 2.00	M12 X 1.75	26.87 (12.19)	3000 (210)
3”x2-1/2”	BTRM34-300x250-*	62.0	106.4	95.3	73.2	60.5	101.6	50.8	139.7	152.4	69.9	50.8	88.9	M16 X 2.00	M12 X 1.75	25.30 (11.48)	3000 (210)
4”x1-1/2”	BTRM34-400x150-*	77.7	130.3	105.0	101.6	38.1	88.9	44.4	165.1	177.8	82.5	35.8	69.9	M12 X 2.00	M12 X 1.75	29.20 (13.25)	1000 (70)
4”x2”	BTRM34-400x200-*	77.7	130.3	105.0	101.6	49.3	152.4	76.2	165.1	177.8	82.5	43.0	77.7	M16 X 2.00	M12 X 1.75	52.60 (23.85)	1000 (70)
4”x2-1/2”	BTRM34-400x250-*	77.7	130.3	105.0	101.6	60.5	152.4	76.2	165.1	177.8	82.5	50.8	88.9	M16 X 2.00	M12 X 1.75	51.80 (23.50)	1000 (70)
4”x3”	BTRM34-400x300-*	77.7	130.3	105.0	101.6	73.2	152.4	76.2	165.1	177.8	82.5	62.0	106.4	M16 X 2.00	M16 X 2.00	50.40 (22.91)	1000 (70)

*** Materials:**

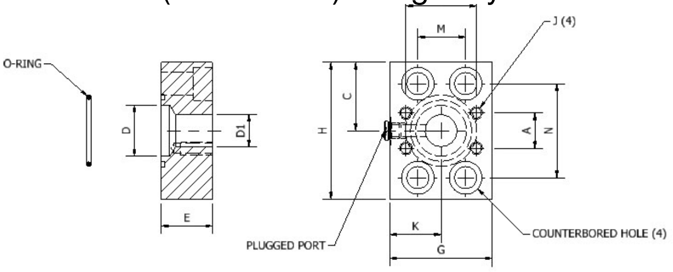
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

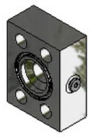
Ordering Example: BTRM34-200x050-SS
* Insert Material

3D step models available upon request

Transition Plate Reducer with O-Ring Face and Countersunk Holes

Drilled to SAE J518 Code 61 (ISO 6162-1) Flange Style





Note:

5” Transition plate is round.

Larger sizes available upon request

TPRO34 – Transition Plate Reducer with O-Ring Face, Countersunk Holes and #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)											C’T Bore Bolt	J Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
2” x 1-1/2”	TPRO34-200x150-*-^	1.41	2.75	2.00	1.94	1.50	1.75	4.00	4.00	2.00	1.69	3.06	1/2”-13	1/2”-13	OR^-2-228	5.90 (2.68)	4000 (280)
2-1/2” x 1-1/2”	TPRO34-250x150-*-^	1.41	2.75	2.50	2.38	1.50	2.00	4.00	5.00	2.00	2.00	3.50	1/2”-13	1/2”-13	OR^-2-232	8.80 (3.99)	4000 (280)
2-1/2” x 2”	TPRO34-250x200-*-^	1.69	3.06	2.50	2.38	1.94	1.75	4.00	5.00	2.00	2.00	3.50	1/2”-13	1/2”-13	OR^-2-232	7.30 (3.31)	4000 (280)
3” x 2”	TPRO34-300x200-*-^	1.69	3.06	3.00	2.88	1.94	2.00	4.00	6.00	2.00	2.44	4.19	5/8”-11	1/2”-13	OR^-2-237	9.80 (4.45)	4000 (280)
3” x 2-1/2”	TPRO34-300x250-*-^	2.00	3.50	3.00	2.88	2.38	1.75	4.50	6.00	2.25	2.44	4.19	5/8”-11	1/2”-13	OR^-2-237	9.50 (4.31)	3000 (210)
4” x 1-1/2”	TPRO34-400x150-*-^	1.41	2.75	3.50	4.00	1.50	2.75	6.00	7.00	3.00	3.06	5.13	5/8”-11	1/2”-13	OR^-2-245	30.30 (13.77)	1000 (70)
4” x 2”	TPRO34-400x200-*-^	1.69	3.06	3.50	4.00	1.94	2.75	6.00	7.00	3.00	3.06	5.13	5/8”-11	1/2”-13	OR^-2-245	26.50 (12.02)	1000 (70)
4” x 2-1/2”	TPRO34-400x250-*-^	2.00	3.50	3.50	4.00	2.38	2.75	6.00	7.00	3.00	3.06	5.13	5/8”-11	1/2”-13	OR^-2-245	25.40 (11.50)	1000 (70)
4” x 3”	TPRO34-400x300-*-^	2.44	4.19	3.50	4.00	2.88	2.75	6.00	7.00	3.00	3.06	5.13	5/8”-11	5/8”-11	OR^-2-245	24.00 (10.90)	1000 (70)
5” x 4”	TPRO34-500x400-*-^	3.06	5.13	4.13	5.00	4.00	2.00	8.25 dia.		4.13	3.63	6.00	5/8”-11	5/8”-11	OR^-2-253	20.40 (9.25)	1000 (70)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPRO34-200x150-SS-V

* Insert Material

^ Insert O-Ring Type

TPROM34 – Transition Plate Reducer with O-Ring Face, Countersunk Holes and G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (in)											C’T Bore Bolt	J Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
2” x 1-1/2”	TPROM34-200x150-*-^	35.8	69.9	50.8	49.3	38.1	44.5	101.6	101.6	50.8	42.9	77.7	M12x1.75	M12x1.75	OR^-2-228	5.90 (2.68)	4000 (280)
2-1/2” x 1-1/2”	TPROM34-250x150-*-^	35.8	69.9	63.5	60.5	38.1	50.8	101.6	127.0	50.8	50.8	88.9	M12x1.75	M12x1.75	OR^-2-232	8.80 (3.99)	4000 (280)
2-1/2” x 2”	TPROM34-250x200-*-^	42.9	77.7	63.5	60.5	49.3	44.5	101.6	127.0	50.8	50.8	88.9	M12x1.75	M12x1.75	OR^-2-232	7.30 (3.31)	4000 (280)
3” x 2”	TPROM34-300x200-*-^	42.9	77.78	76.2	73.2	49.3	50.8	101.6	152.4	50.8	62.0	106.4	M16x2.00	M12x1.75	OR^-2-237	9.80 (4.45)	4000 (280)
3” x 2-1/2”	TPROM34-300x250-*-^	50.8	88.9	76.2	73.2	60.5	44.5	114.3	152.4	57.2	62.0	106.4	M16x2.00	M12x1.75	OR^-2-237	9.50 (4.31)	3000 (210)
4” x 1-1/2”	TPROM34-400x150-*-^	35.8	69.9	88.9	101.6	38.1	69.9	152.4	177.8	76.2	77.7	130.3	M16x2.00	M12x1.75	OR^-2-245	30.30 (13.77)	1000 (70)
4” x 2”	TPROM34-400x200-*-^	42.9	77.7	88.9	101.6	49.3	69.9	152.4	177.8	76.2	77.7	130.3	M16x2.00	M12x1.75	OR^-2-245	26.50 (12.02)	1000 (70)
4” x 2-1/2”	TPROM34-400x250-*-^	50.8	88.9	88.9	101.6	60.5	69.9	152.4	177.8	76.2	77.7	130.3	M16x2.00	M12x1.75	OR^-2-245	25.40 (11.50)	1000 (70)
4” x 3”	TPROM34-400x300-*-^	62.0	106.4	88.9	101.6	73.2	69.9	152.4	177.8	76.2	77.7	130.3	M16x2.00	M16x2.00	OR^-2-245	24.00 (10.90)	1000 (70)
5” x 4”	TPROM34-500x400-*-^	77.7	130.3	104.9	127.0	101.6	50.8	209.5 dia.		104.9	92.2	152.4	M16x2.00	M16x2.00	OR^-2-253	20.40 (9.25)	1000 (70)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPROM34-200x150-SS-V

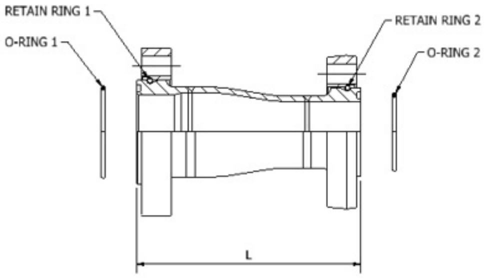
* Insert Material

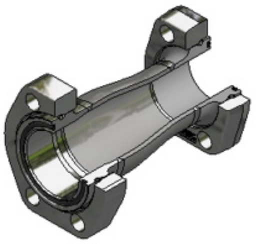
^ Insert O-Ring Type

3D step models available upon request

SAE 1000 PSI Low Pressure Retain Ring Flange Reducer **Complete Assembly**

SAE J518 Code 61 (ISO 6162-1)





Complete Assembly Consists Of:
- One (1) Concentric Reducer Body
- Two (2) Retain Ring Flanges
- Two (2) Retain Ring
- Two (2) Buna O-Rings (Standard)

To be Ordered Separately:
- Bolt Kit

SAE 1000 PSI Low Pressure Retain Ring Flange Reducer

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring 1 (Buna) Part Number	O-Ring 2 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L						
2” x 1-1/2”	A/LRR-200x150-FC14-FC14-*-^	5.94 (150.9)	OR^-2-228	OR^-2-225	5.29 (2.4)	LRR-200x150-*-^	2.24 (1.0)	4000 (280)
2-1/2” x 1-1/2”	A/LRR-250x150-FC14-FC14-*-^	6.44 (163.6)	OR^-2-232	OR^-2-225	6.16 (2.8)	LRR-250x100-*-^	2.83 (1.3)	3000 (210)
2-1/2” x 2”	A/LRR-250x200-FC14-FC14-*-^	6.44 (163.6)	OR^-2-232	OR^-2-228	7.38 (3.4)	LRR-250x200-*-^	3.24 (1.5)	3000 (210)
3” x 2”	A/LRR-300x200-FC14-FC14-*-^	6.64 (168.7)	OR^-2-237	OR^-2-228	9.83 (4.5)	LRR-300x200-*-^	4.01 (1.8)	3000 (210)
3” x 2-1/2”	A/LRR-300x250-FC14-FC14-*-^	6.64 (168.7)	OR^-2-237	OR^-2-232	10.41 (4.7)	LRR-300x250-*-^	4.45 (2.0)	3000 (210)
4” x 2-1/2”	A/LRR-400x250-FC14-FC14-*-^	7.14 (181.4)	OR^-2-245	OR^-2-232	13.23 (6.0)	LRR-400x250-*-^	6.39 (2.9)	1000 (70)
4” x 3”	A/LRR-400x300-FC14-FC14-*-^	7.35 (186.7)	OR^-2-245	OR^-2-237	17.34 (7.9)	LRR-400x300-*-^	6.93 (3.2)	1000 (70)
5” x 3”	A/LRR-500x300-FC14-FC14-*-^	8.54 (216.9)	OR^-2-253	OR^-2-237	22.65 (10.3)	LRR-500x300-*-^	10.25 (4.7)	1000 (70)
5” x 4”	A/LRR-500x400-FC14-FC14-*-^	8.54 (216.9)	OR^-2-253	OR^-2-245	26.66 (12.1)	LRR-500x400-*-^	11.44 (5.2)	1000 (70)
6” x 4”	A/LRR-600x400-FC16-FC14-*-^	9.24 (234.7)	OR^-2-259	OR^-2-245	32.22 (14.6)	LRR-600x400-*-^	15.81 (7.2)	725 (50)
6” x 5”	A/LRR-600x500-FC16-FC14-*-^	9.43 (239.5)	OR^-2-259	OR^-2-253	35.66 (16.2)	LRR-600x500-*-^	17.26 (7.9)	725 (50)
8” x 5”	A/LRR-800x500-FC18-FC14-*-^	10.32 (262.1)	OR^-2-372	OR^-2-253	53.16 (24.2)	LRR-800x500-*-^	25.30 (11.5)	725 (50)
8” x 6”	A/LRR-800x600-FC18-FC16-*-^	10.52 (267.2)	OR^-2-372	OR^-2-259	57.71 (26.2)	LRR-800x600-*-^	28.66 (13.0)	725 (50)

Flange Options:
1-1/2” thru 5”, RFC14 = SAE Code 61 (ISO 6162-1) Flange Pattern with clearance holes.
6”, RFC16 = Round 6-bolt Flange Pattern with clearance holes.
8”, RFC18 = Round 8-bolt Flange Pattern with clearance holes.

Materials
No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton.

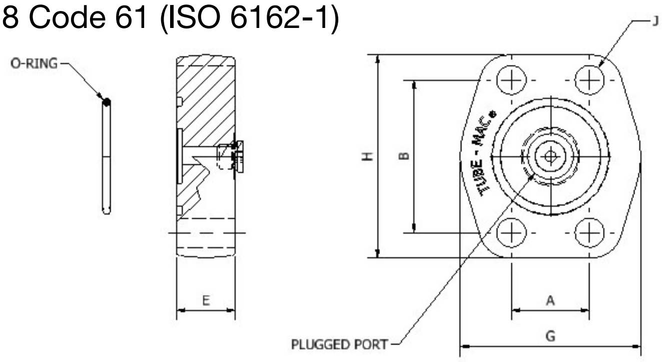
Ordering Example: A/LRR-200x150-FC14-FC14-SS-V
Flange 1 Option
Flange 2 Option
* Insert Material
^ Insert O-Ring Type

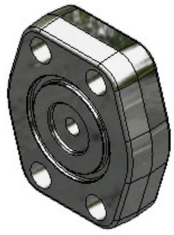
3D step models available upon request

SAE 1000 PSI Low Pressure Blanking Flange

O-Ring Face with Clearance Holes

SAE J518 Code 61 (ISO 6162-1)





Note:

6” and 8” Blanking Flanges are Round

BFO14, BFO16, BFO18 – Blanking Flange O-Ring Face, Clearance Holes and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1-1/2"	BFO14-150-*-^	1.41	2.75	3.25	3.66	0.79	1/2" – 13 UNC	OR^-2-225	4000 (280)	2.1 (0.9)
2"	BFO14-200-*-^	1.69	3.06	3.81	4.02	0.79	1/2" – 13 UNC	OR^-2-228	4000 (280)	2.6 (1.2)
2-1/2"	BFO14-250-*-^	2.00	3.50	4.28	4.49	0.79	1/2" – 13 UNC	OR^-2-232	3000 (210)	3.4 (1.6)
3"	BFO14-300-*-^	2.44	4.19	5.16	5.28	1.00	5/8" – 11 UNC	OR^-2-237	3000 (210)	6.0 (2.7)
4”	BFO14-400-*-^	3.06	5.13	6.00	6.38	1.18	5/8” – 11 UNC	OR^-2-245	1000 (70)	10.4 (4.7)
5”	BFO14-500-*-^	3.63	6.00	7.09	7.24	1.57	5/8” – 11 UNC	OR^-2-253	1000 (70)	18.9 (8.5)
6”	BFO16-600-*-^	8.19	-	9.29	-	1.57	5/8” – 11 UNC	OR^-2-259	725 (50)	25.2 (11.5)
8”	BFO18-800-*-^	10.83	-	12.48	-	1.57	3/4” – 10 UNC	OR^-2-372	725 (50)	51.2 (23.3)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: BFO14-200-SS-V*
Insert Material
^ Insert O-Ring 2 Type

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

BFOM14, BFOM16, BFOM18 – Blanking Flange O-Ring Face, Clearance Holes and G1/8 Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1-1/2"	BFOM14-150-*-^	35.8	69.9	82.6	93.0	20	M12 x 1.75	OR^-2-225	4000 (280)	2.1 (0.9)
2"	BFOM14-200-*-^	42.9	77.7	96.8	102.1	20	M12 x 1.75	OR^-2-228	4000 (280)	2.6 (1.2)
2-1/2"	BFOM14-250-*-^	50.8	88.9	108.7	114.0	20	M12 x 1.75	OR^-2-232	3000 (210)	3.4 (1.6)
3"	BFOM14-300-*-^	62.0	106.4	131.1	134.1	25	M16 x 2.00	OR^-2-237	3000 (210)	6.0 (2.7)
4”	BFOM14-400-*-^	77.7	130.3	152.4	162.1	30	M16 x 2.00	OR^-2-245	1000 (70)	10.4 (4.7)
5”	BFOM14-500-*-^	92.2	152.4	180.0	184.0	40	M16 x 2.00	OR^-2-253	1000 (70)	18.9 (8.5)
6”	BFOM16-600-*-^	208.0	-	236.0	-	40	M16 x 2.00	OR^-2-259	725 (50)	25.2 (11.5)
8”	BFOM18-800-*-^	275.0	-	317.0	-	40	M20 x 2.50	OR^-2-372	725 (50)	51.2 (23.3)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: BFOM14-200-SS-V*
Insert Material
^ Insert O-Ring 2 Type

^ O-Ring Type:

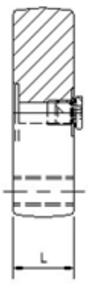
Standard, No Designation = Buna Nitrile.
V = Viton.

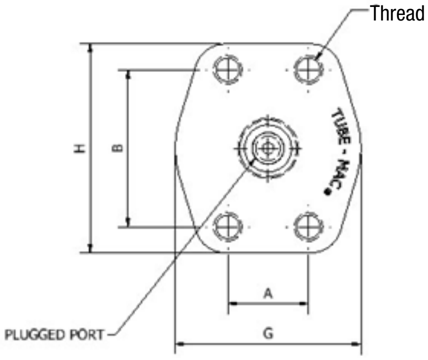
3D step models available upon request

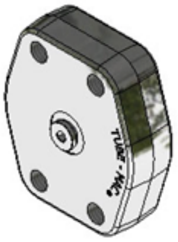
SAE 1000 PSI Low Pressure Blanking Flange

Flat Face with Threaded Holes

SAE J518 Code 61 (ISO 6162-1)







Note:

6” and 8” Blanking Flanges are Round

BFF14, BFF16, BFF18 – Blanking Flange Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)					Thread	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1-1/2"	BFF14-150-*-^	1.41	2.75	3.25	3.66	0.79	1/2" – 13 UNC	4000 (280)	2.1 (0.9)
2"	BFF14-200-*-^	1.69	3.06	3.81	4.02	0.79	1/2" – 13 UNC	4000 (280)	2.7 (1.2)
2-1/2"	BFF14-250-*-^	2.00	3.50	4.28	4.49	0.79	1/2" – 13 UNC	3000 (210)	3.5 (1.6)
3"	BFF14-300-*-^	2.44	4.19	5.16	5.28	1.00	5/8” – 11 UNC	3000 (210)	6.2 (2.8)
4”	BFF14-400-*-^	3.06	5.13	6.00	6.38	1.18	5/8” – 11 UNC	1000 (70)	10.4 (4.7)
5”	BFF14-500-*-^	3.63	6.00	7.09	7.24	1.57	5/8” – 11 UNC	1000 (70)	19.0 (8.6)
6”	BFF16-600-*-^	8.19	-	9.29	-	1.57	5/8” – 11 UNC	725 (50)	25.9 (11.7)
8”	BFF18-800-*-^	10.83	-	12.48	-	1.57	3/4” – 10 UNC	725 (50)	52.2 (23.7)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: BFF14-200-SS-V
* Insert Material
^ Insert O-Ring Type

BFFM14, BFFM16, BFFM18 – Blanking Flange Flat Face, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Thread	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1-1/2"	BFFM14-150-*-^	35.8	69.9	82.6	93.0	20	M12 x 1.75	4000 (280)	2.1 (0.9)
2"	BFFM14-200-*-^	42.9	77.7	96.8	102.1	20	M12 x 1.75	4000 (280)	2.7 (1.2)
2-1/2"	BFFM14-250-*-^	50.8	88.9	108.7	114.0	20	M12 x 1.75	3000 (210)	3.5 (1.6)
3"	BFFM14-300-*-^	62.0	106.4	131.1	134.1	25	M16 x 2.00	3000 (210)	6.2 (2.8)
4”	BFFM14-400-*-^	77.7	130.3	152.4	162.1	30	M16 x 2.00	1000 (70)	10.4 (4.7)
5”	BFFM14-500-*-^	92.2	152.4	180.0	184.0	40	M16 x 2.00	1000 (70)	19.0 (8.6)
6”	BFFM16-600-*-^	208.0	-	236.0	-	40	M16 x 2.00	725 (50)	25.9 (11.7)
8”	BFFM18-800-*-^	275.0	-	317.0	-	40	M20 x 2.50	725 (50)	52.2 (23.7)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

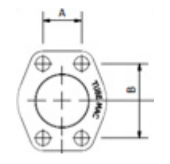
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: BFFM14-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

Notes

SAE 3000 PSI, 210 bar Reference Guide



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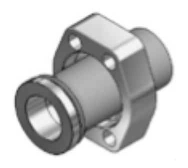

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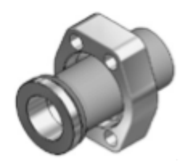

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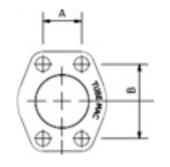

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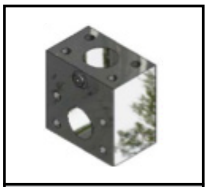

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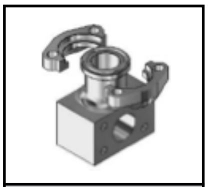

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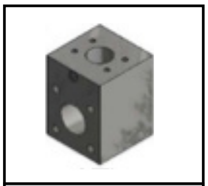

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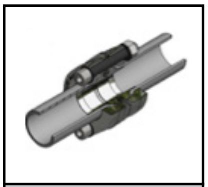

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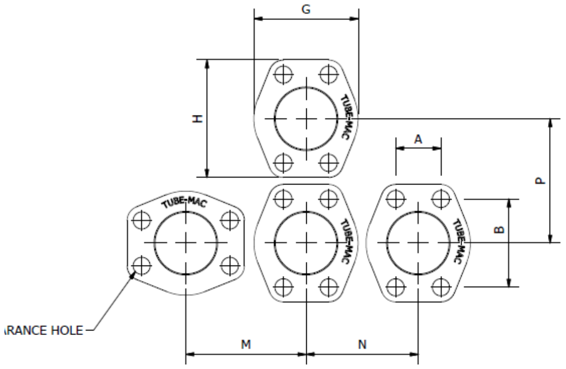
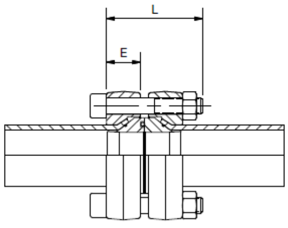
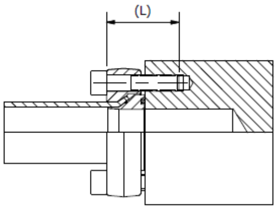
SAE 3000 PSI Flare Flange Dimensions

SAE J518 Code 61 (ISO 6162-1)





FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Flare Flange Dimensions, NPS

Size	Dimensions (in)								SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	0.69	1.50	1.81	2.22	2.05	1.93	2.32	0.81	5/16"-18 UNC x 2.25 (1.50)	5000 (350)
3/4"	0.88	1.88	2.06	2.56	2.40	2.17	2.68	0.82	3/8"-16 UNC x 2.50 (1.50)	5000 (350)
1"	1.03	2.06	2.31	2.76	2.64	2.44	2.87	0.87	3/8"-16 UNC x 2.50 (1.50)	5000 (350)
1-1/4"	1.19	2.31	2.88	3.11	3.11	2.99	3.23	0.91	7/16"-14 UNC x 2.50 (1.75)	4000 (280)
1-1/2"	1.41	2.75	3.25	3.66	3.58	3.35	3.78	1.06	1/2"-13 UNC x 3.00 (2.00)	4000 (280)
2"	1.69	3.06	3.81	4.02	4.02	3.94	4.13	1.22	1/2"-13 UNC x 3.50 (2.00)	4000 (280)
2-1/2"	2.00	3.50	4.28	4.49	4.49	4.37	4.61	1.40	1/2"-13 UNC x 4.00 (2.50)	3000 (210)
3"	2.44	4.19	5.16	5.28	5.35	5.24	5.39	1.67	5/8"-11 UNC x4.50 (2.75)	3000 (210)

*** SHCS Bolt Specification**
Carbon Steel: ASTM A574
316 Stainless Steel: ASTM A193 - B8M Class.1

Flare Flange Dimensions, Metric

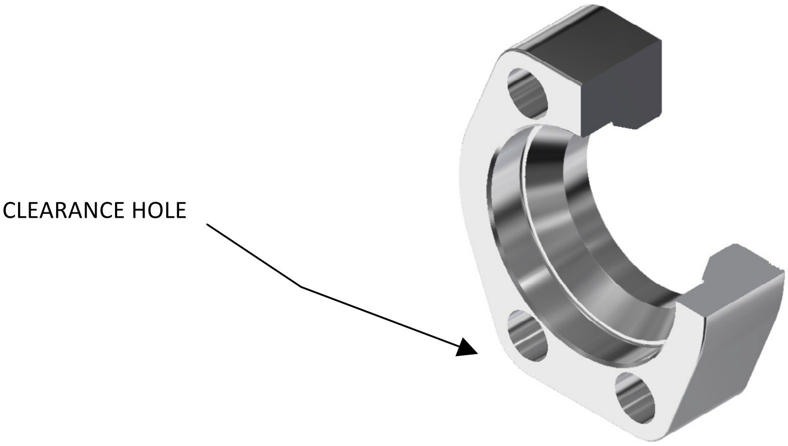
Size	Dimensions (mm)								SHCS Bolt (mm)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	17.5	38.1	46.0	56.9	52.1	49.0	58.9	20.6	M8 x 60 (40)	5000 (350)
3/4"	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10 x 65 (40)	5000 (350)
1"	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10 x 65(40)	5000 (350)
1-1/4"	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.1	M10 x 65 (45)	4000 (280)
1-1/2"	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12 x 75 (50)	4000 (280)
2"	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12 x 90 (50)	4000 (280)
2-1/2"	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12 x 100 (65)	3000 (210)
3"	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16 x 120 (70)	3000 (210)

*** SHCS Bolt Specification**
Carbon Steel: DIN 912/ISO 4762
- Minimum Grade 8.8

316 Stainless Steel: A4-70, DIN 912/ISO 4762
- For M16 SS Bolts A4-80, DIN 912/ISO 4762

SAE 3000 PSI Flare Flange with Clearance Holes, NPS

SAE J518 Code 61 (ISO 6162-1)



FFC34 - Flare Flange with Clearance Holes, NPS

Size	Pipe O.D. (in)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	0.840	FFC34-050-*	5000 (350)	0.44 (0.20)
3/4"	1.050	FFC34-075-*	5000 (350)	0.63 (0.29)
1"	1.315	FFC34-100-*	5000 (350)	0.72 (0.33)
1-1/4"	1.660	FFC34-125-*	4000 (280)	1.05 (0.48)
1-1/2"	1.900	FFC34-150-*	4000 (280)	1.59 (0.72)
2"	2.375	FFC34-200-*	4000 (280)	2.31 (1.05)
2-1/2"	2.875	FFC34-250-*	3000 (210)	3.02 (1.37)
3"	3.500	FFC34-300-*	3000 (210)	4.96 (2.25)

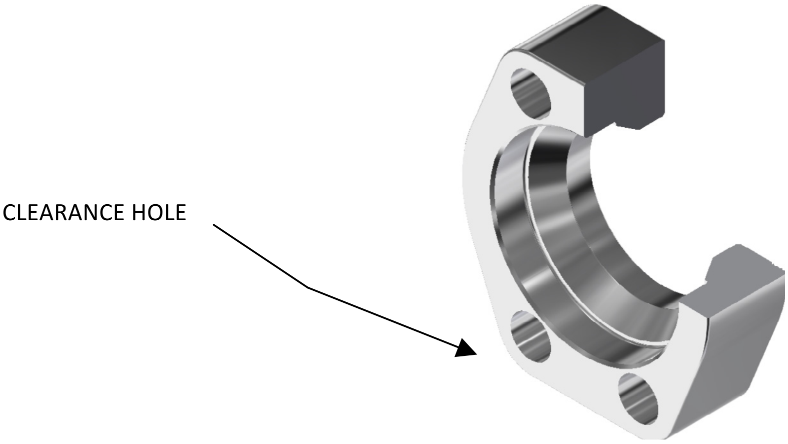
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: FFC34-200-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Flare Flange with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)



FFCM34 – Flare Flange with Clearance Holes, Metric

Size	Pipe O.D. (mm)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	16	FFCM34-050-16MM-*	5000 (350)	0.50 (0.23)
1/2"	18	FFCM34-050-18MM-*	5000 (350)	0.48 (0.22)
1/2"	20	FFCM34-050-20MM-*	5000 (350)	0.45 (0.20)
1/2"	25	FFCM34-050-25MM-*	5000 (350)	0.43 (0.20)
3/4"	20	FFCM34-075-20MM-*	5000 (350)	0.66 (0.30)
3/4"	25	FFCM34-075-25MM-*	5000 (350)	0.64 (0.29)
3/4"	30	FFCM34-075-30MM-*	5000 (350)	0.59 (0.27)
1"	25	FFCM34-100-25MM-*	5000 (350)	0.81 (0.37)
1"	30	FFCM34-100-30MM-*	5000 (350)	0.74 (0.34)
1"	38	FFCM34-100-38MM-*	5000 (350)	0.67 (0.30)
1-1/4"	30	FFCM34-125-30MM-*	4000 (280)	1.23 (0.56)
1-1/4"	38	FFCM34-125-38MM-*	4000 (280)	1.13 (0.51)
1-1/4"	42	FFC34-125-*	4000 (280)	1.07 (0.49)
1-1/2"	30	FFCM34-150-30MM-*	4000 (280)	2.06 (0.93)
1-1/2"	38	FFCM34-150-38MM-*	4000 (280)	1.90 (0.86)
1-1/2"	42	FFCR34-150x125-*	4000 (280)	1.94 (0.88)
1-1/2"	50	FFCM34-150-50MM-*	4000 (280)	1.55 (0.70)
2"	50	FFCM34-200-50MM-*	4000 (280)	2.61 (1.18)
2"	60	FFC34-200-*	4000 (280)	2.32 (1.05)
2-1/2"	60	FFCR34-250-200-*	3000 (210)	3.59 (1.63)
2-1/2"	73	FFC34-250-*	3000 (210)	3.03 (1.37)
2-1/2"	75	FFCM34-250-75MM-*	3000 (210)	2.97 (1.35)
3"	75	FFCM34-300-75MM-*	3000 (210)	5.95 (2.70)
3"	90	FFCM34-300-90MM-*	3000 (210)	4.91 (2.23)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

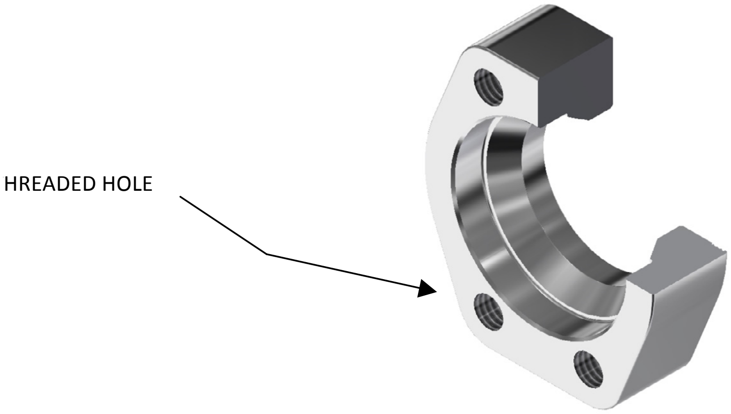
Ordering Example: FFCM34-200-50MM-SS

* Insert Material

3D step models available upon request

SAE 3000 PSI Flare Flange with Threaded Holes, NPS

SAE J518 Code 61 (ISO 6162-1)



FFT34 - Flare Flange with Threaded Holes, NPS

Size	Pipe O.D. (in)	Standard Part Number	Working Pressure PSI (bar)	Weight lbs (kg)
1/2"	0.840	FFT34-050-*	5000 (350)	0.49 (0.22)
3/4"	1.050	FFT34-075-*	5000 (350)	0.70 (0.32)
1"	1.315	FFT34-100-*	5000 (350)	0.79 (0.36)
1-1/4"	1.660	FFT34-125-*	4000 (280)	1.12 (0.51)
1-1/2"	1.900	FFT34-150-*	4000 (280)	1.70 (0.77)
2"	2.375	FFT34-200-*	4000 (280)	2.42 (1.10)
2-1/2"	2.875	FFT34-250-*	3000 (210)	3.16 (1.43)
3"	3.500	FFT34-300-*	3000 (210)	5.21 (2.36)

*** Materials:**

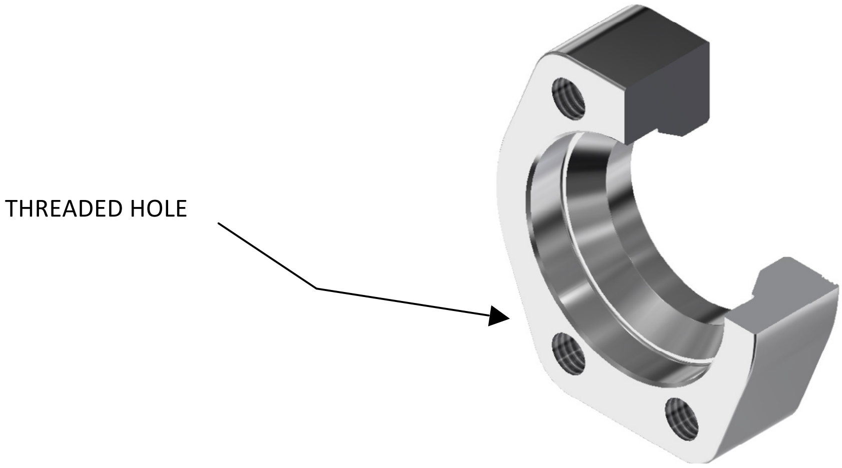
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: FFT34-200-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Flare Flange with Threaded Holes, Metric

SAE J518 Code 61 (ISO 6162-1)



FFTM34 - Flare Flange with Threaded Holes, Metric

Size	Pipe O.D. (mm)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	16	FFTM34-050-16MM-*	5000 (350)	0.54 (0.24)
1/2"	18	FFTM34-050-18MM-*	5000 (350)	0.52 (0.24)
1/2"	20	FFTM34-050-20MM-*	5000 (350)	0.49 (0.22)
1/2"	25	FFTM34-050-25MM-*	5000 (350)	0.47 (0.21)
3/4"	20	FFTM34-075-20MM-*	5000 (350)	0.72 (0.33)
3/4"	25	FFTM34-075-25MM-*	5000 (350)	0.70 (0.32)
3/4"	30	FFTM34-075-30MM-*	5000 (350)	0.64 (0.29)
1"	25	FFTM34-100-25MM-*	5000 (350)	0.87 (0.39)
1"	30	FFTM34-100-30MM-*	5000 (350)	0.81 (0.37)
1"	38	FFTM34-100-38MM-*	5000 (350)	0.73 (0.33)
1-1/4"	30	FFTM34-125-30MM-*	4000 (280)	1.29 (0.59)
1-1/4"	38	FFTM34-125-38MM-*	4000 (280)	1.20 (0.54)
1-1/4"	42	FFTM34-125-42MM-*	4000 (280)	1.15 (0.52)
1-1/2"	30	FFTM34-150-30MM-*	4000 (280)	2.18 (0.99)
1-1/2"	38	FFTM34-150-38MM-*	4000 (280)	2.01 (0.91)
1-1/2"	42	FFTM34-150-42MM-*	4000 (280)	1.82 (0.83)
1-1/2"	50	FFTM34-150-50MM-*	4000 (280)	1.67 (0.76)
2"	50	FFTM34-200-50MM-*	4000 (280)	2.68 (1.22)
2"	60	FFTM34-200-60MM-*	4000 (280)	2.45 (1.11)
2-1/2"	60	FFTM34-250-60MM-*	3000 (210)	3.75 (1.70)
2-1/2"	73	FFTM34-250-73MM-*	3000 (210)	3.18 (1.44)
2-1/2"	75	FFTM34-250-75MM-*	3000 (210)	3.18 (1.44)
3"	75	FFTM34-300-75MM-*	3000 (210)	6.17 (2.80)
3"	90	FFTM34-300-90MM-*	3000 (210)	5.13 (2.33)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

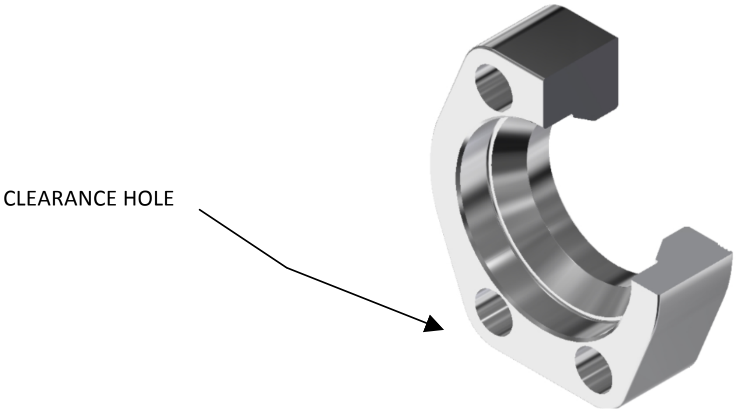
Ordering Example: FFTM34-200-50MM-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Flare Flange - Reducing

with Clearance Holes, NPS

SAE J518 Code 61 (ISO 6162-1)



Note:
Reducing Flanges
for NPS Pipe Only

FFCR34 - Flare Flange - Reducing with Clearance Holes, NPS

Size (flange x pipe)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
3/4" x 1/2"	FFCR34-075 x 050	5000 (350)	0.63 (0.28)
1" x 3/4"	FFCR34-100 x 075	5000 (350)	0.73 (0.33)
1-1/4" x 1"	FFCR34-125 x 100	5000 (350)	1.10 (0.50)
1-1/2" x 1-1/4"	FFCR34-150 x 125	4000 (280)	1.53 (0.69)
2" x 1-1/2"	FFCR34-200 x 150	4000 (280)	2.22 (1.01)
2-1/2" x 2"	FFCR34-250 x 200	4000 (280)	3.60 (1.60)
3" x 2-1/2"	FFCR34-300 x 250	3000 (210)	5.90 (2.68)

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

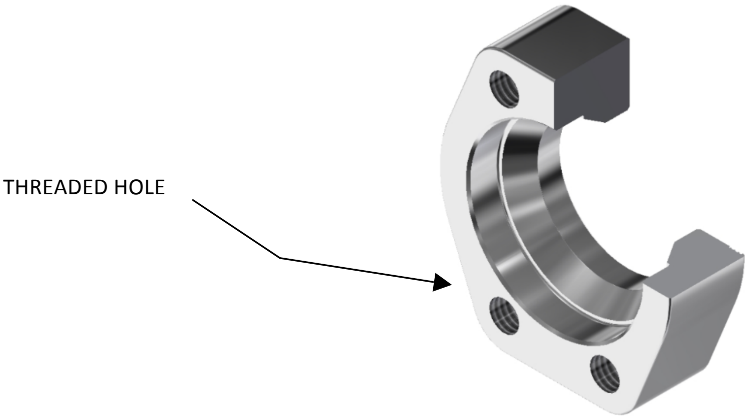
Ordering Example: FFCR34-075 x 050-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Flare Flange - Reducing

with Threaded Holes, NPS

SAE J518 Code 61 (ISO 6162-1)



Note:
Reducing Flanges
for NPS Pipe Only

FFTR34 - Flare Flange - Reducing with Threaded Holes, NPS

Size (flange x pipe)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
3/4" x 1/2"	FFTR34-075 x 050	5000 (350)	0.63 (0.28)
1” x 3/4"	FFTR34-100 x 075	5000 (350)	0.73 (0.33)
1-1/4” x 1”	FFTR34-125 x 100	5000 (350)	1.10 (0.50)
1-1/2” x 1-1/4”	FFTR34-150 x 125	4000 (280)	1.53 (0.69)
2” x 1-1/2”	FFTR34-200 x 150	4000 (280)	2.22 (1.01)
2-1/2” x 2”	FFTR34-250 x 200	4000 (280)	3.60 (1.60)
3” x 2-1/2”	FFTR34-300 x 250	3000 (210)	5.90 (2.68)

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

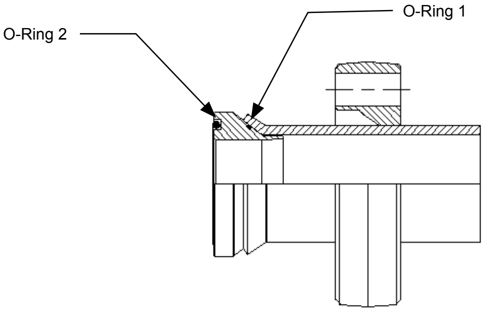
Ordering Example: FFTR34-075 x 050-SS
* Insert Material

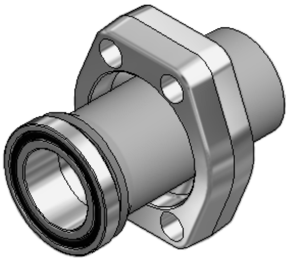
3D step models available upon request

SAE 3000 PSI Flare Flange Set

O-Ring Face with Clearance Holes, NPS

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G1)

FFC34 - CO Flare Flange Set - O-Ring Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	1/2" SCH40	FFC34-CO-SCH40-050-*-^	0.60 (0.27)	FFC34-050-*	CO-SCH40-050-*-^	ORV-1915	OR^-2-210
1/2"	1/2" SCH80	FFC34-CO-SCH80-050-*-^	0.59 (0.27)	FFC34-050-*	CO-SCH80-050-*-^	ORV-1715	OR^-2-210
3/4"	3/4" SCH40	FFC34-CO-SCH40-075-*-^	0.72 (0.33)	FFC34-075-*	CO-SCH40-075-*-^	ORV-2515	OR^-2-214
3/4"	3/4" SCH80	FFC34-CO-SCH80-075-*-^	0.72 (0.33)	FFC34-075-*	CO-SCH80-075-*-^	ORV-2315	OR^-2-214
1"	1" SCH40	FFC34-CO-SCH40-100-*-^	0.94 (0.43)	FFC34-100-*	CO-SCH40-100-*-^	ORV-3015	OR^-2-219
1"	1" SCH80	FFC34-CO-SCH80-100-*-^	0.94 (0.43)	FFC34-100-*	CO-SCH80-100-*-^	ORV-2815	OR^-2-219
1-1/4"	1-1/4" SCH40	FFC34-CO-SCH40-125-*-^	1.26 (0.57)	FFC34-125-*	CO-SCH40-125-*-^	ORV-3815	OR^-2-222
1-1/4"	1-1/4" SCH80	FFC34-CO-SCH80-125-*-^	1.26 (0.57)	FFC34-125-*	CO-SCH80-125-*-^	ORV-3815	OR^-2-222
1-1/2"	1-1/2" SCH40	FFC34-CO-SCH40-150-*-^	1.93 (0.88)	FFC34-150-*	CO-SCH40-150-*-^	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	FFC34-CO-SCH80-150-*-^	1.95 (0.88)	FFC34-150-*	CO-SCH80-150-*-^	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH160	FFC34-CO-SCH160-150-*-^	2.03 (0.92)	FFC34-150-*	CO-SCH160-150-*-^	ORV-3815	OR^-2-225
2"	2" SCH40	FFC34-CO-SCH40-200-*-^	2.67 (1.21)	FFC34-200-*	CO-SCH40-200-*-^	ORV-5615	OR^-2-228
2"	2" SCH80	FFC34-CO-SCH80-200-*-^	2.70 (1.22)	FFC34-200-*	CO-SCH80-200-*-^	ORV-5515	OR^-2-228
2"	2" SCH160	FFC34-CO-SCH160-200-*-^	2.90 (1.32)	FFC34-200-*	CO-SCH160-200-*-^	ORV-5015	OR^-2-228
2-1/2"	2-1/2" SCH40	FFC34-CO-SCH40-250-*-^	4.01 (1.82)	FFC34-250-*	CO-SCH40-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH80	FFC34-CO-SCH80-250-*-^	4.05 (1.84)	FFC34-250-*	CO-SCH80-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH160	FFC34-CO-SCH160-250-*-^	4.47 (2.03)	FFC34-250-*	CO-SCH160-250-*-^	ORV-5615	OR^-2-232
3"	3" SCH40	FFC34-CO-SCH40-300-*-^	6.33 (2.87)	FFC34-300-*	CO-SCH40-300-*-^	ORV-2-041	OR^-2-237
3"	3" SCH80	FFC34-CO-SCH80-300-*-^	6.40 (2.90)	FFC34-300-*	CO-SCH80-300-*-^	ORV-2-041	OR^-2-237

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

^ O-Ring 2 Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: FFC34-CO-SCH80-200-SS-V

* Insert Material

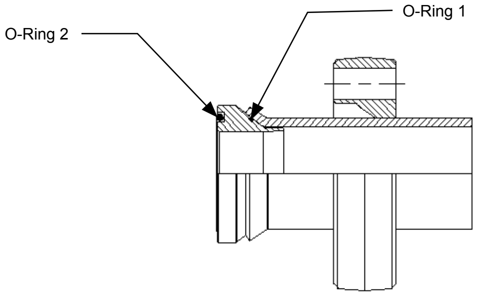
^ Insert O-Ring 2 Type

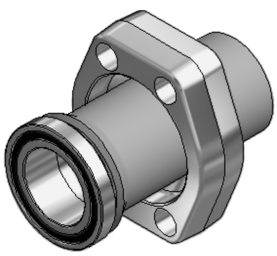
3D step models available upon request

SAE 3000 PSI Flare Flange Set

O-Ring Face with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G1)

FFCM34 - CO - Flare Flange Set O-Ring Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	20x2.0	FFCM34-CO-20x2.0-050-*-^	0.67 (0.30)	FFCM34-050-20MM-*	CO-20x2.0-050-*-^	ORV-1715	OR^-2-210
1/2"	20x3.0	FFCM34-CO-20x3.0-050-*-^	0.67 (0.30)	FFCM34-050-20MM-*	CO-20x3.0-050-*-^	ORV-1715	OR^-2-210
1/2"	25x2.5	FFCM34-CO-25x2.5-050-*-^	0.67 (0.30)	FFCM34-050-25MM-*	CO-25x2.5-050-*-^	ORV-2315	OR^-2-210
1/2"	25x3.0	FFCM34-CO-25x3.0-050-*-^	0.67 (0.30)	FFCM34-050-25MM-*	CO-25x3.0-050-*-^	ORV-2315	OR^-2-210
3/4”	20x2.0	FFCM34-CO-20x2.0-075-*-^	0.70 (0.32)	FFCM34-075-20MM-*	CO-20x2.0-075-*-^	ORV-1715	OR^-2-214
3/4”	20x2.5	FFCM34-CO-20x2.5-075-*-^	0.70 (0.32)	FFCM34-075-20MM-*	CO-20x2.5-075-*-^	ORV-1715	OR^-2-214
3/4"	20x3.0	FFCM34-CO-20x3.0-075-*-^	0.70 (0.32)	FFCM34-075-20MM-*	CO-20x3.0-075-*-^	ORV-1715	OR^-2-214
3/4”	25x2.5	FFCM34-CO-25x2.5-075-*-^	0.70 (0.32)	FFCM34-075-25MM-*	CO-25x2.5-075-*-^	ORV-2315	OR^-2-214
3/4”	25x3.0	FFCM34-CO-25x3.0-075-*-^	0.70 (0.32)	FFCM34-075-25MM-*	CO-25x3.0-075-*-^	ORV-2315	OR^-2-214
3/4”	25x4.0	FFCM34-CO-25x4.0-075-*-^	0.70 (0.32)	FFCM34-075-25MM-*	CO-25x4.0-075-*-^	ORV-2315	OR^-2-214
3/4”	30x3.0	FFCM34-CO-30x3.0-075-*-^	0.72 (0.33)	FFCM34-075-30MM-*	CO-30x3.0-075-*-^	ORV-2515	OR^-2-214
1”	25x2.5	FFCM34-CO-25x2.5-100-*-^	0.82 (0.37)	FFCM34-100-25MM-*	CO-25x2.5-100-*-^	ORV-2315	OR^-2-219
1”	25x3.0	FFCM34-CO-25x3.0-100-*-^	0.82 (0.37)	FFCM34-100-25MM-*	CO-25x3.0-100-*-^	ORV-2315	OR^-2-219
1”	25x4.0	FFCM34-CO-25x4.0-100-*-^	0.82 (0.37)	FFCM34-100-25MM-*	CO-25x4.0-100-*-^	ORV-2315	OR^-2-219
1”	30x3.0	FFCM34-CO-30x3.0-100-*-^	0.84 (0.38)	FFCM34-100-30MM-*	CO-30x3.0-100-*-^	ORV-2815	OR^-2-219
1”	30x4.0	FFCM34-CO-30x4.0-100-*-^	0.84 (0.38)	FFCM34-100-30MM-*	CO-30x4.0-100-*-^	ORV-2815	OR^-2-219
1”	30x5.0	FFCM34-CO-30x5.0-100-*-^	0.84 (0.38)	FFCM34-100-30MM-*	CO-30x5.0-100-*-^	ORV-2815	OR^-2-219
1”	38x3.0	FFCM34-CO-38x3.0-100-*-^	0.85 (0.38)	FFCM34-100-38MM-*	CO-38x3.0-100-*-^	ORV-3515	OR^-2-219
1”	38x4.0	FFCM34-CO-38x4.0-100-*-^	0.86 (0.39)	FFCM34-100-38MM-*	CO-38x4.0-100-*-^	ORV-3515	OR^-2-219
1”	38x5.0	FFCM34-CO-38x5.0-100-*-^	0.86 (0.39)	FFCM34-100-38MM-*	CO-38x6.0-100-*-^	ORV-3215	OR^-2-219
1-1/4"	30x3.0	FFCM34-CO-30x3.0-125-*-^	1.07 (0.49)	FFCM34-125-30MM-*	CO-30x3.0-125-*-^	ORV-2815	OR^-2-222
1-1/4"	30x4.0	FFCM34-CO-30x4.0-125-*-^	1.07 (0.49)	FFCM34-125-30MM-*	CO-30x4.0-125-*-^	ORV-2815	OR^-2-222
1-1/4"	30x5.0	FFCM34-CO-30x5.0-125-*-^	1.07 (0.49)	FFCM34-125-30MM-*	CO-30x5.0-125-*-^	ORV-2815	OR^-2-222
1-1/4"	38x4.0	FFCM34-CO-38x4.0-125-*-^	1.09 (0.50)	FFCM34-125-38MM-*	CO-38x4.0-125-*-^	ORV-3515	OR^-2-222
1-1/4"	38x5.0	FFCM34-CO-38x5.0-125-*-^	1.09 (0.50)	FFCM34-125-38MM-*	CO-38x5.0-125-*-^	ORV-3015	OR^-2-222
1-1/4"	42x3.0	FFCM34-CO-42x3.0-125-*-^	1.14 (0.52)	FFC34-125-*	CO-42x3.0-125-*-^	ORV-3815	OR^-2-222
1-1/4"	42x4.0	FFCM34-CO-42x4.0-125-*-^	1.14 (0.52)	FFC34-125-*	CO-42x4.0-125-*-^	ORV-3815	OR^-2-222

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

^ O-Ring 2 Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: FFC34-CO-SCH80-200-SS-V

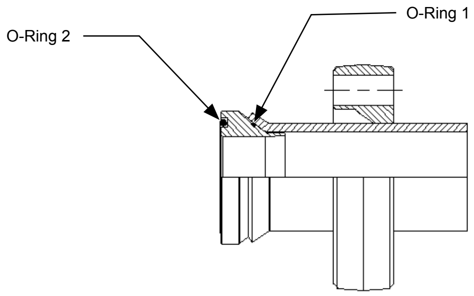
* Insert Material

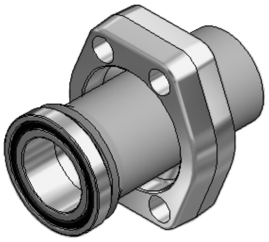
^ Insert O-Ring 2 Type

3D step models available upon request

SAE 3000 PSI Flare Flange Set
O-Ring Face with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page G1)

FFCM34-CO Flare Flange Set - O-Ring Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	30x3.0	FFCM34-CO-30x3.0-150-*-^	1.86 (0.85)	FFCM34-150-30MM-*	CO-30x3.0-150-*-^	ORV-2815	OR^-2-225
1-1/2"	38x4.0	FFCM34-CO-38x4.0-150-*-^	1.89 (0.86)	FFCM34-150-38MM-*	CO-38x4.0-150-*-^	ORV-3215	OR^-2-225
1-1/2"	38x6.0	FFCM34-CO-38x6.0-150-*-^	1.89 (0.86)	FFCM34-150-38MM-*	CO-38x6.0-150-*-^	ORV-3215	OR^-2-225
1-1/2"	42x3.0	FFCM34-CO-42x3.0-150-*-^	1.89 (0.86)	FFCM34-150-42MM-*	CO-42x3.0-150-*-^	ORV-3815	OR^-2-225
1-1/2"	42x4.0	FFCM34-CO-42x4.0-150-*-^	1.89 (0.86)	FFCM34-150-42MM-*	CO-42x4.0-150-*-^	ORV-3815	OR^-2-225
1-1/2"	50x3.0	FFCM34-CO-50x3.0-150-*-^	1.91 (0.87)	FFCM34-150-50MM-*	CO-50x3.0-150-*-^	ORV-4715	OR^-2-225
1-1/2"	50x5.0	FFCM34-CO-50x5.0-150-*-^	1.91 (0.87)	FFCM34-150-50MM-*	CO-50x5.0-150-*-^	ORV-4515	OR^-2-225
1-1/2”	50X6.0	FFCM34-CO-50X6.0-150-*-^	1.91 (0.87)	FFCM34-150-50MM-*	CO-50X6.0-150-*-^	ORV-4515	OR^-2-225
2”	50x3.0	FFCM34-CO-50x3.0-200-*-^	2.61 (1.19)	FFCM34-200-50MM-*	CO-50x3.0-200-*-^	ORV-4515	OR^-2-228
2”	50x5.0	FFCM34-CO-50x5.0-200-*-^	2.61 (1.19)	FFCM34-200-50MM-*	CO-50x5.0-200-*-^	ORV-4515	OR^-2-228
2”	50x6.0	FFCM34-CO-50x6.0-200-*-^	2.61 (1.19)	FFCM34-200-50MM-*	CO-50x6.0-200-*-^	ORV-4515	OR^-2-228
2”	60x3.0	FFCM34-CO-60x3.0-200-*-^	2.63 (1.20)	FFC34-200-*	CO-60x3.0-200-*-^	ORV-5715	OR^-2-228
2”	60x5.0	FFCM34-CO-60x5.0-200-*-^	2.63 (1.20)	FFCM4-200-*	CO-60x5.0-200-*-^	ORV-5615	OR^-2-228
2”	60x6.0	FFCM34-CO-60x6.0-200-*-^	2.63 (1.20)	FFCM3-200-*	CO-60x6.0-200-*-^	ORV-5615	OR^-2-228
2-1/2"	60x5.0	FFCM34-CO-60x5.0-250-*-^	4.03 (1.83)	FFCM34-250-60MM-*	CO-60x5.0-250-*-^	ORV-5615	OR^-2-232
2-1/2"	60x6.0	FFCM34-CO-60x6.0-250-*-^	4.03 (1.83)	FFCM34-250-60MM-*	CO-60x6.0-250-*-^	ORV-5615	OR^-2-232
2-1/2"	73x7.0	FFC34-CO-SCH80-250-*-^	4.07 (1.85)	FFC34-250-*	CO-SCH80-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	75x3.0	FFCM34-CO-75x3.0-250-*-^	4.07 (1.85)	FFCM34-250-75MM-*	CO-75x3.0-250-*-^	ORV-6915	OR^-2-232
2-1/2"	75x5.0	FFCM34-CO-75x5.0-250-*-^	4.07 (1.85)	FFCM34-250-75MM-*	CO-75x5.0-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	75x7.0	FFCM34-CO-75x7.0-250-*-^	4.07 (1.85)	FFCM34-250-75MM-*	CO-75x7.0-250-*-^	ORV-6715	OR^-2-232
3”	75x5.0	FFCM34-CO-75x5.0-300-*-^	5.83 (2.65)	FFCM34-300-75MM-*	CO-75x5.0-300-*-^	ORV-2-237	OR^-2-237
3”	90x3.5	FFCM34-CO-90x3.5-300-*-^	5.92 (2.69)	FFCM34-300-90MM-*	CO-90x3.5-300-*-^	ORV-8515	OR^-2-237
3”	90x5.0	FFCM34-CO-90x5.0-300-*-^	5.92 (2.69)	FFCM34-300-90MM-*	CO-90x5.0-300-*-^	ORV-2-040	OR^-2-237

Ordering Example: FFCM34-CO-50x3.0-200-SS-V

* Insert Material

^ Insert O-Ring 2 Type

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

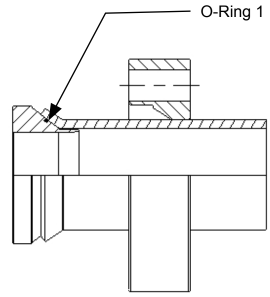
^ O-Ring 2 Type:

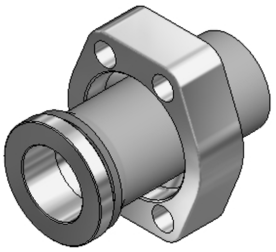
Standard, No Designation = Buna Nitrile.
V = Viton.

SAE 3000 PSI Flare Flange Set

Flat Face with Clearance Holes, NPS

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page G1)

FFC34-CF - Flare Flange Set Flat Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	1/2” SCH40	FFC34-CF-SCH40-050-*	0.67 (0.30)	FFC34-050-*	CF-SCH40-050-*	ORV-1915
1/2"	1/2” SCH80	FFC34-CF-SCH80-050-*	0.66 (0.30)	FFC34-050-*	CF-SCH80-050-*	ORV-1715
3/4"	3/4” SCH40	FFC34-CF-SCH40-075-*	0.73 (0.33)	FFC34-075-*	CF-SCH40-075-*	ORV-2515
3/4"	3/4” SCH80	FFC34-CF-SCH80-075-*	0.73 (0.33)	FFC34-075-*	CF-SCH80-075-*	ORV-2315
1”	1” SCH40	FFC34-CF-SCH40-100-*	0.87 (0.39)	FFC34-100-*	CF-SCH40-100-*	ORV-3015
1”	1” SCH80	FFC34-CF-SCH80-100-*	0.87 (0.39)	FFC34-100-*	CF-SCH80-100-*	ORV-2815
1-1/4"	1-1/4” SCH40	FFC34-CF-SCH40-125-*	1.12 (0.51)	FFC34-125-*	CF-SCH40-125-*	ORV-3815
1-1/4"	1-1/4” SCH80	FFC34-CF-SCH80-125-*	1.12 (0.51)	FFC34-125-*	CF-SCH80-125-*	ORV-3815
1-1/2"	1-1/2" SCH40	FFC34-CF-SCH40-150-*	1.94 (0.88)	FFC34-150-*	CF-SCH40-150-*	ORV-4315
1-1/2"	1-1/2" SCH80	FFC34-CF-SCH80-150-*	1.95 (0.88)	FFC34-150-*	CF-SCH80-150-*	ORV-4315
1-1/2"	1-1/2" SCH160	FFC34-CF-SCH160-150-*	1.94 (0.88)	FFC34-150-*	CF-SCH160-150-*	ORV-3815
2"	2” SCH40	FFC34-CF-SCH40-200-*	2.69 (1.22)	FFC34-200-*	CF-SCH40-200-*	ORV-5615
2"	2” SCH80	FFC34-CF-SCH80-200-*	2.70 (1.22)	FFC34-200-*	CF-SCH80-200-*	ORV-5515
2"	2” SCH160	FFC34-CF-SCH160-200-*	2.88 (1.31)	FFC34-200-*	CF-SCH160-200-*	ORV-5015
2-1/2"	2-1/2" SCH40	FFC34-CF-SCH40-250-*	4.09 (1.86)	FFC34-250-*	CF-SCH40-250-*	ORV-2-036
2-1/2"	2-1/2" SCH80	FFC34-CF-SCH80-250-*	4.14 (1.88)	FFC34-250-*	CF-SCH80-250-*	ORV-2-036
2-1/2"	2-1/2" SCH160	FFC34-CF-SCH160-250-*	4.58 (2.08)	FFC34-250-*	CF-SCH160-250-*	ORV-5615
3"	3" SCH40	FFC34-CF-SCH40-300-*	5.99 (2.72)	FFC34-300-*	CF-SCH40-300-*	ORV-2-041
3"	3" SCH80	FFC34-CF-SCH80-300-*	5.88 (2.67)	FFC34-300-*	CF-SCH80-300-*	ORV-2-041

Ordering Example: FFC34-CF-SCH80-200-SS
* Insert Material

<u>* Materials:</u>

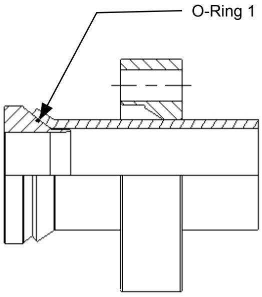
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

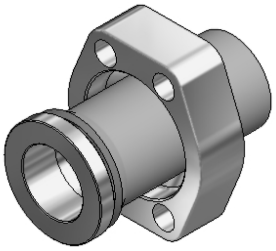
3D step models available upon request

SAE 3000 PSI Flare Flange Set

Flat Face with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G1)

FFCM34-CF - Flare Flange Set - Flat Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	20x2.0	FFCM34-CF-20x2.0-050-*	0.67 (0.30)	FFCM34-050-20MM-*	CF-20x2.0-050-*	ORV-1715
1/2"	20x3.0	FFCM34-CF-20x3.0-050-*	0.67 (0.30)	FFCM34-050-20MM-*	CF-20x3.0-050-*	ORV-1715
1/2"	25x2.5	FFCM34-CF-25x2.5-050-*	0.67 (0.30)	FFCM34-050-25MM-*	CF-25x2.5-050-*	ORV-2315
1/2"	25x3.0	FFCM34-CF-25x3.0-050-*	0.67 (0.30)	FFCM34-050-25MM-*	CF-25x3.0-050-*	ORV-2315
3/4”	20x2.0	FFCM34-CF-20x2.0-075-*	0.70 (0.32)	FFCM34-075-20MM-*	CF-20x2.0-075-*	ORV-1715
3/4”	20x2.5	FFCM34-CF-20x2.5-075-*	0.70 (0.32)	FFCM34-075-20MM-*	CF-20x2.5-075-*	ORV-1715
3/4"	20x3.0	FFCM34-CF-20x3.0-075-*	0.70 (0.32)	FFCM34-075-20MM-*	CF-20x3.0-075-*	ORV-1715
3/4”	25x2.5	FFCM34-CF-25x2.5-075-*	0.70 (0.32)	FFCM34-075-25MM-*	CF-25x2.5-075-*	ORV-2315
3/4”	25x3.0	FFCM34-CF-25x3.0-075-*	0.70 (0.32)	FFCM34-075-25MM-*	CF-25x3.0-075-*	ORV-2315
3/4”	25x4.0	FFCM34-CF-25x4.0-075-*	0.70 (0.32)	FFCM34-075-25MM-*	CF-25x4.0-075-*	ORV-2315
3/4”	30x3.0	FFCM34-CF-30x3.0-075-*	0.73 (0.33)	FFCM34-075-30MM-*	CF-30x3.0-075-*	ORV-2515
1”	25x2.5	FFCM34-CF-25x2.5-100-*	0.83 (0.37)	FFCM34-100-25MM-*	CF-25x2.5-100-*	ORV-2315
1”	25x3.0	FFCM34-CF-25x3.0-100-*	0.83 (0.37)	FFCM34-100-25MM-*	CF-25x3.0-100-*	ORV-2315
1”	25x4.0	FFCM34-CF-25x4.0-100-*	0.83 (0.37)	FFCM34-100-25MM-*	CF-25x4.0-100-*	ORV-2315
1”	30x3.0	FFCM34-CF-30x3.0-100-*	0.85 (0.38)	FFCM34-100-30MM-*	CF-30x3.0-100-*	ORV-2815
1”	30x4.0	FFCM34-CF-30x4.0-100-*	0.85 (0.38)	FFCM34-100-30MM-*	CF-30x4.0-100-*	ORV-2815
1”	30x5.0	FFCM34-CF-30x5.0-100-*	0.85 (0.38)	FFCM34-100-30MM-*	CF-30x5.0-100-*	ORV-2815
1”	38X3.0	FFCM34-CF-38X3.0-100-*	0.86 (0.38)	FFCM34-100-38MM-*	CF-38X3.0-100-*	ORV-4515
1”	38x4.0	FFCM34-CF-38x4.0-100-*	0.87 (0.39)	FFCM34-100-38MM-*	CF-38x4.0-100-*	ORV-3515
1”	38x6.0	FFCM34-CF-38x6.0-100-*	0.87 (0.39)	FFCM34-100-38MM-*	CF-38x6.0-100-*	ORV-3215
1-1/4"	30x3.0	FFCM34-CF-30x3.0-125-*	1.08 (0.49)	FFCM34-125-30MM-*	CF-30x3.0-125-*	ORV-2815
1-1/4"	30x4.0	FFCM34-CF-30x4.0-125-*	1.08 (0.49)	FFCM34-125-30MM-*	CF-30x4.0-125-*	ORV-2815
1-1/4"	30x5.0	FFCM34-CF-30x5.0-125-*	1.08 (0.49)	FFCM34-125-30MM-*	CF-30x5.0-125-*	ORV-2815
1-1/4"	38x4.0	FFCM34-CF-38x4.0-125-*	1.10 (0.50)	FFCM34-125-38MM-*	CF-38x4.0-125-*	ORV-3515
1-1/4"	38x5.0	FFCM34-CF-38x5.0-125-*	1.10 (0.50)	FFCM34-125-38MM-*	CF-38x5.0-125-*	ORV-3215
1-1/4"	38x6.0	FFCM34-CF-38x6.0-125-*	1.10 (0.50)	FFCM34-125-38MM-*	CF-38x6.0-125-*	ORV-3215
1-1/4"	42x3.0	FFCM34-CF-42x3.0-125-*	1.15 (0.53)	FFC34-125-*	CF-42x3.0-125-*	ORV-3815
1-1/4"	42x4.0	FFCM34-CF-42x4.0-125-*	1.15 (0.53)	FFC34-125-*	CF-42x4.0-125-*	ORV-3815

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

Ordering Example: FFCM34-CF-50x3.0-200-SS

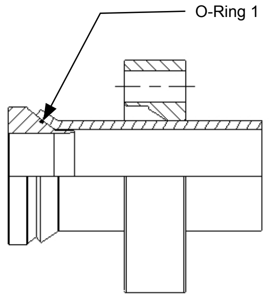
* Insert Material

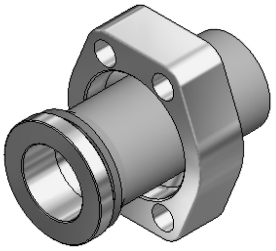
3D step models available upon request

SAE 3000 PSI Flare Flange Set

Flat Face with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G1)

FFCM34-CF - Flare Flange Set - Flat Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	30x3.0	FFCM34-CF-30x3.0-150-*	1.87 (0.85)	FFCM34-150-30MM-*	CF-30x3.0-150-*	ORV-2815
1-1/2"	38x4.0	FFCM34-CF-38x4.0-150-*	1.91 (0.87)	FFCM34-150-38MM-*	CF-38x4.0-150-*	ORV-3215
1-1/2"	38x6.0	FFCM34-CF-38x6.0-150-*	1.91 (0.87)	FFCM34-150-38MM-*	CF-38x6.0-150-*	ORV-3215
1-1/2"	42x3.0	FFCM34-CF-42x3.0-150-*	1.91 (0.87)	FFCM34-150-42MM-*	CF-42x3.0-150-*	ORV-3815
1-1/2"	42x4.0	FFCM34-CF-42x4.0-150-*	1.91 (0.87)	FFCM34-150-42MM-*	CF-42x4.0-150-*	ORV-3815
1-1/2"	50x3.0	FFCM34-CF-50x3.0-150-*	1.93 (0.88)	FFCM34-150-50MM-*	CF-50x3.0-150-*	ORV-4715
1-1/2"	50x5.0	FFCM34-CF-50x5.0-150-*	1.93 (0.88)	FFCM34-150-50MM-*	CF-50x5.0-150-*	ORV-4515
2”	50x3.0	FFCM34-CF-50x3.0-200-*	2.63 (1.20)	FFCM34-200-50MM-*	CF-50x3.0-200-*	ORV-4515
2”	50x5.0	FFCM34-CF-50x5.0-200-*	2.63 (1.20)	FFCM34-200-50MM-*	CF-50x5.0-200-*	ORV-4515
2”	50x6.0	FFCM34-CF-50x6.0-200-*	2.63 (1.20)	FFCM34-200-50MM-*	CF-50x6.0-200-*	ORV-4515
2”	60x3.0	FFCM34-CF-60x3.0-200-*	2.65 (1.21)	FFC34-200-*	CF-60x3.0-200-*	ORV-5715
2”	60x5.0	FFCM34-CF-60x5.0-200-*	2.65 (1.21)	FFC34-200-*	CF-60x5.0-200-*	ORV-5615
2”	60x6.0	FFCM34-CF-60x6.0-200-*	2.65 (1.21)	FFC34-200-*	CF-60x6.0-200-*	ORV-5615
2-1/2"	60x5.0	FFCM34-CF-60x5.0-250-*	4.07 (1.85)	FFCM34-250-60MM-*	CF-60x5.0-250-*	ORV-5615
2-1/2"	60x6.0	FFCM34-CF-60x6.0-250-*	4.07 (1.85)	FFCM34-250-60MM-*	CF-60x6.0-250-*	ORV-5615
2-1/2"	73x7.0	FFC34-CF-SCH80-250-*-^	4.11 (1.87)	FFC34-250-*	CF-SCH80-250-*-^	ORV-2-036
2-1/2"	75x3.0	FFCM34-CF-75x3.0-250-*	4.11 (1.87)	FFCM34-250-75MM-*	CF-75x3.0-250-*	ORV-6915
2-1/2"	75x5.0	FFCM34-CF-75x5.0-250-*	4.11 (1.87)	FFCM34-250-75MM-*	CF-75x5.0-250-*	ORV-2-036
2-1/2"	75x7.0	FFCM34-CF-75x7.0-250-*	4.11 (1.87)	FFCM34-250-75MM-*	CF-75x7.0-250-*	ORV-6715
3”	75x5.0	FFCM34-CF-75x5.0-300-*	5.88 (2.67)	FFCM34-300-75MM-*	CF-75x5.0-300-*	ORV-2-237
3”	90x3.5	FFCM34-CF-90x3.5-300-*	5.97 (2.71)	FFCM34-300-90MM-*	CF-90x3.5-300-*	ORV-8515
3”	90x5.0	FFCM34-CF-90x5.0-300-*	5.97 (2.71)	FFCM34-300-90MM-*	CF-90x5.0-300-*	ORV-2-040

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

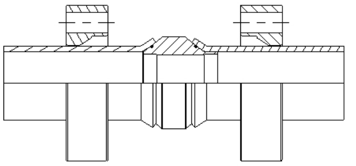
Ordering Example: FFCM34-CF-50x3.0-200-SS

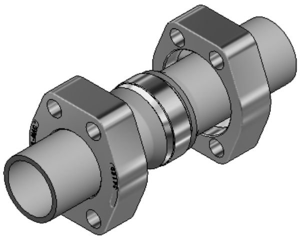
* Insert Material

3D step models available upon request

SAE 3000 PSI Flare Flange Double Cone Union Set
with Clearance Holes, NPS

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Rings (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page G1)

FFC34-CD - Flare Flange Double Cone Union Set with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	1/2” SCH40	FFC34-CD-SCH40-050-*	1.32 (0.59)	FFC34-050-*	CD-SCH40-050-*	ORV-1915
1/2"	1/2” SCH80	FFC34-CD-SCH80-050-*	1.30 (0.58)	FFC34-050-*	CD-SCH80-050-*	ORV-1715
3/4"	3/4” SCH40	FFC34-CD-SCH40-075-*	1.37 (0.61)	FFC34-075-*	CD-SCH40-075-*	ORV-2515
3/4"	3/4” SCH80	FFC34-CD-SCH80-075-*	1.37 (0.61)	FFC34-075-*	CD-SCH80-075-*	ORV-2315
1”	1” SCH40	FFC34-CD-SCH40-100-*	1.53 (0.69)	FFC34-100-*	CD-SCH40-100-*	ORV-3015
1”	1” SCH80	FFC34-CD-SCH80-100-*	1.54 (0.69)	FFC34-100-*	CD-SCH80-100-*	ORV-2815
1-1/4"	1-1/4” SCH40	FFC34-CD-SCH40-125-*	1.61 (0.72)	FFC34-125-*	CD-SCH40-125-*	ORV-3815
1-1/4"	1-1/4” SCH80	FFC34-CD-SCH80-125-*	1.66 (0.76)	FFC34-125-*	CD-SCH80-125-*	ORV-3815
1-1/2"	1-1/2" SCH40	FFC34-CD-SCH40-150-*	2.00 (0.91)	FFC34-150-*	CD-SCH40-150-*	ORV-4315
1-1/2"	1-1/2" SCH80	FFC34-CD-SCH80-150-*	2.02 (0.92)	FFC34-150-*	CD-SCH80-150-*	ORV-4315
1-1/2"	1-1/2" SCH160	FFC34-CD-SCH160-150-*	2.01 (0.91)	FFC34-150-*	CD-SCH160-150-*	ORV-3815
2"	2” SCH40	FFC34-CD-SCH40-200-*	2.12 (0.97)	FFC34-200-*	CD-SCH40-200-*	ORV-5615
2"	2” SCH80	FFC34-CD-SCH80-200-*	2.15 (0.98)	FFC34-200-*	CD-SCH80-200-*	ORV-5515
2"	2” SCH160	FFC34-CD-SCH160-200-*	2.49 (1.13)	FFC34-200-*	CD-SCH160-200-*	ORV-5015
2-1/2"	2-1/2" SCH40	FFC34-CD-SCH40-250-*	3.18 (1.44)	FFC34-250-*	CD-SCH40-250-*	ORV-2-036
2-1/2"	2-1/2" SCH80	FFC34-CD-SCH80-250-*	3.23 (1.46)	FFC34-250-*	CD-SCH80-250-*	ORV-2-036
2-1/2"	2-1/2" SCH160	FFC34-CD-SCH160-250-*	4.05 (1.84)	FFC34-250-*	CD-SCH160-250-*	ORV-5615
3"	3" SCH40	FFC34-CD-SCH40-300-*	3.86 (1.75)	FFC34-300-*	CD-SCH40-300-*	ORV-2-041
3"	3" SCH80	FFC34-CD-SCH80-300-*	3.65 (1.65)	FFC34-300-*	CD-SCH80-300-*	ORV-2-041

Ordering Example: FFCM34-CD-50x3.0-200-SS

* Insert Material

*** Materials:**

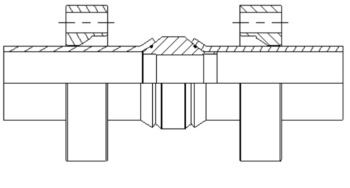
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

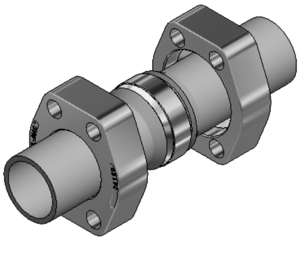
3D step models available upon request

SAE 3000 PSI Flare Flange Double Cone Union Set

with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Rings (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G1)

FFCM34-CD - Flare Flange Double Cone Union Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	20x2.0	FFCM34-CD-20x2.0-050-*	1.33 (0.60)	FFCM34-050-20MM-*	CD-20x2.0-050-*	ORV-1715
1/2"	20x3.0	FFCM34-CD-20x3.0-050-*	1.33 (0.60)	FFCM34-050-20MM-*	CD-20x3.0-050-*	ORV-1715
1/2"	25x2.5	FFCM34-CD-25x2.5-050-*	1.33 (0.60)	FFCM34-050-25MM-*	CD-25x2.5-050-*	ORV-2315
1/2"	25x3.0	FFCM34-CD-25x3.0-050-*	1.33 (0.60)	FFCM34-050-25MM-*	CD-25x3.0-050-*	ORV-2315
3/4”	20x2.0	FFCM34-CD-20x2.0-075-*	1.39 (0.64)	FFCM34-075-20MM-*	CD-20x2.0-075-*	ORV-1715
3/4”	20x2.5	FFCM34-CD-20x2.5-075-*	1.39 (0.64)	FFCM34-075-20MM-*	CD-20x2.5-075-*	ORV-1715
3/4"	20x3.0	FFCM34-CD-20x3.0-075-*	1.39 (0.64)	FFCM34-075-20MM-*	CD-20x3.0-075-*	ORV-1715
3/4”	25x2.5	FFCM34-CD-25x2.5-075-*	1.39 (0.64)	FFCM34-075-25MM-*	CD-25x2.5-075-*	ORV-2315
3/4”	25x3.0	FFCM34-CD-25x3.0-075-*	1.39 (0.64)	FFCM34-075-25MM-*	CD-25x3.0-075-*	ORV-2315
3/4”	25x4.0	FFCM34-CD-25x4.0-075-*	1.39 (0.64)	FFCM34-075-25MM-*	CD-25x4.0-075-*	ORV-2315
3/4”	30x3.0	FFCM34-CD-30x3.0-075-*	1.43 (0.65)	FFCM34-075-30MM-*	CD-30x3.0-075-*	ORV-2515
1”	25x2.5	FFCM34-CD-25x2.5-100-*	1.63 (0.74)	FFCM34-100-25MM-*	CD-25x2.5-100-*	ORV-2315
1”	25x3.0	FFCM34-CD-25x3.0-100-*	1.63 (0.74)	FFCM34-100-25MM-*	CD-25x3.0-100-*	ORV-2315
1”	25x4.0	FFCM34-CD-25x4.0-100-*	1.63 (0.74)	FFCM34-100-25MM-*	CD-25x4.0-100-*	ORV-2315
1”	30x3.0	FFCM34-CD-30x3.0-100-*	1.67 (0.76)	FFCM34-100-30MM-*	CD-30x3.0-100-*	ORV-2815
1”	30x4.0	FFCM34-CD-30x4.0-100-*	1.67 (0.76)	FFCM34-100-30MM-*	CD-30x4.0-100-*	ORV-2815
1”	30x5.0	FFCM34-CD-30x5.0-100-*	1.67 (0.76)	FFCM34-100-30MM-*	CD-30x5.0-100-*	ORV-2815
1”	38X3.0	FFCM34-CD-38X3.0-100-*	1.69 (0.77)	FFCM34-100-30MM-*	CD-38X3.0-100-*	ORV-4515
1”	38x4.0	FFCM34-CD-38x4.0-100-*	1.71 (0.77)	FFCM34-100-38MM-*	CD-38x4.0-100-*	ORV-3515
1”	38x5.0	FFCM34-CD-38x5.0-100-*	1.71 (0.77)	FFCM34-100-38MM-*	CD-38x5.0-100-*	ORV-3215
1-1/4"	30x3.0	FFCM34-CD-30x3.0-125-*	2.13 (0.97)	FFCM34-125-30MM-*	CD-30x3.0-125-*	ORV-2815
1-1/4"	30x4.0	FFCM34-CD-30x4.0-125-*	2.13 (0.97)	FFCM34-125-30MM-*	CD-30x4.0-125-*	ORV-2815
1-1/4"	30x5.0	FFCM34-CD-30x5.0-125-*	2.13 (0.97)	FFCM34-125-30MM-*	CD-30x5.0-125-*	ORV-2815
1-1/4"	38x4.0	FFCM34-CD-38x4.0-125-*	2.17 (0.99)	FFCM34-125-38MM-*	CD-38x4.0-125-*	ORV-3515
1-1/4"	38x5.0	FFCM34-CD-38x5.0-125-*	2.17 (0.99)	FFCM34-125-38MM-*	CD-38x5.0-125-*	ORV-3215
1-1/4"	38x5.0	FFCM34-CD-38x5.0-125-*	2.17 (0.99)	FFCM34-125-38MM-*	CD-38x5.0-125-*	ORV-3215
1-1/4"	42x3.0	FFCM34-CD-42x3.0-125-*	2.26 (1.03)	FFC34-125-*	CD-42x3.0-125-*	ORV-3815
1-1/4"	42x4.0	FFCM34-CD-42x4.0-125-*	2.26 (1.03)	FFC34-125-*	CD-42x4.0-125-*	ORV-3815

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

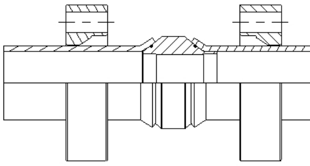
Ordering Example: FFCM34-CD-50x3.0-200-SS
* Insert Material

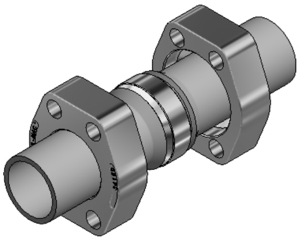
3D step models available upon request

SAE 3000 PSI Flare Flange Double Cone Union Set

with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Rings (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G1)

FFCM34-CD - Flare Flange Double Cone Union Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	30x3.0	FFCM34-CD-30x3.0-150-*	3.70 (1.69)	FFCM34-150-30MM-*	CD-30x3.0-150-*	ORV-2815
1-1/2"	38x4.0	FFCM34-CD-38x4.0-150-*	3.76 (1.71)	FFCM34-150-38MM-*	CD-38x4.0-150-*	ORV-3215
1-1/2"	38x5.0	FFCM34-CD-38x5.0-150-*	3.76 (1.71)	FFCM34-150-38MM-*	CD-38x5.0-150-*	ORV-3215
1-1/2"	42x3.0	FFCM34-CD-42x3.0-150-*	3.76 (1.71)	FFCM34-150-42MM-*	CD-42x3.0-150-*	ORV-3815
1-1/2"	42x4.0	FFCM34-CD-42x4.0-150-*	3.76 (1.71)	FFCM34-150-42MM-*	CD-42x4.0-150-*	ORV-3815
1-1/2"	50x3.0	FFCM34-CD-50x3.0-150-*	3.79 (1.73)	FFCM34-150-50MM-*	CD-50x3.0-150-*	ORV-4715
1-1/2"	50x5.0	FFCM34-CD-50x5.0-150-*	3.79 (1.73)	FFCM34-150-50MM-*	CD-50x5.0-150-*	ORV-4515
2”	50x3.0	FFCM34-CD-50x3.0-200-*	5.19 (2.37)	FFCM34-200-50MM-*	CD-50x3.0-200-*	ORV-4515
2”	50x5.0	FFCM34-CD-50x5.0-200-*	5.19 (2.37)	FFCM34-200-50MM-*	CD-50x5.0-200-*	ORV-4515
2”	50x6.0	FFCM34-CD-50x6.0-200-*	5.19 (2.37)	FFCM34-200-50MM-*	CD-50x6.0-200-*	ORV-4515
2”	60x3.0	FFCM34-CD-60x3.0-200-*	5.23 (2.38)	FFC34-200-*	CD-60x3.0-200-*	ORV-5715
2”	60x5.0	FFCM34-CD-60x5.0-200-*	5.23 (2.38)	FFC34-200-*	CD-60x5.0-200-*	ORV-5615
2”	60x6.0	FFCM34-CD-60x6.0-200-*	5.23 (2.38)	FFC34-200-*	CD-60x6.0-200-*	ORV-5615
2-1/2"	60x5.0	FFCM34-CD-60x5.0-250-*	8.00 (3.63)	FFCM34-250-60MM-*	CD-60x5.0-250-*	ORV-5615
2-1/2"	60x6.0	FFCM34-CD-60x6.0-250-*	8.00 (3.63)	FFCM34-250-60MM-*	CD-60x6.0-250-*	ORV-5615
2-1/2"	73x7.0	FFC34-CD-SCH80-250-*-^	8.08 (3.67)	FFC34-250-*	CD-SCH80-250-*-^	ORV-2-036
2-1/2"	75x3.0	FFCM34-CD-75x3.0-250-*	8.08 (3.67)	FFCM34-250-75MM-*	CD-75x3.0-250-*	ORV-6915
2-1/2"	75x5.0	FFCM34-CD-75x5.0-250-*	8.08 (3.67)	FFCM34-250-75MM-*	CD-75x5.0-250-*	ORV-2-036
2-1/2"	75x7.0	FFCM34-CD-75x7.0-250-*	8.08 (3.67)	FFCM34-250-75MM-*	CD-75x7.0-250-*	ORV-6715
3”	75x5.0	FFCM34-CD-75x5.0-300-*	11.58 (5.26)	FFCM34-300-75MM-*	CD-75x5.0-300-*	ORV-2-237
3”	90x3.5	FFCM34-CD-90x3.5-300-*	11.76 (5.34)	FFCM34-300-90MM-*	CD-90x3.5-300-*	ORV-8515
3”	90x5.0	FFCM34-CD-90x5.0-300-*	11.76 (5.34)	FFCM34-300-90MM-*	CD-90x5.0-300-*	ORV-2-040

Ordering Example: FFCM34-CD-50x3.0-200-SS

* Insert Material

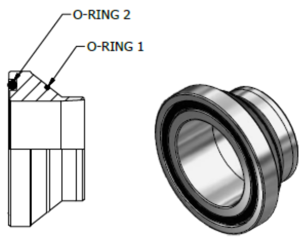
*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

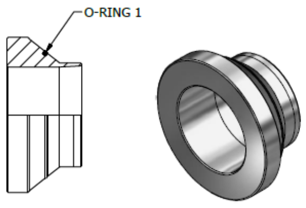
3D step models available upon request

SAE 3000 PSI Cone Inserts
for Flare Flange Connections, NPS

SAE J518 Code 61 (ISO 6162-1)



TYPE CO



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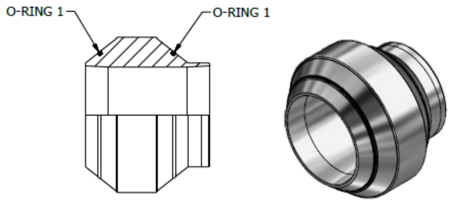


TYPE CD

CO, CF, CD - Cone Inserts for Flare Flange Connections, NPS

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT/Set lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	WT/Set lbs (kg)	Double Cone Insert Part Number (Type CD)	WT/Set lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	1/2" SCH40	CO-SCH40-050-*-^	0.10 (0.50)	CF-SCH40-050-*	0.11 (0.05)	CD-SCH40-050-*	0.20 (0.09)	ORV-1915	OR^-2-210
1/2"	1/2" SCH80	CO-SCH80-050-*-^	0.09 (0.04)	CF-SCH80-050-*	0.10 (0.05)	CD-SCH80-050-*	0.18 (0.08)	ORV-1715	OR^-2-210
3/4"	3/4" SCH40	CO-SCH40-075-*-^	0.12 (0.05)	CF-SCH40-075-*	0.14 (0.06)	CD-SCH40-075-*	0.25 (0.11)	ORV-2515	OR^-2-214
3/4"	3/4" SCH80	CO-SCH80-075-*-^	0.12 (0.05)	CF-SCH80-075-*	0.14 (0.06)	CD-SCH80-075-*	0.25 (0.11)	ORV-2315	OR^-2-214
1"	1" SCH40	CO-SCH40-100-*-^	0.20 (0.09)	CF-SCH40-100-*	0.23 (0.10)	CD-SCH40-100-*	0.41 (0.19)	ORV-3015	OR^-2-219
1"	1" SCH80	CO-SCH80-100-*-^	0.21 (0.10)	CF-SCH80-100-*	0.23 (0.10)	CD-SCH80-100-*	0.42 (0.19)	ORV-2815	OR^-2-219
1-1/4"	1-1/4" SCH40	CO-SCH40-125-*-^	0.25 (0.11)	CF-SCH40-125-*	0.27 (0.12)	CD-SCH40-125-*	0.49 (0.22)	ORV-3815	OR^-2-222
1-1/4"	1-1/4" SCH80	CO-SCH80-125-*-^	0.24 (0.11)	CF-SCH80-125-*	0.27 (0.12)	CD-SCH80-125-*	0.48 (0.22)	ORV-3815	OR^-2-222
1-1/2"	1-1/2" SCH40	CO-SCH40-150-*-^	0.41 (0.19)	CF-SCH40-150-*	0.45 (0.20)	CD-SCH40-150-*	0.82 (0.37)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	CO-SCH80-150-*-^	0.42 (0.19)	CF-SCH80-150-*	0.46 (0.21)	CD-SCH80-150-*	0.84 (0.38)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH160	CO-SCH160-150-*-^	0.42 (0.19)	CF-SCH160-150-*	0.45 (0.20)	CD-SCH160-150-*	0.83 (0.37)	ORV-3815	OR^-2-225
2"	2" SCH40	CO-SCH40-200-*-^	0.47 (0.21)	CF-SCH40-200-*	0.52 (0.24)	CD-SCH40-200-*	0.94 (0.43)	ORV-5615	OR^-2-228
2"	2" SCH80	CO-SCH80-200-*-^	0.49 (0.22)	CF-SCH80-200-*	0.53 (0.24)	CD-SCH80-200-*	0.97 (0.44)	ORV-5515	OR^-2-228
2"	2" SCH160	CO-SCH160-200-*-^	0.67 (0.30)	CF-SCH160-200-*	0.71 (0.32)	CD-SCH160-200-*	1.31 (0.59)	ORV-5015	OR^-2-228
2-1/2"	2-1/2" SCH40	CO-SCH40-250-*-^	0.99 (0.45)	CF-SCH40-250-*	1.01 (0.46)	CD-SCH40-250-*	1.90 (0.86)	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH80	CO-SCH80-250-*-^	0.99 (0.45)	CF-SCH80-250-*	1.06 (0.48)	CD-SCH80-250-*	1.95 (0.88)	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH160	CO-SCH160-250-*-^	1.42 (0.64)	CF-SCH160-250-*	1.50 (0.68)	CD-SCH160-250-*	2.77 (1.26)	ORV-5615	OR^-2-232
3"	3" SCH40	CO-SCH40-300-*-^	1.33 (0.60)	CF-SCH40-300-*	1.39 (0.63)	CD-SCH40-300-*	2.58 (1.17)	ORV-2-040	OR^-2-237
3"	3" SCH80	CO-SCH80-300-*-^	1.21 (0.55)	CF-SCH80-300-*	1.28 (0.58)	CD-SCH80-300-*	2.37 (1.07)	ORV-2-040	OR^-2-237

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

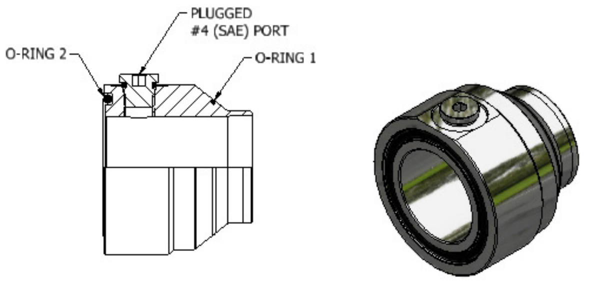
Ordering Example: CO-SCH80-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

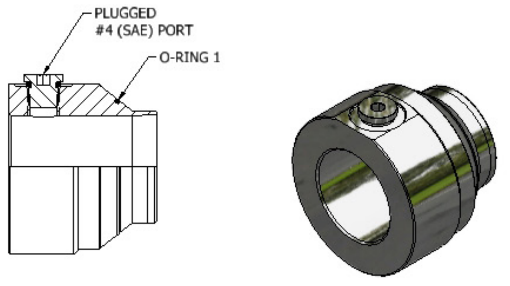
SAE 3000 PSI Cone Inserts with Pilot Port

for Flare Flange Connections, NPS

SAE J518 Code 61 (ISO 6162-1)



TYPE COP



TYPE CFP

COP, CFP - Cone Inserts with Pilot Port for Flare Flange Connections, NPS

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COP)	WT/Set lbs (kg)	Flat Face Cone Insert Part Number (Type CFP)	WT/Set lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	1/2” SCH40	COP-SCH40-050-*-^	0.40 (0.18)	CFP-SCH40-050-*	0.40 (0.18)	ORV-1915	OR^-2-210
1/2"	1/2” SCH80	COP-SCH80-050-*-^	0.40 (0.18)	CFP-SCH80-050-*	0.40 (0.18)	ORV-1715	OR^-2-210
3/4"	3/4” SCH40	COP-SCH40-075-*-^	0.62 (0.28)	CFP-SCH40-075-*	0.62 (0.28)	ORV-2515	OR^-2-214
3/4"	3/4” SCH80	COP-SCH80-075-*-^	0.62 (0.28)	CFP-SCH80-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
1”	1” SCH40	COP-SCH40-100-*-^	0.77 (0.35)	CFP-SCH40-100-*	0.77 (0.35)	ORV-3015	OR^-2-219
1”	1” SCH80	COP-SCH80-100-*-^	0.77 (0.35)	CFP-SCH80-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1-1/4"	1-1/4” SCH40	COP-SCH40-125-*-^	0.93 (0.42)	CFP-SCH40-125-*	0.93 (0.42)	ORV-3815	OR^-2-222
1-1/4"	1-1/4” SCH80	COP-SCH80-125-*-^	0.93 (0.42)	CFP-SCH80-125-*	0.93 (0.42)	ORV-3815	OR^-2-222
1-1/2"	1-1/2” SCH40	COP-SCH40-150-*-^	1.31 (0.59)	CFP-SCH40-150-*	1.31 (0.59)	ORV-4315	OR^-2-225
1-1/2"	1-1/2” SCH80	COP-SCH80-150-*-^	1.31 (0.59)	CFP-SCH80-150-*	1.31 (0.59)	ORV-4315	OR^-2-225
1-1/2"	1-1/2” SCH160	COP-SCH160-150-*-^	1.20 (0.54)	CFP-SCH160-150-*	1.20 (0.54)	ORV-3815	OR^-2-225
2"	2” SCH40	COP-SCH40-200-*-^	1.70 (0.77)	CFP-SCH40-200-*	1.70 (0.77)	ORV-5615	OR^-2-228
2"	2” SCH80	COP-SCH80-200-*-^	1.70 (0.77)	CFP-SCH80-200-*	1.70 (0.77)	ORV-5515	OR^-2-228
2"	2” SCH160	COP-SCH160-200-*-^	1.64 (0.74)	CFP-SCH160-200-*	1.64 (0.74)	ORV-5015	OR^-2-228
2-1/2”	2-1/2” SCH40	COP-SCH40-250-*-^	2.51 (1.14)	CFP-SCH40-250-*	2.51 (1.14)	ORV-2-036	OR^-2-232
2-1/2”	2-1/2” SCH80	COP-SCH80-250-*-^	2.51 (1.14)	CFP-SCH80-250-*	2.51 (1.14)	ORV-2-036	OR^-2-232
2-1/2”	2-1/2” SCH160	COP-SCH160-250-*-^	2.43 (1.10)	CFP-SCH160-250-*	2.43 (1.10)	ORV-5615	OR^-2-232
3"	3" SCH40	COP-SCH40-300-*-^	3.40 (1.54)	CFP-SCH40-300-*	3.40 (1.54)	ORV-2-041	OR^-2-237
3"	3" SCH80	COP-SCH80-300-*-^	3.40 (1.54)	CFP-SCH80-300-*	3.40 (1.54)	ORV-2-041	OR^-2-237

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

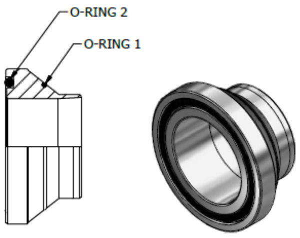
Ordering Example: COP-SCH80-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

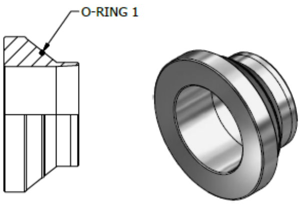
SAE 3000 PSI Cone Inserts

for Flare Flange Connections, Metric

SAE J518 Code 61 (ISO 6162-1)



TYPE CO



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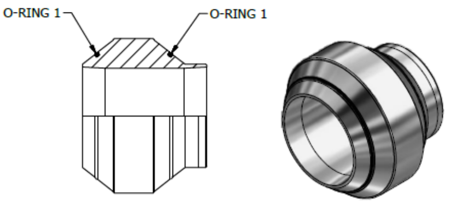


TYPE CD

CO, CF, CD - Cone Inserts for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	Weight lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	Weight lbs (kg)	Double Cone Insert Part Number (Type CD)	Weight lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	20x2.0	CO-20x2.0-050-*-^	0.11 (0.05)	CF-20x2.0-050-*	0.11 (0.05)	CD-20x2.0-050-*	0.20 (0.09)	ORV-1715	OR^-2-210
1/2"	20x3.0	CO-20x3.0-050-*-^	0.11 (0.05)	CF-20x3.0-050-*	0.11 (0.05)	CD-20x3.0-050-*	0.20 (0.09)	ORV-1715	OR^-2-210
1/2"	25x2.5	CO-25x2.5-050-*-^	0.09 (0.04)	CF-25x2.5-050-*	0.09 (0.04)	CD-25x2.5-050-*	0.17 (0.08)	ORV-2315	OR^-2-210
1/2"	25x3.0	CO-25x3.0-050-*-^	0.09 (0.04)	CF-25x3.0-050-*	0.09 (0.04)	CD-25x3.0-050-*	0.17 (0.08)	ORV-2315	OR^-2-210
3/4”	20x2.0	CO-20x2.0-075-*-^	0.14 (0.07)	CF-20x2.0-075-*	0.14 (0.07)	CD-20x2.0-075-*	0.26 (0.12)	ORV-1715	OR^-2-214
3/4”	20x2.5	CO-20x2.5-075-*-^	0.14 (0.07)	CF-20x2.5-075-*	0.14 (0.07)	CD-20x2.5-075-*	0.26 (0.12)	ORV-1715	OR^-2-214
3/4"	20x3.0	CO-20x3.0-075-*-^	0.14 (0.07)	CF-20x3.0-075-*	0.14 (0.07)	CD-20x3.0-075-*	0.26 (0.12)	ORV-1715	OR^-2-214
3/4”	25x2.5	CO-25x2.5-075-*-^	0.15 (0.07)	CF-25x2.5-075-*	0.15 (0.07)	CD-25x2.5-075-*	0.29 (0.13)	ORV-2315	OR^-2-214
3/4”	25x3.0	CO-25x3.0-075-*-^	0.15 (0.07)	CF-25x3.0-075-*	0.15 (0.07)	CD-25x3.0-075-*	0.29 (0.13)	ORV-2315	OR^-2-214
3/4”	25x4.0	CO-25x4.0-075-*-^	0.15 (0.07)	CF-25x4.0-075-*	0.15 (0.07)	CD-25x4.0-075-*	0.29 (0.13)	ORV-2315	OR^-2-214
3/4”	30x3.0	CO-30x3.0-075-*-^	0.15 (0.07)	CF-30x3.0-075-*	0.15 (0.07)	CD-30x3.0-075-*	0.29 (0.13)	ORV-2515	OR^-2-214
1”	25x2.5	CO-25x2.5-100-*-^	0.14 (0.07)	CF-25x2.5-100-*	0.14 (0.07)	CD-25x2.5-100-*	0.26 (0.12)	ORV-2315	OR^-2-219
1”	25x3.0	CO-25x3.0-100-*-^	0.14 (0.07)	CF-25x3.0-100-*	0.14 (0.07)	CD-25x3.0-100-*	0.26 (0.12)	ORV-2315	OR^-2-219
1”	25x4.0	CO-25x4.0-100-*-^	0.14 (0.07)	CF-25x4.0-100-*	0.14 (0.07)	CD-25x4.0-100-*	0.26 (0.12)	ORV-2315	OR^-2-219
1”	30x3.0	CO-30x3.0-100-*-^	0.14 (0.07)	CF-30x3.0-100-*	0.14 (0.07)	CD-30x3.0-100-*	0.26 (0.12)	ORV-2815	OR^-2-219
1”	30x4.0	CO-30x4.0-100-*-^	0.27 (0.12)	CF-30x4.0-100-*	0.27 (0.07)	CD-30x4.0-100-*	0.52 (0.24)	ORV-2815	OR^-2-219
1”	30x5.0	CO-30x5.0-100-*-^	0.27 (0.12)	CF-30x5.0-100-*	0.27 (0.12)	CD-30x5.0-100-*	0.52 (0.24)	ORV-2815	OR^-2-219
1”	38x4.0	CO-38x4.0-100-*-^	0.21 (0.09)	CF-38x4.0-100-*	0.24 (0.11)	CD-38x4.0-100-*	0.43 (0.20)	ORV-3015	OR^-2-219
1”	38x5.0	CO-38x5.0-100-*-^	0.21 (0.09)	CF-38x5.0-100-*	0.24 (0.11)	CD-38x5.0-100-*	0.43 (0.20)	ORV-3215	OR^-2-219
1-1/4"	30x3.0	CO-30x3.0-125-*-^	0.24 (0.11)	CF-30x3.0-125-*	0.24 (0.11)	CD-30x3.0-125-*	0.46 (0.21)	ORV-2815	OR^-2-222
1-1/4"	30x4.0	CO-30x4.0-125-*-^	0.24 (0.11)	CF-30x4.0-125-*	0.24 (0.11)	CD-30x4.0-125-*	0.46 (0.21)	ORV-2815	OR^-2-222
1-1/4"	30x5.0	CO-30x5.0-125-*-^	0.24 (0.11)	CF-30x5.0-125-*	0.24 (0.11)	CD-30x5.0-125-*	0.46 (0.21)	ORV-2815	OR^-2-222
1-1/4"	38x4.0	CO-38x4.0-125-*-^	0.32 (0.14)	CF-38x4.0-125-*	0.35 (0.16)	CD-38x4.0-125-*	0.64 (0.29)	ORV-3515	OR^-2-222
1-1/4"	38x5.0	CO-38x5.0-125-*-^	0.27 (0.12)	CF-38x5.0-125-*	0.27 (0.12)	CD-38x5.0-125-*	0.52 (0.24)	ORV-3215	OR^-2-222
1-1/4"	42x3.0	CO-42x3.0-125-*-^	0.27 (0.12)	CF-42x3.0-125-*	0.27 (0.12)	CD-42x3.0-125-*	0.52 (0.24)	ORV-3815	OR^-2-222
1-1/4"	42x4.0	CO-42x4.0-125-*-^	0.27 (0.12)	CF-42x4.0-125-*	0.27 (0.12)	CD-42x4.0-125-*	0.52 (0.24)	ORV-3815	OR^-2-222

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

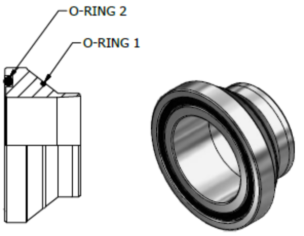
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: CO-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

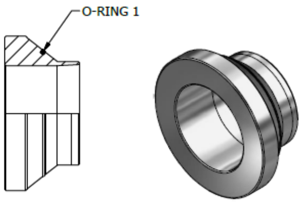
3D step models available upon request

SAE 3000 PSI Cone Inserts
for Flare Flange Connections, Metric

SAE J518 Code 61 (ISO 6162-1)



TYPE CO



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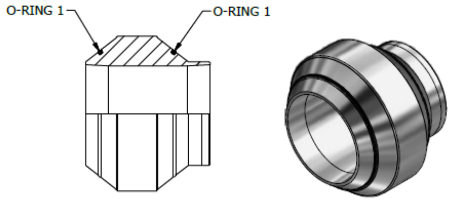


TYPE CD

CO, CF, CD - Cone Inserts for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	Weight lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	Weight lbs (kg)	Double Cone Insert Part Number (Type CD)	Weight lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	30x3.0	CO-30x3.0-150-*-^	0.50 (0.23)	CF-30x3.0-150-*	0.50 (0.23)	CD-30x3.0-150-*	0.98 (0.45)	ORV-2815	OR^-2-225
1-1/2"	38x4.0	CO-38x4.0-150-*-^	0.50 (0.23)	CF-38x4.0-150-*	0.50 (0.23)	CD-38x4.0-150-*	0.98 (0.45)	ORV-3215	OR^-2-225
1-1/2"	38x5.0	CO-38x5.0-150-*-^	0.48 (0.22)	CF-38x5.0-150-*	0.49 (0.22)	CD-38x5.0-150-*	0.95 (0.43)	ORV-3215	OR^-2-225
1-1/2"	42x3.0	CO-42x3.0-150-*-^	0.40 (0.18)	CF-42x3.0-150-*	0.40 (0.18)	CD-42x3.0-150-*	0.78 (0.35)	ORV-3815	OR^-2-225
1-1/2"	42x4.0	CO-42x4.0-150-*-^	0.50 (0.23)	CF-42x4.0-150-*	0.50 (0.23)	CD-42x4.0-150-*	0.78 (0.35)	ORV-3815	OR^-2-225
1-1/2"	50x3.0	CO-50x3.0-150-*-^	0.50 (0.23)	CF-50x3.0-150-*	0.50 (0.23)	CD-50x3.0-150-*	0.98 (0.45)	ORV-4715	OR^-2-225
1-1/2"	50x5.0	CO-50x5.0-150-*-^	0.40 (0.18)	CF-50x5.0-150-*	0.40 (0.18)	CD-50x5.0-150-*	0.78 (0.35)	ORV-4515	OR^-2-225
1-1/2"	50x6.0	CO-50x6.0-150-*-^	0.39 (0.18)	CF-50x6.0-150-*	0.39 (0.18)	CD-50x6.0-150-*	0.76 (0.35)	ORV-4515	OR^-2-225
2”	50x3.0	CO-50x3.0-200-*-^	0.50 (0.23)	CF-50x3.0-200-*	0.50 (0.23)	CD-50x3.0-200-*	0.98 (0.45)	ORV-4515	OR^-2-228
2”	50x5.0	CO-50x5.0-200-*-^	0.50 (0.23)	CF-50x5.0-200-*	0.50 (0.23)	CD-50x5.0-200-*	0.98 (0.45)	ORV-4515	OR^-2-228
2”	50x6.0	CO-50x6.0-200-*-^	0.50 (0.23)	CF-50x6.0-200-*	0.50 (0.23)	CD-50x6.0-200-*	0.98 (0.45)	ORV-4515	OR^-2-228
2”	60x3.0	CO-60x3.0-200-*-^	0.56 (0.25)	CF-60x3.0-200-*	0.56 (0.25)	CD-60x3.0-200-*	1.10 (0.50)	ORV-5715	OR^-2-228
2”	60x5.0	CO-60x5.0-200-*-^	0.50 (0.23)	CF-60x5.0-200-*	0.50 (0.23)	CD-60x5.0-200-*	0.98 (0.45)	ORV-5615	OR^-2-228
2”	60x6.0	CO-60x6.0-200-*-^	0.50 (0.23)	CF-60x6.0-200-*	0.50 (0.23)	CD-60x6.0-200-*	0.98 (0.45)	ORV-5015	OR^-2-228
2-1/2"	60x5.0	CO-60x5.0-250-*-^	1.00 (0.45)	CF-60x5.0-250-*	1.10 (0.50)	CD-60x5.0-250-*	2.02 (0.92)	ORV-5615	OR^-2-232
2-1/2"	60x6.0	CO-60x6.0-250-*-^	1.00 (0.45)	CF-60x6.0-250-*	1.10 (0.50)	CD-60x6.0-250-*	2.02 (0.98)	ORV-5015	OR^-2-232
2-1/2"	73x7.0	CO-SCH80-250-*-^	1.00 (0.45)	CF-SCH80-250-*	1.08 (0.49)	CD-SCH80-250-*	2.00 (0.90)	ORV-2-036	OR^-2-232
2-1/2"	75x3.0	CO-75x3.0-250-*-^	1.00 (0.45)	CF-75x3.0-250-*	1.00 (0.45)	CD-75x3.0-250-*	1.91 (0.87)	ORV-2-037	OR^-2-232
2-1/2"	75x5.0	CO-75x5.0-250-*-^	0.97 (0.44)	CF-75x5.0-250-*	1.00 (0.45)	CD-75x5.0-250-*	1.90 (0.86)	ORV-2-036	OR^-2-232
2-1/2"	75x7.0	CO-75x7.0-250-*-^	0.95 (0.43)	CF-75x7.0-250-*	0.98 (0.44)	CD-75x7.0-250-*	1.89 (0.86)	ORV-6715	OR^-2-232
3”	75x5.0	CO-75x5.0-300-*-^	1.50 (0.68)	CF-75x5.0-300-*	1.50 (0.68)	CD-75x5.0-300-*	2.70 (1.23)	ORV-2-037	OR^-2-237
3”	90x3.5	CO-90x3.5-300-*-^	1.50 (0.68)	CF-90x3.5-300-*	1.50 (0.68)	CD-90x3.5-300-*	2.70 (1.23)	ORV-2-041	OR^-2-237
3”	90x5.0	CO-90x5.0-300-*-^	1.45 (0.66)	CF-90x5.0-300-*	1.48 (0.67)	CD-90x5.0-300-*	2.60 (1.18)	ORV-2-040	OR^-2-237

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

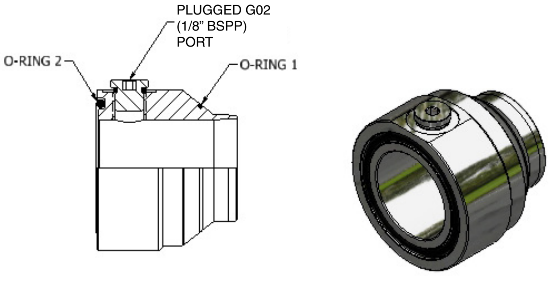
Ordering Example: CO-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

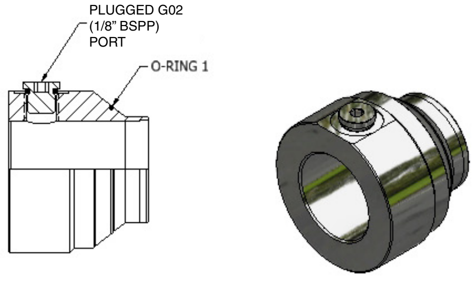
SAE 3000 PSI Cone Inserts with Pilot Port

for Flare Flange Connections, Metric

SAE J518 Code 61 (ISO 6162-1)



TYPE COP



TYPE CFP

COP, CFP - Cone Inserts with Pilot Port for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COP)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CFP)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	20x2.0	COP-20x2.0-050-*-^	0.40 (0.18)	CFP-20x2.0-050-*	0.40 (0.18)	ORV-1715	OR^-2-210
1/2"	20x3.0	COP-20x3.0-050-*-^	0.40 (0.18)	CFP-20x3.0-050-*	0.40 (0.18)	ORV-1715	OR^-2-210
1/2"	25x2.5	COP-25x2.5-050-*-^	0.51 (0.23)	CFP-25x2.5-050-*	0.51 (0.23)	ORV-2315	OR^-2-210
1/2"	25x3.0	COP-25x3.0-050-*-^	0.51 (0.23)	CFP-25x3.0-050-*	0.51 (0.23)	ORV-2315	OR^-2-210
3/4”	20x2.0	COP-20x2.0-075-*-^	0.55 (0.25)	CFP-20x2.0-075-*	0.55 (0.25)	ORV-1715	OR^-2-214
3/4”	20x2.5	COP-20x2.5-075-*-^	0.55 (0.25)	CFP-20x2.5-075-*	0.55 (0.25)	ORV-1715	OR^-2-214
3/4"	20x3.0	COP-20x3.0-075-*-^	0.55 (0.25)	CFP-20x3.0-075-*	0.55 (0.25)	ORV-1715	OR^-2-214
3/4”	25x2.5	COP-25x2.5-075-*-^	0.62 (0.28)	CFP-25x2.5-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
3/4”	25x3.0	COP-25x3.0-075-*-^	0.62 (0.28)	CFP-25x3.0-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
3/4”	25x4.0	COP-25x4.0-075-*-^	0.62 (0.28)	CFP-25x4.0-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
3/4”	30x3.0	COP-30x3.0-075-*-^	0.68 (0.31)	CFP-30x3.0-075-*	0.68 (0.31)	ORV-2515	OR^-2-214
1”	25x2.5	COP-25x2.5-100-*-^	0.70 (0.32)	CFP-25x2.5-100-*	0.70 (0.32)	ORV-2315	OR^-2-219
1”	25x3.0	COP-25x3.0-100-*-^	0.70 (0.32)	CFP-25x3.0-100-*	0.70 (0.32)	ORV-2315	OR^-2-219
1”	25x4.0	COP-25x4.0-100-*-^	0.70 (0.32)	CFP-25x4.0-100-*	0.70 (0.32)	ORV-2315	OR^-2-219
1”	30x3.0	COP-30x3.0-100-*-^	0.77 (0.35)	CFP-30x3.0-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1”	30x4.0	COP-30x4.0-100-*-^	0.77 (0.35)	CFP-30x4.0-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1”	30x5.0	COP-30x5.0-100-*-^	0.77 (0.35)	CFP-30x5.0-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1”	38x4.0	COP-38x4.0-100-*-^	0.81 (0.37)	CFP-38x4.0-100-*	0.81 (0.37)	ORV-3015	OR^-2-219
1”	38x5.0	COP-38x5.0-100-*-^	0.79 (0.36)	CFP-38x5.0-100-*	0.79 (0.36)	ORV-3215	OR^-2-219
1-1/4"	30x3.0	COP-30x3.0-125-*-^	0.82 (0.37)	CFP-30x3.0-125-*	0.82 (0.37)	ORV-2815	OR^-2-222
1-1/4"	30x4.0	COP-30x4.0-125-*-^	0.82 (0.37)	CFP-30x4.0-125-*	0.82 (0.37)	ORV-2815	OR^-2-222
1-1/4"	30x5.0	COP-30x5.0-125-*-^	0.82 (0.37)	CFP-30x5.0-125-*	0.82 (0.37)	ORV-2815	OR^-2-222
1-1/4"	38x4.0	COP-38x4.0-125-*-^	0.86 (0.39)	CFP-38x4.0-125-*	0.86 (0.39)	ORV-3515	OR^-2-222
1 1/4"	38x5.0	COP-38x5.0-125-*-^	0.86 (0.39)	CFP-38x5.0-125-*	0.86 (0.39)	ORV-3215	OR^-2-222
1-1/4"	42x3.0	COP-42x3.0-125-*-^	0.93 (0.42)	CFP-42x3.0-125-*	0.93 (0.42)	ORV-3815	OR^-2-222
1-1/4"	42x4.0	COP-42x4.0-125-*-^	0.93 (0.42)	CFP-42x4.0-125-*	0.93 (0.42)	ORV-3815	OR^-2-222

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

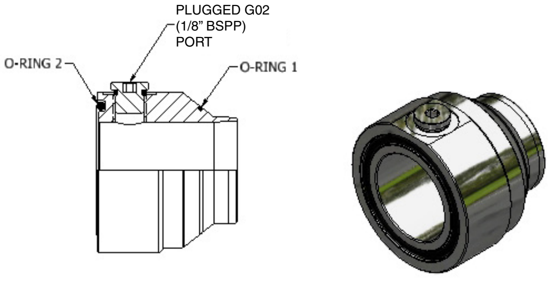
Ordering Example: COP-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

SAE 3000 PSI Cone Inserts with Pilot Port

for Flare Flange Connections, Metric

SAE J518 Code 61 (ISO 6162-1)



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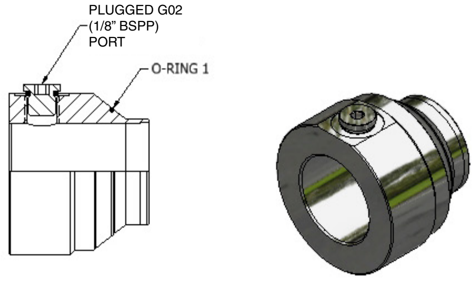


TYPE CFP

COP, CFP - Cone Inserts with Pilot Port for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COP)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CFP)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	30x3.0	COP-30x3.0-150-*-^	1.02 (0.46)	CFP-30x3.0-150-*	1.02 (0.46)	ORV-2815	OR^-2-225
1-1/2"	38x4.0	COP-38x4.0-150-*-^	1.02 (0.46)	CFP-38x4.0-150-*	1.02 (0.46)	ORV-3215	OR^-2-225
1-1/2"	38x5.0	COP-38x5.0-150-*-^	1.10 (0.50)	CFP-38x5.0-150-*	1.10 (0.50)	ORV-3215	OR^-2-225
1-1/2"	42x3.0	COP-42x3.0-150-*-^	1.21 (0.55)	CFP-42x3.0-150-*	1.21 (0.55)	ORV-3815	OR^-2-225
1-1/2"	42x4.0	COP-42x4.0-150-*-^	1.21 (0.55)	CFP-42x4.0-150-*	1.21 (0.55)	ORV-3815	OR^-2-225
1-1/2"	50x3.0	COP-50x3.0-150-*-^	1.31 (0.59)	CFP-50x3.0-150-*	1.31 (0.59)	ORV-4715	OR^-2-225
1-1/2"	50x5.0	COP-50x5.0-150-*-^	1.31 (0.59)	CFP-50x5.0-150-*	1.31 (0.59)	ORV-4515	OR^-2-225
1-1/2"	50x6.0	COP-50x6.0-150-*-^	1.28 (0.58)	CFP-50x6.0-150-*	1.28 (0.58)	ORV-4515	OR^-2-225
2”	50x3.0	COP-50x3.0-200-*-^	1.58 (0.72)	CFP-50x3.0-200-*	1.58 (0.72)	ORV-4515	OR^-2-228
2”	50x5.0	COP-50x5.0-200-*-^	1.58 (0.72)	CFP-50x5.0-200-*	1.58 (0.72)	ORV-4515	OR^-2-228
2”	50x6.0	COP-50x6.0-200-*-^	1.55 (0.70)	CFP-50x6.0-200-*	1.55 (0.70)	ORV-4515	OR^-2-228
2”	60x3.0	COP-60x3.0-200-*-^	1.70 (0.77)	CFP-60x3.0-200-*	1.70 (0.77)	ORV-5715	OR^-2-228
2”	60x5.0	COP-60x5.0-200-*-^	1.70 (0.77)	CFP-60x5.0-200-*	1.70 (0.77)	ORV-5615	OR^-2-228
2”	60x6.0	COP-60x6.0-200-*-^	1.62 (0.73)	CFP-60x6.0-200-*	1.62 (0.73)	ORV-5015	OR^-2-228
2-1/2"	60x5.0	COP-60x5.0-250-*-^	2.39 (1.08)	CFP-60x5.0-250-*	2.39 (1.08)	ORV-5615	OR^-2-232
2-1/2"	60x6.0	COP-60x6.0-250-*-^	2.39 (1.08)	CFP-60x6.0-250-*	2.39 (1.08)	ORV-5015	OR^-2-232
2-1/2"	73x7.0	COP-SCH80-250-*-^	2.51 (1.14)	CFP-SCH80-250-*-^	2.51 (1.14)	ORV-2-036	OR^-2-232
2-1/2"	75x3.0	COP-75x3.0-250-*-^	2.60 (1.18)	CFP-75x3.0-250-*	2.60 (1.18)	ORV-2-037	OR^-2-232
2-1/2"	75x5.0	COP-75x5.0-250-*-^	2.60 (1.18)	CFP-75x5.0-250-*	2.60 (1.18)	ORV-2-036	OR^-2-232
2-1/2"	75x7.0	COP-75x7.0-250-*-^	2.55 (1.16)	CFP-75x7.0-250-*	2.55 (1.16)	ORV-6715	OR^-2-232
3”	75x5.0	COP-75x5.0-300-*-^	3.18 (1.44)	CFP-75x5.0-300-*	3.18 (1.44)	ORV-2-037	OR^-2-237
3”	90x3.5	COP-90x3.5-300-*-^	3.46 (1.57)	CFP-90x3.5-300-*	3.46 (1.57)	ORV-2-041	OR^-2-237
3”	90x5.0	COP-90x5.0-300-*-^	3.40 (1.54)	CFP-90x5.0-300-*	3.40 (1.54)	ORV-2-040	OR^-2-237

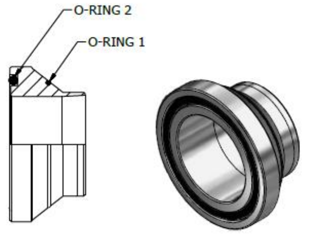
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: COP-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

SAE 3000 PSI Cone Inserts Reducer
for Flare Flange Connections with O-Ring Face, NPS

SAE J518 Code 61 (ISO 6162-1)



TYPE COR

COR – Cone Inserts Reducer for Flare Flange Connections with O-Ring Face, NPS

Flange Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COR)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
3/4"	1/2" SCH40	COR-SCH40-075x050-*-^	0.13 (0.06)	ORV-1915	OR^-2-214
3/4"	1/2" SCH80	COR-SCH80-075x050-*-^	0.09 (0.04)	ORV-1715	OR^-2-214
1”	3/4" SCH40	COR-SCH40-100x075-*-^	0.15 (0.07)	ORV-2515	OR^-2-219
1”	3/4" SCH80	COR-SCH80-100x075-*-^	0.11 (0.05)	ORV-2315	OR^-2-219
1-1/4”	1” SCH40	COR-SCH40-125x100-*-^	0.27 (0.12)	ORV-3015	OR^-2-222
1-1/4"	1” SCH80	COR-SCH80-125x100-*-^	0.21 (0.10)	ORV-2815	OR^-2-222
1-1/2"	1-1/4” SCH40	COR-SCH40-150x125-*-^	0.40 (0.18)	ORV-3815	OR^-2-225
1-1/2"	1-1/4” SCH80	COR-SCH80-150x125-*-^	0.30 (0.15)	ORV-3815	OR^-2-225
2”	1-1/2" SCH40	COR-SCH40-200x150-*-^	0.53 (0.24)	ORV-4315	OR^-2-228
2”	1-1/2" SCH80	COR-SCH80-200x150-*-^	0.45 (0.20)	ORV-4315	OR^-2-228
2-1/2"	2” SCH40	COR-SCH40-250x200-*-^	0.92 (0.42)	ORV-5615	OR^-2-232
2-1/2"	2” SCH80	COR-SCH80-250x200-*-^	0.49 (0.22)	ORV-5515	OR^-2-232
3”	2-1/2" SCH40	COR-SCH40-300x250-*-^	1.40 (0.65)	ORV-2-036	OR^-2-237
3”	2-1/2" SCH80	COR-SCH80-300x250-*-^	1.29 (0.58)	ORV-2-036	OR^-2-237

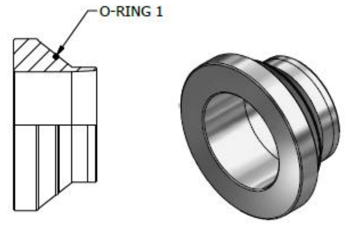
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: COR-SCH80-100-SS-V
* Insert Material
^ Insert O-Ring 2 Type

SAE 3000 PSI Cone Inserts Reducer
for Flare Flange Connections with Flat Face, NPS

SAE J518 Code 61 (ISO 6162-1)



CFR – Cone Inserts Reducer for Flare Flange Connections with Flat Face, NPS

Flange Size	Pipe Size	Flat Face Cone Insert Part Number (Type CFR)	WT lbs (kg)	O-Ring 1 (VITON) Part Number
3/4"	1/2" SCH40	CFR-SCH40-075x050-*-^	0.13 (0.06)	ORV-1915
3/4"	1/2" SCH80	CFR-SCH80-075x050-*-^	0.09 (0.04)	ORV-1715
1”	3/4" SCH40	CFR-SCH40-100x075-*-^	0.15 (0.07)	ORV-2515
1”	3/4" SCH80	CFR-SCH80-100x075-*-^	0.11 (0.05)	ORV-2315
1-1/4”	1” SCH40	CFR-SCH40-125x100-*-^	0.27 (0.12)	ORV-3015
1-1/4"	1” SCH80	CFR-SCH80-125x100-*-^	0.21 (0.10)	ORV-2815
1-1/2"	1-1/4” SCH40	CFR-SCH40-150x125-*-^	0.40 (0.18)	ORV-3815
1-1/2"	1-1/4” SCH80	CFR-SCH80-150x125-*-^	0.30 (0.15)	ORV-3815
2”	1-1/2" SCH40	CFR-SCH40-200x150-*-^	0.53 (0.24)	ORV-4315
2”	1-1/2" SCH80	CFR-SCH80-200x150-*-^	0.45 (0.20)	ORV-4315
2-1/2"	2” SCH40	CFR-SCH40-250x200-*-^	0.92 (0.42)	ORV-5615
2-1/2"	2” SCH80	CFR-SCH80-250x200-*-^	0.49 (0.22)	ORV-5515
3”	2-1/2" SCH40	CFR-SCH40-300x250-*-^	1.40 (0.65)	ORV-2-036
3”	2-1/2" SCH80	CFR-SCH80-300x250-*-^	1.29 (0.58)	ORV-2-036

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

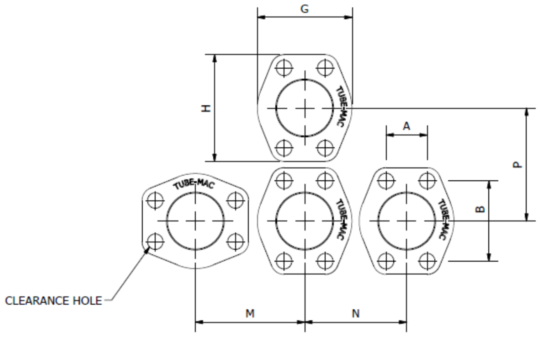
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

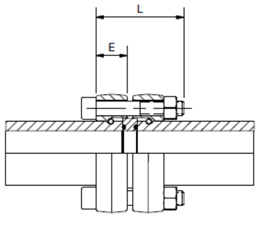
Ordering Example: CFR-SCH80-100-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

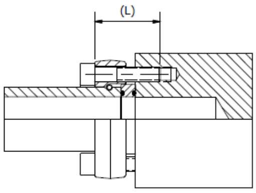
SAE 3000 PSI Retain Ring Flange Dimensions

SAE J518 Code 61 (ISO 6162-1)





FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Retain Ring Flange Dimensions, NPS

Size	Dimensions (in)								SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1-1/2"	1.41	2.75	3.25	3.66	3.58	3.35	3.78	1.06	1/2"-13 UNC x 3.00 (2.00)	4000 (280)
2"	1.69	3.06	3.81	4.02	4.02	3.94	4.13	1.22	1/2"-13 UNC x 3.50 (2.00)	4000 (280)
2-1/2"	2.00	3.50	4.28	4.49	4.49	4.37	4.61	1.40	1/2"-13 UNC x 4.00 (2.50)	3000 (210)
3"	2.44	4.19	5.16	5.28	5.35	5.24	5.39	1.67	5/8"-11 UNC x4.50 (2.75)	3000 (210)

* SHCS Bolt Specification
Carbon Steel: ASTM A574
316 Stainless Steel: ASTM A193 B8M Class 2

Retain Ring Flange Dimensions, Metric

Size	Dimensions (mm)								SHCS Bolt (mm)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	17.5	38.1	46.0	54.9	52.1	49.0	58.9	20.6	M8 x 60 (40)	5000 (350)
3/4"	22.4	47.8	52.3	65.0	61.0	55.1	68.1	20.8	M10 x 65 (40)	5000 (350)
1"	26.2	52.3	58.7	70.1	67.1	62.0	72.9	22.1	M10 x 65(40)	5000 (350)
1-1/4"	30.2	58.7	73.2	79.0	79.0	75.9	82.0	23.1	M10 x 65 (45)	4000 (280)
1-1/2"	35.8	69.9	82.6	93.0	90.9	85.1	96.0	26.9	M12 x 75 (50)	4000 (280)
2"	42.9	77.7	96.8	102.1	102.1	100.1	104.9	31.0	M12 x 90 (50)	4000 (280)
2-1/2"	50.8	88.9	108.7	114.0	114.0	111.0	117.1	35.6	M12 x 100 (65)	3000 (210)
3"	62.0	106.4	131.1	134.1	135.9	133.1	136.9	42.4	M16 x 120 (70)	3000 (210)

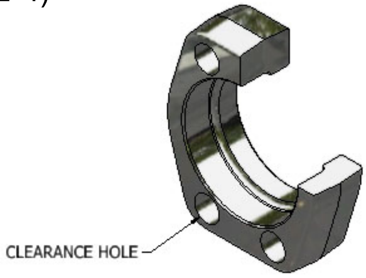
* SHCS Bolt Specification
Carbon Steel: DIN912 / ISO4762 Grade 8.8
316 Stainless Steel: DIN912 / ISO4762 A480

3D step models available upon request

SAE 3000 PSI Retain Ring Flange

with Clearance Holes

SAE J518 Code 61 (ISO 6162-1)



RFAC34 – Retain Ring Flange with Clearance Holes, for Grooved NPS Pipe Only

Size	Pipe O.D. (in)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1-1/2”	1-1/2” SCHXXS	RFAC34-150-*	4000 (280)	1.41 (0.64)
2”	2” SCH160/XXS	RFAC34-200-*	4000 (280)	2.01 (0.91)
2-1/2”	2-1/2” SCH160/XXS	RFAC34-250-*	3000 (210)	3.28 (1.49)
3”	3” SCH160/XXS	RFAC34-300-*	3000 (210)	5.14 (2.33)

RFC34 – Retain Ring Flange with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2”	26X6.0	RFC34-050-*	5000 (350)	0.40 (0.18)
3/4”	36X8.0	RFC34-075-*	5000 (350)	0.46 (0.21)
1”	39X7.5	RFC34-100-*	5000 (350)	0.58 (0.26)
1-1/4”	46X8.0	RFCM34-125-*	4000 (280)	0.79 (0.36)
1-1/2”	56X8.5	RFC34-150-*	4000 (280)	1.41 (0.64)
2”	66X8.5	RFC34-200-*	4000 (280)	2.01 (0.91)
2-1/2"	80X10	RFC34-250-*	3000 (210)	3.28 (1.49)
3”	97X12	RFC34-300-*	3000 (210)	5.14 (2.33)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

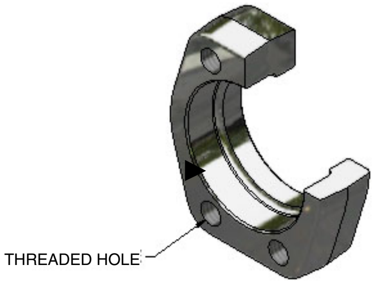
Ordering Example: RFAC34-200-SS

* Insert Material

3D step models available upon request

3000 PSI Retain Ring Flange with Threaded Holes

SAE J518 Code 61 (ISO 6162-1)



RFAT34 – Retain Ring Flange with UNC Threaded Holes, for Grooved NPS Pipe Only

Size	Pipe Size	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1-1/2”	1-1/2” SCHXXS	RFAT34-150-*	4000 (280)	2.15 (0.98)
2”	2” SCH160/XXS	RFAT34-200-*	4000 (280)	2.65 (1.20)

RFT34 – Retain Ring Flange with UNC Threaded Holes, for Metric Pipe

Size	Pipe Size	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2”	26X6.0	RFT34-050-*	5000 (350)	0.44 (0.20)
3/4”	36X8.0	RFT34-075-*	5000 (350)	0.62 (0.28)
1”	39X7.5	RFT34-100-*	5000 (350)	0.75 (0.34)
1-1/4”	46X8.0	RFT34-125-*	4000 (280)	1.15 (0.52)
1-1/2”	56X8.5	RFT34-150-*	4000 (280)	2.15 (0.98)
2”	66X8.5	RFT34-200-*	4000 (280)	2.65 (1.20)
2-1/2"	80X10	RFT34-250-*	3000 (210)	3.75 (1.70)
3”	97X12	RFT34-300-*	3000 (210)	6.10 (2.77)

RFTM34 – Retain Ring Flange with Metric Threaded Holes, for Metric Pipe

Size	Pipe Size	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2”	26X6.0	RFTM34-050-*	5000 (350)	0.44 (0.20)
3/4”	36X8.0	RFTM34-075-*	5000 (350)	0.62 (0.28)
1”	39X7.5	RFTM34-100-*	5000 (350)	0.75 (0.34)
1-1/4”	46X8.0	RFTM34-125-*	4000 (280)	1.15 (0.52)
1-1/2”	56X8.5	RFTM34-150-*	4000 (280)	2.15 (0.98)
2”	66X8.5	RFTM34-200-*	4000 (280)	2.65 (1.20)
2-1/2"	80X10	RFTM34-250-*	3000 (210)	3.75 (1.70)
3”	97X12	RFTM34-300-*	3000 (210)	6.10 (2.77)

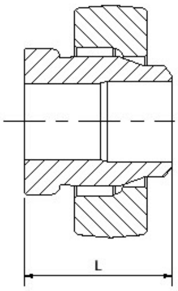
<u>* Materials:</u>
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

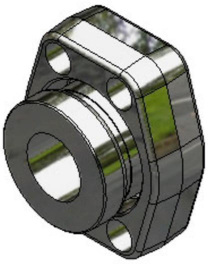
Ordering Example: RFT34-200-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:
- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1/2"	1/2” SCH80	A/BWA-SCH80-050-FC34-*	0.64 (0.29)	1.25	BWA-SCH80-050-*	RFC34-050-*
1/2"	1/2” SCH160	A/BWA-SCH160-050-FC34-*	0.65 (0.29)	1.25	BWA-SCH160-050-*	RFC34-050-*
1/2”	1/2” SCHXXS	A/BWA-SCHXXS-050-FC34-*	0.66 (0.30)	1.25	BWA-SCHXXS-050-*	RFC34-050-*
3/4”	3/4” SCH80	A/BWA-SCH80-075-FC34-*	0.92 (0.42)	1.75	BWA-SCH80-075-*	RFC34-075-*
3/4"	3/4” SCH160	A/BWA-SCH160-075-FC34-*	1.00 (0.45)	1.75	BWA-SCH160-075-*	RFC34-075-*
3/4”	3/4” SCHXXS	A/BWA-SCHXXS-075-FC34-*	1.03 (0.48)	1.75	BWA-SCHXXS-075-*	RFC34-075-*
1”	1” SCH80	A/BWA-SCH80-100-FC34-*	1.08 (0.49)	1.75	BWA-SCH80-100-*	RFC34-100-*
1”	1” SCH160	A/BWA-SCH160-100-FC34-*	1.19 (0.54)	1.75	BWA-SCH160-100-*	RFC34-100-*
1”	1” SCHXXS	A/BWA-SCHXXS-100-FC34-*	1.23 (0.56)	1.75	BWA-SCHXXS-100-*	RFC34-100-*
1-1/4”	1-1/4” SCH80	A/BWA-SCH80-125-FC34-*	1.62 (0.73)	2.00	BWA-SCH80-125-*	RFCM34-125-*
1-1/4”	1-1/4” SCH160	A/BWA-SCH160-125-FC34-*	1.65 (0.75)	2.00	BWA-SCH160-125-*	RFCM34-125-*
1-1/4”	1-1/4” SCHXXS	A/BWA-SCHXXS-125-FC34-*	1.76 (0.80)	2.00	BWA-SCHXXS-125-*	RFCM34-125-*
1-1/2”	1-1/2” SCH80	A/BWA-SCH80-150-FC34-*	2.06 (0.93)	2.25	BWA-SCH80-150-*	RFC34-150-*
1-1/2”	1-1/2” SCH160	A/BWA-SCH160-150-FC34-*	2.70 (1.22)	2.25	BWA-SCH160-150-*	RFC34-150-*
1-1/2”	1-1/2” SCHXXS	A/BWA-SCHXXS-150-FC34-*	2.72 (1.23)	2.25	BWA-SCHXXS-150-*	RFC34-150-*
2”	2” SCH80	A/BWA-SCH80-200-FC34-*	3.69 (1.67)	2.50	BWA-SCH80-200-*	RFC34-200-*
2”	2” SCH160	A/BWA-SCH160-200-FC34-*	3.86 (1.75)	2.50	BWA-SCH160-200-*	RFC34-200-*
2”	2” SCHXXS	A/BWA-SCHXXS-200-FC34-*	3.90 (1.77)	2.50	BWA-SCHXXS-200-*	RFC34-200-*
2-1/2”	2-1/2” SCH80	A/BWA-SCH80-250-FC34-*	5.12 (2.32)	2.63	BWA-SCH80-250-*	RFC34-250-*
2-1/2”	2-1/2” SCH160	A/BWA-SCH160-250-FC34-*	5.35 (2.43)	2.63	BWA-SCH160-250-*	RFC34-250-*
2-1/2”	2-1/2” SCHXXS	A/BWA-SCHXXS-250-FC34-*	5.70 (2.59)	2.63	BWA-SCHXXS-250-*	RFC34-250-*
3”	3” SCH80	A/BWA-SCH80-300-FC34-*	8.05 (3.50)	2.75	BWA-SCH80-300-*	RFC34-300-*
3”	3” SCH160	A/BWA-SCH160-300-FC34-*	7.89 (3.72)	2.75	BWA-SCH160-300-*	RFC34-300-*
3”	3” SCHXXS	A/BWA-SCHXXS-300-FC34-*	9.20 (3.95)	2.75	BWA-SCHXXS-300-*	RFC34-300-*

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: A/BWA-SCH80-200-FC34-SS

* Insert Material

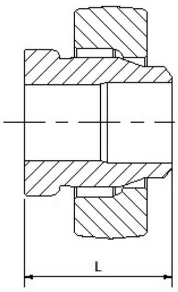
Note:

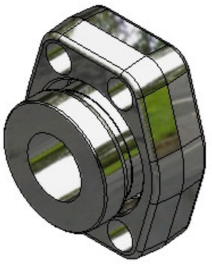
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:
- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1/2"	12.0X1.5	A/BWA-12.0X1.5-050-FC34-*	0.65 (0.29)	38.1	BWA-12.0X1.5-050-*	RFC34-050-*
1/2"	16.0X2.0	A/BWA-16.0X2.0-050-FC34-*	0.65 (0.29)	38.1	BWA-16.0X2.0-050-*	RFC34-050-*
1/2”	16.0X2.5	A/BWA-16.0X2.5-050-FC34-*	0.65 (0.29)	38.1	BWA-16.0X2.5-050-*	RFC34-050-*
1/2”	18.0X2.0	A/BWA-18.0X2.0-050-FC34-*	0.65 (0.29)	38.1	BWA-18.0X2.0-050-*	RFC34-050-*
1/2”	20.0X2.0	A/BWA-20.0X2.0-050-FC34-*	0.67 (0.30)	38.1	BWA-20.0X2.0-050-*	RFC34-050-*
1/2”	20.0X2.5	A/BWA-20.0X2.5-050-FC34-*	0.67 (0.30)	38.1	BWA-20.0X2.5-050-*	RFC34-050-*
1/2”	20.0X3.0	A/BWA-20.0X3.0-050-FC34-*	0.67 (0.30)	38.1	BWA-20.0X3.0-050-*	RFC34-050-*
1/2”	21.3X2.8	A/BWA-SCH40-050-FC34-*	0.63 (0.29)	31.8	BWA-SCH40-050-*	RFC34-050-*
1/2”	21.3X3.7	A/BWA-SCH80-050-FC34-*	0.64 (0.29)	31.8	BWA-SCH80-050-*	RFC34-050-*
1/2”	21.3X4.8	A/BWA-SCH160-050-FC34-*	0.65 (0.29)	31.8	BWA-SCH160-050-*	RFC34-050-*
1/2”	21.3X7.5	A/BWA-SCHXXS-050-FC34-*	0.66 (0.30)	31.8	BWA-SCHXXS-050-*	RFC34-050-*
1/2”	25.0X2.5	A/BWA-25.0X2.5-050-FC34-*	0.66 (0.30)	38.1	BWA-25.0X2.5-050-*	RFC34-050-*
1/2”	25.0X3.0	A/BWA-25.0X3.0-050-FC34-*	0.66 (0.30)	38.1	BWA-25.0X3.0-050-*	RFC34-050-*
1/2”	26.0X6.0	A/BWA-26.0X6.0-050-FC34-*	0.71 (0.32)	38.1	BWA-26.0X6.0-050-*	RFC34-050-*
3/4"	20.0X2.0	A/BWA-20.0X2.0-075-FC34-*	0.95 (0.43)	44.5	BWA-20.0X2.0-075-*	RFC34-075-*
3/4"	20.0X2.5	A/BWA-20.0X2.5-075-FC34-*	0.97 (0.44)	44.5	BWA-20.0X2.5-075-*	RFC34-075-*
3/4”	20.0X3.0	A/BWA-20.0X3.0-075-FC34-*	0.97 (0.44)	44.5	BWA-20.0X3.0-075-*	RFC34-075-*
3/4"	25.0X2.5	A/BWA-25.0X2.5-075-FC34-*	0.94 (0.43)	44.5	BWA-25.0X2.5-075-*	RFC34-075-*
3/4"	25.0X3.0	A/BWA-25.0X3.0-075-FC34-*	0.95 (0.43)	44.5	BWA-25.0X3.0-075-*	RFC34-075-*
3/4"	25.0X4.0	A/BWA-25.0X4.0-075-FC34-*	0.97 (0.44)	44.5	BWA-25.0X4.0-075-*	RFC34-075-*
3/4"	26.7X2.9	A/BWA-SCH40-075-FC34-*	0.90 (0.41)	44.5	BWA-SCH40-075-*	RFC34-075-*
3/4"	26.7X3.9	A/BWA-SCH80-075-FC34-*	0.92 (0.42)	44.5	BWA-SCH80-075-*	RFC34-075-*
3/4"	26.7X5.5	A/BWA-SCH160-075-FC34-*	1.00 (0.45)	44.5	BWA-SCH160-075-*	RFC34-075-*
3/4"	26.7X7.8	A/BWA-SCHXXS-075-FC34-*	1.03 (0.47)	44.5	BWA-SCHXXS-075-*	RFC34-075-*
3/4"	30.0X.3.0	A/BWA-30.0X3.0-075-FC34-*	0.85 (0.39)	44.5	BWA-30.0X3.0-075-*	RFC34-075-*
3/4"	30.0X.4.0	A/BWA-30.0X4.0-075-FC34-*	0.88 (0.40)	44.5	BWA-30.0X4.0-075-*	RFC34-075-*
3/4"	36.0X8.0	A/BWA-36.0X8.0-075-FC34-*	1.03 (0.47)	44.5	BWA-36.0X8.0-075-*	RFC34-075-*

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: A/BWA-50.0X3.0-200-FC34-SS

* Insert Material

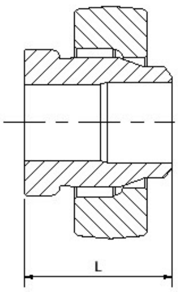
Note:

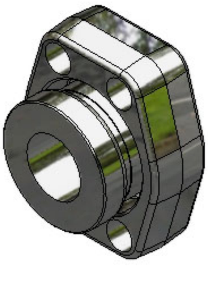
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:

- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1"	25.0X2.5	A/BWA-25.0X2.5-100-FC34-*	1.06 (0.48)	44.5	BWA-25.0X2.5-100-*	RFC34-100-*
1”	25.0X3.0	A/BWA-25.0X3.0-100-FC34-*	1.06 (0.48)	44.5	BWA-25.0X3.0-100-*	RFC34-100-*
1”	25.0X4.0	A/BWA-25.0X4.0-100-FC34-*	1.09 (0.49)	44.5	BWA-25.0X4.0-100-*	RFC34-100-*
1”	30.0X3.0	A/BWA-30.0X3.0-100-FC34-*	1.10 (0.50)	44.5	BWA-30.0X3.0-100-*	RFC34-100-*
1”	30.0X4.0	A/BWA-30.0X4.0-100-FC34-*	1.08 (0.49)	44.5	BWA-30.0X4.0-100-*	RFC34-100-*
1”	30.0X5.0	A/BWA-30.0X5.0-100-FC34-*	1.15 (0.52)	44.5	BWA-30.0X5.0-100-*	RFC34-100-*
1”	33.4X3.4	A/BWA-SCH40-100-FC34-*	1.08 (0.49)	44.5	BWA-SCH40-100-*	RFC34-100-*
1”	33.4X4.6	A/BWA-SCH80-100-FC34-*	1.08 (0.49)	44.5	BWA-SCH80-100-*	RFC34-100-*
1”	33.4X6.4	A/BWA-SCH160-100-FC34-*	1.19 (0.54)	44.5	BWA-SCH160-100-*	RFC34-100-*
1”	33.4X9.1	A/BWA-SCHXXS-100-FC34-*	1.23 (0.56)	44.5	BWA-SCHXXS-100-*	RFC34-100-*
1”	38.0X4.0	A/BWA-38.0X4.0-100-FC34-*	1.08 (0.49)	44.5	BWA-38.0X4.0-100-*	RFC34-100-*
1”	38.0X5.0	A/BWA-38.0X5.0-100-FC34-*	1.08 (0.49)	44.5	BWA-38.0X5.0-100-*	RFC34-100-*
1”	38.0X6.0	A/BWA-38.0X6.0-100-FC34-*	1.17 (0.53)	44.5	BWA-38.0X6.0-100-*	RFC34-100-*
1”	39.0X7.5	A/BWA-39.0X7.5-100-FC34-*	1.20 (0.54)	44.5	BWA-39.0X7.5-100-*	RFC34-100-*
1-1/4"	30.0X3.0	A/BWA-30.0X3.0-125-FCM34-*	1.60 (0.73)	50.8	BWA-30.0X3.0-125-*	RFCM34-125-*
1-1/4"	30.0X4.0	A/BWA-30.0X4.0-125-FCM34-*	1.63 (0.74)	50.8	BWA-30.0X4.0-125-*	RFCM34-125-*
1-1/4"	30.0X5.0	A/BWA-30.0X5.0-125-FCM34-*	1.65 (0.75)	50.8	BWA-30.0X5.0-125-*	RFCM34-125-*
1-1/4"	38.0X4.0	A/BWA-38.0X4.0-125-FCM34-*	1.59 (0.72)	50.8	BWA-38.0X4.0-125-*	RFCM34-125-*
1-1/4"	38.0X5.0	A/BWA-38.0X5.0-125-FCM34-*	1.62 (0.73)	50.8	BWA-38.0X5.0-125-*	RFCM34-125-*
1-1/4"	38.0X6.0	A/BWA-38.0X6.0-125-FCM34-*	1.65 (0.75)	50.8	BWA-38.0X6.0-125-*	RFCM34-125-*
1-1/4"	42.0X3.0	A/BWA-42.0X3.0-125-FCM34-*	1.60 (0.72)	50.8	BWA-42.0X3.0-125-*	RFCM34-125-*
1-1/4"	42.0X4.0	A/BWA-42.0X4.0-125-FCM34-*	1.61 (0.73)	50.8	BWA-42.0X4.0-125-*	RFCM34-125-*
1-1/4"	42.2X3.6	A/BWA-SCH40-125-FCM34-*	1.61 (0.73)	50.8	BWA-SCH40-125-*	RFCM34-125-*
1-1/4"	42.2X4.9	A/BWA-SCH80-125-FCM34-*	1.61 (0.73)	50.8	BWA-SCH80-125-*	RFCM34-125-*
1-1/4"	42.2X6.4	A/BWA-SCH160-125-FCM34-*	1.61 (0.73)	50.8	BWA-SCH160-125-*	RFCM34-125-*
1-1/4"	42.2X9.7	A/BWA-SCHXXS-125-FCM34-*	1.76 (0.80)	50.8	BWA-SCHXXS-125-*	RFCM34-125-*
1-1/4"	46.0X8.5	A/BWA-46.0X8.5-125-FCM34-*	1.76 (0.80)	50.8	BWA-46.0X8.5-125-*	RFCM34-125-*

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: A/BWA-50.0X3.0-200-FC34-SS
* Insert Material

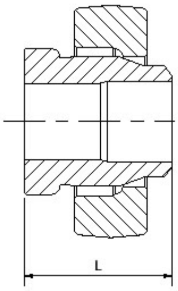
Note:

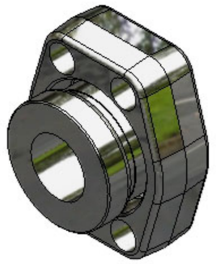
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:

- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1-1/2"	30.0X3.0	A/BWA-30.0X3.0-150-FC34-*	2.45 (1.11)	57.2	BWA-30.0X3.0-150-*	RFC34-150-*
1-1/2"	38.0X4.0	A/BWA-38.0X4.0-150-FC34-*	2.40 (1.09)	57.2	BWA-38.0X4.0-150-*	RFC34-150-*
1-1/2"	38.0X5.0	A/BWA-38.0X5.0-150-FC34-*	2.35 (1.07)	57.2	BWA-38.0X5.0-150-*	RFC34-150-*
1-1/2”	38.0X6.0	A/BWA-38.0X6.0-150-FC34-*	2.48 (1.12)	57.2	BWA-38.0X6.0-150-*	RFC34-150-*
1-1/2”	42.0X3.0	A/BWA-42.0X3.0-150-FC34-*	2.30 (1.04)	57.2	BWA-42.0X3.0-150-*	RFC34-150-*
1-1/2”	42.0X4.0	A/BWA-42.0X4.0-150-FC34-*	2.35 (1.07)	57.2	BWA-42.0X4.0-150-*	RFC34-150-*
1-1/2”	48.3X3.7	A/BWA-SCH40-150-FC34-*	2.45 (1.11)	57.2	BWA-SCH40-150-*	RFC34-150-*
1-1/2"	48.3X5.1	A/BWA-SCH80-150-FC34-*	2.38 (1.08)	57.2	BWA-SCH80-150-*	RFC34-150-*
1-1/2"	48.3X7.1	A/BWA-SCH160-150-FC34-*	2.70 (1.22)	57.2	BWA-SCH160-150-*	RFC34-150-*
1-1/2"	48.3X10.2	A/BWA-SCHXXS-150-FC34-*	2.64 (1.20)	57.2	BWA-SCHXXS-150-*	RFC34-150-*
1-1/2"	50.0X3.0	A/BWA-50.0X3.0-150-FC34-*	2.32 (1.05)	57.2	BWA-50.0X3.0-150-*	RFC34-150-*
1-1/2"	50.0X5.0	A/BWA-50.0X5.0-150-FC34-*	2.25 (1.20)	57.2	BWA-50.0X5.0-150-*	RFC34-150-*
1-1/2"	56.0X8.5	A/BWA-56.0X8.5-150-FC34-*	2.68 (1.22)	57.2	BWA-56.0X8.5-150-*	RFC34-150-*
2”	50.0X3.0	A/BWA-50.0X3.0-200-FC34-*	3.54 (1.61)	63.5	BWA-50.0X3.0-200-*	RFC34-200-*
2”	50.0X5.0	A/BWA-50.0X5.0-200-FC34-*	3.67 (1.66)	63.5	BWA-50.0X5.0-200-*	RFC34-200-*
2”	50.0X6.0	A/BWA-50.0X6.0-200-FC34-*	3.74 (1.70)	63.5	BWA-50.0X6.0-200-*	RFC34-200-*
2”	60.0X3.0	A/BWA-60.0X3.0-200-FC34-*	3.43 (1.56)	63.5	BWA-60.0X3.0-200-*	RFC34-200-*
2”	60.0X5.0	A/BWA-60.0X5.0-200-FC34-*	3.16 (1.43)	63.5	BWA-60.0X5.0-200-*	RFC34-200-*
2”	60.0X6.0	A/BWA-60.0X6.0-200-FC34-*	3.61 (1.64)	63.5	BWA-60.0X6.0-200-*	RFC34-200-*
2”	60.0X8.0	A/BWA-60.0X8.0-200-FC34-*	3.80 (1.72)	63.5	BWA-60.0X8.0-200-*	RFC34-200-*
2”	60.3X3.9	A/BWA-SCH40-200-FC34-*	3.59 (1.63)	63.5	BWA-SCH40-200-*	RFC34-200-*
2”	60.3X5.5	A/BWA-SCH80-200-FC34-*	3.69 (1.67)	63.5	BWA-SCH80-200-*	RFC34-200-*
2”	60.3X8.7	A/BWA-SCH160-200-FC34-*	3.86 (1.75)	63.5	BWA-SCH160-200-*	RFC34-200-*
2”	60.3X11.1	A/BWA-SCHXXS-200-FC34-*	3.90 (1.77)	63.5	BWA-SCHXXS-200-*	RFC34-200-*
2”	66.0X8.5	A/BWA-66.0X8.5-200-FC34-*	3.75 (1.70)	63.5	BWA-66.0X8.5-200-*	RFC34-200-*

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: A/BWA-50.0X3.0-200-FC34-SS

* Insert Material

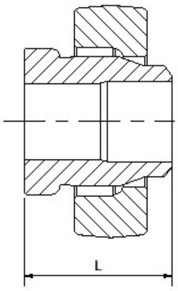
Note:
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number

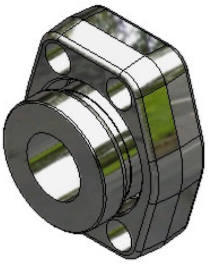
3D step models available upon request

Introduction
Technical Data
Pipe Selection Guide
16 bar, 90° Flare
ANSI 150#, 300# Flare
SAE 1000, 70 bar
SAE 3000, 210 bar
SAE 6000, 420 bar
SAE 10000, 690 bar
ISO 6164, 400 bar
ISO 6164, 400 bar F10° Flare
Clamp Supports - Heavy Series
Valves, Ball and Check

SAE 3000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:
- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
2-1/2"	60.0X5.0	A/BWA-60.0X5.0-250-FC34-*	4.87 (2.21)	66.7	BWA-60.0X5.0-250-*	RFC34-250-*
2-1/2"	60.0X6.0	A/BWA-60.0X6.0-250-FC34-*	4.95 (2.25)	66.7	BWA-60.0X6.0-250-*	RFC34-250-*
2-1/2"	65.0X8.0	A/BWA-65.0X8.0-250-FC34-*	5.02 (2.28)	66.7	BWA-65.0X8.0-250-*	RFC34-250-*
2-1/2"	73.0X5.2	A/BWA-SCH40-250-FC34-*	4.61 (2.09)	66.7	BWA-SCH40-250-*	RFC34-250-*
2-1/2"	73.0X7.0	A/BWA-SCH80-250-FC34-*	4.91 (2.23)	66.7	BWA-SCH80-250-*	RFC34-250-*
2-1/2"	73.0X9.5	A/BWA-SCH160-250-FC34-*	5.13 (2.33)	66.7	BWA-SCH160-250-*	RFC34-250-*
2-1/2"	73.0X14.0	A/BWA-SCHXXS-250-FC34-*	5.49 (2.49)	66.7	BWA-SCHXXS-250-*	RFC34-250-*
2-1/2"	75.0X.5.0	A/BWA-75.0X.5.0-250-FC34-*	4.41 (2.00)	66.7	BWA-75.0X.5.0-250-*	RFC34-250-*
2-1/2"	75.0X7.0	A/BWA-75.0X7.0-250-FC34-*	4.85 (2.20)	66.7	BWA-75.0X7.0-250-*	RFC34-250-*
2-1/2"	76.1X6.3	A/BWA-76.1X6.3-250-FC34-*	4.66 (2.11)	66.7	BWA-76.1X6.3-250-*	RFC34-250-*
2-1/2"	76.1X12.5	A/BWA-76.1X12.5-250-FC34-*	5.15 (2.36)	66.7	BWA-76.1X12.5-250-*	RFC34-250-*
2-1/2"	80.0X10.0	A/BWA-80.0X10.0-250-FC34-*	5.02 (2.28)	66.7	BWA-80.0X10.0-250-*	RFC34-250-*
3”	75.0X5.0	A/BWA-75.0X5.0-300-FC34-*	7.73 (3.50)	69.9	BWA-75.0X5.0-300-*	RFC34-300-*
3”	80.0X10.0	A/BWA-80.0X10.0-300-FC34-*	8.08 (3.67)	69.9	BWA-80.0X10.0-300-*	RFC34-300-*
3”	88.9X5.5	A/BWA-SCH40-300-FC34-*	7.63 (3.46)	69.9	BWA-SCH40-300-*	RFC34-300-*
3”	88.9X7.6	A/BWA-SCH80-300-FC34-*	8.05 (3.65)	69.9	BWA-SCH80-300-*	RFC34-300-*
3”	88.9X11.1	A/BWA-SCH160-300-FC34-*	7.89 (3.58)	69.9	BWA-SCH160-300-*	RFC34-300-*
3”	88.9X15.2	A/BWA-SCHXXS-300-FC34-*	9.24 (4.19)	69.9	BWA-SCHXXS-300-*	RFC34-300-*
3”	90.0X3.5	A/BWA-90X3.5-300-FC34-*	7.45 (3.38)	69.9	BWA-90X3.5-300-*	RFC34-300-*
3”	90.0X5.0	A/BWA-90X5.0-300-FC34-*	7.60 (3.45)	69.9	BWA-90X5.0-300-*	RFC34-300-*
3”	97.0X12.0	A/BWA-97.0X12.0-300-FC34-*	8.29 (3.76)	69.9	BWA-97.0X12.0-300-*	RFC34-300-*

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: A/BWA-50.0X3.0-200-FC34-SS

* Insert Material

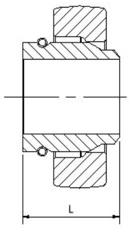
Note:

To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, NPS

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:

- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1/2"	1/2” SCH80	A/BWAR-SCH80-050-FC34-*	0.64 (0.29)	1.25	BWAR-SCH80-050-*	RFC34-050-*	R-050
1/2"	1/2” SCH160	A/BWAR-SCH160-050-FC34-*	0.65 (0.29)	1.25	BWAR-SCH160-050-*	RFC34-050-*	R-050
1/2”	1/2” SCHXXS	A/BWAR-SCHXXS-050-FC34-*	0.66 (0.30)	1.25	BWAR-SCHXXS-050-*	RFC34-050-*	R-050
3/4”	3/4” SCH80	A/BWAR-SCH80-075-FC34-*	0.92 (0.42)	1.75	BWAR-SCH80-075-*	RFC34-075-*	R-075
3/4"	3/4” SCH160	A/BWAR-SCH160-075-FC34-*	1.00 (0.45)	1.75	BWAR-SCH160-075-*	RFC34-075-*	R-075
3/4”	3/4” SCHXXS	A/BWAR-SCHXXS-075-FC34-*	1.03 (0.48)	1.75	BWAR-SCHXXS-075-*	RFC34-075-*	R-075
1”	1” SCH80	A/BWAR-SCH80-100-FC34-*	1.08 (0.49)	1.75	BWAR-SCH80-100-*	RFC34-100-*	R-100
1”	1” SCH160	A/BWAR-SCH160-100-FC34-*	1.19 (0.54)	1.75	BWAR-SCH160-100-*	RFC34-100-*	R-100
1”	1” SCHXXS	A/BWAR-SCHXXS-100-FC34-*	1.23 (0.56)	1.75	BWAR-SCHXXS-100-*	RFC34-100-*	R-100
1-1/4”	1-1/4” SCH80	A/BWAR-SCH80-125-FC34-*	1.62 (0.73)	2.00	BWAR-SCH80-125-*	RFCM34-125-*	R-125
1-1/4”	1-1/4” SCH160	A/BWAR-SCH160-125-FC34-*	1.65 (0.75)	2.00	BWAR-SCH160-125-*	RFCM34-125-*	R-125
1-1/4”	1-1/4” SCHXXS	A/BWAR-SCHXXS-125-FC34-*	1.76 (0.80)	2.00	BWAR-SCHXXS-125-*	RFCM34-125-*	R-125
1-1/2”	1-1/2” SCH80	A/BWAR-SCH80-150-FC34-*	2.06 (0.93)	2.25	BWAR-SCH80-150-*	RFC34-150-*	R-150
1-1/2”	1-1/2” SCH160	A/BWAR-SCH160-150-FC34-*	2.70 (1.22)	2.25	BWAR-SCH160-150-*	RFC34-150-*	R-150
1-1/2”	1-1/2” SCHXXS	A/BWAR-SCHXXS-150-FC34-*	2.72 (1.23)	2.25	BWAR-SCHXXS-150-*	RFC34-150-*	R-150
2”	2” SCH80	A/BWAR-SCH80-200-FC34-*	3.69 (1.67)	2.50	BWAR-SCH80-200-*	RFC34-200-*	R-200
2”	2” SCH160	A/BWAR-SCH160-200-FC34-*	3.86 (1.75)	2.50	BWAR-SCH160-200-*	RFC34-200-*	R-200
2”	2” SCHXXS	A/BWAR-SCHXXS-200-FC34-*	3.90 (1.77)	2.50	BWAR-SCHXXS-200-*	RFC34-200-*	R-200
2-1/2”	2-1/2” SCH80	A/BWAR-SCH80-250-FC34-*	5.12 (2.32)	2.63	BWAR-SCH80-250-*	RFC34-250-*	R-250
2-1/2”	2-1/2” SCH160	A/BWAR-SCH160-250-FC34-*	5.35 (2.43)	2.63	BWAR-SCH160-250-*	RFC34-250-*	R-250
2 -1/2”	2-1/2” SCHXXS	A/BWAR-SCHXXS-250-FC34-*	5.70 (2.59)	2.63	BWAR-SCHXXS-250-*	RFC34-250-*	R-250
3”	3” SCH80	A/BWAR-SCH80-300-FC34-*	8.05 (3.50)	2.75	BWAR-SCH80-300-*	RFC34-300-*	R-300
3”	3” SCH160	A/BWAR-SCH160-300-FC34-*	7.89 (3.72)	2.75	BWAR-SCH160-300-*	RFC34-300-*	R-300
3”	3” SCHXXS	A/BWAR-SCHXXS-300-FC34-*	9.20 (3.95)	2.75	BWAR-SCHXXS-300-*	RFC34-300-*	R-300

Ordering Example: A/BWAR-SCH80-200-FC34-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

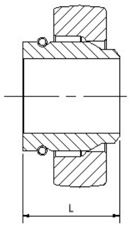
Note:

To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:
- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1/2"	12.0X1.5	A/BWAR-12.0X1.5-050-FC34-*	0.65 (0.29)	38.1	BWAR-12.0X1.5-050-*	RFC34-050-*	R-050
1/2"	16.0X2.0	A/BWAR-16.0X2.0-050-FC34-*	0.65 (0.29)	38.1	BWAR-16.0X2.0-050-*	RFC34-050-*	R-050
1/2”	16.0X2.5	A/BWAR-16.0X2.5-050-FC34-*	0.65 (0.29)	38.1	BWAR-16.0X2.5-050-*	RFC34-050-*	R-050
1/2”	18.0X2.0	A/BWAR-18.0X2.0-050-FC34-*	0.65 (0.29)	38.1	BWAR-18.0X2.0-050-*	RFC34-050-*	R-050
1/2”	20.0X2.0	A/BWAR-20.0X2.0-050-FC34-*	0.67 (0.30)	38.1	BWAR-20.0X2.0-050-*	RFC34-050-*	R-050
1/2”	20.0X2.5	A/BWAR-20.0X2.5-050-FC34-*	0.67 (0.30)	38.1	BWAR-20.0X2.5-050-*	RFC34-050-*	R-050
1/2”	20.0X3.0	A/BWAR-20.0X3.0-050-FC34-*	0.67 (0.30)	38.1	BWAR-20.0X3.0-050-*	RFC34-050-*	R-050
1/2”	21.3X2.8	A/BWAR-SCH40-050-FC34-*	0.63 (0.29)	31.8	BWAR-SCH40-050-*	RFC34-050-*	R-050
1/2”	21.3X3.7	A/BWAR-SCH80-050-FC34-*	0.64 (0.29)	31.8	BWAR-SCH80-050-*	RFC34-050-*	R-050
1/2”	21.3X4.8	A/BWAR-SCH160-050-FC34-*	0.65 (0.29)	31.8	BWAR-SCH160-050-*	RFC34-050-*	R-050
1/2”	21.3X7.5	A/BWAR-SCHXXS-050-FC34-*	0.66 (0.30)	31.8	BWAR-SCHXXS-050-*	RFC34-050-*	R-050
1/2”	25.0X2.5	A/BWAR-25.0X2.5-050-FC34-*	0.66 (0.30)	38.1	BWAR-25.0X2.5-050-*	RFC34-050-*	R-050
1/2”	25.0X3.0	A/BWAR-25.0X3.0-050-FC34-*	0.66 (0.30)	38.1	BWAR-25.0X3.0-050-*	RFC34-050-*	R-050
1/2”	26.0X6.0	A/BWAR-26.0X6.0-050-FC34-*	0.71 (0.32)	38.1	BWAR-26.0X6.0-050-*	RFC34-050-*	R-050
3/4"	20.0X2.0	A/BWAR-20.0X2.0-075-FC34-*	0.95 (0.43)	44.5	BWAR-20.0X2.0-075-*	RFC34-075-*	R-075
3/4"	20.0X2.5	A/BWAR-20.0X2.5-075-FC34-*	0.97 (0.44)	44.5	BWAR-20.0X2.5-075-*	RFC34-075-*	R-075
3/4”	20.0X3.0	A/BWAR-20.0X3.0-075-FC34-*	0.97 (0.44)	44.5	BWAR-20.0X3.0-075-*	RFC34-075-*	R-075
3/4"	25.0X2.5	A/BWAR-25.0X2.5-075-FC34-*	0.94 (0.43)	44.5	BWAR-25.0X2.5-075-*	RFC34-075-*	R-075
3/4"	25.0X3.0	A/BWAR-25.0X3.0-075-FC34-*	0.95 (0.43)	44.5	BWAR-25.0X3.0-075-*	RFC34-075-*	R-075
3/4"	25.0X4.0	A/BWAR-25.0X4.0-075-FC34-*	0.97 (0.44)	44.5	BWAR-25.0X4.0-075-*	RFC34-075-*	R-075
3/4"	26.7X2.9	A/BWAR-SCH40-075-FC34-*	0.90 (0.41)	44.5	BWAR-SCH40-075-*	RFC34-075-*	R-075
3/4"	26.7X3.9	A/BWAR-SCH80-075-FC34-*	0.92 (0.42)	44.5	BWAR-SCH80-075-*	RFC34-075-*	R-075
3/4"	26.7X5.5	A/BWAR-SCH160-075-FC34-*	1.00 (0.45)	44.5	BWAR-SCH160-075-*	RFC34-075-*	R-075
3/4"	26.7X7.8	A/BWAR-SCHXXS-075-FC34-*	1.03 (0.47)	44.5	BWAR-SCHXXS-075-*	RFC34-075-*	R-075
3/4"	30.0X.3.0	A/BWAR-30.0X3.0-075-FC34-*	0.85 (0.39)	44.5	BWAR-30.0X3.0-075-*	RFC34-075-*	R-075
3/4"	30.0X.4.0	A/BWAR-30.0X4.0-075-FC34-*	0.88 (0.40)	44.5	BWAR-30.0X4.0-075-*	RFC34-075-*	R-075
3/4"	36.0X8.0	A/BWAR-36.0X8.0-075-FC34-*	1.03 (0.47)	44.5	BWAR-36.0X8.0-075-*	RFC34-075-*	R-075

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

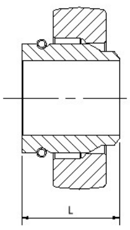
Ordering Example: A/BWAR-50.0X3.0-200-FC34-SS
* Insert Material

Note:
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FTM in the Part Number.

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:
- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1"	25.0X2.5	A/BWAR-25.0X2.5-100-FC34-*	1.06 (0.48)	44.5	BWAR-25.0X2.5-100-*	RFC34-100-*	R-100
1”	25.0X3.0	A/BWAR-25.0X3.0-100-FC34-*	1.06 (0.48)	44.5	BWAR-25.0X3.0-100-*	RFC34-100-*	R-100
1”	25.0X4.0	A/BWAR-25.0X4.0-100-FC34-*	1.09 (0.49)	44.5	BWAR-25.0X4.0-100-*	RFC34-100-*	R-100
1”	30.0X3.0	A/BWAR-30.0X3.0-100-FC34-*	1.10 (0.50)	44.5	BWAR-30.0X3.0-100-*	RFC34-100-*	R-100
1”	30.0X4.0	A/BWAR-30.0X4.0-100-FC34-*	1.08 (0.49)	44.5	BWAR-30.0X4.0-100-*	RFC34-100-*	R-100
1”	30.0X5.0	A/BWAR-30.0X5.0-100-FC34-*	1.15 (0.52)	44.5	BWAR-30.0X5.0-100-*	RFC34-100-*	R-100
1”	33.4X3.4	A/BWAR-SCH40-100-FC34-*	1.08 (0.49)	44.5	BWAR-SCH40-100-*	RFC34-100-*	R-100
1”	33.4X4.6	A/BWAR-SCH80-100-FC34-*	1.08 (0.49)	44.5	BWAR-SCH80-100-*	RFC34-100-*	R-100
1”	33.4X6.4	A/BWAR-SCH160-100-FC34-*	1.19 (0.54)	44.5	BWAR-SCH160-100-*	RFC34-100-*	R-100
1”	33.4X9.1	A/BWAR-SCHXXS-100-FC34-*	1.23 (0.56)	44.5	BWAR-SCHXXS-100-*	RFC34-100-*	R-100
1”	38.0X4.0	A/BWAR-38.0X4.0-100-FC34-*	1.08 (0.49)	44.5	BWAR-38.0X4.0-100-*	RFC34-100-*	R-100
1”	38.0X5.0	A/BWAR-38.0X5.0-100-FC34-*	1.08 (0.49)	44.5	BWAR-38.0X5.0-100-*	RFC34-100-*	R-100
1”	38.0X6.0	A/BWAR-38.0X6.0-100-FC34-*	1.17 (0.53)	44.5	BWAR-38.0X6.0-100-*	RFC34-100-*	R-100
1”	39.0X7.5	A/BWAR-39.0X7.5-100-FC34-*	1.20 (0.54)	44.5	BWAR-39.0X7.5-100-*	RFC34-100-*	R-100
1-1/4"	30.0X3.0	A/BWAR-30.0X3.0-125-FCM34-*	1.60 (0.73)	50.8	BWAR-30.0X3.0-125-*	RFCM34-125-*	R-125
1-1/4"	30.0X4.0	A/BWAR-30.0X4.0-125-FCM34-*	1.63 (0.74)	50.8	BWAR-30.0X4.0-125-*	RFCM34-125-*	R-125
1-1/4"	30.0X5.0	A/BWAR-30.0X5.0-125-FCM34-*	1.65 (0.75)	50.8	BWAR-30.0X5.0-125-*	RFCM34-125-*	R-125
1-1/4"	38.0X4.0	A/BWAR-38.0X4.0-125-FCM34-*	1.59 (0.72)	50.8	BWAR-38.0X4.0-125-*	RFCM34-125-*	R-125
1-1/4"	38.0X5.0	A/BWAR-38.0X5.0-125-FCM34-*	1.62 (0.73)	50.8	BWAR-38.0X5.0-125-*	RFCM34-125-*	R-125
1-1/4"	38.0X6.0	A/BWAR-38.0X6.0-125-FCM34-*	1.65 (0.75)	50.8	BWAR-38.0X6.0-125-*	RFCM34-125-*	R-125
1-1/4"	42.0X3.0	A/BWAR-42.0X3.0-125-FCM34-*	1.60 (0.72)	50.8	BWAR-42.0X3.0-125-*	RFCM34-125-*	R-125
1-1/4"	42.0X4.0	A/BWAR-42.0X4.0-125-FCM34-*	1.61 (0.73)	50.8	BWAR-42.0X4.0-125-*	RFCM34-125-*	R-125
1-1/4"	42.2X3.6	A/BWAR-SCH40-125-FCM34-*	1.61 (0.73)	50.8	BWAR-SCH40-125-*	RFCM34-125-*	R-125
1-1/4"	42.2X4.9	A/BWAR-SCH80-125-FCM34-*	1.61 (0.73)	50.8	BWAR-SCH80-125-*	RFCM34-125-*	R-125
1-1/4"	42.2X6.4	A/BWAR-SCH160-125-FCM34-*	1.61 (0.73)	50.8	BWAR-SCH160-125-*	RFCM34-125-*	R-125
1-1/4"	42.2X9.7	A/BWAR-SCHXXS-125-FCM34-*	1.76 (0.80)	50.8	BWAR-SCHXXS-125-*	RFCM34-125-*	R-125
1-1/4"	46.0X8.5	A/BWAR-46.0X8.5-125-FCM34-*	1.76 (0.80)	50.8	BWAR-46.0X8.5-125-*	RFCM34-125-*	R-125

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

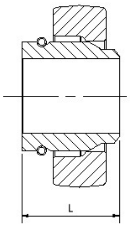
Ordering Example: A/BWAR-50.0X3.0-200-FC34-SS
* Insert Material

Note:
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FTM in the Part Number.

3D step models available upon request

SAE 3000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:

- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1-1/2"	30.0X3.0	A/BWAR-30.0X3.0-150-FC34-*	2.45 (1.11)	57.2	BWAR-30.0X3.0-150-*	RFC34-150-*	R-150
1-1/2"	38.0X4.0	A/BWAR-38.0X4.0-150-FC34-*	2.40 (1.09)	57.2	BWAR-38.0X4.0-150-*	RFC34-150-*	R-150
1-1/2"	38.0X5.0	A/BWAR-38.0X5.0-150-FC34-*	2.35 (1.07)	57.2	BWAR-38.0X5.0-150-*	RFC34-150-*	R-150
1-1/2"	38.0X6.0	A/BWAR-38.0X6.0-150-FC34-*	2.48 (1.12)	57.2	BWAR-38.0X6.0-150-*	RFC34-150-*	R-150
1-1/2"	42.0X3.0	A/BWAR-42.0X3.0-150-FC34-*	2.30 (1.04)	57.2	BWAR-42.0X3.0-150-*	RFC34-150-*	R-150
1-1/2"	42.0X4.0	A/BWAR-42.0X4.0-150-FC34-*	2.35 (1.07)	57.2	BWAR-42.0X4.0-150-*	RFC34-150-*	R-150
1-1/2"	48.3X3.7	A/BWAR-SCH40-150-FC34-*	2.45 (1.11)	57.2	BWAR-SCH40-150-*	RFC34-150-*	R-150
1-1/2"	48.3X5.1	A/BWAR-SCH80-150-FC34-*	2.38 (1.08)	57.2	BWAR-SCH80-150-*	RFC34-150-*	R-150
1-1/2"	48.3X7.1	A/BWAR-SCH160-150-FC34-*	2.70 (1.22)	57.2	BWAR-SCH160-150-*	RFC34-150-*	R-150
1-1/2"	48.3X10.2	A/BWAR-SCHXXS-150-FC34-*	2.64 (1.20)	57.2	BWAR-SCHXXS-150-*	RFC34-150-*	R-150
1-1/2"	50.0X3.0	A/BWAR-50.0X3.0-150-FC34-*	2.32 (1.05)	57.2	BWAR-50.0X3.0-150-*	RFC34-150-*	R-150
1-1/2"	50.0X5.0	A/BWAR-50.0X5.0-150-FC34-*	2.25 (1.20)	57.2	BWAR-50.0X5.0-150-*	RFC34-150-*	R-150
1-1/2"	56.0X8.5	A/BWAR-56.0X8.5-150-FC34-*	2.68 (1.22)	57.2	BWAR-56.0X8.5-150-*	RFC34-150-*	R-150
2”	50.0X3.0	A/BWAR-50.0X3.0-200-FC34-*	3.54 (1.61)	63.5	BWAR-50.0X3.0-200-*	RFC34-200-*	R-200
2”	50.0X5.0	A/BWAR-50.0X5.0-200-FC34-*	3.67 (1.66)	63.5	BWAR-50.0X5.0-200-*	RFC34-200-*	R-200
2”	50.0X6.0	A/BWAR-50.0X6.0-200-FC34-*	3.74 (1.70)	63.5	BWAR-50.0X6.0-200-*	RFC34-200-*	R-200
2”	60.0X3.0	A/BWAR-60.0X3.0-200-FC34-*	3.43 (1.56)	63.5	BWAR-60.0X3.0-200-*	RFC34-200-*	R-200
2”	60.0X5.0	A/BWAR-60.0X5.0-200-FC34-*	3.16 (1.43)	63.5	BWAR-60.0X5.0-200-*	RFC34-200-*	R-200
2”	60.0X6.0	A/BWAR-60.0X6.0-200-FC34-*	3.61 (1.64)	63.5	BWAR-60.0X6.0-200-*	RFC34-200-*	R-200
2”	60.0X8.0	A/BWAR-60.0X8.0-200-FC34-*	3.80 (1.72)	63.5	BWAR-60.0X8.0-200-*	RFC34-200-*	R-200
2”	60.3X3.9	A/BWAR-SCH40-200-FC34-*	3.59 (1.63)	63.5	BWAR-SCH40-200-*	RFC34-200-*	R-200
2”	60.3X5.5	A/BWAR-SCH80-200-FC34-*	3.69 (1.67)	63.5	BWAR-SCH80-200-*	RFC34-200-*	R-200
2”	60.3X8.7	A/BWAR-SCH160-200-FC34-*	3.86 (1.75)	63.5	BWAR-SCH160-200-*	RFC34-200-*	R-200
2”	60.3X11.1	A/BWAR-SCHXXS-200-FC34-*	3.90 (1.77)	63.5	BWAR-SCHXXS-200-*	RFC34-200-*	R-200
2”	66.0X8.5	A/BWAR-66.0X8.5-200-FC34-*	3.75 (1.70)	63.5	BWAR-66.0X8.5-200-*	RFC34-200-*	R-200

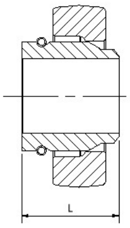
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: A/BWAR-50.0X3.0-200-FC34-SS
* Insert Material

Note:
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FTM in the Part Number.

SAE 3000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:
- Bolt Kit (See Page G25)
- O-Ring Spacer (See Page G80)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
2-1/2"	60.0X5.0	A/BWAR-60.0X5.0-250-FC34-*	4.87 (2.21)	66.7	BWAR-60.0X5.0-250-*	RFC34-250-*	R-250
2-1/2"	60.0X6.0	A/BWAR-60.0X6.0-250-FC34-*	4.95 (2.25)	66.7	BWAR-60.0X6.0-250-*	RFC34-250-*	R-250
2-1/2"	65.0X8.0	A/BWAR-65.0X8.0-250-FC34-*	5.02 (2.28)	66.7	BWAR-65.0X8.0-250-*	RFC34-250-*	R-250
2-1/2"	73.0X5.2	A/BWAR-SCH40-250-FC34-*	4.61 (2.09)	66.7	BWAR-SCH40-250-*	RFC34-250-*	R-250
2-1/2"	73.0X7.0	A/BWAR-SCH80-250-FC34-*	4.91 (2.23)	66.7	BWAR-SCH80-250-*	RFC34-250-*	R-250
2-1/2"	73.0X9.5	A/BWAR-SCH160-250-FC34-*	5.13 (2.33)	66.7	BWAR-SCH160-250-*	RFC34-250-*	R-250
2-1/2"	73.0X14.0	A/BWAR-SCHXXS-250-FC34-*	5.49 (2.49)	66.7	BWAR-SCHXXS-250-*	RFC34-250-*	R-250
2-1/2"	75.0X.5.0	A/BWAR-75.0X.5.0-250-FC34-*	4.41 (2.00)	66.7	BWAR-75.0X.5.0-250-*	RFC34-250-*	R-250
2-1/2"	75.0X7.0	A/BWAR-75.0X7.0-250-FC34-*	4.85 (2.20)	66.7	BWAR-75.0X7.0-250-*	RFC34-250-*	R-250
2-1/2"	76.1X6.3	A/BWAR-76.1X6.3-250-FC34-*	4.66 (2.11)	66.7	BWAR-76.1X6.3-250-*	RFC34-250-*	R-250
2-1/2"	76.1X12.5	A/BWAR-76.1X12.5-250-FC34-*	5.15 (2.36)	66.7	BWAR-76.1X12.5-250-*	RFC34-250-*	R-250
2-1/2"	80.0X10.0	A/BWAR-80.0X10.0-250-FC34-*	5.02 (2.28)	66.7	BWAR-80.0X10.0-250-*	RFC34-250-*	R-250
3”	75.0X5.0	A/BWAR-75.0X5.0-300-FC34-*	7.73 (3.50)	69.9	BWAR-75.0X5.0-300-*	RFC34-300-*	R-300
3”	80.0X10.0	A/BWAR-80.0X10.0-300-FC34-*	8.08 (3.67)	69.9	BWAR-80.0X10.0-300-*	RFC34-300-*	R-300
3”	88.9X5.5	A/BWAR-SCH40-300-FC34-*	7.63 (3.46)	69.9	BWAR-SCH40-300-*	RFC34-300-*	R-300
3”	88.9X7.6	A/BWAR-SCH80-300-FC34-*	8.05 (3.65)	69.9	BWAR-SCH80-300-*	RFC34-300-*	R-300
3”	88.9X11.1	A/BWAR-SCH160-300-FC34-*	7.89 (3.58)	69.9	BWAR-SCH160-300-*	RFC34-300-*	R-300
3”	88.9X15.2	A/BWAR-SCHXXS-300-FC34-*	9.24 (4.19)	69.9	BWAR-SCHXXS-300-*	RFC34-300-*	R-300
3”	90.0X3.5	A/BWAR-90X3.5-300-FC34-*	7.45 (3.38)	69.9	BWAR-90X3.5-300-*	RFC34-300-*	R-300
3”	90.0X5.0	A/BWAR-90X5.0-300-FC34-*	7.60 (3.45)	69.9	BWAR-90X5.0-300-*	RFC34-300-*	R-300
3”	97.0X12.0	A/BWAR-97.0X12.0-300-FC34-*	8.29 (3.76)	69.9	BWAR-97.0X12.0-300-*	RFC34-300-*	R-300

Ordering Example: A/BWAR-50.0X3.0-200-FC34-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Note:

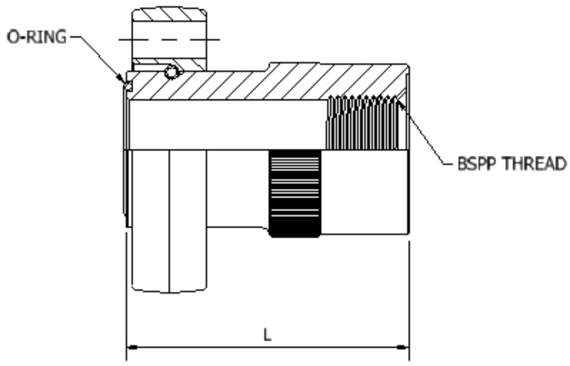
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FTM in the Part Number.

3D step models available upon request

SAE 3000 PSI BSPP Female Thread Adapter

Complete Assembly

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:

- One (1) Female Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G25)

A/FBTA - BSPP Female Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size	O-Ring (Buna Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L	R				
1/2”x 1/4”	A/FBTA-050x025-FC34-*-^	1.38 (35.0)	1/4"	OR^-3-909	1.05 (0.48)	FBTA-050x025-*-^	0.64 (0.29)
1/2" x 1/2"	A/FBTA-050x050-FC34-*-^	2.50 (63.5)	1/2"	OR^-3-909	1.51 (0.69)	FBTA-050x050-*-^	1.10 (0.50)
3/4”x 1/2"	A/FBTA-075x050-FC34-*-^	1.57 (40.0)	1/2"	OR^-3-913	1.43 (0.65)	FBTA-075x050-*-^	0.95 (0.43)
3/4" x 3/4"	A/FBTA-075x075-FC34-*-^	2.88 (73.0)	3/4"	OR^-3-913	2.13 (0.97)	FBTA-075x075-*-^	1.65 (0.75)
1”x 3/4"	A/FBTA-100x075-FC34-*-^	1.57 (40.0)	3/4"	OR^-3-916	1.67 (0.76)	FBTA-100x075-*-^	1.06 (0.48)
1” x 1”	A/FBTA-100x100-FC34-*-^	3.75 (95.3)	1"	OR^-3-916	2.41 (1.10)	FBTA-100x100-*-^	1.80 (0.82)
1-1/4”x 1”	A/FBTA-125x100-FC34-*-^	1.65 (42.0)	1”	OR^-3-918	2.30 (1.05)	FBTA-125x100-*-^	1.47 (0.67)
1-1/4" x 1-1/4"	A/FBTA-125x125-FC34-*-^	3.88 (98.6)	1-1/4”	OR^-3-918	3.33 (1.51)	FBTA-125x125-*-^	2.50 (1.14)
1-1/2”x 1-1/4"	A/FBTA-150x125-FC34-*-^	1.77 (45.0)	1-1/4"	OR^-3-924	3.77 (1.71)	FBTA-150x125-*-^	2.31 (1.05)
1-1/2" x 1-1/2"	A/FBTA-150x150-FC34-*-^	4.00 (101.6)	1-1/2"	OR^-3-924	5.51 (2.50)	FBTA-150x150-*-^	4.05 (1.84)
2”x 1-1/2"	A/FBTA-200x150-FC34-*-^	2.16 (55.0)	1-1/2"	OR^-3-928	5.74 (2.61)	FBTA-200x150-*-^	3.67 (1.67)
2” X 2”	A/FBTA-200x200-FC34-*-^	4.50 (114.3)	2"	OR^-3-928	8.52 (3.87)	FBTA-200x200-*-^	6.45 (2.93)

Flange Option:
Standard, FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange.
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded Flange.
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

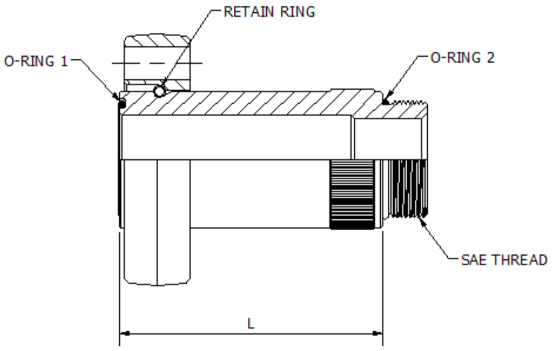
Ordering Example: A/FBTA-200x150-FC34-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

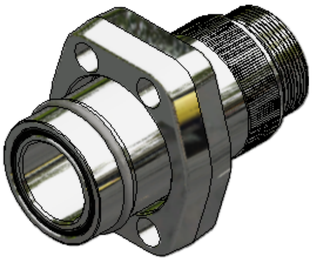
3D step models available upon request

SAE 3000 PSI SAE Male Thread Adapter

Complete Assembly

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)
- One (1) Thread O-Ring (O-Ring 2)

To be Ordered Separately:

- Bolt Kit (See Page G25)

A/STA – SAE Male Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size UNF/ UN-2A	O-Ring 1 (Buna) Part Number	O-Ring 2 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L						
1/2”x 3/8”	A/STA-050x038-FC34-*-^	2.63 (66.80)	9/16”-18	OR^-3-909	OR^-3-906	0.96 (0.44)	STA-050x038-*	0.50 (0.23)
1/2”x 1/2”	A/STA-050x050-FC34-*-^	2.63 (66.80)	3/4”-16	OR^-3-909	OR^-3-908	0.94 (0.43)	STA-050x050-*	0.52 (0.24)
1/2”x 5/8”	A/STA-050x063-FC34-*-^	2.63 (66.80)	7/8”-14	OR^-3-909	OR^-3-910	1.00 (0.45)	STA-050x063-*	0.57 (0.26)
1/2”x 3/4”	A/STA-050x075-FC34-*-^	2.63 (66.80)	1-1/16”-12	OR^-3-909	OR^-3-912	1.12 (0.50)	STA-050x075-*	0.66 (0.30)
3/4”x 1/2”	A/STA-075x050-FC34-*-^	2.75 (69.85)	3/4”-16	OR^-3-913	OR^-3-908	1.50 (0.68)	STA-075x050-*	1.00 (0.45)
3/4”x 3/4”	A/STA-075x075-FC34-*-^	2.75 (69.85)	1-1/16”-12	OR^-3-913	OR^-3-912	1.57 (0.71)	STA-075x075-*	1.07 (0.49)
3/4”x 1”	A/STA-075x100-FC34-*-^	2.75 (69.85)	1-5/16”-12	OR^-3-913	OR^-3-916	1.78 (0.81)	STA-075x100-*	1.15 (0.52)
1”x 3/4”	A/STA-100x075-FC34-*-^	3.00 (76.20)	1-1/16”-12	OR^-3-916	OR^-3-912	1.88 (0.85)	STA-100x075-*	1.25 (0.57)
1”x 1”	A/STA-100x100-FC34-*-^	3.00 (76.20)	1-5/16”-12	OR^-3-916	OR^-3-916	1.93 (0.88)	STA-100x100-*	1.30 (0.59)
1”x 1-1/4”	A/STA-100x125-FC34-*-^	3.00 (76.20)	1-5/8”-12	OR^-3-916	OR^-3-920	2.12 (0.96)	STA-100x125-*	1.49 (0.68)
1-1/4”x 1”	A/STA-125x100-FC34-*-^	3.25 (82.55)	1-5/16”-12	OR^-3-918	OR^-3-916	2.65 (1.20)	STA-125x100-*	1.75 (0.79)
1-1/4”x 1-1/4”	A/STA-125x125-FC34-*-^	3.25 (82.55)	1-5/8”-12	OR^-3-918	OR^-3-920	2.72 (1.23)	STA-125x125-*	1.82 (0.83)
1-1/4”x 1-1/2”	A/STA-125x150-FC34-*-^	3.25 (82.55)	1-7/8”-12	OR^-3-918	OR^-3-924	2.93 (1.33)	STA-125x150-*	2.03 (0.92)
1-1/2”x 1-1/4”	A/STA-150x125-FC34-*-^	4.25 (107.95)	1-5/8”-12	OR^-3-924	OR^-3-920	3.84 (1.74)	STA-150x125-*	2.94 (1.33)
1-1/2”x 1-1/2”	A/STA-150x150-FC34-*-^	4.25 (107.95)	1-7/8”-12	OR^-3-924	OR^-3-924	4.32 (1.96)	STA-150x150-*	2.97 (1.35)
1-1/2” x 2”	A/STA-150x200-FC34-*-^	4.25 (107.95)	2-1/2”-12	OR^-3-924	OR^-3-932	4.89 (2.22)	STA-150x200-*	3.54 (1.61)
2”x 1-1/2”	A/STA-200x150-FC34-*-^	4.38 (111.25)	1-7/8”-12	OR^-3-928	OR^-3-924	5.78 (2.62)	STA-200x150-*	3.76 (1.71)
2”x 2”	A/STA-200x200-FC34-*-^	4.38 (111.25)	2-1/2”-12	OR^-3-928	OR^-3-932	5.98 (2.71)	STA-200x200-*	3.96 (1.80)

Flange Option:

Standard, FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange.
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded Flange.
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded Flange.

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/STA-200x150-FC34-SS-V

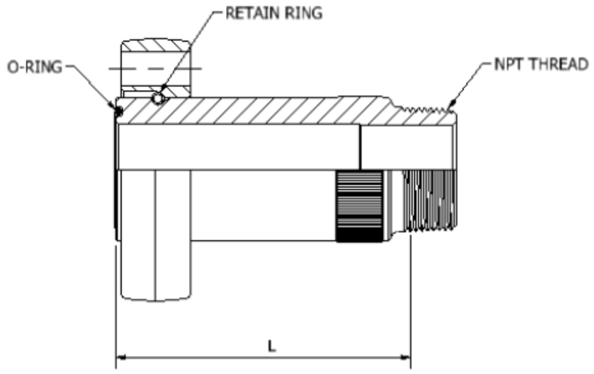
Flange Option
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI NPT Male Thread Adapter

Complete Assembly

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page G25)

A/NTA – NPT Male Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	NPTF Thread (Dryseal)	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L					
1/2"x 1/2"	A/NTA-050x050-FC34-*-^	2.88 (73.15)	1/2"-14	OR^-3-909	1.07 (0.49)	NTA-050x050-*	0.57 (0.26)
1/2"x 3/4"	A/NTA-050x075-FC34-*-^	2.86 (72.64)	3/4"-14	OR^-3-909	1.24 (0.56)	NTA-050x075-*	0.74 (0.34)
3/4"x 1/2"	A/NTA-075x050-FC34-*-^	3.00 (76.2)	1/2"-14	OR^-3-913	1.57 (0.71)	NTA-075x050-*	1.07 (0.49)
3/4"x 3/4"	A/NTA-075x075-FC34-*-^	2.98 (75.69)	3/4"-14	OR^-3-913	1.57 (0.71)	NTA-075x075-*	1.07 (0.49)
3/4"x 1"	A/NTA-075x100-FC34-*-^	3.07 (77.98)	1"-11-1/2	OR^-3-913	1.64 (0.74)	NTA-075x100-*	1.19 (0.54)
1"x 3/4"	A/NTA-100x075-FC34-*-^	3.23 (82.04)	3/4"-14	OR^-3-916	1.91 (0.87)	NTA-100x075-*	1.28 (0.58)
1"x 1"	A/NTA-100x100-FC34-*-^	3.32 (84.33)	1"-11-1/2	OR^-3-916	1.97 (0.89)	NTA-100x100-*	1.34 (0.61)
1"x 1-1/4"	A/NTA-100x125-FC34-*-^	3.33 (84.58)	1-1/4"-11-1/2	OR^-3-916	2.25 (1.02)	NTA-100x125-*	1.62 (0.73)
1-1/4"x 1"	A/NTA-125x100-FC34-*-^	3.57 (90.68)	1"-11-1/2	OR^-3-918	2.74 (1.24)	NTA-125x100-*	1.84 (0.83)
1-1/4"x 1-1/4"	A/NTA-125x125-FC34-*-^	3.58 (90.93)	1-1/4"-11-1/2	OR^-3-918	2.77 (1.26)	NTA-125x125-*	1.87 (0.85)
1-1/4"x 1-1/2"	A/NTA-125x150-FC34-*-^	3.61 (91.69)	1-1/2"-11-1/2	OR^-3-918	3.12 (1.42)	NTA-125x150-*	2.18 (0.99)
1-1/2"x 1-1/4"	A/NTA-150x125-FC34-*-^	4.58 (116.33)	1-1/4"-11-1/2	OR^-3-924	3.90 (1.77)	NTA-150x125-*	3.00 (1.56)
1-1/2"x 1-1/2"	A/NTA-150x150-FC34-*-^	4.61 (117.09)	1-1/2"-11-1/2	OR^-3-924	4.45(2.02)	NTA-150x150-*	3.10 (1.41)
1-1/2" x 2"	A/NTA-150x200-FC34-*-^	4.63 (117.60)	2"-11-1/2	OR^-3-924	4.95 (2.25)	NTA-150x200-*	3.60 (1.36)
2"x 1-1/2"	A/NTA-200x150-FC34-*-^	4.61 (117.09)	1-1/2"-11-1/2	OR^-3-928	5.98 (2.71)	NTA-200x150-*	3.96 (1.80)
2"x 2"	A/NTA-200x200-FC34-*-^	4.63 (117.60)	2"-11-1/2	OR^-3-928	6.02 (2.73)	NTA-200x200-*	4.00 (1.81)

Flange Option:
Standard, FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange.
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded Flange.
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

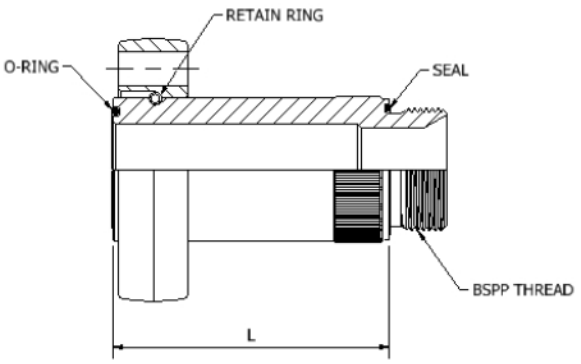
Ordering Example: A/NTA-200x150-FC34-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI BSPP Male Thread Adapter

Complete Assembly

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)
- One (1) Thread Seal (Seal 2)

To be Ordered Separately:

- Bolt Kit (See Page G25)

A/BTA – BSPP Male Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size	O-Ring 1 (Buna) Part Number	Seal 2 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L						
1/2”x 1/2”	A/BTA-050x050-FC34-*-^	2.63 (66.80)	1/2”-14	OR^-3-909	DR^-G050	1.06 (0.48)	BTA-050x050-*	0.60 (0.27)
1/2”x 3/4”	A/BTA-050x075- FC34-*-^	2.63 (66.80)	3/4”-14	OR^-3-909	DR^-G075	1.16 (0.53)	BTA-050x075-*	0.70 (0.32)
3/4”x 1/2”	A/BTA-075x050- FC34-*-^	2.75 (69.85)	1/2”-14	OR^-3-913	DR^-G050	1.57 (0.71)	BTA-075x050-*	1.07 (0.49)
3/4”x 3/4”	A/BTA-075x075- FC34-*-^	2.75 (69.85)	3/4”-14	OR^-3-913	DR^-G075	1.57 (0.71)	BTA-075x075-*	1.07 (0.49)
3/4”x 1”	A/BTA-075x100- FC34-*-^	2.75 (69.85)	1”-11	OR^-3-913	DR^-G100	1.57 (0.71)	BTA-075x100-*	1.07 (0.49)
1”x 3/4”	A/BTA-100x075- FC34-*-^	3.00 (76.20)	3/4”-14	OR^-3-916	DR^-G075	1.82 (0.83)	BTA-100x075-*	1.21 (0.55)
1”x 1”	A/BTA-100x100- FC34-*-^	3.00 (76.20)	1”-11	OR^-3-916	DR^-G100	1.93 (0.88)	BTA-100x100-*	1.30 (0.59)
1”x 1-1/4”	A/BTA-100x125- FC34-*-^	3.00 (76.20)	1-1/4”-11	OR^-3-916	DR^-G125	2.16 (0.98)	BTA-100x125-*	1.55 (0.70)
1-1/4”x 1”	A/BTA-125x100- FC34-*-^	3.25 (82.55)	1”-11	OR^-3-918	DR^-G100	2.70 (1.22)	BTA-125x100-*	1.80 (0.82)
1-1/4”x 1-1/4”	A/BTA-125x125- FC34-*-^	3.25 (82.55)	1-1/4”-11	OR^-3-918	DR^-G125	2.81 (1.27)	BTA-125x125-*	1.87 (0.85)
1-1/4”x 1-1/2”	A/BTA-125x150- FC34-*-^	3.25 (82.55)	1-1/2”-11	OR^-3-918	DR^-G150	2.90 (1.32)	BTA-125x150-*	2.00 (0.91)
1-1/2”x 1-1/4”	A/BTA-150x125- FC34-*-^	4.25 (107.95)	1-1/4”-11	OR^-3-924	DR^-G125	4.45 (2.02)	BTA-150x125-*	3.02 (1.37)
1-1/2”x 1-1/2”	A/BTA-150x150- FC34-*-^	4.25 (107.95)	1-1/2”-11	OR^-3-924	DR^-G150	4.35 (1.97)	BTA-150x150-*	3.00 (1.36)
1-1/2” x ♦2”	A/BTA-150x200- FC34-*-^	4.25 (107.95)	2”-11	OR^-3-924	BS^-3236	4.95 (2.25)	BTA-150x200-*	3.60 (1.63)
2”x 1-1/2”	A/BTA-200x150- FC34-*-^	4.38 (111.25)	1-1/2”-11	OR^-3-928	DR^-G150	5.98 (2.71)	BTA-200x150-*	3.94 (1.79)
2” x ♦2”	A/BTA-200x200- FC34-*-^	4.38 (111.25)	2”-11	OR^-3-928	BS^-3236	6.02 (2.73)	BTA-200x200-*	4.00 (1.81)

Flange Option:

Standard, FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange.
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded Flange.
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded Flange.

Ordering Example: A/BTA-200x150-FC34-SS-V

Flange Option

* Insert Material

^ Insert O-Ring Type

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

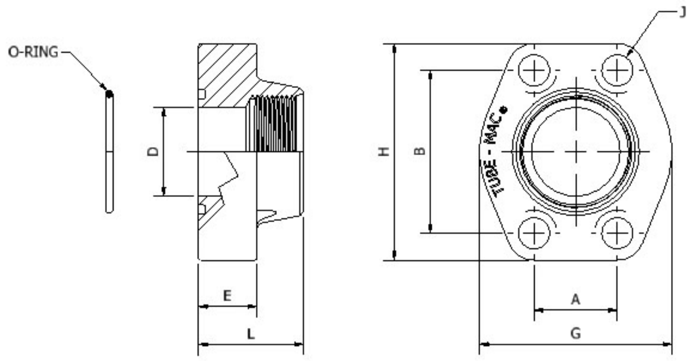
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

SAE 3000 PSI SAE Female Thread Flange

with O-Ring Face and Clearance Holes

SAE J518 Code 61 (ISO 6162-1)



STFO34 - Female Thread Flange with O-Ring Face and Clearance Holes

Size	Flange Part Number	Dimensions (in)							SAE Thread UNF-2A	Drill Dia. (in) J	Bolt Minimum Grade 8	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H							
1/2”	STF034-050-*-^	0.69	1.50	0.51	0.63	1.42	1.81	2.16	3/4”-16	0.35	5/16” UNC	OR^-2-210	0.55 (0.25)	5000 (350)	15-18
3/4”	STF034-075-*-^	0.88	1.88	0.75	0.71	1.42	2.06	2.56	1-1/16”-12	0.43	3/8” UNC	OR^-2-214	0.86 (0.39)	5000 (350)	20-30
1”	STF034-100-*-^	1.03	2.06	0.98	0.71	1.50	2.31	2.76	1-5/16”-12	0.43	3/8” UNC	OR^-2-219	1.00 (0.45)	5000 (350)	20-30
1-1/4”	STF034-125-*-^	1.19	2.31	1.26	0.83	1.61	2.88	3.11	1-5/8”-12	0.45	7/16” UNC	OR^-2-222	1.46 (0.66)	4000 (275)	40-50
1-1/2”	STF034-150-*-^	1.41	2.75	1.50	0.98	1.77	3.25	3.66	1-7/8”-12	0.53	1/2” UNC	OR^-2-225	2.31 (1.05)	3000 (210)	80-90

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

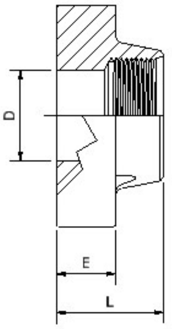
Standard, No Designation = Buna Nitrile.
V = Viton.

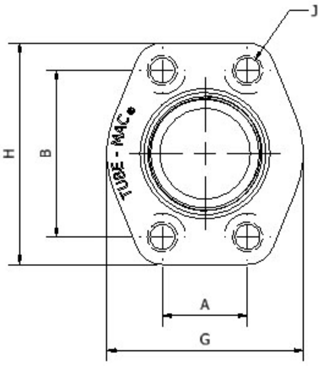
Ordering Example: SFT034-150-SS-V
* Insert Material
^ Insert O-Ring Type

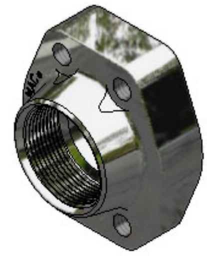
SAE 3000 PSI SAE Female Thread Flange

with Flat Face and Threaded Holes

SAE J518 Code 61 (ISO 6162-1)







STFF34 - Female Thread Flange with Flat Face and Threaded Holes

Size	Flange Part Number	Dimensions (in)							SAE Thread UNF-2A	Bolt Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H					
1/2”	STFF34-050-*-^	0.69	1.50	0.51	0.63	1.42	1.81	2.16	3/4”-16	5/16”	0.55 (0.25)	5000 (350)	15-18
3/4”	STFF34-075-*-^	0.88	1.88	0.75	0.71	1.42	2.06	2.56	1 1/16”-12	3/8”	0.86 (0.39)	5000 (350)	20-30
1”	STFF34-100-*-^	1.03	2.06	0.98	0.71	1.50	2.31	2.76	1 5/16”-12	3/8”	1.00 (0.45)	5000 (350)	20-30
1-1/4”	STFF34-125-*-^	1.19	2.31	1.26	0.83	1.61	2.88	3.11	1 5/8”-12	7/16”	1.46 (0.66)	4000 (275)	40-50
1-1/2”	STFF34-150-*-^	1.41	2.75	1.50	0.98	1.77	3.25	3.66	1 7/8”-12	1/2”	2.31 (1.05)	3000 (210)	80-90

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: STFF34-150-SS-V

* Insert Material

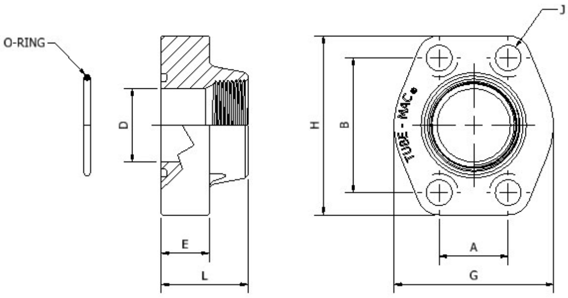
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI NPT Female Thread Flange

with O-Ring Face and Clearance Holes

SAE J518 Code 61 (ISO 6162-1)



NTFO34 - NPT Female Thread Flange with O-Ring Face and Clearance Holes

Size	Flange Part Number	Dimensions (in)							NPTF Thread	Drill Dia. (in) J	Bolt Minimum Grade 8	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H							
1/2”	NTF034-050-*-^	0.69	1.50	0.51	0.63	1.42	1.81	2.16	1/2”-14	0.35	5/16” UNC	OR^-2-210	0.55 (0.25)	5000 (350)	15-18
3/4”	NTF034-075-*-^	0.88	1.88	0.75	0.71	1.42	2.06	2.56	3/4”-14	0.43	3/8” UNC	OR^-2-214	0.86 (0.39)	5000 (350)	20-30
1”	NTF034-100-*-^	1.03	2.06	0.98	0.71	1.50	2.31	2.76	1”-11-1/2	0.43	3/8” UNC	OR^-2-219	1.00 (0.45)	5000 (350)	20-30
1-1/4”	NTF034-125-*-^	1.19	2.31	1.26	0.83	1.61	2.88	3.11	1-1/4”-11-1/2	0.45	7/16” UNC	OR^-2-222	1.46 (0.66)	4000 (275)	40-50
1-1/2”	NTF034-150-*-^	1.41	2.75	1.50	0.98	1.77	3.25	3.66	1-1/2”-11-1/2	0.53	1/2” UNC	OR^-2-225	2.31 (1.05)	3000 (210)	80-90
2”	NTF034-200-*-^	1.69	3.06	2.01	0.98	1.77	3.81	4.02	2”-11-1/2	0.53	1/2” UNC	OR^-2-228	2.62 (1.19)	3000 (210)	80-90
2-1/2”	NTF034-250-*-^	2.00	3.50	2.48	0.98	1.97	4.28	4.49	2-1/2”-8	0.53	1/2” UNC	OR^-2-232	3.09 (1.40)	2500 (175)	80-90
3”	NTF034-300-*-^	2.44	4.19	2.87	1.06	1.97	5.16	5.28	3”-8	0.69	5/8” UNC	OR^-2-237	4.74 (2.15)	2000 (140)	110-120

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: NTF034-200-SS-V

* Insert Material

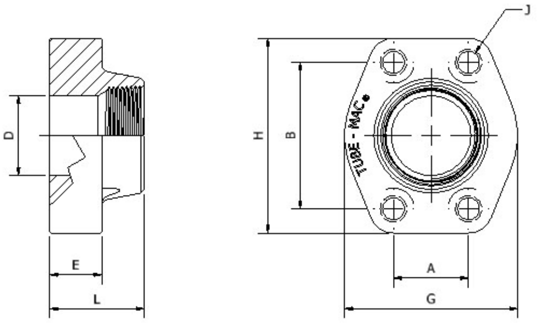
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI NPT Female Thread Flange

with Flat Face and Threaded Holes

SAE J518 Code 61 (ISO 6162-1)



NTFF34 - NPT Female Thread Flange with Flat Face and Threaded Holes

Size	Flange Part Number	Dimensions (in)							NPTF Thread	Bolt Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H					
1/2”	NTFF34-050-*-^	0.69	1.50	0.51	0.63	1.42	1.81	2.16	1/2”-14	5/16”	0.55 (0.25)	5000 (350)	15-18
3/4”	NTFF34-075-*-^	0.88	1.88	0.75	0.71	1.42	2.06	2.56	3/4”-14	3/8”	0.86 (0.39)	5000 (350)	20-30
1”	NTFF34-100-*-^	1.03	2.06	0.98	0.71	1.50	2.31	2.76	1”-11-1/2	3/8”	1.00 (0.45)	5000 (350)	20-30
1-1/4”	NTFF34-125-*-^	1.19	2.31	1.26	0.83	1.61	2.88	3.11	1-1/4”-11-1/2	7/16”	1.46 (0.66)	4000 (275)	40-50
1-1/2”	NTFF34-150-*-^	1.41	2.75	1.50	0.98	1.77	3.25	3.66	1-1/2”-11-1/2	1/2”	2.31 (1.05)	3000 (210)	80-90
2”	NTFF34-200-*-^	1.69	3.06	2.01	0.98	1.77	3.81	4.02	2”-11-1/2	1/2”	2.62 (1.19)	3000 (210)	80-90
2-1/2”	NTFF34-250-*-^	2.00	3.50	2.48	0.98	1.97	4.28	4.49	2-1/2”-8	1/2”	3.09 (1.40)	2500 (175)	80-90
3”	NTFF34-300-*-^	2.44	4.19	2.87	1.06	1.97	5.16	5.28	3”-8	5/8”	4.74 (2.15)	2000 (140)	110-120

<u>* Materials:</u>

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>

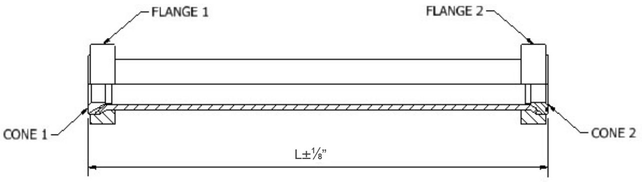
Standard, No Designation = Buna Nitrile.
V = Viton.

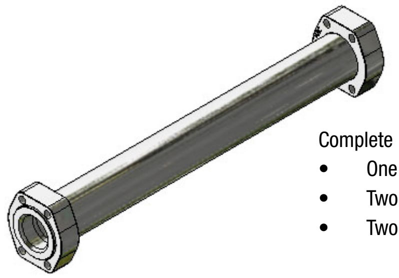
Ordering Example: NTFF34-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Flare Flange Pipe Assembly, NPS

Typical PAF Assembly





Complete Flange Set Includes:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

Code **PAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Cone 1** - **Cone 2** - **Length** - **Options**

		Code
Bent Pipe Assembly - Flared		**PAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1/2”**	SCH40-050
		SCH80-050
	3/4”	SCH40-075
		SCH80-075
	1”	SCH40-100
		SCH80-100
	1-1/4”	SCH40-125
		SCH80-125
	1-1/2”	SCH40-150
		SCH80-150
	2”	SCH40-200
		SCH80-200
	2-1/2”	SCH40-250
		SCH80-250
	3”	SCH40-300
		SCH80-300
Flange Type Carbon Steel	**FFC34** SAE Code 61 W/Clearance Holes	FC34
	***FFT34** SAE Code 61 W/Tapped Holes	FT34
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Length	L2	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦♦TMP37CD PIPE IS ONLY AVAILABLE IN 2-1/2” & 3” SCHEDULE 40 SIZES

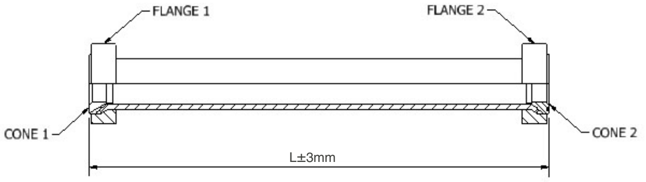
♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST
* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS
PART Number (EXAMPLE): PAF/52 - SCH80-100 - FC34 - FC34 - CO - CF - 240

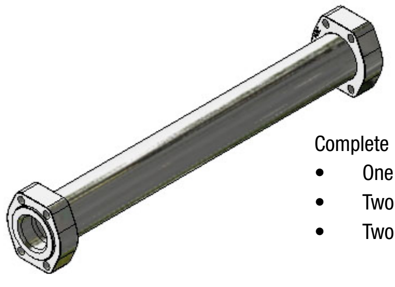
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

3D step models available upon request

SAE 3000 PSI Flare Flange Pipe Assembly, Metric

Typical PAF Assembly





Complete Flange Set Includes:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

Code: PAF / Pipe & Cone Material - Pipe Size & Schedule - Flange 1 - Flange 2 - Cone 1 - Cone 2 - Length - Options

		Code
Bent Pipe Assembly - Flared		**PAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1/2”**	20x3.0-050
		25x3.0-050
	3/4”	25x3.0-075
		30x3.0-075
	1”	30x4.0-100
		38x4.0-100
	1-1/4”	38x4.0-125
		42x4.0-125
	1-1/2”	50x3.0-150
		50x5.0-150
	2”	60x3.0-200
		60x5.0-200
	2-1/2”	73x7.0-250
		75x5.0-250
	3”	75x5.0-300
		90x5.0-300
Flange Type Carbon Steel	**FFCM34** SAE Code 61 W/Clearance Holes	FCM34
	***FFTM34** SAE Code 61 W/Tapped Holes	FTM34
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

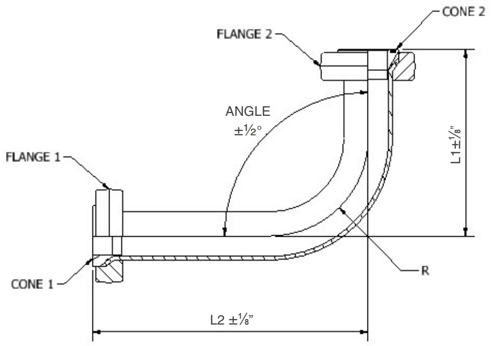
PART Number (EXAMPLE): PAF/52 - 30x4.0 - 100 - FCM34 - FCM34 - CO - CF - 6000

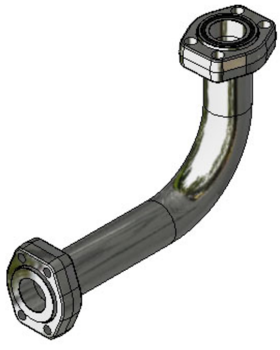
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

3D step models available upon request

SAE 3000 PSI Flare Flange Bent Pipe Assembly, NPS

Typical BPAF Assembly





Complete assembly consists of:

- One (1) length of bent clean pipe
- Two (2) flare flanges
- Two (2) cones

Size	R1		R2		R3	
	Dimensions (in)		Dimensions (in)		Dimensions (in)	
	L(min.)	R	L(min.)	R	L(min.)	R
1/2”	4.50	1.68	5.50	2.52	6.75	3.88
3/4”	5.00	2.10	6.00	3.15	7.00	4.25
1”	5.50	2.63	7.00	3.95	7.75	4.88
1-1/4”	6.38	3.32	8.00	4.98	8.63	5.63
1-1/2”	7.50	3.80	9.25	5.70	11.75	8.19
2”	8.50	4.75	10.75	7.13	13.00	9.44
2-1/2”	9.75	5.75	12.63	8.63	17.00	12.50
3”	11.00	7.00	14.50	10.50	19.50	15.00

Note:
OTHER RADII AVAILABLE (CONSULT FACTORY)

3D step models available upon request

SAE 3000 PSI Flare Flange Bent Pipe Assembly, NPS

Code: BPAF / Pipe & Cone Material - Pipe Size & Schedule - Flange 1 - Flange 2 - Cone 1 - Cone 2 - Rad. - Lgth L1 - Ang - Lgth L2 - Options

Bent Pipe Assembly - Flared		BPAF
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	♦♦TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1/2”**	SCH40-050 SCH80-050
	3/4”	SCH40-075 SCH80-075
	1”	SCH40-100 SCH80-100
	1-1/4”	SCH40-125 SCH80-125
	1-1/2”	SCH40-150 SCH80-150
	2”	SCH40-200 SCH80-200
	2-1/2”	SCH40-250 SCH80-250
	3”	SCH40-300 SCH80-300
Flange Type Carbon Steel	**FFC34** SAE Code 61 W/Clearance Holes	FC34
	FFT34 SAE Code 61 W/Threaded Holes	FT34
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Radius	Field Manufactured	R1
	Factory Manufactured	R2
Length	L1	Specify (in.)
Angle	Max 90º	Specify (º)
Length	L2	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦♦TMP37CD PIPE IS ONLY AVAILABLE IN 2-1/2” & 3” SCHEDULE 40 SIZES
♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART Number (EXAMPLE): BPAF/52-SCH80-100 -FC34-FC34-CO-CF-R1-125-90-115

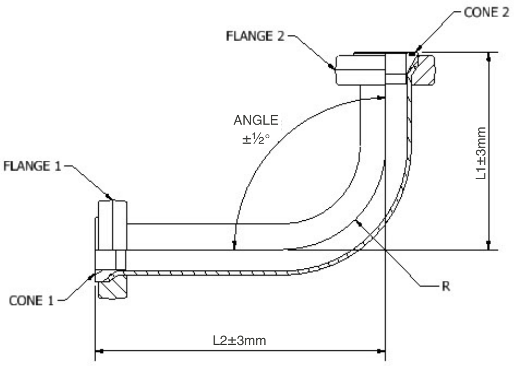
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

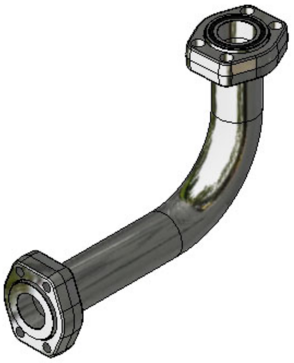
Consult factory for ordering assistance

3D step models available upon request

SAE 3000 PSI Flare Flange Bent Pipe Assembly,
Metric

Typical BPAF Assembly





Complete Flange Set Includes:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

Size	R1		R2		R3	
	Dimensions (mm)		Dimensions (mm)		Dimensions (mm)	
	L(min.)	R	L(min.)	R	L(min.)	R
1/2”	126	50	151	75	176	100
3/4”	134	60	164	90	194	120
1”	153	76	191	114	229	152
1-1/4”	162	84	204	126	246	168
1-1/2”	194	100	244	150	294	200
2”	215	120	275	180	335	240
2-1/2”	264	150	339	225	414	300
3”	294	180	384	270	474	360

Note:
OTHER RADII AVAILABLE (CONSULT FACTORY)

3D step models available upon request

SAE 3000 PSI Flare Flange Bent Pipe Assembly,
Metric

Code **BPAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Cone 1** - **Cone 2** - **Rad.** - **Lgth L1** - **Angle** - **Lgth L2** - **Options**

		Code
Bent Pipe Assembly - Flared		**BPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1/2”**	20x3.0-050 25x3.0-050
	3/4”	25x3.0-075 30x3.0-075
	1”	30x4.0-100 38x4.0-100
	1-1/4”	38x4.0-125 42x4.0-125
	1-1/2”	50x3.0-150 50x5.0-150
	2”	60x3.0-200 60x5.0-200
	2-1/2”	73x7.0-250 75x5.0-250
	3”	75x5.0-300 90x5.0-300
Flange Type Carbon Steel	**FFCM34** SAE Code 61 W/Clearance Holes	FCM34
	***FFTM34** SAE Code 61 W/Tapped Holes	FTM34
Cone Type	Cone - Flat Face	CF
	Cone - ‘0’ Ring Face	CO
Radius	Field Manufactured	R1
	Factory Manufactured	R2
Length	L1	Specify (mm)
Angle	Max 90º	Specify (º)
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

* NORMALLY USED FOR CONNECTION TO SPLIT FLANGE TYPE ENDS

PART Number (EXAMPLE): BPAF/52 - 30x4.0-100 - FCM34 - FCM34 - CO - CF - R1 - 125 - 90 - 115

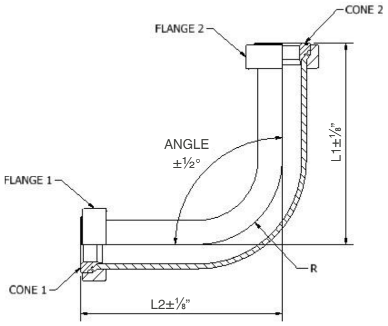
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

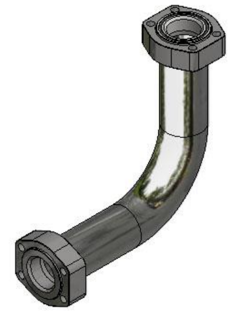
3D step models available upon request

SAE 3000 PSI Flare Flange Bend Elbow

Complete Assembly, NPS

SAE J518 Code 61 (ISO 6162-1)





A/FFE - Flare Flange Bend Elbow Complete Assembly, NPS

Size	Complete Assembly Part Number	R1 Bend Radius (in)		R2 Bend Radius (in)		R3 Bend Radius (in)		Working Pressure PSI (bar)
		R	L1	R	L1	R	L1	
1/2”	A/FFE-SCH40-050-FC34-FC34-CO-CO-•-*-^	1.68	4.5	2.52	5.5	3.875	6.75	5000 (350)
1/2”	A/FFE-SCH80-050-FC34-FC34-CO-CO-•-*-^	1.68	4.5	2.52	5.5	3.875	6.75	5000 (350)
3/4”	A/FFE-SCH40-075-FC34-FC34-CO-CO-•-*-^	2.1	5.0	3.15	6.0	4.25	7.0	5000 (350)
3/4”	A/FFE-SCH80-075-FC34-FC34-CO-CO-•-*-^	2.1	5.0	3.15	6.0	4.25	7.0	5000 (350)
1”	A/FFE-SCH40-100-FC34-FC34-CO-CO-•-*-^	2.63	5.5	3.95	7.0	4.875	7.75	4700 (325)
1”	A/FFE-SCH80-100-FC34-FC34-CO-CO-•-*-^	2.63	5.5	3.95	7.0	4.875	7.75	5000 (350)
1-1/4”	A/FFE-SCH40-125-FC34-FC34-CO-CO-•-*-^	3.32	6.375	4.98	8.0	5.625	8.625	4000 (280)
1-1/4”	A/FFE-SCH80-125-FC34-FC34-CO-CO-•-*-^	3.32	6.375	4.98	8.0	5.625	8.625	4000 (280)
1-1/2”	A/FFE-SCH40-150-FC34-FC34-CO-CO-•-*-^	3.8	7.5	5.7	9.25	8.1875	11.75	3500 (240)
1-1/2”	A/FFE-SCH80-150-FC34-FC34-CO-CO-•-*-^	3.8	7.5	5.7	9.25	8.1875	11.75	4000 (280)
1-1/2”	A/FFE-SCH160-150-FC34-FC34-CO-CO-•-*-^	3.8	7.5	5.7	9.25	8.1875	11.75	4000 (280)
2”	A/FFE-SCH40-200-FC34-FC34-CO-CO-•-*-^	4.75	8.5	7.125	10.75	9 7/16	13	2900 (200)
2”	A/FFE-SCH80-200-FC34-FC34-CO-CO-•-*-^	4.75	8.5	7.125	10.75	9 7/16	13	4000 (280)
2”	A/FFE-SCH160-200-FC34-FC34-CO-CO-•-*-^	4.75	8.5	7.125	10.75	9 7/16	13	4000 (280)
2-1/2”	A/FFE-SCH40-250-FC34-FC34-CO-CO-•-*-^	5.75	9.75	8.625	12.625	12.5	17	2600 (180)
2-1/2”	A/FFE-SCH80-250-FC34-FC34-CO-CO-•-*-^	5.75	9.75	8.625	12.625	12.5	17	3000 (210)
2-1/2"	A/FFE-SCH160-250-FC34-FC34-CO-CO-•-*-^	5.75	9.75	8.625	12.625	12.5	17	3000 (210)
3”	A/FFE-SCH40-300-FC34-FC34-CO-CO-•-*-^	7.0	11.0	10.5	14.5	15	19.5	2300 (160)
3”	A/FFE-SCH80-300-FC34-FC34-CO-CO-•-*-^	7.0	11.0	10.5	14.5	15	19.5	3000 (210)

Flange Options:
Standard, FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded Flange

Cone Options:
Standard, CO = O-Ring Faced Cone
CF = Flat Faced Cone

•Bend Radius Options:
R1
R2
R3

*** Materials**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

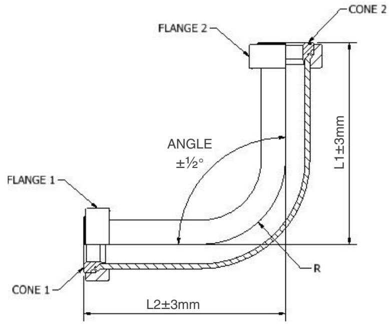
Ordering Example: A/FFE-SCH40-200-FC34-FC34-CO-CO-R1-SS-V

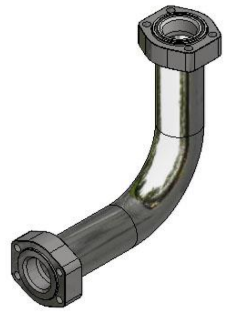
Flange 1 Option
Flange 2 Option
Cone 1 Option
Cone 2 Option
• Insert Bend Radius
* Insert Material
^ Insert O-Ring Type

SAE 3000 PSI Flare Flange Bend Elbow

Complete Assembly, Metric

SAE J518 Code 61 (ISO 6162-1)





COMPLETE ASSEMBLY CONSISTS OF:

- FLARE FLANGE 90° ELBOW BODY
- TWO (2) FLARE FLANGES
- TWO (2) CONES

A/FFEM - Flare Flange Bend Elbow Complete Assembly, Metric

Size	Complete Assembly Part Number	R1 Bend Radius (mm)		R2 Bend Radius (mm)		R3 Bend Radius (mm)		Working Pressure PSI (bar)
		R	L1	R	L1	R	L1	
1/2”	A/FFEM-20x3.0-050- FCM34-FCM34-CO-CO-δ-*-^	40	116	60	136	80	156	5000 (350)
1/2”	A/FFEM-25x3.0-050- FCM34-FCM34-CO-CO-δ-*-^	50	126	75	151	100	176	5000 (350)
3/4”	A/FFEM-25x3.0-075- FCM34-FCM34-CO-CO-δ-*-^	50	124	75	149	100	174	5000 (350)
3/4”	A/FFEM-30x3.0-075- FCM34-FCM34-CO-CO-δ-*-^	60	134	90	164	120	194	5000 (350)
1”	A/FFEM-30x4.0-100- FCM34-FCM34-CO-CO-δ-*-^	60	137	90	167	120	197	4700 (325)
1”	A/FFEM-38x4.0-100- FCM34-FCM34-CO-CO-δ-*-^	76	153	114	191	152	229	5000 (350)
1-1/4”	A/FFEM-38x4.0-125- FCM34-FCM34-CO-CO-δ-*-^	76	154	114	192	152	230	4000 (280)
1-1/4”	A/FFEM-42x4.0-125- FCM34-FCM34-CO-CO-δ-*-^	84	162	126	204	168	246	4000 (280)
1-1/2”	A/FFEM-42x4.0-150- FCM34-FCM34-CO-CO-δ-*-^	84	178	126	220	168	262	3500 (240)
1-1/2”	A/FFEM-50x3.0-150- FCM34-FCM34-CO-CO-δ-*-^	100	194	150	244	200	294	4000 (280)
1-1/2”	A/FFEM-50x5.0-150- FCM34-FCM34-CO-CO-δ-*-^	100	194	150	244	200	294	4000 (280)
2”	A/FFEM-50x5.0-200- FCM34-FCM34-CO-CO-δ-*-^	100	195	150	245	200	295	4000 (280)
2”	A/FFEM-60x5.0-200- FCM34-FCM34-CO-CO-δ-*-^	120	215	180	275	240	335	4000 (280)
2”	A/FFEM-60x6.0-200- FCM34-FCM34-CO-CO-δ-*-^	120	215	180	275	240	335	4000 (280)
2-1/2”	A/FFEM-73x7.0-250- FCM34-FCM34-CO-CO-δ-*-^	146	260	219	333	292	406	3000 (210)
2-1/2”	A/FFEM-75x5.0-250- FCM34-FCM34-CO-CO-δ-*-^	150	264	225	339	300	414	3000 (210)
3”	A/FFEM-75x5.0-300- FCM34-FCM34-CO-CO-δ-*-^	150	264	225	339	300	414	3000 (210)
3”	A/FFEM-90x5.0-300-FCM34-FCM34-CO-CO-δ-*-^	180	294	270	384	360	474	2800 (193)

Flange Options:
Standard, FCM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded Flange

Cone Options:
CO = O-Ring Faced Cone
CF = Flat Faced Cone

•Bend Radius Options:
R1
R2
R3

*** Materials**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316

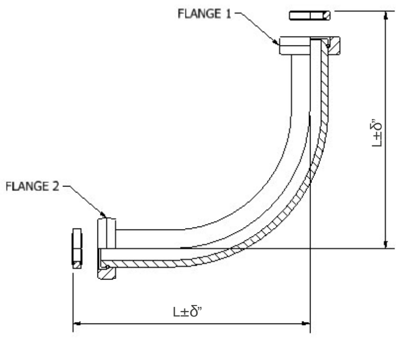
^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton

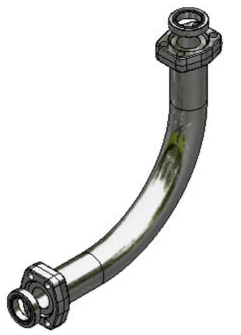
Ordering Example: A/FFEM-60x5.0-200-FCM34-FCM34-CO-CO-R1-SS-V
Flange 1 Option
Flange 2 Option
Cone 1 Option
Cone 2 Option
δ Insert Bend Radius
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Retain Ring Flange Bend Elbow

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Retain Ring Flange Bend Elbow Body
- Two (2) Retain Ring Flanges
- Two (2) Retain Rings
- Two (2) O-Ring Spacers

A/RFE - Retain Ring Flange Bend Elbow

Size	Complete Assembly Part Number	Dimensions in (mm)	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L				
1-1/2"	A/RFE-150-FC34-*-^	13.00 (330.20)	14.98 (6.80)	RFE-150-*-^	11.50 (5.22)	4000 (280)
2”	A/RFE-200-FC34-*-^	14.50 (368.30)	20.47 (9.30)	RFE-200-*-^	15.59 (7.07)	4000 (280)
2-1/2"	A/RFE-250-FC34-*-^	18.00 (457.20)	35.57 (16.17)	RFE-250-*-^	26.26 (11.91)	3000 (210)
3”	A/RFE-300-FC34-*-^	21.00 (533.40)	59.48 (27.04)	RFE-300-*-^	45.80 (20.77)	3000 (210)

Flange Options:

FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded

***Materials:**

No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

No Designation = Buna Nitrile.
V = Viton.

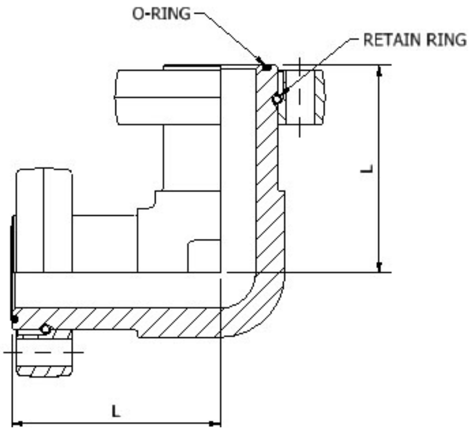
Ordering Example: A/RFE-200-FC34-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Retain Ring Flange Elbow

Complete Assembly

SAE J518 Code 61 (ISO 6162-1)



Complete Flange Set Includes:

- One (1) Flange Elbow
- Two (2) Retain Ring Flanges
- Two (2) Retain Rings
- Two (2) Face O-Rings

To be Ordered Separately:

- Bolt Kit

See Section

A/RRFE - Retain Ring Flange Elbow Complete Assembly

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L					
1/2"	A/RRFE-050-FC34-*-^	2.41 (61.2)	OR^-3-909	1.95 (0.88)	RRFE-050-*-^	1.09 (0.49)	5000 (350)
3/4"	A/RRFE-075-FC34-*-^	2.61 (66.2)	OR^-3-913	2.83 (1.28)	RRFE-075-*-^	1.93 (0.88)	5000 (350)
1”	A/RRFE-100-FC34-*-^	2.81 (71.4)	OR^-3-916	3.36 (1.52)	RRFE-100-*-^	2.10 (0.95)	5000 (350)
1-1/4"	A/RRFE-125-FC34-*-^	3.22 (81.8)	OR^-3-918	4.22 (1.91)	RRFE-125-*-^	3.28 (1.45)	4000 (280)
1-1/2"	A/RRFE-150-FC34-*-^	4.01 (101.9)	OR^-3-924	8.70 (3.95)	RRFE-150-*-^	6.00 (2.72)	4000 (280)
2”	A/RRFE-200-FC34-*-^	4.40 (111.8)	OR^-3-928	11.74 (5.33)	RRFE-200-*-^	7.70 (3.49)	4000 (280)
2-1/2"	A/RRFE-250-FC34-*-^	5.19 (131.9)	OR^-2-232	16.30 (7.39)	RRFE-250-*-^	11.30 (5.13)	3000 (210)

Ordering Example: A/RRFE-200-FC34-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

Flange Options:
FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded

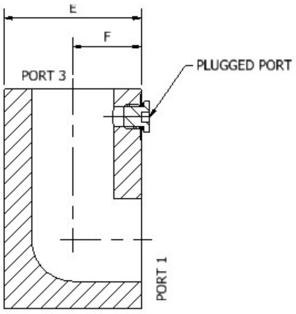
Materials
No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

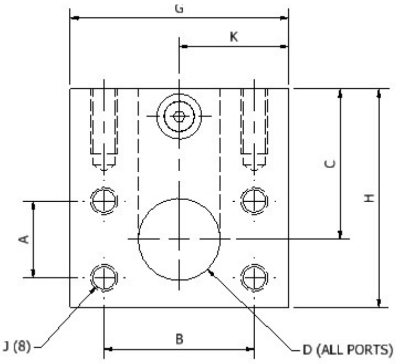
^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton.

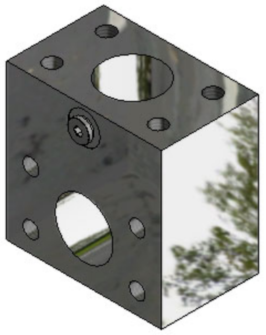
3D step models available upon request

SAE 3000 PSI Block Elbow

SAE J518 Code 61 (ISO 6162-1) Flange Style







BE34 - Block Elbow Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Elbow Part Number	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BE34-050-*	0.69	1.50	1.88	0.50	2.00	1.00	2.50	2.50	1.25	5/16”-18	3.30 (1.50)	5000 (350)
3/4”	BE34-075-*	0.88	1.88	2.25	0.75	2.00	1.00	3.00	3.25	1.50	3/8”-16	5.00 (2.27)	5000 (350)
1”	BE34-100-*	1.03	2.06	2.25	0.94	2.00	1.00	3.00	3.25	1.50	3/8”-16	4.50 (2.04)	5000 (350)
1-1/4”	BE34-125-*	1.19	2.31	2.75	1.25	2.25	1.13	3.00	4.00	1.50	7/16”-14	5.70 (2.59)	4000 (280)
1-1/2”	BE34-150-*	1.41	2.75	2.75	1.50	2.50	1.25	4.00	4.00	2.00	1/2”-13	8.60 (3.90)	4000 (280)
2”	BE34-200-*	1.69	3.06	3.00	1.94	3.00	1.50	4.00	4.50	2.00	1/2”-13	10.60 (4.81)	4000 (280)
2-1/2”	BE34-250-*	2.00	3.50	3.25	2.38	3.50	1.75	5.00	5.00	2.50	1/2”-13	17.40 (7.89)	3000 (210)
3”	BE34-300-*	2.44	4.19	3.75	2.88	4.00	2.00	5.50	6.00	2.75	5/8”-11	25.60 (11.61)	3000 (210)

BEM34 - Block Elbow Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size	Block Elbow Part Number	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BEM34-050-*	17.5	38.1	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	3.30 (1.50)	5000 (350)
3/4”	BEM34-075-*	22.4	47.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	5.00 (2.27)	5000 (350)
1”	BEM34-100-*	26.2	52.3	57.2	23.9	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	4.50 (2.04)	5000 (350)
1-1/4”	BEM34-125-*	30.2	58.7	69.9	31.8	57.2	28.7	76.2	101.6	38.1	M10 x 1.50	5.70 (2.59)	4000 (280)
1-1/2”	BEM34-150-*	35.8	69.9	69.9	38.1	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	8.60 (3.90)	4000 (280)
2”	BEM34-200-*	42.9	77.7	76.2	49.3	76.2	38.1	101.6	114.3	50.8	M12 x 1.75	10.60 (4.81)	4000 (280)
2-1/2”	BEM34-250-*	50.8	88.9	82.6	60.5	88.9	44.5	127.0	127.0	63.5	M12 x 1.75	17.40 (7.89)	3000 (210)
3”	BEM34-300-*	62.0	106.4	95.3	73.2	101.6	50.8	139.70	152.4	69.9	M16 x 2.00	25.60 (11.61)	3000 (210)

Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

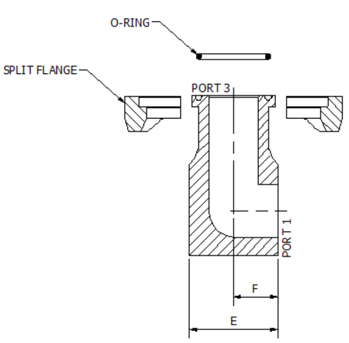
Ordering Example: BEM34-200-SS

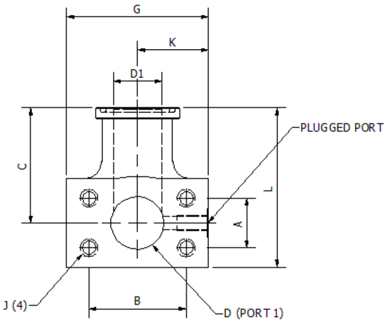
* Insert Material

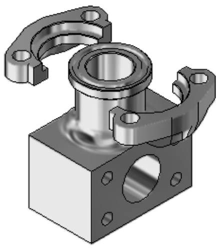
3D step models available upon request

SAE 3000 PSI Split Flange Elbow

SAE J518 Code 61 (ISO 6162-1) Flange Style







Complete Flange Set Includes:

- One (1) Split Flange Elbow
- One (1) Set (2 Halves) Split Flange
- One (1) O-Ring
- One (1) Component Bolt Kit

A/SFE34 - Split Flange Elbow Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFE34-050-*-^	0.69	1.50	2.50	0.50	0.38	2.00	1.00	2.50	1.25	3.50	5/16”-18	OR^-2-210	3.37 (1.59)	SFE34-050-*-^	2.95 (1.34)	5000 (350)
3/4”	A/SFE34-075-*-^	0.88	1.88	2.75	0.75	0.63	2.00	1.00	3.00	1.50	3.75	3/8”-16	OR^-2-214	4.01 (1.82)	SFE34-075-*-^	3.50 (1.59)	5000 (350)
1”	A/SFE34-100-*-^	1.03	2.06	2.75	0.94	0.88	2.00	1.00	3.00	1.50	3.75	3/8”-16	OR^-2-219	4.05 (1.84)	SFE34-100-*-^	3.40 (1.54)	5000 (350)
1-1/4”	A/SFE34-125-*-^	1.19	2.31	3.13	1.25	1.13	2.25	1.13	3.00	1.50	4.25	7/16”-14	OR^-2-222	5.19 (2.35)	SFE34-125-*-^	4.30 (1.95)	4000 (280)
1-1/2”	A/SFE34-150-*-^	1.41	2.75	3.25	1.50	1.38	2.50	1.25	4.00	2.00	4.50	1/2”-13	OR^-2-225	8.14 (3.69)	SFE34-150-*-^	6.70 (3.04)	4000 (280)
2”	A/SFE34-200-*-^	1.69	3.06	3.50	1.94	1.88	3.50	1.75	4.00	2.00	5.00	1/2”-13	OR^-2-228	10.66 (4.84)	SFE34-200-*-^	9.10 (4.13)	4000 (280)
2-1/2”	A/SFE34-250-*-^	2.00	3.50	4.00	2.38	2.38	3.50	1.75	4.50	2.25	5.75	1/2”-13	OR^-2-232	14.93 (6.77)	SFE34-250-*-^	12.80 (5.81)	3000 (210)
3”	A/SFE34-300-*-^	2.44	4.19	4.50	2.88	2.88	4.00	2.00	5.50	2.75	6.50	5/8”-11	OR^-2-237	24.15 (10.95)	SFE34-300-*-^	20.50 (9.30)	3000 (210)

A/SFEM34 - Split Flange Elbow Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFEM34-050-*-^	17.5	38.1	63.5	12.7	9.7	50.8	25.4	63.5	31.8	88.9	M8 x 1.25	OR^-2-210	3.37 (1.59)	SFEM34-050-*-^	2.95 (1.34)	5000 (350)
3/4”	A/SFEM34-075-*-^	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR^-2-214	4.01 (1.82)	SFEM34-075-*-^	3.50 (1.59)	5000 (350)
1”	A/SFEM34-100-*-^	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR^-2-219	4.05 (1.84)	SFEM34-100-*-^	3.40 (1.54)	5000 (350)
1-1/4”	A/SFEM34-125-*-^	30.2	58.7	79.5	31.8	28.7	57.2	28.7	76.2	38.1	108.0	M10 x 1.50	OR^-2-222	5.19 (2.35)	SFEM34-125-*-^	4.30 (1.95)	4000 (280)
1-1/2”	A/SFEM34-150-*-^	35.8	69.9	82.6	38.1	34.9	63.5	31.8	101.6	50.8	114.3	M12 x 1.75	OR^-2-225	8.14 (3.69)	SFEM34-150-*-^	6.70 (3.04)	4000 (280)
2”	A/SFEM34-200-*-^	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	127.0	M12 x 1.75	OR^-2-228	10.66 (4.84)	SFEM34-200-*-^	9.10 (4.13)	4000 (280)
2-1/2”	A/SFEM34-250-*-^	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	146.1	M12 x 1.75	OR^-2-232	14.93 (6.77)	SFEM34-250-*-^	12.80 (5.81)	3000 (210)
3”	A/SFEM34-300-*-^	62.0	106.4	114.3	73.2	73.2	101.6	50.8	139.7	69.9	165.1	M16 x 2.00	OR^-2-237	24.15 (10.95)	SFEM34-300-*-^	20.50 (9.30)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

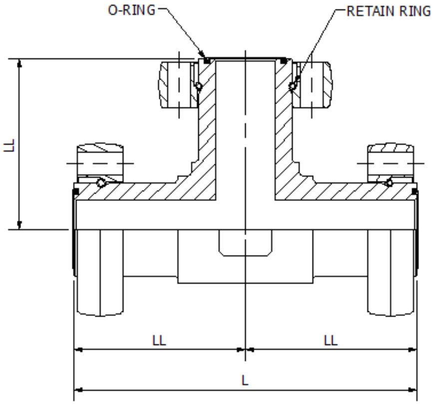
Ordering Example: A/SFE34-200-SS-V
* Insert Material
^ Insert O-Ring Type

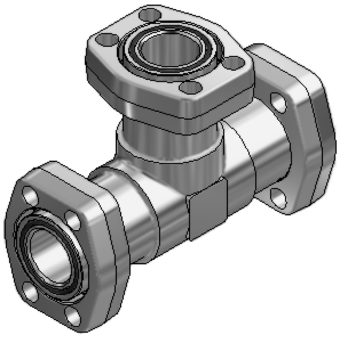
3D step models available upon request

SAE 3000 PSI Retain Ring Flange Tee

Complete Assembly

SAE J518 Code 61 (ISO 6162-1)





Complete Flange Set Includes:

- One (1) Flange Tee
- Three (3) Retain Ring Flanges
- Three (3) Retain Rings
- Three (3) Face O-Rings

To be Ordered Separately:

- Bolt Kit

See Section

A/RRFT - Retain Ring Flange Tee Complete Assembly Complete with Buna O-Ring

Size	Complete Assembly Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L	LL					
1/2"	A/RRFT-050-FC34-*-^	4.81 (122.2)	2.41 (112.0)	OR^-3-909	2.75 (1.25)	RRFT-050-*-^	1.46 (0.66)	5000 (350)
3/4"	A/RRFT-075-FC34-*-^	5.22 (132.6)	2.61 (66.3)	OR^-3-913	3.96 (1.50)	RRFT-075-*-^	2.61 (1.18)	5000 (350)
1”	A/RRFT-100-FC34-*-^	5.62 (142.7)	2.81 (71.4)	OR^-3-916	4.74 (2.15)	RRFT-100-*-^	2.91 (1.32)	5000 (350)
1-1/4"	A/RRFT-125-FC34-*-^	6.45 (163.8)	3.21 (81.6)	OR^-3-918	7.71 (3.50)	RRFT-125-*-^	4.89 (2.22)	4000 (280)
1-1/2"	A/RRFT-150-FC34-*-^	8.02 (183.3)	4.01 (101.9)	OR^-3-924	9.48 (4.30)	RRFT-150-*-^	8.10 (3.76)	4000 (280)
2”	A/RRFT-200-FC34-*-^	8.81 (223.8)	4.40 (111.8)	OR^-3-928	13.94 (6.32)	RRFT-200-*-^	9.90 (4.44)	4000 (280)
2-1/2"	A/RRFT-250-FC34-*-^	10.38 (263.7)	5.19 (131.8)	OR^-2-232	23.55(10.68)	RRFT-250-*-^	15.36 (6.97)	3000 (210)

Flange Options:

FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded

Materials:

No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

No Designation = Buna Nitrile.
V = Viton.

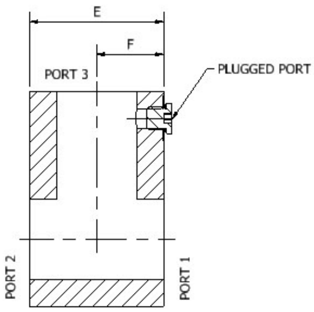
Ordering Example: A/RRFT-200-FC34-SS-V

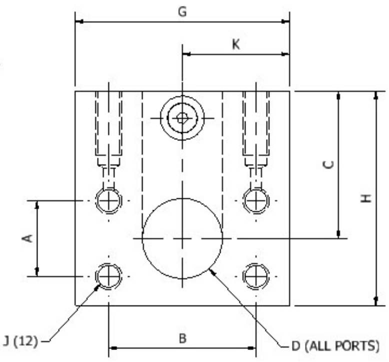
Flange Option
* Insert Material
^ Insert O-Ring Type

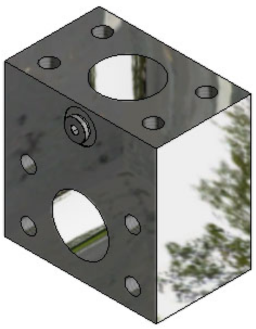
3D step models available upon request

SAE 3000 PSI Block Tee

SAE J518 Code 61 (ISO 6162-1) Flange Style







BT34 - Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Tee Part No	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BT34-050-*	0.69	1.50	1.88	0.50	2.00	1.00	2.50	2.50	1.25	5/16”-18	3.10 (1.41)	5000 (350)
3/4”	BT34-075-*	0.88	1.88	2.25	0.75	2.00	1.00	3.00	3.25	1.50	3/8”-16	4.60 (2.09)	5000 (350)
1”	BT34-100-*	1.03	2.06	2.25	0.94	2.00	1.00	3.00	3.25	1.50	3/8”-16	4.30 (1.95)	5000 (350)
1-1/4”	BT34-125-*	1.19	2.31	2.75	1.25	2.25	1.13	3.00	4.00	1.50	7/16”-14	5.70 (2.59)	4000 (280)
1-1/2”	BT34-150-*	1.41	2.75	2.75	1.50	2.50	1.25	4.00	4.00	2.00	1/2”-13	8.20 (3.72)	4000 (280)
2”	BT34-200-*	1.69	3.06	3.00	1.94	3.00	1.50	4.00	4.50	2.00	1/2”-13	10.00 (4.54)	4000 (280)
2-1/2”	BT34-250-*	2.00	3.50	3.25	2.38	3.50	1.75	5.00	5.00	2.50	1/2”-13	16.30 (7.39)	3000 (210)
3”	BT34-300-*	2.44	4.19	3.75	2.88	4.00	2.00	5.50	6.00	2.75	5/8”-11	23.70 (10.75)	3000 (210)

BTM34 - Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (inch)	Block Tee Part No	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BTM34-050-*	17.5	38.1	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	3.10 (1.41)	5000 (350)
3/4”	BTM34-075-*	22.4	47.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	4.60 (2.09)	5000 (350)
1”	BTM34-100-*	26.2	52.3	57.2	23.9	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	4.30 (1.95)	5000 (350)
1-1/4”	BTM34-125-*	30.2	58.7	69.9	31.8	57.2	28.7	76.2	101.6	38.1	M10 x 1.50	5.70 (2.59)	4000 (280)
1-1/2”	BTM34-150-*	35.8	69.9	69.9	38.1	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	8.20 (3.72)	4000 (280)
2”	BTM34-200-*	42.9	77.7	76.2	49.3	76.2	38.1	101.6	114.3	50.8	M12 x 1.75	10.00 (4.54)	4000 (280)
2-1/2”	BTM34-250-*	50.8	88.9	82.6	60.5	88.9	44.5	127.0	127.0	63.5	M12 x 1.75	16.30 (7.39)	3000 (210)
3”	BTM34-300-*	62.0	106.4	95.3	73.2	101.6	50.8	139.7	152.4	69.9	M16 x 2.00	23.70 (10.75)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

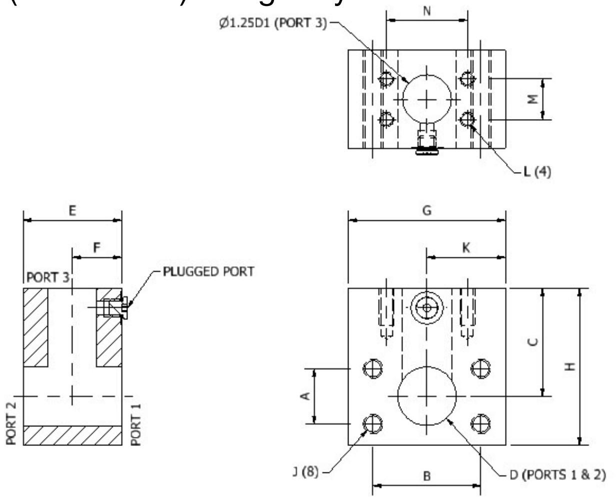
Ordering Example: BT34-200-SS

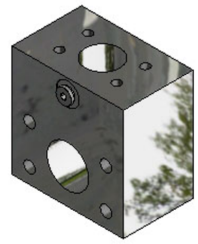
* Insert Material

3D step models available upon request

SAE 3000 PSI Reducing Branch Block Tee - NPS

SAE J518 Code 61 (ISO 6162-1) Flange Style





BTR34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Tee Part Number	Dimensions (in)												Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4”x1/2”	BTR34-075x050-*	0.88	1.88	2.25	0.75	0.50	2.00	1.00	3.00	3.25	1.50	0.69	1.50	3/8”-16	5/16”-18	4.80 (2.18)	5000 (350)
1”x1/2”	BTR34-100x050-*	1.03	2.06	2.25	0.94	0.50	2.00	1.00	3.00	3.25	1.50	0.69	1.50	3/8”-16	5/16”-18	4.70 (2.13)	5000 (350)
1”x3/4”	BTR34-100x075-*	1.03	2.06	2.25	0.94	0.75	2.00	1.00	3.00	3.25	1.50	0.88	1.88	3/8”-16	3/8”-16	4.60 (2.09)	5000 (350)
1-1/4”x1/2”	BTR34-125x050-*	1.19	2.31	2.75	1.25	0.50	2.25	1.13	3.00	4.00	1.50	0.69	1.50	7/16”-14	5/16”-18	5.80 (2.63)	4000 (280)
1-1/4”x3/4”	BTR34-125x075-*	1.19	2.31	2.75	1.25	0.75	2.25	1.13	3.00	4.00	1.50	0.88	1.88	7/16”-14	3/8”-16	5.80 (2.63)	4000 (280)
1-1/4”x1”	BTR34-125x100-*	1.19	2.31	2.75	1.25	0.94	2.25	1.13	3.00	4.00	1.50	1.03	2.06	7/16”-14	3/8”-16	5.80 (2.63)	4000 (280)
1-1/2”x1/2”	BTR34-150x050-*	1.41	2.75	2.75	1.50	0.50	2.50	1.25	4.00	4.00	2.00	0.69	1.50	1/2”-13	5/16”-18	9.25 (4.20)	4000 (280)
1-1/2”x3/4”	BTR34-150x075-*	1.41	2.75	2.75	1.50	0.75	2.50	1.25	4.00	4.00	2.00	0.88	1.88	1/2”-13	3/8”-16	9.20 (4.17)	4000 (280)
1-1/2”x1”	BTR34-150x100-*	1.41	2.75	2.75	1.50	0.94	2.50	1.25	4.00	4.00	2.00	1.03	2.06	1/2”-13	3/8”-16	9.00 (4.08)	4000 (280)
1-1/2”x1-1/4”	BTR34-150x125-*	1.41	2.75	2.75	1.50	1.25	2.50	1.25	4.00	4.00	2.00	1.19	2.31	1/2”-13	7/16”-14	8.65 (3.92)	4000 (280)
2”x1/2”	BTR34-200x050-*	1.69	3.06	3.00	1.94	0.50	3.00	1.50	4.00	4.50	2.00	0.69	1.50	1/2”-13	5/16”-18	11.70 (5.31)	4000 (280)
2”x3/4”	BTR34-200x075-*	1.69	3.06	3.00	1.94	0.75	3.00	1.50	4.00	4.50	2.00	0.88	1.88	1/2”-13	3/8”-16	11.60 (5.26)	4000 (280)
2”x1”	BTR34-200x100-*	1.69	3.06	3.00	1.94	0.94	3.00	1.50	4.00	4.50	2.00	1.03	2.06	1/2”-13	3/8”-16	11.60 (5.26)	4000 (280)
2”x1-1/4”	BTR34-200x125-*	1.69	3.06	3.00	1.94	1.25	3.00	1.50	4.00	4.50	2.00	1.19	2.31	1/2”-13	7/16”-14	11.60 (5.26)	4000 (280)
2”x1-1/2”	BTR34-200x150-*	1.69	3.06	3.00	1.94	1.50	3.00	1.50	4.00	4.50	2.00	1.41	2.75	1/2”-13	1/2”-13	11.60 (5.26)	4000 (280)
2-1/2”x1/2”	BTR34-250x050-*	2.00	3.50	3.25	2.38	0.50	3.50	1.75	5.00	5.00	2.50	0.69	1.50	1/2”-13	5/16”-18	19.40 (8.80)	3000 (210)
2-1/2”x3/4”	BTR34-250x075-*	2.00	3.50	3.25	2.38	0.75	3.50	1.75	5.00	5.00	2.50	0.88	1.88	1/2”-13	3/8”-16	19.20 (8.71)	3000 (210)
2-1/2”x1”	BTR34-250x100-*	2.00	3.50	3.25	2.38	0.94	3.50	1.75	5.00	5.00	2.50	1.03	2.06	1/2”-13	3/8”-16	19.00 (8.62)	3000 (210)
2-1/2”x1-1/4”	BTR34-250x125-*	2.00	3.50	3.25	2.38	1.25	3.50	1.75	5.00	5.00	2.50	1.19	2.31	1/2”-13	7/16”-14	18.80 (8.53)	3000 (210)
2-1/2”x1-1/2”	BTR34-250x150-*	2.00	3.50	3.25	2.38	1.50	3.50	1.75	5.00	5.00	2.50	1.41	2.75	1/2”-13	1/2”-13	18.30 (8.30)	3000 (210)
2-1/2”x2”	BTR34-250x200-*	2.00	3.50	3.25	2.38	1.94	3.50	1.75	5.00	5.00	2.50	1.69	3.06	1/2”-13	1/2”-13	17.56 (7.97)	3000 (210)
3”x1/2”	BTR34-300x050-*	2.44	4.19	3.75	2.88	0.50	4.00	2.00	5.50	6.00	2.75	0.69	1.50	5/8”-11	5/16”-18	28.20 (12.80)	3000 (210)
3”x3/4”	BTR34-300x075-*	2.44	4.19	3.75	2.88	0.75	4.00	2.00	5.50	6.00	2.75	0.88	1.88	5/8”-11	3/8”-16	26.00 (11.79)	3000 (210)
3”x1”	BTR34-300x100-*	2.44	4.19	3.75	2.88	0.94	4.00	2.00	5.50	6.00	2.75	1.03	2.06	5/8”-11	3/8”-16	26.00 (11.79)	3000 (210)
3”x1-1/4”	BTR34-300x125-*	2.44	4.19	3.75	2.88	1.25	4.00	2.00	5.50	6.00	2.75	1.19	2.31	5/8”-11	7/16”-14	28.13 (12.78)	3000 (210)
3”x1-1/2”	BTR34-300x150-*	2.44	4.19	3.75	2.88	1.50	4.00	2.00	5.50	6.00	2.75	1.41	2.75	5/8”-11	1/2”-13	27.67 (12.55)	3000 (210)
3”x2”	BTR34-300x200-*	2.44	4.19	3.75	2.88	1.94	4.00	2.00	5.50	6.00	2.75	1.69	3.06	5/8”-11	1/2”-13	26.87 (12.19)	3000 (210)
3”x2-1/2”	BTR34-300x250-*	2.44	4.19	3.75	2.88	2.38	4.00	2.00	5.50	6.00	2.75	2.00	3.50	5/8”-11	1/2”-13	25.30 (11.48)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

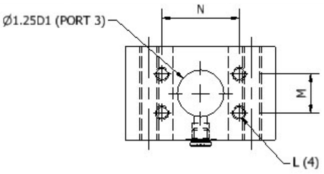
Ordering Example: BTR34-200x050-SS

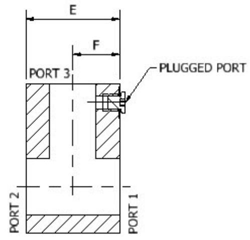
* Insert Material

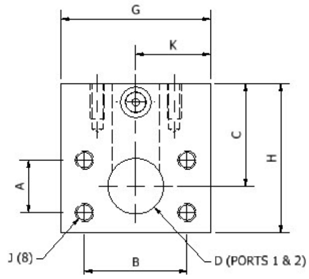
3D step models available upon request

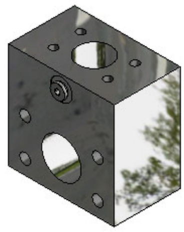
SAE 3000 PSI Reducing Branch Block Tee - Metric

SAE J518 Code 61 (ISO 6162-1) Flange Style









BTRM34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)												Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4"x1/2"	BTRM34-075x050-*	22.4	47.8	57.2	19.1	12.7	50.8	25.4	76.2	82.6	38.1	17.5	38.1	M10 X 1.50	M8 X 1.25	4.80 (2.18)	5000 (350)
1"x1/2"	BTRM34-100x050-*	26.2	52.3	57.2	23.9	12.7	50.8	25.4	76.2	82.6	38.1	17.5	38.1	M10 X 1.50	M8 X 1.25	4.70 (2.13)	5000 (350)
1"x3/4"	BTRM34-100x075-*	26.2	52.3	57.2	23.9	19.1	50.8	25.4	76.2	82.6	38.1	22.4	47.8	M10 X 1.50	M10 X 1.50	4.60 (2.09)	5000 (350)
1-1/4"x1/2"	BTRM34-125x050-*	30.2	58.7	69.9	31.8	12.7	57.2	28.7	76.2	101.6	38.1	17.5	38.1	M10 X 1.50	M8 X 1.25	5.80 (2.63)	4000 (280)
1-1/4"x3/4"	BTRM34-125x075-*	30.2	58.7	69.9	31.8	19.1	57.2	28.7	76.2	101.6	38.1	22.4	47.8	M10 X 1.50	M10 X 1.50	5.80 (2.63)	4000 (280)
1-1/4"x1"	BTRM34-125x100-*	30.2	58.7	69.9	31.8	23.9	57.2	28.7	76.2	101.6	38.1	26.2	52.3	M10 X 1.50	M10 X 1.50	5.80 (2.63)	4000 (280)
1-1/2"x1/2"	BTRM34-150x050-*	35.8	69.9	69.9	38.1	12.7	63.5	31.8	101.6	101.6	50.8	17.5	38.1	M12 X 1.75	M8 X 1.25	9.25 (4.20)	4000 (280)
1-1/2"x3/4"	BTRM34-150x075-*	35.8	69.9	69.9	38.1	19.1	63.5	31.8	101.6	101.6	50.8	22.4	47.8	M12 X 1.75	M10 X 1.50	9.20 (4.17)	4000 (280)
1-1/2"x1"	BTRM34-150x100-*	35.8	69.9	69.9	38.1	23.9	63.5	31.8	101.6	101.6	50.8	26.2	52.3	M12 X 1.75	M10 X 1.50	9.00 (4.08)	4000 (280)
1-1/2"x1-1/4"	BTRM34-150x125-*	35.8	69.9	69.9	38.1	31.8	63.5	31.8	101.6	101.6	50.8	30.2	58.7	M12 X 1.75	M10 X 1.50	8.65 (3.92)	4000 (280)
2"x1/2"	BTRM34-200x050-*	42.9	77.7	76.2	49.3	12.7	76.2	38.1	101.6	114.3	50.8	17.5	38.1	M12 X 1.75	M8 X 1.25	11.70 (5.31)	4000 (280)
2"x3/4"	BTRM34-200x075-*	42.9	77.7	76.2	49.3	19.1	76.2	38.1	101.6	114.3	50.8	22.4	47.8	M12 X 1.75	M10 X 1.50	11.60 (5.26)	4000 (280)
2"x1"	BTRM34-200x100-*	42.9	77.7	76.2	49.3	23.9	76.2	38.1	101.6	114.3	50.8	26.2	52.3	M12 X 1.75	M10 X 1.50	11.60 (5.26)	4000 (280)
2"x1-1/4"	BTRM34-200x125-*	42.9	77.7	76.2	49.3	31.8	76.2	38.1	101.6	114.3	50.8	30.2	58.7	M12 X 1.75	M10 X 1.50	11.60 (5.26)	4000 (280)
2"x1-1/2"	BTRM34-200x150-*	42.9	77.7	76.2	49.3	38.1	76.2	38.1	101.6	114.3	50.8	35.8	69.9	M12 X 1.75	M12 X 1.75	11.60 (5.26)	4000 (280)
2-1/2"x1/2"	BTRM34-250x050-*	50.8	88.9	82.6	60.5	12.7	88.9	44.5	127.0	127.0	63.5	17.5	38.1	M12 X 1.75	M8 X 1.25	19.40 (8.80)	3000 (210)
2-1/2"x3/4"	BTRM34-250x075-*	50.8	88.9	82.6	60.5	19.1	88.9	44.5	127.0	127.0	63.5	22.4	47.8	M12 X 1.75	M10 X 1.50	19.20 (8.71)	3000 (210)
2-1/2"x1"	BTRM34-250x100-*	50.8	88.9	82.6	60.5	23.9	88.9	44.5	127.0	127.0	63.5	26.2	52.3	M12 X 1.75	M10 X 1.50	19.00 (8.62)	3000 (210)
2 -1/2"x1-1/4"	BTRM34-250x125-*	50.8	88.9	82.6	60.5	31.8	88.9	44.5	127.0	127.0	63.5	30.2	58.7	M12 X 1.75	M10 X 1.50	18.80 (8.53)	3000 (210)
2-1/2"x1-1/2"	BTRM34-250x150-*	50.8	88.9	82.6	60.5	38.1	88.9	44.5	127.0	127.0	63.5	35.8	69.9	M12 X 1.75	M12 X 1.75	18.30 (8.30)	3000 (210)
2-1/2"x2"	BTRM34-250x200-*	50.8	88.9	82.6	60.5	49.3	88.9	44.5	127.0	127.0	63.5	42.9	77.7	M12 X 1.75	M12 X 1.75	17.56 (7.97)	3000 (210)
3"x1/2"	BTRM34-300x050-*	62.0	106.4	95.3	73.2	12.7	101.6	50.8	139.7	152.4	69.9	17.5	38.1	M16 X 2.00	M8 X 1.25	28.20 (12.80)	3000 (210)
3"x3/4"	BTRM34-300x075-*	62.0	106.4	95.3	73.2	19.1	101.6	50.8	139.7	152.4	69.9	22.4	47.8	M16 X 2.00	M10 X 1.50	26.00 (11.79)	3000 (210)
3"x1"	BTRM34-300x100-*	62.0	106.4	95.3	73.2	23.9	101.6	50.8	139.7	152.4	69.9	26.2	52.3	M16 X 2.00	M10 X 1.50	26.00 (11.79)	3000 (210)
3"x1-1/4"	BTRM34-300x125-*	62.0	106.4	95.3	73.2	31.8	101.6	50.8	139.7	152.4	69.9	30.2	58.7	M16 X 2.00	M10 X 1.50	28.13 (12.78)	3000 (210)
3"x1-1/2"	BTRM34-300x150-*	62.0	106.4	95.3	73.2	38.1	101.6	50.8	139.7	152.4	69.9	35.8	69.9	M16 X 2.00	M12 X 1.75	27.67 (12.55)	3000 (210)
3"x2"	BTRM34-300x200-*	62.0	106.4	95.3	73.2	49.3	101.6	50.8	139.7	152.4	69.9	42.9	77.7	M16 X 2.00	M12 X 1.75	26.87 (12.19)	3000 (210)
3"x2-1/2"	BTRM34-300x250-*	62.0	106.4	95.3	73.2	60.5	101.6	50.8	139.7	152.4	69.9	50.8	88.9	M16 X 2.00	M12 X 1.75	25.30 (11.48)	3000 (210)

*** Materials:**

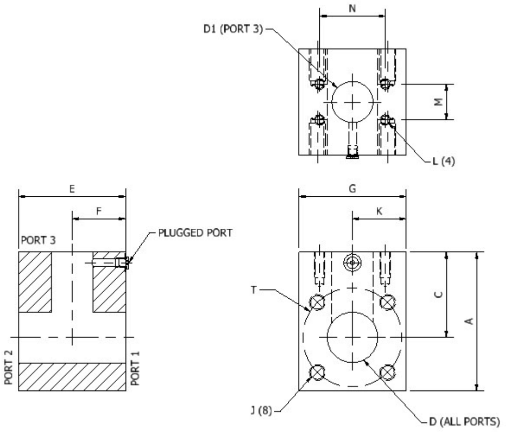
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

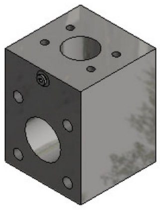
Ordering Example: BTRM34-200x050-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Reducing Branch Block Tee

ISO 6164/SAE J518 Code 61 (ISO 6162-1) Flange Style





BTR7-34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Block Tee Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2”x2”	BTR7-34-250x200-*	4.65	4.00	2.38	1.94	5.00	2.50	5.00	6.50	2.50	1.69	3.06	3/4”-10	1/2”-13	35.60 (16.15)	3000 (210)
3”x2”	BTR7-34-300x200-*	5.71	5.00	2.88	1.94	6.00	3.00	6.00	8.00	3.00	1.69	3.06	1”-8	1/2”-13	63.40 (28.76)	3000 (210)
4”x2”	BTR7-34-400x200-*	6.89	5.50	3.50	1.94	7.00	3.50	7.00	9.00	3.50	1.69	3.06	1-1/8”-7	1/2”-13	97.60 (44.27)	3000 (210)

BTRM7-34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G 1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2”x2”	BTRM7-34-250x200-*	118.1	101.6	60.5	49.3	127.0	63.5	127.0	165.1	63.5	42.9	77.7	M20 x 2.50	M12 x 1.75	35.60 (16.15)	3000 (210)
3”x2”	BTRM7-34-300x200-*	145.0	127.0	73.2	49.3	152.4	76.2	152.4	203.2	76.2	42.9	77.7	M24 x 3.00	M12 x 1.75	63.40 (28.76)	3000 (210)
4”x2”	BTRM7-34-400x200-*	175.0	139.7	88.9	49.3	177.8	88.9	177.8	228.6	88.9	42.9	77.7	M30 x 3.50	M12 x 1.75	97.60 (44.27)	3000 (210)

Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTR7-34-250x200-SS

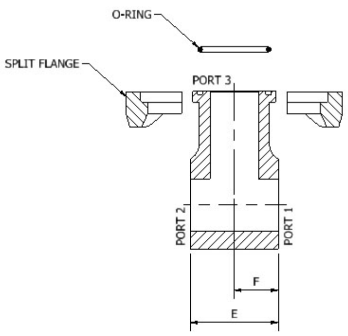
* Insert Material

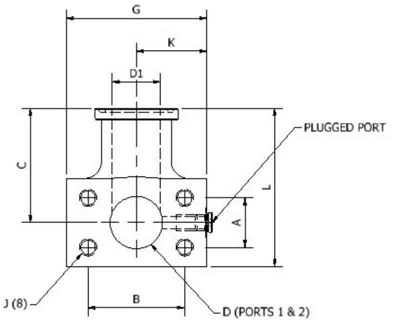
3D step models available upon request

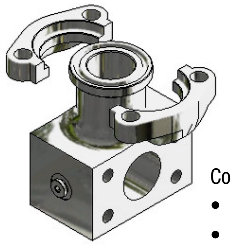
SAE 3000 PSI Split Flange Branch Tee

Complete Assembly

SAE J518 Code 61 (ISO 6162-1) Flange Style







Complete Flange Set Includes:

- One (1) Split Flange Tee
- One (1) Sets (2 Halves) Split Flanges
- One (1) O-Ring
- One (1) Component Bolt Kit

A/SFBT34 - Split Flange Branch Tee Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFBT34-050-*-^	0.69	1.50	2.50	0.50	0.38	2.00	1.00	2.50	1.25	3.50	5/16”-18	OR^-2-210	3.37 (1.53)	SFBT34-050-*-^	2.95 (1.34)	5000 (350)
3/4”	A/SFBT34-075-*-^	0.88	1.88	2.75	0.75	0.63	2.00	1.00	3.00	1.50	3.75	3/8”-16	OR^-2-214	3.81 (1.73)	SFBT34-075-*-^	3.30 (1.50)	5000 (350)
1”	A/SFBT34-100-*-^	1.03	2.06	2.75	0.94	0.88	2.00	1.00	3.00	1.50	3.75	3/8”-16	OR^-2-219	4.03 (1.83)	SFBT34-100-*-^	3.38 (1.53)	5000 (350)
1-1/4”	A/SFBT34-125-*-^	1.19	2.31	3.13	1.25	1.13	2.25	1.13	3.00	1.50	4.25	7/16”-14	OR^-2-222	4.69 (2.13)	SFBT34-125-*-^	3.80 (1.72)	4000 (280)
1-1/2”	A/SFBT34-150-*-^	1.41	2.75	3.25	1.50	1.38	2.50	1.25	4.00	2.00	4.50	1/2”-13	OR^-2-225	7.63 (3.46)	SFBT34-150-*-^	6.19 (2.81)	4000 (280)
2”	A/SFBT34-200-*-^	1.69	3.06	3.50	1.94	1.88	3.00	1.50	4.00	2.00	5.00	1/2”-13	OR^-2-228	9.46 (4.29)	SFBT34-200-*-^	7.90 (3.58)	4000 (280)
2-1/2”	A/SFBT34-250-*-^	2.00	3.50	4.00	2.38	2.38	3.50	1.75	4.50	2.25	5.75	1/2”-13	OR^-2-232	13.43 (6.09)	SFBT34-250-*-^	11.30 (5.13)	3000 (210)
3”	A/SFBT34-300-*-^	2.44	4.19	4.50	2.88	2.88	4.00	2.00	5.50	2.75	6.50	5/8”-11	OR^-2-237	21.35 (9.68)	SFBT34-300-*-^	17.70 (8.03)	3000 (210)

A/SFBTM34 - Split Flange Branch Tee Assembly Flat Face with Threaded Holes Complete With Buna O-Ring and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFBTM34-050-*-^	17.5	38.1	63.5	12.7	9.7	50.8	25.4	63.5	31.8	88.9	M8 x 1.25	OR^-2-210	3.37 (1.53)	SFBTM34-050-*-^	2.95 (1.34)	5000 (350)
3/4”	A/SFBTM34-075-*-^	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR^-2-214	3.81 (1.73)	SFBTM34-075-*-^	3.30 (1.50)	5000 (350)
1”	A/SFBTM34-100-*-^	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	95.3	M10 x 1.50	OR^-2-219	4.03 (1.83)	SFBTM34-100-*-^	3.38 (1.53)	5000 (350)
1-1/4”	A/SFBTM34-125-*-^	30.2	58.7	79.5	31.8	28.7	57.2	28.7	76.2	38.1	108.0	M10 x 1.50	OR^-2-222	4.69 (2.13)	SFBTM34-125-*-^	3.80 (1.72)	4000 (280)
1-1/2”	A/SFBTM34-150-*-^	35.8	69.9	82.6	38.1	35.1	63.5	31.8	101.6	50.8	114.3	M12 x 1.75	OR^-2-225	7.63 (3.46)	SFBTM34-150-*-^	6.19 (2.81)	4000 (280)
2”	A/SFBTM34-200-*-^	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	127.0	M12 x 1.75	OR^-2-228	9.46 (4.29)	SFBTM34-200-*-^	7.90 (3.58)	4000 (280)
2-1/2”	A/SFBTM34-250-*-^	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	146.1	M12 x 1.75	OR^-2-232	13.43 (6.09)	SFBTM34-250-*-^	11.30 (5.13)	3000 (210)
3”	A/SFBTM34-300-*-^	62.0	106.4	114.3	73.2	73.2	101.6	50.8	139.7	69.9	165.1	M16 x 2.00	OR^-2-237	21.35 (9.68)	SFBTM34-300-*-^	17.70 (8.03)	3000 (210)

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

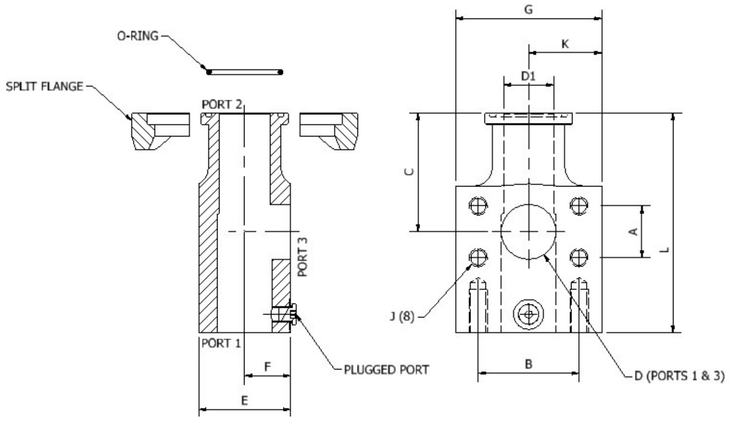
Ordering Example: A/SFBT34-200-SS-V
* Insert Material
^ Insert O-Ring Type

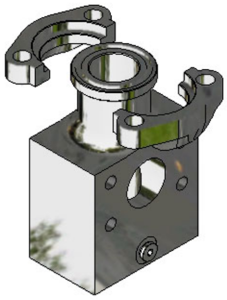
3D step models available upon request

SAE 3000 PSI Split Flange Run Tee

Complete Assembly

SAE J518 Code 61 (ISO 6162-1) Flange Style





Complete Flange Set Includes:

- One (1) Split Flange Tee
- One (1) Sets (2 Halves) Split Flanges
- One (1) O-Ring
- One (1) Component Bolt Kit

A/SFRT34 - Split Flange Run Tee Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFRT34-050-*-^	0.69	1.50	2.12	0.50	0.38	2.00	1.00	2.50	1.25	4.00	5/16”-18	OR^-2-210	3.97 (1.80)	SFRT34-050-*-^	3.55 (1.61)	5000 (350)
3/4”	A/SFRT34-075-*-^	0.88	1.88	2.75	0.75	0.63	2.00	1.00	3.00	1.50	5.00	3/8”-16	OR^-2-214	5.81 (2.64)	SFRT34-075-*-^	5.30 (2.41)	5000 (350)
1”	A/SFRT34-100-*-^	1.03	2.06	2.75	0.94	0.88	2.00	1.00	3.00	1.50	5.00	3/8”-16	OR^-2-219	5.85 (2.65)	SFRT34-100-*-^	5.20 (2.36)	5000 (350)
1-1/4”	A/SFRT34-125-*-^	1.19	2.31	3.25	1.25	1.13	2.25	1.13	3.00	1.50	6.00	7/16”-14	OR^-2-222	7.06 (3.20)	SFRT34-125-*-^	6.17 (2.80)	4000 (280)
1-1/2”	A/SFRT34-150-*-^	1.41	2.75	3.25	1.50	1.38	2.50	1.25	4.00	2.00	6.00	1/2”-13	OR^-2-225	11.04 (5.01)	SFRT34-150-*-^	9.60 (4.35)	4000 (280)
2”	A/SFRT34-200-*-^	1.69	3.06	3.50	1.94	1.88	3.00	1.50	4.00	2.00	6.50	1/2”-13	OR^-2-228	13.36 (6.06)	SFRT34-200-*-^	11.80 (5.35)	4000 (280)
2-1/2”	A/SFRT34-250-*-^	2.00	3.50	4.00	2.38	2.38	3.50	1.75	4.50	2.25	7.25	1/2”-13	OR^-2-232	18.33 (8.31)	SFRT34-250-*-^	16.20 (7.35)	3000 (210)
3”	A/SFRT34-300-*-^	2.44	4.19	4.75	2.88	2.88	4.00	2.00	5.50	2.75	8.50	5/8”-11	OR^-2-237	30.66 (13.91)	SFRT34-300-*-^	27.01 (12.25)	3000 (210)

A/SFRTM34 - Split Flange Run Tee Assembly Flat Face with Threaded Holes Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFRTM34-050-*-^	17.5	38.1	53.8	12.7	9.7	50.8	25.4	63.5	31.8	101.6	M8 x 1.25	OR^-2-210	3.97 (1.80)	SFRTM34-050-*-^	3.55 (1.61)	5000 (350)
3/4”	A/SFRTM34-075-*-^	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	127.0	M10 x 1.50	OR^-2-214	5.81 (2.64)	SFRTM34-075-*-^	5.30 (2.41)	5000 (350)
1”	A/SFRTM34-100-*-^	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	127.0	M10 x 1.50	OR^-2-219	5.85 (2.65)	SFRTM34-100-*-^	5.20 (2.36)	5000 (350)
1-1/4”	A/SFRTM34-125-*-^	30.2	58.7	82.6	31.8	28.7	57.2	28.7	76.2	38.1	152.4	M10 x 1.50	OR^-2-222	7.06 (3.20)	SFRTM34-125-*-^	6.17 (2.80)	4000 (280)
1-1/2”	A/SFRTM34-150-*-^	35.8	69.9	82.6	38.1	35.1	63.5	31.8	101.6	50.8	152.4	M12 x 1.75	OR^-2-225	11.04 (5.01)	SFRTM34-150-*-^	9.60 (4.35)	4000 (280)
2”	A/SFRTM34-200-*-^	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	165.1	M12 x 1.75	OR^-2-228	13.36 (6.06)	SFRTM34-200-*-^	11.80 (5.35)	4000 (280)
2-1/2”	A/SFRTM34-250-*-^	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	184.2	M12 x 1.75	OR^-2-232	18.33 (8.31)	SFRTM34-250-*-^	16.20 (7.35)	3000 (210)
3”	A/SFRTM34-300-*-^	62.0	106.4	120.7	73.2	73.2	101.6	50.8	139.7	69.9	215.9	M16 x 2.00	OR^-2-237	30.66 (13.91)	SFRTM34-300-*-^	27.01 (12.25)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/SFRT34-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

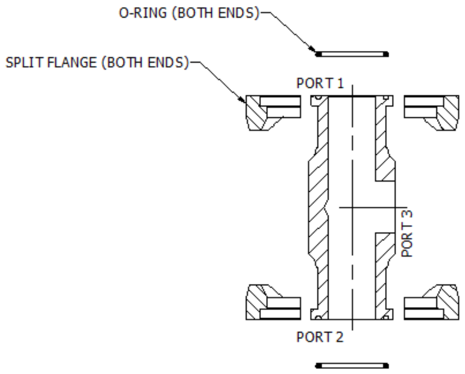
SAE 3000 PSI Split Flange Tee

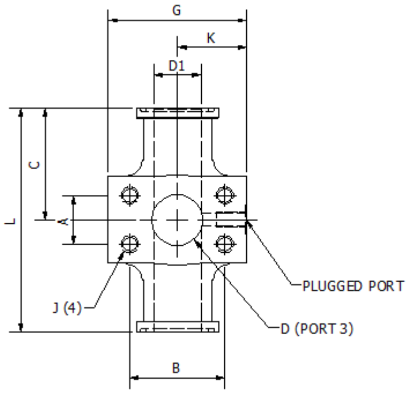
Complete Assembly

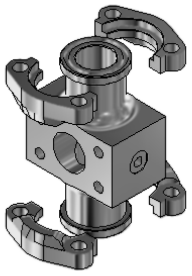
SAE J518 Code 61 (ISO 6162-1) Flange Style

Complete Flange Set Includes:

- One (1) Split Flange Tee
- Two (2) Sets (4 Halves) Split Flanges
- Two (2) O-Rings
- Two (2) Component Bolt Kits







A/SFT34 - Split Flange Tee Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFT34-050-*-^	0.69	1.50	2.50	0.50	0.38	2.00	1.00	2.50	1.25	5.00	5/16”-18	OR^-2-210	3.51 (1.59)	SFT34-050-*-^	2.67 (1.21)	5000 (350)
3/4”	A/SFT34-075-*-^	0.88	1.88	2.75	0.75	0.63	2.00	1.00	3.00	1.50	5.50	3/8”-16	OR^-2-214	4.82 (2.19)	SFT34-075-*-^	3.80 (1.72)	5000 (350)
1”	A/SFT34-100-*-^	1.03	2.06	2.75	0.94	0.88	2.00	1.00	3.00	1.50	5.50	3/8”-16	OR^-2-219	5.40 (2.45)	SFT34-100-*-^	4.10 (1.86)	5000 (350)
1-1/4”	A/SFT34-125-*-^	1.19	2.31	3.13	1.25	1.13	2.25	1.13	3.00	1.50	6.25	7/16”-14	OR^-2-222	6.63 (3.01)	SFT34-125-*-^	4.85 (2.20)	4000 (280)
1-1/2”	A/SFT34-150-*-^	1.41	2.75	3.25	1.50	1.38	2.50	1.25	4.00	2.00	6.50	1/2”-13	OR^-2-225	10.38 (4.71)	SFT34-150-*-^	7.50 (3.41)	4000 (280)
2”	A/SFT34-200-*-^	1.69	3.06	3.50	1.94	1.88	3.00	1.50	4.00	2.00	7.00	1/2”-13	OR^-2-228	12.72 (5.77)	SFT34-200-*-^	9.60 (4.35)	4000 (280)
2-1/2”	A/SFT34-250-*-^	2.00	3.50	4.00	2.38	2.38	3.50	1.75	4.50	2.25	8.00	1/2”-13	OR^-2-232	19.58 (8.88)	SFT34-250-*-^	15.32 (6.95)	3000 (210)
3”	A/SFT34-300-*-^	2.44	4.19	4.50	2.88	2.88	4.00	2.00	5.50	2.75	9.00	5/8”-11	OR^-2-237	28.40 (12.88)	SFT34-300-*-^	21.10 (9.57)	3000 (210)

A/SFTM34 - Split Flange Tee Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFTM34-050-*-^	17.5	38.1	63.5	12.7	9.7	50.8	25.4	63.5	31.8	127.0	M8 x 1.25	OR^-2-210	3.51 (1.59)	SFTM34-050-*-^	2.67 (1.21)	5000 (350)
3/4”	A/SFTM34-075-*-^	22.4	47.8	69.9	19.1	16.0	50.8	25.4	76.2	38.1	139.7	M10 x 1.50	OR^-2-214	4.82 (2.19)	SFTM34-075-*-^	3.80 (1.72)	5000 (350)
1”	A/SFTM34-100-*-^	26.2	52.3	69.9	23.9	22.4	50.8	25.4	76.2	38.1	139.7	M10 x 1.50	OR^-2-219	5.40 (2.45)	SFTM34-100-*-^	4.10 (1.86)	5000 (350)
1-1/4”	A/SFTM34-125-*-^	30.2	58.7	79.5	31.8	28.7	57.2	28.7	76.2	38.1	158.8	M10 x 1.50	OR^-2-222	6.63 (3.01)	SFTM34-125-*-^	4.85 (2.20)	4000 (280)
1-1/2”	A/SFTM34-150-*-^	35.8	69.9	82.6	38.1	34.9	63.5	31.8	101.6	50.8	165.1	M12 x 1.75	OR^-2-225	10.38 (4.71)	SFTM34-150-*-^	7.50 (3.41)	4000 (280)
2”	A/SFTM34-200-*-^	42.9	77.7	88.9	49.3	47.8	76.2	38.1	101.6	50.8	177.8	M12 x 1.75	OR^-2-228	12.72 (5.77)	SFTM34-200-*-^	9.60 (4.35)	4000 (280)
2-1/2”	A/SFTM34-250-*-^	50.8	88.9	101.6	60.5	60.5	88.9	44.5	114.3	57.2	203.2	M12 x 1.75	OR^-2-232	19.58 (8.88)	SFTM34-250-*-^	15.32 (6.95)	3000 (210)
3”	A/SFTM34-300-*-^	62.0	106.4	114.3	73.2	73.2	101.6	50.8	139.7	69.9	228.6	M16 x 2.00	OR^-2-237	28.40 (12.88)	SFTM34-300-*-^	21.10 (9.57)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

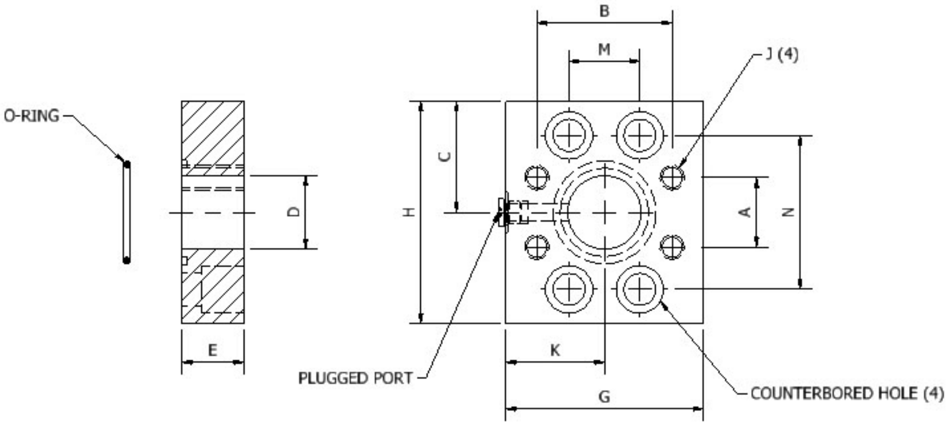
Standard, No Designation = Buna Nitrile.
V = Viton.

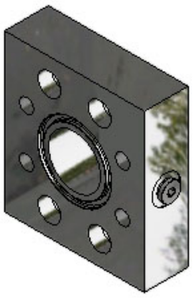
Ordering Example: A/SFT34-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Transition Plate

SAE J518 Code 62/Code 61 (ISO 6162-2/6162-1) Flange Manifold Mount Style





TPO6-34 - Transition Plate O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size	Transition Plate Part Number	Dimensions (in)										C'T Bore Bolt	Thread 1 UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K	M	N					
1/2"	TP06-34-050-*-^	0.69	1.50	1.25	0.50	1.00	2.50	2.50	1.50	0.72	1.60	5/16"	5/16"-18	OR^-2-210	1.40 (0.64)	5000 (350)
3/4"	TP06-34-075-*-^	0.88	1.88	1.50	0.75	1.00	3.00	3.00	1.75	0.94	2.00	3/8"	3/8"-16	OR^-2-214	2.00 (0.91)	5000 (350)
1"	TP06-34-100-*-^	1.03	2.06	1.50	0.94	1.00	3.00	3.00	1.50	1.10	2.24	7/16"	3/8"-16	OR^-2-219	1.90 (0.86)	5000 (350)
1-1/4"	TP06-34-125-*-^	1.19	2.31	2.00	1.25	1.25	3.00	4.00	1.50	1.24	2.62	1/2"	7/16"-14	OR^-2-222	3.59 (1.63)	4000 (275)
1-1/2"	TP06-34-150-*-^	1.41	2.75	2.25	1.50	1.25	4.00	4.50	2.00	1.44	3.13	31/32"	1/2"-13	OR^-2-225	4.56 (2.07)	3000 (210)
2"	TP06-34-200-*-^	1.69	3.06	2.75	1.94	1.75	4.00	5.50	2.00	1.75	3.81	3/4"	1/2"-13	OR^-2-228	7.40 (3.36)	3000 (210)

TPOM6-34 - Transition Plate O-Ring Face with Counterbored Hole Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size	Transition Plate Part Number	Dimensions (mm)										C'T Bore Bolt	Thread 1	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K	M	N					
1/2"	TPOM6-34-050-*-^	17.5	38.1	31.8	12.7	25.4	63.5	63.5	38.1	18.3	40.6	M8	M8 x 1.25	OR^-2-210	1.40 (0.64)	5000 (350)
3/4"	TPOM6-34-075-*-^	22.4	47.8	38.1	19.1	25.4	76.2	76.2	44.5	23.9	50.8	M10	M10 x 1.50	OR^-2-214	2.00 (0.91)	5000 (350)
1"	TPOM6-34-100-*-^	26.2	52.3	38.1	23.9	25.4	76.2	76.2	38.1	27.9	56.9	M12	M10 x 1.50	OR^-2-219	1.90 (0.86)	5000 (350)
1-1/4"	TPOM6-34-125-*-^	30.2	58.7	50.8	31.8	31.8	76.2	101.6	38.1	31.5	66.5	M12	M10 x 1.50	OR^-2-222	3.59 (1.63)	4000 (275)
1-1/2"	TPOM6-34-150-*-^	35.8	69.9	57.2	38.1	31.8	101.6	114.3	50.8	36.6	79.5	M16	M12 x 1.75	OR^-2-225	4.56 (2.07)	3000 (210)
2"	TPOM6-34-200-*-^	42.9	77.7	69.9	49.3	44.5	101.6	139.7	50.8	44.5	96.8	M20	M12 x 1.75	OR^-2-228	7.40 (3.36)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

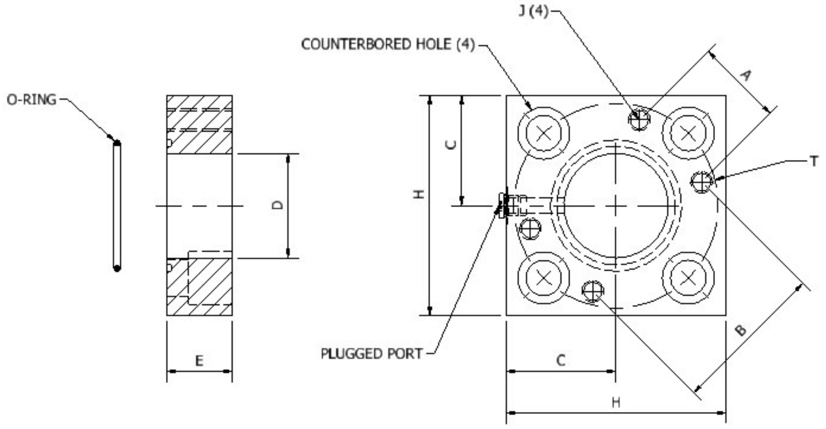
Standard, No Designation = Buna Nitrile.
V = Viton.

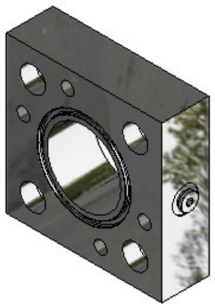
Ordering Example: TP06-34-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Transition Plate

ISO 6164/SAE Code 61 (ISO6164/6162-1) Flange Manifold Mount Style





TPO7-34 - Transition Plate O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size	Transition Plate Part Number	Dimensions (in)							C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	H	T					
2-1/2"	TP07-34-250-*-^	2.00	3.50	2.50	2.38	1.50	5.00	4.65	3/4"	1/2"-13	OR^-2-232	5.50 (2.49)	2500 (175)
3"	TP07-34-300-*-^	2.44	4.19	3.00	2.88	1.75	6.00	5.71	1"	5/8"-11	OR^-2-237	10.85 (4.92)	2000 (140)

TPOM7-34 - Transition Plate O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size	Transition Plate Part Number	Dimensions (mm)							C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	H	T					
2-1/2"	TPOM7-34-250-*-^	50.8	88.9	63.5	60.5	31.8	127.0	118.1	M20	M12 x 1.75	OR^-2-232	5.50 (2.49)	2500 (175)
3"	TPOM7-34-300-*-^	62.0	106.4	76.2	73.2	44.5	152.4	145.0	M24	M16 x 2.00	OR^-2-237	10.85 (4.92)	2000 (140)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

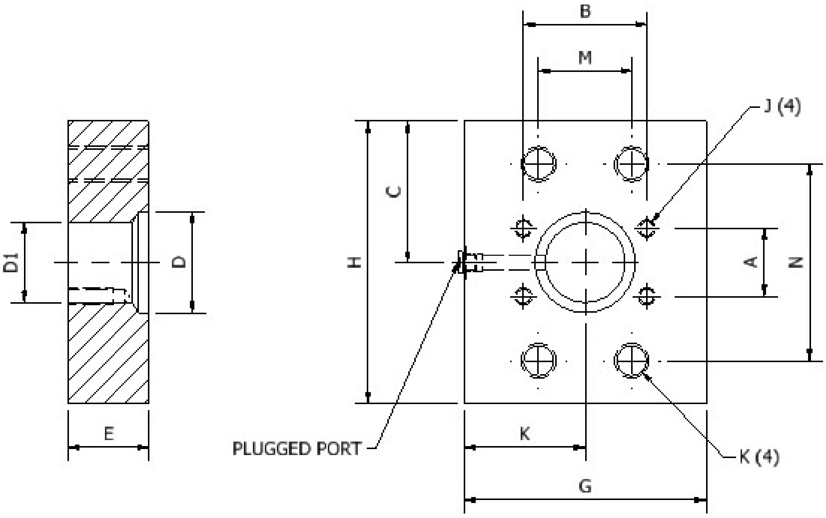
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

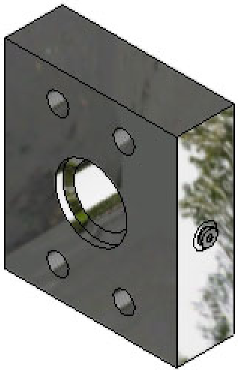
Ordering Example: TPO7-34-250-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Transition Plate Reducer

SAE J518 Code 62/Code 61 (ISO 6162-2/6162-1) Flange Union Style





TPR6-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (SAE Code 62 x SAE Code 61)	Reducer Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPR6-34-075x050-*	0.69	1.50	1.25	0.75	0.50	1.00	2.50	3.00	1.25	0.94	2.00	3/8”-16	5/16”-18	1.87 (0.85)	5000 (350)
1” x 1/2”	TPR6-34-100x050-*	0.69	1.50	1.50	0.94	0.50	1.50	3.00	3.00	1.50	1.09	2.25	7/16”-14	5/16”-18	3.42 (1.55)	5000 (350)
1” x 3/4”	TPR6-34-100x075-*	0.88	1.88	1.50	0.94	0.75	1.25	3.00	3.00	1.50	1.09	2.25	7/16”-14	3/8”-16	2.70 (1.22)	5000 (350)
1-1/4” x 3/4”	TPR6-34-125x075-*	0.88	1.88	1.50	1.25	0.75	1.50	3.00	3.50	1.50	1.25	2.62	1/2”-13	3/8”-16	3.80 (1.72)	5000 (350)
1-1/4” x 1”	TPR6-34-125x100-*	1.03	2.06	1.50	1.25	0.94	1.25	3.00	3.50	1.50	1.25	2.62	1/2”-13	3/8”-16	3.00 (1.36)	5000 (350)
1-1/2” x 1”	TPR6-34-150x100-*	1.03	2.06	1.50	1.50	0.94	1.50	3.00	4.00	1.50	1.44	3.13	5/8”-11	3/8”-16	4.10 (1.86)	5000 (350)
1-1/2” x 1-1/4”	TPR6-34-150x125-*	1.19	2.31	2.00	1.50	1.25	1.50	4.00	4.00	2.00	1.44	3.13	5/8”-11	7/16”-14	55.50 (2.49)	4000 (280)
2” x 1-1/4”	TPR6-34-200x125-*	1.19	2.31	2.00	1.94	1.25	1.75	4.00	5.00	2.00	1.76	3.82	3/4”-10	7/16”-14	8.27 (3.75)	4000 (280)
2” x 1-1/2”	TPR6-34-200x150-*	1.41	2.75	2.50	1.94	1.50	1.50	5.00	5.00	2.50	1.75	3.81	3/4”-10	1/2”-13	8.93 (4.05)	4000 (280)

TPRM6-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (ISO 6162-2 x ISO 6162-1)	Reducer Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPRM6-34-075x050-*	17.5	38.1	31.8	19.1	12.7	25.4	63.5	76.2	31.8	23.9	50.8	M10 x 1.50	M8 x 1.25	1.87 (0.85)	5000 (350)
1” x 1/2”	TPRM6-34-100x050-*	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M8 x 1.25	3.42 (1.55)	5000 (350)
1” x 3/4”	TPRM6-34-100x075-*	22.4	47.8	38.1	23.9	19.1	31.8	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M10 x 1.50	2.70 (1.22)	5000 (350)
1-1/4” x 3/4”	TPRM6-34-125x075-*	22.4	47.8	38.1	31.8	19.1	38.1	76.2	88.9	38.1	31.8	66.5	M12 x 1.75	M10 x 1.50	3.80 (1.72)	5000 (350)
1-1/4” x 1”	TPRM6-34-125x100-*	26.2	52.3	38.1	31.8	23.9	31.8	76.2	88.9	38.1	31.8	66.5	M12 x 1.75	M10 x 1.50	3.00 (1.36)	5000 (350)
1-1/2” x 1”	TPRM6-34-150x100-*	26.2	52.3	38.1	38.1	23.9	38.1	76.2	101.6	38.1	36.6	79.5	M16 x 2.00	M10 x 1.50	4.10 (1.86)	5000 (350)
1-1/2” x 1-1/4”	TPRM6-34-150x125-*	30.2	58.7	50.8	38.1	31.8	38.1	101.6	101.6	50.8	36.6	79.5	M16 x 2.00	M10 x 1.50	55.50 (2.49)	4000 (280)
2” x 1-1/4”	TPRM6-34-200x125-*	30.2	58.7	50.8	49.3	31.8	44.5	101.6	127.0	50.8	44.7	97.0	M20 x 2.50	M10 x 1.50	8.27 (3.75)	4000 (280)
2” x 1-1/2”	TPRM6-34-200x150-*	35.8	69.9	63.5	49.3	38.1	38.1	127.0	127.0	63.5	44.5	96.8	M20 x 2.50	M12 x 1.75	8.93 (4.05)	4000 (280)

*** Materials:**

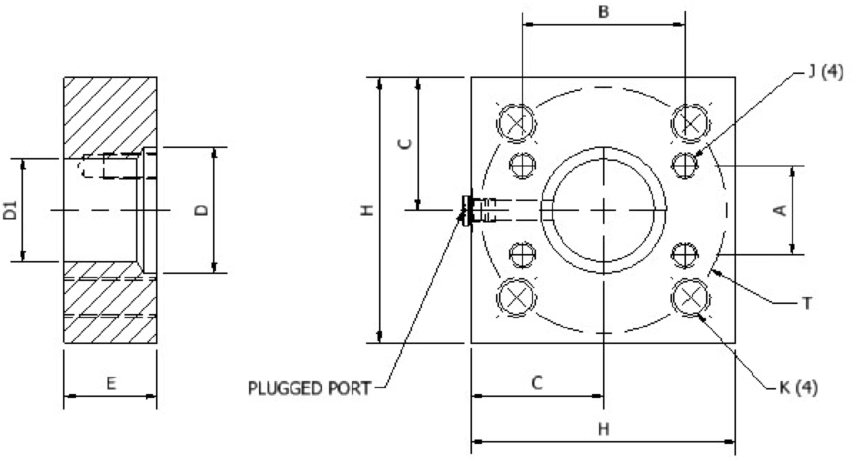
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

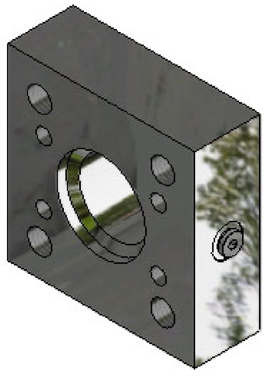
Ordering Example: TPR6-34-200x125-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Transition Plate Reducer

ISO 6164/SAE Code 61 (ISO6164/6162-1) Flange Union Style





TPR7-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete With #4 SAE Port (Plugged), NPS

Size (ISO 6164 x SAE Code 61)	Reducer Part Number	Dimensions (in)								Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2" x 1-1/2"	TPR7-34-250x150-*	4.65	1.41	2.75	2.50	2.38	1.50	1.75	5.00	3/4"-10	1/2"-13	10.40 (4.72)	3000 (210)
2-1/2" x 2"	TPR7-34-250x200-*	4.65	1.69	3.06	2.50	2.38	1.94	1.75	5.00	3/4"-10	1/2"-13	10.30 (4.67)	3000 (210)
3" x 2"	TPR7-34-300x200-*	5.71	1.69	3.06	3.00	2.88	1.94	2.00	6.00	1"-8	1/2"-13	16.50 (7.48)	3000 (210)
3" x 2-1/2"	TPR7-34-300x250-*	5.71	2.00	3.50	3.00	2.88	2.38	2.00	6.00	1"-8	1/2"-13	15.50 (7.03)	2500 (175)
4" x 2-1/2"	TPR7-34-400x250-*	6.89	2.00	3.50	3.50	3.50	2.38	2.00	7.00	1-1/8"-7	1/2"-13	22.70 (10.30)	2500 (175)
4" x 3"	TPR7-34-400x300-*	6.89	2.44	4.19	3.50	3.50	2.88	2.00	7.00	1-1/8"-7	5/8"-11	22.20 (10.07)	2000 (140)

TPRM7-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (ISO 6164 x ISO 6162-1)	Reducer Part Number	Dimensions (mm)								Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2" x 1-1/2"	TPRM7-34-250x150-*	118.1	35.8	69.9	63.5	60.5	38.1	44.5	127.0	M20 x 2.50	M12 x 1.75	10.40 (4.72)	3000 (210)
2-1/2" x 2"	TPRM7-34-250x200-*	118.1	42.9	77.7	63.5	60.5	49.3	44.5	127.0	M20 x 2.50	M12 x 1.75	10.30 (4.67)	3000 (210)
3" x 2"	TPRM7-34-300x200-*	145.0	42.9	77.7	76.2	73.2	49.3	50.8	152.4	M24 x 3.00	M12 x 1.75	16.50 (7.48)	3000 (210)
3" x 2-1/2"	TPRM7-34-300x250-*	145.0	50.8	88.9	76.2	73.2	60.5	50.8	152.4	M24 x 3.00	M12 x 1.75	15.50 (7.03)	2500 (175)
4" x 2-1/2"	TPRM7-34-400x250-*	175.0	50.8	88.9	88.9	88.9	60.5	50.8	177.8	M30 x 3.50	M12 x 1.75	22.70 (10.30)	2500 (175)
4" x 3"	TPRM7-34-400x300-*	175.0	62.0	106.4	88.9	88.9	73.2	50.8	177.8	M30 x 3.50	M16 x 2.00	22.20 (10.07)	2000 (140)

*** Materials:**

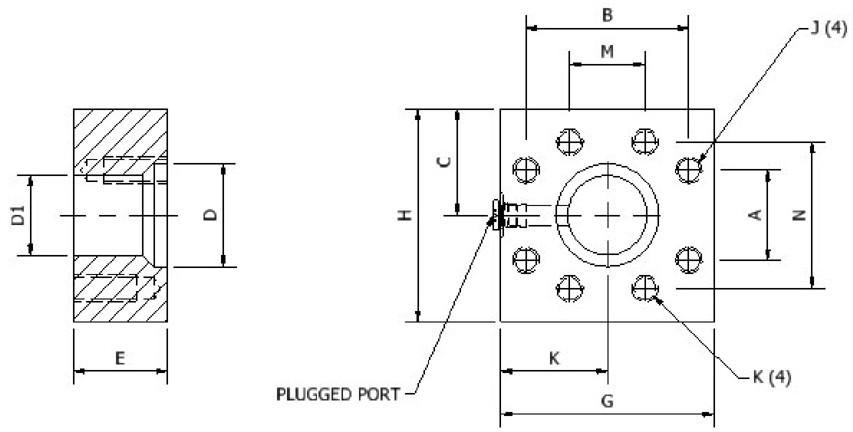
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

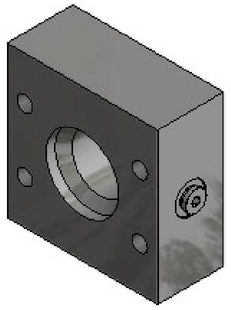
Ordering Example: TPR7-34-250x150-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Transition Plate Reducer - NPS

SAE J518 Code 61 (ISO 6162-1) Flange Style





TPR34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPR34-075x050-*	0.69	1.50	1.69	0.75	0.50	1.00	3.00	3.00	1.50	0.88	1.88	3/8”-16	5/16”-18	2.50 (1.59)	5000 (350)
1” x 1/2”	TPR34-100x050-*	0.69	1.50	1.50	0.94	0.50	1.50	3.00	3.00	1.50	1.03	2.06	3/8”-16	5/16”-18	3.44 (1.56)	5000 (350)
1” x 3/4”	TPR34-100x075-*	0.88	1.88	1.50	0.94	0.75	1.50	3.00	3.00	1.50	1.03	2.06	3/8”-16	3/8”-16	3.30 (1.50)	5000 (350)
1-1/4” x 3/4”	TPR34-125x075-*	0.88	1.88	1.50	1.25	0.75	1.50	3.00	3.00	1.50	1.19	2.31	7/16”-14	3/8”-16	3.20 (1.45)	5000 (350)
1-1/4” x 1”	TPR34-125x100-*	1.03	2.06	1.50	1.25	0.94	1.25	3.00	3.00	1.50	1.19	2.31	7/16”-14	3/8”-16	2.60 (1.18)	5000 (350)
1-1/2” x 1”	TPR34-150x100-*	1.03	2.06	2.00	1.50	0.94	1.50	3.00	4.00	1.50	1.41	2.75	1/2”-13	3/8”-16	4.26 (1.93)	5000 (350)
1-1/2” x 1-1/4”	TPR34-150x125-*	1.19	2.31	2.00	1.50	1.25	1.50	3.00	4.00	1.50	1.41	2.75	1/2”-13	7/16”-14	4.20 (1.91)	4000 (280)
2” x 1-1/4”	TPR34-200x125-*	1.19	2.31	2.00	1.94	1.25	1.75	3.00	4.00	1.50	1.69	3.06	1/2”-13	7/16”-14	4.70 (2.13)	4000 (280)
2” x 1-1/2”	TPR34-200x150-*	1.41	2.75	2.00	1.94	1.50	1.75	4.00	4.00	2.00	1.69	3.06	1/2”-13	1/2”-13	6.40 (2.91)	4000 (280)
2-1/2” x 1-1/2”	TPR34-250x150-*	1.41	2.75	2.50	2.38	1.50	2.00	4.00	5.00	2.00	2.00	3.50	1/2”-13	1/2”-13	8.90 (4.04)	4000 (280)
2-1/2” x 2”	TPR34-250x200-*	1.69	3.06	2.50	2.38	1.94	1.75	4.00	5.00	2.00	2.00	3.50	1/2”-13	1/2”-13	7.65 (3.47)	4000 (280)
3” x 2”	TPR34-300x200-*	1.69	3.06	3.00	2.88	1.94	2.00	4.00	6.00	2.00	2.44	4.19	5/8”-11	1/2”-13	10.60 (4.81)	4000 (280)
3” x 2-1/2”	TPR34-300x250-*	2.00	3.50	3.00	2.88	2.38	1.75	4.50	6.00	2.25	2.44	4.19	5/8”-11	1/2”-13	10.10 (4.58)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

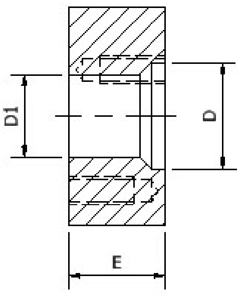
Ordering Example:TPR34-200x125-SS

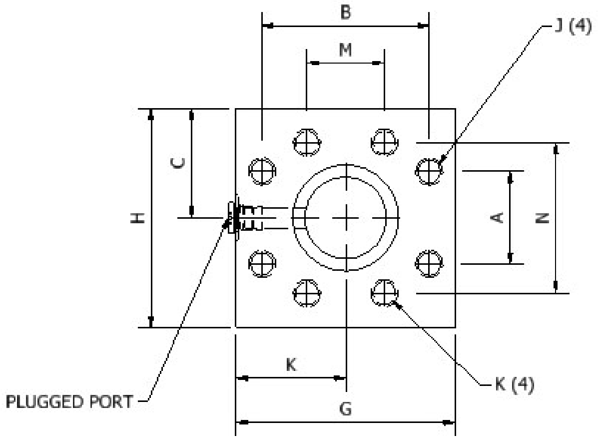
* Insert Material

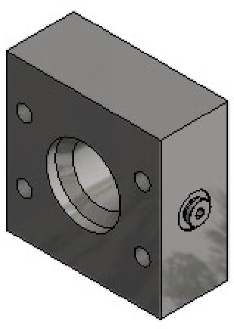
3D step models available upon request

SAE 3000 PSI Transition Plate Reducer - Metric

SAE J518 Code 61 (ISO 6162-1) Flange Style







TPRM34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPRM34-075x050-*	17.5	38.1	42.9	19.1	12.7	25.4	76.2	76.2	38.1	22.4	47.8	M10 x 1.50	M8 x 1.25	3.50 (1.59)	5000 (350)
1” x 1/2”	TPRM34-100x050-*	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	38.1	26.2	52.3	M10 x 1.50	M8 x 1.25	3.44 (1.56)	5000 (350)
1” x 3/4”	TPRM34-100x075-*	22.4	47.8	38.1	23.9	19.1	38.1	76.2	76.2	38.1	26.2	52.3	M10 x 1.50	M10 x 1.50	3.30 (1.50)	5000 (350)
1-1/4” x 3/4”	TPRM34-125x075-*	22.4	47.8	38.1	31.8	19.1	38.1	76.2	76.2	38.1	30.2	58.7	M10 x 1.50	M10 x 1.50	3.20 (1.45)	5000 (350)
1-1/4” x 1”	TPRM34-125x100-*	26.2	52.3	38.1	31.8	23.9	31.8	76.2	76.2	38.1	30.2	58.7	M10 x 1.50	M10 x 1.50	2.60 (1.18)	5000 (350)
1-1/2” x 1”	TPRM34-150x100-*	26.2	52.3	50.8	38.1	23.9	38.1	76.2	101.6	38.1	35.8	69.9	M12 x 1.75	M10 x 1.50	4.26 (1.93)	5000 (350)
1-1/2” x 1-1/4”	TPRM34-150x125-*	30.2	58.7	50.8	38.1	31.8	38.1	76.2	101.6	38.1	35.8	69.9	M12 x 1.75	M10 x 1.50	4.20 (1.91)	4000 (280)
2” x 1-1/4”	TPRM34-200x125-*	30.2	58.7	50.8	49.3	31.8	44.5	76.2	101.6	38.1	42.9	77.7	M12 x 1.75	M10 x 1.50	4.70 (2.13)	4000 (280)
2” x 1-1/2”	TPRM34-200x150-*	35.8	69.9	50.8	49.3	38.1	44.5	101.6	101.6	50.8	42.9	77.7	M12 x 1.75	M12 x 1.75	6.40 (2.91)	4000 (280)
2-1/2” x 1-1/2”	TPRM34-250x150-*	35.8	69.9	63.5	60.5	38.1	50.8	101.6	127.0	50.8	50.8	88.9	M12 x 1.75	M12 x 1.75	8.90 (4.04)	4000 (280)
2-1/2” x 2”	TPRM34-250x200-*	42.9	77.7	63.5	60.5	49.3	44.5	101.6	127.0	50.8	50.8	88.9	M12 x 1.75	M12 x 1.75	7.65 (3.47)	4000 (280)
3” x 2”	TPRM34-300x200-*	42.9	77.7	76.2	73.2	49.3	50.8	101.6	152.4	50.8	62.0	106.4	M16 x 2.00	M12 x 1.75	10.60 (4.81)	4000 (280)
3” x 2-1/2”	TPRM34-300x250-*	50.8	88.9	76.2	73.2	60.5	44.5	114.3	152.4	57.2	62.0	106.4	M16 x 2.00	M12 x 1.75	10.10 (4.48)	3000 (210)

*** Materials:**

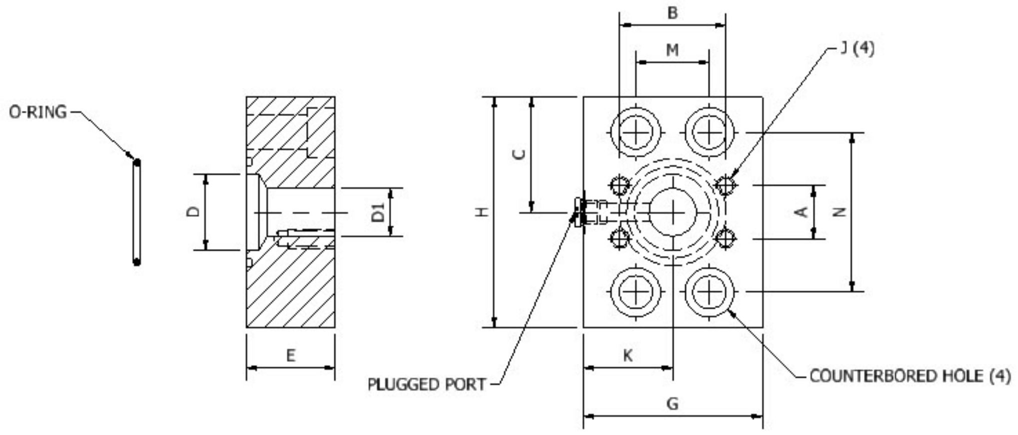
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

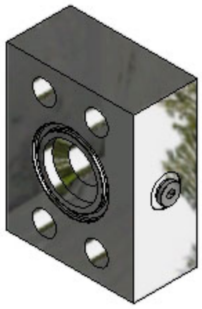
Ordering Example: TPRM34-200x125-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Transition Plate Reducer

SAE J518 Code 62/Code 61 (ISO 6162-2/6162-1) Flange Manifold Mount Style





TPRO6-34 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size (SAE Code 62 x SAE Code 61)	Reducer Part Number	Dimensions (in)											C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4" x 1/2"	TPRO6-34-075x050-*-^	0.69	1.50	1.38	0.75	0.50	1.50	3.00	2.75	1.25	0.94	2.00	3/8"-16	5/16"-18	OR^-2-214	2.99 (1.36)	5000 (350)
1" x 1/2"	TPRO6-34-100x050-*-^	0.69	1.50	1.50	0.94	0.50	1.50	3.00	3.00	1.75	1.09	2.25	7/16"-14	5/16"-18	OR^-2-219	3.16 (1.43)	5000 (350)
1" x 3/4"	TPRO6-34-100x075-*-^	0.88	1.88	1.50	0.94	0.75	1.50	3.00	3.00	1.75	1.09	2.25	7/16"-14	3/8"-16	OR^-2-219	3.04 (1.38)	5000 (350)
1-1/4" x 3/4"	TPRO6-34-125x075-*-^	0.88	1.88	1.75	1.25	0.75	1.50	3.00	3.50	1.75	1.25	2.62	1/2"-13	3/8"-16	OR^-2-222	3.40 (1.54)	5000 (350)
1-1/4" x 1"	TPRO6-34-125x100-*-^	1.03	2.06	1.75	1.25	0.94	1.50	3.00	3.50	1.75	1.25	2.62	1/2"-13	3/8"-16	OR^-2-222	4.03 (1.83)	5000 (350)
1-1/2" x 1"	TPRO6-34-150x100-*-^	1.03	2.06	2.25	1.50	0.94	1.75	3.50	4.50	2.00	1.44	3.13	5/8"-11	3/8"-16	OR^-2-225	6.10 (2.77)	5000 (350)
1-1/2" x 1-1/4"	TPRO6-34-150x125-*-^	1.19	2.31	2.25	1.50	1.25	1.75	3.00	4.50	1.50	1.44	3.13	5/8"-11	7/16"-14	OR^-2-225	4.70 (2.13)	4000 (280)
2" x 1-1/4"	TPRO6-34-200x125-*-^	1.19	2.31	2.63	1.94	1.25	1.75	4.00	5.25	2.00	1.75	3.81	3/4"-10	7/16"-14	OR^-2-228	7.60 (3.45)	4000 (280)
2" x 1-1/2"	TPRO6-34-200x150-*-^	1.41	2.75	2.63	1.94	1.50	1.75	4.00	5.25	2.00	1.75	3.81	3/4"-10	1/2"-13	OR^-2-228	7.30 (3.31)	4000 (280)

TPROM6-34 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G 1/8 Port (Plugged), Metric

Size (ISO 6162-2 x ISO 6162-1)	Reducer Part Number	Dimensions (mm)											C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4" x 1/2"	TPROM6-34-075x050-*-^	17.5	38.1	35.1	19.1	12.7	38.1	76.2	69.9	44.5	23.9	50.8	M10	M8 x 1.25	OR^-2-214	2.99 (1.36)	5000 (350)
1" x 1/2"	TPROM6-34-100x050-*-^	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	44.5	27.7	57.2	M12	M8 x 1.25	OR^-2-219	3.16 (1.43)	5000 (350)
1" x 3/4"	TPROM6-34-100x075-*-^	22.4	47.8	38.1	23.9	19.1	38.1	76.2	76.2	44.5	27.7	57.2	M12	M10 x 1.50	OR^-2-219	3.04 (1.38)	5000 (350)
1-1/4" x 3/4"	TPROM6-34-125x075-*-^	22.4	47.8	44.5	31.8	19.1	38.1	76.2	88.9	44.5	31.8	66.8	M12	M10 x 1.50	OR^-2-222	3.40 (1.54)	5000 (350)
1-1/4" x 1"	TPROM6-34-125x100-*-^	26.2	52.3	44.5	31.8	23.9	25.4	76.2	88.9	38.1	31.8	66.8	M12	M10 x 1.50	OR^-2-222	4.03 (1.83)	5000 (350)
1-1/2" x 1"	TPROM6-34-150x100-*-^	26.2	52.3	57.2	38.1	23.9	44.5	88.9	114.3	50.8	36.6	79.5	M16	M10 x 1.50	OR^-2-225	6.10 (2.77)	5000 (350)
1-1/2" x 1-1/4"	TPROM6-34-150x125-*-^	30.2	58.7	57.2	38.1	31.8	44.5	76.2	114.3	38.1	36.6	79.5	M16	M10 x 1.50	OR^-2-225	4.70 (2.13)	4000 (280)
2" x 1-1/4"	TPROM6-34-200x125-*-^	30.2	58.7	66.8	49.3	31.8	44.5	101.6	133.4	50.8	44.5	96.8	M20	M10 x 1.50	OR^-2-228	7.60 (3.45)	4000 (280)
2" x 1-1/2"	TPROM6-34-200x150-*-^	35.8	69.9	66.8	49.3	38.1	44.5	101.6	133.4	50.8	44.5	96.8	M20	M12 x 1.75	OR^-2-228	7.30 (3.31)	4000 (280)

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>

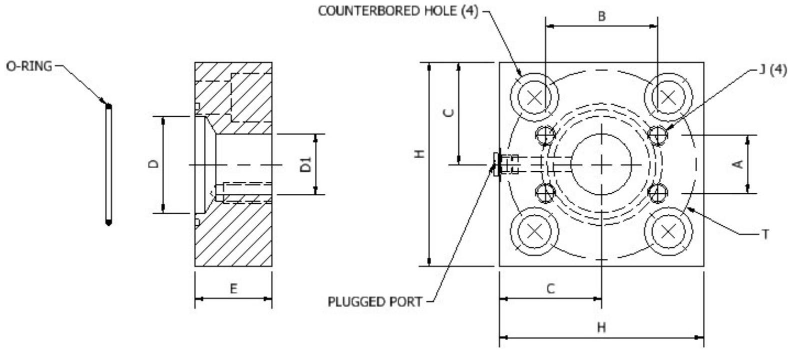
Standard, No Designation = Buna Nitrile.
V = Viton.

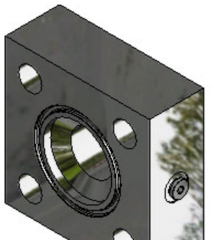
Ordering Example: TPRO6-34-200x125-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Transition Plate Reducer

ISO 6164/SAE Code 61 (ISO6164/6162-1) Flange Manifold Mount Style





TPRO7-34 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size (ISO 6164 x SAE Code 61)	Reducer Part Number	Dimensions (in)								C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H					
2-1/2" x 1-1/2"	TPRO7-34-250x150-*-^	4.65	1.41	2.75	2.50	2.38	1.50	1.75	5.00	3/4"-10	1/2"-13	OR^-2-232	9.20 (4.17)	3000 (210)
2-1/2" x 2"	TPRO7-34-250x200-*-^	4.65	1.69	3.06	2.75	2.38	1.94	1.75	5.00	3/4"-10	1/2"-13	OR^-2-232	9.90 (4.49)	3000 (210)
3" x 2"	TPRO7-34-300x200-*-^	5.71	1.69	3.06	3.00	2.88	1.94	2.00	6.00	1"-8	1/2"-13	OR^-2-237	14.20 (6.44)	3000 (210)
3" x 2-1/2"	TPRO7-34-300x250-*-^	5.71	2.00	3.50	3.00	2.88	2.38	2.00	6.00	1"-8	1/2"-13	OR^-2-237	15.40 (6.99)	2500 (175)
4" x 2-1/2"	TPRO7-34-400x250-*-^	6.89	2.00	3.50	3.50	3.50	2.38	2.00	7.00	1-1/8"-7	1/2"-13	OR^-2-241	22.20 (10.07)	2500 (175)
4" x 3"	TPRO7-34-400x300-*-^	6.89	2.44	4.19	3.75	3.50	2.88	2.00	7.00	1-1/8"-7	5/8"-11	OR^-2-241	21.70 (9.84)	2000 (140)

TPROM7-34 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size (ISO 6164 x 6162-1)	Reducer Part Number	Dimensions (mm)								C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H					
2-1/2" x 1-1/2"	TPROM7-34-250x150-*-^	118.1	35.8	69.9	63.5	60.5	38.1	44.5	127.0	M20	M12 x 1.75	OR^-2-232	9.20 (4.17)	3000 (210)
2-1/2" x 2"	TPROM7-34-250x200-*-^	118.1	42.9	77.7	69.9	60.5	49.3	44.5	127.0	M20	M12 x 1.75	OR^-2-232	9.90 (4.49)	3000 (210)
3" x 2"	TPROM7-34-300x200-*-^	145.0	42.9	77.7	76.2	73.2	49.3	50.8	152.4	M24	M12 x 1.75	OR^-2-237	14.20 (6.44)	3000 (210)
3" x 2-1/2"	TPROM7-34-300x250-*-^	145.0	50.8	88.9	76.2	73.2	60.5	50.8	152.4	M24	M12 x 1.75	OR^-2-237	15.40 (6.99)	2500 (175)
4" x 2-1/2"	TPROM7-34-400x250-*-^	175.0	50.8	88.9	88.9	88.9	60.5	50.8	177.8	M30	M12 x 1.75	OR^-2-241	22.20 (10.07)	2500 (175)
4" x 3"	TPROM7-34-400x300-*-^	175.0	62.0	106.4	95.3	88.9	73.2	50.8	177.8	M30	M16 x 2.00	OR^-2-241	21.70 (9.84)	2000 (140)

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>

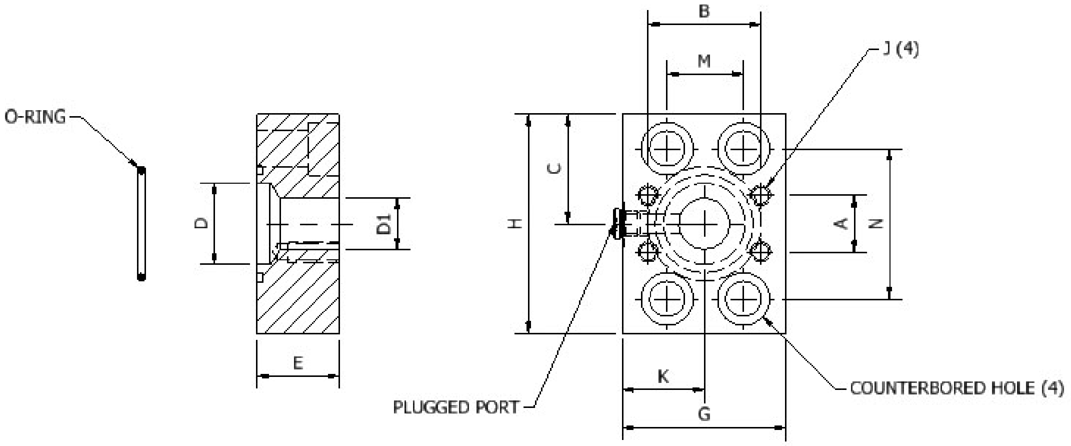
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPRO7-34-250x150-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Transition Plate Reducer - NPS

SAE J518 Code 61 (ISO 6162-1) Flange Manifold Mount Style



TPRO34 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)											C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4" x 1/2"	TPRO34-075x050-*-^	0.69	1.50	1.50	0.75	0.50	1.50	3.00	3.00	1.69	0.88	1.88	3/8"-16	5/16"-18	OR^-2-214	3.30 (1.50)	5000 (350)
1" x 1/2"	TPRO34-100x050-*-^	0.69	1.50	1.50	0.94	0.50	1.50	3.00	3.00	1.69	1.03	2.06	3/8"-16	5/16"-18	OR^-2-219	3.20 (1.45)	5000 (350)
1" x 3/4"	TPRO34-100x075-*-^	0.88	1.88	1.50	0.94	0.75	1.50	3.00	3.00	1.69	1.03	2.06	3/8"-16	3/8"-16	OR^-2-219	3.20 (1.45)	5000 (350)
1-1/4" x 3/4"	TPRO34-125x075-*-^	0.88	1.88	1.63	1.25	0.75	1.50	3.00	3.25	1.69	1.19	2.31	7/16"-14	3/8"-16	OR^-2-222	3.30 (1.50)	5000 (350)
1-1/4" x 1"	TPRO34-125x100-*-^	1.03	2.06	1.63	1.25	0.94	1.25	3.00	3.25	1.50	1.19	2.31	7/16"-14	3/8"-16	OR^-2-222	2.58 (1.17)	5000 (350)
1-1/2" x 1"	TPRO34-150x100-*-^	1.03	2.06	2.00	1.50	0.94	1.50	3.00	4.00	1.50	1.41	2.75	1/2"-13	3/8"-16	OR^-2-225	4.00 (1.81)	5000 (350)
1-1/2" x 1-1/4"	TPRO34-150x125-*-^	1.19	2.31	2.00	1.50	1.25	1.50	3.00	4.00	1.50	1.41	2.75	1/2"-13	7/16"-14	OR^-2-225	3.70 (1.68)	4000 (280)
2" x 1-1/4"	TPRO34-200x125-*-^	1.19	2.31	2.00	1.94	1.25	1.75	3.00	4.00	1.50	1.69	3.06	1/2"-13	7/16"-14	OR^-2-228	4.20 (1.91)	4000 (280)
2" x 1-1/2"	TPRO34-200x150-*-^	1.41	2.75	2.00	1.94	1.50	1.75	4.00	4.00	2.00	1.69	3.06	1/2"-13	1/2"-13	OR^-2-228	5.90 (2.68)	4000 (280)
2-1/2" x 1-1/2"	TPRO34-250x150-*-^	1.41	2.75	2.50	2.38	1.50	2.00	4.00	5.00	2.00	2.00	3.50	1/2"-13	1/2"-13	OR^-2-232	8.80 (3.99)	4000 (280)
2-1/2" x 2"	TPRO34-250x200-*-^	1.69	3.06	2.50	2.38	1.94	1.75	4.00	5.00	2.00	2.00	3.50	1/2"-13	1/2"-13	OR^-2-232	7.30 (3.31)	4000 (280)
3" x 2"	TPRO34-300x200-*-^	1.69	3.06	3.00	2.88	1.94	2.00	4.00	6.00	2.00	2.44	4.19	5/8"-11	1/2"-13	OR^-2-237	9.80 (4.45)	4000 (280)
3" x 2-1/2"	TPRO34-300x250-*-^	2.00	3.50	3.00	2.88	2.38	1.75	4.50	6.00	2.25	2.44	4.19	5/8"-11	1/2"-13	OR^-2-237	9.50 (4.31)	3000 (210)

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPRO34-200x150-SS-V

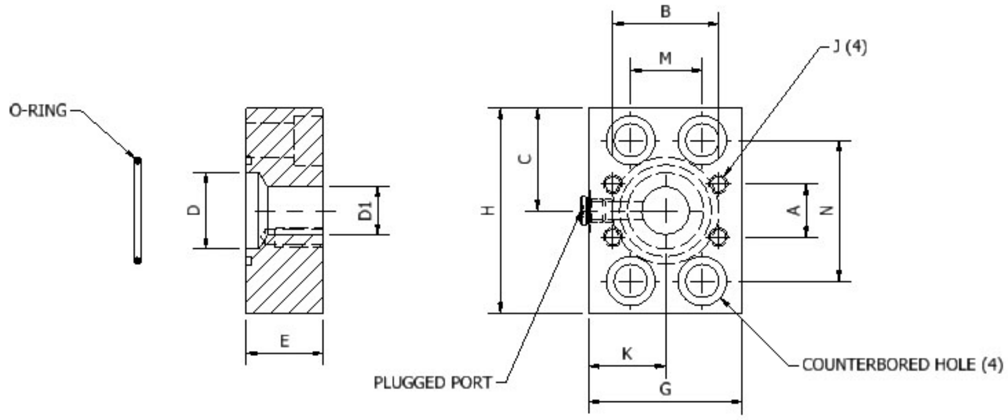
* Insert Material

^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Transition Plate Reducer - Metric

SAE J518 Code 61 (ISO 6162-1) Flange Manifold Mount Style



TPROM34 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G1/8 (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)											C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4” x 1/2”	TPROM34-075x050-*-^	17.5	38.1	38.1	19.1	12.7	38.1	76.2	76.2	42.9	22.4	47.8	M10	M8 x 1.25	OR^-2-214	3.20 (1.45)	5000 (350)
1” x 1/2”	TPROM34-100x050-*-^	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	38.1	26.2	52.3	M10	M8 x 1.25	OR^-2-219	3.20 (1.45)	5000 (350)
1” x 3/4”	TPROM34-100x075-*-^	22.4	47.8	38.1	23.9	19.1	38.1	76.2	76.2	38.1	26.2	52.3	M10	M10 x 1.50	OR^-2-219	3.30 (1.50)	5000 (350)
1-1/4” x 3/4”	TPROM34-125x075-*-^	22.4	47.8	41.4	31.8	19.1	38.1	76.2	82.6	38.1	30.2	58.7	M10	M10 x 1.50	OR^-2-222	2.58 (1.17)	5000 (350)
1-1/4” x 1”	TPROM34-125x100-*-^	26.2	52.3	41.4	31.8	23.9	31.8	76.2	82.6	38.1	30.2	58.7	M10	M10 x 1.50	OR^-2-222	4.00 (1.81)	5000 (350)
1-1/2” x 1”	TPROM34-150x100-*-^	26.2	52.3	50.8	38.1	23.9	38.1	76.2	101.6	38.1	35.8	69.9	M12	M10 x 1.50	OR^-2-225	3.70 (1.68)	5000 (350)
1-1/2” x 1-1/4”	TPROM34-150x125-*-^	30.2	58.7	50.8	38.1	31.8	38.1	76.2	101.6	38.1	35.8	69.9	M12	M10 x 1.50	OR^-2-225	4.20 (1.91)	4000 (280)
2” x 1-1/4”	TPROM34-200x125-*-^	30.2	58.7	50.8	49.3	31.8	44.5	76.2	101.6	38.1	42.9	77.7	M12	M10 x 1.50	OR^-2-228	5.90 (2.68)	4000 (280)
2” x 1-1/2”	TPROM34-200x150-*-^	35.8	69.9	50.8	49.3	38.1	44.5	101.6	101.6	50.8	42.9	77.7	M12	M12 x 1.75	OR^-2-228	8.80 (3.99)	4000 (280)
2-1/2” x 1-1/2”	TPROM34-250x150-*-^	35.8	69.9	63.5	60.5	38.1	50.8	101.6	127.0	50.8	50.8	88.9	M12	M12 x 1.75	OR^-2-232	7.30 (3.31)	4000 (280)
2-1/2” x 2”	TPROM34-250x200-*-^	42.9	77.7	63.5	60.5	49.3	44.5	101.6	127.0	50.8	50.8	88.9	M12	M12 x 1.75	OR^-2-232	9.80 (4.45)	4000 (280)
3” x 2”	TPROM34-300x200-*-^	42.9	77.7	76.2	73.2	49.3	50.8	101.6	152.4	50.8	62.0	106.4	M16	M12 x 1.75	OR^-2-237	9.50 (4.31)	4000 (280)
3” x 2-1/2”	TPROM34-300x250-*-^	50.8	88.9	76.2	73.2	60.5	44.5	114.3	152.4	57.2	62.0	106.4	M16	M12 x 1.75	OR^-2-237	3.30 (1.50)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPROM34-200x150-SS-V

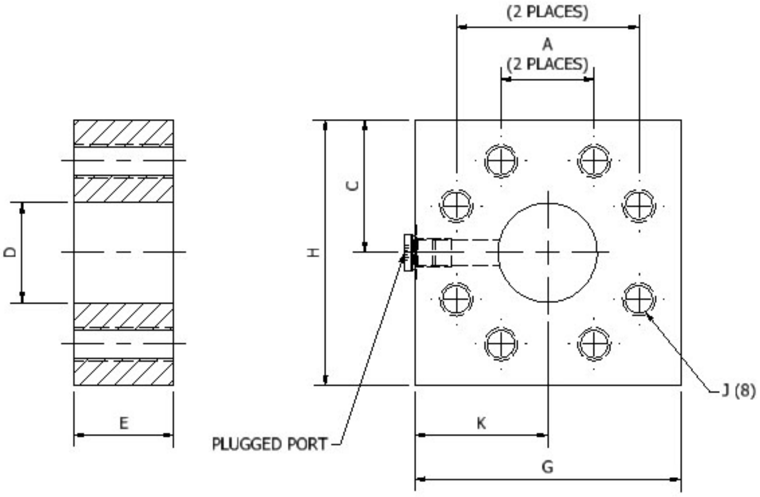
* Insert Material

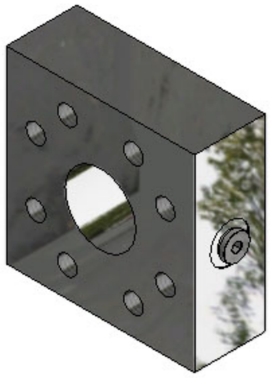
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Adapter Plate

SAE J518 Code 61 (ISO 6162-1) Flange Style





AP34 - Adapter Plate Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Adapter Plate Part Number	Dimensions (in)								Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K			
1/2”	AP34-050-*	0.69	1.50	1.25	0.50	1.00	2.75	2.50	1.63	5/16”-18	1.70 (0.77)	5000 (350)
3/4”	AP34-075-*	0.88	1.88	1.50	0.75	1.00	3.00	3.00	1.69	3/8”-16	2.20 (1.00)	5000 (350)
1”	AP34-100-*	1.03	2.06	1.50	0.94	1.00	3.00	3.00	1.50	3/8”-16	2.10 (0.95)	5000 (350)
1-1/4”	AP34-125-*	1.19	2.31	1.50	1.25	1.25	3.00	3.00	1.50	7/16”-14	2.40 (1.09)	4000 (280)
1-1/2”	AP34-150-*	1.41	2.75	2.00	1.50	1.50	4.00	4.00	2.00	1/2”-13	5.40 (2.45)	4000 (280)
2”	AP34-200-*	1.69	3.06	2.00	1.94	1.50	4.00	4.00	2.00	1/2”-13	4.90 (2.22)	4000 (280)

APM34 - Adapter Plate Flat Face with Threaded Holes Complete with G 1/8 Port (Plugged), Metric

Size	Adapter Plate Part Number	Dimensions (mm)								Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K			
1/2”	APM34-050-*	17.5	38.1	31.8	12.7	25.4	69.9	63.5	41.4	M8 x 1.25	1.70 (0.77)	5000 (350)
3/4”	APM34-075-*	22.4	47.8	38.1	19.1	25.4	76.2	76.2	42.9	M10 x 1.50	2.20 (1.00)	5000 (350)
1”	APM34-100-*	26.2	52.3	38.1	23.9	25.4	76.2	76.2	38.1	M10 x 1.50	2.10 (0.95)	5000 (350)
1-1/4”	APM34-125-*	30.2	58.7	38.1	31.8	31.8	76.2	76.2	38.1	M10 x 1.50	2.40 (1.09)	4000 (280)
1-1/2”	APM34-150-*	35.8	69.9	50.8	38.1	38.1	101.6	101.6	50.8	M12 x 1.75	5.40 (2.45)	4000 (280)
2”	APM34-200-*	42.9	77.7	50.8	49.3	38.1	101.6	101.6	50.8	M12 x 1.75	4.90 (2.22)	4000 (280)

*** Materials:**

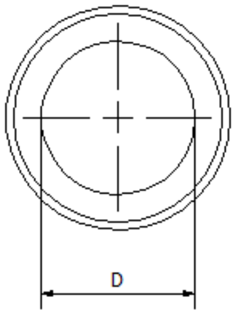
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

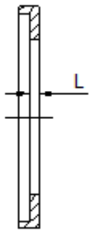
Ordering Example: AP34-200-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI O-Ring Connector Plate

SAE J518 Code 61 (ISO 6162-1)





OCP - O-Ring Connector Plate

Size	Connector Plate Part Number	Dimensions in (mm)		WT lbs (kg)
		D	L	
1/2"	OCP-050-*	0.50 (12.7)	0.13 (3.3)	0.04 (0.02)
3/4"	OCP-075-*	0.75 (19.1)	0.13 (3.3)	0.07 (0.03)
1”	OCP-100-*	0.94 (23.9)	0.13 (3.3)	0.08 (0.04)
1-1/4"	OCP-125-*	1.20 (30.5)	0.13 (3.3)	0.09 (0.04)
1-1/2"	OCP-150-*	1.50 (38.1)	0.13 (3.3)	0.17 (0.08)
2”	OCP-200-*	1.94 (49.3)	0.13 (3.3)	0.15 (0.07)
2-1/2"	OCP-250-*	2.36 (59.9)	0.13 (3.3)	0.17 (0.08)
3”	OCP-300-*	2.88 (73.2)	0.13 (3.3)	0.25 (0.11)

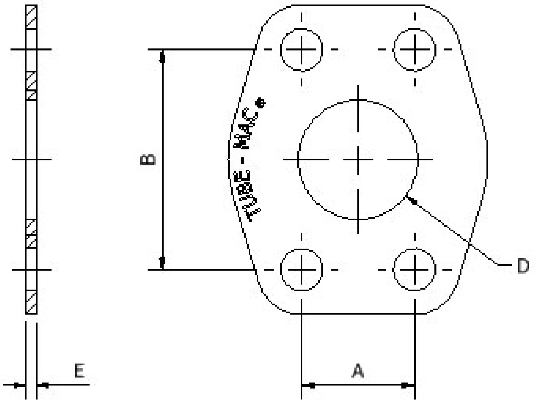
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: OCP-200-SS
* Insert Material

3D step models available upon request

SAE 3000 PSI Connector Plate

SAE J518 Code 61 (ISO 6162-1)



CP - Connector Plate

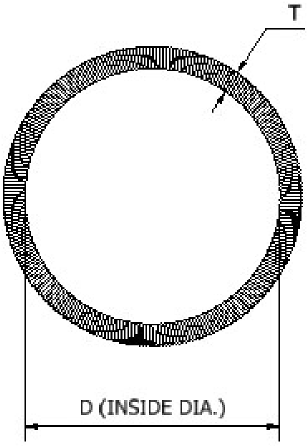
Size	Part Number	Dimensions in (mm)				WT lbs (kg)
		A	B	D	E	
1/2"	CP34-050	0.69 (17.53)	1.50 (38.10)	0.50 (12.70)	0.12 (3.05)	0.09 (0.04)
3/4"	CP34-075	0.88 (22.35)	1.88 (47.75)	0.75 (19.05)	0.12 (3.05)	0.12 (0.05)
1"	CP34-100	1.03 (26.16)	2.06 (52.32)	0.94 (23.88)	0.12 (3.05)	0.14 (0.06)
1-1/4"	CP34-125	1.19 (30.23)	2.31 (58.67)	1.25 (31.75)	0.12 (3.05)	0.20 (0.09)
1-1/2"	CP34-150	1.41 (35.81)	2.75 (69.85)	1.50 (38.10)	0.12 (3.05)	0.28 (0.13)
2"	CP34-200	1.69 (42.93)	3.06 (77.72)	1.94 (49.28)	0.12 (3.05)	0.33 (0.15)

<u>* Materials:</u>
Stainless Steel, Type 316.
Not available in Carbon Steel.

3D step models available upon request

SAE 3000 PSI Retain Ring

SAE J518 Code 61 (ISO 6162-1)



R – Retain Ring

Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
		D	t	
1/2"	R-050	0.85 (21.6)	0.16 (4.0)	0.01 (0.005)
3/4"	R-075	1.24 (31.5)	0.16 (4.0)	0.02 (0.009)
1”	R-100	1.32 (33.5)	0.20 (5.0)	0.03 (0.014)
1-1/4"	R-125	1.59 (40.4)	0.20 (5.0)	0.04 (0.018)
1-1/2”	R-150	1.99 (50.5)	0.20 (5.0)	0.05 (0.023)
2”	R-200	2.38 (60.5)	0.20 (5.0)	0.06 (0.027)
2-1/2”	R-250	2.93 (74.4)	0.20 (5.0)	0.07 (0.032)
3”	R-300	3.56 (90.4)	0.24 (6.0)	0.12 (0.054)

RA - Retain Ring for Grooved NPS Pipe

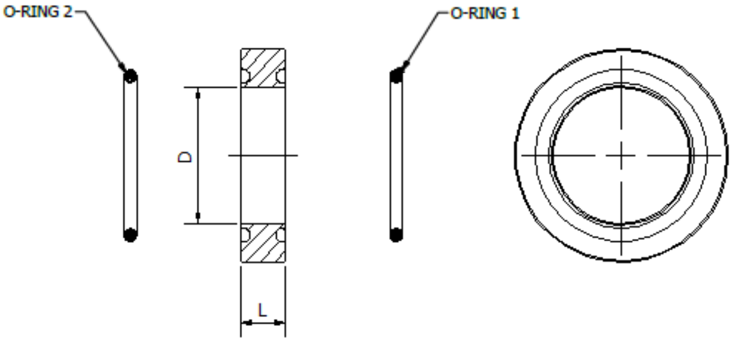
Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
		D	t	
1-1/2”	RA-150	1.69 (42.93)	0.20 (5.0)	0.04 (0.018)
2”	RA-200	2.16 (54.86)	0.20 (5.0)	0.05 (0.023)
2-1/2”	RA-250	2.66 (67.50)	0.20 (5.0)	0.07 (0.032)
3”	RA-300	3.24 (82.4)	0.24 (6.0)	0.11 (0.050)

*** Materials:**
Stainless Steel - AISI 316 Spring Temper

SAE 3000 PSI O-Ring Spacer

for Retain Ring Pipe Flange Connection

SAE J518 Code 61 (ISO 6162-1)



OS – O-Ring Spacer for Retain Ring Pipe Flange Connection

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OS-050-*-^	0.55 (14.0)	0.50 (12.7)	OR^-3-909	0.11 (0.05)
3/4"	OS-075-*-^	0.79 (20.1)	0.50 (12.7)	OR^-3-913	0.18 (0.08)
1”	OS-100-*-^	0.91 (23.1)	0.50 (12.7)	OR^-3-916	0.21 (0.10)
1-1/4"	OS-125-*-^	1.18 (30.0)	0.50 (12.7)	OR^-3-918	0.26 (0.12)
1-1/2”	OS-150-*-^	1.54 (39.1)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
2”	OS-200-*-^	1.91 (48.5)	0.50 (12.7)	OR^-3-928	0.43 (0.20)
2-1/2”	OS-250-*-^	2.36 (59.9)	1.00 (25.4)	OR^-2-232	1.17 (0.53)
3”	OS-300-*-^	2.88 (73.2)	1.00 (25.4)	OR^-2-237	1.68 (0.77)

OSA – O-Ring Spacer for NPS Retain Ring Pipe Flange Connection

	Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
			D	L		
OSA-SCH160	1-1/2”	OSA-SCH160-150-*-^	1.10 (27.19)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
	2”	OSA-SCH160-200-*-^	1.69 (42.9)	0.50 (12.7)	OR^-3-928	0.43 (0.20)
	2-1/2”	OSA-SCH160-250-*-^	2.13 (54.1)	1.00 (25.4)	OR^-2-232	1.17 (0.53)
	3”	OSA-SCH160-300-*-^	2.63 (66.8)	1.00 (25.4)	OR^-2-237	1.68 (0.77)
OSA-SCHXXS	1-1/2”	OSA-SCHXXS-150-*-^	1.10 (27.9)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
	2”	OSA-SCHXXS-200-*-^	1.50 (38.1)	0.50 (12.7)	OR^-3-928	0.43 (0.20)
	2-1/2”	OSA-SCHXXS-250-*-^	1.78 (45.2)	1.00 (25.4)	OR^-2-232	1.17 (0.53)
	3”	OSA-SCHXXS-300-*-^	2.30 (58.4)	1.00 (25.4)	OR^-2-237	1.68 (0.77)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

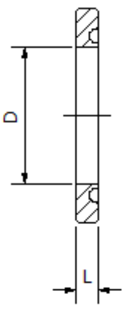
Standard, No Designation = Buna Nitrile.
V = Viton.

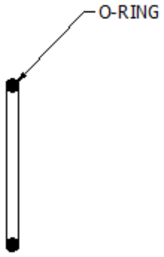
Ordering Example: OSA-SCH160-200-SS-V
* Insert Material
^ Insert O-Ring Type

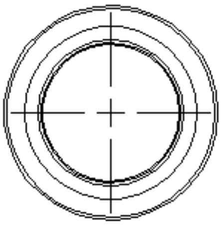
SAE 3000 PSI O-Ring Spacer

for Retain Ring Pipe to Hose End

SAE J518 Code 61 (ISO 6162-1)







OSH – O-Ring Spacer for Retain Ring Pipe to Hose End

Size	Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSH-050-*-^	0.55 (14.0)	0.25 (6.4)	OR^-3-909	0.04 (0.02)
3/4"	OSH-075-*-^	0.79 (20.1)	0.25 (6.4)	OR^-3-913	0.07 (0.03)
1”	OSH-100-*-^	0.91 (23.1)	0.25 (6.4)	OR^-3-916	0.08 (0.04)
1-1/4"	OSH-125-*-^	1.18 (30.0)	0.25 (6.4)	OR^-3-918	0.09 (0.04)
1-1/2”	OSH-150-*-^	1.54 (39.1)	0.25 (6.4)	OR^-3-924	0.12 (0.05)
2”	OSH-200-*-^	1.91 (48.5)	0.25 (6.4)	OR^-3-928	0.20 (0.09)
2-1/2”	OSH-250-*-^	2.36 (59.9)	0.50 (12.7)	OR^-2-232	0.58 (0.26)
3”	OSH-300-*-^	2.88 (73.2)	0.50 (12.7)	OR^-2-237	0.85 (0.39)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

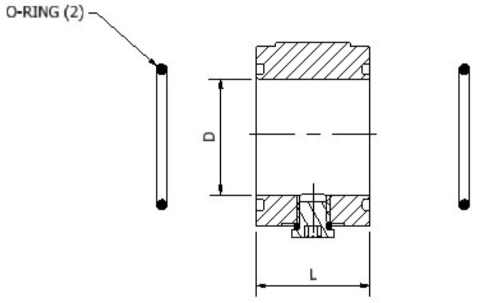
Standard, No Designation = Buna Nitrile.
V = Viton.

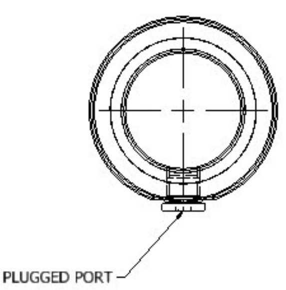
Ordering Example: OSH-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI O-Ring Spacer with Pilot Port

SAE J518 Code 61 (ISO 6162-1)





OSP - O-Ring Spacer with Pilot Port for Retain Ring Pipe - 1/2"- 3" Complete with Buna O-Rings (Standard) and #4 SAE Port (Plugged)

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSP-050-*-^	0.55 (14.0)	1.50 (38.1)	OR^-3-909	0.37 (0.17)
3/4"	OSP-075-*-^	0.79 (20.1)	1.50 (38.1)	OR^-3-913	0.64 (0.29)
1”	OSP-100-*-^	0.91 (23.1)	1.50 (38.1)	OR^-3-916	0.78 (0.35)
1-1/4"	OSP-125-*-^	1.18 (30.0)	1.50 (38.1)	OR^-3-918	0.86 (0.39)
1-1/2”	OSP-150-*-^	1.54 (39.1)	1.50 (38.1)	OR^-3-924	1.40 (0.64)
2”	OSP-200-*-^	1.91 (48.5)	1.50 (38.1)	OR^-3-928	1.49 (0.68)
2-1/2”	OSP-250-*-^	2.36 (59.9)	1.50 (38.1)	OR^-2-232	1.98 (0.90)
3”	OSP-300-*-^	2.88 (73.2)	1.50 (38.1)	OR^-2-237	2.50 (1.13)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: OSP-200-SS-V
* Insert Material
^ Insert O-Ring Type

OSPM - O-Ring Spacer with Metric Pilot Port for Retain Ring Pipe - 1/2"- 3" Complete with Buna O-Rings (Standard) and G1/8 Port (Plugged)

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSPM-050-*-^	0.55 (14.0)	1.50 (38.1)	OR^-3-909	0.37 (0.17)
3/4"	OSPM-075-*-^	0.79 (20.1)	1.50 (38.1)	OR^-3-913	0.64 (0.29)
1”	OSPM-100-*-^	0.91 (23.1)	1.50 (38.1)	OR^-3-916	0.78 (0.35)
1-1/4"	OSPM-125-*-^	1.18 (30.0)	1.50 (38.1)	OR^-3-918	0.86 (0.39)
1-1/2”	OSPM-150-*-^	1.54 (39.1)	1.50 (38.1)	OR^-3-924	1.40 (0.64)
2”	OSPM-200-*-^	1.91 (48.5)	1.50 (38.1)	OR^-3-928	1.49 (0.68)
2-1/2”	OSPM-250-*-^	2.36 (59.9)	1.50 (38.1)	OR^-2-232	1.98 (0.90)
3”	OSPM-300-*-^	2.88 (73.2)	1.50 (38.1)	OR^-2-237	2.50 (1.13)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

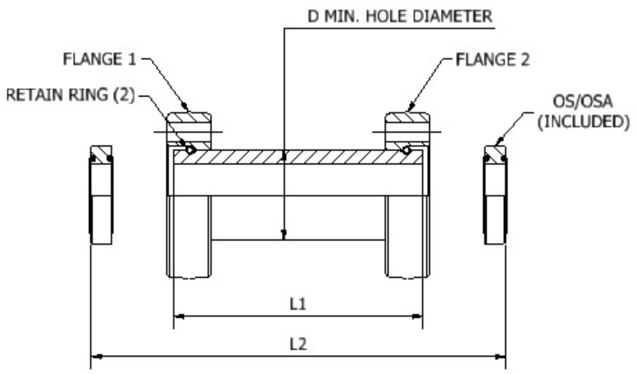
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

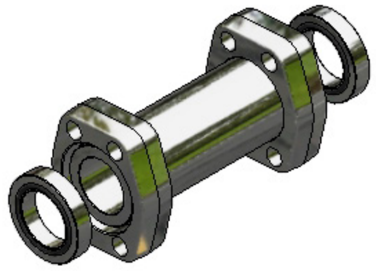
Ordering Example: OSPM-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Retain Ring Flange Bulkhead

SAE J518 Code 61 (ISO 6162-1)





Complete Assembly Consists Of:
- One (1) retain ring flange bulkhead body
- Two (2) retain ring flanges
- Two (2) retain rings
- Two (2) o-ring spacers

To be Ordered Separately:
- Bolt Kit (See Page G25)

A/RFBH - Retain Ring Flange Bulkhead

Size	Complete Part Number	Dimensions in (mm)			Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L1	L2	D				
1/2"	A/RFBH-050-FC34-FC34-*-^	5.69 (144.6)	6.69 (170)	1.02 (26)	2.16 (0.98)	RFBH-050-*-^	1.08 (0.49)	5000 (350)
3/4"	A/RFBH-075-FC34-FC34-*-^	5.69 (144.6)	6.69 (170)	1.42 (36)	3.36 (1.52)	RFBH-075-*-^	2.00 (0.91)	5000 (350)
1"	A/RFBH-100-FC34-FC34-*-^	5.69 (144.6)	6.69 (170)	1.54 (39)	3.45 (1.56)	RFBH-100-*-^	1.80 (0.82)	5000 (350)
1-1/4"	A/RFBH-125-FC34-FC34-*-^	6.09 (154.6)	7.09 (180)	1.81 (46)	4.92 (2.23)	RFBH-125-*-^	2.60 (1.18)	4000 (280)
1-1/2"	A/RFBH-150-FC34-FC34-*-^	6.09 (154.6)	7.09 (180)	2.20 (56)	6.67 (3.03)	RFBH-150-*-^	3.31 (1.50)	4000 (280)
2"	A/RFBH-200-FC34-FC34-*-^	7.27 (184.6)	8.27 (210)	2.60 (66)	9.70 (4.40)	RFBH-200-*-^	4.80 (2.18)	4000 (280)
2-1/2"	A/RFBH-250-FC34-FC34-*-^	6.66 (169.2)	8.66 (220)	3.15 (80)	14.80 (6.71)	RFBH-250-*-^	7.00 (3.18)	3000 (210)
3"	A/RFBH-300-FC34-FC34-*-^	7.45 (189.2)	9.45 (240)	3.82 (97)	22.48 (10.20)	RFBH-300-*-^	10.30 (4.67)	3000 (210)

Flange Options:
FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded

Materials
No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

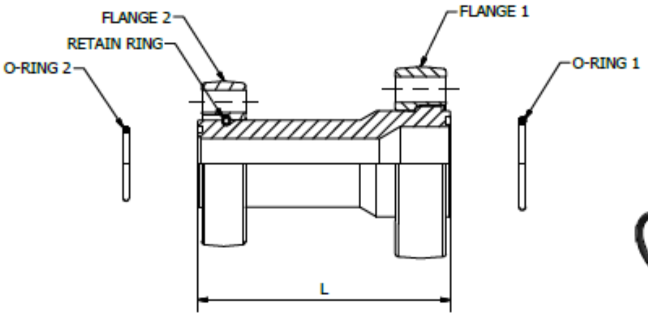
^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton.

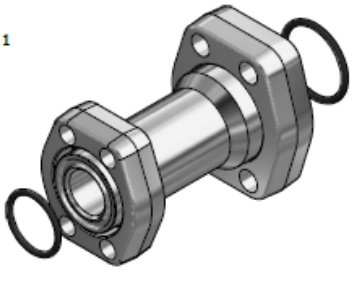
Ordering Example: A/RFBH-050-FC34-FC34-SS-V
Flange 1 Option
Flange 2 Option
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Retain Ring Flange Concentric Reducer Assembly

SAE J518 Code 61 (ISO 6162-1)





Complete Assembly Consists Of:

- One (1) Concentric Reducer Body
- Two (2) Retain Ring Flanges
- One (1) Retain Ring
- Two (2) Buna O-Rings (Standard)

To be Ordered Separately:

- Bolt Kit (See Page G25)

A/CR – Retain Ring Flange Concentric Reducer Assembly

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring 1 (Buna) Part Number	O-Ring 2 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L						
3/4” x 1/2”	A/CR-075x050-FC34-FC34-*-^	3.72 (94.5)	OR^-3-913	OR^-3-909	1.84 (0.83)	CR-075x050-*-^	0.88 (0.40)	5000 (350)
1” x 1/2”	A/CR-100x050-FC34-FC34-*-^	3.72 (94.5)	OR^-3-916	OR^-3-909	2.06 (0.93)	CR-100x050-*-^	0.97 (0.44)	5000 (350)
1” x 3/4”	A/CR-100x075-FC34-FC34-*-^	4.50 (114.3)	OR^-3-916	OR^-3-913	2.49 (1.13)	CR-100x075-*-^	1.49 (0.68)	5000 (350)
1-1/4” x 3/4”	A/CR-125x075-FC34-FC34-*-^	4.50 (114.3)	OR^-3-918	OR^-3-913	3.11 (1.41)	CR-125x075-*-^	1.71 (0.78)	4000 (280)
1-1/4” x 1”	A/CR-125x100-FC34-FC34-*-^	4.50 (114.3)	OR^-3-918	OR^-3-916	3.43 (1.56)	CR-125x100-*-^	1.90 (0.86)	4000 (280)
1-1/2” x 1”	A/CR-150x100-FC34-FC34-*-^	4.50 (114.3)	OR^-3-924	OR^-3-916	4.04 (1.86)	CR-150x100-*-^	2.11 (0.96)	4000 (280)
1-1/2” x 1 1/4”	A/CR-150x125-FC34-FC34-*-^	5.26 (133.6)	OR^-3-924	OR^-3-918	4.81 (2.18)	CR-150x125-*-^	2.56 (1.16)	4000 (280)
2” x 1 1/4”	A/CR-200x125-FC34-FC34-*-^	5.26 (133.6)	OR^-3-928	OR^-3-918	6.42 (2.91)	CR-200x125-*-^	3.50 (1.59)	4000 (280)
2” x 1 1/2”	A/CR-200x150-FC34-FC34-*-^	5.26 (133.6)	OR^-3-928	OR^-3-924	7.22 (3.27)	CR-200x150-*-^	3.74 (1.70)	4000 (280)
2 1/2” x 1 1/2”	A/CR-250x150-FC34-FC34-*-^	6.06 (153.9)	OR^-2-232	OR^-2-924	8.01 (3.63)	CR-250x100-*-^	4.67 (2.12)	3000 (210)
2 1/2” x 2”	A/CR-250x200-FC34-FC34-*-^	6.06 (153.9)	OR^-2-232	OR^-2-928	9.72 (4.41)	CR-250x200-*-^	5.20 (2.36)	3000 (210)
3” x 2”	A/CR-300x200-FC34-FC34-*-^	6.98 (177.3)	OR^-2-237	OR^-2-928	14.11 (6.40)	CR-300x200-*-^	7.70 (3.49)	3000 (210)
3” x 2 1/2”	A/CR-300x250-FC34-FC34-*-^	6.98 (177.3)	OR^-2-237	OR^-2-232	15.39 (6.98)	CR-300x250-*-^	8.50 (3.86)	3000 (210)

Flange Options:

FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded

Materials

No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/CR-200x125-FC34-FC34-SS-V

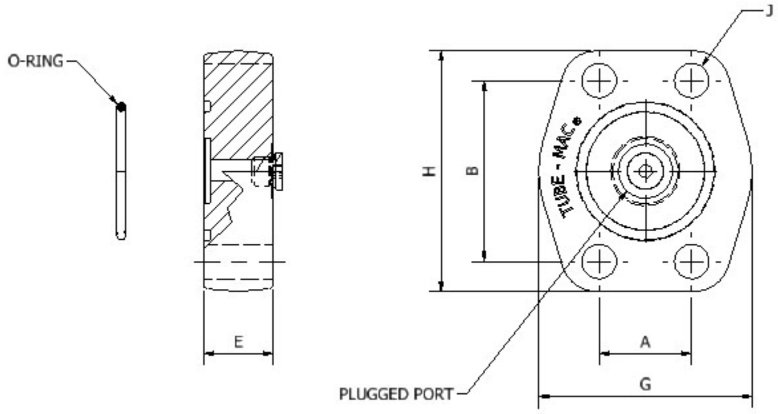
Flange 1 Option
Flange 2 Option
* Insert Material
^ Insert O-Ring Type

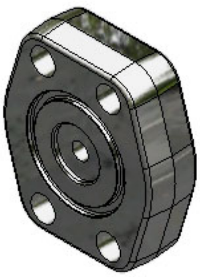
3D step models available upon request

SAE 3000 PSI Blanking Flange

O-Ring Face with Clearance Holes

SAE J518 Code 61 (ISO 6162-1)





BFO34 – Blanking Flange O-Ring Face with Clearance Holes and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1/2"	BF034-050-*-^	0.69	1.50	1.88	2.23	0.81	5/16”	OR^-2-210	5000 (350)	0.64 (0.29)
3/4"	BF034-075-*-^	0.88	1.88	2.06	2.56	0.82	3/8”	OR^-2-214	5000 (350)	0.80 (0.36)
1"	BF034-100-*-^	1.03	2.06	2.31	2.76	0.87	3/8”	OR^-2-219	5000 (350)	1.10 (0.50)
1-1/4"	BF034-125-*-^	1.19	2.31	2.88	3.11	0.91	7/16”	OR^-2-222	4000 (280)	1.84 (0.83)
1-1/2"	BF034-150-*-^	1.41	2.75	3.25	3.66	1.06	1/2”	OR^-2-225	4000 (280)	2.57 (1.17)
2"	BF034-200-*-^	1.69	3.06	3.81	4.02	1.22	1/2”	OR^-2-228	4000 (280)	3.89 (1.76)
2-1/2"	BF034-250-*-^	2.00	3.50	4.28	4.49	1.40	1/2”	OR^-2-232	3000 (210)	5.98 (2.71)
3"	BF034-300-*-^	2.44	4.19	5.16	5.28	1.67	5/8”	OR^-2-237	3000 (210)	10.00 (4.54)

BFOM34 – Blanking Flange O-Ring Face with Clearance Holes and G1/8 BSPP Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1/2"	BFOM34-050-*-^	17.5	38.1	47.8	56.6	20.6	M8	OR^-2-210	5000 (350)	0.64 (0.29)
3/4"	BFOM34-075-*-^	22.4	47.8	52.3	65.0	20.8	M10	OR^-2-214	5000 (350)	0.80 (0.36)
1"	BFOM34-100-*-^	26.2	52.3	58.7	70.1	22.1	M10	OR^-2-219	5000 (350)	1.10 (0.50)
1-1/4"	BFOM34-125-*-^	30.2	58.7	73.2	79.0	23.1	M10	OR^-2-222	4000 (280)	1.84 (083)
1-1/2"	BFOM34-150-*-^	35.8	69.9	82.6	93.0	26.9	M12	OR^-2-225	4000 (280)	2.59 (1.17)
2"	BFOM34-200-*-^	42.9	77.7	96.8	102.1	31.0	M12	OR^-2-228	4000 (280)	3.89 (1.76)
2-1/2"	BFOM34-250-*-^	50.8	88.9	108.7	114.0	35.6	M12	OR^-2-232	3000 (210)	5.98 (2.71)
3"	BFOM34-300-*-^	62.0	106.4	131.1	134.1	42.4	M16	OR^-2-237	3000 (210)	10.00 (4.54)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

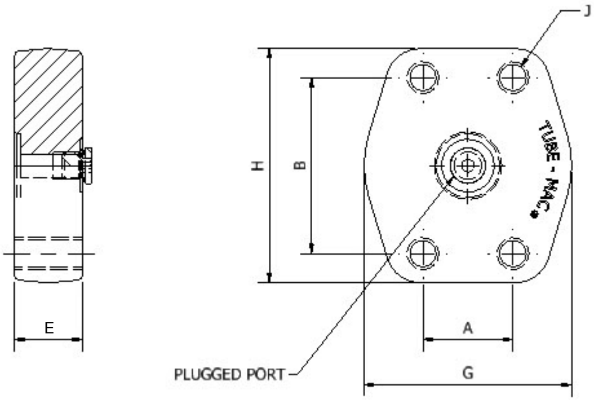
Ordering Example: BF034-200-SS-V
* Insert Material
^ Insert O-Ring Type

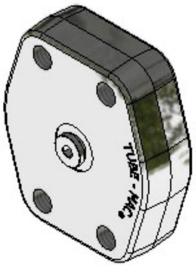
3D step models available upon request

SAE 3000 PSI Blanking Flange

Flat Face with Threaded Holes

SAE J518 Code 61 (ISO 6162-1)





BFF34 – Blanking Flange Flat Face with #4 SAE Port (Plugged) and UNC Threaded Holes, NPS

Size	Blanking Flange Part Number	Dimensions (in)					Thread UNC-2B J	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1/2"	BFF34-050-*-^	0.69	1.50	1.88	2.23	0.81	5/16”-18	5000 (350)	0.64 (0.29)
3/4"	BFF34-075-*-^	0.88	1.88	2.06	2.56	0.82	3/8”-16	5000 (350)	0.80 (0.36)
1"	BFF34-100-*-^	1.03	2.06	2.31	2.76	0.87	3/8”-16	5000 (350)	1.10 (0.50)
1-1/4"	BFF34-125-*-^	1.19	2.31	2.88	3.11	0.91	7/16”-14	4000 (280)	1.84 (0.83)
1-1/2"	BFF34-150-*-^	1.41	2.75	3.25	3.66	1.06	1/2"-13	4000 (280)	2.57 (1.17)
2"	BFF34-200-*-^	1.69	3.06	3.81	4.02	1.22	1/2”-13	4000 (280)	3.89 (1.76)
2-1/2"	BFF34-250-*-^	2.00	3.50	4.28	4.49	1.40	1/2"-13	3000 (210)	6.23 (2.83)
3"	BFF34-300-*-^	2.44	4.19	5.16	5.28	1.67	5/8”-11	3000 (210)	10.00 (4.54)

BFFM34 – Blanking Flange Flat Face with G1/8 BSPP Port (Plugged) and Threaded Holes, Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Thread J	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1/2"	BFFM34-050-*-^	17.5	38.1	47.8	56.6	20.6	M8X1.25	5000 (350)	0.64 (0.29)
3/4"	BFFM34-075-*-^	22.4	47.8	52.3	65.0	20.8	M10X1.50	5000 (350)	0.80 (0.36)
1"	BFFM34-100-*-^	26.2	52.3	58.7	70.1	22.1	M10X1.50	5000 (350)	1.10 (0.50)
1-1/4"	BFFM34-125-*-^	30.2	58.7	73.2	79.0	23.1	M10X1.50	4000 (280)	1.84 (0.83)
1-1/2"	BFFM34-150-*-^	35.8	69.9	82.6	93.0	26.9	M12X1.75	4000 (280)	2.57 (1.17)
2"	BFFM34-200-*-^	42.9	77.7	96.8	102.1	31.0	M12X1.75	4000 (280)	3.89 (1.76)
2-1/2"	BFFM34-250-*-^	50.8	88.9	108.7	114.0	35.6	M12X1.75	3000 (210)	6.23 (2.83)
3"	BFFM34-300-*-^	62.0	106.4	131.1	134.1	42.4	M16X2.00	3000 (210)	10.00 (4.54)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: BFF34-200-SS
* Insert Material

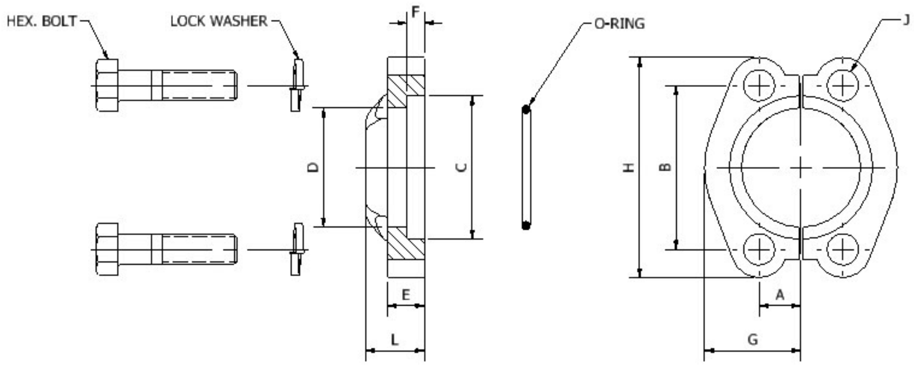
3D step models available upon request

SAE 3000 PSI Split Flange Kits

SAE J518 Code 61 (ISO 6162-1)

Complete Flange Set Includes:

- One (1) Split Flange (2 Halves)
- Four (4) Hex Head Bolts
- Four (4) Lock Washers
- One (1) Buna O-Ring (Standard)



SFK34 - Split Flange Kit, NPS

Size	Complete Assembly Part Number	Dimensions (in)									Drill Dia. (in) J	HHCS Min. Grade 5 UNC-2A	O-Ring (Buna) Part Number	WT (lbs)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	L					
1/2”	SFK34-050-*-^	0.34	1.50	1.21	0.96	0.51	0.24	0.90	2.12	0.75	0.34	5/16”-18 x 1.25	OR^-2-210	0.42	5000 (350)
3/4”	SFK34-075-*-^	0.44	1.88	1.53	1.26	0.55	0.24	1.03	2.56	0.87	0.42	3/8”-16 x 1.25	OR^-2-214	0.51	5000 (350)
1”	SFK34-100-*-^	0.51	2.06	1.78	1.51	0.63	0.29	1.15	2.75	0.94	0.42	3/8”-16 x 1.25	OR^-2-219	0.65	5000 (350)
1-1/4”	SFK34-125-*-^	0.59	2.31	2.03	1.72	0.55	0.29	1.44	3.12	0.87	0.47	7/16”-14 x 1.50	OR^-2-222	0.89	4000 (280)
1-1/2”	SFK34-150-*-^	0.70	2.75	2.41	2.00	0.63	0.29	1.62	3.69	0.98	0.53	1/2”-13 x 1.50	OR^-2-225	1.44	3000 (210)
2”	SFK34-200-*-^	0.84	3.06	2.84	2.47	0.63	0.36	1.90	4.00	1.02	0.53	1/2”-13 x 1.50	OR^-2-228	1.56	3000 (210)
2-1/2”	SFK34-250-*-^	1.00	3.50	3.34	2.95	0.75	0.36	2.14	4.50	1.50	0.53	1/2”-13 x 1.75	OR^-2-232	2.13	2500 (175)
3”	SFK34-300-*-^	1.22	4.19	4.03	3.58	0.87	0.36	2.58	5.31	1.61	0.66	5/8”-11 x 1.75	OR^-2-237	3.65	2000 (140)

SFKM34 - Split Flange Kit Metric

Size	Complete Assembly Part Number	Dimensions (mm)									Drill Dia. (mm) J	HHCS Min. 10.9	O-Ring (Nitrile) Part Number	WT (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	L					
1/2”	SFKM34-050-*-^	8.6	38.1	30.7	24.4	13.0	6.1	22.9	53.8	19.1	8.6	M8 x 30	OR^-2-210	0.19	5000 (350)
3/4”	SFKM34-075-*-^	11.2	47.8	38.9	32.0	14.0	6.1	26.2	65.0	22.1	10.7	M10 x 30	OR^-2-214	0.23	5000 (350)
1”	SFKM34-100-*-^	13.0	52.3	45.2	38.4	16.0	7.4	29.2	69.9	23.9	10.7	M10 x 30	OR^-2-219	0.30	5000 (350)
1-1/4”	SFKM34-125-*-^	15.0	58.7	51.6	43.7	14.0	7.4	36.6	79.2	22.1	11.9	M10 x 40	OR^-2-222	0.40	4000 (280)
1-1/2”	SFKM34-150-*-^	17.8	69.9	61.2	50.8	16.0	7.4	41.1	93.7	24.9	13.5	M12 x 40	OR^-2-225	0.65	3000 (210)
2”	SFKM34-200-*-^	21.3	77.7	72.1	62.7	16.0	9.1	48.3	101.6	25.9	13.5	M12 x 40	OR^-2-228	0.71	3000 (210)
2-1/2”	SFKM34-250-*-^	25.4	88.9	84.8	74.9	19.1	9.1	54.4	114.3	38.1	13.5	M12 x 45	OR^-2-232	0.97	2500 (175)
3”	SFKM34-300-*-^	31.0	106.4	102.4	90.9	22.1	9.1	65.5	134.9	40.9	16.8	M16 x 45	OR^-2-237	1.66	2000 (140)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: SFK34-100-SS-V

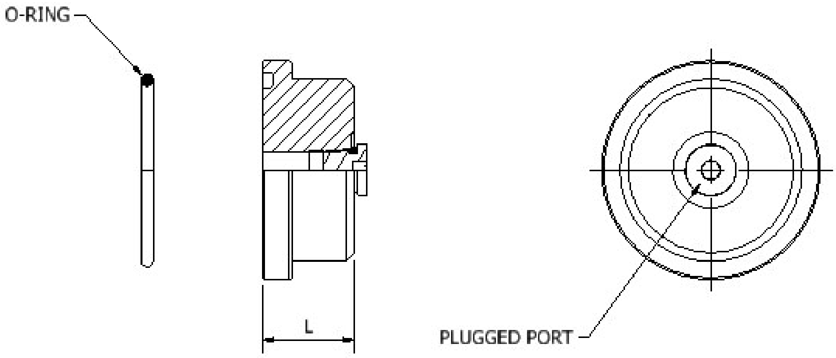
* Insert Material

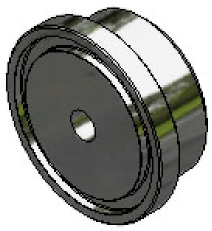
^ Insert O-Ring Type

3D step models available upon request

SAE 3000 PSI Split Flange Plugs

SAE J518 Code 61 (ISO 6162-1)





SFP34 - Complete with Buna O-Ring (Standard) and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		L			
1/2"	SFP34-050-^	0.75	OR^-2-210	5000 (350)	0.13 (0.06)
3/4"	SFP34-075-^	0.88	OR^-2-214	5000 (350)	0.28 (0.13)
1"	SFP34-100-^	1.00	OR^-2-219	5000 (350)	0.50 (0.23)
1-1/4"	SFP34-125-^	0.88	OR^-2-222	4000 (280)	0.57 (0.26)
1-1/2"	SFP34-150-^	1.00	OR^-2-225	4000 (280)	0.91 (0.41)
2"	SFP34-200-^	1.00	OR^-2-228	4000 (280)	1.40 (0.64)
2-1/2"	SFP34-250-^	1.00	OR^-2-232	3000 (210)	2.00 (0.91)
3"	SFP34-300-^	1.00	OR^-2-237	3000 (210)	2.90 (1.32)

SFPM34 - Complete with Nitrile O-Ring (Standard) and G1/8 BSPP Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)	O-Ring (Nitrile) Part Number	Working Pressure PSI (bar)	WT (kg)
		L			
1/2"	SFPM34-050-^	19.1	OR^-2-210	5000 (350)	0.13 (0.06)
3/4"	SFPM34-075-^	22.4	OR^-2-214	5000 (350)	0.28 (0.13)
1"	SFPM34-100-^	25.4	OR^-2-219	5000 (350)	0.50 (0.23)
1-1/4"	SFPM34-125-^	22.4	OR^-2-222	4000 (280)	0.57 (0.26)
1-1/2"	SFPM34-150-^	25.4	OR^-2-225	4000 (280)	0.91 (0.41)
2"	SFPM34-200-^	25.4	OR^-2-228	4000 (280)	1.40 (0.64)
2-1/2"	SFPM34-250-^	25.4	OR^-2-232	3000 (210)	2.00 (0.91)
3"	SFPM34-300-^	25.4	OR^-2-237	3000 (210)	2.90 (1.32)

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

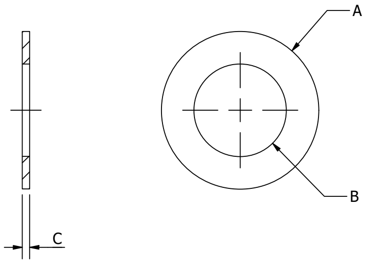
Ordering Example: SFP34-200-V
^ Insert O-Ring Type

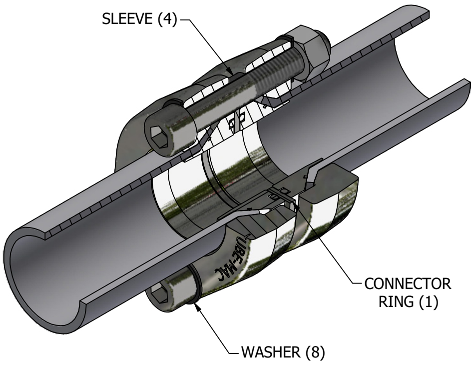
3D step models available upon request

SAE 3000 PSI Non-Conductive Connector Plate

with Bolt Isolation

SAE J518 Code 61 (ISO 6162-1)





Complete Set Includes:

- One (1) Non-Conductive Plate
- Four (4) Sleeves for Bolts
- Eight (8) Washers for Bolts

NCCR – Non-Conductive Connector Plate

Size	Part Number	Dimensions in (mm)			WT lbs (kg)
		A	B	C	
1/2"	NCCR34-050	1.30 (33.0)	0.50 (12.70)	0.16 (4.00)	0.09 (0.04)
3/4"	NCCR34-075	1.65 (42.0)	0.75 (19.0)	0.16 (4.00)	0.12 (0.05)
1"	NCCR34-100	1.87 (47.6)	0.98 (25.00)	0.16 (4.00)	0.14 (0.06)
1-1/4"	NCCR34-125	2.13 (54.0)	1.25 (31.7)	0.16 (4.00)	0.20 (0.09)
1-1/2"	NCCR34-150	2.56 (65.0)	1.50 (38.1)	0.16 (4.00)	0.28 (0.13)
2"	NCCR34-200	2.95 (75.0)	2.00 (50.88)	0.16 (4.00)	0.33 (0.15)

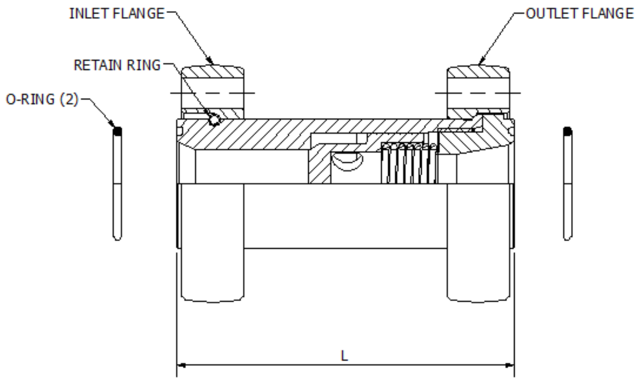
Notes:

Flanges, Cone Inserts and Bolts Sold Separately
Must use Two (2) O-Ring Face Cone Inserts

3D step models available upon request

SAE 3000 PSI Check Valve Retain Ring Flange Style

SAE J518 Code 61 (ISO 6162-1)



Complete Assembly Consists Of:

- One (1) Check Valve Body – Poppet Style
- Two (2) Retain Ring Flanges
- One (1) Retain Ring
- Two (2) Buna O-Rings (Standard)

CV Check Valve
Complete with Buna O-Rings (Standard)

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring 1 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L					
3/4”	A/CV-075-FC34-FC34-07-*-^	3.60 (91.4)	OR^-3-913	2.70 (1.22)	CV-075-07-*-^	1.50 (0.68)	5000 (350)
1”	A/CV-100-FC34-FC34-07-*-^	4.40 (111.8)	OR^-3-916	3.19 (1.45)	CV-100-07-*-^	1.73 (0.78)	5000 (350)
1-1/4”	A/CV-125-FC34-FC34-07-*-^	5.18 (131.6)	OR^-3-918	4.13 (1.87)	CV-125-07-*-^	2.15 (0.98)	4000 (280)
1-1/2”	A/CV-150-FC34-FC34-07-*-^	5.76 (146.3)	OR^-3-924	7.11 (3.23)	CV-150-07-*-^	4.05 (1.84)	4000 (280)
2”	A/CV-200-FC34-FC34-07-*-^	6.74 (171.2)	OR^-3-928	9.60 (4.35)	CV-200-07-*-^	5.20 (2.36)	4000 (280)
2-1/2”	A/CV-250-FC34-FC34-07-*-^	7.14 (181.4)	OR^-2-232	13.15 (5.96)	CV-250-07-*-^	5.30 (2.40)	3000 (210)
3”	A/CV-300-FC34-FC34-07-*-^	7.53 (191.3)	OR^-2-237	22.30 (10.12)	CV-300-07-*-^	12.30 (5.58)	3000 (210)

Flange Option:
Standard, FC34 = SAE 3000 PSI Code 61 (ISO 6162-1) Clearance Flange.
FT34 = SAE 3000 PSI Code 61 (ISO 6162-1) UNC Threaded Flange.
FTM34 = SAE 3000 PSI Code 61 (ISO 6162-1) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Opening Pressure

	PSI (bar)
Standard	07 (0.5)
Optional	21 (1.5)
Optional	43 (3.0)

Ordering Example: A/CV-200-FC34-FC34-07-SS-V

Inlet Flange Option
Outlet Flange Option
Opening Pressure
* Insert Material
^ Insert O-Ring Type

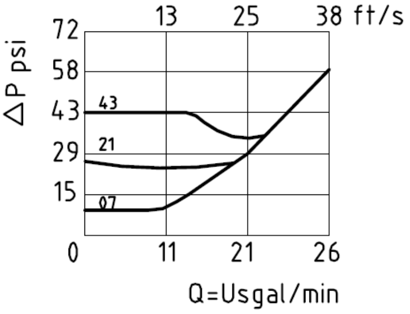
3D step models available upon request

SAE 3000 PSI Check Valve Retain Ring Flange Style

SAE J518 Code 61 (ISO 6162-1)

Performance Curves: Measured using oil at 190SUS and 122º F

3/4”



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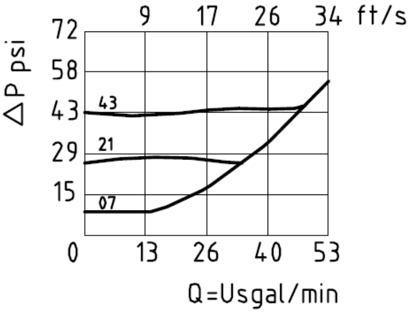
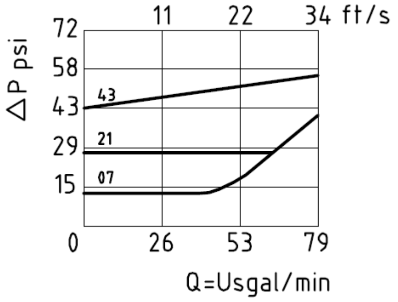
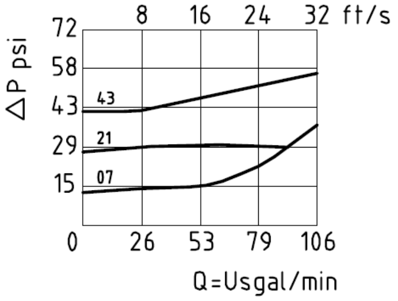


1-1/4”



1-1/2”



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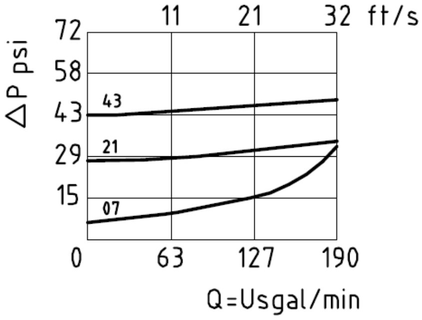
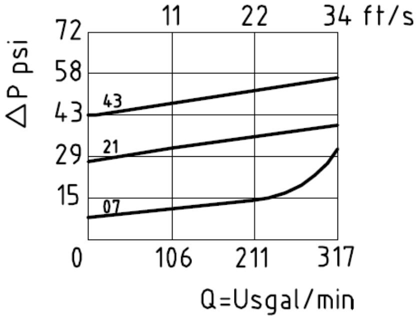


2-1/2”



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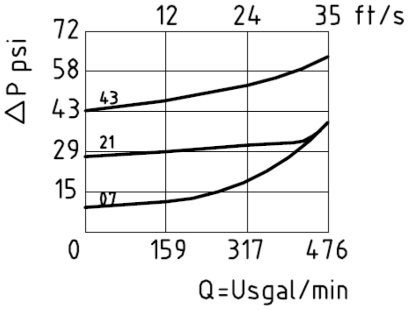


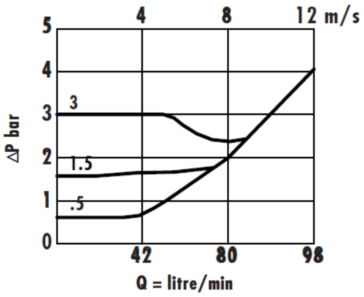
3D step models available upon request

SAE 3000 PSI Check Valve Retain Ring Flange Style

SAE J518 Code 61 (ISO 6162-1)

Performance Curves: Measured using oil at 190SUS and 50° C

3/4”



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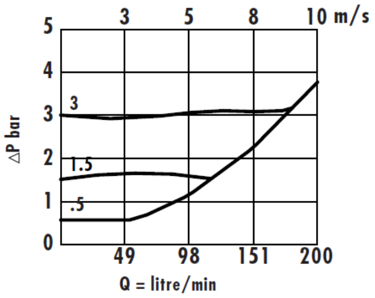

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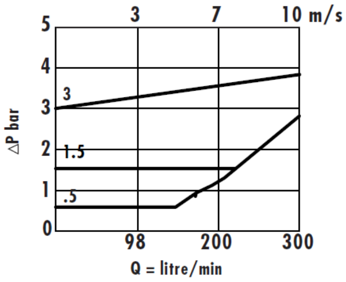
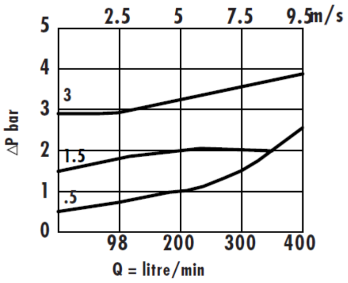


1-1/2”



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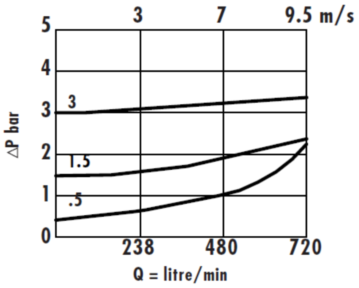
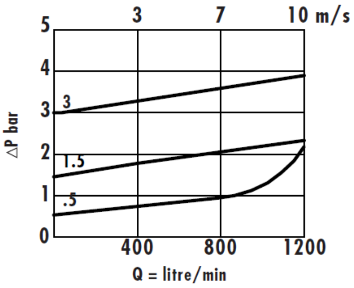


2-1/2”



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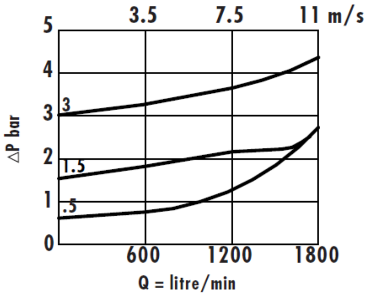
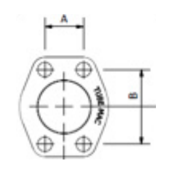


3D step models available upon request

Notes

SAE 6000 PSI, 420 bar Reference Guide



Flare Flange
Dimensions

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Flare Flange
Clearance Holes
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FFC64
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Flare Flange
Clearance Holes
Metric
FFCM64
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Flare Flange
Threaded Holes
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Flare Flange
Threaded Holes
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Flare Flange
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Flare Flange
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O-Ring Face Cone
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Flare Flange Set
O-Ring Face Cone
Clearance Holes Metric
FFCM64-CO
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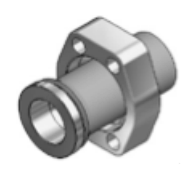

Flare Flange Set
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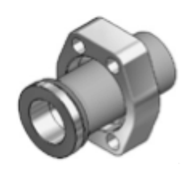

Flare Flange Set
Flat Face Cone
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Flare Flange Set
Double Cone
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Flare Flange Set
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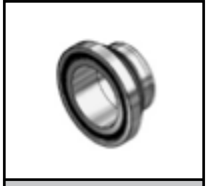

Flare Flange
Cone Inserts
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Flare Flange
Cone Inserts
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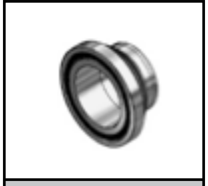

Flare Flange
Cone Inserts
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Flare Flange
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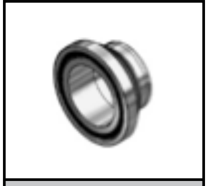

Flare Flange
O-Ring Face Cone
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Flare Flange
Flat Face Cone
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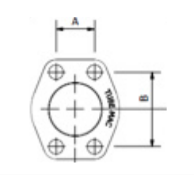

Retain Ring Flange
Dimensions

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Retain Ring Flange
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Retain Ring Flange Elbow Assembly
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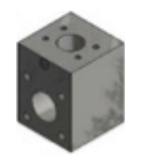

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Transition Plate ISO Reducer NPS, Metric
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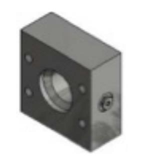

Transition Plate Reducer NPS, Metric
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SAE 6000 PSI, 420 bar Reference Guide

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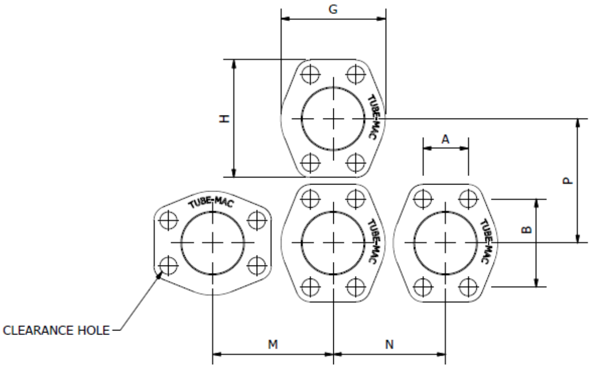
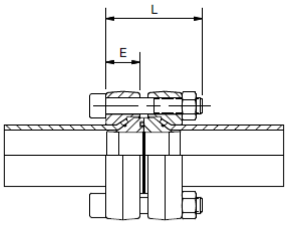
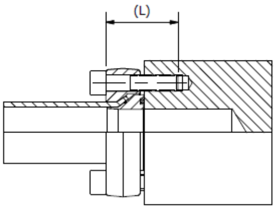
SAE 6000 PSI Flare Flange Dimensions

SAE J518 Code 62 (ISO 6162-2)





FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Flare Flange Dimensions (Inches)

Size	Dimensions (in)								SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	0.72	1.59	1.88	2.22	2.20	2.09	2.32	0.81	5/16"-18 UNC x 2.25 (1.50)	6000 (420)
3/4"	0.94	2.00	2.38	2.81	2.76	2.68	2.95	1.02	3/8"-16 UNC x 2.75 (1.75)	6000 (420)
1"	1.09	2.25	2.75	3.19	3.19	2.99	3.35	1.03	7/16"-14 UNC x 2.75 (1.75)	6000 (420)
1-1/4"	1.25	2.63	3.06	3.75	3.58	3.27	3.90	1.25	1/2"-13 UNC x 3.25 (2.00)	6000 (420)
1-1/2"	1.44	3.13	3.75	4.44	4.25	3.98	4.57	1.38	5/8"-11 UNC x 4.00 (2.50)	6000 (420)
2"	1.75	3.81	4.50	5.25	5.04	4.72	5.39	1.68	3/4"-10 UNC x 4.50 (2.75)	6000 (420)

Special Bolt Lengths for SCH 160 Pipe

Size	SHCS Bolt (in)* L (L)
1-1/4" SCH160	1/2”-13 UNC x 3.50 (2.00)
1-1/2" SCH160	5/8”-11 UNC x 4.25 (2.50)
2" SCH160	3/4”-10 UNC x 5.00 (2.75)

*** SHCS Bolt Specification**

Carbon Steel: ASTM A574

316 Stainless Steel: ASTM A193 - B8M

- For 5/8” SS Bolts and smaller ASTM A193 - B8M Class.1
- For 3/4” SS Bolts and larger ASTM A193 - B8M Class.2

Flare Flange Dimensions (Millimeters)

Size	Dimensions (mm)								SHCS Bolt* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	18.3	40.4	47.8	56.4	55.9	53.1	58.9	20.6	M8 x 60 (40)	6000 (420)
3/4"	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10 x 70 (45)	6000 (420)
1"	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12 x 70 (45)	6000 (420)
1-1/4"	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12 x 80 (50)	6000 (420)
1-1/4" (2)	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M14 x 80 (50)	6000 (420)
1-1/2"	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16 x 100 (65)	6000 (420)
2"	44.5	96.8	114.3	133.4	128.0	119.9	136.9	42.7	M20 x 120 (70)	6000 (420)

(2) Designates M14 Bolt - Special Order

*** SHCS Bolt Specification**

Carbon Steel: DIN 912/ISO 4762, Minimum Grade 8.8

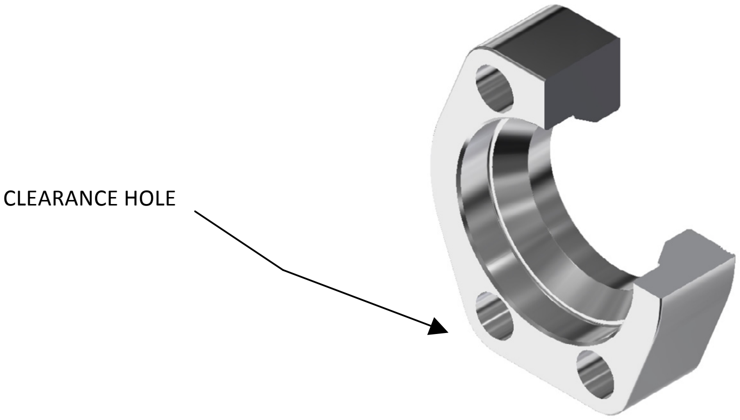
316 Stainless Steel: A4-70, DIN 912/ISO 4762

- For M16 SS Bolts and larger A4-80, DIN 912/ISO 4762

3D step models available upon request

SAE 6000 PSI Flare Flange with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2)



FFC64 - Flare Flange with Clearance Holes, NPS

Size	Pipe O.D. (in)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	0.840	FFC64-050-*	6000 (420)	0.56 (0.25)
3/4"	1.050	FFC64-075-*	6000 (420)	0.97 (0.44)
1"	1.315	FFC64-100-*	6000 (420)	1.27 (0.58)
1-1/4"	1.660	FFC64-125-*	6000 (420)	1.89 (0.86)
1-1/2"	1.900	FFC64-150-*	6000 (420)	3.32 (1.51)
2"	2.375	FFC64-200-*	6000 (420)	5.00 (2.27)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.

HDG = Carbon Steel, Hot Dip Galvanized.

SS = Stainless Steel, Type 316.

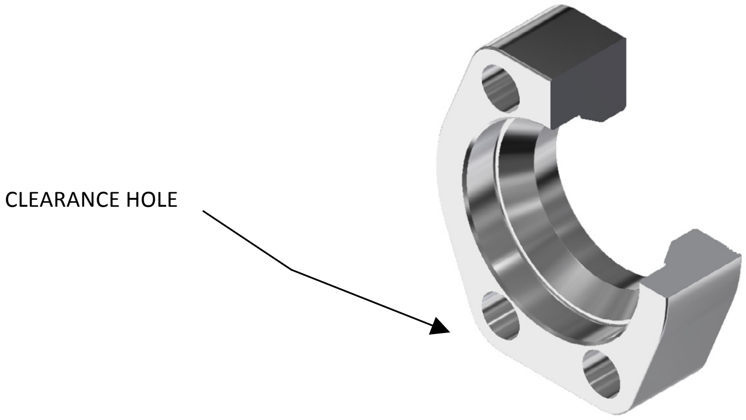
Ordering Example: FFC64-200-SS

* Insert Material

3D step models available upon request

SAE 6000 PSI Flare Flange with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)



FFCM64 - Flare Flange with Clearance Holes, Metric

Size	Pipe O.D. (mm)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	16	FFCM64-050-16MM-*	6000 (420)	0.56 (0.25)
1/2"	18	FFCM64-050-18MM-*	6000 (420)	0.56 (0.25)
1/2"	20	FFCM64-050-20MM-*	6000 (420)	0.56 (0.25)
1/2"	25	FFCM64-050-25MM-*	6000 (420)	0.56 (0.25)
3/4"	20	FFCM64-075-20MM-*	6000 (420)	0.97 (0.44)
3/4"	25	FFCM64-075-25MM-*	6000 (420)	0.97 (0.44)
3/4"	30	FFCM64-075-30MM-*	6000 (420)	0.97 (0.44)
1"	25	FFCM64-100-25MM-*	6000 (420)	1.27 (0.58)
1"	30	FFCM64-100-30MM-*	6000 (420)	1.27 (0.58)
1"	38	FFCM64-100-38MM-*	6000 (420)	1.27 (0.58)
1-1/4"	30	FFCM64-125-30MM-*	6000 (420)	1.89 (0.86)
1-1/4"	38	FFCM64-125-38MM-*	6000 (420)	1.89 (0.86)
1-1/4"	42	FFC64-125-*	6000 (420)	1.89 (0.86)
1-1/4" (2)	30	FFCM64-125-M14-30MM-*	6000 (420)	1.89 (0.86)
1-1/4" (2)	38	FFCM64-125-M14-38MM-*	6000 (420)	1.89 (0.86)
1-1/4" (2)	42	FFC64-125-M14-*	6000 (420)	1.89 (0.86)
1-1/2"	30	FFCM64-150-30MM-*	6000 (420)	3.32 (1.51)
1-1/2"	38	FFCM64-150-38MM-*	6000 (420)	3.32 (1.51)
1-1/2"	42	FFCR64-150X125-*	6000 (420)	3.32 (1.51)
1-1/2"	50	FFCM64-150-50MM-*	6000 (420)	3.32 (1.51)
1-1/2"	56	FFCM64-150-56MM-*	6000 (420)	3.14 (1.43)
2"	50	FFCM64-200-50MM-*	6000 (420)	5.00 (2.27)
2"	60	FFC64-200-*	6000 (420)	5.00 (2.27)
2"	66	FFCM64-200-66MM-*	6000 (420)	4.82 (2.19)

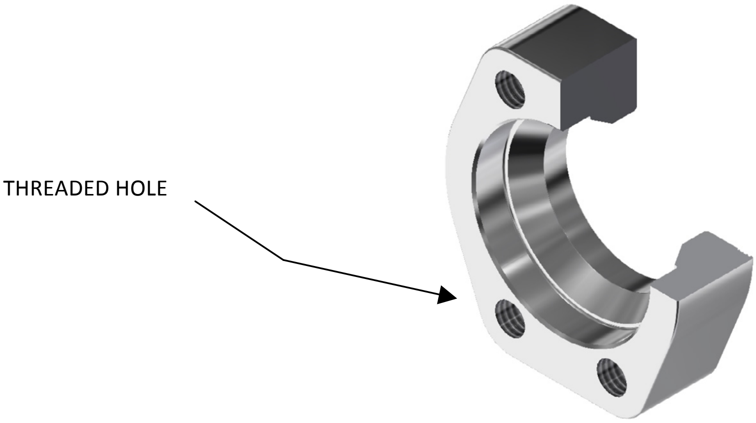
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.
(2) Designates M14 Bolt – Special Order

Ordering Example: FFCM64-200-50MM-SS
* Insert Material

3D step models available upon request

SAE 6000 PSI Flare Flange with Threaded Holes, NPS

SAE J518 Code 62 (ISO 6162-2)



FFT64 - Flare Flange with Threaded Holes, NPS

Size	Pipe O.D. (in)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	0.840	FFT64-050-*	6000 (420)	0.56 (0.25)
3/4"	1.050	FFT64-075-*	6000 (420)	1.03 (0.47)
1"	1.315	FFT64-100-*	6000 (420)	1.39 (0.63)
1-1/4"	1.660	FFT64-125-*	6000 (420)	2.09 (0.95)
1-1/2"	1.900	FFT64-150-*	6000 (420)	3.85 (1.75)
2"	2.375	FFT64-200-*	6000 (420)	6.04 (2.75)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.

HDG = Carbon Steel, Hot Dip Galvanized.

SS = Stainless Steel, Type 316.

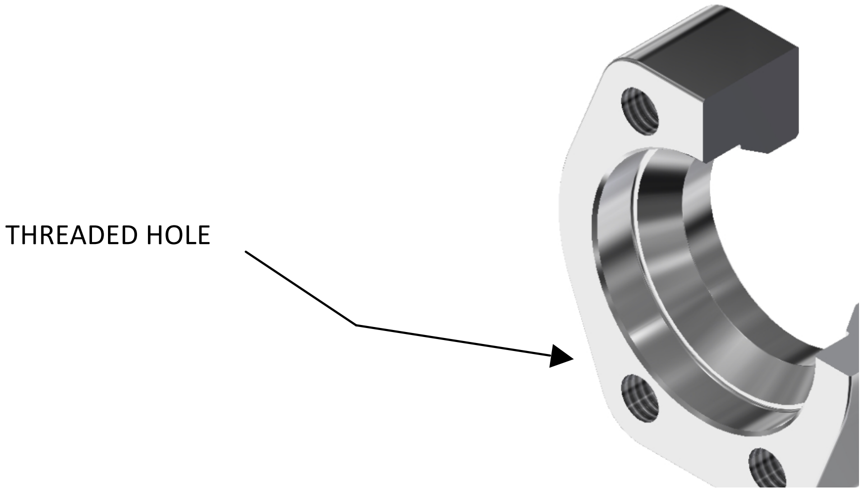
Ordering Example: FFT64-200-SS

* Insert Material

3D step models available upon request

SAE 6000 PSI Flare Flange with Threaded Holes, Metric

SAE J518 Code 62 (ISO 6162-2)



FFTM64 - Flare Flange with Threaded Holes, Metric

Size	Pipe O.D. (mm)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	16	FFTM64-050-16MM-*	6000 (420)	0.56 (0.25)
1/2"	18	FFTM64-050-18MM-*	6000 (420)	0.56 (0.25)
1/2"	20	FFTM64-050-20MM-*	6000 (420)	0.56 (0.25)
1/2"	25	FFTM64-050-25MM-*	6000 (420)	0.56 (0.25)
3/4"	20	FFTM64-075-20MM-*	6000 (420)	1.03 (0.47)
3/4"	25	FFTM64-075-25MM-*	6000 (420)	1.03 (0.47)
3/4"	30	FFTM64-075-30MM-*	6000 (420)	1.03 (0.47)
1"	25	FFTM64-100-25MM-*	6000 (420)	1.39 (0.63)
1"	30	FFTM64-100-30MM-*	6000 (420)	1.39 (0.63)
1"	38	FFTM64-100-38MM-*	6000 (420)	1.39 (0.63)
1-1/4"	30	FFTM64-125-30MM-*	6000 (420)	2.09 (0.95)
1-1/4"	38	FFTM64-125-38MM-*	6000 (420)	2.09 (0.95)
1-1/4"	42	FFTM64-125-42MM-*	6000 (420)	2.09 (0.95)
1-1/4" (2)	30	FFTM64-125-M14-30MM-*	6000 (420)	2.09 (0.95)
1-1/4" (2)	38	FFTM64-125-M14-38MM-*	6000 (420)	2.09 (0.95)
1-1/4" (2)	42	FFTM64-125-M14-42MM-*	6000 (420)	2.09 (0.95)
1-1/2"	30	FFTM64-150-30MM-*	6000 (420)	3.85 (1.75)
1-1/2"	38	FFTM64-150-38MM-*	6000 (420)	3.85 (1.75)
1-1/2"	42	FFTM64-150-42MM-*	6000 (420)	3.85 (1.75)
1-1/2"	50	FFTM64-150-50MM-*	6000 (420)	3.85 (1.75)
1-1/2"	56	FFTM64-150-56MM-*	6000 (420)	3.14 (1.43)
2"	50	FFTM64-200-50MM-*	6000 (420)	6.04 (2.75)
2"	60	FFTM64-200-60MM-*	6000 (420)	6.04 (2.75)
2"	66	FFTM64-200-66MM-*	6000 (420)	4.82 (2.19)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.
(2) Designates M14 Bolt – Special Order

Ordering Example: FFTM64-200-50MM-SS

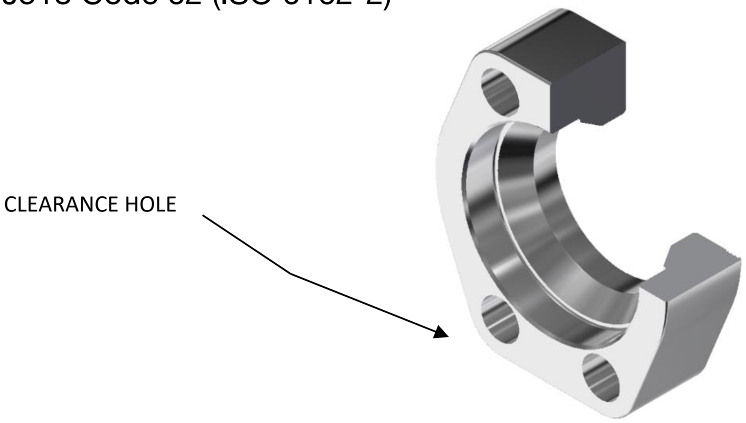
* Insert Material

3D step models available upon request

SAE 6000 PSI Flare Flange - Reducing

with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2)



Note:
Reducing Flanges
for NPS Pipe Only

FFCR64 - Flare Flange - Reducing with Clearance Holes, NPS

Size (flange x pipe)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
3/4" x 1/2"	FFCR64-075 x 050	6000 (420)	0.56 (0.25)
1” x 3/4"	FFCR64-100 x 075	6000 (420)	0.97 (0.44)
1-1/4” x 1”	FFCR64-125 x 100	6000 (420)	1.27 (0.58)
1-1/2” x 1-1/4”	FFCR64-150 x 125	6000 (420)	1.89 (0.86)
2” x 1-1/2”	FFCR64-200 x 150	6000 (420)	3.32 (1.51)
2-1/2” x 2”	FFCR64-250 x 200	6000 (420)	5.00 (2.27)

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: FFCR64-075 x 050-SS

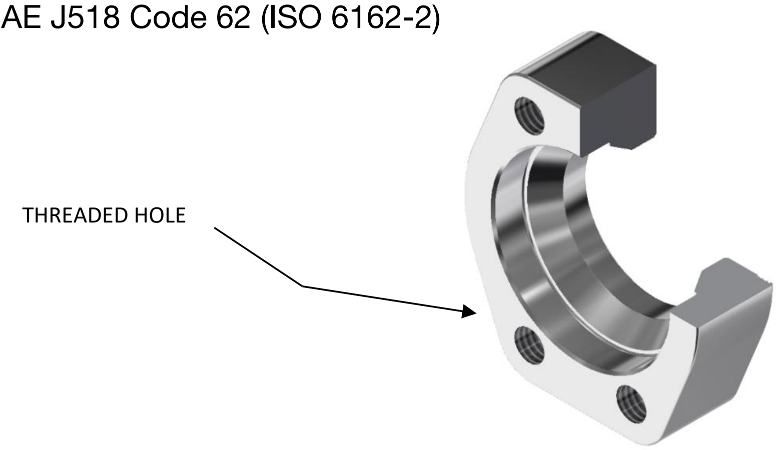
* Insert Material

3D step models available upon request

SAE 6000 PSI Flare Flange - Reducing

with Threaded Holes, NPS

SAE J518 Code 62 (ISO 6162-2)



Note:
Reducing Flanges
for NPS Pipe Only

FFTR64 - Flare Flange - Reducing with Threaded Holes, NPS

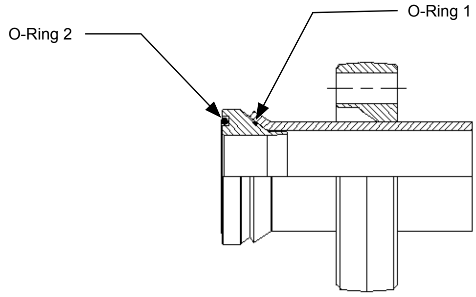
Size (flange x pipe)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
3/4" x 1/2"	FFTR64-075 x 050	6000 (420)	0.56 (0.25)
1” x 3/4"	FFTR64-100 x 075	6000 (420)	1.03 (0.47)
1-1/4” x 1”	FFTR64-125 x 100	6000 (420)	1.39 (0.63)
1-1/2” x 1-1/4”	FFTR64-150 x 125	6000 (420)	2.09 (0.95)
2” x 1-1/2”	FFTR64-200 x 150	6000 (420)	3.85 (1.75)
2-1/2” x 2”	FFTR64-250 x 200	6000 (420)	6.04(2.75)

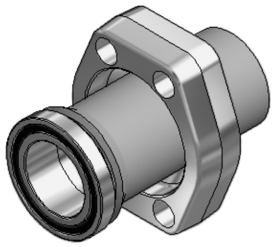
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: FFTR64-075 x 050-SS
* Insert Material

SAE 6000 PSI Flare Flange Set
O-Ring Face with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:
- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page H1)

FFC64-CO - Flare Flange Set O-Ring Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	1/2” SCH40	FFC64-CO-SCH40-050-*-^	0.66 (0.30)	FFC64-050-*	CO-SCH40-050-*-^	ORV-1915	OR^-2-210
1/2"	1/2” SCH80	FFC64-CO-SCH80-050-*-^	0.65 (0.30)	FFC64-050-*	CO-SCH80-050-*-^	ORV-1715	OR^-2-210
3/4"	3/4” SCH40	FFC64-CO-SCH40-075-*-^	1.09 (0.50)	FFC64-075-*	CO-SCH40-075-*-^	ORV-2515	OR^-2-214
3/4"	3/4” SCH80	FFC64-CO-SCH80-075-*-^	1.07 (0.49)	FFC64-075-*	CO-SCH80-075-*-^	ORV-2315	OR^-2-214
1”	1” SCH40	FFC64-CO-SCH40-100-*-^	1.47 (0.67)	FFC64-100-*	CO-SCH40-100-*-^	ORV-3015	OR^-2-219
1”	1” SCH80	FFC64-CO-SCH80-100-*-^	1.46 (0.66)	FFC64-100-*	CO-SCH80-100-*-^	ORV-2815	OR^-2-219
1-1/4"	1-1/4” SCH40	FFC64-CO-SCH40-125-*-^	2.14 (0.97)	FFC64-125-*	CO-SCH40-125-*-^	ORV-3815	OR^-2-222
1-1/4"	1-1/4” SCH80	FFC64-CO-SCH80-125-*-^	2.13 (0.97)	FFC64-125-*	CO-SCH80-125-*-^	ORV-3815	OR^-2-222
1-1/4"	1-1/4” SCH160	FFC64-CO-SCH160-125-*-^	2.14 (0.97)	FFC64-125-*	CO-SCH160-125-*-^	ORV-3515	OR^-2-222
1-1/2"	1-1/2" SCH40	FFC64-CO-SCH40-150-*-^	3.73 (1.70)	FFC64-150-*	CO-SCH40-150-*-^	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	FFC64-CO-SCH80-150-*-^	3.72 (1.69)	FFC64-150-*	CO-SCH80-150-*-^	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH160	FFC64-CO-SCH160-150-*-^	3.72 (1.69)	FFC64-150-*	CO-SCH160-150-*-^	ORV-3815	OR^-2-225
2"	2” SCH40	FFC64-CO-SCH40-200-*-^	5.47 (2.49)	FFC64-200-*	CO-SCH40-200-*-^	ORV-5615	OR^-2-228
2"	2” SCH80	FFC64-CO-SCH80-200-*-^	5.49 (2.50)	FFC64-200-*	CO-SCH80-200-*-^	ORV-5515	OR^-2-228
2"	2” SCH160	FFC64-CO-SCH160-200-*-^	5.67 (2.57)	FFC64-200-*	CO-SCH160-200-*-^	ORV-5015	OR^-2-228

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

<u>^ O-Ring 2 Type:</u>

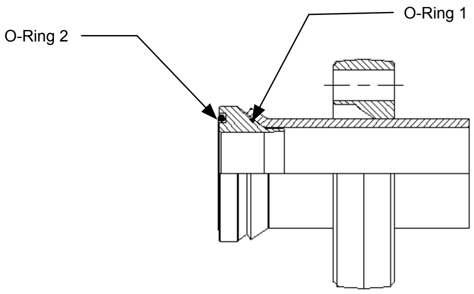
Standard, No Designation = Buna Nitrile.
V = Viton.

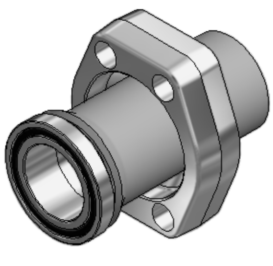
Ordering Example: FFC64-CO-SCH80-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

SAE 6000 PSI Flare Flange Set

O-Ring Face with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page H1)

FFCM64-CO - Flare Flange Set O-Ring Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	20x2.0	FFCM64-CO-20x2.0-050-*-^	0.67 (0.31)	FFCM64-050-20MM-*	CO-20x2.0-050-*-^	ORV-1715	OR^-2-210
1/2"	20x3.0	FFCM64-CO-20x3.0-050-*-^	0.67 (0.31)	FFCM64-050-20MM-*	CO-20x3.0-050-*-^	ORV-1715	OR^-2-210
1/2"	25x2.5	FFCM64-CO-25x2.5-050-*-^	0.67 (0.31)	FFCM64-050-25MM-*	CO-25x2.5-050-*-^	ORV-2315	OR^-2-210
1/2"	25x3.0	FFCM64-CO-25x3.0-050-*-^	0.67 (0.31)	FFCM64-050-25MM-*	CO-25x3.0-050-*-^	ORV-2315	OR^-2-210
3/4”	20x2.0	FFCM64-CO-20x2.0-075-*-^	1.08 (0.49)	FFCM64-075-20MM-*	CO-20x2.0-075-*-^	ORV-1715	OR^-2-214
3/4”	20x2.5	FFCM64-CO-20x2.5-075-*-^	1.08 (0.49)	FFCM64-075-20MM-*	CO-20x2.5-075-*-^	ORV-1715	OR^-2-214
3/4"	20x3.0	FFCM64-CO-20x3.0-075-*-^	1.08 (0.49)	FFCM64-075-20MM-*	CO-20x3.0-075-*-^	ORV-1715	OR^-2-214
3/4”	25x2.5	FFCM64-CO-25x2.5-075-*-^	1.08 (0.49)	FFCM64-075-25MM-*	CO-25x2.5-075-*-^	ORV-2315	OR^-2-214
3/4”	25x3.0	FFCM64-CO-25x3.0-075-*-^	1.08 (0.49)	FFCM64-075-25MM-*	CO-25x3.0-075-*-^	ORV-2315	OR^-2-214
3/4”	25x4.0	FFCM64-CO-25x4.0-075-*-^	1.08 (0.49)	FFCM64-075-25MM-*	CO-25x4.0-075-*-^	ORV-2315	OR^-2-214
3/4”	30x3.0	FFCM64-CO-30x3.0-075-*-^	1.10 (0.50)	FFCM64-075-30MM-*	CO-30x3.0-075-*-^	ORV-2515	OR^-2-214
1”	25x2.5	FFCM64-CO-25x2.5-100-*-^	1.45 (0.66)	FFCM64-100-25MM-*	CO-25x2.5-100-*-^	ORV-2315	OR^-2-219
1”	25x3.0	FFCM64-CO-25x3.0-100-*-^	1.45 (0.66)	FFCM64-100-25MM-*	CO-25x3.0-100-*-^	ORV-2315	OR^-2-219
1”	25x4.0	FFCM64-CO-25x4.0-100-*-^	1.45 (0.66)	FFCM64-100-25MM-*	CO-25x4.0-100-*-^	ORV-2315	OR^-2-219
1”	30x3.0	FFCM64-CO-30x3.0-100-*-^	1.47 (0.67)	FFCM64-100-30MM-*	CO-30x3.0-100-*-^	ORV-2815	OR^-2-219
1”	30x4.0	FFCM64-CO-30x4.0-100-*-^	1.47 (0.67)	FFCM64-100-30MM-*	CO-30x4.0-100-*-^	ORV-2815	OR^-2-219
1”	30x5.0	FFCM64-CO-30x5.0-100-*-^	1.47 (0.67)	FFCM64-100-30MM-*	CO-30x5.0-100-*-^	ORV-2815	OR^-2-219
1”	38x4.0	FFCM64-CO-38x4.0-100-*-^	1.49 (0.68)	FFCM64-100-38MM-*	CO-38x4.0-100-*-^	ORV-3515	OR^-2-219
1”	38x5.0	FFCM64-CO-38x5.0-100-*-^	1.49 (0.68)	FFCM64-100-38MM-*	CO-38x5.0-100-*-^	ORV-3215	OR^-2-219
1-1/4"	30x3.0	FFCM64-CO-30x3.0-125-*-^	2.11 (0.96)	FFCM64-125-30MM-*	CO-30x3.0-125-*-^	ORV-2815	OR^-2-222
1-1/4"	30x4.0	FFCM64-CO-30x4.0-125-*-^	2.11 (0.96)	FFCM64-125-30MM-*	CO-30x4.0-125-*-^	ORV-2815	OR^-2-222
1-1/4"	30x5.0	FFCM64-CO-30x5.0-125-*-^	2.11 (0.96)	FFCM64-125-30MM-*	CO-30x5.0-125-*-^	ORV-2815	OR^-2-222
1-1/4"	38x4.0	FFCM64-CO-38x4.0-125-*-^	2.13 (0.97)	FFCM64-125-38MM-*	CO-38x4.0-125-*-^	ORV-3515	OR^-2-222
1-1/4"	38x5.0	FFCM64-CO-38x5.0-125-*-^	2.13 (0.97)	FFCM64-125-38MM-*	CO-38x5.0-125-*-^	ORV-3215	OR^-2-222
1-1/4"	42x3.0	FFCM64-CO-42x3.0-125-*-^	2.18 (0.99)	FFC64-125-*	CO-42x3.0-125-*-^	ORV-3815	OR^-2-222
1-1/4"	42x4.0	FFCM64-CO-42x4.0-125-*-^	2.18 (0.99)	FFC64-125-*	CO-42x4.0-125-*-^	ORV-3815	OR^-2-222

Ordering Example: FFCM64-CO-50x3.0-200-SS-V

* Insert Material

^ Insert O-Ring 2 Type

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

^ O-Ring 2 Type:

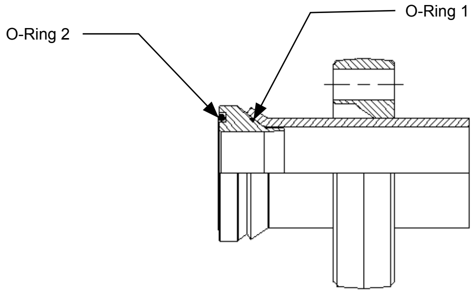
Standard, No Designation = Buna Nitrile.
V = Viton.

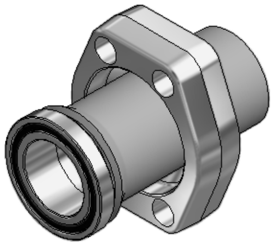
3D step models available upon request

SAE 6000 PSI Flare Flange Set

O-Ring Face with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page H1)

FFCM64-CO - Flare Flange Set O-Ring Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/4" (2)	30x3.0	FFCM64-CO-30x3.0-125-M14-*-^	2.11 (0.96)	FFCM64-125-M14-30MM-*	CO-30x3.0-125-*-^	ORV-2815	OR^-2-222
1-1/4" (2)	30x4.0	FFCM64-CO-30x4.0-125-M14-*-^	2.11 (0.96)	FFCM64-125-M14-30MM-*	CO-30x4.0-125-*-^	ORV-2815	OR^-2-222
1-1/4” (2)	30x5.0	FFCM64-CO-30x5.0-125-M14-*-^	2.11 (0.96)	FFCM64-125-M14-30MM-*	CO-30x5.0-125-*-^	ORV-2815	OR^-2-222
1-1/4" (2)	38x4.0	FFCM64-CO-38x4.0-125-M14-*-^	2.13 (0.97)	FFCM64-125-M14-38MM-*	CO-38x4.0-125-*-^	ORV-3515	OR^-2-222
1-1/4" (2)	38x5.0	FFCM64-CO-38x5.0-125-M14-*-^	2.13 (0.97)	FFCM64-125-M14-38MM-*	CO-38x5.0-125-*-^	ORV-3215	OR^-2-222
1-1/4" (2)	42x3.0	FFCM64-CO-42x3.0-125-M14-*-^	2.18 (0.99)	FFCM64-125-M14-42MM-*	CO-42x3.0-125-*-^	ORV-3815	OR^-2-222
1-1/4" (2)	42x4.0	FFCM64-CO-42x4.0-125-M14-*-^	2.18 (0.99)	FFCM64-125-M14-42MM-*	CO-42x4.0-125-*-^	ORV-3815	OR^-2-222
1-1/2"	30x3.0	FFCM64-CO-30x3.0-150-*-^	3.69 (1.68)	FFCM64-150-30MM-*	CO-30x3.0-150-*-^	ORV-2815	OR^-2-225
1-1/2"	38x4.0	FFCM64-CO-38x4.0-150-*-^	3.72 (1.69)	FFCM64-150-38MM-*	CO-38x4.0-150-*-^	ORV-3215	OR^-2-225
1-1/2"	42x3.0	FFCM64-CO-42x3.0-150-*-^	3.72 (1.69)	FFCM64-150-42MM-*	CO-42x3.0-150-*-^	ORV-3815	OR^-2-225
1-1/2"	42x4.0	FFCM64-CO-42x4.0-150-*-^	3.72 (1.69)	FFCM64-150-42MM-*	CO-42x4.0-150-*-^	ORV-3815	OR^-2-225
1-1/2"	50x3.0	FFCM64-CO-50x3.0-150-*-^	3.74 (1.70)	FFCM64-150-50MM-*	CO-50x3.0-150-*-^	ORV-4715	OR^-2-225
1-1/2"	50x5.0	FFCM64-CO-50x5.0-150-*-^	3.74 (1.70)	FFCM64-150-50MM-*	CO-50x5.0-150-*-^	ORV-4515	OR^-2-225
1-1/2”	50X6.0	FFCM64-CO-50X6.0-150-*-^	3.74 (1.70)	FFCM64-150-50MM-*	CO-50X6.0-150-*-^	ORV-4515	OR^-2-225
1-1/2”	56X8.5	FFCM64-CO-56X8.5-150-*-^	3.75 (1.70)	FFCM64-150-56MM-*	CO-56X8.5-150-*-^	ORV-4315	OR^-2-225
2”	50x3.0	FFCM64-CO-50x3.0-200-*-^	5.44 (2.47)	FFCM64-200-50MM-*	CO-50x3.0-200-*-^	ORV-4515	OR^-2-228
2”	50x5.0	FFCM64-CO-50x5.0-200-*-^	5.44 (2.47)	FFCM64-200-50MM-*	CO-50x5.0-200-*-^	ORV-4515	OR^-2-228
2”	50x6.0	FFCM64-CO-50x6.0-200-*-^	5.44 (2.47)	FFCM64-200-50MM-*	CO-50x6.0-200-*-^	ORV-4515	OR^-2-228
2”	60x3.0	FFCM64-CO-60x3.0-200-*-^	5.46 (2.48)	FFC64-200-*	CO-60x3.0-200-*-^	ORV-5715	OR^-2-228
2”	60x5.0	FFCM64-CO-60x5.0-200-*-^	5.46 (2.48)	FFC64-200-*	CO-60x5.0-200-*-^	ORV-5615	OR^-2-228
2”	60x6.0	FFCM64-CO-60x6.0-200-*-^	5.46 (2.48)	FFC64-200-*	CO-60x6.0-200-*-^	ORV-5615	OR^-2-228
2”	60X8.0	FFCM64-CO-60X8.0-200-*-^	5.46 (2.48)	FFC64-200-*	CO-60X8.0-200-*-^	ORV-5015	OR^-2-228
2”	66X8.5	FFCM64-CO-66X8.5-200-*-^	5.46 (2.48)	FFCM64-200-66MM-*	CO-66X8.5-200-*-^	ORV-5615	OR^-2-228

Ordering Example: FFCM64-CO-50x3.0-200-SS-V

* Insert Material

^ Insert O-Ring 2 Type

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

^ O-Ring 2 Type:

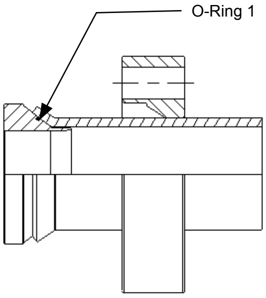
Standard, No Designation = Buna Nitrile.
V = Viton.

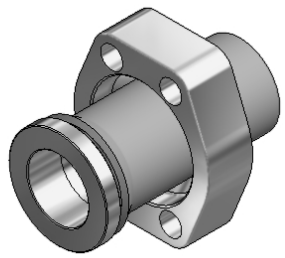
(2) Designates M14 Bolt - Special Order

SAE 6000 PSI Flare Flange Set

Flat Face with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page H1)

FFC64-CF - Flare Flange Set Flat Face with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	1/2” SCH40	FFC64-CF-SCH40-050-*	0.67 (0.30)	FFC64-050-*	CF-SCH40-050-*	ORV-1915
1/2"	1/2” SCH80	FFC64-CF-SCH80-050-*	0.66 (0.30)	FFC64-050-*	CF-SCH80-050-*	ORV-1715
3/4"	3/4” SCH40	FFC64-CF-SCH40-075-*	1.10 (0.50)	FFC64-075-*	CF-SCH40-075-*	ORV-2515
3/4"	3/4” SCH80	FFC64-CF-SCH80-075-*	1.08 (0.49)	FFC64-075-*	CF-SCH80-075-*	ORV-2315
1”	1” SCH40	FFC64-CF-SCH40-100-*	1.48 (0.67)	FFC64-100-*	CF-SCH40-100-*	ORV-3015
1”	1” SCH80	FFC64-CF-SCH80-100-*	1.47 (0.66)	FFC64-100-*	CF-SCH80-100-*	ORV-2815
1-1/4"	1-1/4” SCH40	FFC64-CF-SCH40-125-*	2.16 (0.98)	FFC64-125-*	CF-SCH40-125-*	ORV-3815
1-1/4"	1-1/4” SCH80	FFC64-CF-SCH80-125-*	2.14 (0.97)	FFC64-125-*	CF-SCH80-125-*	ORV-3815
1-1/4”	1-1/4” SCH160	FFC64-CF-SCH160-125-*	2.16 (0.98)	FFC64-125-*	CF-SCH160-125-*	ORV-3515
1-1/2"	1-1/2" SCH40	FFC64-CF-SCH40-150-*	3.75 (1.71)	FFC64-150-*	CF-SCH40-150-*	ORV-4315
1-1/2"	1-1/2" SCH80	FFC64-CF-SCH80-150-*	3.73 (1.70)	FFC64-150-*	CF-SCH80-150-*	ORV-4315
1-1/2"	1-1/2" SCH160	FFC64-CF-SCH160-150-*	3.73 (1.70)	FFC64-150-*	CF-SCH160-150-*	ORV-3815
2"	2” SCH40	FFC64-CF-SCH40-200-*	5.49 (2.50)	FFC64-200-*	CF-SCH40-200-*	ORV-5615
2"	2” SCH80	FFC64-CF-SCH80-200-*	5.48 (2.49)	FFC64-200-*	CF-SCH80-200-*	ORV-5515
2"	2” SCH160	FFC64-CF-SCH160-200-*	5.45 (2.48)	FFC64-200-*	CF-SCH160-200-*	ORV-5015

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

Ordering Example: FFC64-CF-SCH80-200-SS

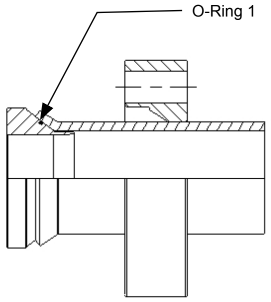
* Insert Material

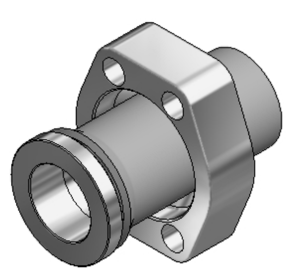
3D step models available upon request

SAE 6000 PSI Flare Flange Set

Flat Face with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page H1)

FFCM64-CF - Flare Flange Set Flat Face with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	20x2.0	FFCM64-CF-20x2.0-050-*	0.67 (0.30)	FFCM64-050-20MM-*	CF-20x2.0-050-*	ORV-1715
1/2"	20x3.0	FFCM64-CF-20x3.0-050-*	0.67 (0.30)	FFCM64-050-20MM-*	CF-20x3.0-050-*	ORV-1715
1/2"	25x2.5	FFCM64-CF-25x2.5-050-*	0.67 (0.30)	FFCM64-050-25MM-*	CF-25x2.5-050-*	ORV-2315
1/2"	25x3.0	FFCM64-CF-25x3.0-050-*	0.67 (0.30)	FFCM64-050-25MM-*	CF-25x3.0-050-*	ORV-2315
3/4”	20x2.0	FFCM64-CF-20x2.0-075-*	1.08 (0.49)	FFCM64-075-20MM-*	CF-20x2.0-075-*	ORV-1715
3/4”	20x2.5	FFCM64-CF-20x2.5-075-*	1.08 (0.49)	FFCM64-075-20MM-*	CF-20x2.5-075-*	ORV-1715
3/4"	20x3.0	FFCM64-CF-20x3.0-075-*	1.08 (0.49)	FFCM64-075-20MM-*	CF-20x3.0-075-*	ORV-1715
3/4”	25x2.5	FFCM64-CF-25x2.5-075-*	1.08 (0.49)	FFCM64-075-25MM-*	CF-25x2.5-075-*	ORV-2315
3/4”	25x3.0	FFCM64-CF-25x3.0-075-*	1.08 (0.49)	FFCM64-075-25MM-*	CF-25x3.0-075-*	ORV-2315
3/4”	25x4.0	FFCM64-CF-25x4.0-075-*	1.08 (0.49)	FFCM64-075-25MM-*	CF-25x4.0-075-*	ORV-2315
3/4”	30x3.0	FFCM64-CF-30x3.0-075-*	1.11 (0.50)	FFCM64-075-30MM-*	CF-30x3.0-075-*	ORV-2515
1”	25x2.5	FFCM64-CF-25x2.5-100-*	1.46 (0.66)	FFCM64-100-25MM-*	CF-25x2.5-100-*	ORV-2315
1”	25x3.0	FFCM64-CF-25x3.0-100-*	1.46 (0.66)	FFCM64-100-25MM-*	CF-25x3.0-100-*	ORV-2315
1”	25x4.0	FFCM64-CF-25x4.0-100-*	1.46 (0.66)	FFCM64-100-25MM-*	CF-25x4.0-100-*	ORV-2315
1”	30x3.0	FFCM64-CF-30x3.0-100-*	1.48 (0.67)	FFCM64-100-30MM-*	CF-30x3.0-100-*	ORV-2815
1”	30x4.0	FFCM64-CF-30x4.0-100-*	1.48 (0.67)	FFCM64-100-30MM-*	CF-30x4.0-100-*	ORV-2815
1”	30x5.0	FFCM64-CF-30x5.0-100-*	1.48 (0.67)	FFCM64-100-30MM-*	CF-30x5.0-100-*	ORV-2815
1”	38x4.0	FFCM64-CF-38x4.0-100-*	1.50 (0.68)	FFCM64-100-38MM-*	CF-38x4.0-100-*	ORV-3515
1”	38x5.0	FFCM64-CF-38x5.0-100-*	1.50 (0.68)	FFCM64-100-38MM-*	CF-38x5.0-100-*	ORV-3215
1-1/4"	30x3.0	FFCM64-CF-30x3.0-125-*	2.12 (0.96)	FFCM64-125-30MM-*	CF-30x3.0-125-*	ORV-2815
1-1/4"	30x4.0	FFCM64-CF-30x4.0-125-*	2.12 (0.96)	FFCM64-125-30MM-*	CF-30x4.0-125-*	ORV-2815
1-1/4"	30x5.0	FFCM64-CF-30x5.0-125-*	2.12 (0.96)	FFCM64-125-30MM-*	CF-30x5.0-125-*	ORV-2815
1-1/4"	38x4.0	FFCM64-CF-38x4.0-125-*	2.14 (0.97)	FFCM64-125-38MM-*	CF-38x4.0-125-*	ORV-3515
1-1/4"	38x5.0	FFCM64-CF-38x5.0-125-*	2.14 (0.97)	FFCM64-125-38MM-*	CF-38x5.0-125-*	ORV-3215
1-1/4"	42x3.0	FFCM64-CF-42x3.0-125-*	2.19 (1.00)	FFC64-125-*	CF-42x3.0-125-*	ORV-3815
1-1/4"	42x4.0	FFCM64-CF-42x4.0-125-*	2.19 (1.00)	FFC64-125-*	CF-42x4.0-125-*	ORV-3815

Ordering Example: FFCM64-CF-50x3.0-200-SS
* Insert Material

*** Materials:**

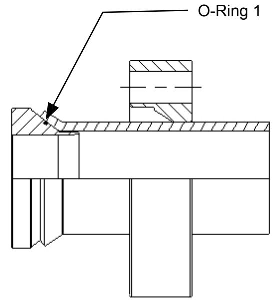
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

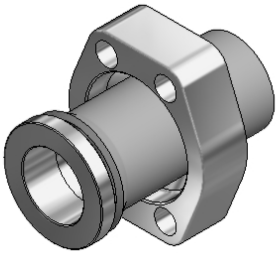
3D step models available upon request

SAE 6000 PSI Flare Flange Set

Flat Face with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:
- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page H1)

FFCM64-CF - Flare Flange Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/4" (2)	30x3.0	FFCM64-CF-30x3.0-125-M14-*	2.12 (0.96)	FFCM64-125-M14-30MM-*	CF-30x3.0-125-*	ORV-2815
1-1/4" (2)	30x4.0	FFCM64-CF-30x4.0-125-M14-*	2.12 (0.96)	FFCM64-125-M14-30MM-*	CF-30x4.0-125-*	ORV-2815
1-1/4" (2)	30x5.0	FFCM64-CF-30x5.0-125-M14-*	2.12 (0.96)	FFCM64-125-M14-30MM-*	CF-30x5.0-125-*	ORV-2815
1-1/4" (2)	38x4.0	FFCM64-CF-38x4.0-125-M14-*	2.14 (0.97)	FFCM64-125-M14-38MM-*	CF-38x4.0-125-*	ORV-3515
1-1/4" (2)	38x5.0	FFCM64-CF-38x5.0-125-M14-*	2.14 (0.97)	FFCM64-125-M14-38MM-*	CF-38x5.0-125-*	ORV-3215
1-1/4” (2)	42x3.0	FFCM64-CF-42x3.0-125-M-14-*	2.19 (1.00)	FFCM64-125-M14-42MM-*	CF-42x3.0-125-*	ORV-3815
1-1/4” (2)	42x4.0	FFCM64-CF-42x4.0-125-M14-*	2.19 (1.00)	FFCM64-125-M14-42MM-*	CF-42x4.0-125-*	ORV-3815
1-1/2"	30x3.0	FFCM64-CF-30x3.0-150-*	3.70 (1.68)	FFCM64-150-30MM-*	CF-30x3.0-150-*	ORV-2815
1-1/2"	38x4.0	FFCM64-CF-38x4.0-150-*	3.74 (1.70)	FFCM64-150-38MM-*	CF-38x4.0-150-*	ORV-3215
1-1/2"	42x3.0	FFCM64-CF-42x3.0-150-*	3.74 (1.70)	FFCM64-150-42MM-*	CF-42x3.0-150-*	ORV-3215
1-1/2"	42x4.0	FFCM64-CF-42x4.0-150-*	3.74 (1.70)	FFCM64-150-42MM-*	CF-42x4.0-150-*	ORV-3815
1-1/2"	50x3.0	FFCM64-CF-50x3.0-150-*	3.76 (1.71)	FFCM64-150-50MM-*	CF-50x3.0-150-*	ORV-3815
1-1/2"	50x5.0	FFCM64-CF-50x5.0-150-*	3.76 (1.71)	FFCM64-150-50MM-*	CF-50x5.0-150-*	ORV-4515
1-1/2”	50X6.0	FFCM64-CF-50X6.0-150-*	3.76 (1.71)	FFCM64-150-50MM-*	CF-50X6.0-150-*	ORV-4515
1-1/2”	56X8.5	FFCM64-CF-56X8.5-150-*	3.76 (1.71)	FFCM64-150-56MM-*	CF-56X8.5-150-*	ORV-4315
2”	50x3.0	FFCM64-CF-50x3.0-200-*	5.46 (2.48)	FFCM64-200-50MM-*	CF-50x3.0-200-*	ORV-4515
2”	50x5.0	FFCM64-CF-50x5.0-200-*	5.46 (2.48)	FFCM64-200-50MM-*	CF-50x5.0-200-*	ORV-4515
2”	50x6.0	FFCM64-CF-50x6.0-200-*	5.46 (2.48)	FFCM64-200-50MM-*	CF-50x6.0-200-*	ORV-4515
2”	60x3.0	FFCM64-CF-60x3.0-200-*	5.48 (2.49)	FFC64-200-*	CF-60x3.0-200-*	ORV-5715
2”	60x5.0	FFCM64-CF-60x5.0-200-*	5.48 (2.49)	FFC64-200-*	CF-60x5.0-200-*	ORV-5615
2”	60x6.0	FFCM64-CF-60x6.0-200-*	5.48 (2.49)	FFC64-200-*	CF-60x6.0-200-*	ORV-5615
2”	60X8.0	FFCM64-CF-60X8.0-200-*	5.48 (2.49)	FFC64-200-*	CF-60X8.0-200-*	ORV-5015
2”	66X8.5	FFCM64-CF-66X8.5-200-*	5.48 (2.49)	FFCM64-200-66MM-*	CF-66X8.5-200-*	ORV-5615

Ordering Example: FFCM64-CF-50x3.0-200-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

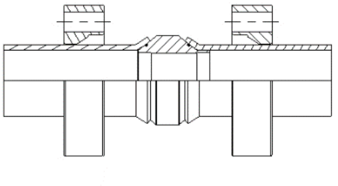
(2) Designates M14 Bolt - Special Order

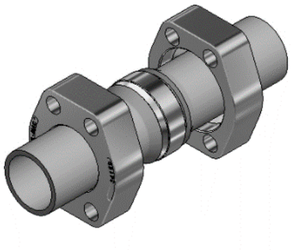
3D step models available upon request

SAE 6000 PSI Flare Flange Double Cone Union Set

with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Rings (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page H1)

FFC64-CD - Flare Flange Double Cone Union Set with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	1/2” SCH40	FFC64-CD-SCH40-050-*	1.32 (0.60)	FFC64-050-*	CD-SCH40-050-*	ORV-1915
1/2"	1/2” SCH80	FFC64-CD-SCH80-050-*	1.30 (0.59)	FFC64-050-*	CD-SCH80-050-*	ORV-1715
3/4"	3/4” SCH40	FFC64-CD-SCH40-075-*	2.19 (1.00)	FFC64-075-*	CD-SCH40-075-*	ORV-2515
3/4"	3/4” SCH80	FFC64-CD-SCH80-075-*	2.19 (1.00)	FFC64-075-*	CD-SCH80-075-*	ORV-2315
1”	1” SCH40	FFC64-CD-SCH40-100-*	2.95 (1.34)	FFC64-100-*	CD-SCH40-100-*	ORV-3015
1”	1” SCH80	FFC64-CD-SCH80-100-*	2.96 (1.35)	FFC64-100-*	CD-SCH80-100-*	ORV-2815
1-1/4"	1-1/4” SCH40	FFC64-CD-SCH40-125-*	4.27 (1.94)	FFC64-125-*	CD-SCH40-125-*	ORV-3815
1-1/4"	1-1/4” SCH80	FFC64-CD-SCH80-125-*	4.26 (1.94)	FFC64-125-*	CD-SCH80-125-*	ORV-3815
1-1/4”	1-1/4” SCH160	FFC64-CD-SCH160-125-*	4.27 (1.94)	FFC64-125-*	CD-SCH160-125-*	ORV-3515
1-1/2"	1-1/2" SCH40	FFC64-CD-SCH40-150-*	7.46 (3.39)	FFC64-150-*	CD-SCH40-150-*	ORV-4315
1-1/2"	1-1/2" SCH80	FFC64-CD-SCH80-150-*	7.48 (3.40)	FFC64-150-*	CD-SCH80-150-*	ORV-4315
1-1/2"	1-1/2" SCH160	FFC64-CD-SCH160-150-*	7.47 (3.40)	FFC64-150-*	CD-SCH160-150-*	ORV-3815
2"	2” SCH40	FFC64-CD-SCH40-200-*	10.94 (4.97)	FFC64-200-*	CD-SCH40-200-*	ORV-5615
2"	2” SCH80	FFC64-CD-SCH80-200-*	10.94 (4.97)	FFC64-200-*	CD-SCH80-200-*	ORV-5515
2"	2” SCH160	FFC64-CD-SCH160-200-*	11.31 (5.14)	FFC64-200-*	CD-SCH160-200-*	ORV-5015

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

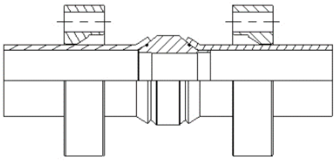
Ordering Example: FFC64-CD-SCH80-200-SS

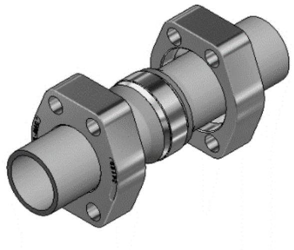
* Insert Material

SAE 6000 PSI Flare Flange Double Cone Union Set

with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:
- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Rings (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page H1)

FFCM64-CD - Flare Flange Double Cone Union Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1/2"	20x2.0	FFCM64-CD-20x2.0-050-*	1.33 (0.60)	FFCM64-050-20MM-*	CD-20x2.0-050-*	ORV-1715
1/2"	20x3.0	FFCM64-CD-20x3.0-050-*	1.33 (0.60)	FFCM64-050-20MM-*	CD-20x3.0-050-*	ORV-1715
1/2"	25x2.5	FFCM64-CD-25x2.5-050-*	1.33 (0.60)	FFCM64-050-25MM-*	CD-25x2.5-050-*	ORV-2315
1/2"	25x3.0	FFCM64-CD-25x3.0-050-*	1.33 (0.60)	FFCM64-050-25MM-*	CD-25x3.0-050-*	ORV-2315
3/4”	20x2.0	FFCM64-CD-20x2.0-075-*	2.15 (0.98)	FFCM64-075-20MM-*	CD-20x2.0-075-*	ORV-1715
3/4”	20x2.5	FFCM64-CD-20x2.5-075-*	2.15 (0.98)	FFCM64-075-20MM-*	CD-20x2.5-075-*	ORV-1715
3/4"	20x3.0	FFCM64-CD-20x3.0-075-*	2.15 (0.98)	FFCM64-075-20MM-*	CD-20x3.0-075-*	ORV-1715
3/4”	25x2.5	FFCM64-CD-25x2.5-075-*	2.15 (0.98)	FFCM64-075-25MM-*	CD-25x2.5-075-*	ORV-2315
3/4”	25x3.0	FFCM64-CD-25x3.0-075-*	2.15 (0.98)	FFCM64-075-25MM-*	CD-25x3.0-075-*	ORV-2315
3/4”	25x4.0	FFCM64-CD-25x4.0-075-*	2.15 (0.98)	FFCM64-075-25MM-*	CD-25x4.0-075-*	ORV-2315
3/4”	30x3.0	FFCM64-CD-30x3.0-075-*	2.19 (1.00)	FFCM64-075-30MM-*	CD-30x3.0-075-*	ORV-2515
1”	25x2.5	FFCM64-CD-25x2.5-100-*	2.89 (1.31)	FFCM64-100-25MM-*	CD-25x2.5-100-*	ORV-2315
1”	25x3.0	FFCM64-CD-25x3.0-100-*	2.89 (1.31)	FFCM64-100-25MM-*	CD-25x3.0-100-*	ORV-2315
1”	25x4.0	FFCM64-CD-25x4.0-100-*	2.89 (1.31)	FFCM64-100-25MM-*	CD-25x4.0-100-*	ORV-2315
1”	30x3.0	FFCM64-CD-30x3.0-100-*	2.93 (1.33)	FFCM64-100-30MM-*	CD-30x3.0-100-*	ORV-2815
1”	30x4.0	FFCM64-CD-30x4.0-100-*	2.93 (1.33)	FFCM64-100-30MM-*	CD-30x4.0-100-*	ORV-2815
1”	30x5.0	FFCM64-CD-30x5.0-100-*	2.93 (1.33)	FFCM64-100-30MM-*	CD-30x5.0-100-*	ORV-2815
1”	38x4.0	FFCM64-CD-38x4.0-100-*	2.97 (1.35)	FFCM64-100-38MM-*	CD-38x4.0-100-*	ORV-3515
1”	38x5.0	FFCM64-CD-38x5.0-100-*	2.97 (1.35)	FFCM64-100-38MM-*	CD-38x5.0-100-*	ORV-3215
1-1/4"	30x3.0	FFCM64-CD-30x3.0-125-*	4.21 (1.91)	FFCM64-125-30MM-*	CD-30x3.0-125-*	ORV-2815
1-1/4"	30x4.0	FFCM64-CD-30x4.0-125-*	4.21 (1.91)	FFCM64-125-30MM-*	CD-30x4.0-125-*	ORV-2815
1- 1/4"	30x5.0	FFCM64-CD-30x5.0-125-*	4.21 (1.91)	FFCM64-125-30MM-*	CD-30x5.0-125-*	ORV-2815
1-1/4"	38x4.0	FFCM64-CD-38x4.0-125-*	4.25 (1.93)	FFCM64-125-38MM-*	CD-38x4.0-125-*	ORV-3515
1-1/4"	38x5.0	FFCM64-CD-38x5.0-125-*	4.25 (1.93)	FFCM64-125-38MM-*	CD-38x5.0-125-*	ORV-3215
1-1/4"	42x3.0	FFCM64-CD-42x3.0-125-*	4.34 (1.97)	FFC64-125-*	CD-42x3.0-125-*	ORV-3815
1-1/4"	42x4.0	FFCM64-CD-42x4.0-125-*	4.34 (1.97)	FFC64-125-*	CD-42x4.0-125-*	ORV-3815

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

Ordering Example: FFCM64-CD-50x3.0-200-SS

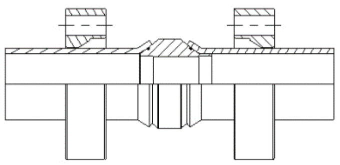
* Insert Material

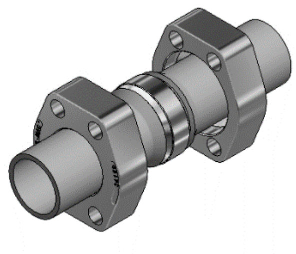
3D step models available upon request

Introduction
Technical Data
Pipe Selection Guide
16 bar, 90° Flare
ANSI 150#, 300# Flare
SAE 1000, 70 bar
SAE 3000, 210 bar
SAE 6000, 420 bar
SAE 10000, 690 bar
ISO 6164, 400 bar
ISO 6164, 400 bar F10° Flare
Clamp Supports - Heavy Series
Valves, Ball and Check

SAE 6000 PSI Flare Flange Double Cone Union Set
with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:
- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Rings (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page H1)

FFCM64-CD - Flare Flange Double Cone Union Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/4" (2)	30x3.0	FFCM64-CD-30x3.0-125-M14-*	4.21 (1.91)	FFCM64-125-M14-30MM-*	CD-30x3.0-125-*	ORV-2815
1-1/4” (2)	30x4.0	FFCM64-CD-30x4.0-125-M14-*	4.21 (1.91)	FFCM64-125-M14-30MM-*	CD-30x4.0-125-*	ORV-2815
1-1/4” (2)	30x5.0	FFCM64-CD-30x5.0-125-M14-*	4.21 (1.91)	FFCM64-125-M14-30MM-*	CD-30x5.0-125-*	ORV-2815
1-1/4” (2)	38x4.0	FFCM64-CD-38x4.0-125-M14-*	4.25 (1.93)	FFCM64-125-M14-38MM-*	CD-38x4.0-125-*	ORV-3515
1-1/4” (2)	38x5.0	FFCM64-CD-38x5.0-125-M14-*	4.25 (1.93)	FFCM64-125-M14-38MM-*	CD-38x5.0-125-*	ORV-3215
1-1/4” (2)	42x3.0	FFCM64-CD-42x3.0-125-M14-*	4.34 (1.97)	FFCM64-125-M14-42MM-*	CD-42x3.0-125-*	ORV-3815
1-1/4” (2)	42x4.0	FFCM64-CD-42x4.0-125-M14-*	4.34 (1.97)	FFCM64-125-M14-42MM-*	CD-42x4.0-125-*	ORV-3815
1-1/2"	30x3.0	FFCM64-CD-30x3.0-150-*	7.36 (3.35)	FFCM64-150-30MM-*	CD-30x3.0-150-*	ORV-2815
1-1/2"	38x4.0	FFCM64-CD-38x4.0-150-*	7.42 (3.37)	FFCM64-150-38MM-*	CD-38x4.0-150-*	ORV-3215
1-1/2"	42x3.0	FFCM64-CD-42x3.0-150-*	7.42 (3.37)	FFCM64-150-42MM-*	CD-42x3.0-150-*	ORV-3815
1-1/2"	42x4.0	FFCM64-CD-42x4.0-150-*	7.42 (3.37)	FFCM64-150-42MM-*	CD-42x4.0-150-*	ORV-3815
1-1/2"	50x3.0	FFCM64-CD-50x3.0-150-*	7.45 (3.39)	FFCM64-150-50MM-*	CD-50x3.0-150-*	ORV-4715
1-1/2"	50x5.0	FFCM64-CD-50x5.0-150-*	7.45 (3.39)	FFCM64-150-50MM-*	CD-50x5.0-150-*	ORV-4515
1-1/2”	50X6.0	FFCM64-CD-50X6.0-150-*	7.45 (3.39)	FFCM64-150-50MM-*	CD-50X6.0-150-*	ORV-4515
1-1/2”	56X8.5	FFCM64-CD-56X8.5-150-*	7.45 (3.39)	FFCM64-150-56MM-*	CD-56X8.5-150-*	ORV-4315
2”	50x3.0	FFCM64-CD-50x3.0-200-*	10.85 (4.93)	FFCM64-200-50MM-*	CD-50x3.0-200-*	ORV-4515
2”	50x5.0	FFCM64-CD-50x5.0-200-*	10.85 (4.93)	FFCM64-200-50MM-*	CD-50x5.0-200-*	ORV-4515
2”	50x6.0	FFCM64-CD-50x6.0-200-*	10.85 (4.93)	FFCM64-200-50MM-*	CD-50x6.0-200-*	ORV-4515
2”	60x3.0	FFCM64-CD-60x3.0-200-*	10.89 (4.95)	FFC64-200-*	CD-60x3.0-200-*	ORV-5715
2”	60x5.0	FFCM64-CD-60x5.0-200-*	10.89 (4.95)	FFC64-200-*	CD-60x5.0-200-*	ORV-5615
2”	60x6.0	FFCM64-CD-60x6.0-200-*	10.89 (4.95)	FFC64-200-*	CD-60x6.0-200-*	ORV-5615
2”	60X8.0	FFCM64-CD-60X6.0-200-*	10.89 (4.95)	FFC64-200-*	CD-60X8.0-200-*	ORV-5015
2”	66X8.5	FFCM64-CD-66X8.5-200-*	1089 (4.95)	FFCM64-200-66MM-*	CD-66X8.5-200-*	ORV-5615

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

(2) Designates M14 Bolt - Special Order

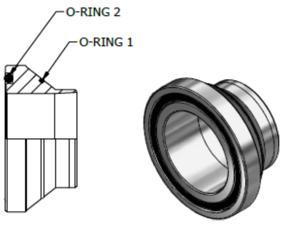
Ordering Example: FFCM64-CD-50x3.0-200-SS
* Insert Material

3D step models available upon request

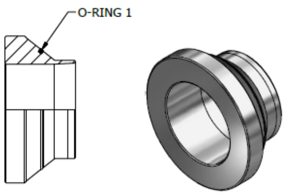
SAE 6000 PSI Cone Inserts

for Flare Flange Connections, NPS

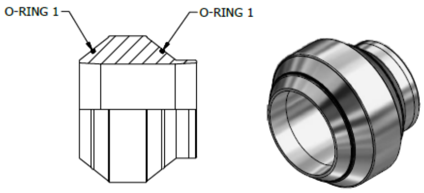
SAE J518 Code 62 (ISO 6162-2)



TYPE CO



TYPE CF



TYPE CD

CO, CF and CD - Cone Inserts for Flare Flange Connections, NPS

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	WT lbs (kg)	Double Cone Insert Part Number (Type CD)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	1/2” SCH40	CO-SCH40-050-*-^	0.10 (0.50)	CF-SCH40-050-*	0.11 (0.05)	CD-SCH40-050-*	0.20 (0.09)	ORV-1915	OR^-2-210
1/2"	1/2” SCH80	CO-SCH80-050-*-^	0.09 (0.04)	CF-SCH80-050-*	0.10 (0.05)	CD-SCH80-050-*	0.18 (0.08)	ORV-1715	OR^-2-210
3/4"	3/4” SCH40	CO-SCH40-075-*-^	0.12 (0.05)	CF-SCH40-075-*	0.14 (0.06)	CD-SCH40-075-*	0.25 (0.11)	ORV-2515	OR^-2-214
3/4"	3/4” SCH80	CO-SCH80-075-*-^	0.12 (0.05)	CF-SCH80-075-*	0.14 (0.06)	CD-SCH80-075-*	0.25 (0.11)	ORV-2315	OR^-2-214
1”	1” SCH40	CO-SCH40-100-*-^	0.20 (0.09)	CF-SCH40-100-*	0.23 (0.10)	CD-SCH40-100-*	0.41 (0.19)	ORV-3015	OR^-2-219
1”	1” SCH80	CO-SCH80-100-*-^	0.21 (0.10)	CF-SCH80-100-*	0.23 (0.10)	CD-SCH80-100-*	0.42 (0.19)	ORV-2815	OR^-2-219
1-1/4"	1-1/4” SCH40	CO-SCH40-125-*-^	0.25 (0.11)	CF-SCH40-125-*	0.27 (0.12)	CD-SCH40-125-*	0.49 (0.22)	ORV-3815	OR^-2-222
1-1/4"	1-1/4” SCH80	CO-SCH80-125-*-^	0.24 (0.11)	CF-SCH80-125-*	0.27 (0.12)	CD-SCH80-125-*	0.48 (0.22)	ORV-3815	OR^-2-222
1-1/4”	1-1/4” SCH160	CO-SCH160-125-*-^	0.25 (0.11)	CF-SCH160-125-*	0.28 (0.12)	CD-SCH160-125-*	0.49 (0.22)	ORV-3515	OR^-2-222
1-1/2"	1-1/2" SCH40	CO-SCH40-150-*-^	0.41 (0.19)	CF-SCH40-150-*	0.45 (0.20)	CD-SCH40-150-*	0.82 (0.37)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	CO-SCH80-150-*-^	0.42 (0.19)	CF-SCH80-150-*	0.46 (0.21)	CD-SCH80-150-*	0.84 (0.38)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH160	CO-SCH160-150-*-^	0.42 (0.19)	CF-SCH160-150-*	0.45 (0.20)	CD-SCH160-150-*	0.83 (0.37)	ORV-3815	OR^-2-225
2"	2” SCH40	CO-SCH40-200-*-^	0.47 (0.21)	CF-SCH40-200-*	0.52 (0.24)	CD-SCH40-200-*	0.94 (0.43)	ORV-5615	OR^-2-228
2"	2” SCH80	CO-SCH80-200-*-^	0.49 (0.22)	CF-SCH80-200-*	0.53 (0.24)	CD-SCH80-200-*	0.97 (0.44)	ORV-5515	OR^-2-228
2"	2” SCH160	CO-SCH160-200-*-^	0.67 (0.30)	CF-SCH160-200-*	0.71 (0.32)	CD-SCH160-200-*	1.31 (0.59)	ORV-5015	OR^-2-228

* Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

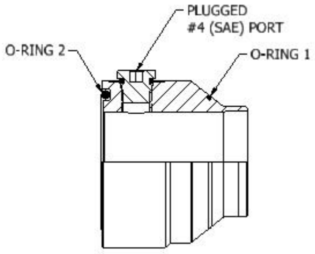
Ordering Example: CO-SCH80-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

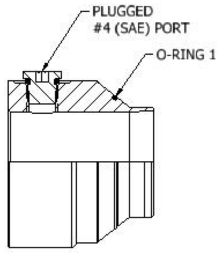
3D step models available upon request

SAE 6000 PSI Cone Inserts with Pilot Port

for Flare Flange Connections, NPS

SAE J518 Code 61 (ISO 6162-2)





COP and CFP - Cone Inserts with Pilot Port for Flare Flange Connections, NPS

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COP)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CFP)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	1/2" SCH40	COP-SCH40-050-*-^	0.40 (0.18)	CFP-SCH40-050-*	0.40 (0.18)	ORV-1915	OR^-2-210
1/2"	1/2" SCH80	COP-SCH80-050-*-^	0.40 (0.18)	CFP-SCH80-050-*	0.40 (0.18)	ORV-1715	OR^-2-210
3/4"	3/4" SCH40	COP-SCH40-075-*-^	0.62(0.28)	CFP-SCH40-075-*	0.62(0.28)	ORV-2515	OR^-2-214
3/4"	3/4" SCH80	COP-SCH80-075-*-^	0.62 (0.28)	CFP-SCH80-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
1"	1" SCH40	COP-SCH40-100-*-^	0.77 (0.35)	CFP-SCH40-100-*	0.77 (0.35)	ORV-3015	OR^-2-219
1"	1" SCH80	COP-SCH80-100-*-^	0.77 (0.35)	CFP-SCH80-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1-1/4"	1-1/4" SCH40	COP-SCH40-125-*-^	0.93 (0.42)	CFP-SCH40-125-*	0.93 (0.42)	ORV-3815	OR^-2-222
1-1/4"	1-1/4" SCH80	COP-SCH80-125-*-^	0.93 (0.42)	CFP-SCH80-125-*	0.93 (0.42)	ORV-3815	OR^-2-222
1-1/4"	1-1/4" SCH160	COP-SCH160-125-*-^	0.93 (0.42)	CFP-SCH160-125-*	0.93 (0.42)	ORV-3515	OR^-2-222
1-1/2"	1-1/2" SCH40	COP-SCH40-150-*-^	1.31 (0.59)	CFP-SCH40-150-*	1.31 (0.59)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH80	COP-SCH80-150-*-^	1.31 (0.59)	CFP-SCH80-150-*	1.31 (0.59)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH160	COP-SCH160-150-*-^	1.20 (0.54)	CFP-SCH160-150-*	1.20 (0.54)	ORV-3815	OR^-2-225
2"	2" SCH40	COP-SCH40-200-*-^	1.70 (0.77)	CFP-SCH40-200-*	1.70 (0.77)	ORV-5615	OR^-2-228
2"	2" SCH80	COP-SCH80-200-*-^	1.70 (0.77)	CFP-SCH80-200-*	1.70 (0.77)	ORV-5515	OR^-2-228
2"	2" SCH160	COP-SCH160-200-*-^	1.64 (0.74)	CFP-SCH160-200-*	1.64 (0.74)	ORV-5015	OR^-2-228

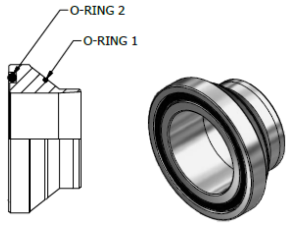
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

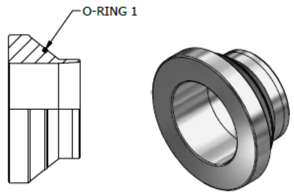
Ordering Example: COP-SCH80-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

SAE 6000 PSI Cone Inserts
for Flare Flange Connections, Metric

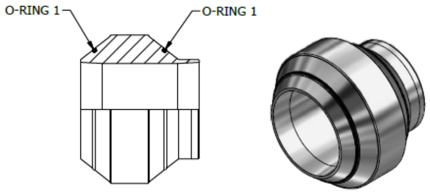
SAE J518 Code 62 (ISO 6162-2)



TYPE CO



TYPE CF



TYPE CD

CO, CF and CD - Cone Inserts for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	WT lbs (kg)	Double Cone Insert Part Number (Type CD)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	20x2.0	CO-20x2.0-050-*-^	0.11 (0.05)	CF-20x2.0-050-*	0.11 (0.05)	CD-20x2.0-050-*	0.21 (0.10)	ORV-1715	OR^-2-210
1/2"	20x3.0	CO-20x3.0-050-*-^	0.11 (0.05)	CF-20x3.0-050-*	0.11 (0.05)	CD-20x3.0-050-*	0.21 (0.10)	ORV-1715	OR^-2-210
1/2"	25x2.5	CO-25x2.5-050-*-^	0.11 (0.05)	CF-25x2.5-050-*	0.11 (0.05)	CD-25x2.5-050-*	0.21 (0.10)	ORV-2315	OR^-2-210
1/2"	25x3.0	CO-25x3.0-050-*-^	0.11 (0.05)	CF-25x3.0-050-*	0.11 (0.05)	CD-25x3.0-050-*	0.21 (0.10)	ORV-2315	OR^-2-210
3/4”	20x2.0	CO-20x2.0-075-*-^	0.11 (0.05)	CF-20x2.0-075-*	0.11 (0.05)	CD-20x2.0-075-*	0.21 (0.10)	ORV-1715	OR^-2-214
3/4”	20x2.5	CO-20x2.5-075-*-^	0.11 (0.05)	CF-20x2.5-075-*	0.11 (0.05)	CD-20x2.5-075-*	0.21 (0.10)	ORV-1715	OR^-2-214
3/4"	20x3.0	CO-20x3.0-075-*-^	0.11 (0.05)	CF-20x3.0-075-*	0.11 (0.05)	CD-20x3.0-075-*	0.21 (0.10)	ORV-1715	OR^-2-214
3/4”	25x2.5	CO-25x2.5-075-*-^	0.11 (0.05)	CF-25x2.5-075-*	0.11 (0.05)	CD-25x2.5-075-*	0.21 (0.10)	ORV-2315	OR^-2-214
3/4”	25x3.0	CO-25x3.0-075-*-^	0.11 (0.05)	CF-25x3.0-075-*	0.11 (0.05)	CD-25x3.0-075-*	0.21 (0.10)	ORV-2315	OR^-2-214
3/4”	25x4.0	CO-25x4.0-075-*-^	0.11 (0.05)	CF-25x4.0-075-*	0.11 (0.05)	CD-25x4.0-075-*	0.21 (0.10)	ORV-2315	OR^-2-214
3/4”	30x3.0	CO-30x3.0-075-*-^	0.13 (0.06)	CF-30x3.0-075-*	0.14 (0.06)	CD-30x3.0-075-*	0.25 (0.11)	ORV-2315	OR^-2-214
1”	25x2.5	CO-25x2.5-100-*-^	0.18 (0.08)	CF-25x2.5-100-*	0.19 (0.08)	CD-25x2.5-100-*	0.35 (0.16)	ORV-2315	OR^-2-219
1”	25x3.0	CO-25x3.0-100-*-^	0.18 (0.08)	CF-25x3.0-100-*	0.19 (0.08)	CD-25x3.0-100-*	0.35 (0.16)	ORV-2315	OR^-2-219
1”	25x4.0	CO-25x4.0-100-*-^	0.18 (0.08)	CF-25x4.0-100-*	0.19 (0.08)	CD-25x4.0-100-*	0.35 (0.16)	ORV-2315	OR^-2-219
1”	30x3.0	CO-30x3.0-100-*-^	0.20 (0.09)	CF-30x3.0-100-*	0.21 (0.09)	CD-30x3.0-100-*	0.39 (0.18)	ORV-2815	OR^-2-219
1”	30x4.0	CO-30x4.0-100-*-^	0.20 (0.09)	CF-30x4.0-100-*	0.21 (0.09)	CD-30x4.0-100-*	0.39 (0.18)	ORV-2815	OR^-2-219
1”	30x5.0	CO-30x5.0-100-*-^	0.20 (0.09)	CF-30x5.0-100-*	0.21 (0.09)	CD-30x5.0-100-*	0.39 (0.18)	ORV-2815	OR^-2-219
1”	38x4.0	CO-38x4.0-100-*-^	0.22 (0.10)	CF-38x4.0-100-*	0.23 (0.10)	CD-38x4.0-100-*	0.43 (0.19)	ORV-3015	OR^-2-219
1”	38x5.0	CO-38x5.0-100-*-^	0.22 (0.10)	CF-38x5.0-100-*	0.23 (0.10)	CD-38x5.0-100-*	0.43 (0.19)	ORV-3215	OR^-2-219

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

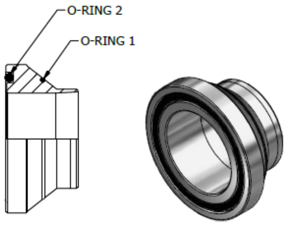
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: CO-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

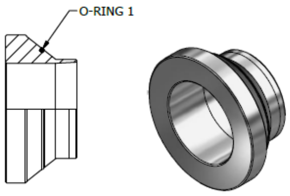
3D step models available upon request

SAE 6000 PSI Cone Inserts
for Flare Flange Connections, Metric

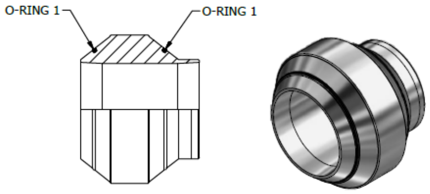
SAE J518 Code 62 (ISO 6162-2)



TYPE CO



TYPE CF



TYPE CD

CO, CF and CD - Cone Inserts for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	WT lbs (kg)	Double Cone Insert Part Number (Type CD)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/4"	30x3.0	CO-30x3.0-125-*-^	0.22 (0.10)	CF-30x3.0-125-*	0.23 (0.10)	CD-30x3.0-125-*	0.43 (0.19)	ORV-2815	OR^-2-222
1-1/4"	30x4.0	CO-30x4.0-125-*-^	0.22 (0.10)	CF-30x4.0-125-*	0.23 (0.10)	CD-30x4.0-125-*	0.43 (0.19)	ORV-2815	OR^-2-222
1-1/4"	30x5.0	CO-30x5.0-125-*-^	0.22 (0.10)	CF-30x5.0-125-*	0.23 (0.10)	CD-30x5.0-125-*	0.43 (0.19)	ORV-2815	OR^-2-222
1-1/4"	38x4.0	CO-38x4.0-125-*-^	0.24 (0.11)	CF-38x4.0-125-*	0.25 (0.11)	CD-38x4.0-125-*	0.47 (0.21)	ORV-3515	OR^-2-222
1-1/4"	38x5.0	CO-38x5.0-125-*-^	0.24 (0.11)	CF-38x5.0-125-*	0.25 (0.11)	CD-38x5.0-125-*	0.47 (0.21)	ORV-3215	OR^-2-222
1-1/4"	42x3.0	CO-42x3.0-125-*-^	0.29 (0.13)	CF-42x3.0-125-*	0.30 (0.14)	CD-42x3.0-125-*	0.56 (0.25)	ORV-3815	OR^-2-222
1-1/4"	42x4.0	CO-42x4.0-125-*-^	0.29 (0.13)	CF-42x4.0-125-*	0.30 (0.14)	CD-42x4.0-125-*	0.56 (0.25)	ORV-3815	OR^-2-222
1-1/2"	30x3.0	CO-30x3.0-150-*-^	0.37 (0.17)	CF-30x3.0-150-*	0.38 (0.17)	CD-30x3.0-150-*	0.72 (0.33)	ORV-2815	OR^-2-225
1-1/2"	38x4.0	CO-38x4.0-150-*-^	0.40 (0.18)	CF-38x4.0-150-*	0.42 (0.19)	CD-38x4.0-150-*	0.78 (0.35)	ORV-3215	OR^-2-225
1-1/2"	38x5.0	CO-38x5.0-150-*-^	0.40 (0.18)	CF-38x5.0-150-*	0.42 (0.19)	CD-38x5.0-150-*	0.78 (0.35)	ORV-3215	OR^-2-225
1-1/2"	42x3.0	CO-42x3.0-150-*-^	0.40 (0.18)	CF-42x3.0-150-*	0.42 (0.19)	CD-42x3.0-150-*	0.78 (0.35)	ORV-3815	OR^-2-225
1-1/2"	42x4.0	CO-42x4.0-150-*-^	0.40 (0.18)	CF-42x4.0-150-*	0.42 (0.19)	CD-42x4.0-150-*	0.78 (0.35)	ORV-3815	OR^-2-225
1-1/2"	50x3.0	CO-50x3.0-150-*-^	0.42 (0.19)	CF-50x3.0-150-*	0.44 (0.20)	CD-50x3.0-150-*	0.81 (0.37)	ORV-4715	OR^-2-225
1-1/2"	50x5.0	CO-50x5.0-150-*-^	0.42 (0.19)	CF-50x5.0-150-*	0.44 (0.20)	CD-50x5.0-150-*	0.81 (0.37)	ORV-4515	OR^-2-225
1-1/2”	50X6.0	CO-50X6.0-150-*-^	0.42 (0.19)	CF-50X6.0-150-*	0.44 (0.20)	CD-50X6.0-150-*	0.81 (0.37)	ORV-4515	OR^-2-225
1-1/2”	56X8.5	CO-56X8.5-150-*-^	0.42 (0.19)	CF-56X8.5-150-*	0.44 (0.20)	CD-56X8.5-150-*	0.81 (0.37)	ORV-4315	OR^-2-225
2”	50x3.0	CO-50x3.0-200-*-^	0.44 (0.20)	CF-50x3.0-200-*	0.46 (0.21)	CD-50x3.0-200-*	0.85 (0.39)	ORV-4515	OR^-2-228
2”	50x5.0	CO-50x5.0-200-*-^	0.44 (0.20)	CF-50x5.0-200-*	0.46 (0.21)	CD-50x5.0-200-*	0.85 (0.39)	ORV-4515	OR^-2-228
2”	50x6.0	CO-50x6.0-200-*-^	0.44 (0.20)	CF-50x6.0-200-*	0.46 (0.21)	CD-50x6.0-200-*	0.85 (0.39)	ORV-4515	OR^-2-228
2”	60x3.0	CO-60x3.0-200-*-^	0.46 (0.21)	CF-60x3.0-200-*	0.48 (0.22)	CD-60x3.0-200-*	0.89 (0.40)	ORV-5715	OR^-2-228
2”	60x5.0	CO-60x5.0-200-*-^	0.46 (0.21)	CF-60x5.0-200-*	0.48 (0.22)	CD-60x5.0-200-*	0.89 (0.40)	ORV-5615	OR^-2-228
2”	60x6.0	CO-60x6.0-200-*-^	0.46 (0.21)	CF-60x6.0-200-*	0.48 (0.22)	CD-60x6.0-200-*	0.89 (0.40)	ORV-5615	OR^-2-228
2”	60X8.0	CO-60X8.0-200-*-^	0.46 (0.21)	CF-60X8.0-200-*	0.48 (0.22)	CD-60X8.0-200-*	0.89 (0.40)	ORV-5015	OR^-2-228
2”	66X8.5	CO-66X8.5-200-*-^	0.46 (0.21)	CF-66X8.5-200-*	0.48 (0.22)	CD-66X8.5-200-*	0.89 (0.40)	ORV-5615	OR^-2-228

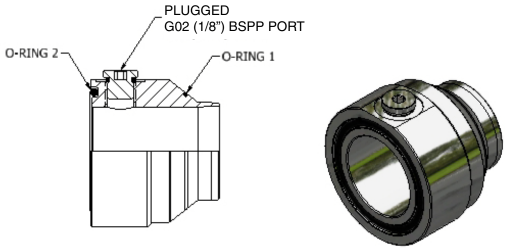
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

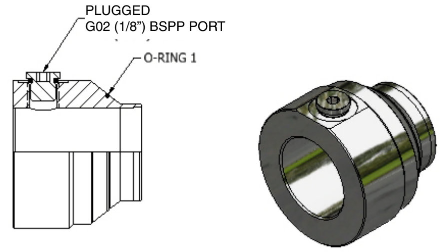
Ordering Example: CO-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

SAE 6000 PSI Cone Inserts with Pilot Port
for Flare Flange Connections, Metric

SAE J518 Code 62 (ISO 6162-2)



TYPE COP



TYPE CFP

COP and CFP - Cone Inserts with Pilot Port for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COP)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CFP)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1/2"	20x2.0	COP-20x2.0-050-*-^	0.40 (0.18)	CFP-20x2.0-050-*	0.40 (0.18)	ORV-1715	OR^-2-210
1/2"	20x3.0	COP-20x3.0-050-*-^	0.40 (0.18)	CFP-20x3.0-050-*	0.40 (0.18)	ORV-1715	OR^-2-210
1/2"	25x2.5	COP-25x2.5-050-*-^	0.51 (0.23)	CFP-25x2.5-050-*	0.51 (0.23)	ORV-2315	OR^-2-210
1/2"	25x3.0	COP-25x3.0-050-*-^	0.51 (0.23)	CFP-25x3.0-050-*	0.51 (0.23)	ORV-2315	OR^-2-210
3/4"	20x2.0	COP-20x2.0-075-*-^	0.55 (0.25)	CFP-20x2.0-075-*	0.55 (0.25)	ORV-1715	OR^-2-214
3/4"	20x2.5	COP-20x2.5-075-*-^	0.55 (0.25)	CFP-20x2.5-075-*	0.55 (0.25)	ORV-1715	OR^-2-214
3/4"	20x3.0	COP-20x3.0-075-*-^	0.55 (0.25)	CFP-20x3.0-075-*	0.55 (0.25)	ORV-1715	OR^-2-214
3/4"	25x2.5	COP-25x2.5-075-*-^	0.62 (0.28)	CFP-25x2.5-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
3/4"	25x3.0	COP-25x3.0-075-*-^	0.62 (0.28)	CFP-25x3.0-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
3/4"	25x4.0	COP-25x4.0-075-*-^	0.62 (0.28)	CFP-25x4.0-075-*	0.62 (0.28)	ORV-2315	OR^-2-214
3/4"	30x3.0	COP-30x3.0-075-*-^	0.68 (0.31)	CFP-30x3.0-075-*	0.68 (0.31)	ORV-2515	OR^-2-214
1"	25x2.5	COP-25x2.5-100-*-^	0.70 (0.32)	CFP-25x2.5-100-*	0.70 (0.32)	ORV-2315	OR^-2-219
1"	25x3.0	COP-25x3.0-100-*-^	0.70 (0.32)	CFP-25x3.0-100-*	0.70 (0.32)	ORV-2815	OR^-2-219
1"	25x4.0	COP-25x4.0-100-*-^	0.70 (0.32)	CFP-25x4.0-100-*	0.70 (0.32)	ORV-2315	OR^-2-219
1"	30x3.0	COP-30x3.0-100-*-^	0.77 (0.35)	CFP-30x3.0-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1"	30x4.0	COP-30x4.0-100-*-^	0.77 (0.35)	CFP-30x4.0-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1"	30x5.0	COP-30x5.0-100-*-^	0.77 (0.35)	CFP-30x5.0-100-*	0.77 (0.35)	ORV-2815	OR^-2-219
1"	38x4.0	COP-38x4.0-100-*-^	0.81 (0.37)	CFP-38x4.0-100-*	0.81 (0.37)	ORV-3515	OR^-2-219
1"	38x5.0	COP-38x5.0-100-*-^	0.79 (0.36)	CFP-38x5.0-100-*	0.79 (0.36)	ORV-3215	OR^-2-219
1-1/4"	30x3.0	COP-30x3.0-125-*-^	0.82 (0.37)	CFP-30x3.0-125-*	0.82 (0.37)	ORV-2815	OR^-2-222
1-1/4"	30x4.0	COP-30x4.0-125-*-^	0.82 (0.37)	CFP-30x4.0-125-*	0.82 (0.37)	ORV-2815	OR^-2-222
1-1/4"	30x5.0	COP-30x5.0-125-*-^	0.82 (0.37)	CFP-30x5.0-125-*	0.82 (0.37)	ORV-2815	OR^-2-222
1-1/4"	38x4.0	COP-38x4.0-125-*-^	0.86 (0.39)	CFP-38x4.0-125-*	0.86 (0.39)	ORV-3515	OR^-2-222
1-1/4"	38x5.0	COP-38x5.0-125-*-^	0.86 (0.39)	CFP-38x5.0-125-*	0.86 (0.39)	ORV-3215	OR^-2-222
1-1/4"	42x3.0	COP-42x3.0-125-*-^	0.93 (0.42)	CFP-42x3.0-125-*	0.93 (0.42)	ORV-3815	OR^-2-222
-1/4"	42x4.0	COP-42x4.0-125-*-^	0.93 (0.42)	CFP-42x4.0-125-*	0.93 (0.42)	ORV-3815	OR^-2-222

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

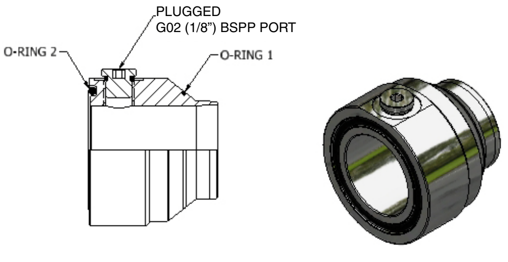
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: COP-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

SAE 6000 PSI Cone Inserts with Pilot Port
for Flare Flange Connections, Metric

SAE J518 Code 62 (ISO 6162-2)



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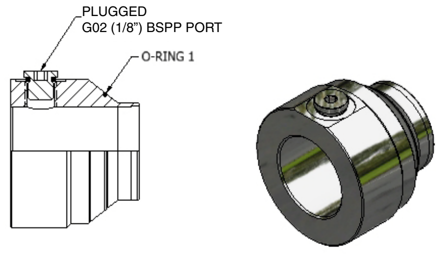


TYPE CFP

COP and CFP - Cone Inserts with Pilot Port for Flare Flange Connections, Metric							
Size	**Pipe Size**	**O-Ring Face Cone Insert Part Number (Type COP)**	**WT lbs (kg)**	**Flat Face Cone Insert Part Number (Type CFP)**	**WT lbs (kg)**	**O-Ring 1 (VITON) Part Number**	**O-Ring 2 (Buna) Part Number**
1-1/2"	30x3.0	COP-30x3.0-150-*-^	1.02 (0.46)	CFP-30x3.0-150-*	1.02 (0.46)	ORV-2815	OR^-2-225
1-1/2"	38x4.0	COP-38x4.0-150-*-^	1.02 (0.46)	CFP-38x4.0-150-*	1.02 (0.46)	ORV-3215	OR^-2-225
1-1/2"	42x3.0	COP-42x3.0-150-*-^	1.21 (0.55)	CFP-42x3.0-150-*	1.21 (0.55)	ORV-3815	OR^-2-225
1-1/2"	42x4.0	COP-42x4.0-150-*-^	1.21 (0.55)	CFP-42x4.0-150-*	1.21 (0.55)	ORV-3815	OR^-2-225
1-1/2"	50x3.0	COP-50x3.0-150-*-^	1.31 (0.59)	CFP-50x3.0-150-*	1.31 (0.59)	ORV-4715	OR^-2-225
1-1/2"	50x5.0	COP-50x5.0-150-*-^	1.31 (0.59)	CFP-50x5.0-150-*	1.31 (0.59)	ORV-4515	OR^-2-225
1-1/2"	50x6.0	COP-50x6.0-150-*-^	1.28 (0.58)	CFP-50x6.0-150-*	1.28 (0.58)	ORV-4515	OR^-2-225
1-1/2”	56X8.5	COP-56X8.5-150-*-^	1.28 (0.58)	CFP-56X8.5-150-*	1.28 (0.58)	ORV-4315	OR^-2-225
2”	50x3.0	COP-50x3.0-200-*-^	1.58 (0.72)	CFP-50x3.0-200-*	1.58 (0.72)	ORV-4515	OR^-2-228
2”	50x5.0	COP-50x5.0-200-*-^	1.58 (0.72)	CFP-50x5.0-200-*	1.58 (0.72)	ORV-4515	OR^-2-228
2”	50x6.0	COP-50x6.0-200-*-^	1.55 (0.70)	CFP-50x6.0-200-*	1.55 (0.70)	ORV-4515	OR^-2-228
2”	60x3.0	COP-60x3.0-200-*-^	1.70 (0.77)	CFP-60x3.0-200-*	1.70 (0.77)	ORV-5715	OR^-2-228
2”	60x5.0	COP-60x5.0-200-*-^	1.70 (0.77)	CFP-60x5.0-200-*	1.70 (0.77)	ORV-5615	OR^-2-228
2”	60x6.0	COP-60x6.0-200-*-^	1.62 (0.73)	CFP-60x6.0-200-*	1.62 (0.73)	ORV-5615	OR^-2-228
2”	60X8.0	COP-60X8.0-200-*-^	1.62 (0.73)	CFP-60X8.0-200-*	1.62 (0.73)	ORV-5015	OR^-2-228
2”	66X8.5	COP-66X8.5-200-*-^	1.62 (0.73)	CFP-66X8.5-200-*	1.62 (0.73)	ORV-5615	OR^-2-228

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

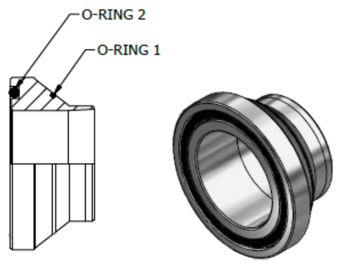
<u>^ O-Ring 2 Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: COP-50x3.0-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

3D step models available upon request

SAE 6000 PSI Cone Inserts Reducer
for Flare Flange Connections with O-Ring Face, NPS

SAE J518 Code 62 (ISO 6162-2)



TYPE COR

COR - Cone Inserts Reducer for Flare Flange Connections with O Ring Face, NPS

Flange Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type COR)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
3/4"	1/2" SCH40	COR-SCH40-075x050-*-^	0.15 (0.07)	ORV-1715	OR^-2-214
3/4"	1/2" SCH80	COR-SCH80-075x050-*-^	0.16 (0.07)	ORV-1715	OR^-2-214
1”	3/4" SCH40	COR-SCH40-100x075-*-^	0.25 (0.11)	ORV-2315	OR^-2-219
1”	3/4" SCH80	COR-SCH80-100x075-*-^	0.27 (0.12)	ORV-2315	OR^-2-219
1-1/4”	1” SCH40	COR-SCH40-125x100-*-^	0.34 (0.15)	ORV-2815	OR^-2-222
1-1/4"	1” SCH80	COR-SCH80-125x100-*-^	0.37 (0.17)	ORV-2815	OR^-2-222
1-1/2"	1 1/4” SCH40	COR-SCH40-150x125-*-^	0.51 (0.23)	ORV-3815	OR^-2-225
1-1/2"	1 1/4” SCH80	COR-SCH80-150x125-*-^	0.56 (0.25)	ORV-3815	OR^-2-225
2”	1 1/2" SCH40	COR-SCH40-200x150-*-^	0.59 (0.27)	ORV-4515	OR^-2-228
2”	1 1/2" SCH80	COR-SCH80-200x150-*-^	0.66 (0.30)	ORV-4515	OR^-2-228

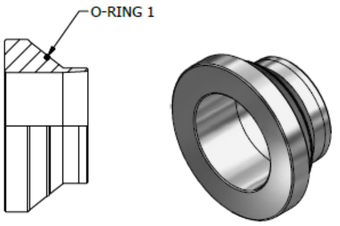
<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring 2 Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: COR-SCH80-100x075-SS-V
* Insert Material
^ Insert O-Ring 2 Type

SAE 6000 PSI Cone Inserts Reducer
for Flare Flange Connections with Flat Face, NPS

SAE J518 Code 62 (ISO 6162-2)



TYPE CFR

CFR Cone Inserts Reducer for Flare Flange Connections with Flat Face, NPS

Flange Size	Pipe Size	Flat Face Cone Insert Part Number (Type CFR)	WT lbs (kg)	O-Ring 1 (VITON) Part Number
3/4"	1/2" SCH40	CFR-SCH40-075x050-*-^	0.17 (0.08)	ORV-1915
3/4"	1/2" SCH80	CFR-SCH80-075x050-*-^	0.18 (0.08)	ORV-1715
1”	3/4" SCH40	CFR-SCH40-100x075-*-^	0.28 (0.13)	ORV-2515
1”	3/4" SCH80	CFR-SCH80-100x075-*-^	0.30 (0.14)	ORV-2315
1-1/4”	1” SCH40	CFR-SCH40-125x100-*-^	0.37 (0.17)	ORV-3015
1-1/4"	1” SCH80	CFR-SCH80-125x100-*-^	0.40 (0.18)	ORV-2815
1-1/2"	1 1/4” SCH40	CFR-SCH40-150x125-*-^	0.55 (0.25)	ORV-3815
1-1/2"	1 1/4” SCH80	CFR-SCH80-150x125-*-^	0.60 (0.27)	ORV-3815
2”	1 1/2" SCH40	CFR-SCH40-200x150-*-^	0.64 (0.29)	ORV-4315
2”	1 1/2" SCH80	CFR-SCH80-200x150-*-^	0.71 (0.32)	ORV-4315

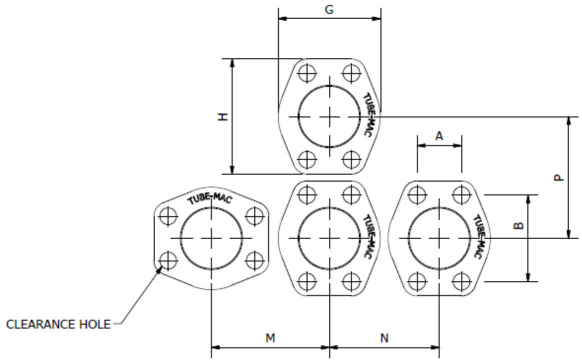
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

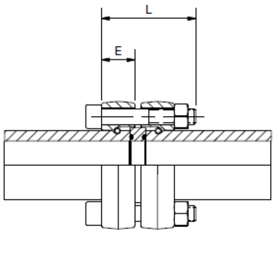
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: COR-SCH80-100-SS-V
* Insert Material
^ Insert O-Ring 2 Type

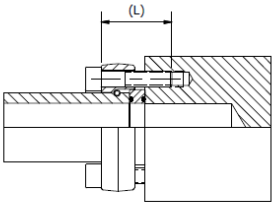
SAE 6000 PSI Retain Ring Flange Dimensions

SAE J518 Code 62 (ISO 6162-2)





FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Retain Ring Flange Dimensions (Inches)

Size	Dimensions (in)								SHCS Bolt* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	0.72	1.59	1.88	2.22	2.20	2.09	2.32	0.81	5/16"-18 UNC x 2.25 (1.50)	6000 (420)
3/4"	0.94	2.00	2.38	2.81	2.76	2.68	2.95	1.02	3/8"-16 UNC x 2.75 (1.75)	6000 (420)
1"	1.09	2.25	2.75	3.19	3.19	2.99	3.35	1.03	7/16"-14 UNC x 2.75 (1.75)	6000 (420)
1-1/4"	1.25	2.63	3.06	3.75	3.58	3.27	3.90	1.25	1/2"-13 UNC x 3.25 (2.00)	6000 (420)
1-1/2"	1.44	3.13	3.75	4.44	4.25	3.98	4.57	1.38	5/8"-11 UNC x 4.00 (2.50)	6000 (420)
2"	1.75	3.81	4.50	5.25	5.04	4.72	5.39	1.68	3/4"-10 UNC x 4.50 (2.75)	6000 (420)

*** SHCS Bolt Specification**
Carbon Steel: ASTM A574
316 Stainless Steel: ASTM A193 B8M Class 2

Retain Ring Flange Dimensions (Millimeters)

Size	Dimensions (mm)								SHCS Bolt* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	18.3	40.4	47.8	56.4	55.9	53.1	58.9	20.6	M8 x 60 (40)	6000 (420)
3/4"	23.9	50.8	60.5	71.4	70.1	68.1	74.9	25.9	M10 x 70 (45)	6000 (420)
1"	27.7	57.2	69.9	81.0	81.0	75.9	85.1	26.2	M12 x 70 (45)	6000 (420)
1-1/4"	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M12 x 80 (50)	6000 (420)
1-1/4" (2)	31.8	66.8	77.7	95.3	90.9	83.1	99.1	31.8	M14 x 80 (50)	6000 (420)
1-1/2"	36.6	79.5	95.3	112.8	108.0	101.1	116.1	35.1	M16 x 100 (65)	6000 (420)
2"	44.5	96.8	114.3	133.4	128.0	119.9	136.9	42.7	M20 x 120 (70)	6000 (420)

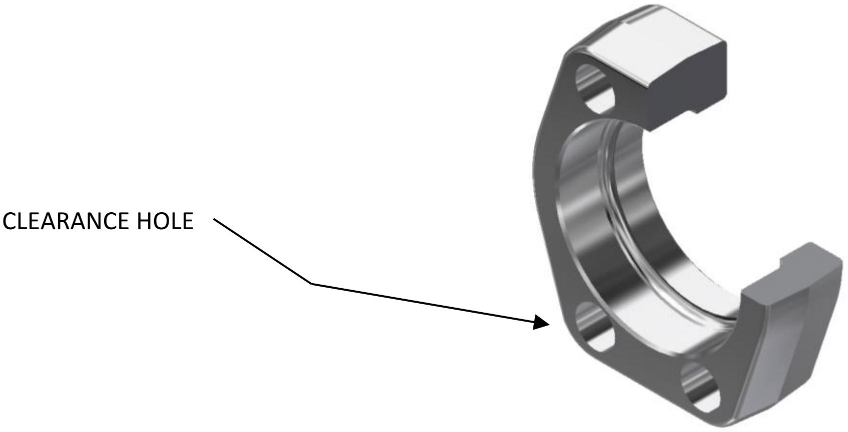
*** SHCS Bolt Specification**
Carbon Steel: DIN912 / ISO4762 Grade 8.8
316 Stainless Steel: DIN912 / ISO4762 A480

(2) Designates M14 Bolt – Special Order

3D step models available upon request

SAE 6000 PSI Retain Ring Flange with Clearance Holes

SAE J518 Code 62 (ISO 6162-2)



RFAC64 – Retain Ring Flange with Clearance Holes, for Grooved NPS Pipe Only

Size	Pipe Size	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1-1/2"	1 1/2" SCHXXS	RFAC64-150-*	6000 (420)	3.14 (1.43)
2"	2" SCH160/XXS	RFAC64-200-*	6000 (420)	4.82 (2.19)

RFC64 - Retain Ring Flange with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	26X6.0	RFC64-050-*	6000 (420)	0.43 (0.20)
3/4"	36X8.0	RFC64-075-*	6000 (420)	0.83 (0.38)
1"	39X7.5	RFC64-100-*	6000 (420)	1.16 (0.51)
1-1/4"	46X8.0	RFC64-125-*	6000 (420)	1.86 (0.85)
1-1/4" (2)	46X8.0	RFC64-125-M14-*	6000 (420)	1.86 (0.85)
1-1/2"	56X8.5	RFC64-150-*	6000 (420)	3.14 (1.43)
2"	66X8.5	RFC64-200-*	6000 (420)	4.82 (2.19)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.
(2) Designates M14 Bolt – Special Order

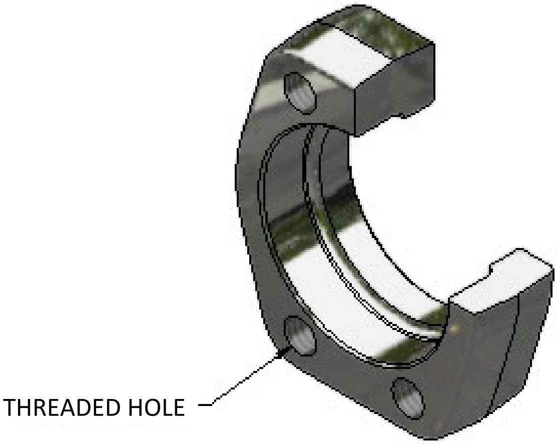
Ordering Example: RFAC64-200-SS

* Insert Material

3D step models available upon request

SAE 6000 PSI Retain Ring Flange with Threaded Holes

SAE J518 Code 62 (ISO 6162-2)



RFAT64 – Retain Ring Flange with UNC Threaded Holes, for Grooved NPS Pipe Only

Size	Pipe Size	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1-1/2”	1 1/2” SCHXXS	RFAT64-150-*	6000 (420)	3.14 (1.43)
2”	2” SCH160/XXS	RFAT64-200-*	6000 (420)	4.82 (2.19)

RFT64 - Retain Ring Flange with UNC Threaded Holes, Metric Pipe

Size	Pipe Size	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2”	26X6.0	RFT64-050-*	6000 (420)	0.43 (0.20)
3/4”	36X8.0	RFT64-075-*	6000 (420)	0.83 (0.38)
1”	39X7.5	RFT64-100-*	6000 (420)	1.16 (0.51)
1-1/4”	46X8.0	RFT64-125-*	6000 (420)	1.86 (0.85)
1-1/2”	56X8.5	RFT64-150-*	6000 (420)	3.14 (1.43)
2”	66X8.5	RFT64-200-*	6000 (420)	4.82 (2.19)

RFTM64 - Retain Ring Flange with Metric Threaded Holes, Metric Pipe

Size	Pipe Size OD x Wall	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2”	26X6.0	RFTM64-050-*	6000 (420)	0.43 (0.20)
3/4”	36X8.0	RFTM64-075-*	6000 (420)	0.83 (0.38)
1”	39X7.5	RFTM64-100-*	6000 (420)	1.16 (0.51)
1-1/4”	46X8.0	RFTM64-125-*	6000 (420)	1.86 (0.85)
1-1/4" (2)	46X8.0	RFTM64-125-M14-*	6000 (420)	1.86 (0.85)
1-1/2”	56X8.5	RFTM64-150-*	6000 (420)	3.14 (1.43)
2”	66X8.5	RFTM64-200-*	6000 (420)	4.82 (2.19)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

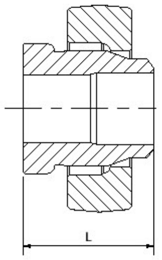
(2) Designates M14 Bolt – Special Order

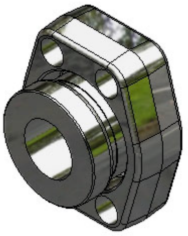
Ordering Example: RFAT64-200-SS
* Insert Material

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:

- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1/2"	1/2” SCH80	A/BWA-SCH80-050-FC64-*	0.67 (0.30)	1.25	BWA-SCH80-050-*	RFC64-050-*
1/2"	1/2” SCH160	A/BWA-SCH160-050-FC64-*	0.68 (0.31)	1.25	BWA-SCH160-050-*	RFC64-050-*
1/2”	1/2” SCHXXS	A/BWA-SCHXXS-050-FC64-*	0.69 (0.31)	1.25	BWA-SCHXXS-050-*	RFC64-050-*
3/4”	3/4” SCH80	A/BWA-SCH80-075-FC64-*	1.29 (0.59)	1.75	BWA-SCH80-075-*	RFC64-075-*
3/4"	3/4” SCH160	A/BWA-SCH160-075-FC64-*	1.37 (0.62)	1.75	BWA-SCH160-075-*	RFC64-075-*
3/4”	3/4” SCHXXS	A/BWA-SCHXXS-075-FC64-*	1.40 (0.64)	1.75	BWA-SCHXXS-075-*	RFC64-075-*
1”	1” SCH80	A/BWA-SCH80-100-FC64-*	1.66 (0.75)	1.75	BWA-SCH80-100-*	RFC64-100-*
1”	1” SCH160	A/BWA-SCH160-100-FC64-*	1.77 (0.80)	1.75	BWA-SCH160-100-*	RFC64-100-*
1”	1” SCHXXS	A/BWA-SCHXXS-100-FC64-*	1.81 (0.82)	1.75	BWA-SCHXXS-100-*	RFC64-100-*
1-1/4”	1-1/4” SCH80	A/BWA-SCH80-125-FC64-*	2.69 (1.22)	2.00	BWA-SCH80-125-*	RFC64-125-*
1-1/4”	1-1/4” SCH160	A/BWA-SCH160-125-FC64-*	2.72 (1.24)	2.00	BWA-SCH160-125-*	RFC64-125-*
1-1/4”	1-1/4” SCHXXS	A/BWA-SCHXXS-125-FC64-*	2.83 (1.29)	2.00	BWA-SCHXXS-125-*	RFC64-125-*
1-1/2”	1-1/2” SCH80	A/BWA-SCH80-150-FC64-*	3.79 (1.72)	2.25	BWA-SCH80-150-*	RFC64-150-*
1-1/2”	1-1/2” SCH160	A/BWA-SCH160-150-FC64-*	4.43 (2.01)	2.25	BWA-SCH160-150-*	RFC64-150-*
1-1/2”	1-1/2” SCHXXS	A/BWA-SCHXXS-150-FC64-*	4.45 (2.02)	2.25	BWA-SCHXXS-150-*	RFC64-150-*
2”	2” SCH80	A/BWA-SCH80-200-FC64-*	6.50 (2.95)	2.50	BWA-SCH80-200-*	RFC64-200-*
2”	2” SCH160	A/BWA-SCH160-200-FC64-*	6.67 (3.03)	2.50	BWA-SCH160-200-*	RFC64-200-*
2”	2” SCHXXS	A/BWA-SCHXXS-200-FC64-*	6.71 (3.05)	2.50	BWA-SCHXXS-200-*	RFC64-200-*

Ordering Example: A/BWA-SCH80-200-FC64-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

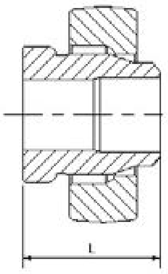
Note:

To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)



Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:

- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number
1/2”	16.0x2.0	A/BWA-16.0X2.0-050-FC64-*	0.68 (0.31)	38.1	BWA-16.0X2.0-050-*	RFC64-050-*
1/2”	18.0x2.0	A/BWA-18.0X2.0-050-FC64-*	0.68 (0.31)	38.1	BWA-18.0X2.0-050-*	RFC64-050-*
1/2”	20.0x2.0	A/BWA-20.0X2.0-050-FC64-*	0.70 (0.35)	38.1	BWA-20.0X2.0-050-*	RFC64-050-*
1/2”	20.0x2.5	A/BWA-20.0X2.5-050-FC64-*	0.70 (0.35)	38.1	BWA-20.0X2.5-050-*	RFC64-050-*
1/2”	20.0x3.0	A/BWA-20.0X3.0-050-FC64-*	0.70 (0.35)	38.1	BWA-20.0X3.0-050-*	RFC64-050-*
1/2”	21.3x2.8	A/BWA-SCH40-050-FC64-*	0.66 (0.30)	31.8	BWA-SCH40-050-*	RFC64-050-*
1/2”	21.3X3.7	A/BWA-SCH80-050-FC64-*	0.67 (0.30)	31.8	BWA-SCH80-050-*	RFC64-050-*
1/2”	21.3x4.8	A/BWA-SCH160-050-FC64-*	0.68 (0.31)	31.8	BWA-SCH160-050-*	RFC64-050-*
1/2”	21.3X7.5	A/BWA-SCHXXS-050-FC64-*	0.69 (0.31)	31.8	BWA-SCHXXS-050-*	RFC64-050-*
1/2”	25.0X2.5	A/BWA-25.0X2.5-050-FC64-*	0.69 (0.31)	38.1	BWA-25.0X2.5-050-*	RFC64-050-*
1/2”	25.0X3.0	A/BWA-25.0X3.0-050-FC64-*	0.69 (0.31)	38.1	BWA-25.0X3.0-050-*	RFC64-050-*
1/2”	26.0X6.0	A/BWA-26.0X6.0-050-FC64-*	0.74 (0.34)	38.1	BWA-26.0X6.0-050-*	RFC64-050-*
3/4"	20.0X2.0	A/BWA-20.0X2.0-075-FC64-*	1.32 (0.60)	44.5	BWA-20.0X2.0-075-*	RFC64-075-*
3/4"	20.0X2.5	A/BWA-20.0X2.5-075-FC64-*	1.34 (0.61)	44.5	BWA-20.0X2.5-075-*	RFC64-075-*
3/4”	20.0X3.0	A/BWA-20.0X3.0-075-FC64-*	1.34 (0.61)	44.5	BWA-20.0X3.0-075-*	RFC64-075-*
3/4"	25.0X2.5	A/BWA-25.0X2.5-075-FC64-*	1.31 (0.60)	44.5	BWA-25.0X2.5-075-*	RFC64-075-*
3/4"	25.0X3.0	A/BWA-25.0X3.0-075-FC64-*	1.32 (0.60)	44.5	BWA-25.0X3.0-075-*	RFC64-075-*
3/4"	25.0X4.0	A/BWA-25.0X4.0-075-FC64-*	1.34 (0.61)	44.5	BWA-25.0X4.0-075-*	RFC64-075-*
3/4"	26.7X2.9	A/BWA-SCH40-075-FC64-*	1.27 (0.58)	44.5	BWA-SCH40-075-*	RFC64-075-*
3/4"	26.7X3.9	A/BWA-SCH80-075-FC64-*	1.29 (0.59)	44.5	BWA-SCH80-075-*	RFC64-075-*
3/4"	26.7X5.5	A/BWA-SCH160-075-FC64-*	1.37 (0.62)	44.5	BWA-SCH160-075-*	RFC64-075-*
3/4"	26.7X7.8	A/BWA-SCHXXS-075-FC64-*	2.02 (0.92)	44.5	BWA-SCHXXS-075-*	RFC64-075-*
3/4"	30.0X3.0	A/BWA-30.0X3.0-075-FC64-*	1.22 (0.55)	44.5	BWA-30.0X3.0-075-*	RFC64-075-*
3/4"	30.0X4.0	A/BWA-30.0X4.0-075-FC64-*	1.25 (0.57)	44.5	BWA-30.0X4.0-075-*	RFC64-075-*
3/4"	36.0X8.0	A/BWA-36.0X8.0-075-FC64-*	1.40 (0.64)	44.5	BWA-36.0X8.0-075-*	RFC64-075-*

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

Ordering Example: A/BWA-50.0X3.0-200-FC64-SS

* Insert Material

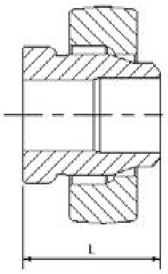
Note:

To Order A Retain Ring Flange with Threaded Holes, Replace FC with FTM in the Part Number.

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)



Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:
- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number
1"	25.0X2.5	A/BWA-25.0X2.5-100-FC64-*	1.64 (0.75)	44.5	BWA-25.0X2.5-100-*	RFC64-100-*
1”	25.0x3.0	A/BWA-25.0X3.0-100-FC64-*	1.64 (0.75)	44.5	BWA-25.0X3.0-100-*	RFC64-100-*
1”	25.0X4.0	A/BWA-25.0X4.0-100-FC64-*	1.67 (0.76)	44.5	BWA-25.0X4.0-100-*	RFC64-100-*
1”	30.0X3.0	A/BWA-30.0X3.0-100-FC64-*	1.68 (0.76)	44.5	BWA-30.0X3.0-100-*	RFC64-100-*
1”	30.0X4.0	A/BWA-30.0X4.0-100-FC64-*	1.66 (0.75)	44.5	BWA-30.0X4.0-100-*	RFC64-100-*
1”	30.0X5.0	A/BWA-30.0X5.0-100-FC64-*	1.73 (0.79)	44.5	BWA-30.0X5.0-100-*	RFC64-100-*
1”	33.4X3.4	A/BWA-SCH40-100-FC64-*	1.66 (0.75)	44.5	BWA-SCH40-100-*	RFC64-100-*
1”	33.4X4.6	A/BWA-SCH80-100-FC64-*	1.66 (0.75)	44.5	BWA-SCH80-100-*	RFC64-100-*
1”	33.4X6.4	A/BWA-SCH160-100-FC64-*	1.77 (0.80)	44.5	BWA-SCH160-100-*	RFC64-100-*
1”	33.4X9.1	A/BWA-SCHXXS-100-FC64-*	1.81 (0.82)	44.5	BWA-SCHXXS-100-*	RFC64-100-*
1”	38.0X4.0	A/BWA-38.0X4.0-100-FC64-*	1.66 (0.75)	44.5	BWA-38.0X4.0-100-*	RFC64-100-*
1”	38.0X5.0	A/BWA-38.0X5.0-100-FC64-*	1.66 (0.75)	44.5	BWA-38.0X5.0-100-*	RFC64-100-*
1”	38.0X6.0	A/BWA-38.0X6.0-100-FC64-*	1.75 (0.80)	44.5	BWA-38.0X6.0-100-*	RFC64-100-*
1”	39.0X7.5	A/BWA-39.0X7.5-100-FC64-*	1.78 (0.81)	44.5	BWA-39.0X7.5-100-*	RFC64-100-*
1-1/4"	30.0X3.0	A/BWA-30.0X3.0-125-FC64-*	2.67 (1.21)	50.8	BWA-30.0X3.0-125-*	RFC64-125-*
1-1/4"	30.0X4.0	A/BWA-30.0X4.0-125-FC64-*	2.70 (1.23)	50.8	BWA-30.0X4.0-125-*	RFC64-125-*
1-1/4"	30.0X5.0	A/BWA-30.0X5.0-125-FC64-*	2.72 (1.24)	50.8	BWA-30.0X5.0-125-*	RFC64-125-*
1-1/4"	38.0X4.0	A/BWA-38.0X4.0-125-FC64-*	2.66 (1.21)	50.8	BWA-38.0X4.0-125-*	RFC64-125-*
1-1/4"	38.0X5.0	A/BWA-38.0X5.0-125-FC64-*	2.69 (1.22)	50.8	BWA-38.0X5.0-125-*	RFC64-125-*
1-1/4"	38.0X6.0	A/BWA-38.0X6.0-125-FC64-*	2.72 (1.24)	50.8	BWA-38.0X6.0-125-*	RFC64-125-*
1-1/4"	42.0X3.0	A/BWA-42.0X3.0-125-FC64-*	2.67 (1.21)	50.8	BWA-42.0X3.0-125-*	RFC64-125-*
1-1/4"	42.0X4.0	A/BWA-42.0X4.0-125-FC64-*	2.68 (1.22)	50.8	BWA-42.0X4.0-125-*	RFC64-125-*
1-1/4"	42.2X3.6	A/BWA-SCH40-125-FC64-*	2.68 (1.22)	50.8	BWA-SCH40-125-*	RFC64-125-*
1-1/4"	42.2X4.9	A/BWA-SCH80-125-FC64-*	2.68 (1.22)	50.8	BWA-SCH80-125-*	RFC64-125-*
1-1/4"	42.2X6.4	A/BWA-SCH160-125-FC64-*	2.68 (1.22)	50.8	BWA-SCH160-125-*	RFC64-125-*
1-1/4"	42.2X9.7	A/BWA-SCHXXS-125-FC64-*	2.83 (1.29)	50.8	BWA-SCHXXS-125-*	RFC64-125-*
1-1/4"	46.0X8.5	A/BWA-46.0X8.5-125-FC64-*	2.83 (1.29)	50.8	BWA-46.0X8.5-125-*	RFC64-125-*

IMPORTANT NOTE: For 1-1/4" SAE 6000 PSI (ISO 6162-2) Flanges with M14 bolt requirements please add -M14 to the end of the part numbers above

Ordering Example: A/BWA-50.0X3.0-200-FC64-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

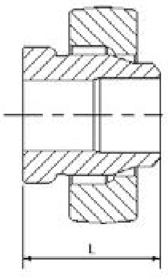
Note:

To Order A Retain Ring Flange with Threaded Holes, Replace FC with FTM in the Part Number.

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)



Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:
- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWA - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number
1-1/2"	38.0X4.0	A/BWA-38.0X4.0-150-FC64-*	4.13 (1.88)	57.2	BWA-38.0X4.0-150-*	RFC64-150-*
1-1/2"	38.0X5.0	A/BWA-38.0X5.0-150-FC64-*	4.08 (1.85)	57.2	BWA-38.0X5.0-150-*	RFC64-150-*
1-1/2"	38.0X6.0	A/BWA-38.0X6.0-150-FC64-*	4.21 (1.91)	57.2	BWA-38.0X6.0-150-*	RFC64-150-*
1-1/2"	42.0X3.0	A/BWA-42.0X3.0-150-FC64-*	4.03 (1.83)	57.2	BWA-42.0X3.0-150-*	RFC64-150-*
1-1/2"	42.0X4.0	A/BWA-42.0X4.0-150-FC64-*	4.08 (1.85)	57.2	BWA-42.0X4.0-150-*	RFC64-150-*
1-1/2"	48.3X3.7	A/BWA-SCH40-150-FC64-*	4.18 (1.90)	57.2	BWA-SCH40-150-*	RFC64-150-*
1-1/2"	48.3X5.1	A/BWA-SCH80-150-FC64-*	4.11 (1.87)	57.2	BWA-SCH80-150-*	RFC64-150-*
1-1/2"	48.3X7.1	A/BWA-SCH160-150-FC64-*	4.43 (2.01)	57.2	BWA-SCH160-150-*	RFC64-150-*
1-1/2"	48.3X10.2	A/BWA-SCHXXS-150-FC64-*	4.37 (1.99)	57.2	BWA-SCHXXS-150-*	RFC64-150-*
1-1/2"	50.0X3.0	A/BWA-50.0X3.0-150-FC64-*	4.05 (1.84)	57.2	BWA-50.0X3.0-150-*	RFC64-150-*
1-1/2"	50.0X5.0	A/BWA-50.0X5.0-150-FC64-*	3.98 (1.81)	57.2	BWA-50.0X5.0-150-*	RFC64-150-*
1-1/2"	56.0X8.5	A/BWA-56.0X8.5-150-FC64-*	4.41 (2.00)	57.2	BWA-56.0X8.5-150-*	RFC64-150-*
2”	50.0X3.0	A/BWA-50.0X3.0-200-FC64-*	6.35 (2.89)	63.5	BWA-50.0X3.0-200-*	RFC64-200-*
2”	50.0X5.0	A/BWA-50.0X5.0-200-FC64-*	6.48 (2.95)	63.5	BWA-50.0X5.0-200-*	RFC64-200-*
2”	50.0X6.0	A/BWA-50.0X6.0-200-FC64-*	6.55 (2.98)	63.5	BWA-50.0X6.0-200-*	RFC64-200-*
2”	60.0X3.0	A/BWA-60.0X3.0-200-FC64-*	6.24 (2.84)	63.5	BWA-60.0X3.0-200-*	RFC64-200-*
2”	60.0X5.0	A/BWA-60.0X5.0-200-FC64-*	5.97 (2.71)	63.5	BWA-60.0X5.0-200-*	RFC64-200-*
2”	60.0X6.0	A/BWA-60.0X6.0-200-FC64-*	6.44 (2.92)	63.5	BWA-60.0X6.0-200-*	RFC64-200-*
2”	60.0X8.0	A/BWA-60.0X8.0-200-FC64-*	6.61 (3.00)	63.5	BWA-60.0X8.0-200-*	RFC64-200-*
2”	60.3X3.9	A/BWA-SCH40-200-FC64-*	6.40 (2.91)	63.5	BWA-SCH40-200-*	RFC64-200-*
2”	60.3X5.5	A/BWA-SCH80-200-FC64-*	6.50 (2.95)	63.5	BWA-SCH80-200-*	RFC64-200-*
2”	60.3X8.7	A/BWA-SCH160-200-FC64-*	6.67 (3.03)	63.5	BWA-SCH160-200-*	RFC64-200-*
2”	60.3X11.1	A/BWA-SCHXXS-200-FC64-*	6.71 (3.05)	63.5	BWA-SCHXXS-200-*	RFC64-200-*
2”	66.0X8.5	A/BWA-66.0X8.5-200-FC64-*	6.56 (2.98)	63.5	BWA-66.0X8.5-200-*	RFC64-200-*

Ordering Example: A/BWA-50.0X3.0-200-FC64-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

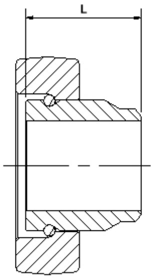
Note:

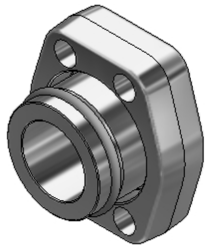
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FTM in the Part Number.

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:

- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1/2"	1/2” SCH80	A/BWAR-SCH80-050-FC64-*	0.67 (0.30)	1.25	BWAR-SCH80-050-*	RFC64-050-*	R-050
1/2"	1/2” SCH160	A/BWAR-SCH160-050-FC64-*	0.68 (0.31)	1.25	BWAR-SCH160-050-*	RFC64-050-*	R-050
1/2”	1/2” SCHXXS	A/BWAR-SCHXXS-050-FC64-*	0.69 (0.31)	1.25	BWAR-SCHXXS-050-*	RFC64-050-*	R-050
3/4”	3/4” SCH80	A/BWAR-SCH80-075-FC64-*	1.29 (0.59)	1.75	BWAR-SCH80-075-*	RFC64-075-*	R-075
3/4"	3/4” SCH160	A/BWAR-SCH160-075-FC64-*	1.37 (0.62)	1.75	BWAR-SCH160-075-*	RFC64-075-*	R-075
3/4”	3/4” SCHXXS	A/BWAR-SCHXXS-075-FC64-*	1.40 (0.64)	1.75	BWAR-SCHXXS-075-*	RFC64-075-*	R-075
1”	1” SCH80	A/BWAR-SCH80-100-FC64-*	1.66 (0.75)	1.75	BWAR-SCH80-100-*	RFC64-100-*	R-100
1”	1” SCH160	A/BWAR-SCH160-100-FC64-*	1.77 (0.80)	1.75	BWAR-SCH160-100-*	RFC64-100-*	R-100
1”	1” SCHXXS	A/BWAR-SCHXXS-100-FC64-*	1.81 (0.82)	1.75	BWAR-SCHXXS-100-*	RFC64-100-*	R-100
1-1/4”	1-1/4” SCH80	A/BWAR-SCH80-125-FC64-*	2.69 (1.22)	2.00	BWAR-SCH80-125-*	RFC64-125-*	R-125
1-1/4”	1-1/4” SCH160	A/BWAR-SCH160-125-FC64-*	2.72 (1.24)	2.00	BWAR-SCH160-125-*	RFC64-125-*	R-125
1-1/4”	1-1/4” SCHXXS	A/BWAR-SCHXXS-125-FC64-*	2.83 (1.29)	2.00	BWAR-SCHXXS-125-*	RFC64-125-*	R-125
1-1/2”	1-1/2” SCH80	A/BWAR-SCH80-150-FC64-*	3.79 (1.72)	2.25	BWAR-SCH80-150-*	RFC64-150-*	R-150
1-1/2”	1-1/2” SCH160	A/BWAR-SCH160-150-FC64-*	4.43 (2.01)	2.25	BWAR-SCH160-150-*	RFC64-150-*	R-150
1-1/2”	1-1/2” SCHXXS	A/BWAR-SCHXXS-150-FC64-*	4.45 (2.02)	2.25	BWAR-SCHXXS-150-*	RFC64-150-*	R-150
2”	2” SCH80	A/BWAR-SCH80-200-FC64-*	6.50 (2.95)	2.50	BWAR-SCH80-200-*	RFC64-200-*	R-200
2”	2” SCH160	A/BWAR-SCH160-200-FC64-*	6.67 (3.03)	2.50	BWAR-SCH160-200-*	RFC64-200-*	R-200
2”	2” SCHXXS	A/BWAR-SCHXXS-200-FC64-*	6.71 (3.05)	2.50	BWAR-SCHXXS-200-*	RFC64-200-*	R-200

Ordering Example: A/BWAR-SCH80-200-FC64-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

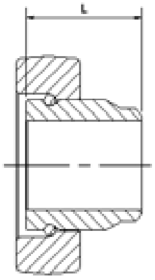
Note:

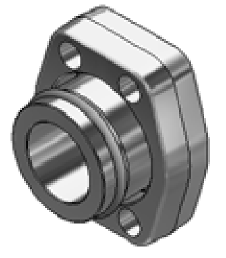
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:
- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1/2”	16.0x2.0	A/BWAR-16.0X2.0-050-FC64-*	0.68 (0.31)	38.1	BWAR-16.0X2.0-050-*	RFC64-050-*	R-050
1/2”	18.0x2.0	A/BWAR-18.0X2.0-050-FC64-*	0.68 (0.31)	38.1	BWAR-18.0X2.0-050-*	RFC64-050-*	R-050
1/2”	20.0x2.0	A/BWAR-20.0X2.0-050-FC64-*	0.70 (0.35)	38.1	BWAR-20.0X2.0-050-*	RFC64-050-*	R-050
1/2”	20.0x2.5	A/BWAR-20.0X2.5-050-FC64-*	0.70 (0.35)	38.1	BWAR-20.0X2.5-050-*	RFC64-050-*	R-050
1/2”	20.0x3.0	A/BWAR-20.0X3.0-050-FC64-*	0.70 (0.35)	38.1	BWAR-20.0X3.0-050-*	RFC64-050-*	R-050
1/2”	21.3x2.8	A/BWAR-SCH40-050-FC64-*	0.66 (0.30)	31.8	BWAR-SCH40-050-*	RFC64-050-*	R-050
1/2”	21.3X3.7	A/BWAR-SCH80-050-FC64-*	0.67 (0.30)	31.8	BWAR-SCH80-050-*	RFC64-050-*	R-050
1/2”	21.3x4.8	A/BWAR-SCH160-050-FC64-*	0.68 (0.31)	31.8	BWAR-SCH160-050-*	RFC64-050-*	R-050
1/2”	21.3X7.5	A/BWAR-SCHXXS-050-FC64-*	0.69 (0.31)	31.8	BWAR-SCHXXS-050-*	RFC64-050-*	R-050
1/2”	25.0X2.5	A/BWAR-25.0X2.5-050-FC64-*	0.69 (0.31)	38.1	BWAR-25.0X2.5-050-*	RFC64-050-*	R-050
1/2”	25.0X3.0	A/BWAR-25.0X3.0-050-FC64-*	0.69 (0.31)	38.1	BWAR-25.0X3.0-050-*	RFC64-050-*	R-050
1/2”	26.0X6.0	A/BWAR-26.0X6.0-050-FC64-*	0.74 (0.34)	38.1	BWAR-26.0X6.0-050-*	RFC64-050-*	R-050
3/4"	20.0X2.0	A/BWAR-20.0X2.0-075-FC64-*	1.32 (0.60)	44.5	BWAR-20.0X2.0-075-*	RFC64-075-*	R-075
3/4"	20.0X2.5	A/BWAR-20.0X2.5-075-FC64-*	1.34 (0.61)	44.5	BWAR-20.0X2.5-075-*	RFC64-075-*	R-075
3/4”	20.0X3.0	A/BWAR-20.0X3.0-075-FC64-*	1.34 (0.61)	44.5	BWAR-20.0X3.0-075-*	RFC64-075-*	R-075
3/4"	25.0X2.5	A/BWAR-25.0X2.5-075-FC64-*	1.31 (0.60)	44.5	BWAR-25.0X2.5-075-*	RFC64-075-*	R-075
3/4"	25.0X3.0	A/BWAR-25.0X3.0-075-FC64-*	1.32 (0.60)	44.5	BWAR-25.0X3.0-075-*	RFC64-075-*	R-075
3/4"	25.0X4.0	A/BWAR-25.0X4.0-075-FC64-*	1.34 (0.61)	44.5	BWAR-25.0X4.0-075-*	RFC64-075-*	R-075
3/4"	26.7X2.9	A/BWAR-SCH40-075-FC64-*	1.27 (0.58)	44.5	BWAR-SCH40-075-*	RFC64-075-*	R-075
3/4"	26.7X3.9	A/BWAR-SCH80-075-FC64-*	1.29 (0.59)	44.5	BWAR-SCH80-075-*	RFC64-075-*	R-075
3/4"	26.7X5.5	A/BWAR-SCH160-075-FC64-*	1.37 (0.62)	44.5	BWAR-SCH160-075-*	RFC64-075-*	R-075
3/4"	26.7X7.8	A/BWAR-SCHXXS-075-FC64-*	2.02 (0.92)	44.5	BWAR-SCHXXS-075-*	RFC64-075-*	R-075
3/4"	30.0X3.0	A/BWAR-30.0X3.0-075-FC64-*	1.22 (0.55)	44.5	BWAR-30.0X3.0-075-*	RFC64-075-*	R-075
3/4"	30.0X4.0	A/BWAR-30.0X4.0-075-FC64-*	1.25 (0.57)	44.5	BWAR-30.0X4.0-075-*	RFC64-075-*	R-075
3/4"	36.0X8.0	A/BWAR-36.0X8.0-075-FC64-*	1.40 (0.64)	44.5	BWAR-36.0X8.0-075-*	RFC64-075-*	R-075

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

Ordering Example: A/BWAR-50.0X3.0-200-FC64-SS
* Insert Material

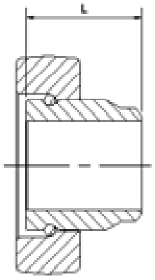
Note:

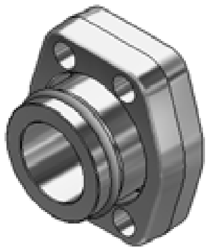
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:

- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1"	25.0X2.5	A/BWAR-25.0X2.5-100-FC64-*	1.64 (0.75)	44.5	BWAR-25.0X2.5-100-*	RFC64-100-*	R-100
1”	25.0x3.0	A/BWAR-25.0X3.0-100-FC64-*	1.64 (0.75)	44.5	BWAR-25.0X3.0-100-*	RFC64-100-*	R-100
1”	25.0X4.0	A/BWAR-25.0X4.0-100-FC64-*	1.67 (0.76)	44.5	BWAR-25.0X4.0-100-*	RFC64-100-*	R-100
1”	30.0X3.0	A/BWAR-30.0X3.0-100-FC64-*	1.68 (0.76)	44.5	BWAR-30.0X3.0-100-*	RFC64-100-*	R-100
1”	30.0X4.0	A/BWAR-30.0X4.0-100-FC64-*	1.66 (0.75)	44.5	BWAR-30.0X4.0-100-*	RFC64-100-*	R-100
1”	30.0X5.0	A/BWAR-30.0X5.0-100-FC64-*	1.73 (0.79)	44.5	BWAR-30.0X5.0-100-*	RFC64-100-*	R-100
1”	33.4X3.4	A/BWAR-SCH40-100-FC64-*	1.66 (0.75)	44.5	BWAR-SCH40-100-*	RFC64-100-*	R-100
1”	33.4X4.6	A/BWAR-SCH80-100-FC64-*	1.66 (0.75)	44.5	BWAR-SCH80-100-*	RFC64-100-*	R-100
1”	33.4X6.4	A/BWAR-SCH160-100-FC64-*	1.77 (0.80)	44.5	BWAR-SCH160-100-*	RFC64-100-*	R-100
1”	33.4X9.1	A/BWAR-SCHXXS-100-FC64-*	1.81 (0.82)	44.5	BWAR-SCHXXS-100-*	RFC64-100-*	R-100
1”	38.0X4.0	A/BWAR-38.0X4.0-100-FC64-*	1.66 (0.75)	44.5	BWAR-38.0X4.0-100-*	RFC64-100-*	R-100
1”	38.0X5.0	A/BWAR-38.0X5.0-100-FC64-*	1.66 (0.75)	44.5	BWAR-38.0X5.0-100-*	RFC64-100-*	R-100
1”	38.0X6.0	A/BWAR-38.0X6.0-100-FC64-*	1.75 (0.80)	44.5	BWAR-38.0X6.0-100-*	RFC64-100-*	R-100
1”	39.0X7.5	A/BWAR-39.0X7.5-100-FC64-*	1.78 (0.81)	44.5	BWAR-39.0X7.5-100-*	RFC64-100-*	R-100
1-1/4"	30.0X3.0	A/BWAR-30.0X3.0-125-FC64-*	2.67 (1.21)	50.8	BWAR-30.0X3.0-125-*	RFC64-125-*	R-125
1-1/4"	30.0X4.0	A/BWAR-30.0X4.0-125-FC64-*	2.70 (1.23)	50.8	BWAR-30.0X4.0-125-*	RFC64-125-*	R-125
1-1/4"	30.0X5.0	A/BWAR-30.0X5.0-125-FC64-*	2.72 (1.24)	50.8	BWAR-30.0X5.0-125-*	RFC64-125-*	R-125
1-1/4"	38.0X4.0	A/BWAR-38.0X4.0-125-FC64-*	2.66 (1.21)	50.8	BWAR-38.0X4.0-125-*	RFC64-125-*	R-125
1-1/4"	38.0X5.0	A/BWAR-38.0X5.0-125-FC64-*	2.69 (1.22)	50.8	BWAR-38.0X5.0-125-*	RFC64-125-*	R-125
1-1/4"	38.0X6.0	A/BWAR-38.0X6.0-125-FC64-*	2.72 (1.24)	50.8	BWAR-38.0X6.0-125-*	RFC64-125-*	R-125
1-1/4"	42.0X3.0	A/BWAR-42.0X3.0-125-FC64-*	2.67 (1.21)	50.8	BWAR-42.0X3.0-125-*	RFC64-125-*	R-125
1-1/4"	42.0X4.0	A/BWAR-42.0X4.0-125-FC64-*	2.68 (1.22)	50.8	BWAR-42.0X4.0-125-*	RFC64-125-*	R-125
1-1/4"	42.2X3.6	A/BWAR-SCH40-125-FC64-*	2.68 (1.22)	50.8	BWAR-SCH40-125-*	RFC64-125-*	R-125
1-1/4"	42.2X4.9	A/BWAR-SCH80-125-FC64-*	2.68 (1.22)	50.8	BWAR-SCH80-125-*	RFC64-125-*	R-125
1-1/4"	42.2X6.4	A/BWAR-SCH160-125-FC64-*	2.68 (1.22)	50.8	BWAR-SCH160-125-*	RFC64-125-*	R-125
1-1/4"	42.2X9.7	A/BWAR-SCHXXS-125-FC64-*	2.83 (1.29)	50.8	BWAR-SCHXXS-125-*	RFC64-125-*	R-125
1-1/4"	46.0X8.5	A/BWAR-46.0X8.5-125-FC64-*	2.83 (1.29)	50.8	BWAR-46.0X8.5-125-*	RFC64-125-*	R-125
IMPORTANT NOTE: For 1-1/4" SAE 6000 PSI (ISO 6162-2) Flanges with M14 bolt requirements please add -M14 to the end of the part numbers above							

Ordering Example: A/BWAR-50.0X3.0-200-FC64-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

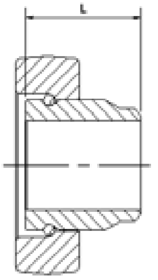
Note:

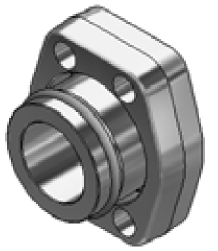
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.

3D step models available upon request

SAE 6000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:
- Bolt Kit (See Page H25)
- O-Ring Spacer (See Page H75)

A/BWAR - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size OD x Wall	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number	Retain Ring (Stainless Steel) Part Number
1-1/2"	38.0X4.0	A/BWAR-38.0X4.0-150-FC64-*	4.13 (1.88)	57.2	BWAR-38.0X4.0-150-*	RFC64-150-*	R-150
1-1/2"	38.0X5.0	A/BWAR-38.0X5.0-150-FC64-*	4.08 (1.85)	57.2	BWAR-38.0X5.0-150-*	RFC64-150-*	R-150
1-1/2"	38.0X6.0	A/BWAR-38.0X6.0-150-FC64-*	4.21 (1.91)	57.2	BWAR-38.0X6.0-150-*	RFC64-150-*	R-150
1-1/2"	42.0X3.0	A/BWAR-42.0X3.0-150-FC64-*	4.03 (1.83)	57.2	BWAR-42.0X3.0-150-*	RFC64-150-*	R-150
1-1/2"	42.0X4.0	A/BWAR-42.0X4.0-150-FC64-*	4.08 (1.85)	57.2	BWAR-42.0X4.0-150-*	RFC64-150-*	R-150
1-1/2"	48.3X3.7	A/BWAR-SCH40-150-FC64-*	4.18 (1.90)	57.2	BWAR-SCH40-150-*	RFC64-150-*	R-150
1-1/2"	48.3X5.1	A/BWAR-SCH80-150-FC64-*	4.11 (1.87)	57.2	BWAR-SCH80-150-*	RFC64-150-*	R-150
1-1/2"	48.3X7.1	A/BWAR-SCH160-150-FC64-*	4.43 (2.01)	57.2	BWAR-SCH160-150-*	RFC64-150-*	R-150
1-1/2"	48.3X10.2	A/BWAR-SCHXXS-150-FC64-*	4.37 (1.99)	57.2	BWAR-SCHXXS-150-*	RFC64-150-*	R-150
1-1/2"	50.0X3.0	A/BWAR-50.0X3.0-150-FC64-*	4.05 (1.84)	57.2	BWAR-50.0X3.0-150-*	RFC64-150-*	R-150
1-1/2"	50.0X5.0	A/BWAR-50.0X5.0-150-FC64-*	3.98 (1.81)	57.2	BWAR-50.0X5.0-150-*	RFC64-150-*	R-150
1-1/2"	56.0X8.5	A/BWAR-56.0X8.5-150-FC64-*	4.41 (2.00)	57.2	BWAR-56.0X8.5-150-*	RFC64-150-*	R-150
2”	50.0X3.0	A/BWAR-50.0X3.0-200-FC64-*	6.35 (2.89)	63.5	BWAR-50.0X3.0-200-*	RFC64-200-*	R-200
2”	50.0X5.0	A/BWAR-50.0X5.0-200-FC64-*	6.48 (2.95)	63.5	BWAR-50.0X5.0-200-*	RFC64-200-*	R-200
2”	50.0X6.0	A/BWAR-50.0X6.0-200-FC64-*	6.55 (2.98)	63.5	BWAR-50.0X6.0-200-*	RFC64-200-*	R-200
2”	60.0X3.0	A/BWAR-60.0X3.0-200-FC64-*	6.24 (2.84)	63.5	BWAR-60.0X3.0-200-*	RFC64-200-*	R-200
2”	60.0X5.0	A/BWAR-60.0X5.0-200-FC64-*	5.97 (2.71)	63.5	BWAR-60.0X5.0-200-*	RFC64-200-*	R-200
2”	60.0X6.0	A/BWAR-60.0X6.0-200-FC64-*	6.44 (2.92)	63.5	BWAR-60.0X6.0-200-*	RFC64-200-*	R-200
2”	60.0X8.0	A/BWAR-60.0X8.0-200-FC64-*	6.61 (3.00)	63.5	BWAR-60.0X8.0-200-*	RFC64-200-*	R-200
2”	60.3X3.9	A/BWAR-SCH40-200-FC64-*	6.40 (2.91)	63.5	BWAR-SCH40-200-*	RFC64-200-*	R-200
2”	60.3X5.5	A/BWAR-SCH80-200-FC64-*	6.50 (2.95)	63.5	BWAR-SCH80-200-*	RFC64-200-*	R-200
2”	60.3X8.7	A/BWAR-SCH160-200-FC64-*	6.67 (3.03)	63.5	BWAR-SCH160-200-*	RFC64-200-*	R-200
2”	60.3X11.1	A/BWAR-SCHXXS-200-FC64-*	6.71 (3.05)	63.5	BWAR-SCHXXS-200-*	RFC64-200-*	R-200
2”	66.0X8.5	A/BWAR-66.0X8.5-200-FC64-*	6.56 (2.98)	63.5	BWAR-66.0X8.5-200-*	RFC64-200-*	R-200

Ordering Example: A/BWAR-50.0X3.0-200-FC64-SS
* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

Note:

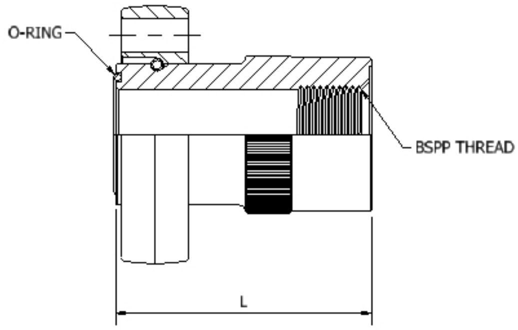
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.

3D step models available upon request

SAE 6000 PSI BSPP Female Thread Adapter

Complete Assembly

SAE J518 Code 62 (ISO 6162-2)



Complete Flange Set Includes:

- One (1) Female Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page H25)

A/FBTA - BSPP Female Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L	R				
1/2”x 1/4”	A/FBTA-050x025-FC64-*-^	1.38 (35.0)	1/4"	OR^-3-909	1.08 (0.49)	FBTA-050x025-*-^	0.52 (0.24)
1/2”x1/2”	A/FBTA-050x050-FC64-*-^	2.50 (63.5)	1/2”	OR^-3-909	1.54 (0.70)	FBTA-050x050-*-^	1.10 (0.50)
3/4”x1/2"	A/FBTA-075x050-FC64-*-^	1.57 (40.0)	1/2"	OR^-3-913	1.80 (0.82)	FBTA-075x050*-^	0.95 (0.43)
3/4”x3/4”	A/FBTA-075x075-FC64-*-^	2.88 (73.0)	3/4”	OR^-3-913	2.50 (1.14)	FBTA-075x075*-^	1.65 (0.75)
1”x 3/4"	A/FBTA-100x075-FC64-*-^	1.57 (40.0)	3/4"	OR^-3-916	2.25 (1.02)	FBTA-100x075-*-^	1.06 (0.48)
1”x1”	A/FBTA-100x100-FC64-*-^	3.75 (95.3)	1”	OR^-3-916	2.99 (1.36)	FBTA-100x100-*-^	1.80 (0.82)
1-1/4”x 1”	A/FBTA-125x100-FC64-*-^	1.65 (42.0)	1”	OR^-3-918	3.37 (1.53)	FBTA-125x100-*-^	1.47 (0.67)
1-1/4”x 1-1/4”	A/FBTA-125x125-FC64-*-^	3.88 (98.6)	1-1/4”	OR^-3-918	4.40 (2.06)	FBTA-125x125-*-^	2.50 (1.14)
1-1/2”x 1-1/4"	A/FBTA-150x125-FC64-*-^	1.77 (45.0))	1-1/4”	OR^-3-924	5.50 (2.50)	FBTA-150x125-*-^	2.31 (1.05)
1-1/2”x 1-1/2”	A/FBTA-150x150-FC64-*-^	4.00 (101.6)	1-1/2”	OR^-3-924	7.24 (3.29)	FBTA-150x150-*-^	4.05 (1.84)
2”x 1-1/2"	A/FBTA-200x150-FC64-*-^	2.16 (55.0)	1-1/2”	OR^-3-928	8.55 (3.89)	FBTA-200x150-*-^	3.67 (1.67)
2”x 2”	A/FBTA-200x200-FC64-*-^	4.50 (114.3)	2”	OR^-3-928	11.33 (5.15)	FBTA-200x200-*-^	6.45 (2.93)

Flange Option:

Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

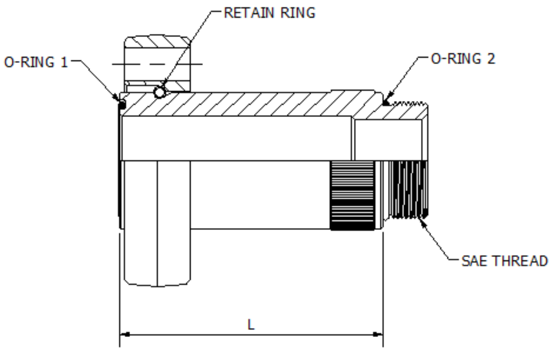
Ordering Example: A/FBTA-200x200-FC64-SS-V

Flange Option
* Insert Material
^ Insert O-Ring Type

SAE 6000 PSI SAE Male Thread Adapter

Complete Assembly

SAE J518 Code 62 (ISO 6162-2)



Complete Flange Set Includes:
- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)
- One (1) Thread O-Ring (O-Ring 2)

To be Ordered Separately:
- Bolt Kit (See Page H25)

A/STA - SAE Male Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size UNF/UN-2A	O-Ring 1 (Buna) Part No.	O-Ring 2 (Buna) Part No.	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L						
1/2”x 3/8”	A/STA-050x038-FC64-*-^	2.63 (66.80)	9/16”-18	OR^-3-909	OR^-3-906	0.94 (0.43)	STA-050x038-*	0.50 (0.23)
1/2”x 1/2”	A/STA-050x050-FC64-*-^	2.63 (66.80)	3/4”-16	OR^-3-909	OR^-3-908	0.96 (0.44)	STA-050x050-*	0.52 (0.24)
1/2”x 5/8”	A/STA-050x063-FC64-*-^	2.63 (66.80)	7/8”-14	OR^-3-909	OR^-3-910	1.01 (0.46)	STA-050x063-*	0.57 (0.26)
1/2”x 3/4”	A/STA-050x075-FC64-*-^	2.63 (66.80)	1 1/16”-12	OR^-3-909	OR^-3-912	1.10 (0.50)	STA-050x075-*	0.66 (0.30)
3/4”x 1/2”	A/STA-075x050-FC64-*-^	2.75 (69.85)	3/4”-16	OR^-3-913	OR^-3-908	1.85 (0.84)	STA-075x050-*	1.00 (0.45)
3/4”x 3/4”	A/STA-075x075-FC64-*-^	2.75 (69.85)	1 1/16”-12	OR^-3-913	OR^-3-912	1.92 (0.87)	STA-075x075-*	1.07 (0.49)
3/4”x 1”	A/STA-075x100-FC64-*-^	2.75 (69.85)	1 5/16”-12	OR^-3-913	OR^-3-916	2.00 (0.91)	STA-075x100-*	1.15 (0.52)
1”x 3/4”	A/STA-100x075-FC64-*-^	3.00 (76.20)	1 1/16”-12	OR^-3-916	OR^-3-912	2.44 (1.11)	STA-100x075-*	1.25 (0.57)
1”x 1”	A/STA-100x100-FC64-*-^	3.00 (76.20)	1 5/16”-12	OR^-3-916	OR^-3-916	2.49 (1.13)	STA-100x100-*	1.30 (0.59)
1”x 1-1/4”	A/STA-100x125-FC64-*-^	3.00 (76.20)	1 5/8”-12	OR^-3-916	OR^-3-920	2.68 (1.22)	STA-100x125-*	1.49 (0.68)
1-1/4”x 1”	A/STA-125x100-FC64-*-^	3.25 (82.55)	1 5/16”-12	OR^-3-918	OR^-3-916	3.65 (1.66)	STA-125x100-*	1.75 (0.79)
1-1/4”x 1-1/4”	A/STA-125x125-FC64-*-^	3.25 (82.55)	1 5/8”-12	OR^-3-918	OR^-3-920	3.72 (1.69)	STA-125x125-*	1.82 (0.83)
1-1/4”x 1-1/2”	A/STA-125x150-FC64-*-^	3.25 (82.55)	1 7/8”-12	OR^-3-918	OR^-3-924	3.93 (1.79)	STA-125x150-*	2.03 (0.92)
1-1/2”x 1-1/4”	A/STA-150x125-FC64-*-^	4.25 (107.95)	1 5/8”-12	OR^-3-924	OR^-3-920	6.13 (2.79)	STA-150x125-*	2.94 (1.33)
1-1/2”x 1-1/2”	A/STA-150x150-FC64-*-^	4.25 (107.95)	1 7/8”-12	OR^-3-924	OR^-3-924	6.16 (2.80)	STA-150x150-*	2.97 (1.35)
1-1/2” x 2”	A/STA-150x200-FC64-*-^	4.25 (107.95)	2 1/2”-12	OR^-3-924	OR^-3-932	6.73 (3.06)	STA-150x200-*	3.54 (1.61)
2”x 1-1/2”	A/STA-200x150-FC64-*-^	4.38 (111.25)	1 7/8”-12	OR^-3-928	OR^-3-924	8.64 (3.93)	STA-200x150-*	3.76 (1.71)
2”x 2”	A/STA-200x200-FC64-*-^	4.38 (111.25)	2 1/2”-12	OR^-3-928	OR^-3-932	8.84 (4.02)	STA-200x200-*	3.96 (1.80)

Flange Option:
Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

Ordering Example: A/STA-200x150-FC64-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

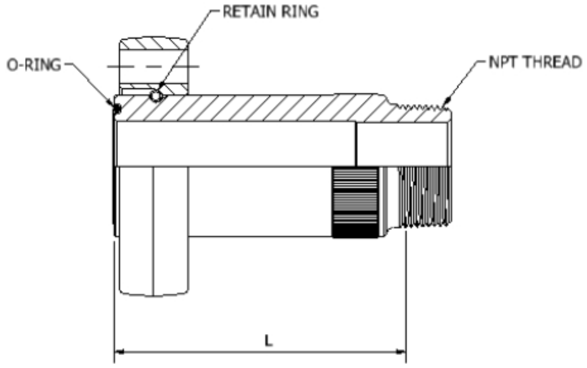
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

SAE 6000 PSI NPT Male Thread Adapter

Complete Assembly

SAE J518 Code 62 (ISO 6162-2)



Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page H25)

A/NTA - NPT Male Thread Adapter – Complete Assembly with Buna O-Ring

Size (flange x thread)	Complete Assembly Part Number	Dimension in (mm) L	NPTF Thread (Dryseal)	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
1/2”x 1/2”	A/NTA-050x050-FC64-*-^	2.88 (73.15)	1/2"-14	OR*-3-909	1.01 (0.46)	NTA-050x050-*-^	0.57 (0.26)
1/2”x 3/4”	A/NTA-050x075-FC64-*-^	2.86 (72.64)	3/4"-14	OR*-3-909	1.18 (0.54)	NTA-050x075-*-^	0.74 (0.34)
3/4”x 1/2”	A/NTA-075x050-FC64-*-^	3.00 (76.20)	1/2"-14	OR*-3-913	1.92 (0.87)	NTA-075x050-*-^	1.07 (0.49)
3/4”x 3/4”	A/NTA-075x075-FC64-*-^	2.98 (75.69)	3/4"-14	OR*-3-913	1.92 (0.87)	NTA-075x075-*-^	1.07 (0.49)
3/4”x 1”	A/NTA-075x100-FC64-*-^	3.07 (77.98)	1”-11-1/2	OR*-3-913	2.04 (0.93)	NTA-075x100-*-^	1.19 (0.54)
1”x 3/4”	A/NTA-100x075-FC64-*-^	3.23 (82.04)	3/4"-14	OR*-3-916	2.47 (1.12)	NTA-100x075-*-^	1.28 (0.58)
1”x 1”	A/NTA-100x100-FC64-*-^	3.32 (84.33)	1”-11-1/2	OR*-3-916	2.53 (1.15)	NTA-100x100-*-^	1.34 (0.61)
1”x 1-1/4”	A/NTA-100x125-FC64-*-^	3.33 (84.58)	1-1/4"-11-1/2	OR*-3-916	2.81 (1.28)	NTA-100x125-*-^	1.62 (0.74)
1-1/4”x 1”	A/NTA-125x100-FC64-*-^	3.57 (90.68)	1”-11-1/2	OR*-3-918	3.74 (1.70)	NTA-125x100-*-^	1.84 (0.84)
1-1/4”x 1-1/4”	A/NTA-125x125-FC64-*-^	3.58 (90.93)	1-1/4"-11-1/2	OR*-3-918	3.77 (1.71)	NTA-125x125-*-^	1.87 (0.85)
1-1/4”x 1-1/2”	A/NTA-125x150-FC64-*-^	3.61 (91.69)	1-1/2"-11-1/2	OR*-3-918	4.08 (1.85)	NTA-125x150-*-^	2.18 (0.99)
1-1/2”x 1-1/4”	A/NTA-150x125-FC64-*-^	4.58 (116.33)	1-1/4"-11-1/2	OR*-3-924	6.19 (2.81)	NTA-150x125-*-^	3.00 (1.36)
1-1/2”x 1-1/2”	A/NTA-150x150-FC64-*-^	4.61 (117.09)	1-1/2"-11-1/2	OR*-3-924	6.29 (2.86)	NTA-150x150-*-^	3.10 (1.41)
1-1/2” x 2”	A/NTA-150x200-FC64-*-^	4.63 (117.60)	2”-11-1/2	OR*-3-924	6.79 (3.09)	NTA-150x200-*-^	3.60 (1.64)
2”x 1-1/2”	A/NTA-200x150-FC64-*-^	4.61 (117.09)	1-1/2"-11-1/2	OR*-3-928	8.84 (4.02)	NTA-200x150-*-^	3.96 (1.80)
2”x 2”	A/NTA-200x200-FC64-*-^	4.63 (117.60)	2”-11-1/2	OR*-3-928	8.88 (4.04)	NTA-200x200-*-^	4.00 (1.82)

δ The seal for the 2” BSPP thread consists of a self-centering bonded seal.

Ordering Example: A/NTA-200x150-FC64-SS-V

Flange Option

* Insert Material

^ Insert O-Ring Type

Flange Option:
Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

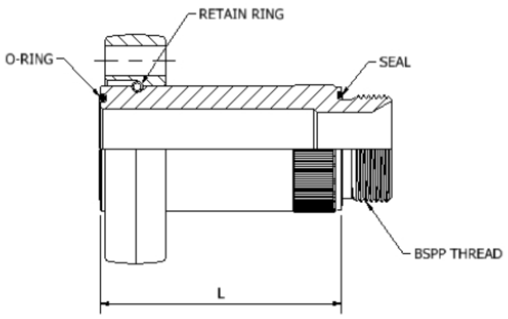
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

SAE 6000 PSI BSPP Male Thread Adapter

Complete Assembly

SAE J518 Code 62 (ISO 6162-2)



Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)
- One (1) Thread Seal (Seal 2)

To be Ordered Separately:

- Bolt Kit (See Page H25)

A/BTA - BSPP Male Thread Adapter Complete Assembly with Buna O-Rings

Size (flange x thread)	Complete Assembly Part Number	Dimension in (mm) L	Thread Size	O-Ring 1 (Buna) Part Number	Seal 2 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
1/2”x 1/2”	A/BTA-050x050-FC64-*-^	2.63 (66.80)	1/2"-14	OR*-3-909	DR*-G050	1.04 (0.47)	BTA-050x050-*-^	0.60 (0.27)
1/2”x 3/4”	A/BTA-050x075- FC64-*-^	2.63 (66.80)	3/4"-14	OR*-3-909	DR*-G075	1.14 (0.52)	BTA-050x075-*-^	0.70 (0.32)
3/4”x 1/2”	A/BTA-075x050- FC64-*-^	2.75 (69.85)	1/2"-14	OR*-3-913	DR*-G050	1.92 (0.87)	BTA-075x050-*-^	1.07 (0.49)
3/4”x 3/4”	A/BTA-075x075- FC64-*-^	2.75 (69.85)	3/4"-14	OR*-3-913	DR*-G075	1.92 (0.87)	BTA-075x075-*-^	1.07 (0.49)
3/4”x 1”	A/BTA-075x100- FC64-*-^	2.75 (69.85)	1”-11 1/2	OR*-3-913	DR*-G100	1.95 (0.89)	BTA-075x100-*-^	1.10 (0.50)
1”x 3/4”	A/BTA-100x075- FC64-*-^	3.00 (76.20)	3/4"-14	OR*-3-916	DR*-G075	2.40 (1.09)	BTA-100x075-*-^	1.21 (0.55)
1”x 1”	A/BTA-100x100- FC64-*-^	3.00 (76.20)	1”-11 1/2	OR*-3-916	DR*-G100	2.49 (1.13)	BTA-100x100-*-^	1.30 (0.59)
1”x 1-1/4”	A/BTA-100x125- FC64-*-^	3.00 (76.20)	1-1/4”-11 1/2	OR*-3-916	DR*-G125	2.74 (1.25)	BTA-100x125-*-^	1.55 (0.70)
1-1/4”x 1”	A/BTA-125x100- FC64-*-^	3.25 (82.55)	1”-11 1/2	OR*-3-918	DR*-G100	3.70 (1.68)	BTA-125x100-*-^	1.80 (0.82)
1-1/4”x 1-1/4”	A/BTA-125x125- FC64-*-^	3.25 (82.55)	1-1/4”-11 1/2	OR*-3-918	DR*-G125	3.77 (1.71)	BTA-125x125-*-^	1.87 (0.85)
1-1/4”x 1-1/2”	A/BTA-125x150- FC64-*-^	3.25 (82.55)	1-1/2”-11 1/2	OR*-3-918	DR*-G150	3.90 (1.77)	BTA-125x150-*-^	2.00 (0.91)
1-1/2”x 1-1/4”	A/BTA-150x125- FC64-*-^	4.25 (107.95)	1-1/4”-11 1/2	OR*-3-924	DR*-G125	6.21 (2.82)	BTA-150x125-*-^	3.02 (1.37)
1-1/2”x 1-1/2”	A/BTA-150x150- FC64-*-^	4.25 (107.95)	1-1/2”-11 1/2	OR*-3-924	DR*-G150	6.19 (2.81)	BTA-150x150-*-^	3.00 (1.36)
1-1/2” x δ2”	A/BTA-150x200- FC64-*-^	4.25 (107.95)	2”-11 1/2	OR*-3-924	BS*-3236	6.79 (3.09)	BTA-150x200-*-^	3.60 (1.64)
2”x 1-1/2”	A/BTA-200x150- FC64-*-^	4.38 (111.25)	1-1/2”-11 1/2	OR*-3-928	DR*-G150	8.82 (4.01)	BTA-200x150-*-^	3.94 (1.79)
2”x δ2”	A/BTA-200x200- FC64-*-^	4.38 (111.25)	2”-11 1/2	OR*-3-928	BS*-3236	8.88 (4.04)	BTA-200x200-*-^	4.00 (1.82)

δ The seal for the 2” BSPP thread consists of a self-centering bonded seal.

Ordering Example: A/BTA-200x150-FC64-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

Flange Option:
Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

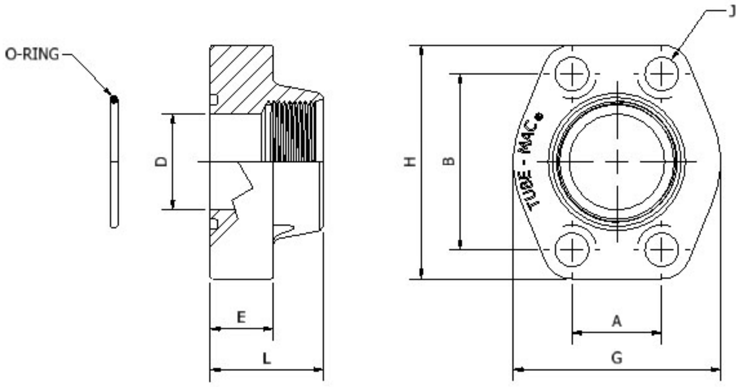
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

SAE 6000 PSI SAE Female Thread Flange

with O-Ring Face and Clearance Holes

SAE J518 Code 62 (ISO 6162-2)



STFO64 - SAE Female Thread Flange - O-Ring Face with Clearance Holes with Buna O-Ring

Size	Flange Part Number	Dimensions (in)							SAE Thread UNF-2A	Drill Dia. (in) J	Bolt Minimum Grade 8	O-Ring (Buna) Part No.	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H							
1/2”	STF064-050-*-^	0.72	1.59	0.51	0.63	1.42	1.88	2.22	3/4”-16	0.35	5/16” UNC	OR*-2-210	0.57	6000 (420)	15-18
3/4”	STF064-075-*-^	0.94	2.00	0.75	0.83	1.34	2.38	2.81	1-1/16”-12	0.43	3/8” UNC	OR*-2-214	1.10	6000 (420)	20-30
1”	STF064-100-*-^	1.09	2.25	0.98	0.98	1.65	2.7	3.19	1-5/16”-12	0.51	7/16” UNC	OR*-2-219	1.68	6000 (420)	40-50
1-1/4”	STF064-125-*-^	1.25	2.63	1.26	1.06	1.77	3.06	3.75	1-5/8”-12	0.53	1/2” UNC	OR*-2-222	2.65	6000 (420)	80-90
1-1/2”	STF064-150-*-^	1.44	3.13	1.50	1.18	1.97	3.75	4.44	1-7/8”-12	0.67	5/8” UNC	OR*-2-225	3.64	6000 (420)	110-120

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: SFT064-150-SS-V

* Insert Material

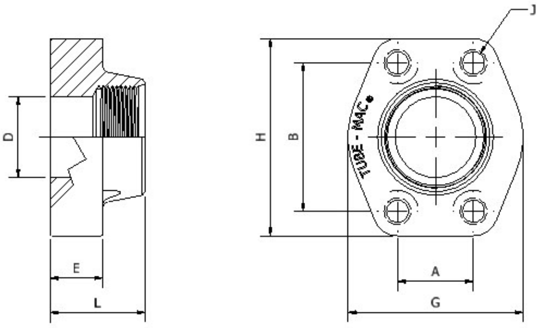
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI SAE Female Thread Flange

with Flat Face and Threaded Holes

SAE J518 Code 62 (ISO 6162-2)



STFF64 - SAE Female Thread Flange Flat Face with Threaded Holes

Size	Flange Part Number	Dimensions (in)							SAE Thread UNF-2A	Bolt Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H					
1/2”	STFF64-050-*-^	0.72	1.59	0.51	0.63	1.42	1.88	2.22	3/4"-16	5/16”	0.57	6000 (420)	15-18
3/4”	STFF64-075-*-^	0.94	2.00	0.75	0.83	1.34	2.38	2.81	1 1/16”-12	3/8”	1.10	6000 (420)	20-30
1”	STFF64-100-*-^	1.09	2.25	0.98	0.98	1.65	2.75	3.19	1 5/16”-12	7/16”	1.68	6000 (420)	40-50
1-1/4”	STFF64-125-*-^	1.25	2.63	1.26	1.06	1.77	3.06	3.75	1 5/8”-12	1/2”	2.65	6000 (420)	80-90
1-1/2”	STFF64-150-*-^	1.44	3.13	1.50	1.18	1.97	3.75	4.44	1 7/8”-12	5/8”	3.64	6000 (420)	110-120

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

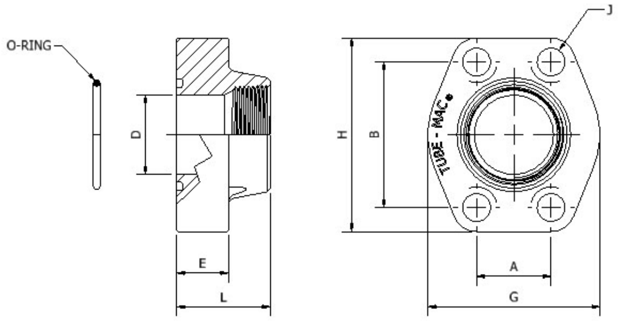
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: STFF64-150-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI NPT Female Thread Flange
with O-Ring Face and Clearance Holes

SAE J518 Code 62 (ISO 6162-2)



NTFO64 - NPT Female Thread Flange - O-Ring Face with Clearance Holes with Buna O-Ring

Size	Flange Part Number	Dimensions (in)							NPTF Thread	Drill Dia. (in) J	Bolt Minimum Grade 8	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H							
1/2”	NTF064-050-*-^	0.72	1.59	0.51	0.63	1.42	1.88	2.22	1/2"-14	0.35	5/16”	OR*-2-210	0.57	6000 (420)	15-18
3/4”	NTF064-075-*-^	0.94	2.00	0.75	0.83	1.34	2.38	2.81	3/4"-14	0.43	3/8”	OR*-2-214	1.10	6000 (420)	20-30
1”	NTF064-100-*-^	1.09	2.25	0.98	0.98	1.65	2.75	3.19	1”-11-1/2	0.51	7/16”	OR*-2-219	1.68	6000 (420)	40-50
1-1/4”	NTF064-125-*-^	1.25	2.63	1.26	1.06	1.77	3.06	3.75	1-1/4"-11-1/2	0.53	1/2"	OR*-2-222	2.65	6000 (420)	80-90
1-1/2”	NTF064-150-*-^	1.44	3.13	1.50	1.18	1.97	3.75	4.44	1-1/2"-11-1/2	0.67	5/8”	OR*-2-225	3.64	6000 (420)	110-120
2”	NTF064-200-*-^	1.75	3.81	2.01	1.46	2.56	4.50	5.25	2”-11-1/2	0.83	3/4"	OR*-2-228	5.40	6000 (420)	120-130

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

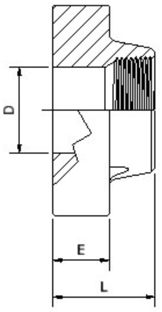
<u>^ O-Ring 2 Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

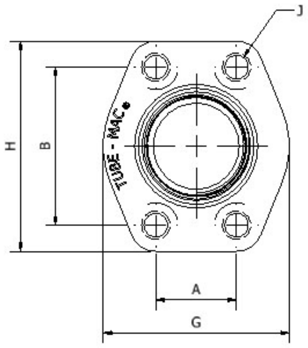
Ordering Example: NTF064-200-SS-V
* Insert Material
^ Insert O-Ring Type

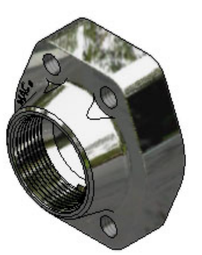
SAE 6000 PSI NPT Female Thread Flange

with Flat Face and Threaded Holes

SAE J518 Code 62 (ISO 6162-2)







NTFF64 NPT Female Thread Flange - SAE Code 62 Flat Face with Threaded Holes

Size	Flange Part Number	Dimensions (in)							NPTF Thread	Bolt Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)	Bolt Torque ft.lbs.
		A	B	D	E	L	G	H					
1/2”	NTFF64-050-*-^	0.72	1.59	0.51	0.63	1.42	1.88	2.22	1/2"-14	5/16”	0.57	6000 (420)	15-18
3/4”	NTFF64-075-*-^	0.94	2.00	0.75	0.83	1.34	2.38	2.81	3/4"-14	3/8”	1.10	6000 (420)	20-30
1”	NTFF64-100-*-^	1.09	2.25	0.98	0.98	1.65	2.75	3.19	1”-11 1/2	7/16”	1.68	6000 (420)	40-50
1-1/4”	NTFF64-125-*-^	1.25	2.63	1.26	1.06	1.77	3.06	3.75	1-1/4"-11-1/2	1/2"	2.65	6000 (420)	80-90
1-1/2”	NTFF64-150-*-^	1.44	3.13	1.50	1.18	1.97	3.75	4.44	1-1/2"-11-1/2	5/8”	3.64	6000 (420)	110-120
2”	NTFF64-200-*-^	1.75	3.81	2.01	1.46	2.56	4.50	5.25	2”-11-1/2	3/4"	5.40	6000 (420)	120-130

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

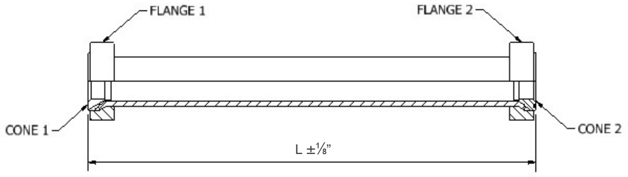
Ordering Example: NTFF64-200-SS-V
* Insert Material
^ Insert O-Ring Type

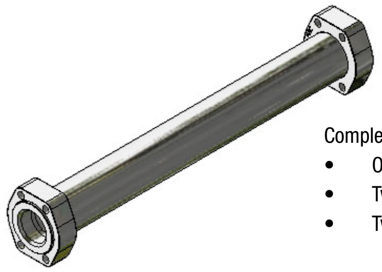
3D step models available upon request

SAE 6000 PSI Flare Flange Pipe Assembly, NPS

SAE J518 Code 62 (ISO 6162-2)

Typical PAF Assembly





Complete Flange Set Includes:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

PAF / Pipe & Cone Material - Pipe Size & Schedule - Flange 1 - Flange 2 - Cone 1 - Cone 2 - Length - Options

		Code
Bent Pipe Assembly - Flared		**PAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size	**1/2"**	SCH40-050
		SCH80-050
	3/4"	SCH40-075
		SCH80-075
	1"	SCH40-100
		SCH80-100
	1-1/4"	SCH40-125
		SCH80-125
	1-1/2"	SCH40-150
		SCH80-150
		SCH160-150
	2"	SCH40-200
		SCH80-200
		SCH160-200
Flange Type Carbon Steel	**FFC64** SAE Code 62 W/Clearance Holes	FC64
	FFTM64 SAE Code 62 W/Threaded Holes	FT64
Cone Type	Cone - Flat Face	CF
	Cone - 'O' Ring Face	CO
Length	L2	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART Number (EXAMPLE): PAF/52 - SCH80-100 - FC64 - FC64 - CO - CF - 240

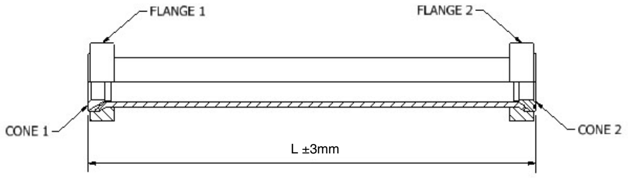
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

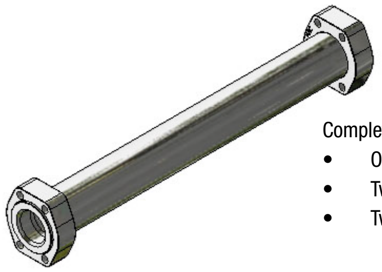
3D step models available upon request

SAE 6000 PSI Flare Flange Pipe Assembly, Metric

SAE J518 Code 62 (ISO 6162-2)

Typical PAF Assembly





Complete Flange Set Includes:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

Code | **PAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Cone 1** - **Cone 2** - **Length** - **Options**

Bent Pipe Assembly - Flared		**PAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size	**1/2”**	20x3.0-050
		25x3.0-050
	3/4”	30x3.0-075
		30x4.0-075
	1”	38x4.0-100
		38x5.0-100
	1-1/4”	42x4.0-125
		42x5.0-125
	1-1/2”	50x3.0-150
		50x5.0-150
	2”	60x5.0-200
		60x6.0-200
Flange Type Carbon Steel	**FFCM34** SAE Code 62 W/Clearance Holes	FCM64
	FFTM64 SAE Code 62 W/Threaded Holes	FTM64
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

□TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART Number (EXAMPLE): PAF/52 - 38x4.0 - 100 - FCM64 - FCM64 - CO - CF - 6000

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

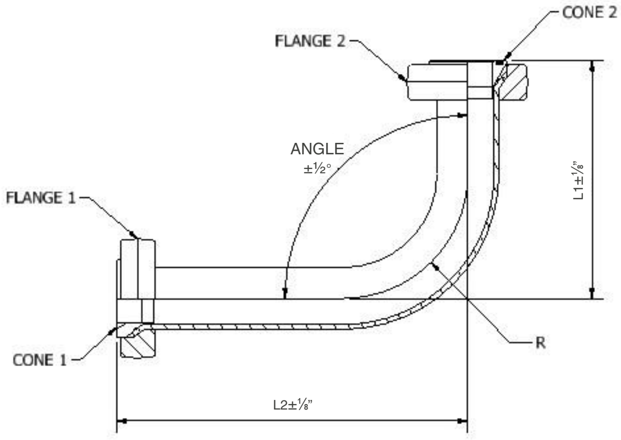
3D step models available upon request

SAE 6000 PSI Flare Flange Bent Pipe Assembly, NPS

Typical BPAF Assembly

Complete assembly consists of:

- One (1) length of bent clean pipe
- Two (2) flare flanges
- Two (2) cones



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<tr><th colspan="2">Dimensions (in)</th><th colspan="2">Dimensions (in)</th><th colspan="2">Dimensions (in)</th></tr>
<tr><th>L(min.)</th><th>R</th><th>L(min.)</th><th>R</th><th>L(min.)</th><th>R</th></tr>
<tr><td>1/2”</td><td>4.50</td><td>1.68</td><td>5.50</td><td>2.52</td><td>6.75</td><td>3.88</td></tr>
<tr><td>3/4”</td><td>5.00</td><td>2.10</td><td>6.00</td><td>3.15</td><td>7.00</td><td>4.25</td></tr>
<tr><td>1”</td><td>5.50</td><td>2.63</td><td>7.00</td><td>3.95</td><td>7.75</td><td>4.88</td></tr>
<tr><td>1-1/4”</td><td>6.38</td><td>3.32</td><td>8.00</td><td>4.98</td><td>8.63</td><td>5.63</td></tr>
<tr><td>1-1/2”</td><td>7.50</td><td>3.80</td><td>9.25</td><td>5.70</td><td>11.75</td><td>8.19</td></tr>
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Note: OTHER RADII AVAILABLE (CONSULT FACTORY)

3D step models available upon request

SAE 6000 PSI Flare Flange Bent Pipe Assembly, NPS

Code | **BPAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Cone 1** - **Cone 2** - **Rad.** - **Lgth L1** - **Ang** - **Lgth L2** - **Options**

Bent Pipe Assembly - Flared		**BPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1/2”**	SCH40-050
		SCH80-050
	3/4”	SCH40-075
		SCH80-075
	1”	SCH40-100
		SCH80-100
	1-1/4”	SCH40-125
		SCH80-125
	1-1/2”	SCH40-150
		SCH80-150
		SCH160-150
	2”	SCH40-200
		SCH80-200
		SCH160-200
Flange Type Carbon Steel	**FFC64** SAE Code 62 W/Clearance Holes	FC64
	FFT64 SAE Code 62 W/Threaded Holes	FT64
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Radius	Field Manufactured	R1
	Factory Manufactured	R2
Length	L1	Specify (in.)
Angle	Max 90º	Specify (º)
Length	L2	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART Number (EXAMPLE): BPAF/52-SCH80-100 -FC64-FC64-CO-CF-R1-125-90-115

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

Consult factory for ordering assistance

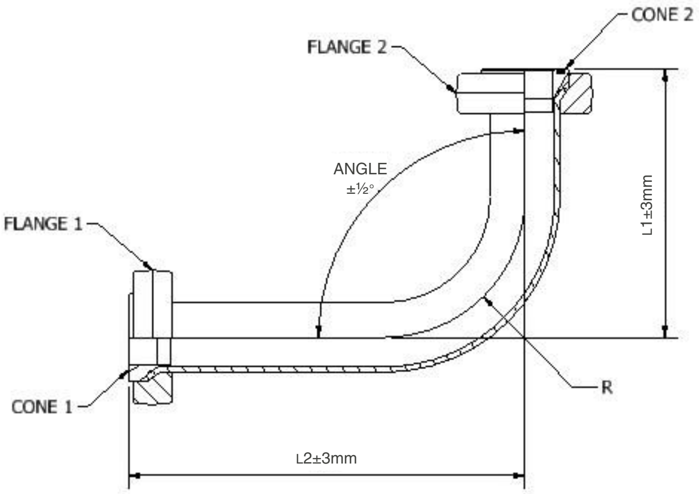
3D step models available upon request

SAE 6000 PSI Flare Flange Bent Pipe Assembly, Metric

Typical BPAF Assembly

Complete assembly consists of:

- One (1) length of bent clean pipe
- Two (2) flare flanges
- Two (2) cones



Size	R1		R2		R3	
	Dimensions (mm)		Dimensions (mm)		Dimensions (mm)	
	L(min.)	R	L(min.)	R	L(min.)	R
1/2”	126	50	151	75	176	100
3/4”	134	60	164	90	194	120
1”	153	76	191	114	229	152
1-1/4”	162	84	204	126	246	168
1-1/2”	194	100	244	150	294	200
2”	215	120	275	180	335	240

Note: OTHER RADII AVAILABLE (CONSULT FACTORY)

3D step models available upon request

SAE 6000 PSI Flare Flange Bent Pipe Assembly, Metric

Code | **BPAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Cone 1** - **Cone 2** - **Rad.** - **Lgth L1** - **Ang** - **Lgth L2** - **Options**

Bent Pipe Assembly - Flared		**BPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
	TMP37CD	37
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size	**1/2”**	20x3.0-050 25x3.0-050
	3/4”	25x3.0-075 30x3.0-075
	1”	30x4.0-100 38x4.0-100
	1-1/4”	38x4.0-125 42x4.0-125
	1-1/2”	50x5.0-150 50x6.0-150 56x8.5-150
	2”	60x5.0-200 60x6.0-200 60x8.0-200 66x8.5-200
Flange Type Carbon Steel	**FFCM64** SAE Code 62 W/Clearance Holes	FCM64
	FFTM64 SAE Code 62 W/Threaded Holes	FTM64
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Radius	Field Manufactured	R1
	Factory Manufactured	R2
Length	L1	Specify (mm)
Angle	Max 90º	Specify (º)
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART Number (EXAMPLE): BPAF/52-38x4.0-100-FCM64-FCM64-CO-CF-R1-3000-90-2500

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

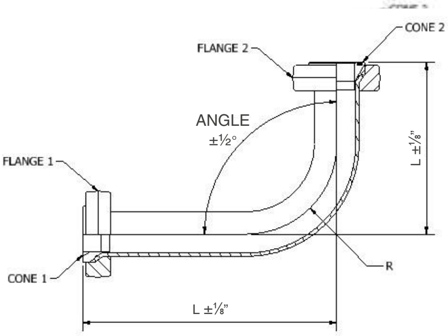
Consult factory for ordering assistance

3D step models available upon request

SAE 6000 PSI Flare Flange Bend Elbow

Complete Assembly, NPS

SAE J518 Code 61 (ISO 6162-2)



A/FFE - Flare Flange Bend Elbow – Complete Assembly, NPS

Size	Complete Assembly Part Number	R1 Bend Radius (in)		R2 Bend Radius (in)		R3 Bend Radius (in)	
		R	L1	R	L1	R	L1
1/2”	A/FFE-SCH40-050-FC64-FC64-CO-CO-•-*-^	1.68	4.5	2.52	5.5	3.875	6.75
1/2”	A/FFE-SCH80-050-FC64-FC64-CO-CO-•-*-^	1.68	4.5	2.52	5.5	3.875	6.75
3/4”	A/FFE-SCH40-075-FC64-FC64-CO-CO-•-*-^	2.1	5.0	3.15	6.0	4.25	7.0
3/4”	A/FFE-SCH80-075-FC64-FC64-CO-CO-•-*-^	2.1	5.0	3.15	6.0	4.25	7.0
1””	A/FFE-SCH40-100-FC64-FC64-CO-CO-•-*-^	2.63	5.5	3.95	7.0	4.875	7.75
1”	A/FFE-SCH80-100-FC64-FC64-CO-CO-•-*-^	2.63	5.5	3.95	7.0	4.875	7.75
1-1/4”	A/FFE-SCH40-125-FC64-FC64-CO-CO-•-*-^	3.32	6.375	4.98	8.0	5.625	8.625
1-1/4”	A/FFE-SCH80-125-FC64-FC64-CO-CO-•-*-^	3.32	6.375	4.98	8.0	5.625	8.625
1-1/2”	A/FFE-SCH40-150-FC64-FC64-CO-CO-•-*-^	3.8	7.5	5.7	9.25	8.1875	11.75
1-1/2”	A/FFE-SCH80-150-FC64-FC64-CO-CO-•-*-^	3.8	7.5	5.7	9.25	8.1875	11.75
1-1/2”	A/FFE-SCH160-150-FC64-F634-CO-CO-•-*-^	3.8	7.5	5.7	9.25	8.1875	11.75
2”	A/FFE-SCH40-200-FC64-FC64-CO-CO-•-*-^	4.75	8.5	7.125	10.75	9 7/16	13
2”	A/FFE-SCH80-200-FC64-FC64-CO-CO-•-*-^	4.75	8.5	7.125	10.75	9 7/16	13
2”	A/FFE-SCH160-200-FC64-FC64-CO-CO-•-*-^	4.75	8.5	7.125	10.75	9 7/16	13

Assembly working pressure ratings are subject to the lesser of the flange or pipe ratings.

Flange Options:
FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.

Cone Options:
CO = O-Ring Faced Cone.
CF = Flat Faced Cone.

•Bend Radius Options (Other radii available, consult factory):
R1
R2
R3

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/FFE-SCH40-200-FC64-FC64-CO-CO-R1-SS-V

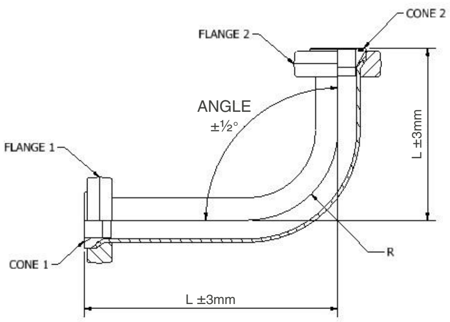
Flange 1 Option
Flange 2 Option
Cone 1 Option
Cone 2 Option
• Insert Bend Radius
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Flare Flange Bend Elbow

Complete Assembly, Metric

SAE J518 Code 62 (ISO 6162-2)



COMPLETE ASSEMBLY CONSISTS OF:

- FLARE FLANGE 90° ELBOW BODY
- TWO (2) FLARE FLANGES
- TWO (2) CONES

A/FFEM - Flare Flange Bend Elbow Complete Assembly, Metric

Size	Complete Assembly Part Number	R1 Bend Radius (mm)		R2 Bend Radius (mm)		R3 Bend Radius (mm)	
		R	L1	R	L1	R	L1
1/2”	A/FFEM-20x3.0-050- FCM64-FCM64-CO-CO-•-*-^	40	116	60	136	80	156
1/2”	A/FFEM-25x3.0-050- FCM64-FCM64-CO-CO-•-*-^	50	126	75	151	100	176
3/4”	A/FFEM-30x3.0-075- FCM64-FCM64-CO-CO-•-*-^	50	134	90	149	120	194
3/4”	A/FFEM-30x4.0-075- FCM64-FCM64-CO-CO-•-*-^	60	134	90	164	120	194
1”	A/FFEM-38x4.0-100- FCM64-FCM64-CO-CO-•-*-^	76	153	114	167	152	229
1”	A/FFEM-38x5.0-100- FCM64-FCM64-CO-CO-•-*-^	76	153	114	191	152	229
1-1/4”	A/FFEM-42x4.0-125- FCM64-FCM64-CO-CO-•-*-^	84	162	126	192	168	246
1-1/4”	A/FFEM-42x5.0-125- FCM64-FCM64-CO-CO-•-*-^	84	162	126	204	168	246
1-1/2”	A/FFEM-50x5.0-150- FCM64-FCM64-CO-CO-•-*-^	100	194	150	220	200	294
1-1/2”	A/FFEM-50x6.0-150- FCM64-FCM64-CO-CO-•-*-^	100	194	150	244	200	294
1-1/2”	A/FFEM-56x8.5-150- FCM64-FCM64-CO-CO-•-*-^	100	194	150	244	200	294
2”	A/FFEM-60x5.0-200- FCM64-FCM64-CO-CO-•-*-^	120	215	180	245	240	335
2”	A/FFEM-60x6.0-200- FCM64-FCM64-CO-CO-•-*-^	120	215	180	275	240	335
2”	A/FFEM-66x8.5-200- FCM64-FCM64-CO-CO-•-*-^	120	215	180	275	240	335

Flange Options:
FCM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

Cone Options:
CO = O-Ring Faced Cone.
CF = Flat Faced Cone.

•Bend Radius Options (Other radii available, consult factory):
R1
R2
R3

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/FFEM-60x5.0-200-FCM64-FCM64-CO-CO-R1-SS-V

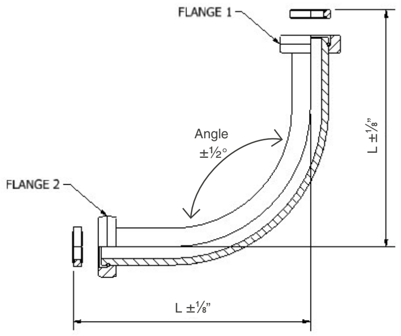
Flange 1 Option
Flange 2 Option
Cone 1 Option
Cone 2 Option
• Insert Bend Radius
* Insert Material
^ Insert O-Ring Type

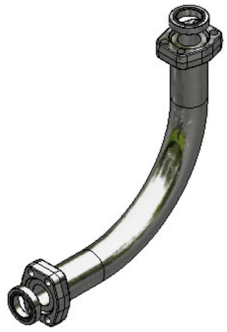
3D step models available upon request

SAE 6000 PSI Retain Ring Flange Bend Elbow

Complete Assembly

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Retain Ring Flange Bend Elbow Body
- Two (2) Retain Ring Flanges
- Two (2) Retain Rings
- Two (2) O-Ring Spacers

A/RFE - Retain Ring Flange Bend Elbow – Complete Assembly

Size	Complete Assembly Part Number	Dimensions in (mm)	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L				
1-1/2"	A/RFE-150-FC64-*-^	13.00 (330.20)	14.98 (6.80)	RFE-150-*-^	11.50 (5.22)	6000 (420)
2”	A/RFE-200-FC64-*-^	14.50 (368.30)	20.47 (9.30)	RFE-200-*-^	15.59 (7.07)	6000 (420)

Flange Option:
Standard, FC64 = SAE 6000 PSI Code 61 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

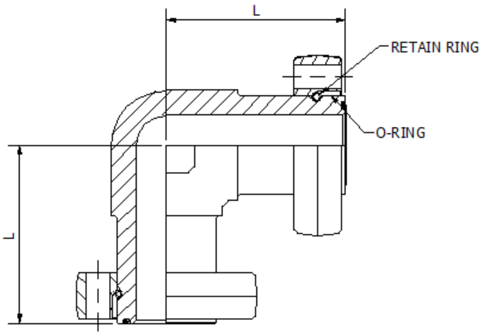
Ordering Example: A/RFE-200-FC64-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

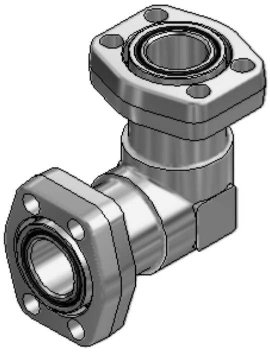
3D step models available upon request

SAE 6000 PSI Retain Ring Flange Elbow

Complete Assembly

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:

- One (1) Flange Elbow
- Two (2) Retain Ring Flanges
- Two (2) Retain Rings
- Two (2) Face O-Rings

To be Ordered Separately:

- Bolt Kit

See page H25

A/RRFE - Retain Ring Flange Elbow – Complete Assembly with Buna O-Ring

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L					
1/2"	A/RRFE-050-FC64-*-^	2.40 (61.0)	OR^-3-909	2.02 (0.92)	RRFE-050-*-^	1.10 (0.50)	6000 (420)
3/4"	A/RRFE-075-FC64-*-^	2.61 (66.2)	OR^-3-913	3.68 (1.67)	RRFE-075-*-^	1.94 (0.88)	6000 (420)
1”	A/RRFE-100-FC64-*-^	2.81 (71.4)	OR^-3-916	4.73 (2.15)	RRFE-100-*-^	2.26 (1.03)	6000 (420)
1-1/4"	A/RRFE-125-FC64-*-^	3.22 (81.8)	OR^-3-918	7.26 (3.29)	RRFE-125-*-^	3.29 (1.49)	6000 (420)
1-1/2"	A/RRFE-150-FC64-*-^	4.01 (101.9)	OR^-3-924	12.18 (5.52)	RRFE-150-*-^	6.08 (2.76)	6000 (420)
2”	A/RRFE-200-FC64-*-^	4.40 (111.8)	OR^-3-928	18.74 (8.5)	RRFE-200-*-^	7.62 (3.46)	6000 (420)

Flange Option:
Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

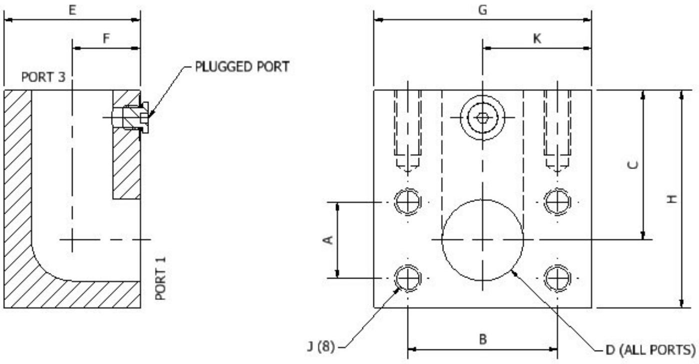
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

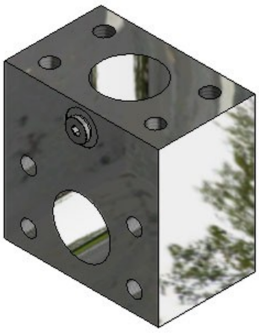
Ordering Example: A/RRFE-200-FC64-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Block Elbow

SAE J518 Code 62 (ISO 6162-2) Flange Style





BE64 - Block Elbow Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Elbow Part Number	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BE64-050-*	0.72	1.59	1.88	0.50	2.00	1.00	2.50	2.50	1.25	5/16”-18	3.10	6000 (420)
3/4”	BE64-075-*	0.94	2.00	2.25	0.75	2.00	1.00	3.00	3.25	1.50	3/8”-16	4.74	6000 (420)
1”	BE64-100-*	1.09	2.25	2.50	0.94	2.25	1.13	3.00	4.00	1.50	7/16”-14	6.42	6000 (420)
1-1/4”	BE64-125-*	1.25	2.63	2.75	1.25	2.50	1.25	4.00	4.00	2.00	1/2"-13	9.18	6000 (420)
1-1/2”	BE64-150-*	1.44	3.13	3.00	1.50	3.00	1.50	4.00	4.50	2.00	5/8”-11	11.66	6000 (420)
2”	BE64-200-*	1.75	3.81	3.38	1.94	3.00	1.50	5.00	5.00	2.50	3/4"-10	14.97	6000 (420)

BEM64 - Block Elbow Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size	Block Elbow Part Number	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BEM64-050-*	18.3	40.4	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	1.41	6000 (420)
3/4”	BEM64-075-*	23.9	50.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	2.15	6000 (420)
1”	BEM64-100-*	27.7	57.2	63.5	23.9	57.2	28.7	76.2	101.6	38.1	M12 x 1.75	2.92	6000 (420)
1-1/4”	BEM64-125-*	31.8	66.8	69.9	31.8	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	4.17	6000 (420)
1-1/4”(2)	BEM64-125-M14-*	31.8	66.8	69.9	31.8	63.5	31.8	101.6	101.6	50.8	M14 x 2.00	4.17	6000 (420)
1-1/2”	BEM64-150-*	36.6	79.5	76.2	38.1	76.2	38.1	101.6	114.3	50.8	M16 x 2.00	5.30	6000 (420)
2”	BEM64-200-*	44.5	96.8	85.9	49.3	76.2	38.1	127.0	127.0	63.5	M20 x 2.50	6.80	6000 (420)

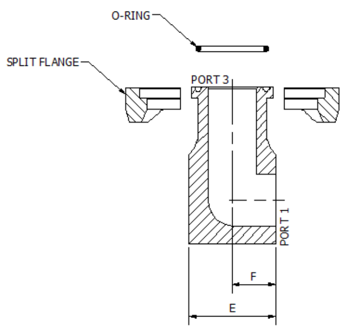
Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

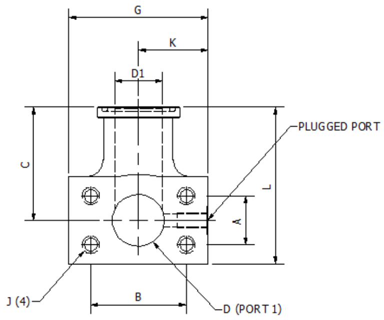
Ordering Example: BE64-200-SS
* Insert Material

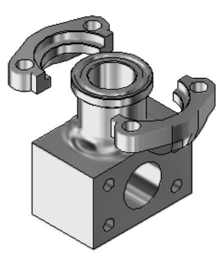
3D step models available upon request

SAE 6000 PSI Split Flange Elbow

SAE J518 Code 62 (ISO 6162-2) Flange Style







Complete Flange Set Includes:

- One (1) Split Flange Elbow
- One (1) Set (2 Halves) Split Flange
- One (1) O-Ring
- One (1) Component Bolt Kit

A/SFE64 - Split Flange Elbow Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFE64-050-*-^	0.72	1.59	2.75	0.50	0.38	2.00	1.00	2.50	1.25	3.75	5/16”-18	OR*-2-210	3.46 (1.57)	SFE64-050-*	2.91 (1.32)	6000 (420)
3/4”	A/SFE64-075-*-^	0.94	2.00	3.00	0.75	0.63	2.00	1.00	3.00	1.50	4.00	3/8”-16	OR*-2-214	4.46 (2.02)	SFE64-075-*	3.53 (1.60)	6000 (420)
1”	A/SFE64-100-*-^	1.09	2.25	3.38	0.94	0.88	2.25	1.13	3.00	1.50	4.50	7/16”-14	OR*-2-219	5.86(2.66)	SFE64-100-*	4.40 (2.00)	6000 (420)
1-1/4”	A/SFE64-125-*-^	1.25	2.63	3.50	1.25	1.13	2.50	1.25	4.00	2.00	4.75	1/2"-13	OR*-2-222	8.78 (3.98)	SFE64-125-*	6.52 (2.96)	6000 (420)
1-1/2”	A/SFE64-150-*-^	1.44	3.13	4.25	1.50	1.38	3.00	1.50	4.00	2.00	5.75	5/8”-11	OR*-2-225	13.31 (6.04)	SFE64-150-*	9.40 (4.26)	6000 (420)
2”	A/SFE64-200-*-^	1.75	3.81	4.75	1.94	1.88	3.00	1.50	5.00	2.50	6.25	3/4”-10	OR*-2-228	18.26 (8.28)	SFE64-200-*	11.78 (5.34)	6000 (420)

A/SFEM64 - Split Flange Elbow Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFEM64-050-*-^	18.3	38.1	69.9	12.7	9.7	50.8	25.4	63.5	31.8	95.3	M8 x 1.25	OR*-2-210	3.46 (1.57)	SFEM64-050-*	2.91 (1.32)	6000 (420)
3/4”	A/SFEM64-075-*-^	23.9	50.8	76.2	19.1	16.0	50.8	25.4	76.2	38.1	101.6	M10 x 1.50	OR*-2-214	4.48 (2.03)	SFEM64-075-*	3.53 (1.60)	6000 (420)
1”	A/SFEM64-100-*-^	27.7	57.2	85.9	23.9	22.4	57.2	28.7	76.2	38.1	114.3	M12 x 1.75	OR*-2-219	5.86 (2.66)	SFEM64-100-*	4.41 (2.00)	6000 (420)
1-1/4”	A/SFEM64-125-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	120.7	M12 x 1.75	OR*-2-222	8.80 (3.99)	SFEM64-125-*	6.53 (2.96)	6000 (420)
1-1/4”(2)	A/SFEM64-125-M14-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	120.7	M14 x 2.00	OR*-2-222	8.80 (3.99)	SFEM64-125-M14-*	6.53 (2.96)	6000 (420)
1-1/2”	A/SFEM64-150-*-^	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	146.1	M16 x 2.00	OR*-2-225	13.34 (6.05)	SFEM64-150-*	9.41(4.27)	6000 (420)
2”	A/SFEM64-200-*-^	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	158.8	M20 x 2.50	OR*-2-228	18.30 (8.30)	SFEM64-200-*	11.79 (5.35)	6000 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/SFE64-200-SS-V

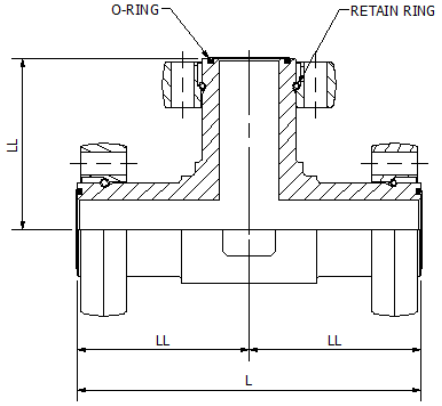
* Insert Material

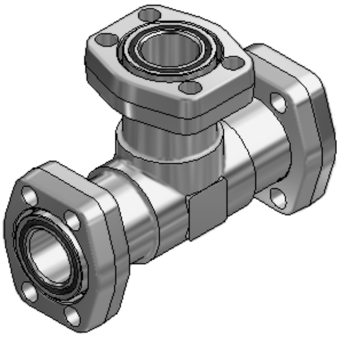
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Flange Tee **Complete Assembly**

SAE J518 Code 62 (ISO 6162-2)





Complete Flange Set Includes:
- One (1) Flange Tee
- Three (3) Retain Ring Flanges
- Three (3) Retain Rings
- Three (3) Face O-Rings

To be Ordered Separately:
- Bolt Kit

See page H25

A/RRFT - Flange Tee Complete Assembly Complete with Buna O-Ring

Size	Complete Assembly Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L	LL					
1/2"	A/RRFT-050-FC64-*-^	4.81 (122.2)	2.41 (112.01)	OR^-3-909	3.02 (1.37)	RRFT-050-*-^	1.46 (0.66)	6000 (420)
3/4"	A/RRFT-075-FC64-*-^	5.22 (132.6)	2.61 (66.30)	OR^-3-913	5.85 (2.65)	RRFT-075-*-^	2.61 (1.18)	6000 (420)
1”	A/RRFT-100-FC64-*-^	5.62 (142.7)	2.81 (71.4)	OR^-3-916	6.96 (3.16)	RRFT-100-*-^	2.91 (1.32)	6000 (420)
1 1/4"	A/RRFT-125-FC64-*-^	6.45 (163.8)	3.22 (81.8)	OR^-3-918	11.55 (5.24)	RRFT-125-*-^	4.89 (2.22)	6000 (420)
1 1/2"	A/RRFT-150-FC64-*-^	8.02 (203.7)	4.01 (101.9)	OR^-3-924	18.30 (8.30)	RRFT-150-*-^	8.10 (3.67)	6000 (420)
2”	A/RRFT-200-FC64-*-^	8.81 (223.8)	4.40 (111.8)	OR^-3-928	27.30 (12.38)	RRFT-200-*-^	9.90 (4.49)	6000 (420)

Flange Option:
Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

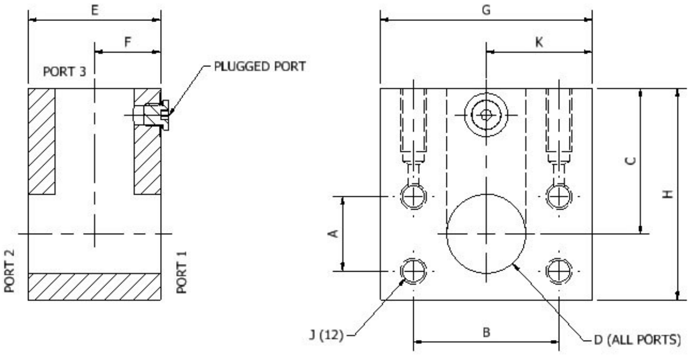
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

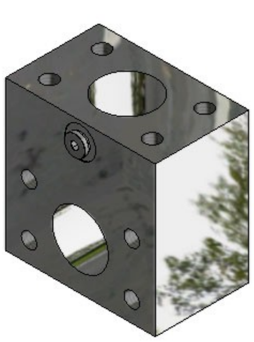
Ordering Example: A/RRFT-200-FC64-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Block Tee

SAE J518 Code 62 (ISO 6162-2) Flange Style





BT64 - Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Tee Part No	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BT64-050-*	0.72	1.59	1.88	0.50	2.00	1.00	2.50	2.50	1.25	5/16”-18	3.05 (1.38)	6000 (420)
3/4”	BT64-075-*	0.94	2.00	2.25	0.75	2.00	1.00	3.00	3.25	1.50	3/8”-16	4.66 (2.11)	6000 (420)
1”	BT64-100-*	1.09	2.25	2.50	0.94	2.25	1.13	3.00	4.00	1.50	7/16”-14	6.20 (2.81)	6000 (420)
1-1/4”	BT64-125-*	1.25	2.63	2.75	1.25	2.50	1.25	4.00	4.00	2.00	1/2"-13	8.86 (4.02)	6000 (420)
1-1/2”	BT64-150-*	1.44	3.13	3.00	1.50	3.00	1.50	4.00	4.50	2.00	5/8”-11	11.04 (5.01)	6000 (420)
2”	BT64-200-*	1.75	3.81	3.38	1.94	3.00	1.50	5.00	5.00	2.50	3/4"-10	14.41 (6.54)	6000 (420)

BTM64 - Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (inch)	Block Tee Part No	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BTM64-050-*	18.3	40.4	47.8	12.7	50.8	25.4	63.5	63.5	31.8	M8 X 1.25	3.07 (1.39)	6000 (420)
3/4”	BTM64-075-*	23.9	50.8	57.2	19.1	50.8	25.4	76.2	82.6	38.1	M10 X 1.50	4.67 (2.12)	6000 (420)
1”	BTM64-100-*	27.7	57.2	63.5	23.9	57.2	28.7	76.2	101.6	38.1	M12 X 1.75	6.22 (2.82)	6000 (420)
1-1/4”	BTM64-125-*	31.8	66.8	69.9	31.8	63.5	31.8	101.6	101.6	50.8	M12 X 1.75	8.88 (4.03)	6000 (420)
1-1/4”(2)	BTM64-125-M14-*	31.8	66.8	69.9	31.8	63.5	31.8	101.6	101.6	50.8	M14 x 2.00	8.88 (4.03)	6000 (420)
1-1/2”	BTM64-150-*	36.6	79.5	76.2	38.1	76.2	38.1	101.6	114.3	50.8	M16 X 2.00	11.07 (5.02)	6000 (420)
2”	BTM64-200-*	44.5	96.8	85.9	49.3	76.2	38.1	127.0	127.0	63.5	M20 X 2.50	14.44(6.55)	6000 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

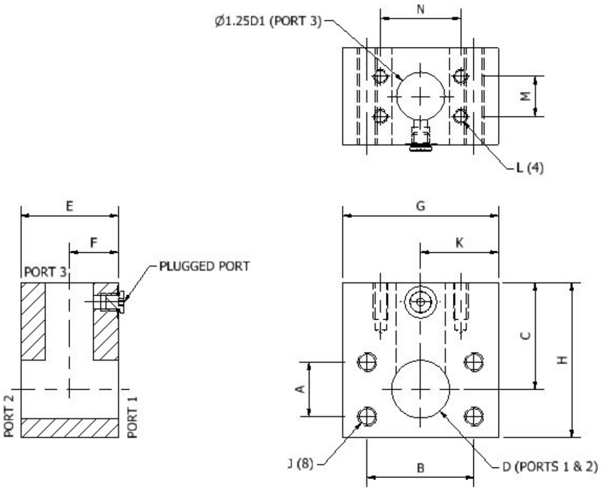
Ordering Example: BT64-200-SS

* Insert Material

3D step models available upon request

SAE 6000 PSI Reducing Branch Block Tee - NPS

SAE J518 Code 62 (ISO 6162-2) Flange Style



BTR64 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Tee Part Number	Dimensions (in)												Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4”x1/2”	BTR64-075x050-*	0.94	2.00	2.25	0.75	0.50	2.00	1.00	3.00	3.25	1.50	0.72	1.59	3/8”-16	5/16”-18	5.20 (2.36)	6000 (420)
1”x1/2”	BTR64-100x050-*	1.09	2.25	2.50	0.94	0.50	2.25	1.13	3.00	4.00	1.50	0.72	1.59	7/16”-14	5/16”-18	5.20 (2.36)	6000 (420)
1”x3/4”	BTR64-100x075-*	1.09	2.25	2.50	0.94	0.75	2.25	1.13	3.00	4.00	1.50	0.94	2.00	7/16”-14	3/8”-16	5.20 (2.36)	6000 (420)
1-1/4”x1/2”	BTR64-125x050-*	1.25	2.63	2.75	1.25	0.50	2.50	1.25	4.00	4.00	2.00	0.72	1.59	1/2"-13	5/16”-18	10.00 (4.54)	6000 (420)
1-1/4”x3/4”	BTR64-125x075-*	1.25	2.63	2.75	1.25	0.75	2.50	1.25	4.00	4.00	2.00	0.94	2.00	1/2"-13	3/8”-16	10.00 (4.54)	6000 (420)
1-1/4”x1”	BTR64-125x100-*	1.25	2.63	2.75	1.25	0.94	2.50	1.25	4.00	4.00	2.00	1.09	2.25	1/2"-13	7/16”-14	10.00 (4.54)	6000 (420)
1-1/2”x1/2”	BTR64-150x050-*	1.44	3.13	3.00	1.50	0.50	3.00	1.50	4.00	4.50	2.00	0.72	1.59	5/8”-11	5/16”-18	11.30 (5.13)	6000 (420)
1-1/2”x3/4”	BTR64-150x075-*	1.44	3.13	3.00	1.50	0.75	3.00	1.50	4.00	4.50	2.00	0.94	2.00	5/8”-11	3/8”-16	11.30 (5.13)	6000 (420)
1-1/2”x1”	BTR64-150x100-*	1.44	3.13	3.00	1.50	0.94	3.00	1.50	4.00	4.50	2.00	1.09	2.25	5/8”-11	7/16”-14	11.30 (5.13)	6000 (420)
1-1/2”x1-1/4”	BTR64-150x125-*	1.44	3.13	3.00	1.50	1.25	3.00	1.50	4.00	4.50	2.00	1.25	2.63	5/8”-11	1/2"-13	11.30 (5.13)	6000 (420)
2”x1/2”	BTR64-200x050-*	1.75	3.81	3.38	1.94	0.50	3.00	1.50	5.00	5.00	2.50	0.72	1.59	3/4"-10	5/16”-18	14.80 (6.71)	6000 (420)
2”x3/4”	BTR64-200x075-*	1.75	3.81	3.38	1.94	0.75	3.00	1.50	5.00	5.00	2.50	0.94	2.00	3/4”-10	3/8”-16	14.80 (6.71)	6000 (420)
2”x1”	BTR64-200x100-*	1.75	3.81	3.38	1.94	0.94	3.00	1.50	5.00	5.00	2.50	1.09	2.25	3/4"-10	7/16”-14	14.80 (6.71)	6000 (420)
2”x1-1/4”	BTR64-200x125-*	1.75	3.81	3.38	1.94	1.25	3.00	1.50	5.00	5.00	2.50	1.25	2.63	3/4"-10	1/2"-13	14.80 (6.71)	6000 (420)
2”x1-1/2”	BTR64-200x150-*	1.75	3.81	3.38	1.94	1.50	3.00	1.50	5.00	5.00	2.50	1.44	3.13	3/4"-10	5/8”-11	14.80 (6.71)	6000 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

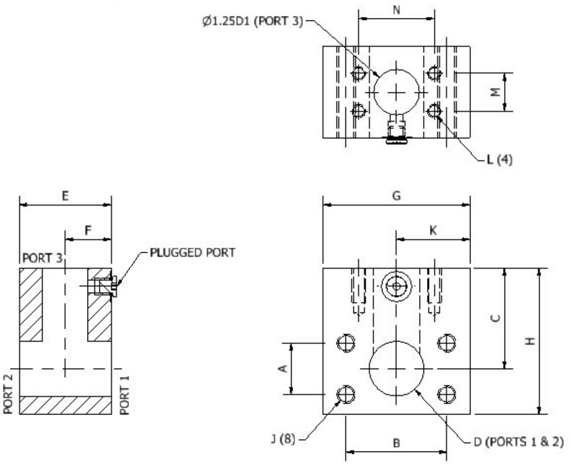
Ordering Example: BTR64-200x050-SS

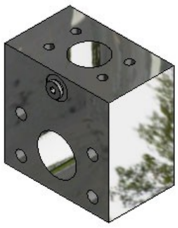
* Insert Material

3D step models available upon request

SAE 6000 PSI Reducing Branch Block Tee - Metric

SAE J518 Code 62 (ISO 6162-2) Flange Style





BTRM64 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)												Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4”x1/2”	BTRM64-075x050-*	23.9	50.8	57.2	19.1	12.7	50.8	25.4	76.2	82.6	38.1	18.3	40.4	M10 x 1.50	M8 x 1.25	5.20 (2.36)	6000 (420)
1”x1/2”	BTRM64-100x050-*	27.7	57.2	63.5	23.9	12.7	57.2	28.7	76.2	101.6	38.1	18.3	40.4	M12 x 1.75	M8 x 1.25	5.20 (2.36)	6000 (420)
1”x3/4”	BTRM64-100x075-*	27.7	57.2	63.5	23.9	19.1	57.2	28.7	76.2	101.6	38.1	23.9	50.8	M12 x 1.75	M10 x 1.50	5.20 (2.36)	6000 (420)
1-1/4”x1/2”	BTRM64-125x050-*	31.8	66.8	69.9	31.8	12.7	63.5	31.8	101.6	101.6	50.8	18.3	40.4	M12 x 1.75	M8 x 1.25	10.00 (4.54)	6000 (420)
1-1/4”(2)x1/2”	BTRM64-125-M14x050*	31.8	66.8	69.9	31.8	12.7	63.5	31.8	101.6	101.6	50.8	18.3	40.4	M14 x 2.00	M8 x 1.25	10.00 (4.54)	6000 (420)
1-1/4”x3/4”	BTRM64-125x075-*	31.8	66.8	69.9	31.8	19.1	63.5	31.8	101.6	101.6	50.8	23.9	50.8	M12 x 1.75	M10 x 1.50	10.00 (4.54)	6000 (420)
1-1/4” (2) x3/4”	BTRM64-125-M14x075*	31.8	66.8	69.9	31.8	19.1	63.5	31.8	101.6	101.6	50.8	23.9	50.8	M14 x 2.00	M10 x 1.50	10.00 (4.54)	6000 (420)
1-1/4”x1”	BTRM64-125x100-*	31.8	66.8	69.9	31.8	23.9	63.5	31.8	101.6	101.6	50.8	27.7	57.2	M12 x 1.75	M12 x 1.75	10.00 (4.54)	6000 (420)
1-1/4”(2)x1”	BTRM64-125-M14x100*	31.8	66.8	69.9	31.8	23.9	63.5	31.8	101.6	101.6	50.8	27.7	57.2	M14 x 2.00	M12 x 1.75	10.00 (4.54)	6000 (420)
1-1/2”x1/2”	BTRM64-150x050-*	36.6	79.5	76.2	38.1	12.7	76.2	38.1	101.6	114.3	50.8	18.3	40.4	M16 x 2.00	M8 x 1.25	11.30 (5.13)	6000 (420)
1-1/2”x3/4”	BTRM64-150x075-*	36.6	79.5	76.2	38.1	19.1	76.2	38.1	101.6	114.3	50.8	23.9	50.8	M16 x 2.00	M10 x 1.50	11.30 (5.13)	6000 (420)
1-1/2”x1”	BTRM64-150x100-*	36.6	79.5	76.2	38.1	23.9	76.2	38.1	101.6	114.3	50.8	27.7	57.2	M16 x 2.00	M12 x 1.75	11.30 (5.13)	6000 (420)
1-1/2”x1-1/4”	BTRM64-150x125-*	36.6	79.5	76.2	38.1	31.8	76.2	38.1	101.6	114.3	50.8	31.8	66.8	M16 x 2.00	M12 x 1.75	11.30 (5.13)	6000 (420)
1-1/2”x1-1/4”(2)	BTRM64-150x125-M14-*	36.6	79.5	76.2	38.1	31.8	76.2	38.1	101.6	114.3	50.8	31.8	66.8	M16 x 2.00	M14 x 2.00	11.30 (5.13)	6000 (420)
2”x1/2”	BTRM64-200x050-*	44.5	96.8	85.9	49.3	12.7	76.2	38.1	127.0	127.0	63.5	18.3	40.4	M20 x 2.50	M8 x 1.25	14.80 (6.71)	6000 (420)
2”x3/4”	BTRM64-200x075-*	44.5	96.8	85.9	49.3	19.1	76.2	38.1	127.0	127.0	63.5	23.9	50.8	M20 x 2.50	M10 x 1.50	14.80 (6.71)	6000 (420)
2”x1”	BTRM64-200x100-*	44.5	96.8	85.9	49.3	23.9	76.2	38.1	127.0	127.0	63.5	27.7	57.2	M20 x 2.50	M12 x 1.75	14.80 (6.71)	6000 (420)
2”x1-1/4”	BTRM64-200x125-*	44.5	96.8	85.9	49.3	31.8	76.2	38.1	127.0	127.0	63.5	31.8	66.8	M20 x 2.50	M12 x 1.75	14.80 (6.71)	6000 (420)
2”x1-1/4”(2)	BTRM64-200x125-M14-*	44.5	96.8	85.9	49.3	31.8	76.2	38.1	127.0	127.0	63.5	31.8	66.8	M20 x 2.50	M14 x 2.00	14.80 (6.71)	6000 (420)
2”x1-1/2”	BTRM64-200x150-*	44.5	96.8	85.9	49.3	38.1	76.2	38.1	127.0	127.0	63.5	36.6	79.5	M20 x 2.50	M16 x 2.00	14.80 (6.71)	6000 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

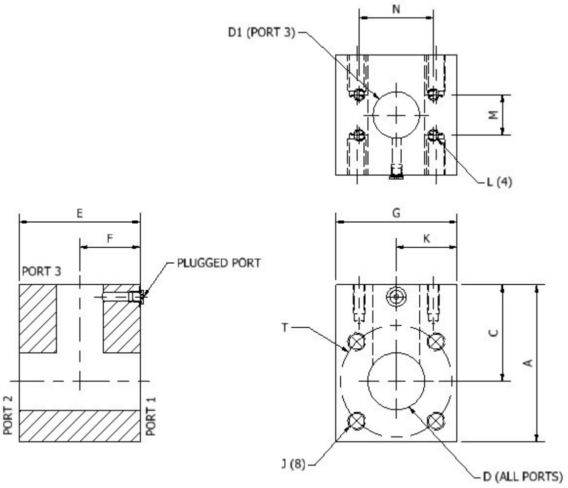
Ordering Example: BTRM64-200x050-SS

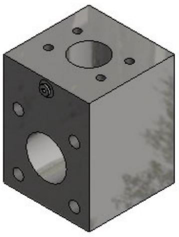
* Insert Material

3D step models available upon request

SAE 6000 PSI Reducing Branch Block Tee

ISO 6164/SAE J518 Code 62 (ISO 6162-2) Flange Style





BTR7-64 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Block Tee Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2"x2"	BTR7-64-250x200-*	4.65	4.13	2.38	1.94	3.50	1.75	5.00	6.50	2.50	1.75	3.81	3/4"-10	3/4"-10	32.19 (14.60)	5800 (400)
3"x2"	BTR7-64-300x200-*	5.71	4.75	2.88	1.94	4.00	2.00	6.00	7.75	3.00	1.75	3.81	1"-8	3/4"-10	49.50 (22.45)	5800 (400)
4"x2"	BTR7-64-400x200-*	6.89	5.00	3.50	1.94	4.00	2.00	7.00	8.50	3.50	1.75	3.81	1-1/8"-7	3/4"-10	67.35 (30.55)	5800 (400)

BTRM7-64 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2"x2"	BTRM7-64-250x200-*	118.1	104.9	60.5	49.3	88.9	44.5	127.0	165.1	63.5	44.5	96.8	M20 x 2.50	M20 x 2.50	32.25 (14.63)	5800 (400)
3"x2"	BTRM7-64-300x200-*	145.0	120.7	73.2	49.3	101.6	50.8	152.4	196.9	76.2	44.5	96.8	M24 x 3.00	M20 x 2.50	49.60 (22.50)	5800 (400)
4"x2"	BTRM7-64-400x200-*	175.0	127.0	88.9	49.3	101.6	50.8	177.8	215.9	88.9	44.5	96.8	M30 x 3.50	M20 x 2.50	67.48 (30.61)	5800 (400)

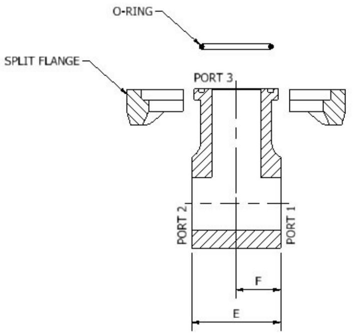
Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

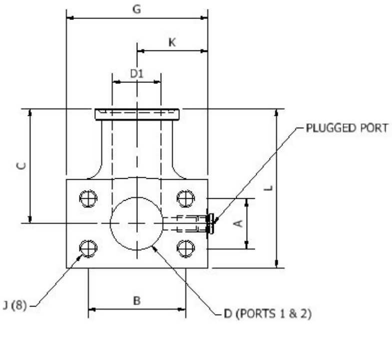
Ordering Example: BTR7-64-250x200-SS
* Insert Material

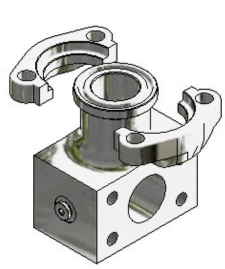
SAE 6000 PSI Split Flange Branch Tee

Complete Assembly

SAE J518 Code 62 (ISO 6162-2) Flange Style







Complete Flange Set Includes:

- One (1) Split Flange Tee
- One (1) Sets (2 Halves) Split Flanges
- One (1) O-Ring
- One (1) Component Bolt Kit

A/SFBT64 - Split Flange Branch Tee Assembly with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFBT64-050-*-^	0.72	1.59	2.75	0.50	0.38	2.00	1.00	2.50	1.25	3.75	5/16”-18	OR*-2-210	3.45 (1.56)	SFBT64-050-*	2.90 (1.32)	6000 (420)
3/4”	A/SFBT64-075-*-^	0.94	2.00	3.00	0.75	0.63	2.00	1.00	3.00	1.50	4.00	3/8”-16	OR*-2-214	4.43 (2.01)	SFBT64-075-*	3.50 (1.59)	6000(420)
1”	A/SFBT64-100-*-^	1.09	2.25	3.38	0.94	0.88	2.25	1.13	3.00	1.50	4.50	7/16”-14	OR*-2-219	5.81 (2.64)	SFBT64-100-*	4.35 (1.97)	6000 (420)
1-1/4”	A/SFBT64-125-*-^	1.25	2.63	3.50	1.25	1.13	2.50	1.25	4.00	2.00	4.75	1/2"-13	OR*-2-222	8.76 (3.97)	SFBT64-125-*	6.50 (2.95)	6000 (420)
1-1/2”	A/SFBT64-150-*-^	1.44	3.13	4.25	1.50	1.38	3.00	1.50	4.00	2.00	5.75	5/8"-11	OR*-2-225	13.26 (6.01)	SFBT64-150-*	9.35 (4.24)	6000 (420)
2”	A/SFBT64-200-*-^	1.75	3.81	4.75	1.94	1.88	3.00	1.50	5.00	2.50	6.25	3/4"-10	OR*-2-228	18.48 (8.38)	SFBT64-200-*	12.00 (5.44)	6000 (420)

A/SFBTM64 - Split Flange Branch Tee Assembly Flat Face with Threaded Holes, Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFBTM64-050-*-^	18.3	40.4	69.9	12.7	9.7	50.8	25.4	63.5	31.8	95.3	M8 x 1.25	OR*-2-210	3.45 (1.56)	SFBTM64-050-*	2.90 (1.32)	6000 (420)
3/4”	A/SFBTM64-075-*-^	23.9	50.8	76.2	19.1	16.0	50.8	25.4	76.2	38.1	101.6	M10 x 1.50	OR*-2-214	4.43 (2.01)	SFBTM64-075-*	3.50 (1.59)	6000 (420)
1”	A/SFBTM64-100-*-^	27.7	57.2	85.9	23.9	22.4	57.2	28.7	76.2	38.1	114.3	M12 x 1.75	OR*-2-219	5.81 (2.64)	SFBTM64-100-*	4.35 (1.97)	6000 (420)
1-1/4”	A/SFBTM64-125-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	120.7	M12 x 1.75	OR*-2-222	8.76 (3.97)	SFBTM64-125-*	6.50 (2.95)	6000 (420)
1-1/4”(2)	A/SFBTM64-125-M14-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	120.7	M14 x 2.00	OR*-2-222	8.76 (3.97)	SFBTM64-125-M14-*	6.50 (2.95)	6000 (420)
1-1/2”	A/SFBTM64-150-*-^	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	146.1	M16 x 2.00	OR*-2-225	13.26 (6.01)	SFBTM64-150-*	9.35 (4.24)	6000 (420)
2”	A/SFBTM64-200-*-^	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	158.8	M20 x 2.50	OR*-2-228	18.48 (8.38)	SFBTM64-200-*	12.00 (5.44)	6000 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/SFBT64-200-SS-V

* Insert Material

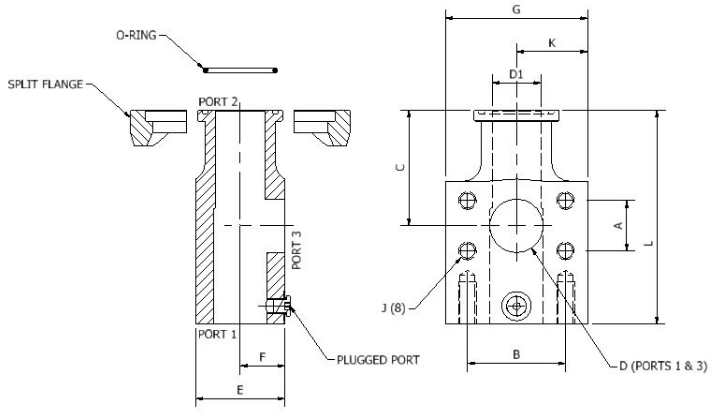
^ Insert O-Ring Type

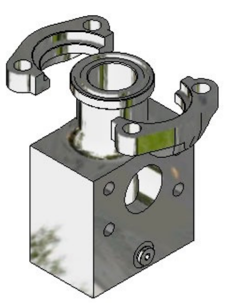
3D step models available upon request

SAE 6000 PSI Split Flange Run Tee

Complete Assembly

SAE J518 Code 62 (ISO 6162-2) Flange Style





Complete Flange Set Includes:

- One (1) Split Flange Tee
- One (1) Sets (2 Halves) Split Flanges
- One (1) O-Ring
- One (1) Component Bolt Kit

A/SFRT64 - Split Flange Run Tee Assembly Flat Face with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFRT64-050-*-^	0.72	1.59	2.37	0.50	0.38	2.00	1.00	2.50	1.25	4.25	5/16”-18	OR*-2-210	3.85 (1.75)	SFRT64-050-*	3.30 (1.50)	6000 (420)
3/4”	A/SFRT64-075-*-^	0.94	2.00	3.00	0.75	0.63	2.00	1.00	3.00	1.50	5.25	3/8”-16	OR*-2-214	6.33 (2.87)	SFRT64-075-*	5.40 (2.45)	6000 (420)
1”	A/SFRT64-100-*-^	1.09	2.25	3.75	0.94	0.88	2.25	1.13	3.00	1.50	6.25	7/16”-14	OR*-2-219	8.46 (3.84)	SFRT64-100-*	7.00 (3.18)	6000 (420)
1-1/4”	A/SFRT64-125-*-^	1.25	2.63	3.50	1.25	1.13	2.50	1.25	4.00	2.00	6.25	1/2"-13	OR*-2-222	11.81 (5.36)	SFRT64-125-*	9.55 (4.33)	6000 (420)
1-1/2”	A/SFRT64-150-*-^	1.44	3.13	4.25	1.50	1.38	3.00	1.50	4.00	2.00	7.25	5/8"-11	OR*-2-225	16.91 (7.67)	SFRT64-150-*	13.00 (5.90)	6000 (420)
2”	A/SFRT64-200-*-^	1.75	3.81	4.87	1.94	1.88	3.00	1.50	5.00	2.50	8.25	3/4"-10	OR*-2-228	24.23 (10.99)	SFRT64-200-*	17.75 (8.05)	6000 (420)

A/SFRTM64 - Split Flange Run Tee Assembly Flat Face with Threaded Holes Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFRTM64-050-*-^	18.3	40.4	60.2	12.7	9.7	50.8	25.4	63.5	31.8	108.0	M8 x 1.25	OR*-2-210	3.85 (1.75)	SFRTM64-050-*	3.30 (1.50)	6000 (420)
3/4”	A/SFRTM64-075-*-^	23.9	50.8	76.2	19.1	16.0	50.8	25.4	76.2	38.1	133.4	M10 x 1.50	OR*-2-214	6.33 (2.87)	SFRTM64-075-*	5.40 (2.45)	6000 (420)
1”	A/SFRTM64-100-*-^	27.7	57.2	95.3	23.9	22.4	57.2	28.7	76.2	38.1	158.8	M12 x 1.75	OR*-2-219	8.46 (3.84)	SFRTM64-100-*	7.00 (3.18)	6000 (420)
1-1/4”	A/SFRTM64-125-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	158.8	M12 x 1.75	OR*-2-222	11.81 (5.36)	SFRTM64-125-*	9.55 (4.33)	6000 (420)
1-1/4”(2)	A/SFRTM64-125-M14-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	158.8	M14 x 2.00	OR*-2-222	11.81 (5.36)	SFRTM64-125-M14-*	9.55 (4.33)	6000 (420)
1-1/2”	A/SFRTM64-150-*-^	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	184.2	M16 x 2.00	OR*-2-225	16.91 (7.67)	SFRTM64-150-*	13.00 (5.90)	6000 (420)
2”	A/SFRTM64-200-*-^	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	209.6	M20 x 2.50	OR*-2-228	24.23 (10.99)	SFRTM64-200-*	17.75 (8.05)	6000 (420)

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/SFRT64-200-SS-V

* Insert Material

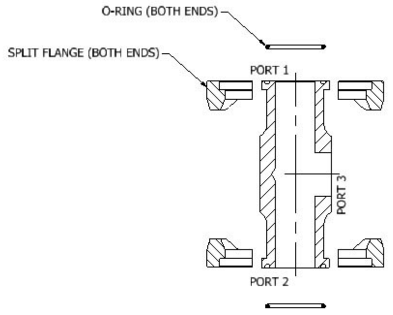
^ Insert O-Ring Type

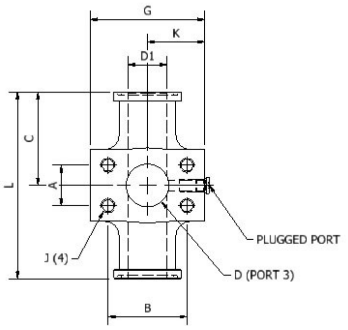
3D step models available upon request

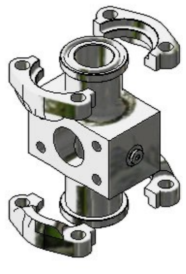
SAE 6000 PSI Split Flange Tee

Complete Assembly

SAE J518 Code 62 (ISO 6162-2) Flange Style







Complete Flange Set Includes:

- One (1) Split Flange Tee
- Two (2) Sets (4 Halves) Split Flanges
- Two (2) O-Rings
- Two (2) Component Bolt Kits

A/SFT64 - Split Flange Tee Assembly - Flat Face with Threaded Holes Complete with Buna O-Rings and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)										Thread UNC-2B	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFT64-050-*-^	0.72	1.59	2.75	0.50	0.38	2.00	1.00	3.00	1.50	5.50	5/16”-18	OR*-2-210	4.90 (2.22)	SFT64-050-*	3.80 (1.72)	6000 (420)
3/4”	A/SFT64-075-*-^	0.94	2.00	3.00	0.75	0.63	2.00	1.00	3.50	1.75	6.00	3/8”-16	OR*-2-214	6.56 (2.98)	SFT64-075-*	4.70 (2.13)	6000 (420)
1”	A/SFT64-100-*-^	1.09	2.25	3.38	0.94	0.88	2.25	1.13	3.00	1.50	6.75	7/16”-14	OR*-2-219	8.22 (3.73)	SFT64-100-*	5.30 (2.40)	6000 (420)
1-1/4”	A/SFT64-125-*-^	1.25	2.63	3.50	1.25	1.13	2.50	1.25	4.00	2.00	7.00	1/2"-13	OR*-2-222	12.07 (5.47)	SFT64-125-*	7.55 (3.42)	6000 (420)
1-1/2”	A/SFT64-150-*-^	1.44	3.13	4.20	1.50	1.38	3.00	1.50	4.00	2.00	8.50	5/8"-11	OR*-2-225	18.87 (8.56)	SFT64-150-*	11.05 (5.01)	6000 (420)
2”	A/SFT64-200-*-^	1.75	3.81	4.75	1.94	1.88	3.00	1.50	5.00	2.50	9.50	3/4"-10	OR*-2-228	28.01 (12.71)	SFT64-200-*	15.05 (6.83)	6000 (420)

A/SFTM64 - Split Flange Tee Assembly - Flat Face with Threaded Holes Complete with Buna O-Rings and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)										Thread	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	K	L						
1/2”	A/SFTM64-050-*-^	18.3	40.4	69.9	12.7	9.7	50.8	25.4	76.2	38.1	139.7	M8 x 1.25	OR*-2-210	4.90 (2.22)	SFTM64-050-*	3.80 (1.72)	6000 (420)
3/4”	A/SFTM64-075-*-^	23.9	50.8	76.2	19.1	16.0	50.8	25.4	88.9	44.5	152.4	M10 x 1.50	OR*-2-214	6.56 (2.98)	SFTM64-075-*	4.70 (2.13)	6000 (420)
1”	A/SFTM64-100-*-^	27.7	57.2	85.9	23.9	22.4	57.2	28.7	76.2	38.1	171.5	M12 x 1.75	OR*-2-219	8.22 (3.73)	SFTM64-100-*	5.30 (2.40)	6000 (420)
1-1/4”	A/SFTM64-125-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	177.8	M12 x 1.75	OR*-2-222	12.07 (5.47)	SFTM64-125-*	7.55 (3.42)	6000 (420)
1-1/4”(2)	A/SFTM64-125-M14-*-^	31.8	66.8	88.9	31.8	28.7	63.5	31.8	101.6	50.8	177.8	M14 x 2.00	OR*-2-222	12.07 (5.47)	SFTM64-125-M14-*	7.55 (3.42)	6000 (420)
1-1/2”	A/SFTM64-150-*-^	36.6	79.5	108.0	38.1	34.9	76.2	38.1	101.6	50.8	215.9	M16 x 2.00	OR*-2-225	18.87 (8.56)	SFTM64-150-*	11.05 (5.01)	6000 (420)
2”	A/SFTM64-200-*-^	44.5	96.8	120.7	49.3	47.8	88.9	44.5	127.0	63.5	241.3	M20 x 2.50	OR*-2-228	28.01 (12.71)	SFTM64-200-*	15.05 (6.83)	6000 (420)

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/SFT64-200-SS-V

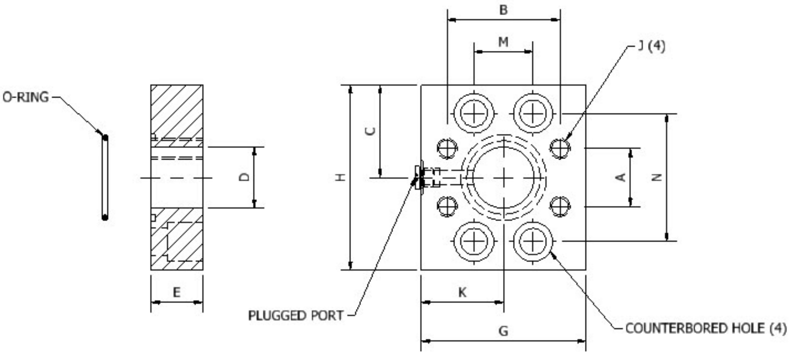
* Insert Material

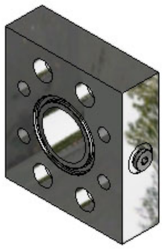
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Transition Plate

SAE J518 Code 62/Code 61 (ISO 6162-2/6162-1) Flange Manifold Mount Style





TPO6-34 - Transition Plate O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size	Transition Plate Part Number	Dimensions (in)										C'T Bore Bolt	Thread 1 UNC-2B	O-Ring (Buna) Part No.	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K	M	N					
1/2”	TP06-34-050-*-^	0.69	1.50	1.25	0.50	1.00	2.50	2.50	1.50	0.72	1.60	5/16”	5/16”-18	OR^-2-210	1.40 (0.64)	5000 (350)
3/4”	TP06-34-075-*-^	0.88	1.88	1.50	0.75	1.00	3.00	3.00	1.75	0.94	2.00	3/8”	3/8”-16	OR^-2-214	2.00 (0.91)	5000 (350)
1”	TP06-34-100-*-^	1.03	2.06	1.50	0.94	1.00	3.00	3.00	1.50	1.10	2.24	7/16”	3/8”-16	OR^-2-219	1.90 (0.86)	5000 (350)
1-1/4”	TP06-34-125-*-^	1.19	2.31	2.00	1.25	1.25	3.00	4.00	1.50	1.24	2.62	1/2”	7/16”-14	OR^-2-222	3.59 (1.63)	4000 (275)
1-1/2”	TP06-34-150-*-^	1.41	2.75	2.25	1.50	1.25	4.00	4.50	2.00	1.44	3.13	31/32”	1/2”-13	OR^-2-225	4.56 (2.07)	3000 (210)
2”	TP06-34-200-*-^	1.69	3.06	2.75	1.94	1.75	4.00	5.50	2.00	1.75	3.81	3/4”	1/2”-13	OR^-2-228	7.40 (3.36)	3000 (210)

TPOM6-34 - Transition Plate O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G 1/8 Port (Plugged), Metric

Size	Transition Plate Part Number	Dimensions (mm)										C'T Bore	Thread	O-Ring (Buna) Part No.	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K	M	N					
1/2”	TPOM6-34-050-*-^	17.5	38.10	31.8	12.7	25.4	63.5	63.5	38.1	18.3	40.6	M8	M8x1.25	OR^-2-210	1.40 (0.64)	5000 (350)
3/4”	TPOM6-34-075-*-^	22.4	47.8	38.1	19.1	25.4	76.2	76.2	44.5	23.9	50.8	M10	M10x1.50	OR^-2-214	2.00 (0.91)	5000 (350)
1”	TPOM6-34-100-*-^	26.2	52.3	38.1	23.9	25.4	76.2	76.2	38.1	27.9	56.9	M12	M12x1.50	OR^-2-219	1.90 (0.86)	5000 (350)
1-1/4”	TPOM6-34-125-*-^	30.2	58.7	50.8	31.8	31.8	76.2	101.6	38.1	31.5	66.5	M12	M12x1.50	OR^-2-222	3.59 (1.63)	4000 (275)
1-1/4”(2)	TPOM6-34-125-M14-*-^	30.2	58.7	50.8	31.8	31.8	76.2	101.6	38.1	31.5	66.5	M14	M12x1.50	OR^-2-222	3.59 (1.63)	4000 (275)
1-1/2”	TPOM6-34-150-*-^	35.8	69.9	57.2	38.1	31.8	101.6	114.3	50.8	36.6	79.5	M16	M16x1.75	OR^-2-225	4.56 (2.07)	3000 (210)
2”	TPOM6-34-200-*-^	42.9	77.7	69.9	49.3	44.5	101.6	139.7	50.8	44.5	96.8	M20	M20x1.75	OR^-2-228	7.40 (3.36)	3000 (210)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

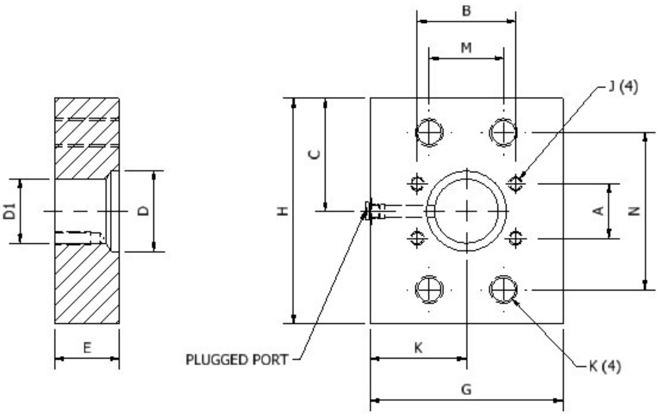
Standard, No Designation = Buna Nitrile.
V = Viton.

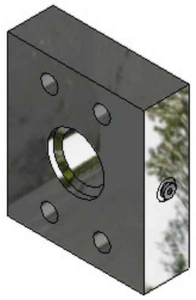
Ordering Example: TP06-34-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Transition Plate Reducer

SAE J518 Code 62/Code 61 (ISO 6162-2/6162-1) Flange Union Style





TPR6-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (SAE Code 62 x Code 61)	Reducer Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPR6-34-075x050-	0.69	1.50	1.25	0.75	0.50	1.00	2.50	3.00	1.25	0.94	2.00	3/8”-16	5/16”-18	1.87 (0.85))	5000 (350)
1” x 1/2”	TPR6-34-100x050-	0.69	1.50	1.25	0.94	0.50	1.50	3.00	3.00	1.50	1.09	2.25	7/16”-14	5/16”-18	3.42 (1.55)	5000 (350)
1” x 3/4”	TPR6-34-100x075-	0.88	1.88	1.50	0.94	0.75	1.25	3.00	3.00	1.50	1.09	2.25	7/16”-14	3/8”-16	2.70 (1.22)	5000 (350)
1-1/4” x 3/4”	TPR6-34-125x075-	0.88	1.88	1.50	1.25	0.75	1.50	3.00	3.50	1.50	1.25	2.62	1/2"-13	3/8”-16	3.80 (1.72)	5000 (350)
1-1/4” x 1”	TPR6-34-125x100-	1.03	2.06	1.50	1.25	0.94	1.25	3.00	3.50	1.50	1.25	2.62	1/2"-13	3/8”-16	3.00 (1.36)	5000 (350)
1-1/2” x 1”	TPR6-34-150x100-	1.03	2.06	1.50	1.50	0.94	1.50	3.00	4.00	1.50	1.44	3.13	5/8”-11	3/8”-16	4.10 (1.86)	5000 (350)
1-1/2” x 1-1/4”	TPR6-34-150x125-	1.19	2.31	2.00	1.50	1.25	1.50	4.00	4.00	2.00	1.44	3.13	5/8”-11	7/16"-14	55.50 (2.49)	4000 (280)
2” x 1-1/4”	TPR6-34-200x125-	1.19	2.31	2.00	1.94	1.25	1.75	4.00	5.00	2.00	1.75	3.82	3/4"-10	7/16”-14	8.27 (3.75)	4000 (280)
2” x 1-1/2”	TPR6-34-200x150-	1.41	2.75	2.50	1.94	1.50	1.50	5.00	5.00	2.50	1.75	3.81	3/4”-10	1/2”-13	8.93 (4.05)	4000 (280)

TPRM6-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (SAE Code 62 x Code 61)	Reducer Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPRM6-34-075x050-*	17.5	38.1	31.8	19.1	12.7	25.4	63.5	76.2	31.8	23.9	50.8	M10 x 1.50	M8 x 1.25	1.87 (0.85)	5000 (350)
1” x 1/2”	TPRM6-34-100x050-*	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M8 x 1.25	3.42 (1.55)	5000 (350)
1” x 3/4”	TPRM6-34-100x075-*	22.4	47.8	38.1	23.9	19.1	31.8	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M10 x 1.50	2.70 (1.22)	5000 (350)
1-1/4” x 3/4”	TPRM6-34-125x075-*	22.4	47.8	38.1	31.8	19.1	38.1	76.2	88.9	38.1	31.8	66.5	M12 x 1.75	M10 x 1.50	3.80 (1.72)	5000 (350)
1-1/4”(2) x 3/4”	TPRM6-34-125-M14x075-*	22.4	47.8	38.1	31.8	19.1	38.1	76.2	88.9	38.1	31.8	66.5	M14 x 2.00	M10 x 1.50	3.80 (1.72)	5000 (350)
1-1/4” x 1”	TPRM6-34-125x100-*	26.2	52.3	38.1	31.8	23.9	31.8	76.2	88.9	38.1	31.8	66.5	M12 x 1.75	M10 x 1.50	3.00 (1.36)	5000 (350)
1-1/4”(2) x 1”	TPRM6-34-125-M14x100-	26.2	52.3	38.1	31.8	23.9	31.8	76.2	88.9	38.1	31.8	66.5	M14 x 2.00	M10 x 1.50	3.00 (1.36)	5000 (350)
1-1/2” x 1”	TPRM6-34-150x100-*	26.2	52.3	38.1	38.1	23.9	38.1	76.2	101.6	38.1	36.6	79.5	M16 x 2.00	M10 x 1.50	4.10 (1.86)	5000 (350)
1-1/2” x 1-1/4”	TPRM6-34-150x125-*	30.2	58.7	50.8	38.1	31.8	38.1	101.6	101.6	50.8	36.6	79.5	M16 x 2.00	M10 x 1.50	55.50 (2.49)	4000 (280)
2” x 1-1/4”	TPRM6-34-200x125-*	30.2	58.7	50.8	49.3	31.8	44.5	101.6	127.0	50.8	44.7	97.0	M20x2.50	M10 x 1.50	8.27 (3.75)	4000 (280)
2” x 1-1/2”	TPRM6-34-200x150-*	35.8	69.9	63.5	49.3	38.1	38.1	127.0	127.0	63.5	44.5	96.8	M20x2.50	M12 x 1.75	8.93 (4.05)	4000 (280)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

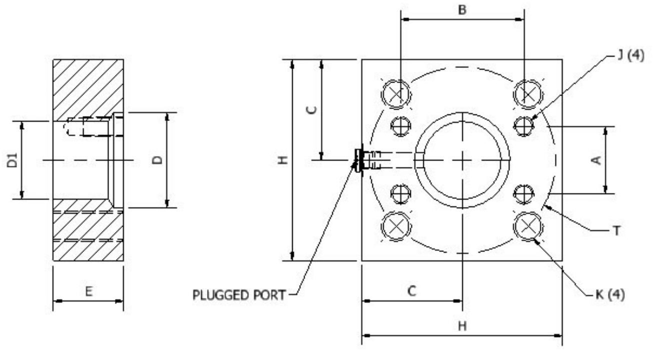
Ordering Example: TPR6-34-200x125-SS

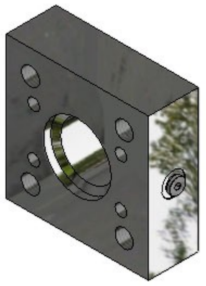
* Insert Material

3D step models available upon request

SAE 6000 PSI Transition Plate Reducer

ISO 6164/SAE Code 62 (ISO 6164/ISO 6162-2) Flange Union Style





TPR7-64 - Transition Plate Reducer Flat Face with Threaded Holes Complete With #4 SAE Port (Plugged), NPS

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (in)								Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2” x 1-1/2”	TPR7-64-250x150-*	4.65	1.44	3.13	2.50	2.38	1.50	2.00	5.00	3/4”-10	5/8”-11	11.46 (5.20)	5800 (400)
2-1/2” x 2”	TPR7-64-250x200-*	4.65	1.75	3.81	3.00	2.38	1.94	1.50	6.00	3/4”-10	3/4"-10	8.65 (3.92)	5800 (400)
3” x 2”	TPR7-64-300x200-*	5.71	1.75	3.81	3.00	2.88	1.94	2.25	6.00	1”-8	3/4"-10	17.80 (8.07)	5800 (400)
4” x 2”	TPR7-64-400x200-*	6.89	1.75	3.81	3.50	3.50	1.94	2.25	7.00	1 1/8”-7	3/4"-10	25.54 (11.58)	5800 (400)

TPRM7-64 - Transition Plate Reducer Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (mm)								Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2” x 1-1/2”	TPRM7-64-250x150-*	118.1	36.6	79.5	63.5	60.5	38.1	50.8	127.0	M20 x 2.50	M16 x 2.00	11.49 (5.21)	5800 (400)
2-1/2” x 2”	TPRM7-64-250x200-*	118.1	44.5	96.8	76.2	60.5	49.3	38.1	152.4	M20 x 2.50	M20 x 2.50	8.66 (3.93)	5800 (400)
3” x 2”	TPRM7-64-300x200-*	145.0	44.5	96.8	76.2	73.2	49.3	57.2	152.4	M24 x 3.00	M20 x 2.50	17.84 (8.09)	5800 (400)
4” x 2”	TPRM7-64-400x200-*	175.0	44.5	96.8	88.9	88.9	49.3	57.2	177.8	M30 x 3.50	M20 x 2.50	25.60 (11.61)	5800 (420)

*** Materials:**

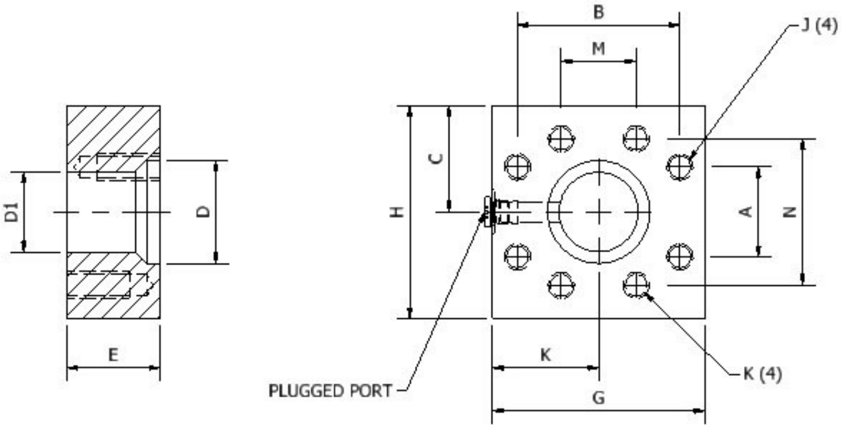
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

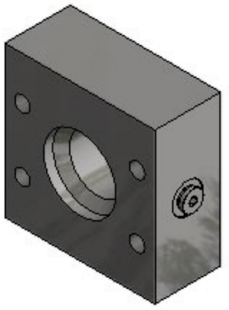
Ordering Example: TPR7-64-250x150-SS
* Insert Material

3D step models available upon request

SAE 6000 PSI Transition Plate Reducer

SAE J518 Code 62 (ISO 6162-2) Flange Style





TPR64 Transition Plate Reducer Flat Face with UNC Threaded Holes,Complete with #4 SAE Port (Plugged), NPS

Size	Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPR64-075x050-*	0.72	1.59	1.88	0.75	0.50	1.38	3.00	3.25	1.50	0.94	2.00	3/8”-16	5/16”-18	3.43 (1.56)	6000 (420)
1” x 1/2”	TPR64-100x050-*	0.72	1.59	1.50	0.94	0.50	1.38	3.00	3.00	1.50	1.09	2.25	7/16”-14	5/16”-18	3.09 (1.40)	6000 (420)
1” x 3/4”	TPR64-100x075-*	0.94	2.00	1.50	0.94	0.75	1.25	3.00	3.00	1.50	1.09	2.25	7/16”-14	3/8”-16	2.66 (1.21)	6000 (420)
1-1/4” x 3/4”	TPR64-125x075-*	0.94	2.00	2.00	1.25	0.75	1.50	3.00	4.00	1.50	1.25	2.63	1/2"-13	3/8”-16	3.11 (1.41)	6000 (420)
1-1/4” x 1”	TPR64-125x100-*	1.09	2.25	2.00	1.25	0.94	1.25	3.00	4.00	1.50	1.25	2.63	1/2"-13	7/16”-14	3.37 (1.53)	6000 (420)
1-1/2” x 1”	TPR64-150x100-*	1.09	2.25	2.25	1.50	0.94	1.50	3.00	4.50	1.50	1.44	3.13	5/8”-11	7/16”-14	4.62 (2.10)	6000 (420)
1-1/2” x 1-1/4”	TPR64-150x125-*	1.25	2.63	2.25	1.50	1.25	1.50	4.00	4.50	2.00	1.44	3.13	5/8”-11	1/2"-13	6.27 (2.84)	6000 (420)
2” x 1-1/4”	TPR64-200x125-*	1.25	2.63	2.50	1.94	1.25	1.75	4.00	5.00	2.00	1.75	3.81	3/4"-10	1/2"-13	8.03 (3.64)	6000 (420)
2” x 1-1/2”	TPR64-200x150-*	1.44	3.13	2.50	1.94	1.50	1.75	4.00	5.00	2.00	1.75	3.81	3/4”-10	5/8”-11	7.55 (3.42)	6000 (420)

TPRM64 - Transition Plate Reducer Flat Face with Metric Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size	Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N				
3/4” x 1/2”	TPRM64-075x050-*	18.3	40.4	47.8	19.1	12.7	38.1	76.2	82.6	38.1	23.9	50.8	M10 x 1.50	M8 x1.25	3.44 (1.56)	6000 (420)
1” x 1/2”	TPRM64-100x050-*	18.3	40.4	38.1	23.9	12.7	38.1	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M8 x 1.25	3.09 (1.40)	6000 (420)
1” x 3/4”	TPRM64-100x075-*	23.9	50.8	38.1	23.9	19.1	38.1	76.2	76.2	38.1	27.7	57.2	M12 x 1.75	M10 x 1.50	2.67 (1.21)	6000 (420)
1-1/4” x 3/4”	TPRM64-125x075-*	23.9	50.8	50.8	31.8	19.1	38.1	76.2	101.6	38.1	31.8	66.8	M12 x 1.75	M10 x 1.50	3.11 (1.41)	6000 (420)
1-1/4”(2) x 3/4”	TPRM64-125-M14x075-*	23.9	50.8	50.8	31.8	19.1	38.1	76.2	101.6	38.1	31.8	66.8	M14 x 2.00	M10 x 1.50	3.11 (1.41)	6000 (420)
1-1/4” x 1”	TPRM64-125x100-*	27.7	57.2	50.8	31.8	23.9	31.8	76.2	101.6	38.1	31.8	66.8	M12 x 1.75	M12 x 1.75	3.37 (1.53)	6000 (420)
1-1/4”(2) x 1”	TPRM64-125-M14x100-*	27.7	57.2	50.8	31.8	23.9	31.8	76.2	101.6	38.1	31.8	66.8	M14 x 2.00	M12 x 1.75	3.37 (1.53)	6000 (420)
1-1/2” x 1”	TPRM64-150x100-*	27.7	57.2	57.2	38.1	23.9	38.1	76.2	114.3	38.1	36.6	79.5	M16 x 2.00	M12 x 1.75	4.63 (2.10)	6000 (420)
1-1/2” x 1-1/4”	TPRM64-150x125-*	31.8	66.8	57.2	38.1	31.8	38.1	101.6	114.3	50.8	36.6	79.5	M16 x 2.00	M12 x 1.75	6.28 (2.85)	6000 (420)
1-1/2” x 1-1/4” (2)	TPRM64-150x125-M14-*	31.8	66.8	57.2	38.1	31.8	38.1	101.6	114.3	50.8	36.6	79.5	M16 x 2.00	M14 x 2.00	6.28 (2.85)	6000 (420)
2” x 1-1/4”	TPRM64-200x125-*	31.8	66.8	63.5	49.3	31.8	44.5	101.6	127.0	50.8	44.5	96.8	M20 x 2.50	M12 x 1.75	8.05 (3.65)	6000 (420)
2” x 1-1/4” (2)	TPRM64-200x125-M14-*	31.8	66.8	63.5	49.3	31.8	44.5	101.6	127.0	50.8	44.5	96.8	M20 x 2.50	M14 x 2.00	8.05 (3.65)	6000 (420)
2” x 1-1/2”	TPRM64-200x150-*	36.6	79.5	63.5	49.3	38.1	44.5	101.6	127.0	50.8	44.5	96.8	M20 x 2.50	M16 x 2.00	7.56 (3.43)	6000 (420)

*** Materials:**

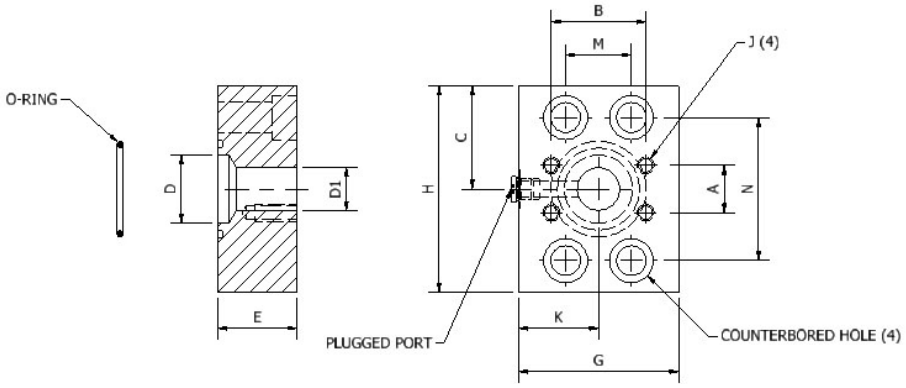
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

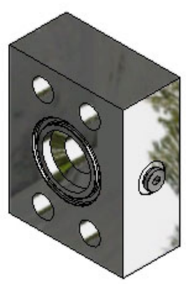
Ordering Example: TPRM64-200x125-SS
* Insert Material

3D step models available upon request

SAE 6000 PSI Transition Plate Reducer

SAE J518 Code 62/Code 61 (ISO 6162-2/6162-1) Flange Manifold Mount Style





TPRO6-34 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size (SAE Code 62 x Code 61)	Reducer Part Number	Dimensions (in)											C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4” x 1/2”	TPRO6-34-075x050*-^	0.69	1.50	1.38	0.75	0.50	1.00	3.00	2.75	1.25	0.94	2.00	3/8”-16	5/16”-18	OR^-2-214	2.99 (1.36)	5000 (350)
1” x 1/2”	TPRO6-34-100x050*-^	0.69	1.50	1.50	0.94	0.50	1.50	3.00	3.00	1.75	1.09	2.25	7/16”-14	5/16”-18	OR^-2-219	3.16 (1.43)	5000 (350)
1” x 3/4”	TPRO6-34-100x0750*-^	0.88	1.88	1.50	0.94	0.75	1.25	3.00	3.00	1.75	1.09	2.25	7/16”-14	3/8”-16	OR^-2-219	3.04 (1.38)	5000 (350)
1-1/4” x 3/4”	TPRO6-34-125x075*-^	0.88	1.88	1.75	1.25	0.75	1.50	3.00	3.50	1.75	1.25	2.62	1/2"-13	3/8”-16	OR^-2-222	3.40 (1.54)	5000 (350)
1-1/4” x 1”	TPRO6-34-125x100*-^	1.03	2.06	1.75	1.25	0.94	1.25	3.00	3.50	1.75	1.25	2.62	1/2"-13	3/8”-16	OR^-2-222	4.03 (1.83)	5000 (350)
1-1/2” x 1”	TPRO6-34-150x100*-^	1.03	2.06	2.25	1.50	0.94	1.75	3.50	4.50	2.00	1.44	3.13	5/8”-11	3/8”-16	OR^-2-225	6.10 (2.77)	5000 (350)
1-1/2” x 1-1/4”	TPRO6-34-150x125*-^	1.19	2.31	2.25	1.50	1.25	1.75	3.00	4.50	1.50	1.44	3.13	5/8”-11	7/16"-14	OR^-2-225	4.70 (2.13)	4000 (280)
2” x 1-1/4”	TPRO6-34-200x125*-^	1.19	2.31	2.63	1.94	1.25	1.75	4.00	5.25	2.00	1.75	3.82	3/4”-10	7/16”-14	OR^-2-228	7.60 (3.45)	4000 (280)
2” x 1-1/2”	TPRO6-34-200x150*-^	1.41	2.75	2.63	1.94	1.50	1.75	4.00	5.25	2.00	1.75	3.81	3/4”-10	1/2”-13	OR^-2-228	7.30 (3.31)	4000 (280)

TPROM6-34 – Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with G1/8 Port (Plugged) – Metric

Size (SAE Code 62 x Code 61)	Reducer Part Number	Dimensions (mm)											C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4” x 1/2”	TPROM6-34-075x050*-^	17.5	38.1	35.1	19.1	12.7	38.1	76.2	69.9	44.5	23.9	50.8	M10	M8 x 1.25	OR^-2-214	2.99 (1.36)	5000 (350)
1” x 1/2”	TPROM6-34-100x050*-^	17.5	38.1	38.1	23.9	12.7	38.1	76.2	76.2	44.5	27.7	57.2	M12	M8 x 1.25	OR^-2-219	3.16 (1.43)	5000 (350)
1” x 3/4”	TPROM6-34-100x0750*-^	22.4	47.8	38.1	23.9	19.1	38.1	76.2	76.2	44.5	27.7	57.2	M12	M10 x 1.50	OR^-2-219	3.04 (1.38)	5000 (350)
1-1/4” x 3/4”	TPROM6-34-125x075*-^	22.4	47.8	44.5	31.8	19.1	38.1	76.2	88.9	44.5	31.8	66.8	M12	M10 x 1.50	OR^-2-222	3.40 (1.54)	5000 (350)
1-1/4” (2) x 3/4”	TPROM6-34-125-M14x075-*	22.4	47.8	44.5	31.8	19.1	38.1	76.2	88.9	44.5	31.8	66.8	M14	M10 x 1.50	OR^-2-222	3.40 (1.54)	5000 (350)
1-1/4” x 1”	TPROM6-34-125x100*-^	26.2	52.3	44.5	31.8	23.9	25.4	76.2	88.9	38.1	31.8	66.8	M12	M10 x 1.50	OR^-2-222	4.03 (1.83)	5000 (350)
1-1/4” (2) x 1”	TPROM6-34-125-M14x100-*	26.2	52.3	44.5	31.8	23.9	25.4	76.2	88.9	38.1	31.8	66.8	M14	M10 x 1.50	OR^-2-222	4.03 (1.83)	5000 (350)
1-1/2” x 1”	TPROM6-34-150x100*-^	26.2	52.3	57.2	38.1	23.9	44.5	88.9	114.3	50.8	36.6	79.5	M16	M10 x 1.50	OR^-2-225	6.10 (2.77)	5000 (350)
1-1/2” x 1-1/4”	TPROM6-34-150x125*-^	30.2	58.7	57.2	38.1	31.8	44.5	76.2	114.3	38.1	36.6	79.5	M16	M10 x 1.50	OR^-2-225	4.70 (2.13)	4000 (280)
2” x 1-1/4”	TPROM6-34-200x125*-^	30.2	58.7	66.8	49.3	31.8	44.5	101.6	133.4	50.8	44.5	96.8	M20	M10 x 1.50	OR^-2-228	7.60 (3.45)	4000 (280)
2” x 1-1/2”	TPROM6-34-200x150*-^	35.8	69.9	66.8	49.3	38.1	44.5	101.6	133.4	50.8	44.5	96.8	M20	M12 x 1.75	OR^-2-228	7.30 (3.31)	4000 (280)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

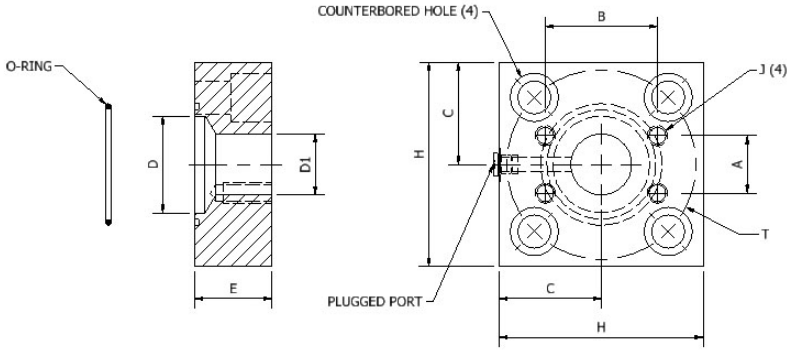
Ordering Example: TPRO6-34-200x125-SS

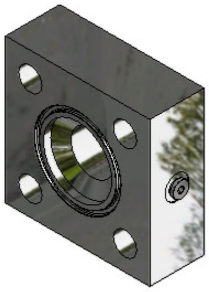
* Insert Material

3D step models available upon request

SAE 6000 PSI Transition Plate Reducer

ISO 6164/SAE Code 62 (ISO 6164/ISO 6162-2) Flange Manifold Mount Style





TPRO7-64 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (in)								C'T Bore Bolt	Thread C'T Bore Bolt UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H					
2-1/2" x 1-1/2"	TPRO7-64-250x150-*	4.65	1.44	3.13	2.50	2.38	1.50	2.00	5.00	3/4"-10	5/8"-11	OR^-2-232	10.61 (4.82)	5800 (400)
3" x 2"	TPRO7-64-300x200-*	5.71	1.75	3.81	3.00	2.88	1.94	2.25	6.00	1"-8	3/4"-10	OR^-2-237	16.05 (7.30)	5800 (400)
4" x 2"	TPRO7-64-400x200-*	6.89	1.75	3.81	3.50	3.50	1.94	2.25	7.00	11-1/8"-7	3/4"-10	OR^-2-241	23.09 (10.50)	5800 (400)

TPRMO7-64 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (mm)								C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H					
2-1/2" x 1-1/2"	TPROM7-64-250x150-*	118.1	36.6	79.5	63.5	60.5	38.1	50.8	127.0	M20 x 2.50	M16 x 2.00	OR^-2-232	10.61 (4.82)	5800 (400)
3" x 2"	TPROM7-64-300x200-*	145.0	44.5	96.8	76.2	73.2	49.3	57.2	152.4	M24 x 3.00	M20 x 2.50	OR^-2-237	16.05 (7.30)	5800 (400)
4" x 2"	TPRM7-64-400x200-*	175.0	44.5	96.8	88.9	88.9	49.3	57.2	177.8	M30 x 3.50	M20 x 2.50	OR^-2-241	23.09 (10.50)	5800 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

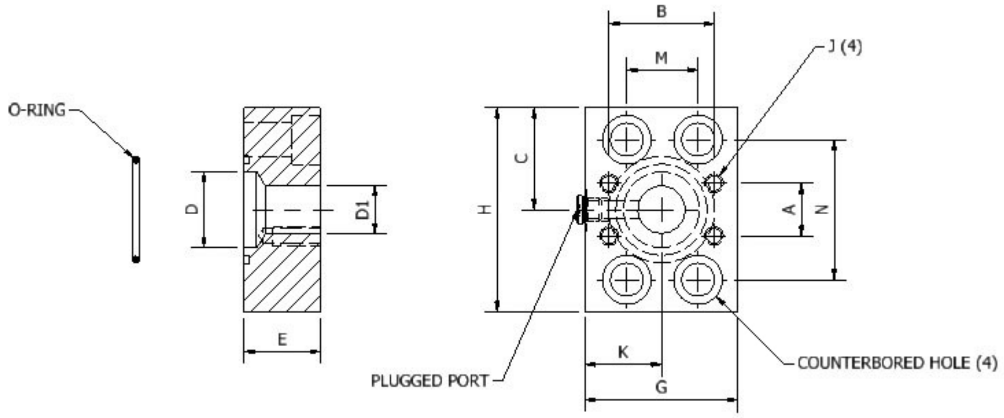
Standard, No Designation = Buna Nitrile.
V = Viton.

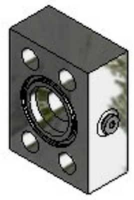
Ordering Example: TPRO7-64-250x150-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Transition Plate Reducer

SAE J518 Code 62 (ISO 6162-2) Flange Manifold Mount Style





TPRO64 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)											C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4” x 1/2”	TPR064-075x050-*-^	0.72	1.59	1.50	0.75	0.50	1.00	2.50	3.00	1.25	0.94	2.00	3/8”-16	5/16”-18	OR*-2-214	1.75 (0.79)	6000 (420)
1” x 1/2”	TPR064-100x050-*-^	0.72	1.59	1.50	0.94	0.50	1.50	2.50	3.00	1.25	1.09	2.25	7/16”-14	5/16”-18	OR*-2-219	2.34 (1.06)	6000 (420)
1” x 3/4”	TPR064-100x075-*-^	0.94	2.00	1.50	0.94	0.75	1.25	3.00	3.00	1.50	1.09	2.25	7/16”-14	3/8”-16	OR*-2-219	2.49 (1.13)	6000 (420)
1-1/4” x 3/4”	TPR064-125x075-*-^	0.94	2.00	2.00	1.25	0.75	1.50	3.00	4.00	150	1.25	2.63	1/2"-13	3/8”-16	OR*-2-222	4.14 (1.88)	6000 (420)
1-1/4” x 1”	TPR064-125x100-*-^	1.09	2.25	2.00	1.25	0.94	1.25	3.00	4.00	1.50	1.25	2.63	1/2"-13	7/16”-14	OR*-2-222	3.24 (1.47)	6000 (420)
1-1/2” x 1”	TPR064-150x100-*-^	1.09	2.25	2.25	1.50	0.94	1.50	3.00	4.50	1.50	1.44	3.13	5/8”-11	7/16”-14	OR*-2-225	4.18 (1.90)	6000 (420)
1-1/2” x 1-1/4”	TPR064-150x125-*-^	1.25	2.63	2.25	1.50	1.25	1.50	4.00	4.50	2.00	1.44	3.13	5/8”-11	1/2"-13	OR*-2-225	5.12 (2.32)	6000 (420)
2” x 1-1/4”	TPR064-200x125-*-^	1.25	2.63	2.50	1.94	1.25	1.75	4.00	5.50	2.00	1.75	3.81	3/4"-10	1/2”-13	OR*-2-228	7.21 (3.27)	6000 (420)
2” x 1-1/2”	TPR064-200x150-*-^	1.44	3.13	2.50	1.94	1.50	1.75	5.00	5.50	2.00	1.75	3.81	3/4"-10	5/8”-11	OR*-2-228	7.28 (3.30)	6000 (420)

TPROM64 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G1/8 (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)											C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	G	H	K	M	N					
3/4” x 1/2”	TPROM64-075x050-*-^	18.3	40.4	38.1	19.1	12.7	24.5	63.5	76.2	31.8	23.9	50.8	M10	M8 x 1.25	OR*-2-214	1.75 (0.79)	6000 (420)
1” x 1/2”	TPROM64-100x050-*-^	18.3	40.4	38.1	23.9	12.7	38.1	63.5	76.2	31.8	27.7	57.2	M12	M8 x 1.25	OR*-2-219	2.34 (1.06)	6000 (420)
1” x 3/4”	TPROM64-100x075-*-^	23.9	50.8	38.1	23.9	19.1	31.8	76.2	76.2	38.1	27.7	57.2	M12	M10 x 1.50	OR*-2-219	2.49 (1.13)	6000 (420)
1-1/4” x 3/4”	TPROM64-125x075-*-^	23.9	50.8	50.8	31.8	19.1	38.1	76.2	101.6	38.1	31.8	66.8	M12	M10 x 1.50	OR*-2-222	4.14 (1.88)	6000 (420)
1-1/4”(2) x 3/4”	TPROM64-125-M14x075-*	23.9	50.8	50.8	31.8	19.1	38.1	76.2	101.6	38.1	31.8	66.8	M14	M10 x 1.50	OR*-2-222	4.14 (1.88)	6000 (420)
1-1/4” x 1”	TPROM64-125x100-*-^	27.7	57.2	50.8	31.8	23.9	31.8	76.2	101.6	38.1	31.8	66.8	M12	M12 x 1.75	OR*-2-222	3.24 (1.47)	6000 (420)
1-1/4”(2) x 1”	TPROM64-125-M14x100-*	27.7	57.2	50.8	31.8	23.9	31.8	76.2	101.6	38.1	31.8	66.8	M14	M12 x 1.75	OR*-2-222	3.24 (1.47)	6000 (420)
1-1/2” x 1”	TPROM64-150x100-*-^	27.7	57.2	57.2	38.1	23.9	38.1	76.2	114.3	38.1	36.6	79.5	M16	M12 x 1.75	OR*-2-225	4.18 (1.90)	6000 (420)
1-1/2” x 1-1/4”	TPROM64-150x125-*-^	31.8	66.8	57.2	38.1	31.8	38.1	101.6	114.3	50.8	36.6	79.5	M16	M12 x 1.75	OR*-2-225	5.12 (2.32)	6000 (420)
1-1/2” x 1-1/4”(2)	TPROM64-150x125-M14-*	31.8	66.8	57.2	38.1	31.8	38.1	101.6	114.3	50.8	36.6	79.5	M16	M14 x 2.00	OR*-2-225	5.12 (2.32)	6000 (420)
2” x 1-1/4”	TPROM64-200x125-*-^	31.8	66.8	63.5	49.3	31.8	44.5	101.6	139.7	50.8	44.5	96.8	M20	M12 x 1.75	OR*-2-228	7.21 (3.27)	6000 (420)
2” x 1-1/4”(2)	TPROM64-200x125-M14-*	31.8	66.8	63.5	49.3	31.8	44.5	101.6	139.7	50.8	44.5	96.8	M20	M14 x 2.00	OR*-2-228	7.21 (3.27)	6000 (420)
2” x 1-1/2”	TPROM64-200x150-*-^	36.6	79.5	63.5	49.3	38.1	44.5	127.0	139.7	63.5	44.5	96.8	M20	M16 x 2.00	OR*-2-228	7.28 (3.30)	6000 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPROM64-200x150-SS-V

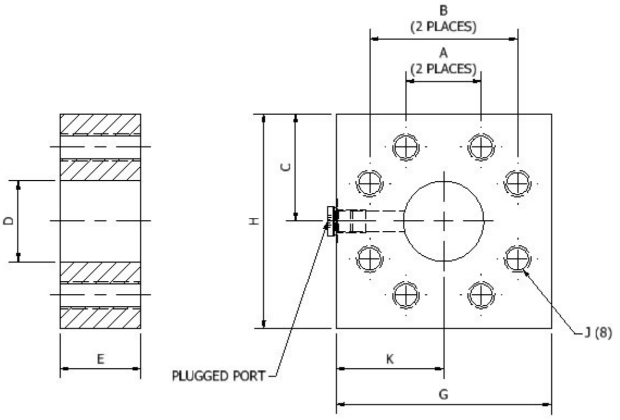
* Insert Material

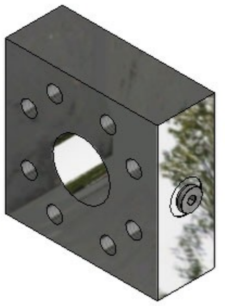
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Adapter Plate

SAE J518 Code 62 (ISO 6162-2) Flange Style





AP64 - Adapter Plate Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Adapter Plate Part No	Dimensions (in)								Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K			
1/2”	AP64-050-*	0.72	1.59	1.25	0.50	1.00	2.75	2.50	1.38	5/16”-18	1.66 (0.75)	6000 (420)
3/4”	AP64-075-*	0.94	2.00	1.50	0.75	1.00	3.00	3.00	1.50	3/8”-16	2.19 (1.00)	6000 (420)
1”	AP64-100-*	1.098	2.25	1.50	0.94	1.25	3.00	3.00	1.50	7/16”-14	2.10 (0.95)	6000 (420)
1-1/4”	AP64-125-*	1.25	2.63	2.00	1.25	1.25	4.00	4.00	2.00	1/2"-13	5.40 (2.45)	6000 (420)
1-1/2”	AP64-150-*	1.44	3.13	2.00	1.50	1.50	4.00	4.00	2.00	5/8”-1	5.08 (2.31)	6000 (420)
2”	AP64-200-*	1.75	3.81	2.50	1.94	1.50	5.00	5.00	2.50	3/4"-10	8.10 (3.68)	6000 (420)

APM64 - Adapter Plate Flat Face with Threaded Holes Complete with G 1/8 Port (Plugged), Metric

Size (inch)	Adapter Plate Part No	Dimensions (mm)								Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	G	H	K			
1/2”	APM64-050-*	18.3	40.4	31.8	12.7	25.4	69.9	63.5	35.1	M8 x 1.25	1.66 (0.75)	6000 (420)
3/4”	APM64-075-*	23.9	50.8	38.1	19.1	25.4	76.2	76.2	38.1	M10 x 1.50	2.19 (1.00)	6000 (420)
1”	APM64-100-*	27.7	57.2	38.1	23.9	31.8	76.2	76.2	38.1	M12 x 1.75	2.10 (0.95)	6000 (420)
1-1/4”	APM64-125-*	31.8	66.8	50.8	31.8	31.8	101.6	101.6	50.8	M12 x 1.75	5.40 (2.45)	6000 (420)
1-1/4”(2)	APM64-125-M14-*	31.8	66.8	50.8	31.8	31.8	101.6	101.6	50.8	M14 x 2.00”	5.40 (2.45)	6000 (420)
1-1/2”	APM64-150-*	36.6	79.5	50.8	38.1	38.1	101.6	101.6	50.8	M16 x 2.00	5.08 (2.31)	6000 (420)
2”	APM64-200-*	44.5	96.8	63.5	49.3	38.1	127.0	127.0	63.5	M20 x 2.50	8.10 (3.68)	6000 (420)

* Materials:

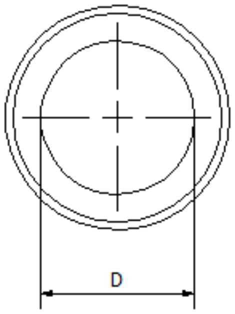
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

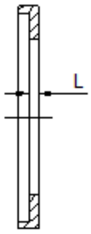
Ordering Example: AP64-200-SS
* Insert Material

3D step models available upon request

SAE 6000 PSI O-Ring Connector Plate

SAE J518 Code 62 (ISO 6162-2)





OCP - O-Ring Connector Plate

Size	Connector Plate Part Number	Dimensions in (mm)		WT lbs (kg)
		D	L	
1/2"	OCP-050-*	0.50 (12.7)	0.13 (3.3)	0.04 (0.02)
3/4"	OCP-075-*	0.75 (19.1)	0.13 (3.3)	0.06 (0.03)
1”	OCP-100-*	0.94 (23.9)	0.13 (3.3)	0.07 (0.03)
1-1/4"	OCP-125-*	1.20 (30.5)	0.13 (3.3)	0.08 (0.04)
1-1/2"	OCP-150-*	1.50 (38.1)	0.13 (3.3)	0.11 (0.05)
2”	OCP-200-*	1.94 (49.3)	0.13 (3.3)	0.13 (0.06)

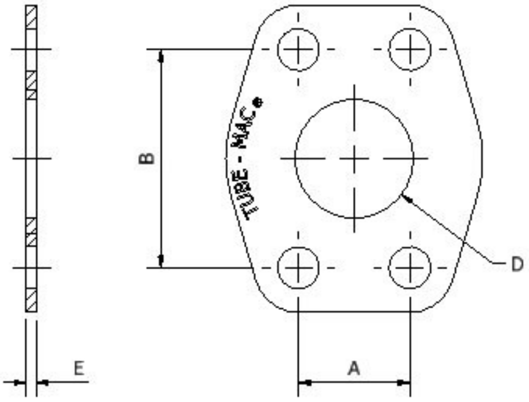
Ordering Example: OCP-200-SS
* Insert Material

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

SAE 6000 PSI Connector Plate

SAE J518 Code 62 (ISO 6162-2)



CP - Connector Plate

Size	Part Number	Dimensions in (mm)				WT lbs (kg)
		A	B	D	E	
1/2"	CP64-050	0.72 (18.28)	1.59 (40.39)	0.50 (12.70)	0.12 (3.05)	0.09 (0.04)
3/4"	CP64-075	0.94 (23.88)	2.00 (50.80)	0.75 (19.05)	0.12 (3.05)	0.15 (0.07)
1"	CP64-100	1.09 (27.69)	2.25 (57.15)	1.00 (25.40)	0.12 (3.05)	0.20 (0.09)
1-1/4"	CP64-125	1.25 (31.75)	2.63 (66.80)	1.25 (31.75)	0.12 (3.05)	0.25 (0.11)
1-1/4"(1)	CP64-125-M14	1.25 (31.75)	2.63 (66.80)	1.25 (31.75)	0.12 (3.05)	0.25 (0.11)
1-1/2"	CP64-150	1.44 (36.58)	3.13 (79.50)	1.50 (38.10)	0.12 (3.05)	0.36 (0.16)
2"	CP64-200	1.75 (44.45)	3.81 (96.77)	2.00 (50.80)	0.12 (3.05)	0.49 (0.22)

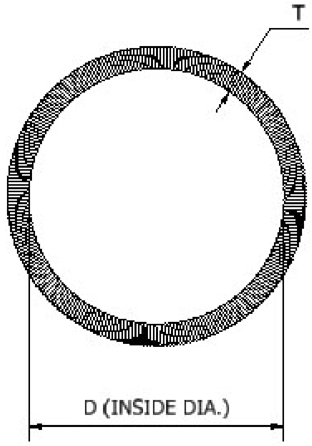
Note: (1) Designates M14 Bolt – Special Order

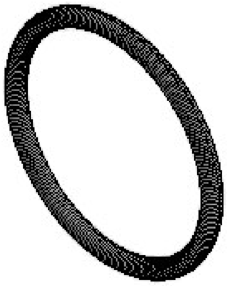
*** Materials:**
Stainless Steel, Type 316.
Not available in Carbon Steel.

3D step models available upon request

SAE 6000 PSI Retain Ring

SAE J518 Code 62 (ISO 6162-2)





R - Retain Ring

Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
		D	t	
1/2"	R-050	0.85 (21.6)	0.16 (4.1)	0.01 (0.005)
3/4"	R-075	1.24 (31.5)	0.16 (4.1)	0.02 (0.009)
1”	R-100	1.32 (33.5)	0.20 (5.1)	0.03 (0.014)
1-1/4"	R-125	1.59 (40.4)	0.20 (5.1)	0.04 (0.018)
1-1/2”	R-150	1.99 (50.5)	0.20 (5.1)	0.05 (0.023)
2”	R-200	2.38 (60.5)	0.20 (5.1)	0.06 (0.027)

RA - Retain Ring for Grooved NPS Pipe

Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
		D	t	
1-1/2”	RA-150	1.69 (42.93)	0.20 (5.0)	0.04 (0.018)
2”	RA-200	2.16 (54.86)	0.20 (5.0)	0.05 (0.023)

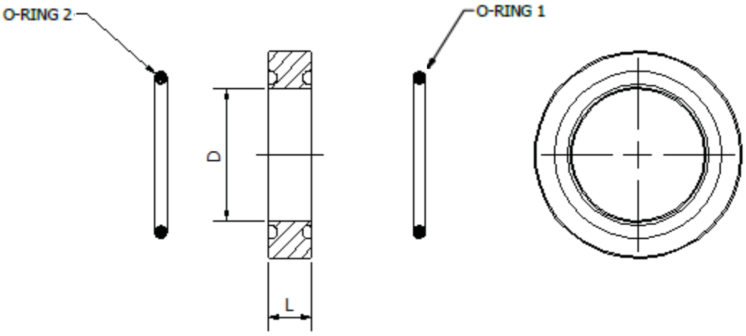
*** Materials:**

Stainless steel – AISI 316 Spring Temper

3D step models available upon request

SAE 6000 PSI O-Ring Spacer

SAE J518 Code 62 (ISO 6162-2)



OS - O-Ring Spacer for Retain Ring Pipe – 1/2”- 2” Complete with Buna O-Rings

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OS-050-*-^	0.55 (14.0)	0.50 (12.7)	OR^-3-909	0.11 (0.05)
3/4"	OS-075-*-^	0.79 (20.1)	0.50 (12.7)	OR^-3-913	0.18 (0.08)
1”	OS-100-*-^	0.91 (23.1)	0.50 (12.7)	OR^-3-916	0.21 (0.10)
1-1/4"	OS-125-*-^	1.18 (30.0)	0.50 (12.7)	OR^-3-918	0.26 (0.12)
1-1/2”	OS-150-*-^	1.54 (39.1)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
2”	OS-200-*-^	1.93 (49.0)	0.50 (12.7)	OR^-3-928	0.43 (0.20)

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: OS-200-SS-V
* Insert Material
^ Insert O-Ring Type

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

OSA – O-Ring Spacer for NPS Retain Ring Pipe Flange Connection

	Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
			D	L		
OSA-SCH160	1-1/2”	OSA-SCH160-150-*-^	1.10 (27.19)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
	2”	OSA-SCH160-200-*-^	1.69 (42.9)	0.50 (12.7)	OR^-3-928	0.43 (0.20)
OSA-SCHXXS	1-1/2”	OSA-SCHXXS-150-*-^	1.10 (27.9)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
	2”	OSA-SCHXXS-200-*-^	1.50 (38.1)	0.50 (12.7)	OR^-3-928	0.43 (0.20)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: OSA-SCH160-200-SS-V
* Insert Material
^ Insert O-Ring Type

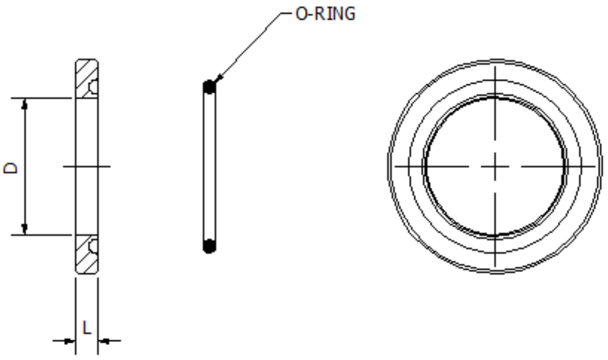
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

SAE 6000 PSI O-Ring Spacer

for Retain Ring Pipe to Hose End

SAE J518 Code 62 (ISO 6162-2)



OSH – O-Ring Spacer for Retain Ring Pipe to Hose End

Size	Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSH-050-*-^	0.55 (14.0)	0.25 (6.4)	OR^-3-909	0.04 (0.02)
3/4"	OSH-075-*-^	0.79 (20.1)	0.25 (6.4)	OR^-3-913	0.07 (0.03)
1”	OSH-100-*-^	0.91 (23.1)	0.25 (6.4)	OR^-3-916	0.08 (0.04)
1-1/4"	OSH-125-*-^	1.18 (30.0)	0.25 (6.4)	OR^-3-918	0.09 (0.04)
1-1/2”	OSH-150-*-^	1.54 (39.1)	0.25 (6.4)	OR^-3-924	0.12 (0.05)
2”	OSH-200-*-^	1.91 (48.5)	0.25 (6.4)	OR^-3-928	0.20 (0.09)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: OSH-200-SS-V
* Insert Material
^ Insert O-Ring Type

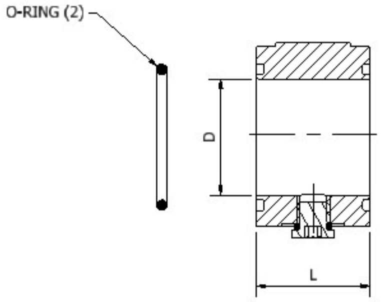
^ O-Ring Type:

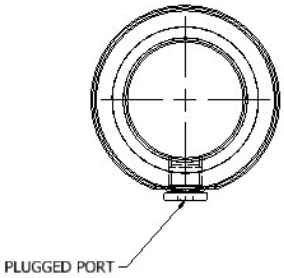
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

SAE 6000 PSI O-Ring Spacer with Pilot Port

SAE J518 Code 62 (ISO 6162-2)





OSP - O-Ring Spacer with Pilot Port for Retain Ring Pipe - 1/2”- 2” Complete with Buna O-Rings (Standard) and #4 SAE Port (Plugged)

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSP-050-*-^	0.55 (14.0)	1.50 (38.1)	OR^-3-909	0.37 (0.17)
3/4"	OSP-075-*-^	0.79 (20.1)	1.50 (38.1)	OR^-3-913	0.64 (0.29)
1”	OSP-100-*-^	0.91 (23.1)	1.50 (38.1)	OR^-3-916	0.78 (0.35)
1-1/4"	OSP-125-*-^	1.18 (30.0)	1.50 (38.1)	OR^-3-918	0.86 (0.39)
1-1/2”	OSP-150-*-^	1.54 (39.1)	1.50 (38.1)	OR^-3-924	1.40 (0.64)
2”	OSP-200-*-^	1.91 (48.5)	1.50 (38.1)	OR^-3-928	1.49 (0.68)

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: OSP-200-SS-V
* Insert Material
^ Insert O-Ring Type

OSPM - O-Ring Spacer with Metric Pilot Port for Retain Ring Pipe - 1/2”- 2” Complete with Buna O-Rings (Standard) and G1/8 Port (Plugged)

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSPM-050-*-^	0.55 (14.0)	1.50 (38.1)	OR^-3-909	0.37 (0.17)
3/4"	OSPM-075-*-^	0.79 (20.1)	1.50 (38.1)	OR^-3-913	0.64 (0.29)
1”	OSPM-100-*-^	0.91 (23.1)	1.50 (38.1)	OR^-3-916	0.78 (0.35)
1-1/4"	OSPM-125-*-^	1.18 (30.0)	1.50 (38.1)	OR^-3-918	0.86 (0.39)
1-1/2”	OSPM-150-*-^	1.54 (39.1)	1.50 (38.1)	OR^-3-924	1.40 (0.64)
2”	OSPM-200-*-^	1.91 (48.5)	1.50 (38.1)	OR^-3-928	1.49 (0.68)

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

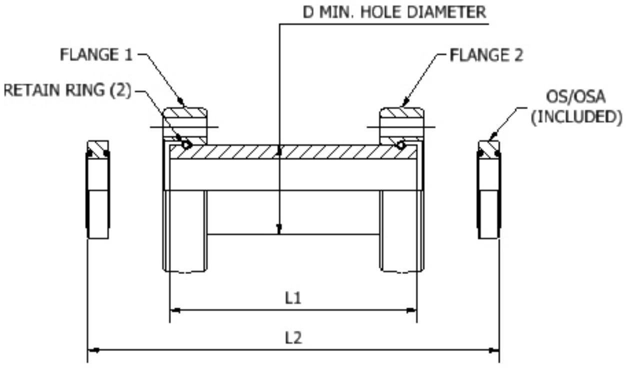
<u>^ O-Ring Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

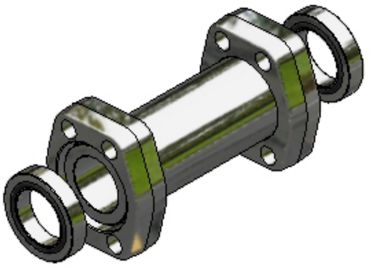
Ordering Example: OSPM-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Retain Ring Bulkhead

SAE J518 Code 62 (ISO 6162-2)





Complete Assembly Consists Of:
- One (1) retain ring flange bulkhead body
- Two (2) retain ring flanges
- Two (2) retain rings
- Two (2) o-ring spacers

To be Ordered Separately:
- Bolt Kit

See page H25

A/RFBH - Retain Ring Flange Bulkhead

Size	Complete Part Number	Dimensions in (mm)			Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L1	L2	D				
1/2"	A/RFBH-050-FC64-FC64-*-^	5.69 (144.6)	6.69 (170)	1.02 (26)	2.16 (0.98)	RFBH-050-*-^	1.08 (0.49)	6000 (420)
3/4"	A/RFBH-075-FC64-FC64-*-^	5.69 (144.6)	6.69 (170)	1.42 (36)	4.06 (1.85)	RFBH-075-*-^	2.00 (0.91)	6000 (420)
1"	A/RFBH-100-FC64-FC64-*-^	5.69 (144.6)	6.69 (170)	1.54 (39)	4.60 (2.09)	RFBH-100-*-^	1.80 (0.82)	6000 (420)
1-1/4"	A/RFBH-125-FC64-FC64-*-^	6.09 (154.6)	7.09 (180)	1.81 (46)	6.92 (3.15)	RFBH-125-*-^	2.60 (1.18)	6000 (420)
1-1/2"	A/RFBH-150-FC64-FC64-*-^	6.09 (154.6)	7.09 (180)	2.20 (56)	10.35 (4.70)	RFBH-150-*-^	3.31 (1.50)	6000 (420)
2"	A/RFBH-200-FC64-FC64-*-^	7.27 (184.6)	8.27 (210)	2.60 (66)	15.42 (7.00)	RFBH-200-*-^	4.80 (2.18)	6000 (420)

Ordering Example: A/RFBH-050-FC64-FC64-SS-V
Flange 1 Option
Flange 2 Option
* Insert Material
^ Insert O-Ring Type

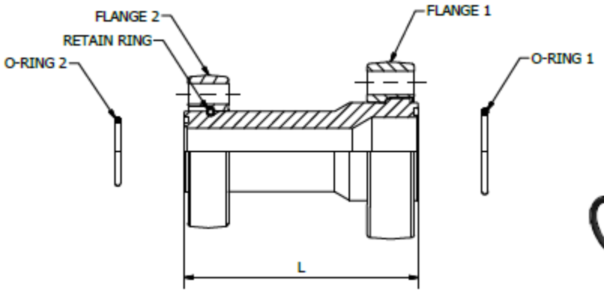
Flange Options:
Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

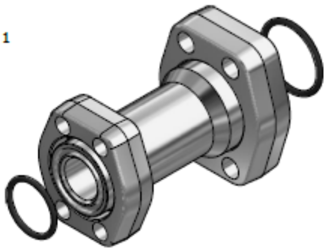
Materials
No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton.

SAE 6000 PSI Retain Ring Flange Concentric Reducer Assembly

SAE J518 Code 62 (ISO 6162-2)





Complete Assembly Consists Of:
- One (1) Concentric Reducer Body
- Two (2) Retain Ring Flanges
- One (1) Retain Ring
- Two (2) Buna O-Rings (Standard)

To be Ordered Separately:
- Bolt Kit

See page H25

A/CR – Retain Ring Flange Concentric Reducer Assembly

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring 1 (Buna) Part Number	O-Ring 2 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L						
3/4” x 1/2”	A/CR-075x050-FC64-FC64-*-^	3.72 (94.5)	OR^-3-913	OR^-3-909	2.15 (0.98)	CR-075x050-*-^	0.88 (0.40)	6000 (420)
1” x 1/2”	A/CR-100x050-FC64-FC64-*-^	3.72 (94.5)	OR^-3-916	OR^-3-909	2.57 (1.17)	CR-100x050-*-^	0.97 (0.44)	6000 (420)
1” x 3/4”	A/CR-100x075-FC64-FC64-*-^	4.50 (114.3)	OR^-3-916	OR^-3-913	3.50 (1.59)	CR-100x075-*-^	1.49 (0.68)	6000 (420)
1-1/4” x 3/4”	A/CR-125x075-FC64-FC64-*-^	4.50 (114.3)	OR^-3-918	OR^-3-913	4.42 (2.00)	CR-125x075-*-^	1.71 (0.78)	6000 (420)
1-1/4” x 1”	A/CR-125x100-FC64-FC64-*-^	4.50 (114.3)	OR^-3-918	OR^-3-916	4.95 (2.25)	CR-125x100-*-^	1.90 (0.86)	6000 (420)
1-1/2” x 1”	A/CR-150x100-FC64-FC64-*-^	4.50 (114.3)	OR^-3-924	OR^-3-916	6.44 (2.93)	CR-150x100-*-^	2.11 (0.96)	6000 (420)
1-1/2” x 1-1/4”	A/CR-150x125-FC64-FC64-*-^	5.26 (133.6)	OR^-3-924	OR^-3-918	7.60 (3.45)	CR-150x125-*-^	2.56 (1.16)	6000 (420)
2” x 1-1/4”	A/CR-200x125-FC64-FC64-*-^	5.26 (133.6)	OR^-3-928	OR^-3-918	10.22 (4.65)	CR-200x125-*-^	3.50 (1.59)	6000 (420)
2” x 1-1/2”	A/CR-200x150-FC64-FC64-*-^	5.26 (133.6)	OR^-3-928	OR^-3-924	11.75 (5.34)	CR-200x150-*-^	3.74 (1.70)	6000 (420)

Flange Options:

Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 62 (ISO 6162-2) Metric Threaded Flange.

Materials

No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

No Designation = Buna Nitrile.
V = Viton.

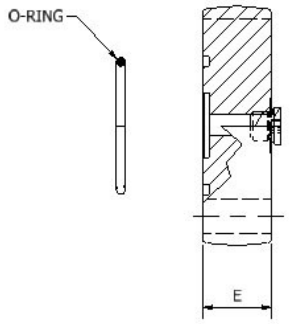
Ordering Example: A/CR-200x125-FC64-FC64-SS-V

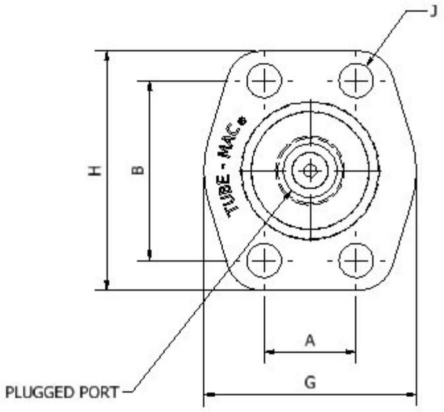
Flange 1 Option
Flange 2 Option
* Insert Material
^ Insert O-Ring Type

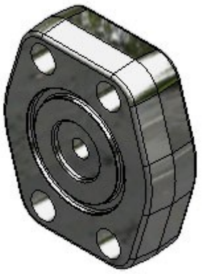
3D step models available upon request

SAE 6000 PSI Blanking Flange
O-Ring Face with Clearance Holes

SAE J518 Code 62 (ISO 6162-2)







BFO64 – Blanking Flange Complete with O-Ring and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1/2"	BF064-050-*-^	0.72	1.59	1.88	2.22	0.81	5/16”	OR*-2-210	6000 (420)	0.53 (0.24)
3/4"	BF064-075-*-^	0.94	2.00	2.38	2.81	1.02	3/8”	OR*-2-214	6000 (420)	1.08 (0.49)
1"	BF064-100-*-^	1.09	2.25	2.75	3.19	1.03	7/16”	OR*-2-219	6000 (420)	1.70 (0.77)
1-1/4"	BF064-125-*-^	1.25	2.63	3.06	3.75	1.25	1/2"	OR*-2-222	6000 (420)	2.63 (1.20)
1-1/2"	BF064-150-*-^	1.44	3.13	3.75	4.44	1.38	5/8”	OR*-2-225	6000 (420)	3.90 (1.77)
2"	BF064-200-*-^	1.75	3.81	4.50	5.25	1.68	3/4"	OR*-2-228	6000 (420)	5.66 (2.57)

BFOM64 – Blanking Flange Complete with O-Ring and G1/8 BSPP Port (Plugged,) Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1/2"	BFOM64-050-*-^	18.3	40.4	47.8	56.4	20.6	M8	OR*-2-210	6000 (420)	0.53 (0.24)
3/4"	BFOM64-075-*-^	23.9	50.8	60.5	71.4	25.9	M10	OR*-2-214	6000 (420)	1.08 (0.49)
1"	BFOM64-100-*-^	27.7	57.2	69.9	81.0	26.2	M12	OR*-2-219	6000 (420)	1.70 (0.77)
1-1/4"	BFOM64-125-*-^	31.8	66.8	77.7	95.3	31.8	M12	OR*-2-222	6000 (420)	2.63 (1.20)
1-1/2"	BFOM64-150-*-^	36.6	79.5	95.3	112.8	35.1	M16	OR*-2-225	6000 (420)	3.90 (1.77)
2"	BFOM64-200-*-^	44.5	96.8	114.3	133.4	42.7	M20	OR^-2-228	6000 (420)	5.66 (2.57)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

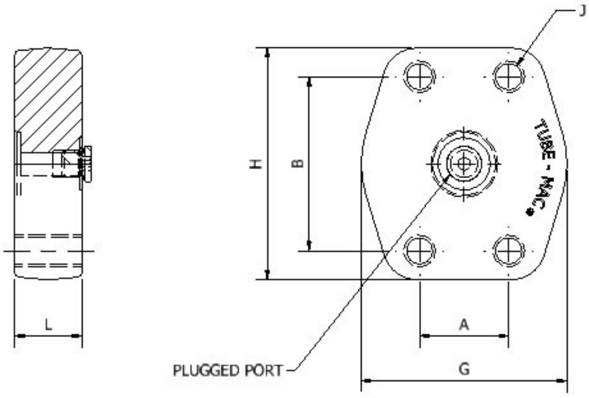
Ordering Example: BF064-200-SS-V
* Insert Material
^ Insert O-Ring 2 Type

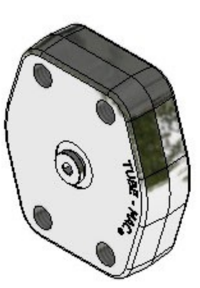
3D step models available upon request

SAE 6000 PSI Blanking Flange

Flat Face with Threaded Holes

SAE J518 Code 62 (ISO 6162-2)





BFF64 – Blanking Flange Flat Face with #4 SAE Port (Plugged) and UNC Threaded Holes, NPS

Size	Blanking Flange Part Number	Dimensions (in)					Thread UNC-2B J	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1/2"	BFF64-050-*	.72	1.59	1.88	2.22	0.81	5/16”-18	6000 (420)	0.56 (0.25)
3/4"	BFF64-075-*	.94	2.00	2.38	2.81	1.02	3/8”-16	6000 (420)	1.08 (0.49)
1"	BFF64-100-*	1.09	2.25	2.75	3.19	1.03	7/16”-14	6000 (420)	1.79 (0.81)
1-1/4"	BFF64-125-*	1.25	2.63	3.06	3.75	1.25	1/2"-13	6000 (420)	2.74 (1.25)
1-1/2"	BFF64-150-*	1.44	3.13	3.75	4.44	1.38	5/8”-11	6000 (420)	4.01 (1.82)
2"	BFF64-200-*	1.75	3.81	4.50	5.25	1.68	3/4"-10	6000 (420)	5.82 (2.65)

BFFM64 – Blanking Flange Flat Face with G1/8 BSPP Port (Plugged) and Threaded Holes, Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Thread J	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1/2"	BFFM64-050-*	18.3	40.4	47.8	56.4	20.6	M8 x 1.25	6000 (420)	0.56 (0.25)
3/4"	BFFM64-075-*	23.9	50.8	60.5	71.4	25.9	M10 x 1.50	6000 (420)	1.08 (0.49)
1"	BFFM64-100-*	27.7	57.2	69.9	81.0	26.2	M12 x 1.75	6000 (420)	1.79 (0.81)
1-1/4"	BFFM64-125-*	31.8	66.8	77.7	95.3	31.8	M12 x 1.75	6000 (420)	2.74 (1.25)
1-1/2"	BFFM64-150-*	36.6	79.5	95.3	112.8	35.1	M16 x 2.00	6000 (420)	4.01 (1.82)
2"	BFFM64-200-*	44.5	96.8	114.3	133.4	42.7	M20 x 2.50	6000 (420)	5.82 (2.65)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

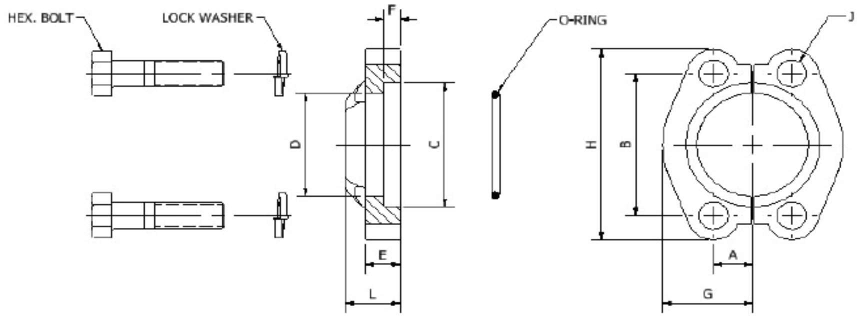
Ordering Example: BFF64-200-SS
* Insert Material

3D step models available upon request

SAE 6000 PSI Split Flange Kits

SAE J518 Code 62 (ISO 6162-2)

Complete Flange Set Includes:
- One (1) Split Flange (2 Halves)
- Four (4) Hex Head Bolts
- Four (4) Lock Washers
- One (1) Buna O-Ring (Standard)



SFK64 - Split Flange Kit, NPS

Size	Complete Assembly Part Number	Dimensions (in)									Drill Dia. (in) J	HHCS Min. Grade 5 UNC-2A	O-Ring (Buna) Part Number	WT (lbs)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	L					
1/2”	SFK64-050-*-^	0.36	1.59	1.28	0.97	0.63	0.29	0.94	2.22	0.87	0.34	5/16”-18 x 1.50	OR*-2-210	0.55 (0.25)	6000 (420)
3/4”	SFK64-075-*-^	0.47	2.00	1.66	1.28	0.75	0.33	1.19	2.81	1.10	0.43	3/8”-16 x 1.50	OR*-2-214	0.93 (0.42)	6000 (420)
1”	SFK64-100-*-^	0.55	2.25	1.91	1.53	0.94	0.36	1.37	3.19	1.30	0.51	7/16”-14 1.75	OR*-2-219	1.46 (0.66)	6000 (420)
1-1/4”	SFK64-125-*-^	0.63	2.63	2.16	1.75	1.06	0.39	1.53	3.75	1.50	0.59	1/2"-13 x 1.75	OR*-2-222	2.26 (1.03)	6000 (420)
1-1/2”	SFK64-150-*-^	0.72	3.13	2.53	2.03	1.18	0.48	1.87	4.44	1.69	0.67	5/8”-11 x 2.25	OR*-2-225	3.91 (1.78)	6000 (420)
2”	SFK64-200-*-^	0.88	3.81	3.16	2.66	1.46	0.48	2.25	5.25	2.05	0.83	3/4”-10 x 2.75	OR*-2-228	6.48 (2.95)	6000 (420)

SFKM64 - Split Flange Kit, Metric

Size	Complete Assembly Part Number	Dimensions (mm)									Drill Dia. (mm) J	HHCS Min. 10.9	O-Ring (Nitrile) Part Number	WT (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	L					
1/2”	SFKM64-050-*-^	9.1	40.4	32.5	24.6	16.0	7.4	23.9	56.4	22.1	8.6	M8 x 40	OR*-2-210	0.55 (0.25)	6000 (420)
3/4”	SFKM64-075-*-^	11.9	50.8	42.2	32.5	19.0	8.4	30.2	71.4	27.9	10.9	M10 x 40	OR*-2-214	0.93 (0.42)	6000 (420)
1”	SFKM64-100-*-^	14.0	57.2	48.5	38.9	23.9	9.1	34.8	81.0	33.0	13.0	M12 x 45	OR*-2-219	1.46 (0.66)	6000 (420)
1-1/4”	SFKM64-125-*-^	16.0	66.8	54.9	44.5	26.9	9.9	38.9	95.3	38.1	15.0	M12 x 45	OR*-2-222	2.26 (1.03)	6000 (420)
1-1/2”	SFKM64-150-*-^	18.3	79.5	64.3	51.6	30.0	12.2	47.5	112.8	42.9	17.0	M16 x 55	OR*-2-225	3.91 (1.78)	6000 (420)
2”	SFKM64-200-*-^	22.4	96.8	80.3	67.6	37.0	12.2	57.2	133.4	42.1	21.1	M20 x 70	OR*-2-228	6.48 (2.95)	6000 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

^ O-Ring Type:

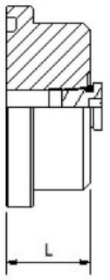
Standard, No Designation = Buna Nitrile.
V = Viton.

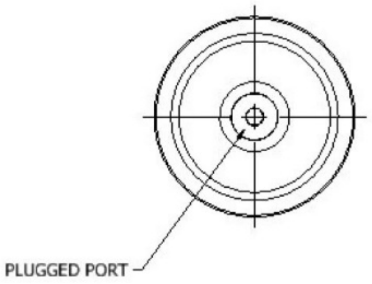
Ordering Example: SFK64-100-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 6000 PSI Split Flange Plugs

SAE J518 Code 62 (ISO 6162-2)





SFP64 - Complete with Buna O-Ring (Standard) and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		L			
1/2"	SFP64-050-^	0.88	OR*-2-210	6000 (420)	0.14 (0.06)
3/4"	SFP64-075-^	1.12	OR*-2-214	6000 (420)	0.42 (0.19)
1"	SFP64-100-^	1.38	OR*-2-219	6000 (420)	0.44 (0.2.0)
1-1/4"	SFP64-125-^	1.44	OR*-2-222	6000 (420)	0.96 (0.44)
1-1/2"	SFP64-150-^	1.62	OR*-2-225	6000 (420)	1.58 (0.75)
2"	SFP64-200-^	1.51	OR*-2-228	6000 (420)	2.53 (1.15)

SFPM64 - Complete with Nitrile O-Ring (Standard) and G1/8 BSPP Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)	O-Ring (Nitrile) Part Number	Working Pressure PSI (bar)	WT (kg)
		L			
1/2"	SFPM64-050-^	22.4	OR*-2-210	6000 (420)	0.14 (0.06)
3/4"	SFPM64-075-^	28.4	OR*-2-214	6000 (420)	0.42 (0.19)
1"	SFPM64-100-^	35.1	OR*-2-219	6000 (420)	0.44 (0.2.0)
1-1/4"	SFPM64-125-^	36.6	OR*-2-222	6000 (420)	0.96 (0.44)
1-1/2"	SFPM64-150-^	41.1	OR*-2-225	6000 (420)	1.58 (0.75)
2"	SFPM64-200-^	38.4	OR*-2-228	6000 (420)	2.53 (1.15)

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

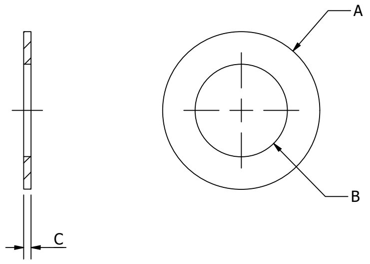
Ordering Example: SFP64-200-V

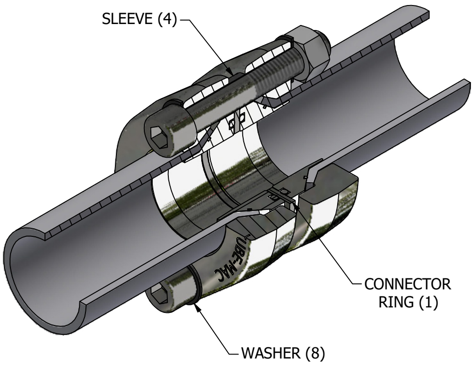
^ Insert O-Ring Type

SAE 6000 PSI Non-Conductive Connector Plate

with Bolt Isolation

SAE J518 Code 62 (ISO 6162-2)





Complete Set Includes:

- One (1) Non-Conductive Plate
- Four (4) Sleeves for Bolts
- Eight (8) Washers for Bolts

NCCR – Non-Conductive Connector Plate

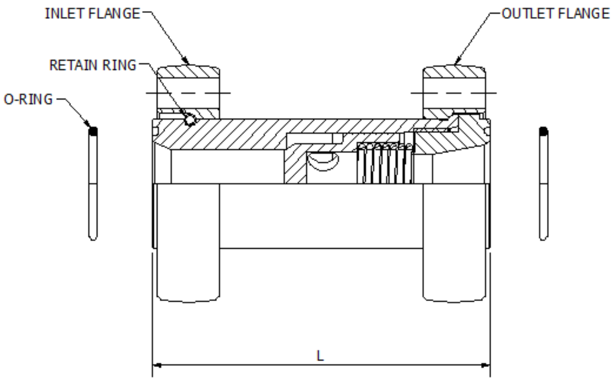
Size	Part Number	Dimensions in (mm)			WT lbs (kg)
		A	B	C	
1/2"	NCCR64-050	1.40 (35.5)	0.50 (12.70)	0.16 (4.00)	0.09 (0.04)
3/4"	NCCR64-075	1.80 (45.5)	0.75 (19.05)	0.16 (4.00)	0.12 (0.05)
1"	NCCR64-100	2.00 (50.8)	0.98 (25.0)	0.16 (4.00)	0.14 (0.06)
1-1/4"	NCCR64-125	2.36 (60.0)	1.25 (31.7)	0.16 (4.00)	0.20 (0.09)
1-1/2"	NCCR64-150	2.76 (70.3)	1.50 (38.10)	0.16 (4.00)	0.28 (0.13)
2"	NCCR34-200	3.37 (85.5)	2.00 (50.8)	0.16 (4.00)	0.33 (0.15)

Notes:

Flanges, Cone Inserts and Bolts Sold Separately
Must use Two (2) O-Ring Face Cone Inserts

SAE 6000 PSI Check Valve Retain Ring Flange Style

SAE J518 Code 62 (ISO 6162-2)



Complete Assembly Consists Of:

- One (1) Check Valve Body – Poppet Style
- Two (2) Retain Ring Flanges
- One (1) Retain Ring
- Two (2) Buna O-Rings (Standard)

CV Check Valve
Complete with Buna O-Rings (Standard)

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring 1 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L					
3/4”	A/CV-075-FC64-FC64-07-*-^	3.60 (91.4)	OR^-3-913	3.18 (1.45)	CV-075-07-*-^	1.50 (0.68)	5000 (350)
1”	A/CV-100-FC64-FC64-07-*-^	4.40 (111.8)	OR^-3-916	4.08 (1.85)	CV-100-07-*-^	1.73 (0.78)	5000 (350)
1-1/4”	A/CV-125-FC64-FC64-07-*-^	5.18 (131.6)	OR^-3-918	5.91 (2.69)	CV-125-07-*-^	2.15 (0.98)	5000 (350)
1-1/2”	A/CV-150-FC64-FC64-07-*-^	5.76 (146.3)	OR^-3-924	10.38 (4.72)	CV-150-07-*-^	4.05 (1.84)	5000 (350)
2”	A/CV-200-FC64-FC64-07-*-^	6.74 (171.2)	OR^-3-928	14.90 (6.77)	CV-200-07-*-^	5.20 (2.36)	5000 (350)

Flange Option:
Standard, FC64 = SAE 6000 PSI Code 62 (ISO 6162-2) Clearance Flange.
FT64 = SAE 6000 PSI Code 62 (ISO 6162-2) UNC Threaded Flange.
FTM64 = SAE 6000 PSI Code 621 (ISO 6162-2) Metric Threaded Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Opening Pressure

	PSI (bar)
Standard	07 (0.5)
Optional	21 (1.5)
Optional	43 (3.0)

Ordering Example: A/CV-200-FC64-FC64-07-SS-V

Inlet Flange Option
Outlet Flange Option
Opening Pressure
* Insert Material
^ Insert O-Ring Type

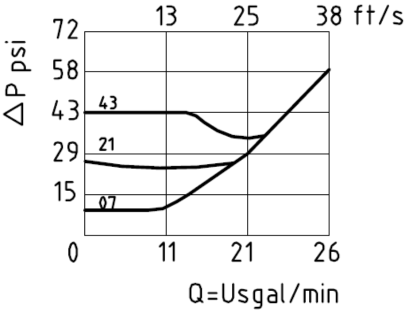
3D step models available upon request

SAE 6000 PSI Check Valve Retain Ring Flange Style

SAE J518 Code 62 (ISO 6162-2)

Performance Curves: Measured using oil at 190SUS and 122º F

3/4”



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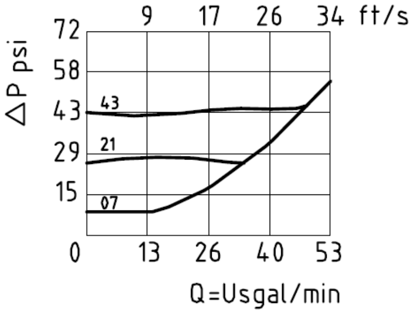

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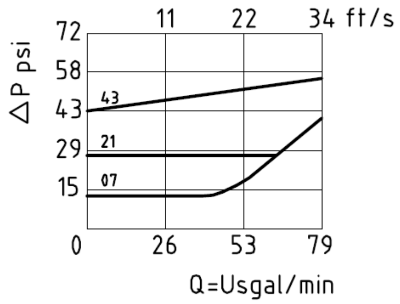

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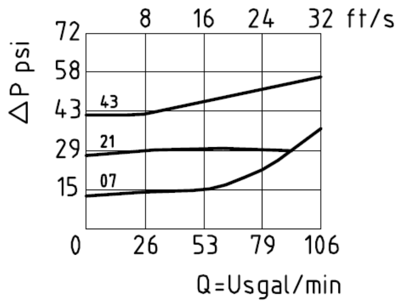

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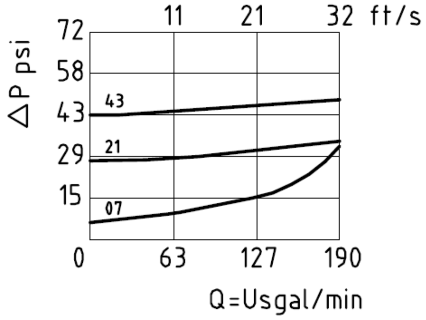
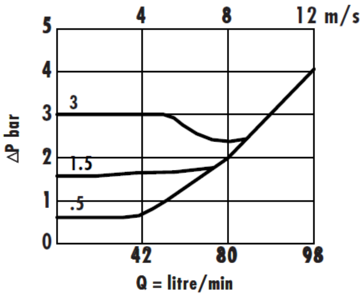


SAE 6000 PSI Check Valve Retain Ring Flange Style,

SAE J518 Code 62 (ISO 6162-2)

Performance Curves: Measured using oil at 190SUS and 50° C

3/4”



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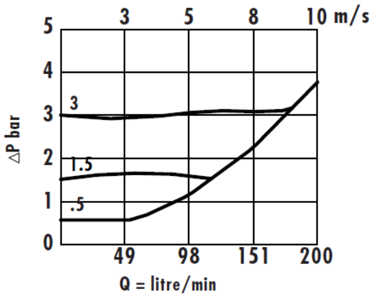

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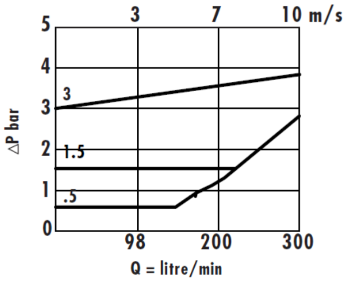

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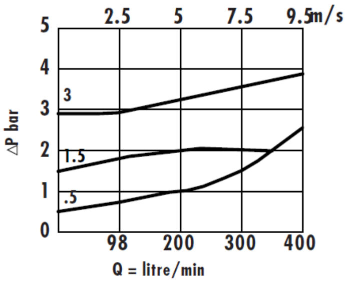

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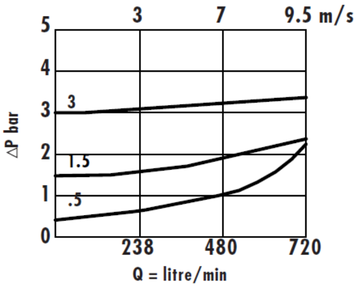


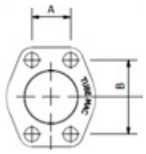
3D step models available upon request

Notes

Notes

SAE 10000 PSI, 690 bar Reference Guide

(only available for SCHXXS NPS Duplex Pipe)



Retain Ring Flange
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Retain Ring Style
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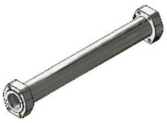

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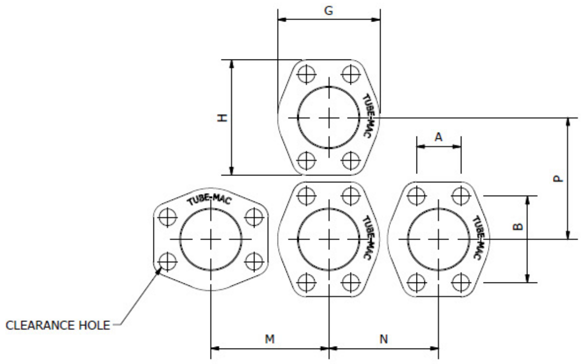
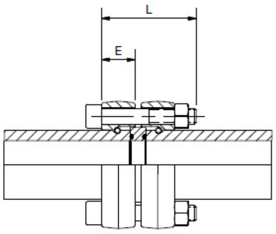
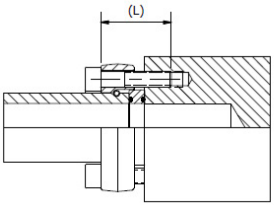
SAE 10000 PSI Retain Ring Flange Dimensions

SAE J518 Code 62 (ISO 6162-2) Bolt Pattern





FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Retain Ring Flange Dimensions (Inches)

Size	Dimensions (in)								SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	0.72	1.59	1.88	2.22	2.20	2.09	2.32	1.20	5/16”-18 UNC x 3.00 (2.00)	10000 (690)
3/4"	0.94	2.00	2.38	2.81	2.76	2.17	2.95	1.40	3/8”-16 UNC x 3.50 (2.25)	10000 (690)
1"	1.09	2.25	2.75	3.19	3.19	2.44	3.35	1.40	7/16”-14 UNC x 3.50 (2.25)	10000 (690)
1-1/4"	1.25	2.63	3.06	3.75	3.58	2.99	3.90	1.60	1/2”-13 UNC x 4.00 (2.50)	10000 (690)
1-1/2"	1.44	3.13	3.75	4.44	4.25	3.35	4.57	1.60	5/8”-11 UNC x 4.50 (2.75)	10000 (690)
2"	1.75	3.81	3.81	5.25	5.04	3.94	5.39	2.40	3/4”-10 UNC x 6.00 (3.50)	10000 (690)
2-1/2"	2.31	4.87	4.87	6.89	6.65	4.37	7.20	2.40	1”-8 UNC x 6.75 (4.38)	10000 (690)
3"	2.81	6.00	6.00	8.50	8.00	5.24	8.58	2.75	1-1/8”-7 UNC x 7.50 (5.00)	10000 (690)

* SHCS Bolt Specification

Carbon Steel: ASTM A574

316 Stainless Steel: ASTM A193 - B8M

- For 5/8” SS Bolts and smaller ASTM A193 - B8M Class.1
- For 3/4” SS Bolts and larger ASTM A193 - B8M Class.2

Retain Ring Flange Dimensions (Millimeters)

Size	Dimensions (mm)								SHCS Bolt* L (L)	Working Pressure PSI (Bar)
	A	B	G	H	M	N	P	E		
1/2"	18.3	40.4	47.8	56.4	55.9	53.1	58.9	30	M8 x 80 (50)	10000 (690)
3/4"	23.9	50.8	60.5	71.4	70.1	68.1	74.9	35	M10 x 90 (60)	10000 (690)
1"	27.7	57.2	69.9	81.0	81.0	75.9	85.1	35	M12 x 90 (60)	10000 (690)
1-1/4"	31.8	66.8	77.7	95.3	90.9	83.1	99.1	40	M12 x 100 (65)	10000 (690)
1-1/4” (2)	31.8	66.8	77.7	95.3	90.9	83.1	99.1	40	M14 x 100 (65)	10000 (690)
1-1/2"	36.6	79.5	95.3	112.8	108.0	101.1	116.1	40	M16 x 115 (70)	10000 (690)
2"	44.5	96.8	114.3	133.4	128.0	119.9	136.9	60	M20 x 150 (90)	10000 (690)
2-1/2"	58.7	123.8	150.0	175.0	169.0	156.0	183.0	60	M24 x 170 (110)	10000 (690)
3"	71.4	152.4	178.0	215.0	202.0	184.0	218.0	70	M30 x 190 (130)	10000 (690)

(2) Designates special order to suit M14 bolts

* SHCS Bolt Specification

Carbon Steel: DIN 912/ISO 476, Minimum Grade 8.8

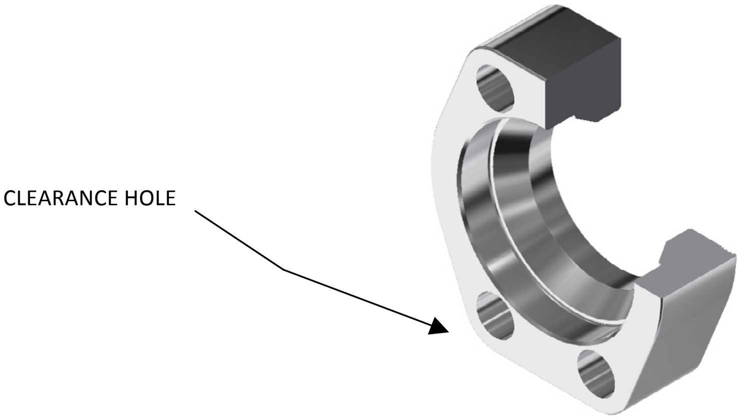
316 Stainless Steel: A4-70, DIN 912/ISO 4762

- For M16 SS Bolts and larger A4-80, DIN 912/ISO 4762

3D step models available upon request

SAE 10000 PSI Retain Ring Flange with Clearance Holes

SAE J518 Code 62 (ISO 6162-2) Bolt Pattern



RFAC104 - Retain Ring Flange with Clearance Hole, for Grooved Schedule XXS Pipe Only, NPS

Size	Schedule	OD x Wall (mm)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	XXS	21.3 x 7.47	RFAC104-050-*	10000 (690)	0.62 (0.28)
3/4"	XXS	26.7 x 7.82	RFAC104-075-*	10000 (690)	1.01 (0.46)
1"	XXS	33.4 x 9.09	RFAC104-100-*	10000 (690)	1.56 (0.71)
1-1/4"	XXS	42.2 x 9.70	RFAC104-125-*	10000 (690)	2.20 (1.00)
1-1/4” (1)	XXS	42.2 x 9.70	RFAC104-125-M14*	10000 (690)	2.20 (1.00)
1-1/2"	XXS	48.3 x 10.20	RFAC104-150-*	10000 (690)	3.96 (1.80)
2"	XXS	60.3 x 11.10	RFAC104-200-*	10000 (690)	6.67 (3.03)
2-1/2”	XXS	73.0 x 14.02	RFAC104-250-*	10000 (690)	14.88 (6.76)
3”	XXS	88.9 x 15.20	RFAC104-300-*	10000 (690)	25.15 (11.43)

(1) Designates Clearance Hole for M14 bolt - special order

Ordering Example: RFAC104-200-SS

* Insert Material

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.

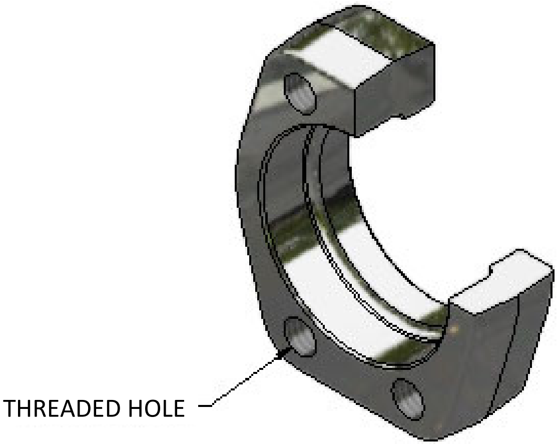
HDG = Carbon Steel, Hot Dip Galvanized.

SS = Stainless Steel, Type 316.

3D step models available upon request

SAE 10000 PSI Retain Ring Flange with Threaded Holes

SAE J518 Code 62 (ISO 6162-2) Bolt Pattern



RFAC104 - Retain Ring Flange with Threaded Hole, for Grooved Schedule XXS Pipe, NPS, with UNC Threaded Holes

Size	Schedule	OD x Wall (mm)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	XXS	21.3 x 7.47	RFAT104-050-*	10000 (690)	0.62 (0.28)
3/4"	XXS	26.7 x 7.82	RFAT104-075-*	10000 (690)	1.01 (0.46)
1"	XXS	33.4 x 9.09	RFAT104-100-*	10000 (690)	1.56 (0.71)
1-1/4"	XXS	42.2 x 9.70	RFAT104-125-*	10000 (690)	2.20 (1.00)
1-1/2"	XXS	48.3 x 10.20	RFAT104-150-*	10000 (690)	3.96 (1.80)
2"	XXS	60.3 x 11.10	RFAT104-200-*	10000 (690)	6.67 (3.03)
2-1/2”	XXS	73.0 x 14.02	RFAT104-250-*	10000 (690)	14.88 (6.76)
3”	XXS	88.9 x 15.20	RFAT104-300-*	10000 (690)	25.15 (11.43)

Ordering Example: RFAT104-200-SS
* Insert Material

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

RFATM104 - Retain Ring Flange with Threaded Hole, for Grooved Schedule XXS Pipe, NPS, with Metric Threaded Holes

Size	Schedule	OD x Wall (mm)	Standard Part Number	Working Pressure PSI (Bar)	Weight lbs (kg)
1/2"	XXS	21.3 x 7.47	RFATM104-050-*	10000 (690)	0.62 (0.28)
3/4"	XXS	26.7 x 7.82	RFATM104-075-*	10000 (690)	1.01 (0.46)
1"	XXS	33.4 x 9.09	RFATM104-100-*	10000 (690)	1.56 (0.71)
1-1/4"	XXS	42.2 x 9.70	RFATM104-125-*	10000 (690)	2.20 (1.00)
1-1/4 (1)"	XXS	42.2 x 9.70	RFATM104-125-M14-*	10000 (690)	2.20 (1.00)
1-1/2"	XXS	48.3 x 10.20	RFATM104-150-*	10000 (690)	3.96 (1.80)
2"	XXS	60.3 x 11.10	RFATM104-200-*	10000 (690)	6.67 (3.03)
2-1/2”	XXS	73.0 x 14.02	RFATM104-250-*	10000 (690)	14.88 (6.76)
3”	XXS	88.9 x 15.20	RFATM104-300-*	10000 (690)	25.15 (11.43)

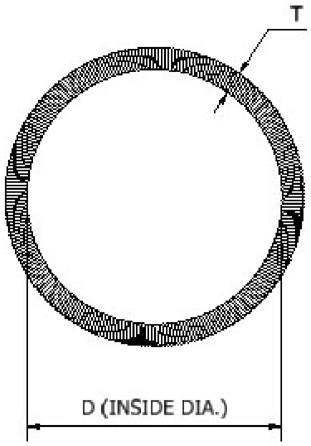
(1) Designates Threaded Holes for M14 bolts - special order

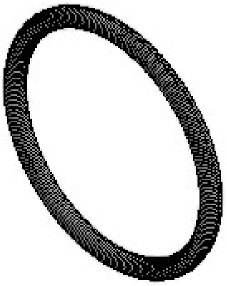
Ordering Example: RFATM104-200-SS
* Insert Material

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

3D step models available upon request

SAE 10000 PSI Retain Ring



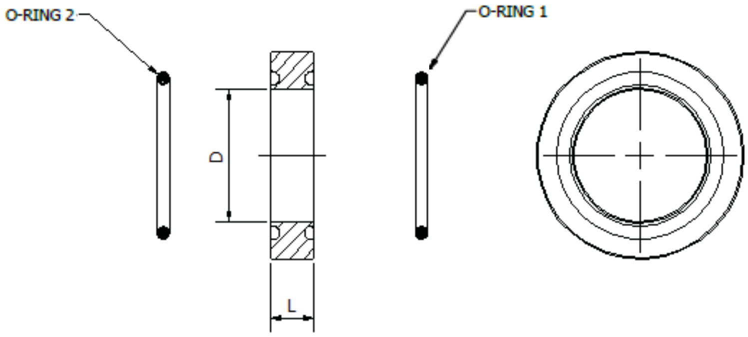


RA - Retain Ring

Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
		D	t	
1/2"	RA-050	0.85 (21.6)	0.16 (4.0)	0.01 (0.005)
3/4"	RA-075	1.24 (31.5)	0.16 (4.0)	0.02 (0.009)
1”	RA-100	1.32 (33.5)	0.20 (5.0)	0.03 (0.014)
1-1/4"	RA-125	1.59 (40.4)	0.20 (5.0)	0.04 (0.018)
1-1/2”	RA-150	1.99 (50.5)	0.20 (5.0)	0.05 (0.023)
2”	RA-200-6	2.38 (60.5)	0.20 (6.0)	0.07 (0.032)
2-1/2”	RA-250-7	2.93 (74.4)	0.28 (7.0)	0.08 (0.036)
3”	RA-300-8	3.56 (90.4)	0.31 (8.0)	0.14 (0.064)

Note:
Retain Ring 2”, 2-1/2” and 3” have larger cross section

SAE 10000 PSI O-Ring Spacer for Retain Ring Pipe Flange Connection



OSA – O-Ring Spacer for Retain Ring Pipe Flange Connection

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSA-SCHXXS-050-*-^	0.25 (6.4)	0.50 (12.7)	OR^-3-909	0.11 (0.05)
3/4"	OSA-SCHXXS-075-*-^	0.43 (10.9)	0.50 (12.7)	OR^-3-913	0.18 (0.08)
1”	OSA-SCHXXS-100-*-^	0.60 (15.2)	0.50 (12.7)	OR^-3-916	0.21 (0.10)
1-1/4"	OSA-SCHXXS-125-*-^	0.90 (22.9)	0.50 (12.7)	OR^-3-918	0.26 (0.12)
1-1/2”	OSA-SCHXXS-150-*-^	1.10 (27.9)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
2”	OSA-SCHXXS-200-*-^	1.50 (38.1)	0.50 (12.7)	OR^-3-928	0.43 (0.20)
2-1/2”	OSA-SCHXXS-250-*-^	1.77 (49.9)	1.00 (26.4)	OR^-2-232	1.17 (0.53)
3”	OSA-SCHXXS-300-*-^	2.30 (58.4)	1.00 (25.4)	OR^-2-232	1.68 (0.77)

Ordering Example: OSA-SCHXXS-200-SS-V

* Insert Material

^ Insert O-Ring Type

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.

SS = Stainless Steel, Type 316.

^ O-Ring Type:

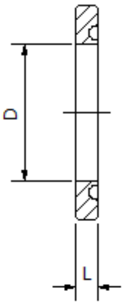
Standard, No Designation = Buna Nitrile.

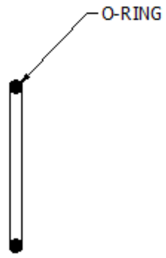
V = Viton.

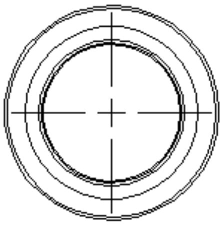
3D step models available upon request

SAE 10000 PSI O-Ring Spacer

for Retain Ring Pipe to Hose End







OSH – O-Ring Spacer for Retain Ring Pipe to Hose End					
Size	Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSH-SCHXXS-050-*-^	0.25 (6.4)	0.25 (6.4)	OR^-3-909	0.04 (0.02)
3/4"	OSH-SCHXXS-075-*-^	0.43 (10.9)	0.25 (6.4)	OR^-3-913	0.07 (0.03)
1”	OSH-SCHXXS-100-*-^	0.60 (15.2)	0.25 (6.4)	OR^-3-916	0.08 (0.04)
1-1/4"	OSH-SCHXXS-125-*-^	0.90 (22.9)	0.25 (6.4)	OR^-3-918	0.09 (0.04)
1-1/2”	OSH-SCHXXS-150-*-^	1.10 (27.9)	0.25 (6.4)	OR^-3-924	0.12 (0.05)
2”	OSH-SCHXXS-200-*-^	1.50 (38.1)	0.25 (6.4)	OR^-3-928	0.20 (0.09)
2-1/2”	OSH-SCHXXS-250-*-^	1.77 (49.9)	0.50 (12.7)	OR^-2-232	0.58 (0.26)
3”	OSH-SCHXXS-300-*-^	2.30 (58.4)	0.50 (12.7)	OR^-2-237	0.85 (0.39)

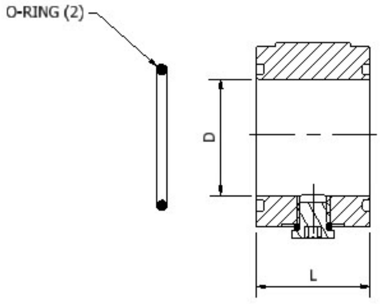
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

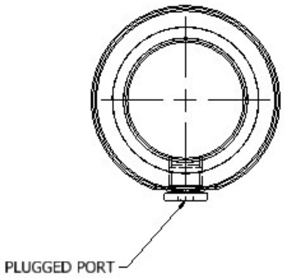
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: OSH-SCHXXS-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 10000 PSI O-Ring Spacer **with Pilot Port**





OSP - O-Ring Spacer with Pilot Port for Retain Ring Pipe - 1/2”- 3” Complete with Buna O-Rings (Standard) and #4 SAE Port (Plugged)

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSP-SCHXXS-050-*-^	0.25 (6.4)	1.50 (38.1)	OR^-3-909	0.44 (0.20)
3/4"	OSP-SCHXXS-075-*-^	0.43 (10.9)	1.50 (38.1)	OR^-3-913	0.68 (0.31)
1”	OSP-SCHXXS-100-*-^	0.60 (15.2)	1.50 (38.1)	OR^-3-916	0.82 (0.37)
1-1/4"	OSP-SCHXXS-125-*-^	0.90 (22.9)	1.50 (38.1)	OR^-3-918	0.90 (0.41)
1-1/2”	OSP-SCHXXS-150-*-^	1.10 (27. 9)	1.50 (38.1)	OR^-3-924	1.47 (0.67)
2”	OSP-SCHXXS-200-*-^	1.50 (38.1)	1.50 (38.1)	OR^-3-928	1.59 (0.72)
2-1/2”	OSP-SCHXXS-250-*-^	1.77 (49.9)	1.50 (38.1)	OR^-2-232	2.11 (0.96)
3”	OSP-SCHXXS-300-*-^	2. (.)	1.50 (38.1)	OR^-2-237	2.60 (1.18)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: OSP-SCHXXS-SS-V
* Insert Material
^ Insert O-Ring Type

OSPM - O-Ring Spacer with Metric Pilot Port for Retain Ring Pipe - 1/2”- 3” Complete with Buna O-Rings (Standard) and G1/8 Port (Plugged)

Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
		D	L		
1/2"	OSPM-SCHXXS-050-*-^	0.25 (6.4)	1.50 (38.1)	OR^-3-909	0.44 (0.20)
3/4"	OSPM-SCHXXS-075-*-^	0.43 (10.9)	1.50 (38.1)	OR^-3-913	0.68 (0.31)
1”	OSPM-SCHXXS-100-*-^	0.60 (15.2)	1.50 (38.1)	OR^-3-916	0.82 (0.37)
1-1/4"	OSPM-SCHXXS-125-*-^	0.90 (22.9)	1.50 (38.1)	OR^-3-918	0.90 (0.41)
1-1/2”	OSPM-SCHXXS-150-*-^	1.10 (27.9)	1.50 (38.1)	OR^-3-924	1.47 (0.67)
2”	OSPM-SCHXXS-200-*-^	1.50 (38.1)	1.50 (38.1)	OR^-3-928	1.59 (0.72)
2-1/2”	OSPM-SCHXXS-250-*-^	1.77 (49.9)	1.50 (38.1)	OR^-2-232	2.11 (0.96)
3”	OSPM-SCHXXS-300-*-^	2.30 (58.4)	1.50 (38.1)	OR^-2-237	2.60 (1.18)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

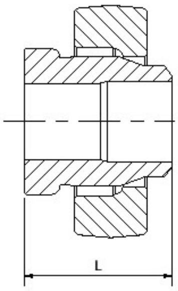
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

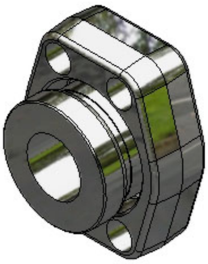
Ordering Example: OSPM-SCHXXS-200-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

SAE 10000 PSI Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2) Flange Pattern





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:

- Bolt Kit (See Page I1)
- O-Ring Spacer (See Page I5)

A/BWAHP - Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1/2"	1/2” SCHXXS	A/BWAHP-SCHXXS-050-FAC104-*	0.69 (0.31)	1.50 (38.1)	BWAHP-SCHXXS-050-SS	RFAC104-050-*
3/4”	3/4” SCHXXS	A/BWAHP-SCHXXS-075-FAC104-*	1.40 (0.64)	2.00 (50.8)	BWAHP-SCHXXS-075-SS	RFAC104-075-*
1”	1” SCHXXS	A/BWAHP-SCHXXS-100-FAC104-*	1.81 (0.82)	2.00 (50.8)	BWAHP-SCHXXS-100-SS	RFAC104-100-*
1-1/4”	1-1/4” SCHXXS	A/BWAHP-SCHXXS-125-FAC104-*	2.83 (1.29)	2.50 (63.5)	BWAHP-SCHXXS-125-SS	RFAC104-125-*
1-1/4” (1)	1-1/4” SCHXXS	A/BWAHP-SCHXXS-125-FAC104-M14-*	2.83 (1.29)	2.50 (63.5)	BWAHP-SCHXXS-125-SS	RFAC104-125-M14-*
1-1/2”	1-1/2” SCHXXS	A/BWAHP-SCHXXS-150-FAC104-*	4.45 (2.02)	2.75 (69.8)	BWAHP-SCHXXS-150-SS	RFAC104-150-*
2”	2” SCHXXS	A/BWAHP-SCHXXS-200-FAC34-*	6.71 (3.05)	3.00 (76.2)	BWAHP-SCHXXS-200-SS	RFAC104-200-*
2-1/2”	2-1/2” SCHXXS	A/BWAHP-SCHXXS-250-FAC34-*	17.30 (7.86)	3.50 (88.9)	BWAHP-SCHXXS-250-SS	RFAC104-250-*
3”	3” SCHXXS	A/BWAHP-SCHXXS-300-FAC34-*	29.21 (13.28)	3.75 (95.3)	BWAHP-SCHXXS-300-SS	RFAC104-300-*

(1)Designates Clearance Holes for M14 bolts - special order

Ordering Example: A/BWAHP-SCHXXS-200-FC104-SS

* Insert Material

ˆ Note:

Weld Adapter Body is only available in Duplex UNS S32205 (EN1.4462)

*** Flange Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
HDG = Carbon Steel, Hot Dip Galvanized Flange

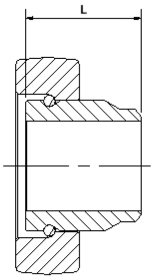
Note:

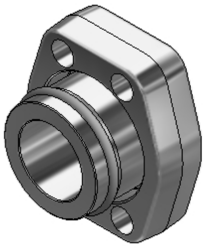
To Order A Retain Ring Flange with UNC Threaded Holes, Replace FAC with FAT
To Order a Retain Ring Flange with Metric Threads, Replace FAC with FATM

3D step models available upon request

SAE 10000 PSI Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, NPS

SAE J518 Code 62 (ISO 6162-2) Flange Pattern





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body
- One (1) Retain Ring

To be Ordered Separately:
- Bolt Kit (See Page I1)
- O-Ring Spacer (See Page I5)

A/BWARHP - Butt Weld Adapter Assembly Retain Ring Style with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1/2"	1/2” SCHXXS	A/BWARHP-SCHXXS-050-FAC104-*	0.69 (0.31)	1.50 (38.1)	BWARHP-SCHXXS-050-SS	RFAC104-050-*
3/4”	3/4” SCHXXS	A/BWARHP-SCHXXS-075-FAC104-*	1.40 (0.64)	2.00 (50.8)	BWARHP-SCHXXS-075-SS	RFAC104-075-*
1”	1” SCHXXS	A/BWARHP-SCHXXS-100-FAC104-*	1.81 (0.82)	2.00 (50.8)	BWARHP-SCHXXS-100-SS	RFAC104-100-*
1-1/4”	1-1/4” SCHXXS	A/BWARHP-SCHXXS-125-FAC104-*	2.83 (1.29)	2.50 (63.5)	BWARHP-SCHXXS-125-SS	RFAC104-125-*
1-1/4” (1)	1-1/4” SCHXXS	A/BWARHP-SCHXXS-125-FAC104-M14-*	2.83 (1.29)	2.50 (63.5)	BWARHP-SCHXXS-125-SS	RFAC104-125-M14-*
1-1/2”	1-1/2” SCHXXS	A/BWARHP-SCHXXS-150-FAC104-*	4.45 (2.02)	2.75 (69.8)	BWARHP-SCHXXS-150-SS	RFAC104-150-*
2”	2” SCHXXS	A/BWARHP-SCHXXS-200-FAC104-*	6.71 (3.05)	3.00 (76.2)	BWARHP-SCHXXS-200-SS	RFAC104-200-*
2-1/2”	2-1/2” SCHXXS	A/BWARHP-SCHXXS-250-FAC104-*	17.30 (7.86)	3.50 (88.9)	BWARHP-SCHXXS-250-SS	RFAC104-250-*
3”	3” SCHXXS	A/BWARHP-SCHXXS-300-FAC104-*	29.21 (13.28)	3.75 (95.3)	BWARHP-SCHXXS-300-SS	RFAC104-300-*

(1) Designates Clearance Holes for M14 bolts - special order

Ordering Example: A/BWARHP-SCHXXS-150-FAC104-SS

* Insert Material

ˆ Note:
Weld Adapter Body is only available in Duplex UNS S32205 (EN1.4462)

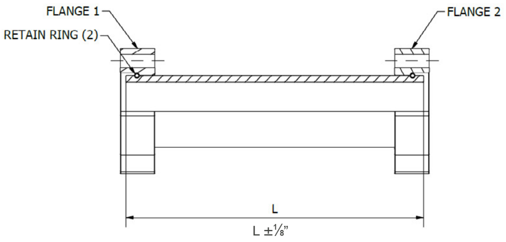
*** Flange Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
HDG = Carbon Steel, Hot Dip Galvanized Flange

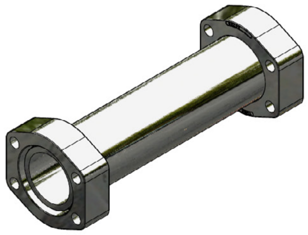
Note:
To Order A Retain Ring Flange with UNC Threaded Holes, Replace FAC with FAT
To Order a Retain Ring Flange with Metric Threads, Replace FAC with FATM

3D step models available upon request

ISO 10000 Retain Ring Flange Pipe Assembly, NPS

SAE J518 Code 62 (ISO 6162-2) Flange Pattern





Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) retain ring flanges
- Two 2) retain rings

To be Ordered Separately:

- O-Ring Seal Spacers

Code | **PAR** / **Pipe Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Length** - **Options**

Bent Pipe Assembly - Retain Ring		**PAR**
Pipe Material	**Duplex UNS S32205** **TMP2205SS**	2205
Pipe Size	**1/2"**	SCHXXS-050
	3/4"	SCHXXS-075
	1"	SCHXXS-100
	1-1/4"	SCHXXS-125
	1-1/2"	SCHXXS-150
	2"	SCHXXS-200
	2-1/2"	SCHXXS-250
	3"	SCHXXS-300
Flange Type Carbon Steel	**RFAC104** with Clearance Holes	FAC104
	RFAT104 with Threaded Holes	FAT104
	RFATM104 with Metric Threaded Holes	FATM104
Length	L	Specify (in.)
Flange Options	Flange Stainless Steel Type 316	SS
	Flange Hot Dip Galvanized	HDG

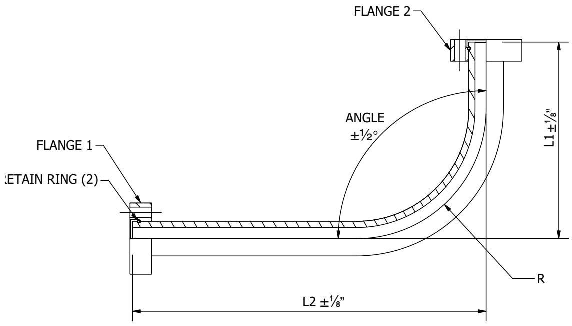
♦TMP2205SS PIPE IS THE ONLY PIPE MATERIAL AVAILABLE FOR THIS PRESSURE RATING

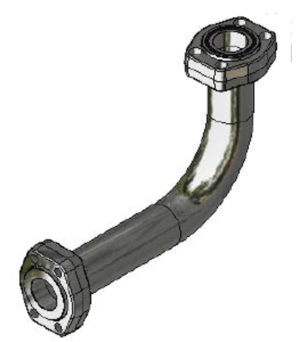
Standard No designation = Flanges Carbon Steel Flanges, Zinc Nickel Plated

PART Number (EXAMPLE): PAR/2205-SCHXXS-250-FAC104-240

SAE 10000 PSI, Retain Ring Flare Flange Bent Pipe Assembly, NPS

SAE J518 Code 62 (ISO 6162-2) Flange Pattern





Complete assembly consists of:

- One (1) length of bent clean pipe
- Two (2) retain ring flare flanges
- Two (2) retain rings

To be Ordered Separately:

- O-ring Seal Spacers

Code **BPAR** / **Pipe Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Rad 1** - **Rad.** - **Lgth L1** - **Ang** - **Lgth L2** - **Options**

Bent Pipe Assembly - Retain Ring		**BPAR**
Pipe Material	**Duplex UNS S32205** **TMP2205SS**	2205
Pipe Size	**1/2"**	SCHXXS-050
	3/4"	SCHXXS-075
	1"	SCHXXS-100
	1-1/4"	SCHXXS-125
	1-1/2"	SCHXXS-150
	2"	SCHXXS-200
	2-1/2"	SCHXXS-250
	3"	SCHXXS-300
Flange Type Carbon Steel	**RFAC104** with Clearance Holes	FAC104
	RFAT104 with Threaded Holes	FAT104
	RFATM104 with Metric Threaded Holes	FATM104
Radius	R	Specify (in.)
Length	L1	Specify (in.)
Angle	Max 90º	Specify (º)
Length	L2	Specify (in.)
Options	Flange Stainless Steel Type 316	SS
	Flange Hot Dip Galvanized	HDG

Pipe Size	**Flange Size**	**Dimensions**	
Schedule	**(in)**	**L(in.)**	**R**
1/2" SCHXXS	1/2"	6.75	3.9
3/4" SCHXXS	3/4"	7.00	4.3
1" SCHXXS	1"	7.75	4.9
1-1/4" SCHXXS	1-1/4"	8.63	5.6
1-1/2" SCHXXS	1-1/2"	11.75	8.2
2" SCHXXS	2"	13.00	9.5
2-1/2" SCHXXS	2-1/2"	16.00	12.5
3" SCHXXS	3"	20.00	15

Note:

♦TMP2205SS PIPE IS THE ONLY PIPE MATERIAL AVAILABLE FOR THIS PRESSURE RATING

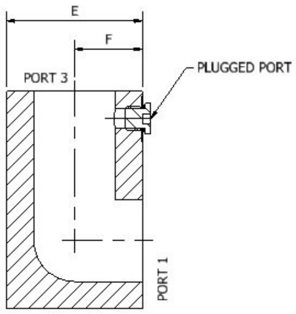
Flange Standard No designation = Carbon Steel, Zinc Nickel Plated

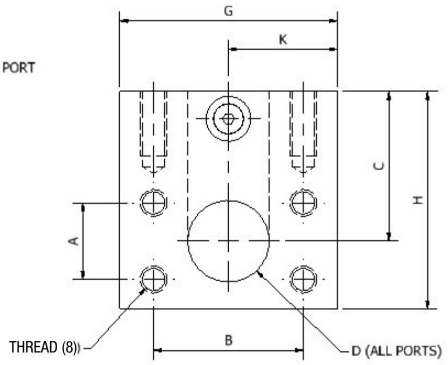
PART Number (EXAMPLE): BPAR/2205-SCHXXS-200-FAC104-FAC104-9.5-60-90-144

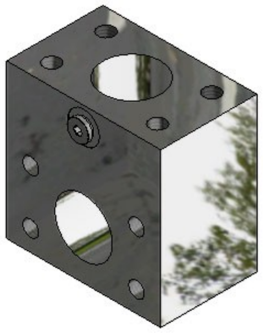
3D step models available upon request

SAE 10000 PSI Block Elbow

SAE J518 Code 62 (ISO 6162-2) Flange Pattern







BE104 - Block Elbow Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Elbow Part Number	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BE104-050-*	0.72	1.59	1.88	0.25	2.00	1.00	2.50	2.50	1.25	5/16”-18	3.30 (1.50)	10000 (690)
3/4”	BE104-075-*	0.94	2.00	2.25	0.43	2.00	1.00	3.00	3.25	1.50	3/8”-16	4.94 (2.25)	10000 (690)
1”	BE104-100-*	1.09	2.25	2.50	0.60	2.25	1.13	3.00	4.00	1.50	7/16”-14	6.72 (3.05)	10000 (690)
1-1/4”	BE104-125-*	1.25	2.63	2.75	0.90	2.50	1.25	4.00	4.00	2.00	1/2"-13	9.58 (4.36)	10000 (690)
1-1/2”	BE104-150-*	1.44	3.13	3.00	1.10	3.00	1.50	4.00	4.50	2.00	5/8”-11	12.06 (5.48)	10000 (690)
2”	BE104-200-*	1.75	3.81	3.38	1.50	3.00	1.50	5.00	5.00	2.50	3/4"-10	15.40 (7.00)	10000 (690)

Ordering Example: BE104-200-SS

* Insert Material

Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

BEM104 - Block Elbow Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size	Block Elbow Part Number	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BEM104-050-*	18.3	40.4	47.8	6.4	50.8	25.4	63.5	63.5	31.8	M8 x 1.25	3.30 (1.50)	10000 (690)
3/4”	BEM104-075-*	23.9	50.8	57.2	10.9	50.8	25.4	76.2	82.6	38.1	M10 x 1.50	4.94 (2.25)	10000 (690)
1”	BEM104-100-*	27.7	57.2	63.5	15.2	57.2	28.7	76.2	101.6	38.1	M12 x 1.75	6.72 (3.05)	10000 (690)
1-1/4”	BEM104-125-*	31.8	66.8	69.9	22.9	63.5	31.8	101.6	101.6	50.8	M12 x 1.75	9.58 (4.36)	10000 (690)
1-1/4”(1)	BEM104-125-M14-*	31.8	66.8	69.9	22.9	63.5	31.8	101.6	101.6	50.8	M14 x 2.00	9.58 (4.36)	10000 (690)
1-1/2”	BEM104-150-*	36.6	79.5	76.2	27.9	76.2	38.1	101.6	114.3	50.8	M16 x 2.00	12.06 (5.48)	10000 (690)
2”	BEM104-200-*	44.5	96.8	85.9	38.1	76.2	38.1	127.0	127.0	63.5	M20 x 2.50	15.40 (7.00)	10000 (690)

(1) Designates Threaded Holes for M14 bolts - special order

Ordering Example: BEM104-200-SS

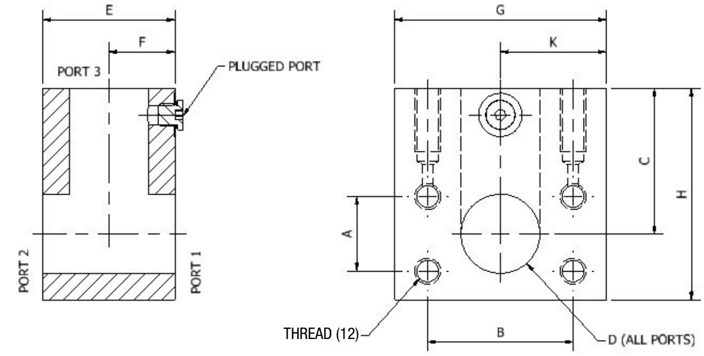
* Insert Material

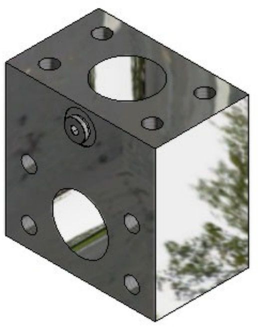
Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

SAE 10000 PSI Block Tee

SAE J518 Code 62 (ISO 6162-2) Flange Pattern





BT104 - Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size	Block Tee Part No	Dimensions (in)									Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BT104-050-*	0.72	1.59	1.88	0.25	2.00	1.00	2.50	2.50	1.25	5/16”-18	3.05 (1.38)	10000 (690)
3/4”	BT104-075-*	0.94	2.00	2.25	0.43	2.00	1.00	3.00	3.25	1.50	3/8”-16	4.66 (2.11)	10000 (690)
1”	BT104-100-*	1.09	2.25	2.50	0.60	2.25	1.13	3.00	4.00	1.50	7/16”-14	6.20 (2.81)	10000 (690)
1-1/4”	BT104-125-*	1.25	2.63	2.75	0.90	2.50	1.25	4.00	4.00	2.00	1/2"-13	8.86 (4.02)	10000 (690)
1-1/2”	BT104-150-*	1.44	3.13	3.00	1.10	3.00	1.50	4.00	4.50	2.00	5/8”-11	11.04 (5.01)	10000 (690)
2”	BT104-200-*	1.75	3.81	3.38	1.50	3.00	1.50	5.00	5.00	2.50	3/4"-10	14.41 (6.54)	10000 (690)

BTM104 - Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (inch)	Block Tee Part No	Dimensions (mm)									Thread	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	F	G	H	K			
1/2”	BTM104-050-*	18.3	40.4	47.8	6.40	50.8	25.4	63.5	63.5	31.8	M8 X 1.25	3.07 (1.39)	10000 (690)
3/4”	BTM104-075-*	23.9	50.8	57.2	10.9	50.8	25.4	76.2	82.6	38.1	M10 X 1.50	4.67 (2.12)	10000 (690)
1”	BTM104-100-*	27.7	57.2	63.5	15.2	57.2	28.7	76.2	101.6	38.1	M12 X 1.75	6.22 (2.82)	10000 (690)
1-1/4”	BTM104-125-*	31.8	66.8	69.9	22.9	63.5	31.8	101.6	101.6	50.8	M12 X 1.75	8.88 (4.03)	10000 (690)
1-1/4”(1)	BTM104-125-M14-*	31.8	66.8	69.9	22.9	63.5	31.8	101.6	101.6	50.8	M14 x 2.00	8.88 (4.03)	10000 (690)
1-1/2”	BTM104-150-*	36.6	79.5	76.2	27.9	76.2	38.1	101.6	114.3	50.8	M16 X 2.00	11.07 (5.02)	10000 (690)
2”	BTM104-200-*	44.5	96.8	85.9	38.1	76.2	38.1	127.0	127.0	63.5	M20 X 2.50	14.44(6.55)	10000 (690)

(1)Designates Threaded Holes for M14 bolts - special order

Ordering Example: BTM104-200-SS

* Insert Material

<u>* Materials:</u>

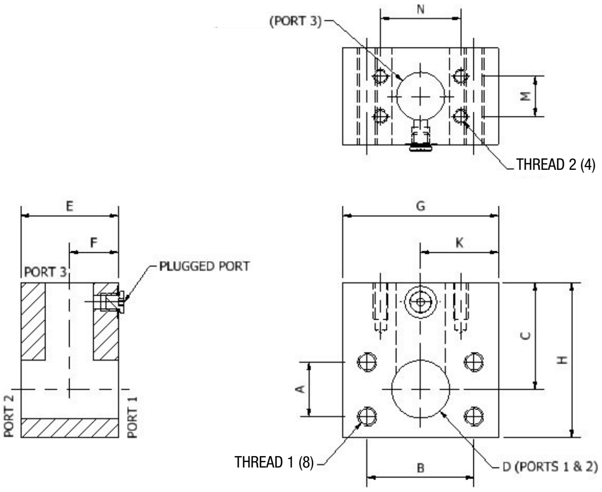
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.

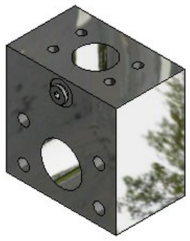
SS = Stainless Steel, Type 316.

3D step models available upon request

SAE 10000 PSI Reducing Branch Block Tee - NPS

SAE J518 Code 62 (ISO 6162-2) Flange Pattern





BTR104 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Tee Part Number	Dimensions (in)												Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4”x1/2”	BTR104-075x050-*	0.94	2.00	2.25	0.75	0.50	2.00	1.00	3.00	3.25	1.50	0.72	1.59	3/8”-16	5/16”-18	5.20 (2.36)	10000 (690)
1”x1/2”	BTR104-100x050-*	1.09	2.25	2.50	0.94	0.50	2.25	1.13	3.00	4.00	1.50	0.72	1.59	7/16”-14	5/16”-18	5.20 (2.36)	10000 (690)
1”x3/4”	BTR104-100x075-*	1.09	2.25	2.50	0.94	0.75	2.25	1.13	3.00	4.00	1.50	0.94	2.00	7/16”-14	3/8”-16	5.20 (2.36)	10000 (690)
1-1/4”x1/2”	BTR104-125x050-*	1.25	2.63	2.75	1.25	0.50	2.50	1.25	4.00	4.00	2.00	0.72	1.59	1/2"-13	5/16”-18	10.00 (4.54)	10000 (690)
1-1/4”x3/4”	BTR104-125x075-*	1.25	2.63	2.75	1.25	0.75	2.50	1.25	4.00	4.00	2.00	0.94	2.00	1/2"-13	3/8”-16	10.00 (4.54)	10000 (690)
1-1/4”x1”	BTR104-125x100-*	1.25	2.63	2.75	1.25	0.94	2.50	1.25	4.00	4.00	2.00	1.09	2.25	1/2"-13	7/16”-14	10.00 (4.54)	10000 (690)
1-1/2”x1/2”	BTR104-150x050-*	1.44	3.13	3.00	1.50	0.50	3.00	1.50	4.00	4.50	2.00	0.72	1.59	5/8”-11	5/16”-18	11.30 (5.13)	10000 (690)
1-1/2”x3/4”	BTR104-150x075-*	1.44	3.13	3.00	1.50	0.75	3.00	1.50	4.00	4.50	2.00	0.94	2.00	5/8”-11	3/8”-16	11.30 (5.13)	10000 (690)
1-1/2”x1”	BTR104-150x100-*	1.44	3.13	3.00	1.50	0.94	3.00	1.50	4.00	4.50	2.00	1.09	2.25	5/8”-11	7/16”-14	11.30 (5.13)	10000 (690)
1-1/2”x1-1/4”	BTR104-150x125-*	1.44	3.13	3.00	1.50	1.25	3.00	1.50	4.00	4.50	2.00	1.25	2.63	5/8”-11	1/2"-13	11.30 (5.13)	10000 (690)
2”x1/2”	BTR104-200x050-*	1.75	3.81	3.38	1.94	0.50	3.00	1.50	5.00	5.00	2.50	0.72	1.59	3/4"-10	5/16”-18	14.80 (6.71)	10000 (690)
2”x3/4”	BTR104-200x075-*	1.75	3.81	3.38	1.94	0.75	3.00	1.50	5.00	5.00	2.50	0.94	2.00	3/4”-10	3/8”-16	14.80 (6.71)	10000 (690)
2”x1”	BTR104-200x100-*	1.75	3.81	3.38	1.94	0.94	3.00	1.50	5.00	5.00	2.50	1.09	2.25	3/4"-10	7/16”-14	14.80 (6.71)	10000 (690)
2”x1-1/4”	BTR104-200x125-*	1.75	3.81	3.38	1.94	1.25	3.00	1.50	5.00	5.00	2.50	1.25	2.63	3/4"-10	1/2"-13	14.80 (6.71)	10000 (690)
2”x1-1/2”	BTR104-200x150-*	1.75	3.81	3.38	1.94	1.50	3.00	1.50	5.00	5.00	2.50	1.44	3.13	3/4"-10	5/8”-11	14.80 (6.71)	10000 (690)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

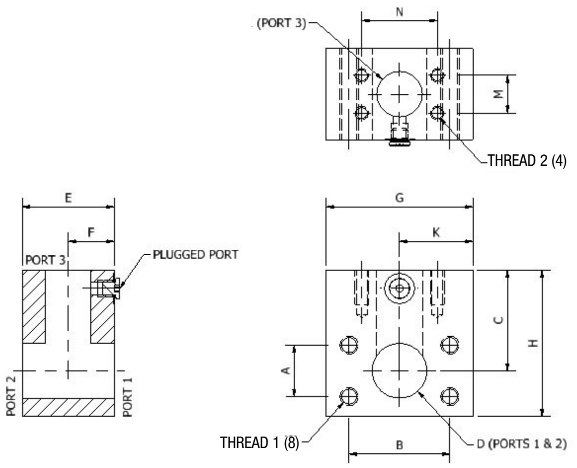
Ordering Example: BTR104-200x050-SS

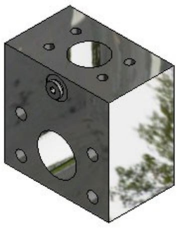
* Insert Material

3D step models available upon request

SAE 10000 PSI Reducing Branch Block Tee - Metric

SAE J518 Code 62 (ISO 6162-2) Flange Pattern





BTRM104 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)												Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	D1	E	F	G	H	K	M	N				
3/4”x1/2”	BTRM104-075x050-*	23.9	50.8	57.2	19.1	12.7	50.8	25.4	76.2	82.6	38.1	18.3	40.4	M10 x 1.50	M8 x 1.25	5.20 (2.36)	10000 (690)
1”x1/2”	BTRM104-100x050-*	27.7	57.2	63.5	23.9	12.7	57.2	28.7	76.2	101.6	38.1	18.3	40.4	M12 x 1.75	M8 x 1.25	5.20 (2.36)	10000 (690)
1”x3/4”	BTRM104-100x075-*	27.7	57.2	63.5	23.9	19.1	57.2	28.7	76.2	101.6	38.1	23.9	50.8	M12 x 1.75	M10 x 1.50	5.20 (2.36)	10000 (690)
1-1/4”x1/2”	BTRM104-125x050-*	31.8	66.8	69.9	31.8	12.7	63.5	31.8	101.6	101.6	50.8	18.3	40.4	M12 x 1.75	M8 x 1.25	10.00 (4.54)	10000 (690)
1-1/4”(2)x1/2”	BTRM104-125-M14x050*	31.8	66.8	69.9	31.8	12.7	63.5	31.8	101.6	101.6	50.8	18.3	40.4	M14 x 2.00	M8 x 1.25	10.00 (4.54)	10000 (690)
1-1/4”x3/4”	BTRM104-125x075-*	31.8	66.8	69.9	31.8	19.1	63.5	31.8	101.6	101.6	50.8	23.9	50.8	M12 x 1.75	M10 x 1.50	10.00 (4.54)	10000 (690)
1-1/4” (2) x3/4”	BTRM104-125-M14x075*	31.8	66.8	69.9	31.8	19.1	63.5	31.8	101.6	101.6	50.8	23.9	50.8	M14 x 2.00	M10 x 1.50	10.00 (4.54)	10000 (690)
1-1/4”x1”	BTRM104-125x100-*	31.8	66.8	69.9	31.8	23.9	63.5	31.8	101.6	101.6	50.8	27.7	57.2	M12 x 1.75	M12 x 1.75	10.00 (4.54)	10000 (690)
1-1/4”(2)x1”	BTRM104-125-M14x100*	31.8	66.8	69.9	31.8	23.9	63.5	31.8	101.6	101.6	50.8	27.7	57.2	M14 x 2.00	M12 x 1.75	10.00 (4.54)	10000 (690)
1-1/2”x1/2”	BTRM104-150x050-*	36.6	79.5	76.2	38.1	12.7	76.2	38.1	101.6	114.3	50.8	18.3	40.4	M16 x 2.00	M8 x 1.25	11.30 (5.13)	10000 (690)
1-1/2”x3/4”	BTRM104-150x075-*	36.6	79.5	76.2	38.1	19.1	76.2	38.1	101.6	114.3	50.8	23.9	50.8	M16 x 2.00	M10 x 1.50	11.30 (5.13)	10000 (690)
1-1/2”x1”	BTRM104-150x100-*	36.6	79.5	76.2	38.1	23.9	76.2	38.1	101.6	114.3	50.8	27.7	57.2	M16 x 2.00	M12 x 1.75	11.30 (5.13)	10000 (690)
1-1/2”x1-1/4”	BTRM104-150x125-*	36.6	79.5	76.2	38.1	31.8	76.2	38.1	101.6	114.3	50.8	31.8	66.8	M16 x 2.00	M12 x 1.75	11.30 (5.13)	10000 (690)
1-1/2”x1-1/4”(1)	BTRM104-150x125-M14-*	36.6	79.5	76.2	38.1	31.8	76.2	38.1	101.6	114.3	50.8	31.8	66.8	M16 x 2.00	M14 x 2.00	11.30 (5.13)	10000 (690)
2”x1/2”	BTRM6104-200x050-*	44.5	96.8	85.9	49.3	12.7	76.2	38.1	127.0	127.0	63.5	18.3	40.4	M20 x 2.50	M8 x 1.25	14.80 (6.71)	10000 (690)
2”x3/4”	BTRM104-200x075-*	44.5	96.8	85.9	49.3	19.1	76.2	38.1	127.0	127.0	63.5	23.9	50.8	M20 x 2.50	M10 x 1.50	14.80 (6.71)	10000 (690)
2”x1”	BTRM104-200x100-*	44.5	96.8	85.9	49.3	23.9	76.2	38.1	127.0	127.0	63.5	27.7	57.2	M20 x 2.50	M12 x 1.75	14.80 (6.71)	10000 (690)
2”x1-1/4”	BTRM104-200x125-*	44.5	96.8	85.9	49.3	31.8	76.2	38.1	127.0	127.0	63.5	31.8	66.8	M20 x 2.50	M12 x 1.75	14.80 (6.71)	10000 (690)
2”x1-1/4”(2)	BTRM104-200x125-M14-*	44.5	96.8	85.9	49.3	31.8	76.2	38.1	127.0	127.0	63.5	31.8	66.8	M20 x 2.50	M14 x 2.00	14.80 (6.71)	10000 (690)
2”x1-1/2”	BTRM104-200x150-*	44.5	96.8	85.9	49.3	38.1	76.2	38.1	127.0	127.0	63.5	36.6	79.5	M20 x 2.50	M16 x 2.00	14.80 (6.71)	10000 (690)

(1)Designates Threaded Holes for M14 bolts - special order

Ordering Example: BTRM104-200x050-SS

* Insert Material

<u>* Materials:</u>

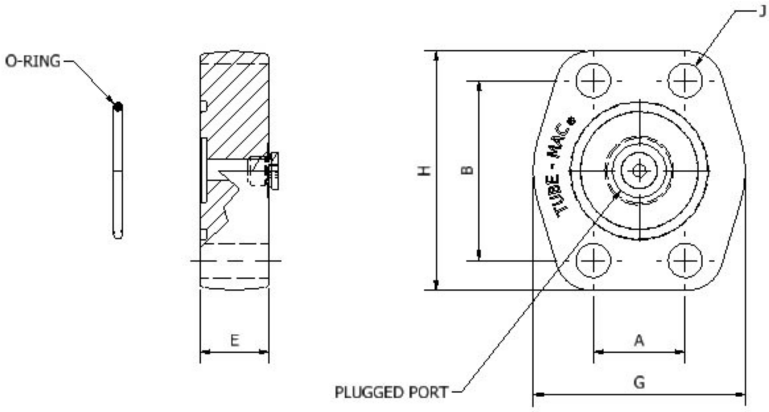
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

3D step models available upon request

SAE 10000 PSI Blanking Flange

O-Ring Face with Clearance Holes

SAE J518 Code 62 (ISO 6162-2) Flange Pattern



BFO104 – Blanking Flange Complete with O-Ring and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1/2"	BFO104-050-*-^	0.72	1.59	1.88	2.22	1.20	5/16”	OR*-2-210	10000 (690)	0.90 (0.41)
3/4"	BFO104-075-*-^	0.94	2.00	2.38	2.81	1.40	3/8”	OR*-2-214	10000 (690)	1.78 (0.81)
1"	BFO104-100-*-^	1.09	2.25	2.75	3.19	1.40	7/16”	OR*-2-219	10000 (690)	2.11 (0.96)
1-1/4"	BFO104-125-*-^	1.25	2.63	3.06	3.75	1.60	1/2"	OR*-2-222	10000 (690)	3.08 (1.40)
1-1/2"	BFO104-150-*-^	1.44	3.13	3.75	4.44	1.60	5/8”	OR*-2-225	10000 (690)	5.24 (2.38)
2"	BFO104-200-*-^	1.75	3.81	4.50	5.25	2.40	3/4"	OR*-2-228	10000 (690)	10.40 (4.73)
2-1/2”	BFO104-250-*-^	2.31	4.87	5.90	6.89	2.40	1”	OR*-2-232	10000 (690)	19.16 (8.71)
3”	BFO104-300-*-^	2.81	6.00	7.00	8.50	2.75	1-1/8”	OR*-2-237	10000 (690)	32.63 (14.83)

BFOM104 – Blanking Flange Complete with O-Ring and G1/8 BSPP Port (Plugged,) Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Bolt Size J	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E				
1/2"	BFOM104-050-*-^	18.3	40.4	47.8	56.4	30	M8	OR*-2-210	10000 (690)	0.90 (0.41)
3/4"	BFOM104-075-*-^	23.9	50.8	60.5	71.4	35	M10	OR*-2-214	10000 (690)	1.78 (0.81)
1"	BFOM104-100-*-^	27.7	57.2	69.9	81.0	35	M12	OR*-2-219	10000 (690)	2.11 (0.96)
1-1/4"	BFOM104-125-*-^	31.8	66.8	77.7	95.3	40	M12	OR*-2-222	10000 (690)	3.08 (1.40)
1-1/4" (1)	BFOM104-125-M14*-^	31.8	66.8	77.7	95.3	40	M14	OR*-2-222	10000 (690)	3.08 (1.40)
1-1/2"	BFOM104-150-*-^	36.6	79.5	95.3	112.8	40	M16	OR*-2-225	10000 (690)	5.24 (2.38)
2"	BFOM104-200-*-^	44.5	96.8	114.3	133.4	60	M20	OR^-2-228	10000 (690)	10.40 (4.73)
2-1/2”	BFOM104-250-*-^	58.7	123.8	150.0	175.0	60	M24	OR^-2-232	10000 (690)	19.16 (8.71)
3”	BFOM104-300-*-^	71.4	152.4	178.0	215.0	70	M30	OR^-2-237	10000 (690)	32.63 (14.83)

(1) Designates Clearance Holes for M14 bolts - special order

Ordering Example: BFOM104-200-SS-V

* Insert Material

^ Insert O-Ring 2 Type

<u>* Materials:</u>

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

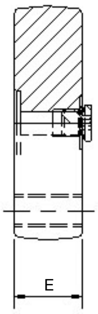
Standard, No Designation = Buna Nitrile.
V = Viton.

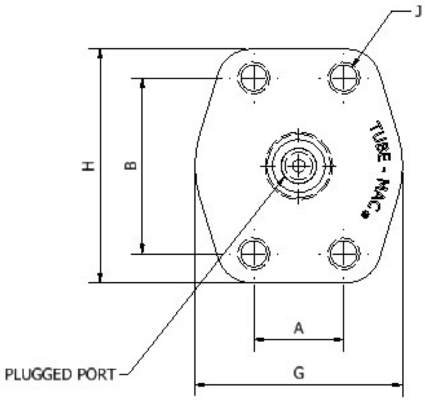
3D step models available upon request

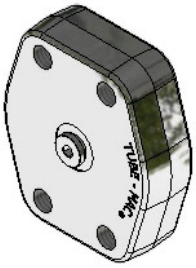
SAE 10000 PSI Blanking Flange

Flat Face with Threaded Holes

SAE J518 Code 62 (ISO 6162-2) Flange Pattern







BFF104 – Blanking Flange Flat Face with #4 SAE Port (Plugged) and UNC Threaded Holes, NPS

Size	Blanking Flange Part Number	Dimensions (in)					Thread UNC-2B J	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1/2"	BFF104-050-*	.72	1.59	1.88	2.22	1.20	5/16”-18	10000 (690)	0.90 (0.41)
3/4"	BFF104-075-*	.94	2.00	2.38	2.81	1.40	3/8”-16	10000 (690)	1.78 (0.81)
1"	BFF104-100-*	1.09	2.25	2.75	3.19	1.40	7/16”-14	10000 (690)	2.11 (0.96)
1-1/4"	BFF104-125-*	1.25	2.63	3.06	3.75	1.60	1/2"-13	10000 (690)	3.08 (1.40)
1-1/2"	BFF104-150-*	1.44	3.13	3.75	4.44	1.60	5/8”-11	10000 (690)	5.24 (2.38)
2"	BFF104-200-*	1.75	3.81	4.50	5.25	2.40	3/4"-10	10000 (690)	10.40 (4.73)
2-1/2”	BFF104-250-*	2.31	4.87	5.90	6.89	2.40	1”	10000 (690)	19.16 (8.71)
3”	BFF104-300-*	2.81	6.00	7.00	8.50	2.75	1-1/8”	10000 (690)	32.63 (14.83)

BFFM64 – Blanking Flange Flat Face with G1/8 BSPP Port (Plugged) and Threaded Holes, Metric

Size	Blanking Flange Part Number	Dimensions (mm)					Thread J	Working Pressure PSI (bar)	WT lbs (kg)
		A	B	G	H	E			
1/2"	BFFM104-050-*	18.3	40.4	47.8	56.4	30	M8 x 1.25	10000 (690)	0.90 (0.41)
3/4"	BFFM104-075-*	23.9	50.8	60.5	71.4	35	M10 x 1.50	10000 (690)	1.78 (0.81)
1"	BFFM104-100-*	27.7	57.2	69.9	81.0	35	M12 x 1.75	10000 (690)	2.11 (0.96)
1-1/4"	BFFM104-125-*	31.8	66.8	77.7	95.3	40	M12 x 1.75	10000 (690)	3.08 (1.40)
1-1/4" (1)	BFFM104-125-M14-*	31.8	66.8	77.7	95.3	40	M14 x 2.00	10000 (690)	3.08 (1.40)
1-1/2"	BFFM104-150-*	36.6	79.5	95.3	112.8	40	M16 x 2.00	10000 (690)	5.24 (2.38)
2"	BFFM104-200-*	44.5	96.8	114.3	133.4	60	M20 x 2.50	10000 (690)	10.40 (4.73)
2-1/2”	BFFM104-250-*	58.7	123.8	150.0	175.0	60	M24 x 2.50	10000 (690)	19.16 (8.71)
3”	BFFM104-300-*	71.4	152.4	178.0	215.0	70	M30 x 2.50	10000 (690)	32.63 (14.83)

(1) Designates Threaded Holes for M14 bolts - special order

Ordering Example: BFFM104-200-SS

* Insert Material

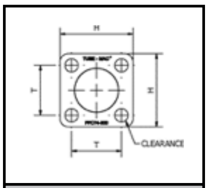
*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

3D step models available upon request

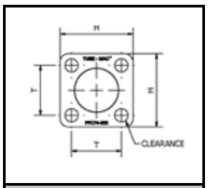
Notes

ISO 6164 5800 PSI, 400 bar Reference Guide



Flare Flange
Dimensions
NPS

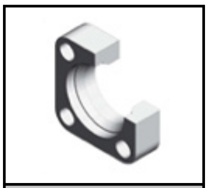
Page J1



Flare Flange
Dimensions
Metric

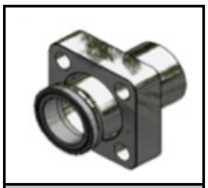
Page J2

Flare Flange
Clearance Holes
NPS
FFC74
Page J3

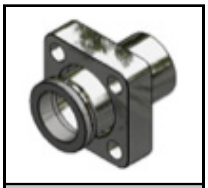


Flare Flange
Clearance Holes
Metric
FFCM74
Page J3

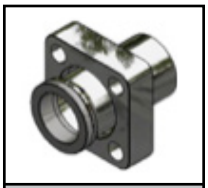
Flare Flange Set
O-Ring Face Cone
Clearance Holes NPS
FFC74-CO
Page J4



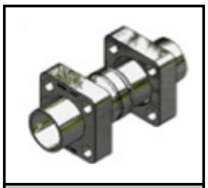
Flare Flange Set
O-Ring Face Cone
Clearance Holes Metric
FFCM74-CO
Page J4



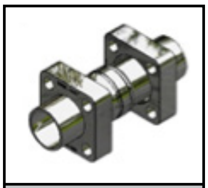
Flare Flange Set
Flat Face Cone
Clearance Holes NPS
FFC74-CF
Page J5



Flare Flange Set
Flat Face Cone
Clearance Holes Metric
FFCM74-CF
Page J5



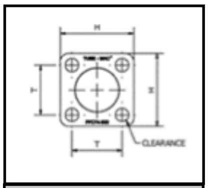
Flare Flange Set
Double Cone
Clearance Holes NPS
FFC74-CD
Page J6



Flare Flange Set
Double Cone
Clearance Holes Metric
FFCM74-CD
Page J6

Flare Flange
Cone Inserts
NPS
CO, CF, CD
Page J7

Flare Flange
Cone Inserts
Metric
CO, CF, CD
Page J7



Retain Ring Flange
Dimensions
NPS

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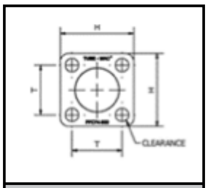

Retain Ring Flange
Dimensions
Metric

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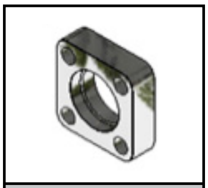

Retain Ring Flange
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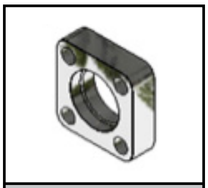

Retain Ring Flange
Clearance Holes
Metric
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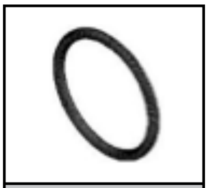

Retain Ring

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O-Ring Spacer
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Pipe Connection
OSA
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O-Ring Spacer
RR Flange Metric
Pipe Connection
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O-Ring Spacer
RR Pipe
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OSH
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O-Ring Spacer
With Pilot Port
NPS
OSAP
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O-Ring Spacer
With Pilot Port
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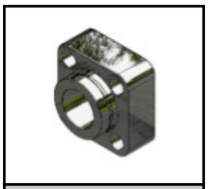

Bump Style Butt
Weld Adapter
Assembly, NPS
A/BWA, A/BWAA
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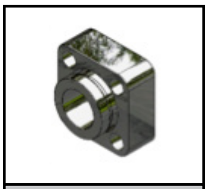

Bump Style Butt
Weld Adapter
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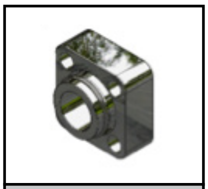

Retain Ring Style
Butt Weld Adapter
Assembly, NPS
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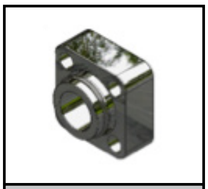

Retain Ring Style
Butt Weld Adapter
Assembly, Metric
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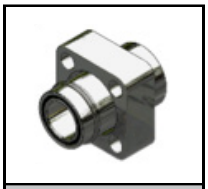

BSPP Female
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A/FBTA
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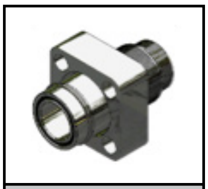

SAE Male
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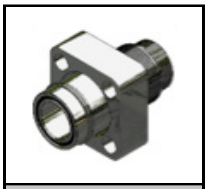

NPT Male
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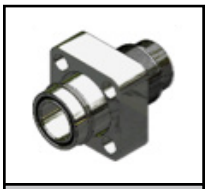

BSPP Male
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Pipe Assembly
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Bent Pipe Assembly
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Bend Elbow Assembly
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Retain Ring Flange
Pipe Assembly
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Retain Ring Flange
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Retain Ring Flange
Bent Pipe Assembly
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Retain Ring Flange
Bent Pipe Assembly
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Retain Ring
Flange Bend Elbow
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Retain Ring
Flange Elbow
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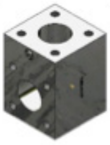
Block Elbow
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NPS, Metric
BE74, BEM74
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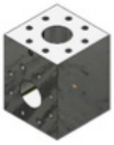
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Retain Ring Elbow
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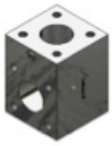
Block Tee

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BT74, BTM74
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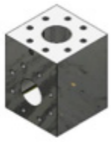
Block Tee

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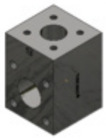
Reducing Branch
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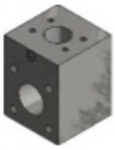
Reducing Branch
Block Tee
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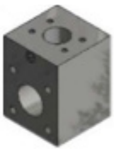
Reducing Branch
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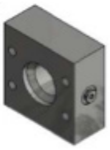
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Transition Plate
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Transition Plate
Reducer Manifold
Mount NPS, Metric
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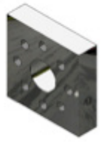

Adapter Plate

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Retain Ring
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O-Ring Connector
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Blanking Flange
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Non-Return
Check Valve
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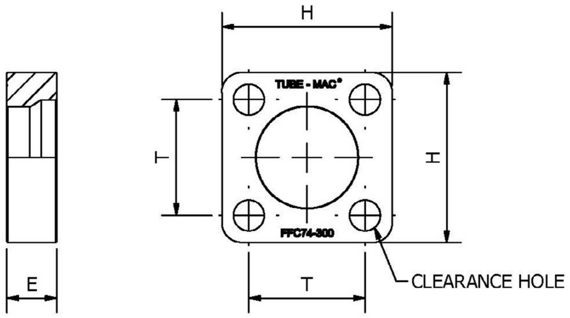
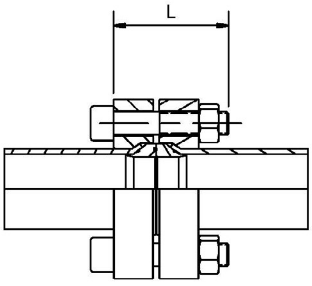
ISO 6164, 400 bar Flare Flange Dimensions, NPS

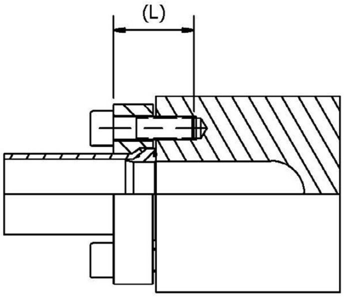
Flange Pattern Drilled to ISO 6164



1-1/2" - 4" FLANGES



FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Flare Flange Dimensions, NPS

Flange Size	Pipe Size	Dimensions (in)			SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
		T	H	E		
1-1/2"	1-1/2" SCH80	2.37	3.50	1.38	5/8” UNC x 4.00” (2.50”)	4920 (339)*
1-1/2"	1-1/2” SCH160	2.37	3.50	1.38	5/8” UNC x 4.25” (2.75”)	5800 (400)
2"	2” SCH80	2.73	4.00	1.48	5/8” UNC x 3.75” (2.25”)	4246 (293)*
2”	2” SCH160	2.73	4.00	1.48	5/8” UNC x 4.00” (2.50”)	5800 (400)
2-1/2"	2-1/2"SCH80	3.29	4.72	1.48	3/4" UNC x 4.50” (3.00”)	4455 (307)*
2-1/2"	2-1/2" SCH160	3.29	4.72	1.48	3/4" UNC x 5.00” (3.25”)	5800 (400)
3"	3” SCH80	4.04	5.91	1.73	1" UNC x 5.00” (3.50”)	3946 (272)*
3”	3” SCH160	4.04	5.91	1.73	1” UNC x 5.50” (4.50”)	5800 (400)
4"	4” SCH80	4.87	7.00	1.98	1-1/8” UNC x 6.75” (4.00”)	3420 (236)*

Note:

The working pressure ratings are subject to the lesser of the flange or pipe rating.

***SHCS Bolt Specification**

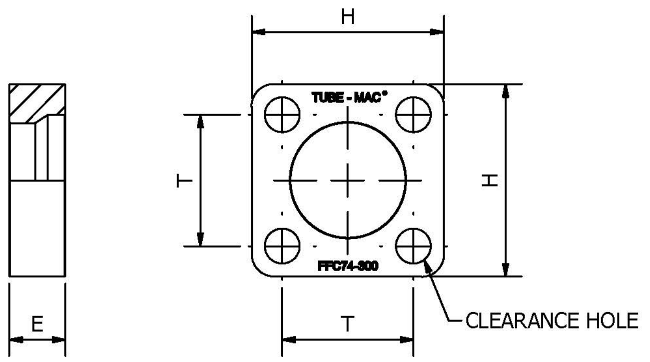
Carbon Steel: ASTM A574

316 Stainless Steel: ASTM A193 - B8M
- For 5/8” SS Bolts and smaller ASTM A193 - B8M Class.1
- For 3/4” SS Bolts and larger ASTM A193 - B8M Class.2

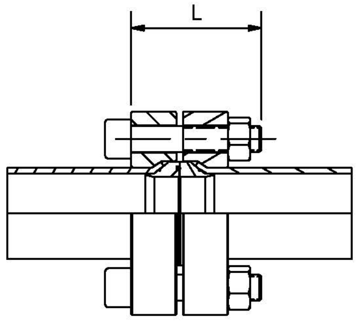
3D step models available upon request

ISO 6164, 400 bar Flare Flange Dimensions, Metric

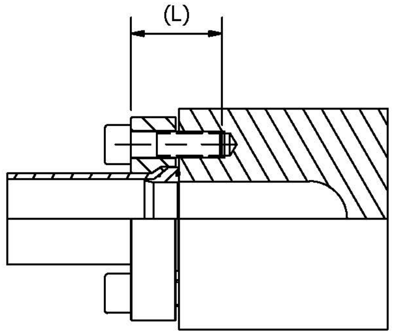
Flange Pattern Drilled to ISO 6164



1-1/2" - 3" FLANGES



FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Flare Flange Dimensions, Metric

Size	Pipe Size (mm)	Dimensions (mm)			SHCS Bolt (mm)* L (L)	Working Pressure PSI (Bar)
		T	H	E		
1-1/2"	50 x 5	60.1	88.9	35.0	M16 x 100 (60)	5235 (361)*
1-1/2"	50 x 6	60.1	88.9	35.0	M16 x 100 (60)	5800 (400)
1-1/2"	50 x 8	60.1	88.9	35.0	M16 x 100 (60)	5800 (400)
1-1/2"	56 x 8.5	60.1	88.9	35.0	M16 x 110 (70)	5800 (400)
2"	60 x 5	69.3	101.6	37.6	M16 x 100 (60)	4307 (297)
2"	60 x 6	69.3	101.6	37.6	M16 x 100 (60)	5307 (366)*
2"	60 x 8	69.3	101.6	37.6	M16 x 100 (60)	5800 (400)
2”	66 x 8.5	69.3	101.6	37.6	M16 x 100 (60)	5800 (400)
2-1/2"	73 x 7	83.5	119.9	37.6	M20 x 120 (75)	5119 (353)*
2-1/2"	80 x 10	83.5	119.9	37.6	M20 x 130 (85)	5800 (400)
3"	90 x 9	102.5	150.1	43.9	M24 x 130 (90)	5800 (400)
3”	97 x 12	102.5	150.1	60.3	M24 x 155 (120)	5800 (400)

Note:

The working pressure ratings are subject to the lesser of the flange or pipe rating.

***SHCS Bolt Specification**

Carbon Steel: DIN 912/ISO 4762

- Minimum Grade 8.8

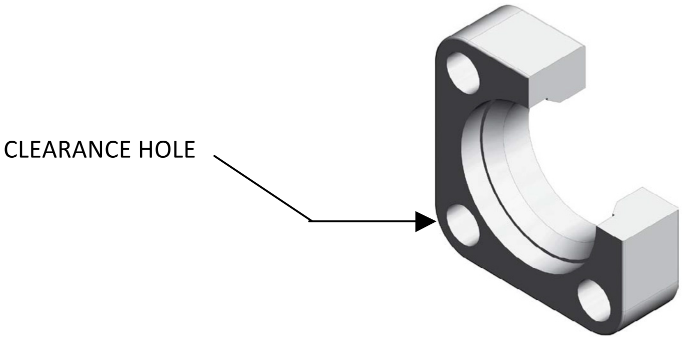
316 Stainless Steel: A4-70 DIN 912/ISO 4762

- For M16 SS Bolts and larger A4-80, DIN 912/ISO 4762

3D step models available upon request

ISO 6164, 400 bar Flare Flange with Clearance Holes

DIN 400 bar (ISO 6164)



FFC74 Flare Flange with Clearance Holes, NPS

Size	Pipe Size	Standard Part Number	HDG Part Number	SS Part Number	Working Pressure PSI (Bar)	WT lbs (kg)
1-1/2"	1-1/2" SCH80/160	FFC74-150	FFC74-150-HDG	FFC74-150-SS	5800 (400)	2.75 (1.25)
2”	2” SCH80/160	FFC74-200	FFC74-200-HDG	FFC74-200-SS	5800 (400)	3.10 (1.41)
2-1/2"	2-1/2" SCH80/160	FFC74-250	FFC74-250-HDG	FFC74-250-SS	5800 (400)	5.06 (2.30)
3"	3” SCH80/160	FFC74-300	FFC74-300-HDG	FFC74-300-SS	5800 (400)	8.79 (4.00)
4”	4” SCH80	FFC74-400	FFC74-400-HDG	FFC74-400-SS	5800 (400)	14.80 (6.71)

FFCM74 Flare Flange with Clearance Holes, Metric

Size	Pipe OD (mm)	Standard Part Number	HDG Part Number	SS Part Number	Working Pressure PSI (Bar)	WT lbs (kg)
1-1/2"	50	FFCM74-150-50MM	FFCM74-150-50MM-HDG	FFCM74-150-50MM-SS	5800 (400)	2.75 (1.25)
1-1/2"	56	FFCM74-150-56MM	FFCM74-150-56MM-HDG	FFCM74-150-56MM-SS	5800 (400)	2.75 (1.25)
2”	60	FFC74-200	FFC74-200-HDG	FFC74-200-SS	5800 (400)	3.10 (1.41)
2”	66	FFCM74-200-66MM	FFCM74-200-66MM-HDG	FFCM74-200-66MM-SS	5800 (400)	3.10 (1.41)
2-1/2"	73	FFC74-250	FFC74-250-HDG	FFC74-250-SS	5800 (400)	5.06 (2.30)
2-1/2"	75	FFCM74-250-75MM	FFCM74-250-75MM-HDG	FFCM74-250-75MM-SS	5800 (400)	4.80 (2.18)
2-1/2"	80	FFCM74-250-80MM	FFCM74-250-80MM-HDG	FFCM74-250-80MM-SS	5800 (400)	4.80 (2.18)
3"	90	FFCM74-300-90MM	FFCM74-300-90MM-HDG	FFCM74-300-90MM-SS	5800 (400)	8.79 (4.00)
3”	97	FFCM74-300-97MM	FFCM74-300-97MM-HDG	FFCM74-300-97MM-SS	5800 (400)	12.70 (5.80)

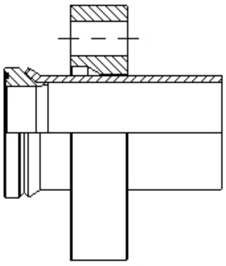
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated
HDG = Carbon Steel, Hot Dip Galvanized
SS = Stainless Steel, Type 316

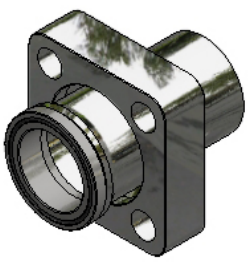
Note:
The working pressure shown is for the flange connection only. Refer to pipe section for allowable working pressure of the pipe.
The complete assembly working pressure ratings are subject to the lesser of the flange or pipe ratings.

ISO 6164, 400 bar Flare Flange Set

O-Ring Face with Clearance Holes

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) O-Ring Face Cone
- One (1) Face O-Ring (O-Ring 2)
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page J1)
- Metric Bolt Kit (See Page J2)

FFC74-CO Flare Flange O-Ring Face Set with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	1-1/2" SCH80	FFC74-CO-SCH80-150-*-^	3.17 (1.44)	FFC74-150-*	CO-SCH80-150-*-^	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH160	FFC74-CO-SCH160-150-*-^	3.17 (1.44)	FFC74-150-*	CO-SCH160-150-*-^	ORV-3815	OR^-2-225
2"	2" SCH80	FFC74-CO-SCH80-200-*-^	3.59 (1.63)	FFC74-200-*	CO-SCH80-200-*-^	ORV-5515	OR^-2-228
2"	2" SCH160	FFC74-CO-SCH160-200-*-^	3.77 (1.71)	FFC74-200-*	CO-SCH160-200-*-^	ORV-5015	OR^-2-228
2-1/2"	2-1/2" SCH80	FFC74-CO-SCH80-250-*-^	6.05 (2.75)	FFC74-250-*	CO-SCH80-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH160	FFC74-CO-SCH160-250-*-^	6.48 (2.95)	FFC74-250-*	CO-SCH160-250-*-^	ORV-5615	OR^-2-232
3"	3" SCH80	FFC74-CO-SCH80-300-*-^	10.00 (4.55)	FFC74-300-*	CO-SCH80-300-*-^	ORV-2-040	OR^-2-237
3"	3" SCH160	FFC74-CO-SCH160-300-*-^	10.69 (4.86)	FFC74-300-*	CO-SCH160-300-*-^	ORV-2-037	OR^-2-237
4"	4" SCH80	FFC74-CO-SCH80-400-*-^	16.85 (7.66)	FFC74-400-*	CO-SCH80-400-*-^	ORV-2-044	OR^-2-245

FFCM74-CO Flare Flange O-Ring Face Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	O-Ring Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part Number
1-1/2"	50 x 5.0	FFCM74-CO-50x5.0-150-*-^	3.17 (1.44)	FFCM74-150-50MM-*	CO-50x5.0-150-*-^	ORV-4515	OR^-2-225
1-1/2"	50 x 6.0	FFCM74-CO-50x6.0-150-*-^	3.17 (1.44)	FFCM74-150-50MM-*	CO-50x6.0-150-*-^	ORV-4515	OR^-2-225
1-1/2"	50 x 8.0	FFCM74-CO-50x8.0-150-*-^	3.17 (1.44)	FFCM74-150-50MM-*	CO-50x8.0-150-*-^	ORV-4515	OR^-2-225
1-1/2"	56 x 8.5	FFCM74-CO-56x8.5-150-*-^	3.17 (1.44)	FFCM74-150-56MM-*	CO-56x8.5-150-*-^	ORV-4315	OR^-2-225
2"	60 x 5.0	FFCM74-CO-60x5.0-200-*-^	3.59 (1.63)	FFC74-200-*	CO-60x5.0-200-*-^	ORV-5615	OR^-2-228
2"	60 x 6.0	FFCM74-CO-60x6.0-200-*-^	3.59 (1.63)	FFC74-200-*	CO-60x6.0-200-*-^	ORV-5015	OR^-2-228
2"	60 x 8.0	FFCM74-CO-60x8.0-200-*-^	3.59 (1.63)	FFC74-200-*	CO-60x8.0-200-*-^	ORV-5015	OR^-2-228
2"	66 x 8.5	FFCM74-CO-66x8.5-200-*-^	3.77 (1.71)	FFCM74-200-66MM-*	CO-66x8.5-200-*-^	ORV-5615	OR^-2-228
2-1/2"	73 x 7.0	FFCM74-CO-73x7.0-250-*-^	6.05 (2.75)	FFC74-250-*	CO-73x7.0-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	75 x 5.0	FFCM74-CO-75x5.0-250-*-^	6.48 (2.95)	FFCM74-250-75MM-*	CO-75x5.0-250-*-^	ORV-2-036	OR^-2-232
2-1/2"	80 x 10.0	FFCM74-CO-80x10-250-*-^	5.75 (2.61)	FFCM74-250-80MM-*	CO-80x10-250-*-^	ORV-6715	OR^-2-232
3"	90 x 9.0	FFCM74-CO-90x9.0-300-*-^	10.11 (4.60)	FFCM74-300-90MM-*	CO-90x9.0-300-*-^	ORV-2-041	OR^-2-237
3"	97 x 12.0	FFCM74-CO-97x12-300-*-^	15.30 (6.95)	FFCM74-300-97MM-*	CO-97x12-300-*-^	ORV-2-041	OR^-2-237

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

<u>^ O-Ring 2 Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: FFC74-CO-SCH80-200-SS-V

*Insert Material

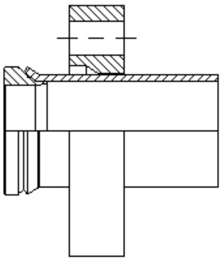
^ Insert O-Ring 2 Type

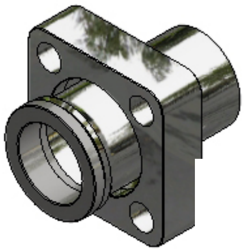
3D step models available upon request

ISO 6164, 400 bar Flare Flange Set

Flat Face with Clearance Holes

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Flare Flange
- One (1) Flat Face Cone
- One (1) Back Up O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit (See Page J1)
- Metric Bolt Kit (See Page J2)

FFC74-CF Flare Flange Flat Face Set with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	1-1/2” SCH80	FFC74-CF-SCH80-150-*	3.21 (1.46)	FFC74-150-*	CF-SCH80-150-*	ORV-4315
1-1/2"	1-1/2” SCH160	FFC74-CF-SCH160-150-*	3.21 (1.46)	FFC74-150-*	CF-SCH160-150-*	ORV-3815
2"	2” SCH80	FFC74-CF-SCH80-200-*	3.63 (1.65)	FFC74-200-*	CF-SCH80-200-*	ORV-5515
2"	2” SCH160	FFC74-CF-SCH160-200-*	3.81 (1.73)	FFC74-200-*	CF-SCH160-200-*	ORV-5015
2-1/2”	2-1/2” SCH80	FFC74-CF-SCH80-250-*	6.12 (2.78)	FFC74-250-*	CF-SCH80-250-*	ORV-2-036
2-1/2”	2-1/2” SCH160	FFC74-CF-SCH160-250-*	6.56 (2.98)	FFC74-250-*	CF-SCH160-250-*	ORV-5615
3"	3” SCH80	FFC74-CF-SCH80-300-*	10.07 (4.58)	FFC74-300-*	CF-SCH80-300-*	ORV-2-040
3"	3” SCH160	FFC74-CF-SCH160-300-*	10.76 (4.89)	FFC74-300-*	CF-SCH160-300-*	ORV-2.037
4"	4" SCH80	FFC74-CF-SCH80-400-*	16.85 (7.66)	FFC74-400-*	CF-SCH80-400-*	ORV-2.044

FFCM74-CF Flare Flange Flat Face Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Flat Face Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	50 x 5.0	FFCM74-CF-50x5.0-150-*	3.22 (1.46)	FFCM74-150-50MM-*	CF-50x5.0-150-*	ORV-4515
1-1/2”	50 x 6.0	FFCM74-CF-50x6.0-150-*	3.22 (1.46)	FFCM74-150-50MM-*	CF-50x6.0-150-*	ORV-4515
1-1/2”	50 x 8.0	FFCM74-CF-50x8.0-150-*	3.22 (1.46)	FFCM74-150-50MM-*	CF-50x8.0-150-*	ORV-4515
1-1/2"	56 x 8.5	FFCM74-CF-56x8.5-150-*	3.22 (1.46)	FFCM74-150-56MM-*	CF-56x8.5-150-*	ORV-4315
2”	60 x 5.0	FFCM74-CF-60x5.0-200-*	3.65 (1.66)	FFC74-200-*	CF-60x5.0-200-*	ORV-5615
2"	60 x 6.0	FFCM74-CF-60x6.0-200-*	3.65 (1.66)	FFC74-200-*	CF-60x6.0-200-*	ORV-5015
2”	60 x 8.0	FFCM74-CF-60x8.0-200-*	3.65 (1.66)	FFC74-200-*	CF-60x8.0-200-*	ORV-5015
2"	66 x 8.5	FFCM74-CF-66x8.5-200-*	3.84 (1.75)	FFCM74-200-66MM-*	CF-66x8.5-200-*	ORV-5615
2-1/2”	73 x 7.0	FFCM74-CF-73x7.0-250-*	6.14 (2.80)	FFC74-250-*	CF-73x7.0-250-*	ORV-2-036
2-1/2"	75 x 5.0	FFCM74-CF-75x5.0-250-*	6.64 (3.02)	FFCM74-250-75MM-*	CF-75x5.0-250-*	ORV-2-036
2-1/2”	80 x 10.0	FFCM74-CF-80x10-250-*	5.79 (2.63)	FFCM74-250-80MM-*	CF-80x10-250-*	ORV-6715
3"	90 x 9.0	FFCM74-CF-90x9.0-300-*	10.15 (4.61)	FFCM74-300-90MM-*	CF-90x9.0-300-*	ORV-2-041
3”	97 x 12.0	FFCM74-CF-97x12-300-*	15.40 (7.00)	FFCM74-300-97MM-*	CF-97x12-300-*	ORV-2-041

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

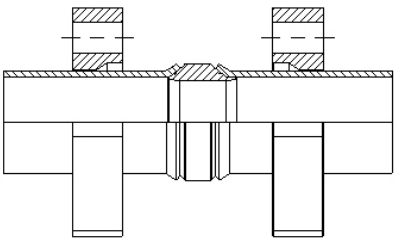
Ordering Example: FFC74-CF-SCH80-200-SS

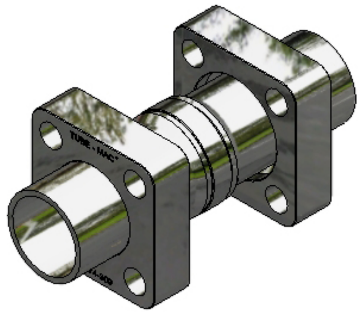
*Insert Material

3D step models available upon request

ISO 6164, 400 bar Flare Flange Double Cone Union Set with Clearance Holes

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:
- Two (2) Flare Flanges
- One (1) Double Cone
- Two (2) Back Up O-Rings (O-Ring 1)

To be Ordered Separately:
- Bolt Kit (See Page J1)
- Metric Bolt Kit (See Page J2)

FFC74-CD Flare Flange Double Cone Union Set with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1- 1/2"	1-1/2” SCH80	FFC74-CD-SCH80-150-*	6.34 (2.88)	FFC74-150-*	CD-SCH80-150-*	ORV-4315
1-1/2"	1-1/2” SCH160	FFC74-CD-SCH160-150-*	6.34 (2.88)	FFC74-150-*	CD-SCH160-150-*	ORV-3815
2"	2” SCH80	FFC74-CD-SCH80-200-*	7.17 (3.26)	FFC74-200-*	CD-SCH80-200-*	ORV-5515
2"	2” SCH160	FFC74-CD-SCH160-200-*	7.51 (3.41)	FFC74-200-*	CD-SCH160-200-*	ORV-5015
2-1/2”	2-1/2” SCH80	FFC74-CD-SCH80-250-*	12.07 (5.49)	FFC74-250-*	CD-SCH80-250-*	ORV-2-036
2-1/2”	2-1/2” SCH160	FFC74-CD-SCH160-250-*	12.89 (5.86)	FFC74-250-*	CD-SCH160-250-*	ORV-5615
3"	3” SCH80	FFC74-CD-SCH80-300-*	19.95 (9.07)	FFC74-300-*	CD-SCH80-300-*	ORV-2-040
3"	3” SCH160	FFC74-CD-SCH160-300-*	21.26 (9.66)	FFC74-300-*	CD-SCH160-300-*	ORV-2.037
4"	4" SCH80	FFC74-CD-SCH80-400-*	34.07 (15.49)	FFC74-400-*	CD-SCH80-400-*	ORV-2.044

FFCM74-CD Flare Flange Double Cone Union Set with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Reference Number	WT/Set lbs (kg)	Flange Part Number	Double Cone Insert Part Number	O-Ring 1 (VITON) Part Number
1-1/2"	50 x 5.0	FFCM74-CD-50x5.0-150-*	6.31 (2.87)	FFCM74-150-50MM-*	CD-50x5.0-150-*	ORV-4515
1-1/2”	50 x 6.0	FFCM74-CD-50x6.0-150-*	3.22 (1.46)	FFCM74-150-50MM-*	CD-50x6.0-150-*	ORV-4515
1-1/2”	50 x 8.0	FFCM74-CD-50x8.0-150-*	3.22 (1.46)	FFCM74-150-50MM-*	CD-50x8.0-150-*	ORV-4515
1-1/2"	56 x 8.5	FFCM74-CD-56x8.5-150-*	6.31 (2.87)	FFCM74-150-56MM-*	CD-56x8.5-150-*	ORV-4315
2”	60 x 5.0	FFCM74-CD-60x5.0-200-*	3.65 (1.66)	FFC74-200-*	CD-60x5.0-200-*	ORV-5615
2"	60 x 6.0	FFCM74-CD-60x6.0-200-*	7.09 (3.22)	FFC74-200-*	CD-60x6.0-200-*	ORV-5015
2”	60 x 8.0	FFCM74-CD-60x8.0-200-*	3.65 (1.66)	FFC74-200-*	CD-60x8.0-200-*	ORV-5015
2"	66 x 8.5	FFCM74-CD-66x8.5-200-*	7.09 (3.22)	FFCM74-200-66MM-*	CD-66x8.5-200-*	ORV-5615
2-1/2”	73 x 7.0	FFCM74-CD-73x7.0-250-*	12.12 (5.51)	FFC74-250-*	CD-73x7.0-250-*	ORV-2-036
2-1/2"	75 x 5.0	FFCM74-CD-75x5.0-250-*	11.60 (5.27)	FFCM74-250-75MM-*	CD-75x5.0-250-*	ORV-2-036
2-1/2”	80 x 10.0	FFCM74-CD-80x10-250-*	11.48 (5.23)	FFCM74-250-80MM-*	CD-80x10-250-*	ORV-6715
3"	90 x 9.0	FFCM74-CD-90x9.0-300-*	20.18 (9.17)	FFCM74-300-90MM-*	CD-90x9.0-300-*	ORV-2-041
3”	97 x 12.0	FFCM74-CD-97x12-300-*	30.50 (13.86)	FFCM74-300-97MM-*	CD-97x12-300-*	ORV-2-041

*** Materials:**

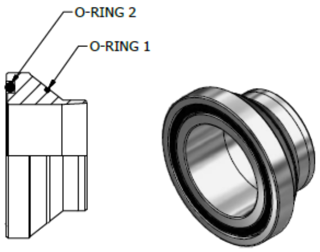
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Cone, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Cone, Type 316.

Ordering Example: FFC74-CD-SCH80-200-SS
*Insert Material

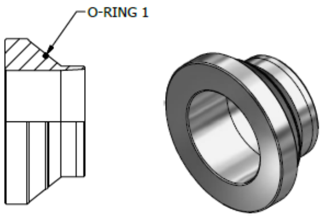
3D step models available upon request

ISO 6164, 400 bar Cone Inserts for Flare Flange Connections

DIN 400 bar (ISO 6164)



TYPE CO



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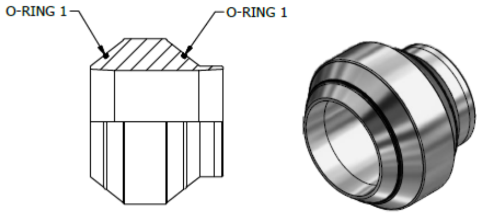


TYPE CD

CO, CF and CD Cone Inserts for Flare Flange Connections, NPS

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	WT lbs (kg)	Double Cone Insert Part Number (Type CD)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part No.
1-1/2"	1-1/2" SCH80	CO-SCH80-150-*-^	0.42 (0.19)	0.42 (0.19)	0.46 (0.21)	CD-SCH80-150-*	0.84 (0.38)	ORV-4315	OR^-2-225
1-1/2"	1-1/2" SCH160	CO-SCH160-150-*-^	0.42 (0.19)	0.42 (0.19)	0.45 (0.20)	CD-SCH160-150-*	0.83 (0.37)	ORV-3815	OR^-2-225
2"	2” SCH80	CO-SCH80-200-*-^	0.49 (0.22)	0.49 (0.22)	0.53 (0.24)	CD-SCH80-200-*	0.97 (0.44)	ORV-5515	OR^-2-228
2"	2” SCH160	CO-SCH160-200-*-^	0.67 (0.30)	0.67 (0.30)	0.71 (0.32)	CD-SCH160-200-*	1.31 (0.59)	ORV-5015	OR^-2-228
2-1/2"	2-1/2" SCH80	CO-SCH80-250-*-^	0.99 (0.45)	0.99 (0.45)	1.06 (0.48)	CD-SCH80-250-*	1.95 (0.88)	ORV-2-036	OR^-2-232
2-1/2"	2-1/2" SCH160	CO-SCH160-250-*-^	1.42 (0.64)	1.42 (0.64)	1.50 (0.68)	CD-SCH160-250-*	2.77 (1.26)	ORV-5615	OR^-2-232
3"	3" SCH80	CO-SCH80-300-*-^	1.21 (0.55)	1.21 (0.55)	1.28 (0.58)	CD-SCH80-300-*	2.37 (1.07)	ORV-2-040	OR^-2-237
3”	3" SCH160	CO-SCH160-300-*-^	1.86 (0.85)	1.86 (0.85)	1.93 (0.88)	CD-SCH160-300-*	3.68 (1.67)	ORV-2-037	OR^-2-237
4”	4” SCH80	CO-SCH80-400-*-^	2.05 (0.93)	2.05 (0.93)	2.12 (0.96)	CD-SCH80-400-*	4.47 (2.03)	ORV-2-044	OR^-2-245

CO, CF and CD Cone Inserts for Flare Flange Connections, Metric

Size	Pipe Size	O-Ring Face Cone Insert Part Number (Type CO)	WT lbs (kg)	Flat Face Cone Insert Part Number (Type CF)	WT lbs (kg)	Double Cone Insert Part Number (Type CD)	WT lbs (kg)	O-Ring 1 (VITON) Part Number	O-Ring 2 (Buna) Part No.
1-1/2"	50x5.0	CO-50x5.0-150-*-^	0.42 (0.19)	CF-50x5.0-150-*	0.44 (0.20)	CD-50x5.0-150-*	0.81 (0.37)	ORV-4515	OR^-2-225
1-1/2”	50x6.0	CO-50x6.0-150-*-^	0.42 (0.19)	CF-50x6.0-150-*	0.44 (0.20)	CD-50x6.0-150-*	0.81 (0.37)	ORV-4515	OR^-2-225
1-1/2”	50x8.0	CO-50x8.0-150-*-^	0.42 (0.19)	CF-50x8.0-150-*	0.44 (0.20)	CD-50x8.0-150-*	0.81 (0.37)	ORV-4515	OR^-2-225
1-1/2"	56x8.5	CO-56x8.5-150-*-^	0.42 (0.19)	CF-56x8.5-150-*	0.44 (0.20)	CD-56x8.5-150-*	0.81 (0.37)	ORV-4315	OR^-2-225
2”	60x5.0	CO-60x5.0-200-*-^	0.46 (0.21)	CF-60x5.0-200-*	0.48 (0.22)	CD-60x5.0-200-*	0.89 (0.40)	ORV-5615	OR^-2-228
2”	60x6.0	CO-60x6.0-200-*-^	0.46 (0.21)	CF-60x6.0-200-*	0.48 (0.22)	CD-60x6.0-200-*	0.89 (0.40)	ORV-5015	OR^-2-228
2”	60x8.0	CO-60x8.0-200-*-^	0.46 (0.21)	CF-60x8.0-200-*	0.48 (0.22)	CD-60x8.0-200-*	0.89 (0.40)	ORV-5015	OR^-2-228
2”	66x8.5	CO-66x8.5-200-*-^	0.46 (0.21)	CF-66x8.5-200-*	0.48 (0.22)	CD-66x8.5-200-*	0.89 (0.40)	ORV-5615	OR^-2-228
2-1/2"	73x7.0	CO-73x7.0-250-*-^	1.00 (0.45)	CF-73x7.0-250-*	1.08 (0.49)	CD-73x7.0-250-*	2.00 (0.90)	ORV-2-036	OR^-2-232
2-1/2"	75 x 5.0	CO-75x5.0-250-*-^	1.00 (0.45)	CF-75x5.0-250-*	1.08 (0.49)	CD-75x5.0-250-*	2.00 (0.90)	ORV-2-036	OR^-2-232
2-1/2"	80x10	CO-80x10-250-*-^	0.95 (0.43)	CF-80x10-250-*	0.98 (0.44)	CD-80x10-250-*	1.88 (0.86)	ORV-6715	OR^-2-232
3”	90x9.0	CO-90x9.0-300-*-^	1.32 (0.60)	CF-90x9.0-300-*	1.36 (0.62)	CD-90x9.0-300-*	2.60 (1.18)	ORV-2-041	OR^-2-237
3”	97x12	CO-97x12-300-*-^	2.60 (1.18)	CF-97x12-300-*	2.70 (1.23)	CD-97x12-300-*	5.10 (2.32)	ORV-2-041	OR^-2-237

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.

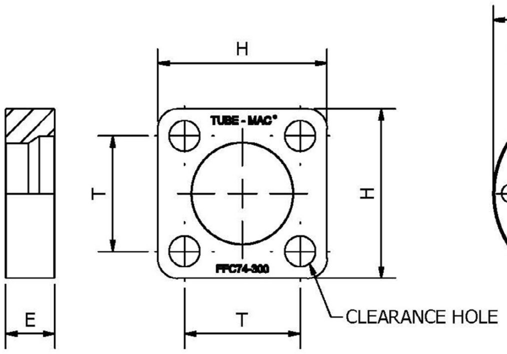
^ O-Ring 2 Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: CO-SCH80-200-SS-V
*Insert Material
^ Insert O-Ring 2 Type

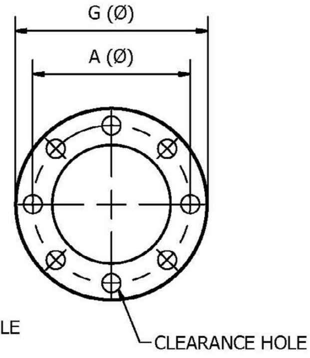
3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Dimensions, NPS

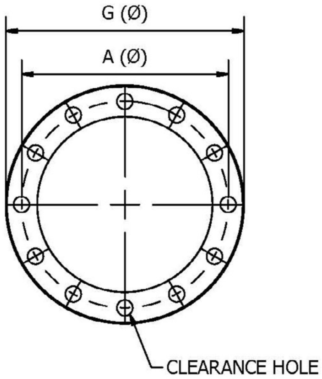
Flange Pattern Drilled to ISO 6164 up to 4”



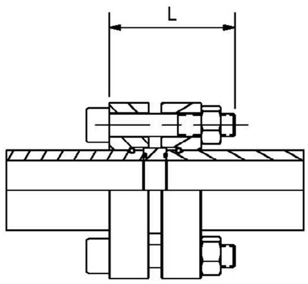
1-1/2" - 4" FLANGES



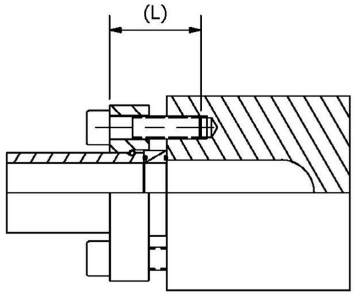
4-1/2" - 8" FLANGES



10" FLANGE



FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Retain Ring Flange Dimensions, NPS

Size	Dimensions (in)					SHCS Bolt (in)* L (L)	Working Pressure PSI (Bar)
	T	H	E	AØ	GØ		
1-1/2"	2.37	3.50	1.38	-	-	5/8” UNC x 3 3/4" (2 3/4")	5800 (400)
2"	2.73	4.00	1.48	-	-	5/8” UNC x 3 1/2” (2 1/2")	5800 (400)
2-1/2"	3.29	4.72	1.48	-	-	3/4" UNC x 4 1/2" (3 1/2")	5800 (400)
3"	4.04	5.91	1.73	-	-	1" UNC x 5" (4")	5800 (400)
4"	4.87	7.00	1.98	-	-	1 1/8” UNC x 5 3/4” (4 1/2”)	5800 (400)
4-1/2”	-	-	1.97	6.89	8.43	3/4" UNC x 6” (4 1/4")	5000 (350)
5”	-	-	2.00	8.07	9.65	1” UNC x 6" (5")	5000 (350)
6”	-	-	2.31	9.65	11.81	1 1/8” UNC x 7” (5")	5000 (350)
8”(1)	-	-	3.00	11.42	13.78	1 1/8” UNC x 8 1/2" (6”)	5000 (350)
8”	-	-	3.00	12.40	15.13	1 1/2” UNC x 8 1/2" (6”)	5000 (350)
10”	-	-	3.80	14.76	17.75	1 1/2" UNC x 10 “ (7”)	3600 (250)

***SHCS Bolt Specification**
Carbon Steel: ASTM A574/ SAE J429 Grade 8
Stainless Steel: ASTM A193 - B8M

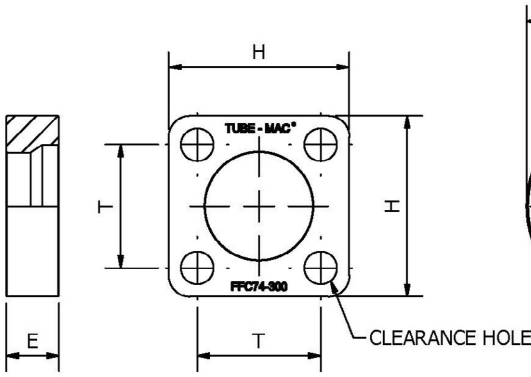
- For 5/8” SS Bolts and smaller ASTM A193 - B8M Class.1
- For 3/4” SS Bolts and larger ASTM A193 - B8M Class.2

Note:
The working pressure ratings are subject to the lesser of the flange or pipe rating.
(1) Special Flange Size

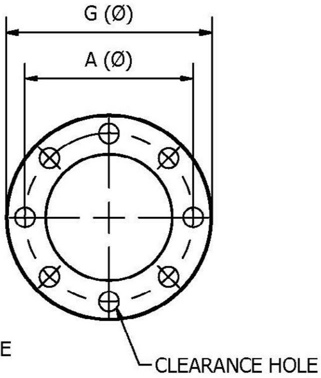
3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Dimensions, Metric

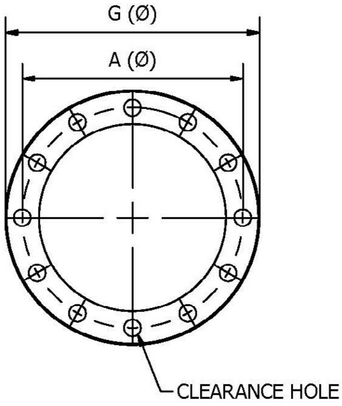
Flange Pattern Drilled to ISO 6164 up to 4”



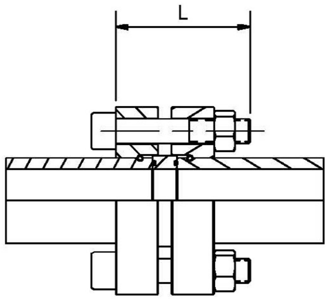
1-1/2" - 4" FLANGES



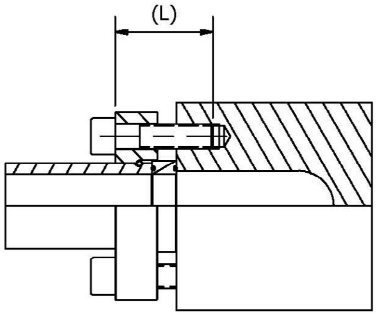
4-1/2" - 8" FLANGES



10" FLANGE



FLANGE TO FLANGE UNION



FLANGE TO COMPONENT

Retain Ring Flange Dimensions, Metric

Size	Dimensions (mm)					SHCS Bolt (mm)* L (L)	Working Pressure PSI (Bar)
	T	H	E	AØ	GØ		
1-1/2"	60.1	88.9	35.0	-	-	M16 x 100 (60)	5800 (400)
2"	69.3	101.6	37.6	-	-	M16 x 90 (60)	5800 (400)
2-1/2"	83.5	119.9	37.6	-	-	M20 x 115 (90)	5800 (400)
3"	102.5	150.1	43.9	-	-	M24 x 130 (100)	5800 (400)
4"	123.7	177.8	50.3	-	-	M30 x 150 (115)	5800 (400)
4-1/2”	-	-	50.0	175	214	M20 x 160 (115)	5000 (350)
5”	-	-	50.8	205	245	M24 x 160 (120)	5000 (350)
6”	-	-	58.7	245	300	M30 x 180 (130)	5000 (350)
8”$^{(1)}$	-	-	76.2	290	350	M30 X 220 (160)	5000 (350)
8”	-	-	76.2	315	385	M36 X 220 (160)	5000 (350)
10”	-	-	96.5	375	450	M36 x 250 (180)	3600 (250)

***SHCS Bolt Specification**

Carbon Steel: DIN 912/ISO 4762
- Minimum Grade 8.8

Stainless Steel: A4 DIN 912/ISO 4762
- For M16 SS Bolts and smaller A4-70, DIN 912/ISO 4762
- For M20 SS Bolts and larger A4-80, DIN 912/ISO 4762

Note:

The working pressure ratings are subject to the lesser of the flange or pipe rating.
(1) Special Flange Size

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange

with Clearance Holes, for Grooved NPS Pipe Only

DIN 400 bar (ISO 6164)

1 1/2"- 4” Flanges

5” – 8” Flanges

10” Flange

RFAC74, RFAC48, RFAC412 Retain Ring Flange with Clearance Holes, for Grooved NPS Pipe Only

Size	Pipe Size	Standard Part Number	HDG Part Number	SS Part Number	Working Pressure PSI (bar)	WT lbs (kg)
1-1/2"	1-1/2”SCHXXS	RFAC74-150	RFAC74-150-HDG	RFAC74-150-SS	5800 (400)	2.75 (1.25)
2”	2”SCH160/XXS	RFAC74-200	RFAC74-200-HDG	RFAC74-200-SS	5800 (400)	3.10 (1.41)
2-1/2"	2-1/2"SCH160/XXS	RFAC74-250	RFAC74-250-HDG	RFAC74-250-SS	5800 (400)	5.06 (2.30)
3"	3"SCH160/XXS	RFAC74-300	RFAC74-300-HDG	RFAC74-300-SS	5800 (400)	8.79 (4.00)
4”	4”SCH160/XXS	RFC74-400	RFC74-400-HDG	RFC74-400-SS	5800 (400)	14.80 (6.71)
5”	5”SCH160/XXS	RFAC48-500	RFAC48-500-HDG	RFAC48-500-SS	5100 (350)	20.85 (9.48)
6”	6”SCH160/XXS	RFAC48-600	RFAC48-600-HDG	RFAC48-600-SS	5100 (350)	44.25 (20.11)
8”(1)	8”SCH160/XXS	RFAC48-800-290BC	RFAC48-800-290BC-HDG	RFAC48-800-290BC-SS	5100 (350)	65.30 (29.68)
8”	8”SCH160/XXS	RFAC48-800	RFAC48-800-HDG	RFAC48-800-SS	5100 (350)	87.06 (39.57)
10”	10”SCH160	RFAC412-1000	RFAC412-1000-HDG	RFAC412-1000-SS	3600 (250)	138.00 (62.73)

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated
HDG = Carbon Steel, Hot Dip Galvanized
SS = Stainless Steel, Type 316

Note:
The working pressure shown is for the flange connection only. Refer to pipe section for allowable working pressure of the pipe.
The complete assembly working pressure ratings are subject to the lesser of the flange or pipe ratings.
(1) Special Flange Size

ISO 6164, 400 bar Retain Ring Flange

with Clearance Holes, for Grooved Metric Pipe Only

DIN 400 bar (ISO 6164)

1 1/2" – 4” Flanges

4 1/2” – 8” Flanges

10” Flange

RFC74 Retain Ring Flange with Clearance Holes, for Grooved Metric Pipe Only

Size	Pipe Size	Standard Part Number	HDG Part Number	SS Part Number	Working Pressure PSI (bar)	WT lbs (kg)
1-1/2"	56x8.5	RFC74-150	RFC74-150-HDG	RFC74-150-SS	5800 (400)	2.75 (1.25)
2”	66x8.5	RFC74-200	RFC74-200-HDG	RFC74-200-SS	5800 (400)	3.10 (1.41)
2-1/2"	80x10	RFC74-250	RFC74-250-HDG	RFC74-250-SS	5800 (400)	5.06 (2.30)
3"	97x12	RFC74-300	RFC74-300-HDG	RFC74-300-SS	5800 (400)	8.79 (4.00)
4”	115x15	RFC74-400	RFC74-400-HDG	RFC74-400-SS	5800 (400)	14.80 (6.71)
4-1/2"	130x15	RFAC48-450-130MM	RFAC48-450-130MM-HDG	RFAC48-450-130MM-SS	5100 (350)	16.40 (7.45)
5”	150x15	RFAC48-500-150MM	RFAC48-500-150MM-HDG	RFAC48-500-150MM-SS	5100 (350)	20.85 (9.48)
6”	190x20	RFAC48-600-190MM	RFAC48-600-190MM-HDG	RFAC48-600-190MM-SS	5100 (350)	44.25 (20.11)
8”(1)	220x20	RFAC48-800-290BC	RFAC48-800-290BC-HDG	RFAC48-800-290BC-SS	5100 (350)	65.30 (29.68)
8”	250x25	RFAC48-800-250MM	RFAC48-800-250MM-HDG	RFAC48-800-250MM-SS	5100 (350)	87.06 (39.57)
10”	273x28.6	RFAC412-1000	RFAC412-1000-HDG	RFAC412-1000-SS	3600 (250)	138.00 (62.73)

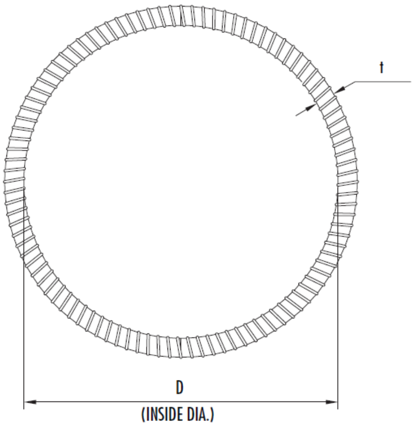
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated
HDG = Carbon Steel, Hot Dip Galvanized
SS = Stainless Steel, Type 316

Note:
The working pressure shown is for the flange connection only. Refer to pipe section for allowable working pressure of the pipe.
The complete assembly working pressure ratings are subject to the lesser of the flange or pipe ratings.
(1) Special Flange Size with 290 mm Bolt Circle

3D step models available upon request

ISO 6164, 400 bar Retain Ring

DIN 400 bar (ISO 6164)



R – Retain Ring, Metric

Size	Pipe Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
			D	t	
1-1/2”	56x8.5	R-150	1.99 (50.5)	0.20 (5.0)	0.05 (0.023)
2”	66x8.5	R-200	2.38 (60.5)	0.20 (5.0)	0.06 (0.027)
2-1/2”	80x10	R-250	2.93 (74.4)	0.20 (5.0)	0.07 (0.032)
3”	97x12	R-300	3.56 (90.4)	0.24 (6.0)	0.12 (0.054)
4”	115x15	R-400	4.19 (106.4)	0.31 (8.0)	0.27 (0.123)
4-1/2”	130x15	R-450	4.72 (120.0)	0.31 (8.0)	0.30 (0.136)
5”	150x15	R-500	5.51 (140.0)	0.31 (8.0)	0.34 (0.155)
6”	190x20	R-600	7.12 (181.0)	0.39 (10.0)	0.73 (0.330)
8”	220x20	RA-800	8.13 (206.6)	0.47 (12.0)	1.19 (0.540)
8”	250x25	R-800	9.35 (237.5)	0.47 (12.0)	1.31 (0.595)
10	273x28.6	RA-1000	10.01 (255.0)	0.47 (12.0)	1.43 (0.650)

RA – Retain Ring

Size	Pipe Size	Retain Ring Part Number	Dimensions in (mm)		WT lbs (kg)
			D	t	
1-1/2”	1-1/2” SCHXXS	RA-150	1.68 (42.8)	0.20 (5.0)	0.05 (0.023)
2”	2” SCH160/XXS	RA-200	2.16 (54.8)	0.20 (5.0)	0.06 (0.027)
2-1/2”	2-1/2” SCH160/XXS	RA-250	2.66 (67.5)	0.20 (5.0)	0.07 (0.032)
3”	3” SCH160/XXS	RA-300	3.24 (82.4)	0.24 (6.0)	0.12 (0.054)
4”	4” SCH160/XXS	R-400	4.19 (106.4)	0.31 (8.0)	0.27 (0.123)
5”	5” SCH160/XXS	RA-500	5.23 (132.8)	0.31 (8.0)	0.33 (0.155)
6”	6” SCH160/XXS	RA-600	6.21 (157.8)	0.39 (10.0)	0.64 (0.290)
8”	8” SCH160/XXS	RA-800	8.13 (206.6)	0.47 (12.0)	1.19 (0.540)
10	10” SCH160	RA-1000	10.01 (255.0)	0.47 (12.0)	1.43 (0.650)

*** Materials:**

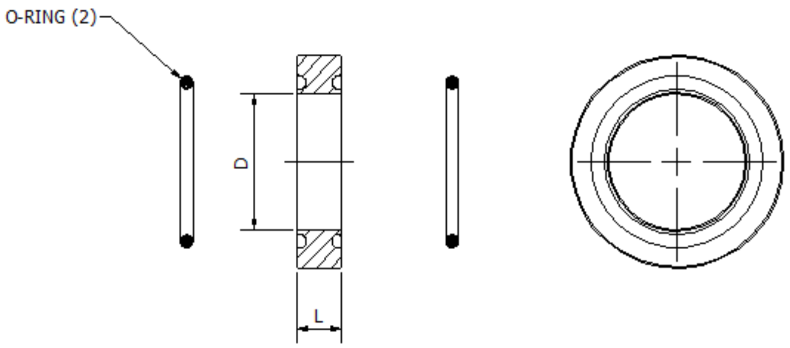
Stainless Steel – AISI 316 Spring Temper

3D step models available upon request

ISO 6164, 400 bar O-Ring Spacer

for Retain Ring Pipe, NPS

DIN 400 (ISO 6164)



OSA – O-Ring Spacer for Retain Ring Pipe, NPS

Size	Pipe Size	Part Number	Dimensions in (mm)		O-Rings 1&2 (Buna) Part Number	WT lbs (kg)
			D	L		
1-1/2”	1-1/2” SCH160	OSA-SCH160-150-*-^	1.34 (34.0)	0.50 (12.7)	OR^-3-924	0.30 (0.14)
1-1/2”	1-1/2” SCHXXS	OSA-SCHXXS-150-*-^	1.10 (27.9)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
2”	2” SCH160	OSA-SCH160-200-*-^	1.69 (42.9)	0.50 (12.7)	OR^-3-928	0.43 (0.20)
2”	2” SCHXXS	OSA-SCHXXS-200-*-^	1.50 (38.1)	0.50 (12.7)	OR^-2-225	0.40 (0.18)
2-1/2”	2-1/2" SCH160	OSA-SCH160-250-*-^	2.13 (54.1)	1.00 (25.4)	OR^-2-230	1.17 (0.53)
2-1/2"	2-1/2” SCHXXS	OSA-SCHXXS-250-*-^	1.77 (44.9)	1.00 (25.4)	OR^-2-230	1.30 (0.59)
3”	3” SCH160	OSA-SCH160-300-*-^	2.62 (66.5)	1.00 (25.4)	OR^-2-234	1.40 (0.64)
3”	3” SCHXXS	OSA-SCHXXS-300-*-^	2.30 (58.4)	1.00 (25.4)	OR^-2-234	1.80 (0.82)
4”	4” SCH160	OS-400-*-^	3.35 (85.0)	1.00 (25.4)	OR^-2-241	2.60 (1.18)
4”	4” SCHXXS	OSA-SCHXXS-400-*-^	3.15 (80.0)	1.00 (25.4)	OR^-2-241	2.90 (1.32)
5”	5” SCH160	OSA-SCH160-500-*-^	4.31 (109.5)	1.50 (38.1)	OR^-2-353	4.40 (2.00)
5”	5” SCHXXS	OSA-SCHXXS-500-*-^	4.06 (103.1)	1.50 (38.1)	OR^-2-353	5.50 (2.50)
6”	6” SCH160	OSA-SCH160-600-*-^	5.19 (131.8)	1.50 (38.1)	OR^-2-359	6.90 (3.14)
6”	6” SCHXXS	OSA-SCHXXS-600-*-^	4.90 (124.5)	1.50 (38.1)	OR^-2-359	7.70 (3.50)
8”	8” SCH160	OSA-SCH160-800-*-^	6.81 (173.0)	1.50 (38.1)	OR^-2-368	10.70 (4.86)
8”	8” SCHXXS	OSA-SCHXXS-800-*-^	6.88 (174.8)	1.50 (38.1)	OR^-2-368	11.30 (5.14
10”	10” SCH160	OSA-SCH160-1000-*-^	8.50 (215.9)	2.00 (50.8)	OR^-2-377	21.60 (9.82)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

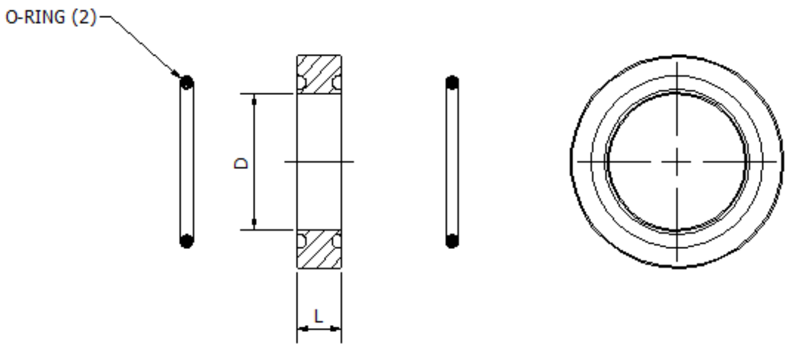
Ordering Example: OSA-SCH160-200-SS-V
*Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar O-Ring Spacer

for Retain Ring Pipe, Metric

DIN 400 (ISO 6164)



OS – O-Ring Spacer for Retain Ring Pipe, Metric

Size	Pipe Size	Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	WT lbs (kg)
			D	L		
1-1/2”	56x8.5	OS-150-*-^	1.54 (39.1)	0.50 (12.7)	OR^-3-924	0.33 (0.15)
2”	66x8.5	OS-200-*-^	1.93 (49.0)	0.50 (12.7)	OR^-3-928	0.43 (0.20)
2-1/2”	80x10	OS-250-*-^	2.36 (59.9)	1.00 (25.4)	OR^-2-232	1.17 (0.53)
3”	97x12	OS-300-*-^	2.88 (73.2)	1.00 (25.4)	OR^-2-237	1.70 (0.77)
4”	115x15	OS-400-*-^	3.35 (85.1)	1.00 (25.4)	OR^-2-241	2.60 (1.18)
4-1/2”	130x15	OS-450-*-^	3.94 (100.1)	1.50 (38.1)	OR^-2-245	4.40 (2.00)
5”	150x15	OS-500-*-^	4.70 (119.4)	1.50 (38.1)	OR^-2-353	5.10 (2.32)
6”	190x20	OS-600-*-^	5.91 (150.1)	1.50 (38.1)	OR^-2-362	8.50 (3.86)
8”	220x20	OSA-SCHXXS-800-*-^	6.81 (173.0)	1.50 (38.1)	OR^-2-368	10.70 (4.86)
8”	250x25	OS-800-*-^	---	---	---	---
10”	273x28.6	OSA-SCH160-1000-*-^	8.50 (215.9)	2.00 (50.8)	OR^-2-377	21.60 (9.82)

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

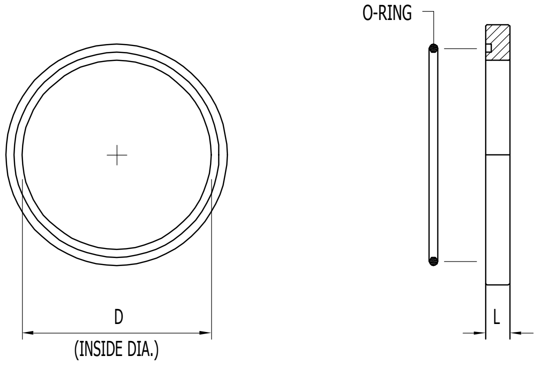
Ordering Example: OS-200-SS-V
*Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar O-Ring Spacer

for Retain Ring Pipe to Hose End

DIN 400 (ISO 6164)



OSH O-Ring Spacer for Retain Ring Pipe to Hose End, 1-1/2”- 4” Complete with Buna O-Rings

Size	Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	WT lbs (kg)
		D	L		
1-1/2”	OSH-150-*-^	1.54 (39.10)	0.25 (6.35)	OR^-3-924	0.12 (0.05)
2”	OSH-200-*-^	1.93 (49.00)	0.25 (6.35)	OR^-3-928	0.15 (0.07)
2-1/2”	OSH-250-*-^	2.36 (60.00)	0.50 (12.70)	OR^-2-232	0.26 (0.12)
3”	OSH-300-*-^	2.88 (73.20)	0.50 (12.70)	OR^-2-237	0.39 (0.18
4”	OSH-400-*-^	3.35 (85.10)	0.50 (12.70)	OR^-2-241	0.60 (0.27)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

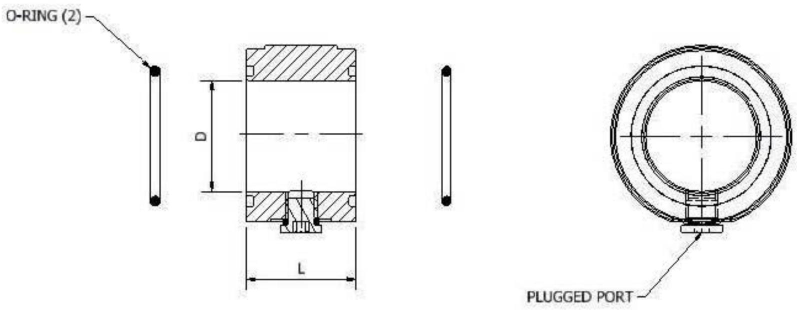
Ordering Example: OSH-200-SS-V
*Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar O-Ring Spacer with Pilot Port

for Retain Ring Pipe, NPS

DIN 400 (ISO 6164)



OSAP – O-Ring Spacer with Pilot Port for Retain Ring Pipe, NPS Complete with Buna O-rings (Standard) and #4 SAE Port (Plugged)						
Size	**Pipe Size**	**Part Number**	**Dimensions in (mm)**		**O-Ring (Buna) Part Number**	**WT lbs (kg)**
			D	**L**		
1-1/2”	1-1/2” SCH160	OSAP-SCH160-150-*-^	1.54 (39.10)	0.25 (6.35)	OR^-3-924	0.12 (0.05)
1-1/2”	1-1/2” SCHXXS	OSAP-SCHXXS-150-*-^	1.93 (49.00)	0.25 (6.35)	OR^-3-928	0.15 (0.07)
2”	2” SCH160	OSAP-SCH160-200-*-^	2.36 (60.00)	0.50 (12.70)	OR^-2-232	0.26 (0.12)
2”	2” SCHXXS	OSAP-SCHXXS-200-*-^	2.88 (73.20)	0.50 (12.70)	OR^-2-237	0.39 (0.18
2-1/2”	2-1/2" SCH160	OSAP-SCH160-250-*-^	3.35 (85.10)	0.50 (12.70)	OR^-2-241	0.60 (0.27)
2-1/2"	2-1/2” SCHXXS	OSAP-SCHXXS-250-*-^	1.77 (44.9)	1.50 (38.1)	OR^-2-230	2.10 (0.95)
3”	3” SCH160	OSAP-SCH160-300-*-^	2.62 (66.5)	1.50 (38.1)	OR^-2-234	2.80 (1.27)
3”	3” SCHXXS	OSAP-SCHXXS-300-*-^	2.30 (58.4)	1.50 (38.1)	OR^-2-234	3.20 (1.45)
4”	4” SCH160	OSP-400-*-^	3.35 (85.0)	1.50 (38.1)	OR^-2-241	6.21 (2.82)
4”	4” SCHXXS	OSAP-SCHXXS-400-*-^	3.15 (80.0)	1.50 (38.1)	OR^-2-241	6.80 (3.09)
5”	5” SCH160	OSAP-SCH160-500-*-^	4.31 (109.5)	1.50 (38.1)	OR^-2-353	8.76 (3.98)
5”	5” SCHXXS	OSAP-SCHXXS-500-*-^	4.06 (103.1)	1.50 (38.1)	OR^-2-353	9.40 (4.27)
6”	6” SCH160	OSAP-SCH160-600-*-^	5.19 (131.8)	1.50 (38.1)	OR^-2-359	12.62 (5.74)
6”	6” SCHXXS	OSAP-SCHXXS-600-*-^	4.90 (124.5)	1.50 (38.1)	OR^-2-359	13.30 (6.04)
8”	8” SCH160	OSAP-SCH160-800-*-^	6.81 (173.0)	1.50 (38.1)	OR^-2-368	19.70 (8.95)
8”	8” SCHXXS	OSAP-SCHXXS-800-*-^	6.88 (174.8)	1.50 (38.1)	OR^-2-368	21.30 (9.68)
10”	10” SCH160	OSAP-SCH160-1000-*-^	8.50 (215.9)	2.00 (50.8)	OR^-2-377	35.60 (16.18)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

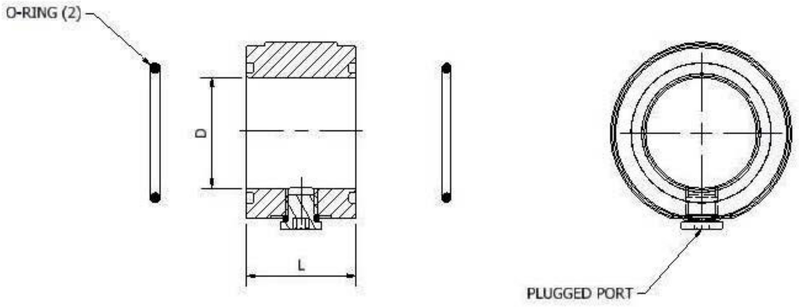
Ordering Example: OSAP-SCH160-200-SS-V
*Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar O-Ring Spacer with Pilot Port

for Retain Ring Pipe, Metric

DIN 400 (ISO 6164)



OSPM – O-Ring Spacer for Retain Ring Pipe, Metric Complete with Buna O-ring (standard) and G 1/8 Port (Plugged)

Size	Pipe Size	Part Number	Dimensions in (mm)		O-Ring (Buna) Part Number	WT lbs (kg)
			D	L		
1-1/2”	56x8.5	OSPM-150-*-^	1.54 (39.1)	1.50 (38.1)	OR^-3-924	1.25 (0.57)
2”	66x8.5	OSPM-200-*-^	1.93 (49.0)	1.50 (38.1)	OR^-3-928	1.54 (0.70)
2-1/2”	80x10	OSPM-250-*-^	2.36 (59.9)	1.50 (38.1)	OR^-2-232	1.98 (0.90)
3”	97x12	OSPM-300-*-^	2.88 (73.2)	1.50 (38.1)	OR^-2-237	2.80 (1.27)
4”	115x15	OSPM-400-*-^	3.35 (85.1)	1.50 (38.1)	OR^-2-241	6.20 (2.82)
4-1/2”	130x15	OSPM-450-*-^	3.94 (100.1)	1.50 (38.1)	OR^-2-245	7.48 (3.40)
5”	150x15	OSPM-500-*-^	4.70 (119.4)	1.50 (38.1)	OR^-2-353	8.76 (3.98)
6”	190x20	OSPM-600-*-^	5.91 (150.1)	1.50 (38.1)	OR^-2-362	12.63 (5.74)
8”	220x20	OSPM-800-*-^	6.81 (173.0)	1.50 (38.1)	OR^-2-368	19.70 (8.95)
8”	250x25	OSPM-800-*-^	---	---	---	---
10”	273x28.6	OSPM-1000-*-^	8.50 (215.9)	2.00 (50.8)	OR^-2-377	35.60 (16.18)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = All Stainless Steel, Type 316.

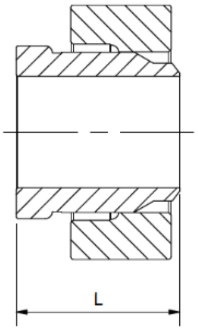
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

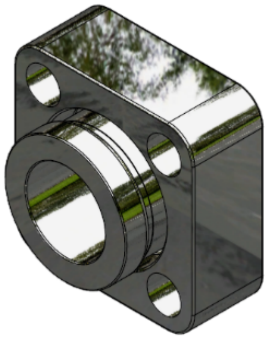
Ordering Example: OSPM-200-SS-V
*Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:
- Bolt Kit (See Page J8)
- O-Ring Spacer (See Page J13)

A/BWA, A/BWAA Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1-1/2”	1-1/2” SCH80	A/BWA-SCH80-150-FC74-*	3.71 (1.67)	2.25	BWA-SCH80-150-*	RFC74-150-*
1-1/2”	1-1/2” SCH160	A/BWA-SCH160-150-FC74-*	3.95 (1.80)	2.25	BWA-SCH160-150-*	RFC74-150-*
1-1/2”	1-1/2” SCHXXS	A/BWA-SCHXXS-150-FC74-*	4.11 (1.89)	2.25	BWA-SCHXXS-150-*	RFC74-150-*
2”	2” SCH80	A/BWA-SCH80-200-FC74-*	4.30 (1.95)	2.50	BWA-SCH80-200-*	RFC74-200-*
2”	2” SCH160	A/BWA-SCH160-200-FC74-*	4.60 (2.10)	2.50	BWA-SCH160-200-*	RFC74-200-*
2”	2” SCHXXS	A/BWA-SCHXXS-200-FC74-*	4.80 (2.18)	2.50	BWA-SCHXXS-200-*	RFC74-200-*
2-1/2"	2-1/2” SCH80	A/BWA-SCH80-250-FC74-*	6.76 (3.07)	2.50	BWA-SCH80-250-*	RFC74-250-*
2-1/2"	2-1/2” SCH160	A/BWA-SCH160-250-FC74-*	7.06 (3.21)	2.50	BWA-SCH160-250-*	RFC74-250-*
2-1/2"	2-1/2” SCHXXS	A/BWA-SCHXXS-250-FC74-*	7.46 (3.39)	2.50	BWA-SCHXXS-250-*	RFC74-250-*
3”	3” SCH160	A/BWA-SCH160-300-FC74-*	12.39 (5.63)	2.75	BWA-SCH160-300-*	RFC74-300-*
3”	3” SCHXXS	A/BWA-SCHXXS-300-FC74-*	12.99 (5.90)	2.75	BWA-SCHXXS-300-*	RFC74-300-*
4”	4” SCH160	A/BWA-SCH160-400-FC74-*	21.50 (9.77)	4.00	BWA-SCH160-400-*	RFC74-400-*
4”	4” SCHXXS	A/BWA-SCHXXS-400-FC74-*	22.80 (10.36)	4.00	BWA-SCHXXS-400-*	RFC74-400-*
5”	5” SCH160	A/BWAA-SCH160-500-FAC48-*	39.05 (17.75)	6.00	BWAA-SCH160-500-*	RFAC48-500-*
5”	5” SCHXXS	A/BWAA-SCH1XXS-500-FAC48-*	40.25 (18.30)	6.00	BWAA-SCHXXS-500-*	RFAC48-500-*
6”	6” SCH160	A/BWAA-SCH160-600-FAC48-*	68.45 (31.11)	6.00	BWAA-SCH160-600-*	RFAC48-600-*
6”	6” SCHXXS	A/BWAA-SCHXXS-600-FAC48-*	70.25 (31.93)	6.00	BWAA-SCHXXS-600-*	RFAC48-600-*
8”(1)	8” SCH160	A/BWAA-SCH160-800-FAC48-290BC-*	102.50 (46.60)	6.00	BWAA-SCH160-800-*	RFAC48-800-*
8”(1)	8” SCHXXS	A/BWAA-SCHXXS-800-FAC48-290BC-*	103.00 (46.80)	6.00	BWAA-SCHXXS-800-*	RFAC48-800-*
8”	8” SCH160	A/BWAA-SCH160-800-FAC48-*	124.26 (56.48)	6.00	BWAA-SCH160-800-*	RFAC48-800-*
8”	8” SCHXXS	A/BWAA-SCHXXS-800-FAC48-*	125.76 (57.16)	6.00	BWAA-SCHXXS-800-*	RFAC48-800-*
10”	10” SCH160	A/BWAA-SCH160-1000-FAC412-*	241.40 (103.40)	8.00	BWAA-SCH160-1000-*	RFAC412-1000-*
10”	10” SCHXXS	A/BWAA-SCHXXS-1000-FAC412-*	243.80 (110.81)	8.00	BWAA-SCHXXS-1000-*	RFAC412-1000-*

Ordering Example: A/BWA-SCH160-200-FC74-SS

* Insert Material

*** Materials:**

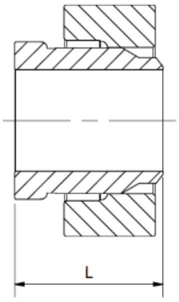
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

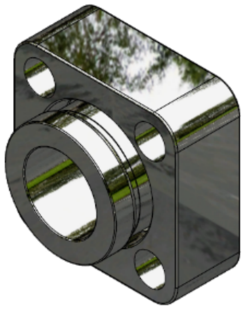
Note:

To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.
(1) Special Flange Size

ISO 6164, 400 bar Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Weld Adapter Body

To be Ordered Separately:

- Bolt Kit (See Page J9)
- O-Ring Spacer (See Page J14)

A/BWA Butt Weld Adapter Assembly (Bump Style) with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number
1-1/2”	56 x 8.5	A/BWA-56x8.5-150-FC74-*	3.72 (1.69)	57.2	BWA-56x8.5-150-*	RFC74-150-*
2”	66 x 8.5	A/BWA-66x8.5-200-FC74-*	4.31 (1.96)	63.5	BWA-66x8.5-200-*	RFC74-200-*
2-1/2”	80 x 10	A/BWA-80x10-250-FC74-*	6.76 (3.07)	63.5	BWA-80x10-250-*	RFC74-250-*
3”	97 x 12	A/BWA-97x12-300-FC74-*	11.79 (5.36)	69.9	BWA-97x12-300-*	RFC74-300-*
4”	115 x 15	A/BWA-115x15-400-FC74-*	20.57 (9.35)	101.6	BWA-115x15-400-*	RFC74-400-*
4-1/2”	130 x 15	A/BWA-130x15-450-FAC48-*	31.40 (14.27)	101.6	BWA-130x15-450-*	RFAC48-450-*
5"	150 x 15	A/BWA-150x15-500-FAC48-*	43.25 (19.66)	152.5	BWA-150x15-500-*	RFAC48-500-*
6"	190 x 20	A/BWA-190x20-600-FAC48-*	96.38 (43.80)	152.5	BWA-190x20-600-*	RFAC48-600-*
8"(1)	220 x 20	A/BWA-220x20-800-FAC48-290BC-*	102.04 (46.38)	152.5	BWA-220x20-800-*	RFAC48-800-290BC-*
8”	250 x 25	A/BWA-250x25-800-FAC48-*	123.80 (56.27)	152.5	BWA-250x25-800-*	RFAC48-800-*
10”	273 x 28.6	A/BWA-273x28.6-1000-FAC412-*	241.40 (109.73)	203.2	BWA-273x28.6-1000-*	RFAC412-1000-*

Ordering Example: A/BWA-66x8.5-200-FC74-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

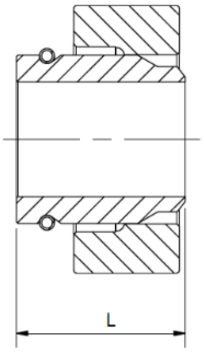
Note:

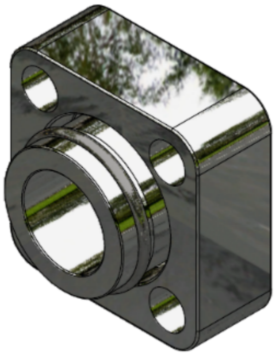
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.
(1) Special Flange Size

3D step models available upon request

ISO 6164, 400 bar Butt Weld Adapter Assembly, Retain Ring with Clearance Holes, NPS

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Weld Adapter Body

To be Ordered Separately:

- Bolt Kit (See Page J8)
- O-Ring Spacer (See Page J13)

A/BWAR, A/BWAAR Butt Weld Adapter Assembly, Retain Ring Style with Clearance Holes, NPS

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (in) L	Weld Adapter Body Part Number	Flange Part Number
1-1/2”	1-1/2” SCH80	A/BWAR-SCH80-150-FC74-*	3.71 (1.67)	2.25	BWAR-SCH80-150-*	RFC74-150-*
1-1/2”	1-1/2” SCH160	A/BWAR-SCH160-150-FC74-*	3.95 (1.80)	2.25	BWAR-SCH160-150-*	RFC74-150-*
1-1/2”	1-1/2” SCHXXS	A/BWAR-SCHXXS-150-FC74-*	4.11 (1.89)	2.25	BWAR-SCHXXS-150-*	RFC74-150-*
2”	2” SCH80	A/BWAR-SCH80-200-FC74-*	4.30 (1.95)	2.50	BWAR-SCH80-200-*	RFC74-200-*
2”	2” SCH160	A/BWAR-SCH160-200-FC74-*	4.60 (2.10)	2.50	BWAR-SCH160-200-*	RFC74-200-*
2”	2” SCHXXS	A/BWAR-SCHXXS-200-FC74-*	4.80 (2.18)	2.50	BWAR-SCHXXS-200-*	RFC74-200-*
2-1/2"	2-1/2” SCH80	A/BWAR-SCH80-250-FC74-*	6.76 (3.07)	2.50	BWAR-SCH80-250-*	RFC74-250-*
2-1/2"	2-1/2” SCH160	A/BWAR-SCH160-250-FC74-*	7.06 (3.21)	2.50	BWAR-SCH160-250-*	RFC74-250-*
2-1/2"	2-1/2” SCHXXS	A/BWAR-SCHXXS-250-FC74-*	7.46 (3.39)	2.50	BWAR-SCHXXS-250-*	RFC74-250-*
3”	3” SCH160	A/BWAR-SCH160-300-FC74-*	12.39 (5.63)	2.75	BWAR-SCH160-300-*	RFC74-300-*
3”	3” SCHXXS	A/BWAR-SCHXXS-300-FC74-*	12.99 (5.90)	2.75	BWAR-SCHXXS-300-*	RFC74-300-*
4”	4” SCH160	A/BWAR-SCH160-400-FC74-*	21.50 (9.77)	4.00	BWAR-SCH160-400-*	RFC74-400-*
4”	4” SCHXXS	A/BWAR-SCHXXS-400-FC74-*	22.80 (10.36)	4.00	BWAR-SCHXXS-400-*	RFC74-400-*
5”	5” SCH160	A/BWAAR-SCH160-500-FAC48-*	39.05 (17.75)	6.00	BWAAR-SCH160-500-*	RFAC48-500-*
5”	5” SCHXXS	A/BWAAR-SCH1XXS-500-FAC48-*	40.25 (18.30)	6.00	BWAAR-SCHXXS-500-*	RFAC48-500-*
6”	6” SCH160	A/BWAAR-SCH160-600-FAC48-*	68.45 (31.11)	6.00	BWAAR-SCH160-600-*	RFAC48-600-*
6”	6” SCHXXS	A/BWAAR-SCHXXS-600-FAC48-*	70.25 (31.93)	6.00	BWAAR-SCHXXS-600-*	RFAC48-600-*
8”(1)	8” SCH160	A/BWAAR-SCH160-800-FAC48-290BC-*	102.50 (46.60)	6.00	BWAAR-SCH160-800-*	RFAC48-800-*
8”(1)	8” SCHXXS	A/BWAAR-SCHXXS-800-FAC48-290BC-*	103.00 (46.80)	6.00	BWAAR-SCHXXS-800-*	RFAC48-800-*
8”	8” SCH160	A/BWAAR-SCH160-800-FAC48-*	124.26 (56.48)	6.00	BWAAR-SCH160-800-*	RFAC48-800-*
8”	8” SCHXXS	A/BWAAR-SCHXXS-800-FAC48-*	125.76 (57.16)	6.00	BWAAR-SCHXXS-800-*	RFAC48-800-*
10”	10” SCH160	A/BWAAR-SCH160-1000-FAC412-*	241.40 (109.73)	8.00	BWAAR-SCH160-1000-*	RFAC412-1000-*
10”	10” SCHXXS	A/BWAAR-SCHXXS-1000-FAC412-*	243.80 (110.81)	8.00	BWAAR-SCHXXS-1000-*	RFAC412-1000-*

Ordering Example: A/BWAR-SCH160-200-FC74-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.

SS = Stainless Steel, Type 316.

ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.

HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

Note:

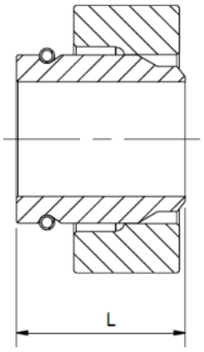
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.

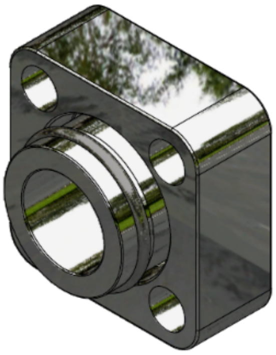
(1) Special Flange Size

3D step models available upon request

ISO 6164, 400 bar Butt Weld Adapter Assembly, Retain Ring with Clearance Holes, Metric

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Weld Adapter Body

To be Ordered Separately:
- Bolt Kit (See Page J9)
- O-Ring Spacer (See Page J14)

A/BWAR Butt Weld Adapter Assembly, Retain Ring Style with Clearance Holes, Metric

Size	Pipe Size	Complete Flange Set Part Number	WT/Set lbs (kg)	Dimension (mm) L	Weld Adapter Body Part Number	Flange Part Number
1-1/2”	56 x 8.5	A/BWAR-56x8.5-150-FC74-*	3.72 (1.69)	57.2	BWAR-56x8.5-150-*	RFC74-150-*
2”	66 x 8.5	A/BWAR-66x8.5-200-FC74-*	4.31 (1.96)	63.5	BWAR-66x8.5-200-*	RFC74-200-*
2-1/2”	80 x 10	A/BWAR-80x10-250-FC74-*	6.76 (3.07)	63.5	BWAR-80x10-250-*	RFC74-250-*
3”	97 x 12	A/BWAR-97x12-300-FC74-*	11.79 (5.36)	69.9	BWAR-97x12-300-*	RFC74-300-*
4”	115 x 15	A/BWAR-115x15-400-FC74-*	20.57 (9.35)	101.6	BWAR-115x15-400-*	RFC74-400-*
4-1/2”	130 x 15	A/BWAR-130x15-450-FAC48-*	31.40 (14.27)	101.6	BWAR-130x15-450-*	RFAC48-450-*
5"	150 x 15	A/BWAR-150x15-500-FAC48-*	43.25 (19.66)	152.5	BWAR-150x15-500-*	RFAC48-500-*
6"	190 x 20	A/BWAR-190x20-600-FAC48-*	96.38 (43.80)	152.5	BWAR-190x20-600-*	RFAC48-600-*
8"(1)	220 x 20	A/BWAR-220x20-800-FAC48-290BC-*	102.04 (46.38)	152.5	BWAR-220x20-800-*	RFAC48-800-290BC-*
8”	250 x 25	A/BWAR-250x25-800-FAC48-*	123.80 (56.27)	152.5	BWAR-250x25-800-*	RFAC48-800-*
10”	273 x 28.6	A/BWAR-273x28.6-1000-FAC412-*	241.40 (109.73)	203.2	BWAR-273x28.6-1000-*	RFAC412-1000-*

Ordering Example: A/BWAR-66x8.5-200-FC74-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.
ZSS = Carbon Steel Flange with Stainless Steel Adapter Body, Type 316.
HDGSS = Carbon Steel, Hot Dip Galvanized Flange with Stainless Steel Adapter Body, Type 316.

Note:

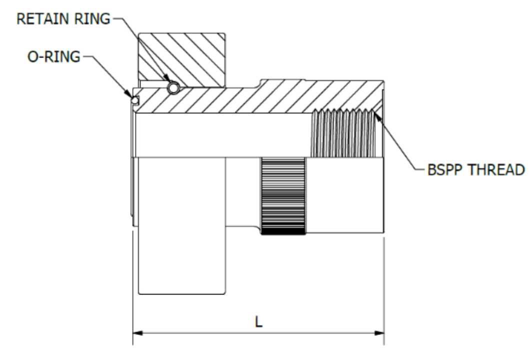
To Order A Retain Ring Flange with Threaded Holes, Replace FC with FT in the Part Number.
(1) Special Flange Size

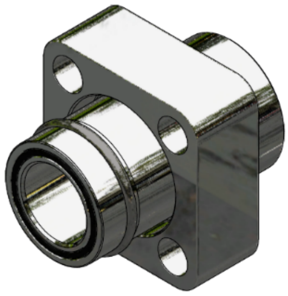
3D step models available upon request

ISO 6164, 400 bar BSPP Female Thread Adapter

Complete Assembly

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Female Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit

A/FBTA Female Thread Adapter, BSPP – Complete Assembly Complete with Buna O-Ring

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size	O-Ring Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L	R				
1-1/2”x 1-1/4"	A/FBTA-150x125-FC74-*-^	2.00 (50.80)	1-1/4”	OR^-3-924	4.27 (1.94)	FBTA-150x125-*-^	1.52 (0.69)
1-1/2" x 1-1/2"	A/FBTA-150-150-FC74-*-^	4.00 (101.60)	1-1/2"	OR^-3-924	5.58 (2.54)	FBTA-150x150-*-^	2.83 (1.28)
2”x 1-1/2"	A/FBTA-200x150-FC74-*-^	2.17 (55.00)	1-1/2”	OR^-3-928	4.75 (2.16)	FBTA-200x150-*-^	1.65 (0.75)
2” x 2”	A/FBTA-200x200-FC74-*-^	4.50 (114.30)	2”	OR^-3-928	8.49 (3.86)	FBTA-200x200-*-^	3.67 (1.66)
2-1/2” x 2”	A/FBTA-250x200-FC74-*-^	3.15 (80.00)	2”	OR^-2-232	8.40 (3.82)	FBTA-250x200-*-^	3.34 (1.52)
2 -1/2” x 2 -1/2”	A/FBTA-250x250-FC74-*-^	5.00 (127.00)	2-1/2"	OR^-2-232	12.16 (5.53)	FBTA-250x250-*-^	7.10 (3.23)
3” x 2-1/2"	A/FBTA-300x250-FC74-*-^	3.35 (85.00)	2-1/2"	OR^-2-237	13.43 (6.10)	FBTA-300x250-*-^	4.64 (2.11)
3” x 3”	A/FBTA-300x300-FC74-*-^	5.75 (146.05	3”	OR^-2-237	19.35 (8.80)	FBTA-300x300-*-^	10.56 (4.80)

Flange Option:
Standard, FC74 = DIN 400 (ISO 6164) Clearance Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

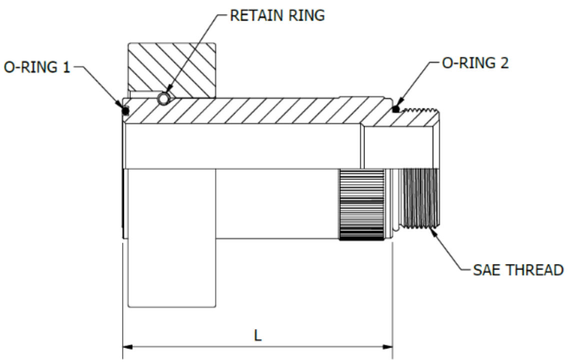
Ordering Example: A/FBTA-200x150-FC74-SS-V
*Insert Material
^ Insert O-Ring Type

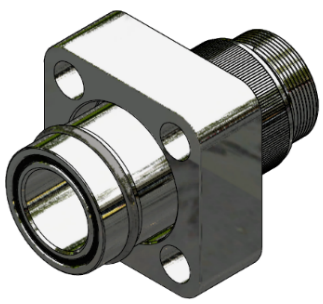
3D step models available upon request

ISO 6164, 400 bar SAE Male Thread Adapter

Complete Assembly

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)
- One (1) Thread O-Ring (O-Ring 2)

To be Ordered Separately:

- Bolt Kit

A/STA – SAE Male Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size UNF/UN-2A	O-Ring 1 (Buna) Part No.	O-Ring 2 (Buna) Part No.	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L						
1-1/2”x 1-1/4”	A/STA-150x125-FC74-*-^	4.25 (107.95)	1-5/8”-12	OR^-3-924	OR^-3-920	5.74 (2.61)	STA-150x125-*	2.94 (1.33)
1-1/2”x 1-1/2”	A/STA-150x150-FC74-*-^	4.25 (107.95)	1-7/8”-12	OR^-3-924	OR^-3-924	5.77 (2.62)	STA-150x150-*	2.97 (1.35)
1-1/2” x 2”	A/STA-150x200-FC74-*-^	4.25 (107.95)	2-1/2”-12	OR^-3-924	OR^-3-932	6.34 (2.88)	STA-150x200-*	3.54 (1.61)
2”x 1-1/2”	A/STA-200x150-FC74-*-^	4.38 (111.25)	1-7/8”-12	OR^-3-928	OR^-3-924	6.92 (3.15)	STA-200x150-*	3.76 (1.71)
2”x 2”	A/STA-200x200-FC74-*-^	4.38 (111.25)	2-1/2”-12	OR^-3-928	OR^-3-932	7.12 (3.24)	STA-200x200-*	3.96 (1.80)
2-1/2” x 2”	A/STA-250x200-FC74-*-^	3.60 (91.44)	2-1/2"-12	OR ^-2-232	OR^-3-932	9.31 (4.23)	STA-250-200-*	4.18 (1.90)
2-1/2" x 2-1/2"	A/STA-250x250-FC74-*-^	3.60 (91.44)	3”-12	OR^-2-232	OR^-2-230	9.93 (4.51)	STA-250-250-*	4.80 (2.18)

Ordering Example: A/STA-200x150-FC74-SS-V

*Insert Material

^ Insert O-Ring Type

Flange Option:

Standard, FC74 = DIN 400 (ISO 6164) Clearance Flange.

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated

SS = Stainless Steel, Type 316. Body Only

SSA = Stainless Steel, Type 316. All SS including flange

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.

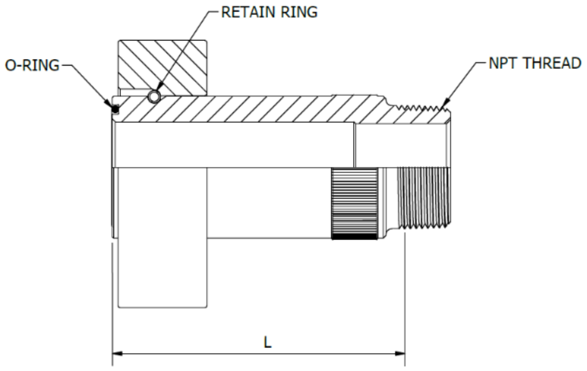
V = Viton.

3D step models available upon request

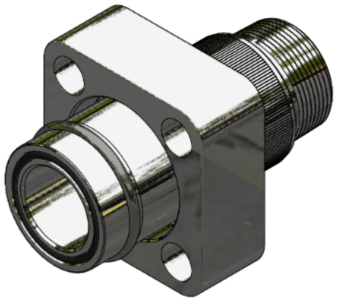
ISO 6164, 400 bar NPT Male Thread Adapter

Complete Assembly

DIN 400 bar (ISO 6164)



After Assembly



Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)

To be Ordered Separately:

- Bolt Kit

A/NTA – NPT Male Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	NPTF Thread (Dryseal)	O-Ring (Buna) Part No.	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L					
1-1/2”x 1-1/4”	A/NTA-150x125-FC74-*-^	4.51 (114.58)	1-1/4”-11-1/2	OR^-3-924	5.82 (2.65)	NTA-150x125-*	3.02 (1.37)
1-1/2”x 1-1/2”	A/NTA-150x150-FC74-*-^	4.51 (114.58)	1-1/2”-11-1/2	OR^-3-924	5.90(2.68)	NTA-150x150-*	3.10 (1.41)
1-1/2” x 2”	A/NTA-150x200-FC74-*-^	4.51 (114.58)	2”-11-1/2	OR^-3-924	6.40 (2.91)	NTA-150x200-*	3.60 (1.64)
2”x 1-1/2”	A/NTA-200x150-FC74-*-^	4.51 (114.58)	1-1/2”-11-1/2	OR^-3-928	7.12 (3.24)	NTA-200x150-*	3.96 (1.80)
2”x 2”	A/NTA-200x200-FC74-*-^	4.51 (114.58)	2”-11-1/2	OR^-3-928	7.16 (3.25)	NTA-200x200-*	4.00 (1.82)

Flange Option:
Standard, FC74 = DIN 400 (ISO 6164) Clearance Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only
SSA = Stainless Steel, Type 316. All SS including flange

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/NTA-200x150-FC74-SS-V

Flange Option

* Insert Material

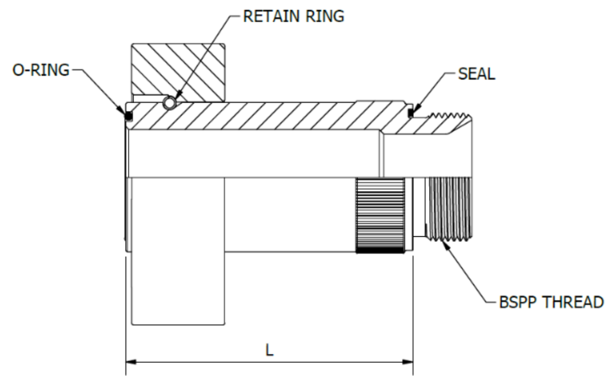
^ Insert O-Ring Type

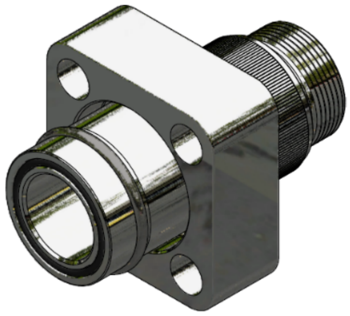
3D step models available upon request

ISO 6164, 400 bar BSPP Male Thread Adapter

Complete Assembly

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Male Thread Adapter
- One (1) Retain Ring Flange
- One (1) Retain Ring
- One (1) Face O-Ring (O-Ring 1)
- One (1) Thread Seal (Seal 2)

To be Ordered Separately:

- Bolt Kit

A/BTA – BSPP Male Thread Adapter Complete Assembly

Size (flange x thread)	Complete Assembly Part Number	Dimensions in (mm)	Thread Size	O-Ring (Buna) Part No.	Seal (Buna) Part No.	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)
		L						
1-1/2”x 1-1/4”	A/BTA-150x125- FC74-*-^	4.25 (108.0)	1-1/4”-11	OR^-3-924	DR^-G125	5.82 (2.65)	BTA-150x125-*	3.02 (1.37)
1-1/2”x 1-1/2”	A/BTA-150x150- FC74-*-^	4.25 (108.0)	1-1/2”-11	OR^-3-924	DR^-G150	5.80 (2.64)	BTA-150x150-*	3.00 (1.36)
1-1/2” x ♦2”	A/BTA-150x200- FC74-*-^	4.25 (108.0)	2”-11	OR^-3-924	BS^-3236	6.40 (2.90)	BTA-150x200-*	3.60 (1.63)
2”x 1-1/2”	A/BTA-200x150- FC74-*-^	4.25 (108.0)	1-1/2”-11	OR^-3-928	DR^-G150	7.10 (3.23)	BTA-200x150-*	3.94 (1.79)
2” x ♦2”	A/BTA-200x200- FC74-*-^	4.35 (110.5)	2”-11	OR^-3-928	BS^-3236	7.16 (3.25)	BTA-200x200-*	4.00 (1.81)
2-1/2" x ♦2”	A/BTA-250x200- FC74-*-^	4.33 (110.0)	2”-11	OR^-2-232	BS^-3236	10.03 (4.56)	BTA-250x200-*	4.90 (2.25)
2-1/2" x ♦2 1/2"	A/BTA-250x250- FC74-*-^	4.11 (104.4)	2-1/2” - 11	OR^-2-232	BS^-4037	10.33 (4.70)	BTA-250x250-*	5.20 (2.36)
3” x ♦2”	A/BTA-300x200- FC74-*-^	4.17 (106.0)	2”-11	OR^-2-237	BS^-3236	15.86 (7.21)	BTA-300x200-*	6.95 (3.16)
3” x ♦2-1/2"	A/BTA-300x250- FC74-*-^	4.41 (112.0)	2-1/2” - 11	OR^-2-237	BS^-4037	16.21 (7.37)	BTA-300x250-*	7.30 (3.32)
3” x ♦3”	A/BTA-300x300- FC74-*-^	4.41 (112.0)	3” - 11	OR^-2-237	BS^-4839	16.41 (7.46)	BTA-300x300-*	7.50 (3.41)

♦The seal for the 2”, 2-1/2” and 3” BSPP thread consists of a self-centering bonded seal included in dimension “L”.

Ordering Example: A/BTA-200x150-FC74-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

Flange Option:
Standard, FC74 = 400 bar (ISO 6164) Clearance Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only
SSA = Stainless Steel, Type 316. All SS including flange

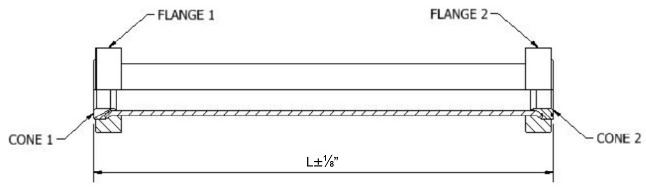
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

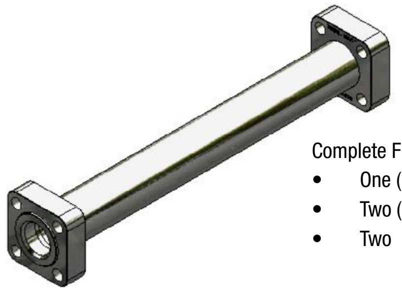
3D step models available upon request

ISO 6164, 400 bar Flare Flange Pipe Assembly, NPS

DIN 400 bar (ISO 6164)

Typical PAF Assembly





Complete Flange Set Includes:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

PAF / Pipe Material - Pipe Size & Schedule - Flange 1 - Flange 2 - Cone 1 - Cone 2 - Length - Options

		Code
Pipe Assembly - Flared		**PAF**
Pipe Material Carbon Steel	**TMP52CD**	52
Pipe Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size	**1-1/2”**	SCH80-150
		SCH160-150
	2”	SCH80-200
		SCH160-200
	2-1/2”	SCH80-250
		SCH160-250
	3”	SCH80-300
		SCH160-300
	4”	SCH80-400
Flange Type Carbon Steel	**FFC74** ISO 6164 W/Clearance Holes	FC74
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Length	L	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST
PART Number (EXAMPLE): PAF/52 - SCH160-200 - FC74 - FC74 - CO - CF - 240

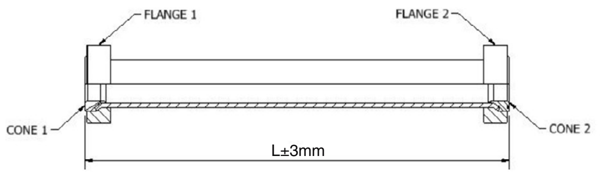
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

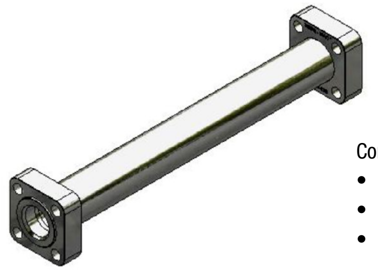
3D step models available upon request

ISO 6164, 400 bar Flare Flange Pipe Assembly, Metric

DIN 400 bar (ISO 6164)

Typical PAF Assembly





Complete Flange Set Includes:

- One (1) length of clean pipe
- Two (2) flare flanges
- Two (2) cones

Code | **PAF / Pipe Material - Pipe Size & Schedule - Flange 1 - Flange 2 - Cone 1 - Cone 2 - Length - Options**

Pipe Assembly - Flared		PAF
Pipe Material Carbon Steel	**TMP52CD**	52
Pipe Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size	**1-1/2”**	50 x 5.0
		56 x 8.5
	2”	60 x 6.0
		66 x 8.5
	2-1/2”	73 x 7.0
		80 x 10
	3”	90 x 9.0
		97 x 12
	4” and above	not available
Flange Type Carbon Steel	**FFCM74** ISO 6164 W/Clearance Holes	FCM74
	*FFC74 ISO 6164 *2” (60mm) and 2-1.2” (73mm)	FC74
Cone Type	Cone - Flat Face	CF
	Cone - ‘0’ Ring Face	CO
Length	L	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST
PART Number (EXAMPLE): PAF/52 - 50x5 -150 - FCM74 - FCM74 - CO - CF - 6000

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

3D step models available upon request

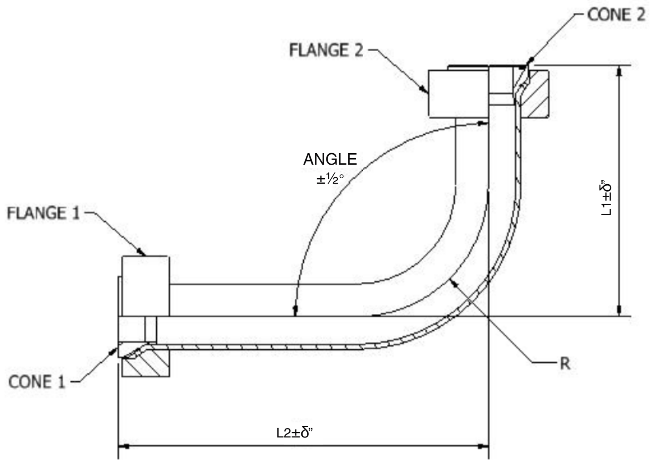
ISO 6164, 400 bar PSI Flare Flange Bent Pipe Assembly, NPS

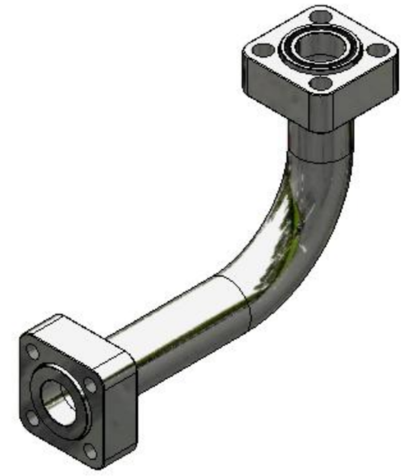
DIN 400 (ISO 6164)

Typical BPAF Assembly

Complete assembly consists of:

- One (1) length of bent clean pipe
- Two (2) flare flanges
- Two (2) cones





Size	R1		R2		R3	
	Dimensions (in)		Dimensions (in)		Dimensions (in)	
	L(min.)	R	L(min.)	R	L(min.)	R
1-1/2”	7.50	3.80	9.25	5.70	11.25	8.25
2”	8.50	4.75	10.75	7.13	13.00	9.50
2-1/2”	9.75	5.75	12.63	8.63	17.00	12.50
3”	11.00	7.00	14.50	10.50	19.50	15.00
4”	-	-	17.50	13.50	26.50	22.50

Note: OTHER RADII AVAILABLE (CONSULT FACTORY)

3D step models available upon request

ISO 6164, 400 bar Flare Flange Bent Pipe Assembly, NPS

DIN 400 (ISO 6164)

Typical BPAF Assembly

Code | **BPAF** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Cone 1** - **Cone 2** - **Rad.** - **Lgth L1** - **Ang** - **Lgth L2** - **Options**

Bent Pipe Assembly - Flared		**BPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size & Schedule	**1-1/2”**	SCH80-150
		SCH160-150
	2”	SCH80-200
		SCH160-200
	2-1/2”	SCH80-250
		SCH160-250
	3”	SCH80-300
		SCH160-300
	4”	SCH80-400
Flange Type Carbon Steel	**FFC74** SAE Code 62 W/Clearance Holes	FC74
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Radius	Field Manufactured	R1
	Factory Manufactured	R2
		R3
Length	L1	Specify (in.)
Angle	Max 90º	Specify (º)
Length	L2	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART Number (EXAMPLE): BPAF/52-SCH160-200 -FC74-FC74-CO-CF-R1-160-90-120

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

Consult factory for ordering assistance

3D step models available upon request

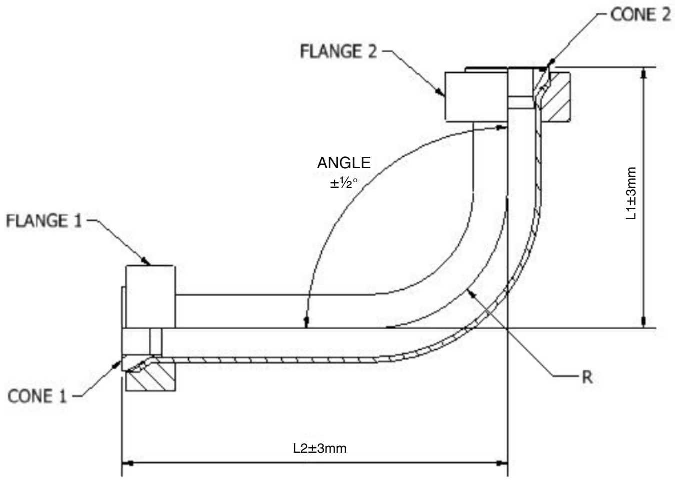
ISO 6164 Flare Flange Bent Pipe Assembly, Metric

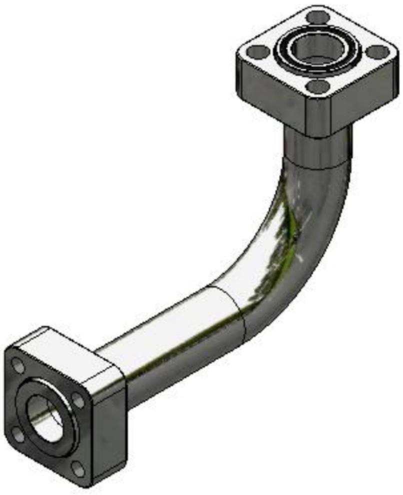
DIN 400 bar (ISO 6164)

Typical BPAF Assembly

Complete assembly consists of:

- One (1) length of bent clean pipe
- Two (2) flare flanges
- Two (2) cones





Size OD x wall	Flange Size	R1		R2		R3	
		Dimensions (mm)		Dimensions (mm)		Dimensions (mm)	
		L(min.)	R	L(min.)	R	L(min.)	R
50 x 5.0	1-1/2”	194	100	244	150	294	200
60 x 6.0	2”	215	120	275	180	335	240
73 x 7.0	2-1/2”	264	150	339	225	225	414
90 x 9.0	3”	294	180	384	270	474	360
Heavy Wall Pipe							
56 x 8.5	1-1/2”	-	-	-	-	368	210
66 x 8.5	2”	-	-	-	-	406	241
80 x 10	2-1/2”	-	-	-	-	483	318
97 x 12	3”	-	-	-	-	560	381

Note: OTHER RADII AVAILABLE (CONSULT FACTORY)

3D step models available upon request

ISO 6164 Flare Flange Bent Pipe Assembly, Metric

DIN 400 (ISO 6164)

Typical BPAF Assembly

Code	BPAF	/	Pipe & Cone Material	-	Pipe Size & OD x wall	-	Flange 1	-	Flange 2	-	Cone 1	-	Cone 2	-	Rad.	-	Lgth L1	-	Ang	-	Lgth L2	-	Options

Bent Pipe Assembly - Flared		**BPAF**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size	**1-1/2”**	50x5.0-150
		56x8.5-150
	2”	60x6.0-200
		66x8.5-200
	2-1/2”	73x7.0-250
		80x10-250
	3”	90x9.0-300
		97x12-300
	4” and above	not available
Flange Type Carbon Steel	**FFCM74** ISO 6164 W/Clearance Holes	FCM74
	***FFC74 ISO 6164** *2” (60mm) and 2-1.2” (73mm)	FC74
Cone Type	Cone - Flat Face	CF
	Cone - ‘O’ Ring Face	CO
Radius	Field Manufactured	R1
	Factory Manufactured	R2
		R3
Length	L1	Specify (mm)
Angle	Max 90º	Specify (º)
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART Number (EXAMPLE): BPAF/52-50x5.0-150-FCM74-FCM74-CO-CF-R1-3000-90-2500

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

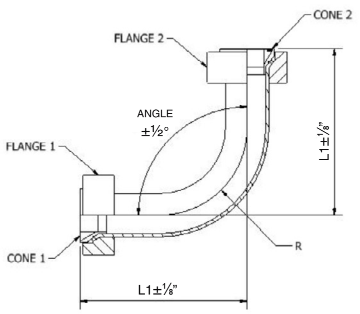
Consult factory for ordering assistance

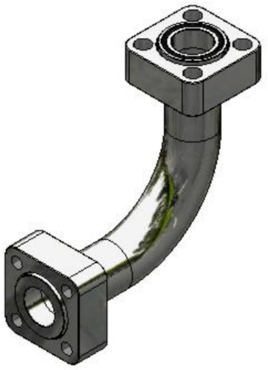
3D step models available upon request

ISO 6164, 400 bar Flare Flange Bend Elbow

Complete Assembly, NPS

DIN 400 bar (ISO 6164)





COMPLETE ASSEMBLY CONSISTS OF:

- FLARE FLANGE 90° ELBOW BODY
- TWO (2) FLARE FLANGES
- TWO (2) CONES

A/FFE - Flare Flange Bend Elbow Complete Assembly, NPS

Size	Complete Assembly Part Number	R1 Bend Radius (in)		R2 Bend Radius (in)		R3 Bend Radius (in)		Working Pressure PSI (bar)
		R	L1	R	L1	R	L1	
1-1/2"	A/FFE-SCH80-050-FC34-FC34-CO-CO-•-*-^	3.80	7.50	5.70	9.25	8.25	11.75	4920 (339)
1-1/2"	A/FFE-SCH160-075-FC34-FC34-CO-CO-•-*-^	3.80	7.50	5.70	9.25	8.25	11.75	5800 (400)
2"	A/FFE-SCH80-200-FC74-FC74-CO-CO-•-*-^	4.75	8.50	7.13	10.75	9.50	13.00	4246 (293)
2"	A/FFE-SCH160-200-FC74-FC74-CO-CO-•-*-^	4.75	8.50	7.13	10.75	9.50	13.00	5800 (400)
2-1/2"	A/FFE-SCH80-100-FC74-FC74-CO-CO-•-*-^	5.75	9.75	8.63	12.63	12.50	17.00	4455 (307)
2-1/2"	A/FFE-SCH160-100-FC74-FC74-CO-CO-•-*-^	5.75	9.75	8.63	12.63	12.50	17.00	5800 (400)
3"	A/FFE-SCH80-125-FC74-FC74-CO-CO-•-*-^	7.00	11.00	10.50	14.50	15.00	19.50	3946 (272)
3"	A/FFE-SCH160-125-FC74-FC74-CO-CO-•-*-^	7.00	11.00	10.50	14.50	15.00	19.50	5800 (400)
4"	A/FFE-SCH80-150-FC74-FC74-CO-CO-•-*-^	-	-	13.50	17.50	22.50	26.50	3420 (236)

Flange Options:
FC74 = 5800 PSI (ISO 6164) Clearance Flange

Cone Options:
CO = O-Ring Faced Cone.
CF = Flat Faced Cone.

•Bend Radius Options (Other radii available, consult factory):
R1
R2
R3

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/FFE-SCH80-200-FC74-FC74-CO-CO-R1-SS-V

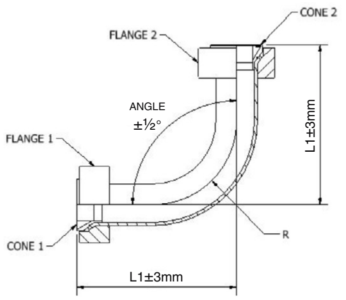
Flange 1 Option
Flange 2 Option
Cone 1 Option
Cone 2 Option
• Insert Bend Radius
* Insert Material
^ Insert O-Ring Type

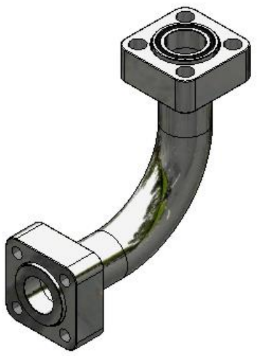
3D step models available upon request

ISO 6164, 400 bar Flare Flange Bend Elbow

Complete Assembly, Metric

DIN 400 bar (ISO 6164)





COMPLETE ASSEMBLY CONSISTS OF:

- FLARE FLANGE 90° ELBOW BODY
- TWO (2) FLARE FLANGES
- TWO (2) CONES

A/FFEM - Flare Flange Bend Elbow Complete Assembly, Metric

Size	Complete Assembly Part Number	R1 Bend Radius (mm)		R2 Bend Radius (mm)		R3 Bend Radius (mm)		Working Pressure PSI (bar)
		R	L1	R	L1	R	L1	
1-1/2”	A/FFEM-50x5.0-150- FCM74-FCM74-CO-CO-□-*-^	100	194	150	244	200	294	5235 (361)
1-1/2”	A/FFEM-56x8.5-150- FCM74-FCM74-CO-CO-□-*-^	-	-	-	-	210	368	5800 (400)
2”	A/FFEM-60x6.0-200- FC74-FC74-CO-CO-□-*-^	120	215	180	275	240	335	5307 (366)
2”	A/FFEM-66x8.5-200- FCM74-FCM74-CO-CO-□-*-^	-	-	-	-	240	406	5800 (400)
2-1/2”	A/FFEM-73x7.0-250- FC74-FC74-CO-CO-□ -*-^	150	264	225	339	300	414	5119 (353)
2-1/2”	A/FFEM-80x10.0-250- FCM74-FCM74-CO-CO-□-*-^	-	-	-	-	318	483	5800 (400)
3”	A/FFEM-90x9.0-300- FCM74-FCM74-CO-CO-□ -*-^	180	294	270	384	360	474	5800 (400)
3”	A/FFEM-97x12.0-300- FCM74-FCM74-CO-CO-□ -*-^	-	-	-	-	381	560	5800 (400)

Flange Options:
FC74 = 5800 PSI (ISO 6164) Clearance Flange

Cone Options:
CO = O-Ring Faced Cone.
CF = Flat Faced Cone.

•Bend Radius Options (Other radii available, consult factory):
R1
R2
R3

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

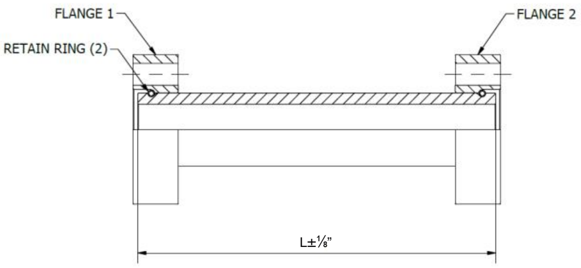
Ordering Example: A/FFEM-66x8.5-200-FCM74-FCM74-CO-CO-R1-SS-V

Flange 1 Option
Flange 2 Option
Cone 1 Option
Cone 2 Option
□ Insert Bend Radius
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Pipe Assembly, NPS

DIN 400 bar (ISO 6164)



Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) retain ring flanges
- Two 2) retain rings

To be Ordered Separately:

- O-Ring Seal Spacers

Code | **PAR** / **Pipe & Cone Material** - **Pipe Size & Schedule** - **Flange 1** - **Flange 2** - **Length** - **Options**

Bent Pipe Assembly - Retain Ring		**PAR**
Pipe & Cone Material Carbon Steel	No Designation Required	
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Pipe Size	**1-1/2"**	SCH160-150
		SCHXXS-150
	2"	SCH160-200
		SCHXXS-200
	2-1/2"	SCH160-250
		SCHXXS-250
	3"	SCH160-300
		SCHXXS-300
	4"	SCH160-400
		SCHXXS-400
	5"	SCH160-500
		SCHXXS-500
	6"	SCH160-600
		SCHXXS-600
	8"	SCH160-800
		SCHXXS-800
	10"	SCH160-1000
		SCHXXS-1000
Flange Type Depending on Size	**RFAC74** 1-1/2" up to 3"	FAC74
	RFC74 4" only	FC74
	RFAC48 5" up to 8"	FAC48
	RFC412 10" only	FAC412
Length	L	Specify (in.)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

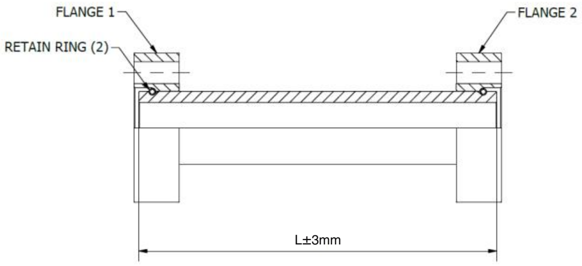
♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST
PART Number (EXAMPLE): PAR/SCH160-250-FAC74-FAC74-240

ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Pipe Assembly, Metric

DIN 400 bar (ISO 6164)



Complete assembly consists of:

- One (1) length of clean pipe
- Two (2) retain ring flanges
- Two 2) retain rings

To be Ordered Separately:

- O-Ring Seal Spacers

Code | **PAR** / **Pipe & Cone Material** - **Pipe OD & Wall** - **Flange 1** - **Flange 2** - **Length** - **Options**

Bent Pipe Assembly - Retain Ring		**PAR**
Pipe & Cone Material Carbon Steel	No Designation Required	
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Flange Size & Metric Tube OD x Wall	**1-1/2”**	56 x 8.5
	2”	66 x 8.5
	2-1/2”	80 x 10
	3”	97 x 12
	4”	115x15
	4-1/2”	130 x 15
	5”	150 x 15
	6”	190 x 20
	8” [1]	220 x 20
	8”	250 x 25
	10”	273 x 28.6
Flange Type Depending on Size	**RFAC74** 1-1/2” up to 4” W/Clearance Holes	FC74
	RFAC48 4-1/2” up to 8” W/Clearance Holes	FAC48
	RFAC412 10” only W/Clearance Holes	FAC412
Length	L	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

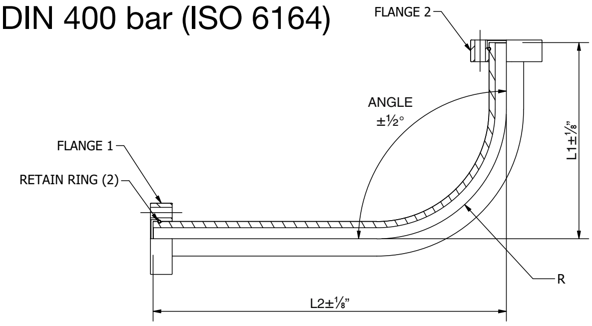
♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST
PART Number (EXAMPLE): PAR/97x12-300-FC74-FC74-6000-P

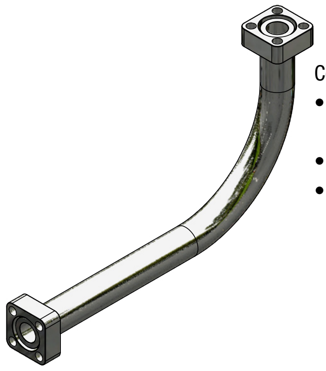
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Bent Pipe Assembly, NPS

DIN 400 bar (ISO 6164)





Complete assembly consists of:

- One (1) length of bent clean pipe
- Two (2) retain ring flanges
- Two (2) retain rings

Code | **BPAR** / **Pipe & Cone Material** - **Pipe Schedule & Flange Size** - **Flange 1** - **Flange 2** - **Rad.** - **Lgth L1** - **Angle** - **Lgth L2** - **Options**

		Code
Bent Pipe Assembly - Retain Ring		**BPAR**
Pipe & Cone Material Carbon Steel	**No Designation Required**	
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Flange Size & Schedule Pipe	**1-1/2”**	SCHXX-150
	2”	SCH160-200
		SCHXXS-200
	2-1/2”	SCH160-250
		SCHXXS-250
	3”	SCH160-300
		SCHXXS-300
	4”	SCH160-400
		SCHXXS-400
	5”	SCH160-500
		SCHXXS500
	6”	SCH160-600
		SCHXXS-600
	8”	SCH160-800
		SCHXXS-800
	10”	SCH160-1000
		SCHXXS-1000
Flange Type	RFC74 1-1/2” up to 4”	FC74
	RFAC48 4-1/2” up to 8”	FAC48
	RFAC412 10” only	FAC412
Radius	R	Specify (in)
Length	L1	Specify (in)
Angle	Max 90º	Specify (º)
Length	L2	Specify (in)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Pipe Size	Flange Size	Dimensions	
Schedule	**(in)**	**L (in)**	**R**
1-1/2” SCHXXS	1-1/2”	11.5	8.2
2” SCH160/XXS	2”	13	9.5
2-1/2” SCH160/XXS	2-1/2”	16	12.5
3” SCH160/XXS	3”	20	15
4” SCH160/XXS	4”	25	20
5” SCH160/XXS	5”	25	20
6” SCH160/XXS	6”	30	24
8” SCH160/XXS	8”	40	32
10” SCH160/XXS	10”	50	40

Note:

OTHER RADII AVAILABLE (CONSULT FACTORY)

Note:

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

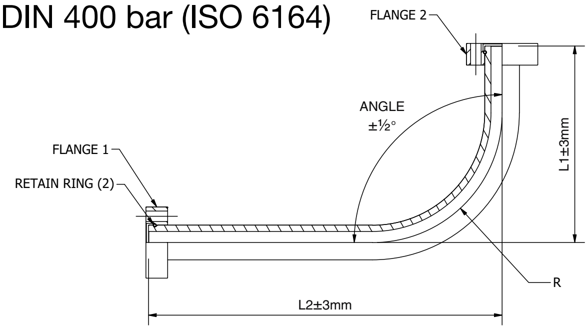
PART NO. (EXAMPLE): BPAR/SCH160-200-FC74-FC74-9.5-60-90-144

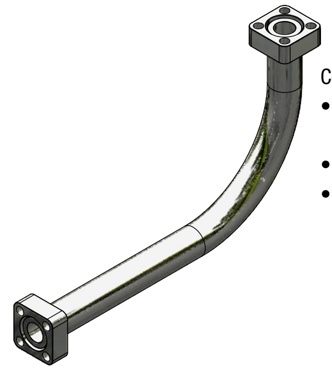
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Bent Pipe Assembly, Metric

DIN 400 bar (ISO 6164)





Complete assembly consists of:
- One (1) length of bent clean pipe
- Two (2) retain ring flanges
- Two (2) retain rings

Code: BPAR / Pipe & Cone Material - OD x Wall & Flange Size - Flange 1 - Flange 2 - Rad. - Lgth L1 - Angle - Lgth L2 - Options

		Code
Bent Pipe Assembly - Retain Ring		**BPAR**
Pipe & Cone Material Carbon Steel	**TMP52CD**	52
Pipe & Cone Material Stainless Steel	**TMP304SS**	304
	TMP316SS	316
	♦TMP2205SS	2205
Flange Size & Metric Tube OD x Wall	**1-1/2”**	56x8.5-150
	2”	66x8.5-200
	2-1/2”	80x10-250
	3”	97x12-300
	4”	115x15-400
	4-1/2”	130x15-450
	5”	150x15-500
	6”	190x20-600
	8”[1]	220x20-800-290BC
	8”	250x25-100
	10”	273x28.6-100
Flange Type	RFC74 1-1/2” up to 4”	FC74
	RFAC48 4-1/2” up to 8”	FAC48
	RFAC412 10” only	FAC412
Radius	R	Specify (mm)
Length	L1	Specify (mm)
Angle	Max 90º	Specify (º)
Length	L2	Specify (mm)
Options	Viton	V
	Painted (Specify)	P
	Complete Stainless Steel Assembly: (including flanges)	SS

Pipe Size	**Flange Size**	**Dimensions (mm)**	
Schedule	**(in)**	**L (min)**	**R**
56 x 8.5	1-1/2”	318	210
66 x 8.5	2”	355	241
80 x 10	2-1/2”	432	318
97 x 12	3”	508	381
115 x15	4”	635	508
130 x 15	4-1/2”	650	520
150 x 15	5”	730	600
190 x 20	6”	910	760
220 x 20	8”[1]	1016	813
250 x 25	8”	1200	1000
273 x 28.6	10”	1270	1016

Note:
OTHER RADII AVAILABLE (CONSULT FACTORY)

Note:

♦TMP2205SS PIPE IS ONLY AVAILABLE UPON REQUEST

PART NO. (EXAMPLE): BPAR/52-66x8.5-200-FC74-FC74-241-125-90-115

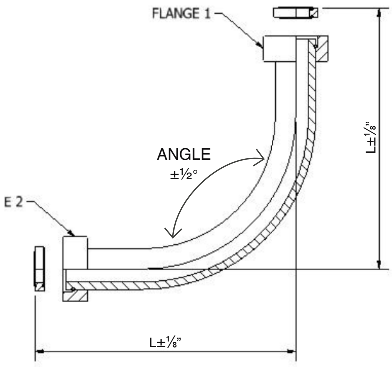
ASSEMBLY WORKING PRESSURE RATINGS ARE SUBJECT TO THE LESSER OF THE FLANGE OR PIPE RATINGS

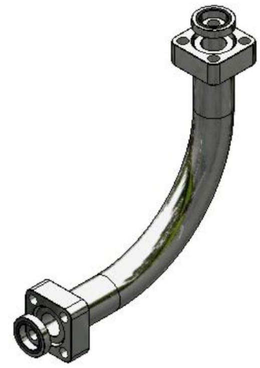
3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Bend Elbow

Complete Assembly

DIN 400 bar (ISO 6164)





Complete Flange Set Includes:

- One (1) Retain Ring Flange Bend Elbow Body
- Two (2) Retain Ring Flanges
- Two (2) Retain Rings
- Two (2) O-Ring Spacers

A/RFE - Retain Ring Flange Bend Elbow – Complete Assembly

Size	Complete Assembly Part Number	Dimensions in (mm)	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L				
1-1/2"	A/RFE-150-FC74-*-^	13.00 (330.20)	17.76 (8.07)	RFE-150-*-^	11.50 (5.22)	5800 (400)
2"	A/RFE-200-FC74-*-^	14.50 (368.30)	22.71 (10.32)	RFE-200-*-^	15.59 (7.07)	5800 (400)
2-1/2"	A/RFE-250-FC74-*-^	18.00 (457.20)	39.53 (17.97)	RFE-250-*-^	26.67 (12.12)	5800 (400)
3"	A/RFE-300-FC74-*-^	21.00 (533.40)	67.22 (30.55)	RFE-300-*-^	45.80 (20.82)	5800 (400)
4"	A/RFE-400-FC74-*-^	26.00 (660.40)	119.45 (54.30)	RFE-400-*-^	83.51 (37.96)	5800 (400)
4-1/2"	A/RFE-450-FAC48-*-^	26.00 (660.40)	138.24 (62.84)	RFE-450-*-^	96.04 (43.65)	5000 (350)
5"	A/RFE-500-FAC48-*-^	26.50 (673.10)	174.98 (6.80)	RFE-500-*-^	121.48 (55.22)	5000 (350)
6"	A/RFE-500-FAC48-*-^	31.50 (800.10)	313.28 (142.40)	RFE-600-*-^	206.32 (93.78)	5000 (350)
8"(1)	A/RFE-800-FAC48-290BC*-^	41.50 (1054.10)	453.21 (206.00)	RFE-800-*-^	298.83 (135.83)	5000 (350)
8"	A/RFE-800-FAC48-*-^	41.50 (1054.10)	596.88 (271.31)	RFE-800-*-^	391.34 (177.88)	5000 (350)
10"	A/RFE-1000-FAC412-*-^	48.00 (1219.20)	786.46 (357.48)	RFE-1000-*-^	464.40 (211.10)	3600 (250)

(1) Special 8" size flange and bot circle.

Ordering Example: A/RFE-200-FC74-SS-V

Flange Option

* Insert Material

^ Insert O-Ring Type

Flange Option:

Standard, Flange with Clearance Holes
FC74 = 5800 PSI (400 bar) ISO 6164, 4-Bolt Square Flange
Above 4" FAC48 = 5100 PSI (350 bar), 8-Bolt Round Flange
Size10" FAC412 = 3600 PSI (250 bar),12-Bolt Round Flange

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

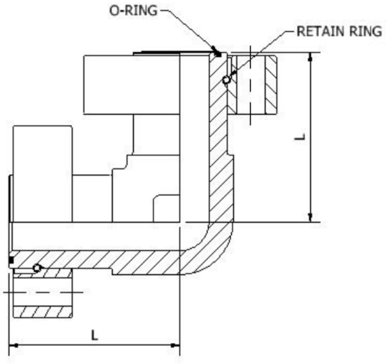
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Elbow

Complete Assembly

DIN 400 bar (ISO 6164)



Complete Flange Set Includes:

- One (1) Flange Elbow
- Two (2) Retain Ring Flanges
- Two (2) Retain Rings
- Two (2) Face O-Rings

To be Ordered Separately:

- Bolt Kit

A/RRFE - Retain Ring Flange Elbow – Complete Assembly with Buna O-Ring

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L					
1-1/2"	A/RRFE-150-FC74-*-^	4.00 (101.6)	OR^-3-924	11.68 (5.31)	RRFE-150-*-^	6.08 (2.76)	5800 (400)
2"	A/RRFE-200-FC74-*-^	4.40 (111.8)	OR^-3-928	13.94 (6.34)	RRFE-200-*-^	7.62 (3.46)	5800 (400)
2-1/2”	A/RRFE-250-FC74-*-^	5.19 (131.8)	OR^-2-232	21.56 (9.80)	RRFE-250-*-^	11.30 (5.14)	5800 (400)
3"	A/RRFE-300-FC74-*-^	6.30 (160.0)	OR^-2-237	38.28 (17.40))	RRFE-300-*-^	20.15 (9.16)	5800 (400)
4"	A/RRFE-400-FC74-*-^	7.87 (200.0)	OR^-2-241	71.06 (32.30)	RRFE-400-*-^	41.00 (18.64)	5800 (400)

Note:
3” and 4” are welded assemblies - Larger sizes are available upon request

Flange Option:
Standard, FLange with Clearance Holes
FC74 = 5800 PSI (400 bar) ISO 6164 Square 4-Bolt Flange

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

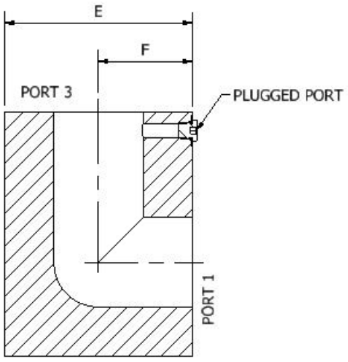
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

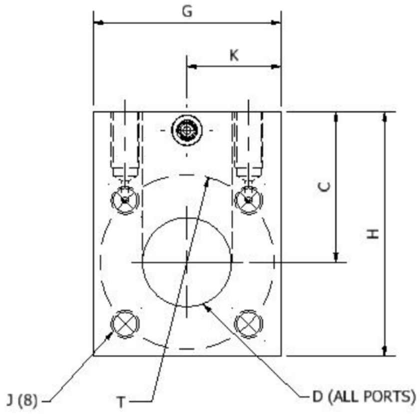
Ordering Example: A/RRFE-200-FC74-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

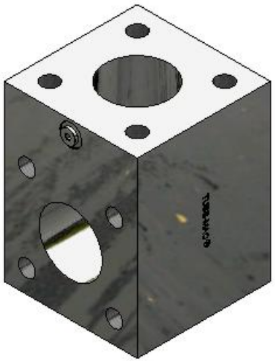
3D step models available upon request

ISO 6164, 400 bar Block Elbow with Flat Face and Threaded Holes

DIN 400 bar (ISO 6164)







BE74 – Block Elbow with Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Block Elbow Part Number	Dimensions (in)								Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
1-1/2”	BE74-150-*	3.35	3.50	1.50	3.50	1.75	3.50	5.25	1.75	5/8”- 11	14.60 (6.64)	5800 (400)
2”	BE74-200-*	3.86	3.50	1.94	4.00	2.00	4.00	5.50	2.00	5/8”- 11	19.40 (8.82)	5800 (400)
2-1/2”	BE74-250-*	4.65	4.13	2.38	5.00	2.50	5.00	6.50	2.50	3/4”-10	36.82 (16.74)	5800 (400)
3”	BE74-300-*	5.71	5.00	2.88	6.00	3.00	6.00	8.00	3.00	1”-8	65.40 (29.73)	5800 (400)
4”	BE74-400-*	6.89	5.50	3.50	7.00	3.50	7.00	9.00	3.50	1-1/8” - 7	92.60 (42.10)	5800 (400)

Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BE74-200-SS
* Insert Material

BEM74 – Block Elbow with Flat Face, Threaded Holes and G1/8 Port (Plugged), Metric

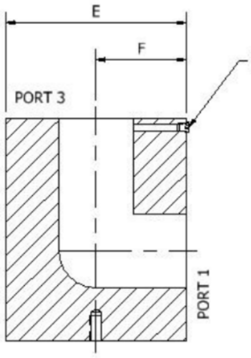
Size	Block Elbow Part Number	Dimensions (mm)								Thread	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
1-1/2”	BEM74-150-*	85.1	88.9	38.1	88.9	44.5	88.9	133.4	44.5	M16 x 2.00	14.60 (6.64)	5800 (400)
2”	BEM74-200-*	98.0	88.9	49.2	101.6	50.8	101.6	139.7	50.8	M16 x 2.00	19.40 (8.82)	5800 (400)
2-1/2”	BEM74-250-*	118.1	104.9	60.5	127.0	63.5	127.0	165.1	63.5	M20 x 2.50	36.82 (16.74)	5800 (400)
3”	BEM74-300-*	145.0	127.0	73.2	152.4	76.2	152.4	202.3	76.2	M24 x 3.00	65.40 (29.73)	5800 (400)
4”	BEM74-400-*	175.0	139.7	88.9	177.8	88.9	177.8	228.6	88.9	M30 x 3.50	92.60 (42.10)	5800 (400)

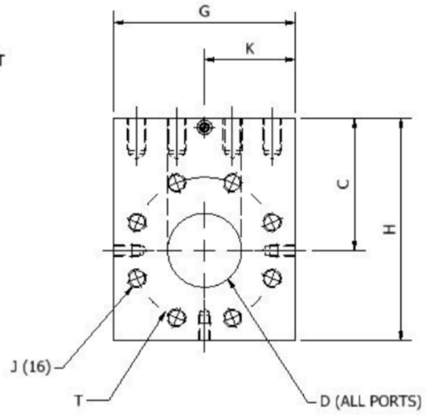
Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

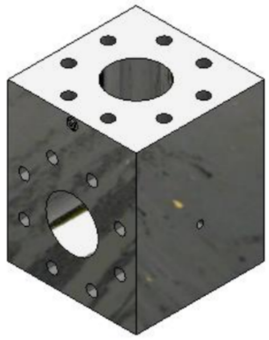
Ordering Example: BE64-200-SS
* Insert Material

3D step models available upon request

Block Elbow,TMI 8-Bolt with Flat Face and Threaded Holes







BE48 – Block Elbow, TMI 8-Bolt with Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Block Elbow Part Number	Dimensions (in)								J - Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
5”	BE48-500-*	8.07	7.13	4.00	9.75	4.88	9.75	12.00	4.88	1”-8	274.5 (124.8)	5000 (350)
6”	BE48-600-*	9.65	8.00	4.90	11.88	5.94	11.88	14.00	5.94	1-1/8”-7	475.0 (216.0)	5000 (350)
8”(1)	BE48-800-290BC-*	11.42	10.25	6.81	15.00	7.50	15.00	18.00	7.50	1-1/8” -7	990.0 (450.0)	5000 (350)
8”	BE48-800-*	12.40	10.25	6.81	15.00	7.50	15.00	18.00	7.50	1-1/2” - 6	1007.0 (458.0)	5000 (350)

Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BE48-600-SS
* Insert Material

BEM48 – Block Elbow, TMI 8-Bolt with Flat Face, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Block Elbow Part Number	Dimensions (mm)								J - Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
4 1/2”	BEM48-450-*	175.0	160.0	100.0	214.0	107.0	214.0	267.0	107.0	M20 x 2.5	157.0 (71.4)	5000 (350)
5”	BEM48-500-*	205.0	181.1	101.6	247.7	124.0	247.7	304.8	124.0	M24 x 3.0	274.5 (124.8)	5000 (350)
6”	BEM48-600-*	245.1	203.2	124.5	301.8	150.9	301.8	355.6	150.9	M30 x 4.0	475.0 (216.0)	5000 (350)
8”(1	BEM48-800-290BC-*	209.0	260.4	173.0	393.7	196.9	393.7	457.2	196.9	M30 x 4.0	990.0 (450.0)	5000 (350)
8”	BEM48-800-*	315.0	260.4	173.0	393.7	196.9	393.7	457.2	196.9	M36 x 4.0	1007.0 (458.0)	5000 (350)

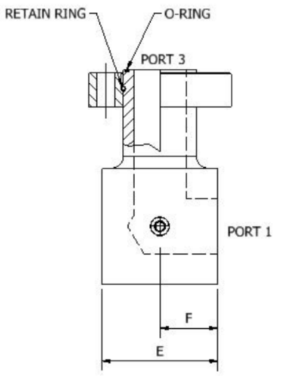
Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

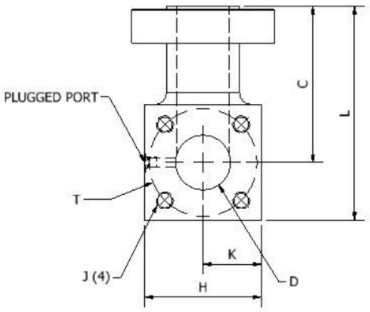
Ordering Example: BEM48-600-SS
* Insert Material

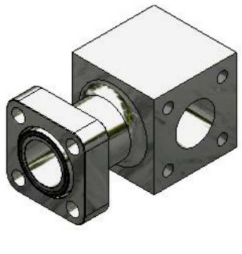
3D step models available upon request

ISO 6164, 400 bar Retain Ring Elbow

DIN 400 bar (ISO 6164)







A/RE74 – Retain Ring Elbow Assembly with #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part No.	Dimensions (in)								Thread UNC-2B	Assembly WT lbs (kg)	Body Only Part No.	Working Pressure PSI (bar)
		T	C	D	E	F	H	L	K				
1-1/2”	A/RE74-150-*	3.35	5.50	1.50	3.50	1.75	3.50	7.25	1.75	5/8”- 11	17.40 (7.90)	RE74-150-*	5800 (400)
2”	A/RE74-200-*	3.86	5.50	1.94	4.00	2.00	4.00	7.50	2.00	5/8”- 11	22.60 (10.27)	RE74-200-*	5800 (400)
2-1/2”	A/RE74-250-*	4.65	6.75	2.38	5.00	2.50	5.00	9.25	2.50	3/4”-10	41.88 (19.04)	RE74-250-*	5800 (400)
3”	A/RE74-300-*	5.71	8.00	2.88	6.00	3.00	6.00	11.00	3.00	1”-8	74.19 (33.72)	RE74-300-*	5800 (400)
4”	A/RE74-400-*	6.89	8.50	3.50	7.00	3.50	7.00	12.00	3.50	1-1/8” - 7	107.60 (48.90)	RE74-400-*	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: A/RE74-200-SS
* Insert Material

A/REM74 – Retain Ring Elbow Assembly with G1/8 Port (Plugged), Metric

Size	Complete Assembly Part No.	Dimensions (mm)								Thread UNC-2B	Assembly WT lbs (kg)	Body Only Part No.	Working Pressure PSI (bar)
		T	C	D	E	F	H	L	K				
1-1/2”	A/REM74-150-*	85.1	139.7	38.1	88.9	44.5	88.9	184.2	44.5	M16 x 2.00	17.40 (7.90)	REM74-150-*	5800 (400)
2”	A/REM74-200-*	98.0	139.7	49.2	101.6	50.8	101.6	190.5	50.8	M16 x 2.00	22.60 (10.27)	REM74-200-*	5800 (400)
2-1/2”	A/REM74-250-*	118.1	171.5	60.5	127.0	63.5	127.0	234.9	63.5	M20 x 2.50	41.88 (19.04)	REM74-250-*	5800 (400)
3”	A/REM74-300-*	145.0	203.2	73.2	152.4	76.2	152.4	279.4	76.2	M24 x 3.00	74.19 (33.72)	REM74-300-*	5800 (400)
4”	A/REM74-400-*	175.0	215.9	88.9	177.8	88.9	177.8	304.8	88.9	M30 x 3.50	107.60 (48.90)	REM74-400-*	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

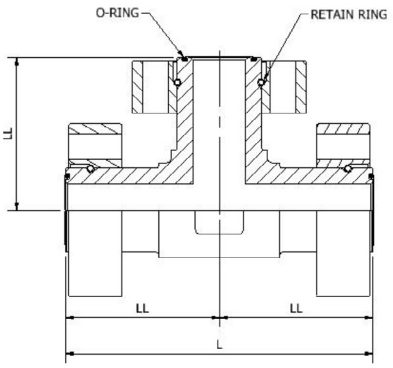
Ordering Example:A/REM74-200-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Tee

Complete Assembly

DIN 400 bar (ISO 6164)



Complete Flange Set Includes:

- One (1) Flange Elbow
- Three (3) Retain Ring Flanges
- Three (3) Retain Rings
- Three (3) Face O-Rings

To be Ordered Separately:

- Bolt Kit

A/RRFT - Retain Ring Flange Tee – Complete Assembly with Buna O-Ring

Size	Complete Assembly Part Number	Dimensions in (mm)		O-Ring Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L	LL					
1-1/2"	A/RRFT-150-FC74-*-^	8.00 (203.0)	4.00 (101.6)	OR^-3-924	16.50 (7.50)	RRFT-150-*-^	8.10 (3.76)	5800 (400)
2"	A/RRFT-200-FC74-*-^	8.80 (223.5)	4.40 (111.8)	OR^-3-928	19.38 (8.81)	RRFT-200-*-^	9.90 (4.44)	5800 (400)
2-1/2”	A/RRFT-250-FC74-*-^	10.38 (263.7)	5.19 (131.8)	OR^-2-232	30.75 (13.98)	RRFT-250-*-^	15.36 (6.97)	5800 (400)
3"	A/RRFT-300-FC74-*-^	12.60 (320.0)	6.30 (160.0)	OR^-2-237	50.82 (23.10)	RRFT-300-*-^	24.09 (10.95)	5800 (400)
4"	A/RRFT-400-FC74-*-^	15.74 (399.8)	7.87 (200.0)	OR^-2-241	91.74 (41.70)	RRFT-400-*-^	46.53 (21.15)	5800 (400)

Ordering Example: A/RRFT-200-FC74-SS-V
Flange Option
* Insert Material
^ Insert O-Ring Type

Note:
3” and 4” are welded assemblies - Larger sizes are available upon request

Flange Options:
Standard with Clearance Holes
FC74 = 5800 PSI (400 bar) ISO 6164 Square 4-Bolt Flange

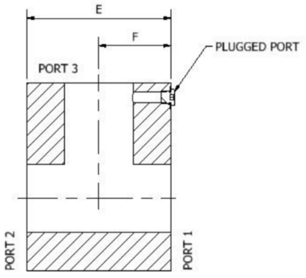
Materials:
No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

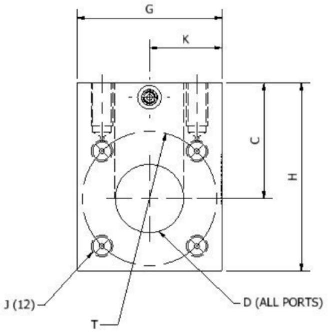
^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton.

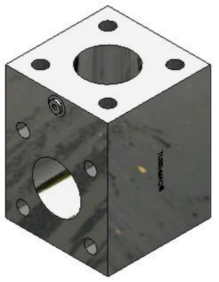
3D step models available upon request

ISO 6164, 400 bar Block Tee with Flat Face and Threaded Holes

DIN 400 bar (ISO 6164)







BT74 – Block Tee with Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Block Tee Part No	Dimensions (in)								J Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
1-1/2”	BT74-150-*	3.35	3.50	1.50	3.50	1.75	3.50	5.25	1.75	5/8”- 11	13.39 (6.08)	5800 (400)
2”	BT74-200-*	3.86	3.50	1.94	4.00	2.00	4.00	5.50	2.00	5/8”- 11	16.40 (7.45)	5800 (400)
2-1/2”	BT74-250-*	4.65	4.13	2.38	5.00	2.50	5.00	6.50	2.50	3/4”-10	33.60 (15.27)	5800 (400)
3”	BT74-300-*	5.71	5.00	2.88	6.00	3.00	6.00	8.00	3.00	1”-8	58.30 (26.50)	5800 (400)
4”	BT74-400-*	6.89	5.50	3.50	7.00	3.50	7.00	9.00	3.50	1-1/8” - 7	86.00 (39.10)	5800 (400)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BT74-200-SS
* Insert Material

BTM74 – Block Tee with Flat Face, Threaded Holes with G 1/8” Port (Plugged), Metric

Size	Block Tee Part No	Dimensions (mm)								J Thread	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
1-1/2”	BTM74-150-*	85.1	88.9	38.1	88.9	44.5	88.9	133.4	44.5	M16x2.00	13.39 (6.08)	5800 (400)
2”	BTM74-200-*	98.0	88.9	49.2	101.6	50.8	101.6	139.7	50.8	M16x2.00	16.40 (7.45)	5800 (400)
2-1/2”	BTM74-250-*	118.1	104.9	60.5	127.0	63.5	127.0	165.1	63.5	M20x2.50	33.60 (15.27)	5800 (400)
3”	BTM74-300-*	145.0	127.0	73.2	152.4	76.2	152.4	202.3	76.2	M24x3.00	58.30 (26.50)	5800 (400)
4”	BTM74-400-*	175.0	139.7	88.9	177.8	88.9	177.8	228.6	88.9	M30x3.50	86.00 (39.10)	5800 (400)

*** Materials:**

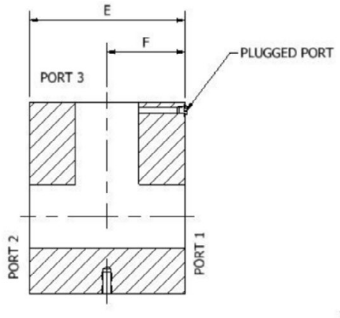
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

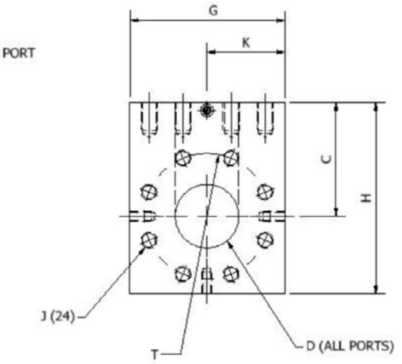
Ordering Example: BTM74-200-SS
* Insert Material

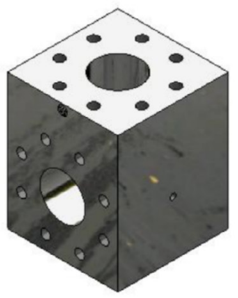
3D step models available upon request

Block Tee, TMI 8-Bolt with Flat Face and Threaded Holes

TMI 8-Bolt Flange Style







BT48 – Block Tee, TMI 8-Bolt with Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Block Elbow Part No	Dimensions (in)								J Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
5”	BT48-500-*	8.07	7.13	4.00	9.75	4.88	9.75	12.00	4.88	1”-8	274.5 (124.8)	5000 (350)
6”	BT48-600-*	9.65	8.00	4.90	11.88	5.94	11.88	14.00	5.94	1-1/8”-7	475.0 (216.0)	5000 (350)
8”(1)	BT48-800-290BC-*	11.42	10.25	6.81	15.00	7.50	15.00	18.00	7.50	1-1/8” -7	990.0 (450.0)	5000 (350)
8”	BT48-800-*	12.40	10.25	6.81	15.00	7.50	15.00	18.00	7.50	1-1/2” - 6	1007.0 (458.0)	5000 (350)

<u>* Materials:</u>

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BT48-600-SS
* Insert Material

BTM48 – Block Tee, TMI 8-Bolt with Flat Face, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Block Elbow Part No	Dimensions (mm)								J Thread Metric	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	E	F	G	H	K			
4 1/2”	BTM48-450-*	175.0	160.0	100.0	214.0	107.0	214.0	267.0	107.0	M20 x 2.5	157.0 (71.4)	5000 (350)
5”	BTM48-500-*	205.0	181.1	101.6	247.7	124.0	247.7	304.8	124.0	M24 x 3.0	274.5 (124.8)	5000 (350)
6”	BTM48-600-*	245.1	203.2	124.5	301.8	150.9	301.8	355.6	150.9	M30 x 4.0	475.0 (216.0)	5000 (350)
8”(1)	BTM48-800-290BC-*	209.0	260.4	173.0	393.7	196.9	393.7	457.2	196.9	M30 x 4.0	990.0 (450.0)	5000 (350)
8”	BTM48-800-*	315.0	260.4	173.0	393.7	196.9	393.7	457.2	196.9	M36 x 4.0	1007.0 (458.0)	5000 (350)

<u>* Materials:</u>

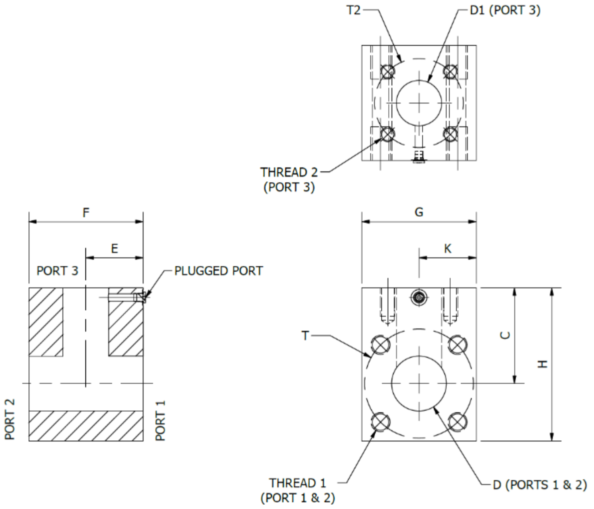
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

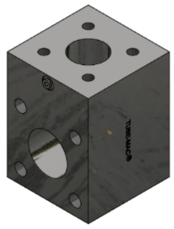
Ordering Example: BTM48-600-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Reducing Branch Block Tee
with Flat Face and Threaded Holes

DIN 400 bar (ISO 6164)





BTR74 – Reducing Branch Block Tee, Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Block Tee Part Number	Dimensions (in)										Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	F	G	H	K				
2”x 1-1/2”	BTR74-200x150-*	3.86	3.35	3.50	1.94	1.50	4.00	2.00	4.00	5.50	2.00	5/8”- 11	5/8”- 11	16.40 (7.45)	5800 (400)
2-1/2” x 2”	BTR74-250x200-*	4.65	3.86	4.13	2.38	1.94	5.00	2.50	5.00	6.50	2.50	3/4”-10	5/8”- 11	33.60 (15.27)	5800 (400)
3”x 2 -1/2”	BTR74-300x250-*	5.71	4.65	5.00	2.88	2.38	6.00	3.00	6.00	8.00	3.00	1”-8	3/4”-10	58.30 (26.50)	5800 (400)
4”x 2-1/2”	BTR74-400x250-*	6.89	4.65	5.50	3.50	2.38	7.00	3.50	7.00	9.00	3.50	1-1/8” - 7	3/4”-10	93.40 (42.45)	5800 (400)
4”x 3”	BTR74-400x300-*	6.89	5.71	5.50	3.50	2.88	7.00	3.50	7.00	9.00	3.50	1-1/8” - 7	1”-8	92.60 (42.10)	5800 (400)

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTR74-200-SS
* Insert Material

BTRM74 – Reducing Branch Block Tee, Flat Face, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Block Tee Part Number	Dimensions (mm)										Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	F	G	H	K				
2” x 1-1/2”	BTRM74-200x150-*	98.0	85.1	88.9	49.2	38.1	101.6	50.8	101.6	139.7	50.8	M16 x 2.00	M16 x 2.00	16.40 (7.45)	5800 (400)
2-1/2” x 2”	BTRM74-250-200*	118.1	98.0	104.9	60.5	49.2	127.0	63.5	127.0	165.1	63.5	M20 x 2.50	M16 x 2.00	33.60 (15.27)	5800 (400)
3” x 2-1/2”	BTRM74-300-250*	145.0	118.1	127.0	73.2	60.5	152.4	76.2	152.4	202.3	76.2	M24 x 3.00	M20 x 2.50	58.30 (26.50)	5800 (400)
4” x 2-1/2”	BTRM74-400-250*	175.0	118.1	139.7	88.9	60.5	177.8	88.9	177.8	228.6	88.9	M30 x 3.50	M20 x 2.50	93.40 (42.45)	5800 (400)
4” x 3”	BTRM74-400-300*	175.0	145.0	139.7	88.9	73.2	177.8	88.9	177.8	228.6	88.9	M30 x 3.50	M24 x 3.00	92.60 (42.10)	5800 (400)

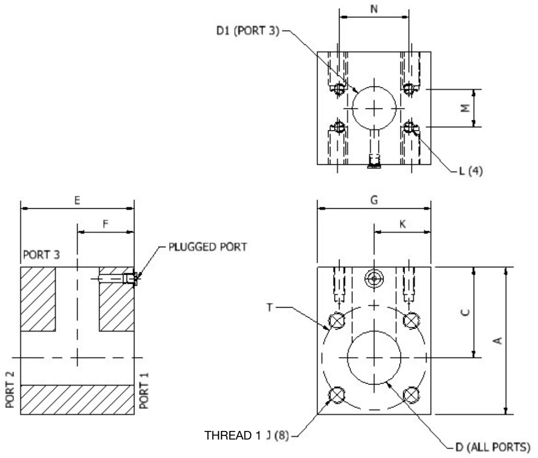
<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

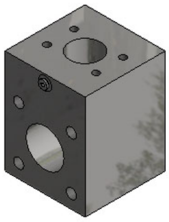
Ordering Example: BTRM74-200-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Reducing Branch Block Tee, Code 61

ISO 6164/SAE J518 Code 61 (ISO 6162-1) Flange Style





BTR7-34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Block Tee Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2”x2”	BTR7-34-250x200-*	4.65	4.00	2.38	1.94	3.50	2.50	5.00	6.50	2.50	1.69	3.06	3/4”-10	1/2”-13	35.60 (16.15)	3000 (210)
3”x2”	BTR7-34-300x200-*	5.71	5.00	2.88	1.94	4.00	3.00	6.00	8.00	3.00	1.69	3.06	1”-8	1/2”-13	63.40 (28.76)	3000 (210)
4”x2”	BTR7-34-400x200-*	6.89	5.50	3.50	1.94	4.00	3.50	7.00	9.00	3.50	1.69	3.06	1-1/8”-7	1/2”-13	97.60 (44.27)	3000 (210)

Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTR7-34-250x200-SS
* Insert Material

BTRM7-34 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2”x2”	BTRM7-34-250x200-*	118.1	101.6	60.5	49.3	127.0	63.5	127.0	165.1	63.5	42.9	77.7	M20 x 2.50	M12 x 175	35.60 (16.15)	3000 (210)
3”x2”	BTRM7-34-300x200-*	145.0	127.0	73.2	49.3	152.4	76.2	152.4	203.2	76.2	42.9	77.7	M24 x 3.00	M12 x 175	63.40 (28.76)	3000 (210)
4”x2”	BTRM7-34-400x200-*	175.0	139.7	88.9	49.3	177.8	88.9	177.8	228.6	88.9	42.9	77.7	M30 x 3.50	M12 x 175	97.60 (44.27)	3000 (210)

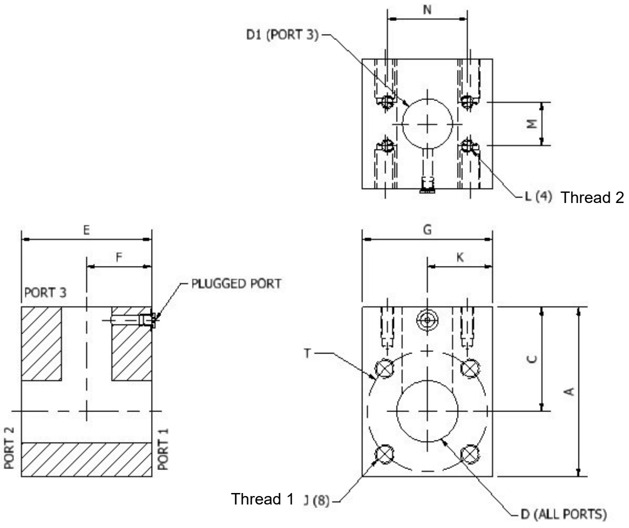
Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

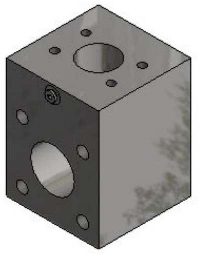
Ordering Example: BTRM7-34-250x200-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Reducing Branch Block Tee, Code 62

ISO 6164/SAE J518 Code 62 (ISO 6162-2) Flange Style





BTR7-64 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with #4 SAE Port (Plugged), NPS

Size (run x branch)	Block Tee Part Number	Dimensions (in)											Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2”x2”	BTR7-64-250x200-*	4.65	4.13	2.38	1.94	3.50	1.75	5.00	6.50	2.50	1.75	3.81	3/4”-10	3/4"-10	32.19 (14.60)	5800 (400)
3”x2”	BTR7-64-300x200-*	5.71	4.75	2.88	1.94	4.00	2.00	6.00	7.75	3.00	1.75	3.81	1”-8	3/4"-10	49.50 (22.45)	5800 (400)
4”x2”	BTR7-64-400x200-*	6.89	5.00	3.50	1.94	4.00	2.00	7.00	8.50	3.50	1.75	3.81	1-1/8”-7	3/4"-10	67.35 (30.55)	5800 (400)

Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTR7-64-250x200-SS
* Insert Material

BTRM7-64 - Reducing Branch Block Tee Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (run x branch)	Block Tee Part Number	Dimensions (mm)											Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	H	K	M	N				
2-1/2”x2”	BTRM7-64-250x200-*	118.1	104.9	60.5	49.3	88.9	44.5	127.0	165.1	63.5	44.5	96.8	M20 x 2.50	M20 x 2.50	32.25 (14.63)	5800 (400)
3”x2”	BTRM7-64-300x200-*	145.0	120.7	73.2	49.3	101.6	50.8	152.4	196.9	76.2	44.5	96.8	M24 x 3.00	M20 x 2.50	49.60 (22.50)	5800 (400)
4”x2”	BTRM7-64-400x200-*	175.0	127.0	88.9	49.3	101.6	50.8	177.8	215.9	88.9	44.5	96.8	M30 x 3.50	M20 x 2.50	67.48 (30.61)	5800 (400)

Materials:
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

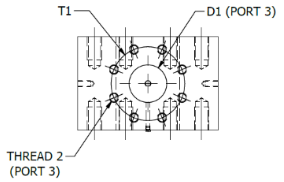
Ordering Example: BTRM7-64-250x200-SS
* Insert Material

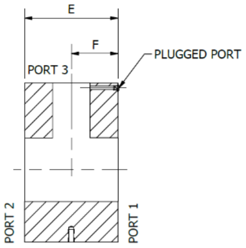
3D step models available upon request

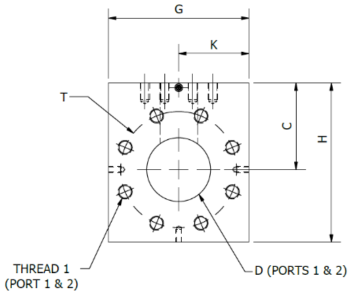
Reducing Branch Block Tee, TMI 8-Bolt

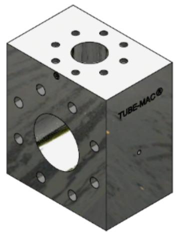
with Flat Face and Threaded Holes

TMI 8-Bolt Flange Style









BTR48 – Reducer Branch Block Tee, TMI 8-Bolt with Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Block Elbow Part No.	Dimensions (in)										Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	F	G	H	K				
6” x 5”	BTR48-600x500-*	9.65	8.07	8.00	4.90	4.00	11.88	5.94	11.88	14.00	5.94	1-1/8”-7	1”-8	480.0 (218.2)	5000 (350)
8”(1) x 5”	BTR48-800-290BCx500-*	11.42	8.07	10.25	6.81	4.00	15.00	7.50	15.00	18.00	7.50	1-1/8”-7	1”-8	999.0 (454.1)	5000 (350)
8” x 5”	BTR48-800x500-*	12.40	8.07	10.25	6.81	4.00	15.00	7.50	15.00	18.00	7.50	1-1/2” - 6	1”-8	1015.0 (461.4)	5000 (350)
8”(1) x 6”	BTR48-800-290BCx600-*	11.42	9.65	10.25	6.81	4.90	15.00	7.50	15.00	18.00	7.50	1-1/8”-7	1-1/8”-7	994.0 (451.8)	5000 (350)
8” x 6”	BTR48-800x600-*	12.40	9.65	10.25	6.81	4.90	15.00	7.50	15.00	18.00	7.50	1-1/2” - 6	1-1/8”-7	1011.0 (459.5)	5000 (350)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTR48-600x500-SS
* Insert Material

BTRM48 – Reducer Branch Block Tee, TMI 8-Bolt with Flat Face, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Block Elbow Part No.	Dimensions (mm)										Thread 1 Metric	Thread 2 Metric	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	F	G	H	K				
5” x 4 1/2”	BTRM48-500x450-*	205.0	175.0	181.1	101.6	100.0	247.7	124.0	247.7	304.8	124.0	M24 x 3.0	M20 x 2.5	280.0 (127.4)	5000 (350)
6” x 5”	BTRM48-600x500-*	245.1	205.0	203.2	124.5	101.6	301.8	150.9	301.8	355.6	150.9	M30 x 4.0	M24 x 3.0	480.0 (218.2)	5000 (350)
8”(1) x 5”	BTRM48-800-290BCx500-*	209.0	205.0	260.4	173.0	101.6	393.7	196.9	393.7	457.2	196.9	M30 x 4.0	M24 x 3.0	999.0 (454.1)	5000 (350)
8” x 5”	BTRM48-800x500-*	315.0	205.0	260.4	173.0	101.6	393.7	196.9	393.7	457.2	196.9	M36 x 4.0	M24 x 3.0	1015.0 (461.4)	5000 (350)
8”(1) x 6”	BTRM48-800-290BCx600-*	209.0	245.1	260.4	173.0	124.5	393.7	196.9	393.7	457.2	196.9	M30 x 4.0	M30 x 4.0	994.0 (451.8)	5000 (350)
8” x 6”	BRTM48-800x600-*	315.0	245.1	260.4	173.0	124.5	393.7	196.9	393.7	457.2	196.9	M36 x 4.0	M30 x 4.0	1011.0 (459.5)	5000 (350)

*** Materials:**

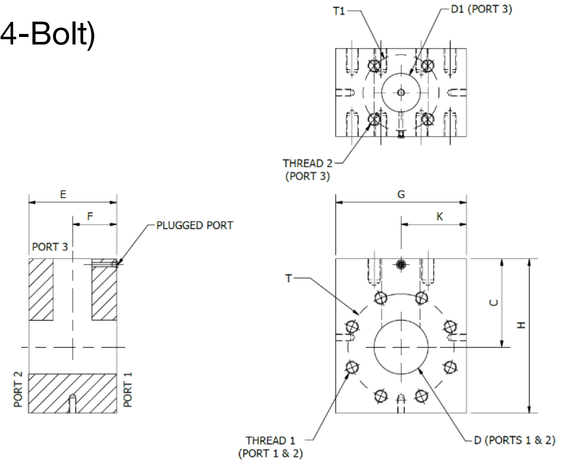
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

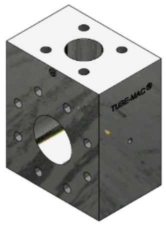
Ordering Example: BTRM48-600x500-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Reducing Branch Block Tee, TMI 8-Bolt with Flat Face and Threaded Holes

TMI 8-Bolt x ISO 6164 (4-Bolt)





BTR4-74 – Reducer Branch Block Tee, TMI 8-Bolt x ISO 6164 with Flat Face, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Block Elbow Part No.	Dimensions (in)										Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	F	G	H	K				
5” x 3”	BTR4-74-500x300-*	8.07	5.71	7.13	4.00	2.88	9.75	4.88	9.75	12.00	4.88	1”-8	1” -8	295.0 (134.1)	5000 (350)
5” x 4”	BTR4-74-500x400-*	8.07	6.89	7.13	4.00	3.50	9.75	4.88	9.75	12.00	4.88	1”-8	1-1/8” -7	284.0 (129.1)	5000 (350)
6” x 3”	BTR4-74-600x300-*	9.65	5.71	8.00	4.90	2.88	11.88	5.94	11.88	14.00	5.94	1-1/8”-7	1”-8	499.0 (226.8)	5000 (350)
6” x 4”	BTR4-74-600x400-*	9.65	6.89	8.00	4.90	3.50	11.88	5.94	11.88	14.00	5.94	1-1/8”-7	1-1/8” -7	486.0 (220.9)	5000 (350)
8”$^{(1)}$ x 4”	BTR4-74-800-290BCx400-*	11.42	6.89	10.25	6.81	3.50	15.00	7.50	15.00	18.00	7.50	1-1/8”-7	1-1/8” -7	999.0 (454.1)	5000 (350)
8” x 4”	BTR4-74-800x400-*	12.40	6.89	10.25	6.81	3.50	15.00	7.50	15.00	18.00	7.50	1-1/2” - 6	1-1/8” -7	1015.0 (461.4)	5000 (350)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: BTR4-74-600x400-SS
* Insert Material

BTRM4-74 – Reducer Branch Block Tee, TMI 8-Bolt x ISO 6164 with Flat Face, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Block Elbow Part No.	Dimensions (mm)										Thread 1 Metric	Thread 2 Metric	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	F	G	H	K				
5” x 3”	BTRM4-74-500x300-*	205.0	145.0	181.1	101.6	73.2	247.7	124.0	247.7	304.8	124.0	M24 x 3.0	M24 x 3.0	295.0 (134.1)	5000 (350)
5” x 4”	BTRM4-74-500x400-*	205.0	175.0	181.1	101.6	88.9	247.7	124.0	247.7	304.8	124.0	M24 x 3.0	M30 x 3.5	284.0 (129.1)	5000 (350)
6” x 3”	BTRM4-74-600x300-*	245.0	145.0	203.2	124.5	73.2	301.8	150.9	301.8	355.6	150.9	M30 x 4.0	M24 x 3.0	499.0 (226.8)	5000 (350)
6” x 4”	BTRM4-74-600x400-*	245.0	175.0	203.2	124.5	88.9	301.8	150.9	301.8	355.6	150.9	M30 x 4.0	M30 x 3.5	486.0 (220.9)	5000 (350)
8”$^{(1)}$ x 4”	BTRM4-74-800-290BCx400-*	209.0	175.0	260.4	173.0	88.9	393.7	196.9	393.7	457.2	196.9	M30 x 4.0	M30 x 3.5	999.0 (454.1)	5000 (350)
8” x 4”	BTRM4-74-800x400-*	315.0	175.0	260.4	173.0	88.9	393.7	196.9	393.7	457.2	196.9	M36 x 4.0	M30 x 3.5	1015.0 (461.4)	5000 (350)
8” x 4”	BTR4-74-800x400-*	12.40	6.89	10.25	6.81	3.50	15.00	7.50	15.00	18.00	7.50	1-1/2” - 6	1-1/8” -7	1015.0 (461.4)	5000 (350)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

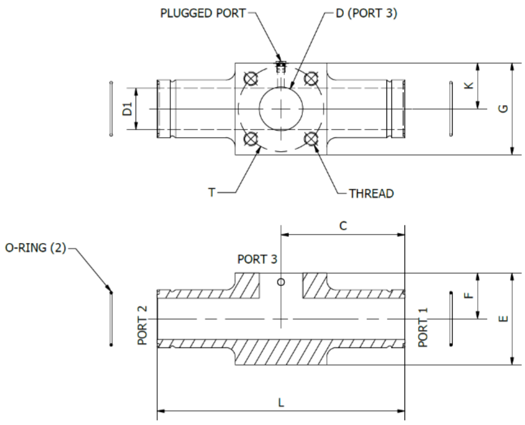
Ordering Example: BTRM4-74-600x400-SS
* Insert Material

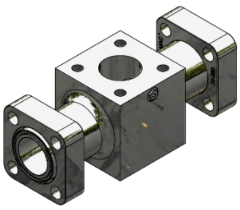
3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Tee

Flat Face on the Branch, Complete Assembly

DIN 400 bar (ISO 6164)





A/RT74 – Retain Ring Flange Tee with ISO 6164 Flat Face on the Branch, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)									O-ring Part Number	WT lbs (kg)	Thread UNC-2B	Body only Part Number	Body WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	K	L						
2-1/2”	A/RT74-250-*-^	4.65	6.75	2.38	2.25	5.00	2.50	5.00	2.50	13.50	OR^-2-232	44.31 (20.2)	3/4”-10	RT74-250	34.05 (15.5)	5800 (400)
3”	A/RT74-300-*-^	5.71	8.00	2.88	2.75	6.00	3.00	6.00	3.00	16.00	OR^-2-237	66.58 (30.7)	1”-8	RT74-300	48.76 (22.2)	5800 (400)
4”	A/RT74-400-*-^	6.89	8.50	3.50	3.25	7.00	3.50	7.00	3.50	17.00	OR^-2-241	115.88 (52.7)	1-1/8” - 7	RT74-400	85.74 (39.0)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/RT74-200-SS-V
*Insert Material
^ Insert O-Ring Type

A/RTM74 – Retain Ring Flange Tee with ISO 6164 Flat Face on the Branch, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)									O-ring Part Number	WT lbs (kg)	Thread	Body only Part Number	Body WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	K	L						
2-1/2”	A/RTM74-250-*-^	118.1	171.5	60.5	57.2	127.0	63.5	127.0	63.5	342.9	OR^-2-232	44.31 (20.2)	M20 x 2.50	RTM74-250	34.05 (15.5)	5800 (400)
3”	A/RTM74-300-*-^	145.0	203.2	73.2	69.9	152.4	76.2	152.4	76.2	406.4	OR^-2-237	66.58 (30.7)	M24 x 3.00	RTM74-300	48.76 (22.2)	5800 (400)
4”	A/RTM74-400-*-^	175.0	215.9	88.9	82.6	177.8	88.9	177.8	88.9	431.8	OR^-2-241	115.88 (52.7)	M30 x 3.50	RTM74-400	85.74 (39.0)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

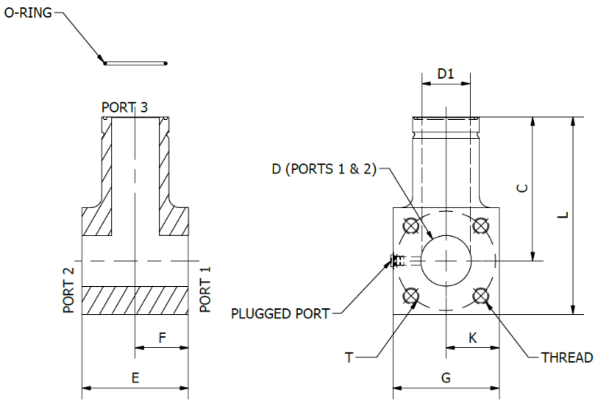
Ordering Example: A/RTM74-200-SS-V
*Insert Material
^ Insert O-Ring Type

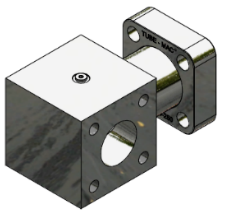
3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Branch Tee

Flat Face on the Runs, Complete Assembly

DIN 400 bar (ISO 6164)





A/RBT74 – Retain Ring Flange Branch Tee with ISO 6164 Flat Face on the Runs, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)									O-ring Part Number	WT lbs (kg)	Thread UNC-2B	Body only Part Number	Body WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	K	L						
2-1/2”	A/RBT74-250-*-^	4.65	6.75	2.38	2.25	5.00	2.50	5.00	2.50	9.25	OR^-2-232	35.23 (16.0)	3/4”-10	RBT74-250	30.10 (13.7)	5800 (400)
3”	A/RBT74-300-*-^	5.71	8.00	2.88	2.75	6.00	3.00	6.00	3.00	11.00	OR^-2-237	49.27 (22.4)	1”-8	RBT74-300	40.36 (18.3)	5800 (400)
4”	A/RBT74-400-*-^	6.89	8.50	3.50	3.25	7.00	3.50	7.00	3.50	12.00	OR^-2-241	81.43 (37.0)	1-1/8” - 7	RBT74-400	66.36 (30.2)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/RBT74-200-SS-V
*Insert Material
^ Insert O-Ring Type

A/RBTM74 – Retain Ring Flange Branch Tee with ISO 6164 Flat Face on the Runs, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)									O-ring Part Number	WT lbs (kg)	Thread	Body only Part Number	Body WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	K	L						
2-1/2”	A/RBTM74-250-*-^	118.1	171.5	60.5	57.2	127.0	63.5	127.0	63.5	235.0	OR^-2-232	35.23 (16.0)	M20 x 2.50	RBTM74-250	30.10 (13.7)	5800 (400)
3”	A/RBTM74-300-*-^	145.0	203.2	73.2	69.9	152.4	76.2	152.4	76.2	279.4	OR^-2-237	49.27 (22.4)	M24 x 3.00	RBTM74-300	40.36 (18.3)	5800 (400)
4”	A/RBTM74-400-*-^	175.0	215.9	88.9	82.6	177.8	88.9	177.8	88.9	304.8	OR^-2-241	81.43 (37.0)	M30 x 3.50	RBTM74-400	66.36 (30.2)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

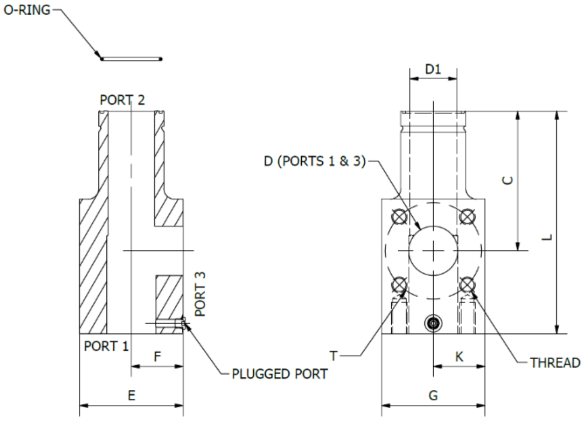
Ordering Example: A/RBTM74-200-SS-V
*Insert Material
^ Insert O-Ring Type

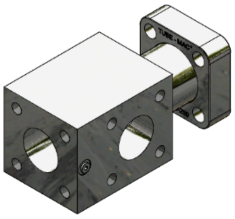
3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Run Tee

Flat Face on the Run and Branch, Complete Assembly

DIN 400 bar (ISO 6164)





A/RRT74 – Retain Ring Flange Run Tee with ISO 6164 Flat Face on the Run and Branch, Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Complete Assembly Part Number	Dimensions (in)									O-ring Part Number	WT lbs (kg)	Thread UNC-2B	Body only Part Number	Body WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	K	L						
2-1/2"	A/RRT74-250-*-^	4.65	6.75	2.38	2.25	5.00	2.50	5.00	2.50	10.75	OR^-2-232	42.26 (19.2)	3/4"-10	RRT74-250	37.13 (16.9)	5800 (400)
3"	A/RRT74-300-*-^	5.71	8.00	2.88	2.75	6.00	3.00	6.00	3.00	13.00	OR^-2-237	73.87 (33.6)	1"-8	RRT74-300	64.96 (29.5)	5800 (400)
4"	A/RRT74-400-*-^	6.89	8.50	3.50	3.25	7.00	3.50	7.00	3.50	14.00	OR^-2-241	110.26 (50.1)	1-1/8" - 7	RRT74-400	95.19 (43.3)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: A/RRT74-200-SS-V
*Insert Material
^ Insert O-Ring Type

A/RRTM74 – Retain Ring Flange Run Tee with ISO 6164 Flat Face on the Run and Branch, Threaded Holes and G1/8 Port (Plugged), Metric

Size	Complete Assembly Part Number	Dimensions (mm)									O-ring Part Number	WT lbs (kg)	Thread	Body only Part Number	Body WT lbs (kg)	Working Pressure PSI (bar)
		T	C	D	D1	E	F	G	K	L						
2-1/2"	A/RRTM74-250-*-^	118.1	171.5	60.5	57.2	127.0	63.5	127.0	63.5	235.0	OR^-2-232	42.26 (19.2)	M20 x 2.50	RRTM74-250	37.13 (16.9)	5800 (400)
3"	A/RRTM74-300-*-^	145.0	203.2	73.2	69.9	152.4	76.2	152.4	76.2	279.4	OR^-2-237	73.87 (33.6)	M24 x 3.00	RRTM74-300	64.96 (29.5)	5800 (400)
4"	A/RRTM74-400-*-^	175.0	215.9	88.9	82.6	177.8	88.9	177.8	88.9	304.8	OR^-2-241	110.26 (50.1)	M30 x 3.50	RRTM74-400	95.19 (43.3)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated
SS = Stainless Steel, Type 316. Body Only

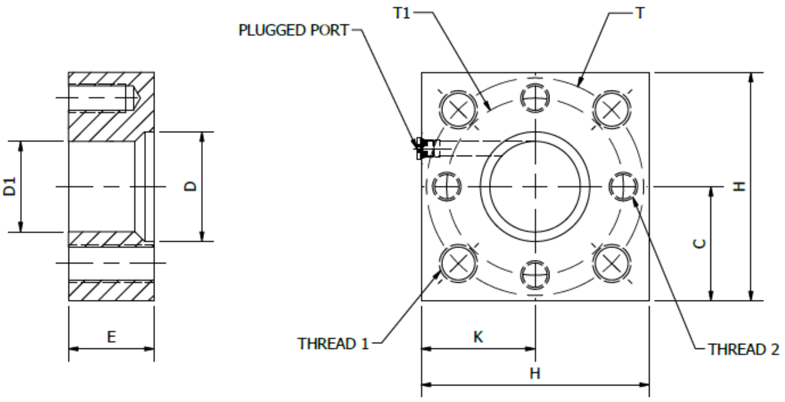
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

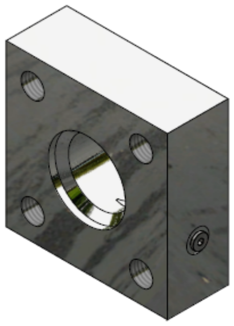
Ordering Example: A/RRTM74-200-SS-V
*Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar Transition Plate Reducer

DIN 400 bar (ISO 6164) Flange Union Style





TPR74 Transition Plate Reducer – ISO 6164 Flat Face with Threaded Holes, Complete with #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)								Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	H	K				
2" x 1-1/2"	TPR74-200x150-*	3.86	3.35	2.00	1.94	1.50	2.00	4.00	2.00	5/8"-11	5/8"-11	11.5 (5.2)	5800 (400)
2-1/2"x 2"	TPR74-250x200-*	4.65	3.86	2.50	2.38	1.94	2.00	5.00	2.50	3/4"-10	5/8"-11	12.9 (5.7)	5800 (400)
3" x 2"	TPR74-300x200-*	5.71	3.86	3.00	2.88	1.94	2.25	6.00	3.00	1"- 8	5/8"-11	17.40 (7.9)	5800 (400)
3" x 2-1/2"	TPR74-300x250-*	5.71	4.65	3.00	2.88	2.38	2.25	6.00	3.00	1"- 8	3/4"-10	16.63 (7.6)	5800 (400)
4" x 2-1/2"	TPR74-400x250-*	6.89	4.65	3.50	3.50	2.38	2.25	7.00	3.50	1 1/8"-7	3/4"-10	24.10 (11.0)	5800 (400)
4" x 3"	TPR74-400x300-*	6.89	5.71	3.75	3.50	2.88	2.50	7.50	3.75	1 1/8" - 7	1"- 8	30.70 (13.9)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

Ordering Example: TPR74-200x150-SS
* Insert Material

TPRM74 Transition Plate Reducer - ISO 6164 Flat Face with Threaded Holes, Complete with G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)								Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	H	K				
2" x 1-1/2"	TPRM74-200x150-*	98.0	85.1	50.8	49.3	38.1	50.8	101.6	50.8	M16x2.0	M16x2.0	11.5 (5.2)	5800 (400)
2-1/2"x 2"	TPRM74-250x200-*	118.1	98.0	63.5	60.5	49.3	50.8	127.0	63.5	M20 x2.5	M16x2.0	12.9 (5.7)	5800 (400)
3" x 2"	TPRM74-300x200-*	145.0	98.0	76.2	73.2	49.3	57.2	152.4	76.2	M24 x 3.0	M16x2.0	17.40 (7.9)	5800 (400)
3" x 2-1/2"	TPRM74-300x250-*	145.0	118.1	76.2	73.2	60.5	57.2	152.4	76.2	M24 x 3.0	M20 x2.5	16.63 (7.6)	5800 (400)
4" x 2-1/2"	TPRM74-400x250-*	175.0	118.1	88.9	88.9	60.5	57.2	177.8	88.9	M30 x 3.5	M20 x2.5	24.10 (11.0)	5800 (400)
4" x 3"	TPRM74-400x300-*	175.0	145.0	95.3	88.9	73.2	63.5	190.5	95.3	M30 x 3.5	M24 x3.0	30.70 (13.9)	5800 (400)

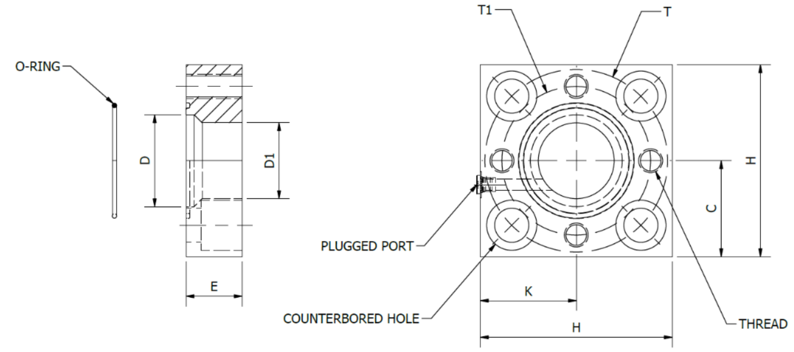
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

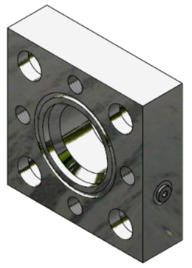
Ordering Example: TPRM74-200x150-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Transition Plate Reducer

DIN 400 bar (ISO 6164) Flange Manifold Mount Style





TPRO74 Transition Plate Reducer – ISO 6164 Flat Face with Threaded Holes, Complete with #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)								C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	H	K					
2” x 1-1/2”	TPRO74-200x150-*-^	3.86	3.35	2.00	1.94	1.50	1.50	4.00	2.00	5/8”	5/8”-11	OR-3-928	4.91 (2.2)	5800 (400)
2-1/2”x 2”	TPRO74-250x200-*-^	4.65	3.86	2.50	2.38	1.94	1.50	5.00	2.50	3/4”	5/8”-11	OR-2-232	6.60 (3.0)	5800 (400)
3” x 2”	TPRO74-300x200-*-^	5.71	3.86	3.00	2.88	1.94	2.25	6.00	3.00	1”- 8	5/8”-11	OR-2-237	11.74 (5.3)	5800 (400)
3” x 2-1/2”	TPRO74-300x250-*-^	5.71	4.65	3.00	2.88	2.38	2.25	6.00	3.00	1”- 8	3/4”-10	OR-2-237	11.27 (5.1)	5800 (400)
4” x 2-1/2”	TPRO74-400x250-*-^	6.89	4.65	3.50	3.50	2.38	2.25	7.00	3.50	1 1/8”	3/4"-10	OR-2-241	12.26 (5.6)	5800 (400)
4” x 3”	TPRO74-400x300-*-^	6.89	5.71	3.75	3.50	2.88	2.50	7.50	3.75	1 1/8”	1”- 8	OR-2-241	21.39 (9.7)	5800 (400)

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

<u>^ O-Ring Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPRO74-200x150-SS-V
* Insert Material
^ Insert O-Ring Type

TPROM74 Transition Plate Reducer - ISO 6164 Flat Face with Threaded Holes, Complete with G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)								C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	C	D	D1	E	H	K					
2” x 1-1/2”	TPROM74-200x150-*-^	98.0	85.1	50.8	49.3	38.1	38.1	101.6	50.8	M16	M16x2.0	OR-3-928	4.91 (2.2)	5800 (400)
2 -1/2”x 2”	TPROM74-250x200-*-^	118.1	98.0	63.5	60.5	49.3	38.1	127.0	63.5	M20	M16x2.0	OR-2-232	6.60 (3.0)	5800 (400)
3” x 2”	TPROM74-300x200-*-^	145.0	98.0	76.2	73.2	49.3	57.2	152.4	76.2	M24	M16x2.0	OR-2-237	11.74 (5.3)	5800 (400)
3” x 2-1/2”	TPROM74-300x250-*-^	145.0	118.1	76.2	73.2	60.5	57.2	152.4	76.2	M24	M20 x2.5	OR-2-237	11.27 (5.1)	5800 (400)
4” x 2-1/2”	TPROM74-400x250-*-^	175.0	118.1	88.9	88.9	60.5	57.2	177.8	88.9	M30	M20 x2.5	OR-2-241	12.26 (5.6)	5800 (400)
4” x 3”	TPROM74-400x300-*-^	175.0	145.0	95.3	88.9	73.2	63.5	190.5	95.3	M30	M24 x3.0	OR-2-241	21.39 (9.7)	5800 (400)

<u>* Materials:</u>
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

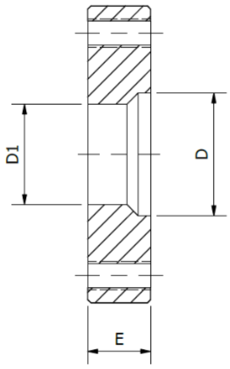
<u>^ O-Ring Type:</u>
Standard, No Designation = Buna Nitrile.
V = Viton.

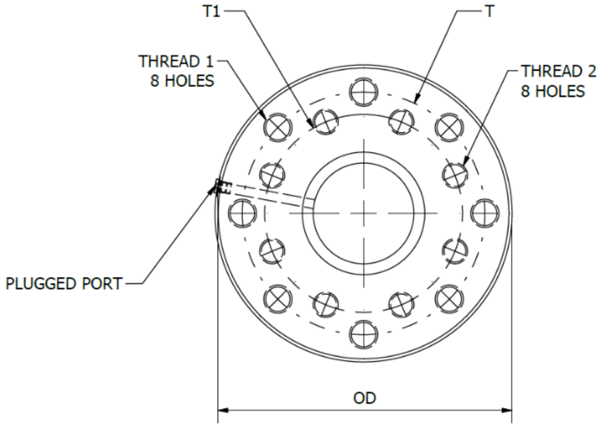
Ordering Example: TPROM74-200x150-SS-V
* Insert Material
^ Insert O-Ring Type

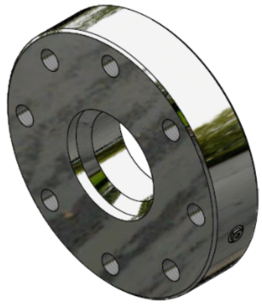
3D step models available upon request

Transition Plate Reducer, TMI 8-Bolt

5000 PSI (350 bar) Flange Union Style







TPR48 Transition Plate Reducer – TMI 8-Bolt Flat Face with Threaded Holes, Complete with #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)						Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E				
5” x 4-1/2”	TPR48-500x450-*	8.07	6.89	4.00	3.94	9.88	2.00	1”-8	3/4”-10	35.50 (16.1)	5000 (350)
6”x 4-1/2”	TPR48-600x450-*	9.65	6.89	4.90	3.94	11.81	2.50	1-1/8”-7	3/4”-10	62.90 (28.6)	5000 (350)
6” x 5”	TPR48-600x500-*	9.65	8.07	4.90	4.00	11.81	2.50	1-1/8”-7	1”-8	59.10 (26.9)	5000 (350)
8” x 5”	TPR48-800x500-*	12.40	8.07	6.81	4.00	15.50	2.50	1-1/2”-6	1”-8	132.19 (60.1)	5000 (350)
8” x 6”	TPR48-800x600-*	12.409	9.65	6.81	4.90	15.50	2.50	1-1/2”-6	1 1/8”-7	104.53 (47.5)	5000 (350)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

Ordering Example: TPR48-600x500-SS
* Insert Material

TPRM48 Transition Plate Reducer – TMI 8-Bolt Flat Face with Threaded Holes, Complete with G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)						Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E				
5” x 4-1/2”	TPRM48-500x450-*	205.0	175.0	101.6	100.0	250.0	50.8	M24 x 3.0	M20 x 2.5	35.50 (16.1)	5000 (350)
6”x 4-1/2”	TPRM48-600x450-*	245.0	175.0	124.5	100.0	300.0	63.5	M30 x 3.5	M20 x 2.5	62.90 (28.6)	5000 (350)
6” x 5”	TPRM48-600x500-*	245.0	205.0	124.5	101.6	300.0	63.5	M30 x 3.5	M24 x 3.0	59.10 (26.9)	5000 (350)
8” x 5”	TPRM48-800x500-*	315.0	205.0	173.0	101.6	394.0	63.5	M36 x 4.0	M24 x 3.0	132.19 (60.1)	5000 (350)
8” x 6”	TPRM48-800x600-*	315.0	245.0	173.0	124.5	394.0	63.5	M36 x 4.0	M30 x 3.5	104.53 (47.5)	5000 (350)

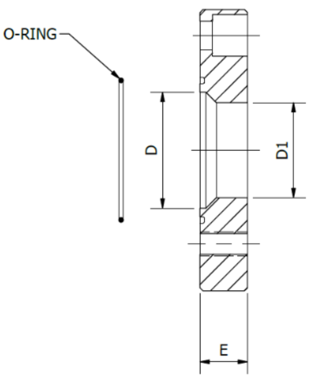
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

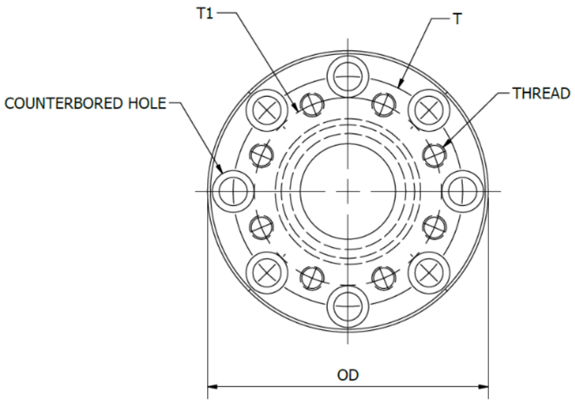
Ordering Example: TPRM48-600x500-SS
* Insert Material

3D step models available upon request

Transition Plate Reducer, TMI 8-Bolt

5000 PSI (350 bar) Flange Manifold Mount Style





TPRO48 Transition Plate Reducer – TMI 8-Bolt O-ring Face, Manifold Mount with Countersunk Holes, Complete with Buna O-ring, #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)						C'Tbore Bolt	C'Tbore Bolt	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E					
5" x 4 1/2"	TPRO48-500x450-*-^	8.07	6.89	4.00	3.94	9.88	2.00	1"	3/4"-10	OR^-2-353	32.91 (15.0)	5000 (350)
6"x 4 1/2"	TPRO48-600x450-*-^	9.65	6.89	4.90	3.94	11.81	2.50	1 1/8"	3/4"-10	OR^-2-359	46.20 (21.0)	5000 (350)
6" x 5"	TPRO48-600x500-*-^	9.65	8.07	4.90	4.00	11.81	2.00	1 1/8"	1"-8	OR^-2-359	42.00 (19.1)	5000 (350)
8" x 5"	TPRO48-800x500-*-^	12.401	8.07	6.81	4.00	15.50	3.00	1 1/2"	1"-8	OR^-2-368	120.30 (54.7)	5000 (350)
8" x 6"	TPRO48-800x600-*-^	12.40	9.65	6.81	4.90	15.50	2.50	1 1/2"	1 1/8"-7	OR^-2-368	93.81 (42.6)	5000 (350)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPRO48-600x500-SS-V
* Insert Material
^ Insert O-Ring Type

TPROM48 Transition Plate Reducer – TMI 8-Bolt O-ring Face, Manifold Mount with Countersunk Holes, Complete with Buna O-ring, G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)						C'Tbore Bolt	C'Tbore Bolt	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E					
5" x 4 1/2"	TPROM48-500x450-*-^	205.0	175.0	101.6	100.0	250.0	50.8	M24	M20x2.5	OR^-2-353	32.91 (15.0)	5000 (350)
6"x 4 1/2"	TPROM48-600x450-*-^	245.1	175.0	124.5	100.0	300.0	63.5	M30	M20x2.5	OR^-2-359	46.20 (21.0)	5000 (350)
6" x 5"	TPROM48-600x500-*-^	245.1	205.0	124.5	101.6	300.0	50.8	M30	M24x3.0	OR^-2-359	42.00 (19.1)	5000 (350)
8" x 5"	TPROM48-800x500-*-^	315.0	205.0	173.0	101.6	393.7	76.2	M36	M24 x3.0	OR^-2-368	120.30 (54.7)	5000 (350)
8" x 6"	TPROM48-800x600-*-^	315.0	245.0	173.0	124.5	393.7	63.5	M36	M30 x3.5	OR^-2-368	93.81 (42.6)	5000 (350)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

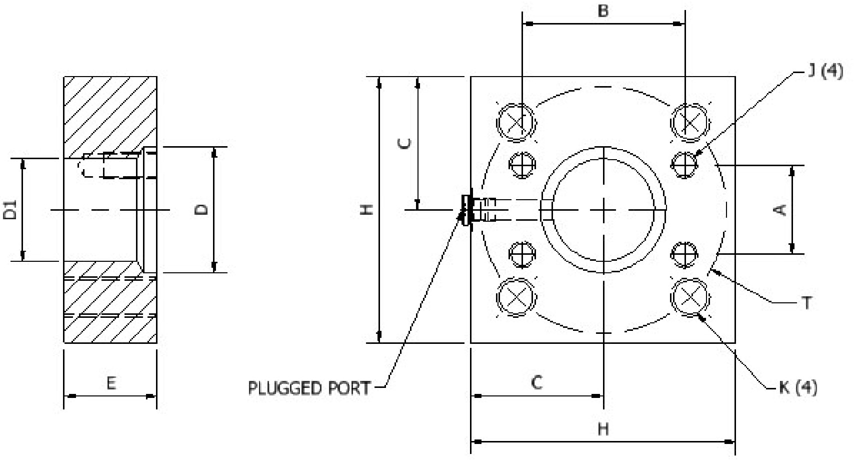
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

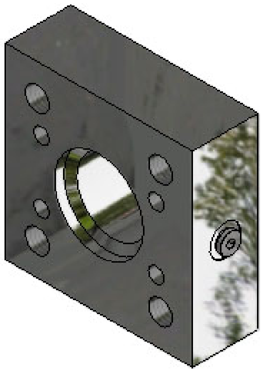
Ordering Example: TPROM48-600x500-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar Transition Plate Reducer

ISO 6164/SAE Code 61 (ISO6164/6162-1) Flange Union Style





TPR7-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete With #4 SAE Port (Plugged), NPS

Size (ISO 6164 x SAE Code 61)	Reducer Part Number	Dimensions (in)								Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2” x 1-1/2”	TPR7-34-250x150-*	4.65	1.41	2.75	2.50	2.38	1.50	1.75	5.00	3/4”-10	1/2”-13	10.40 (4.72)	3000 (210)
2-1/2” x 2”	TPR7-34-250x200-*	4.65	1.69	3.06	2.50	2.38	1.94	1.75	5.00	3/4”-10	1/2”-13	10.30 (4.67)	3000 (210)
3” x 2”	TPR7-34-300x200-*	5.71	1.69	3.06	3.00	2.88	1.94	2.00	6.00	1”-8	1/2”-13	16.50 (7.48)	3000 (210)
3” x 2-1/2”	TPR7-34-300x250-*	5.71	2.00	3.50	3.00	2.88	2.38	2.00	6.00	1”-8	1/2”-13	15.50 (7.03)	2500 (175)
4” x 2-1/2”	TPR7-34-400x250-*	6.89	2.00	3.50	3.50	3.50	2.38	2.00	7.00	1-1/8”-7	1/2”-13	22.70 (10.30)	2500 (175)
4” x 3”	TPR7-34-400x300-*	6.89	2.44	4.19	3.50	3.50	2.88	2.00	7.00	1-1/8”-7	5/8”-11	22.20 (10.07)	2000 (140)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: TPR7-34-250x150-SS
* Insert Material

TPRM7-34 - Transition Plate Reducer Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (ISO 6164 x ISO 6162-1)	Reducer Part Number	Dimensions (mm)								Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2” x 1-1/2”	TPRM7-34-250x150-*	118.1	35.8	69.9	63.5	60.5	38.1	44.5	127.0	M20 x 2.50	M12 x 1.75	10.40 (4.72)	3000 (210)
2-1/2” x 2”	TPRM7-34-250x200-*	118.1	42.9	77.7	63.5	60.5	49.3	44.5	127.0	M20 x 2.50	M12 x 1.75	10.30 (4.67)	3000 (210)
3” x 2”	TPRM7-34-300x200-*	145.0	42.9	77.7	76.2	73.2	49.3	50.8	152.4	M24 x 3.00	M12 x 1.75	16.50 (7.48)	3000 (210)
3” x 2-1/2”	TPRM7-34-300x250-*	145.0	50.8	88.9	76.2	73.2	60.5	50.8	152.4	M24 x 3.00	M12 x 1.75	15.50 (7.03)	2500 (175)
4” x 2-1/2”	TPRM7-34-400x250-*	175.0	50.8	88.9	88.9	88.9	60.5	50.8	177.8	M30 x 3.50	M12 x 1.75	22.70 (10.30)	2500 (175)
4” x 3”	TPRM7-34-400x300-*	175.0	62.0	106.4	88.9	88.9	73.2	50.8	177.8	M30 x 3.50	M16 x 2.00	22.20 (10.07)	2000 (140)

*** Materials:**

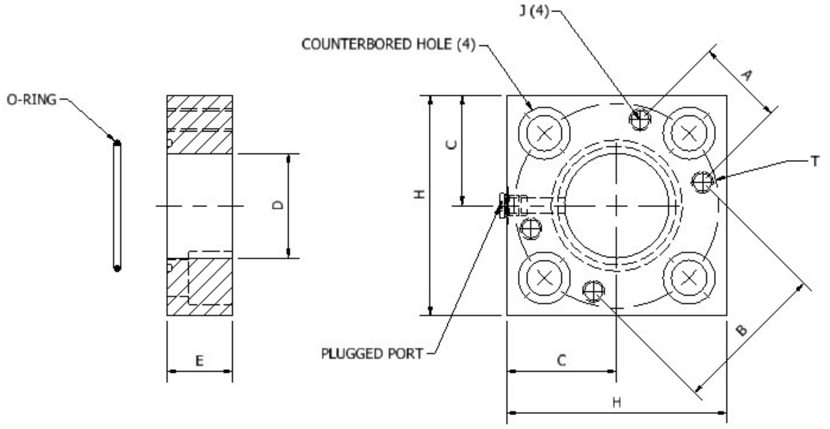
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

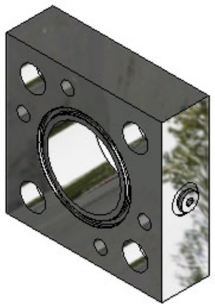
Ordering Example: TPRM7-34-250x150-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Transition Plate

ISO 6164/SAE Code 61 (ISO6164/6162-1) Flange Manifold Mount Style





TPO7-34 - Transition Plate O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size	Transition Plate Part Number	Dimensions (in)							C'T Bore Bolt	Thread UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	H	T					
2-1/2"	TP07-34-250-*-^	2.00	3.50	2.50	2.38	1.50	5.00	4.65	3/4"	1/2"-13	OR^-2-232	5.50 (2.49)	2500 (175)
3"	TP07-34-300-*-^	2.44	4.19	3.00	2.88	1.75	6.00	5.71	1"	5/8"-11	OR^-2-237	10.85 (4.92)	2000 (140)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TP07-34-250-SS-V
* Insert Material
^ Insert O-Ring Type

TPOM7-34 - Transition Plate O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size	Transition Plate Part Number	Dimensions (mm)							C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		A	B	C	D	E	H	T					
2-1/2"	TPOM7-34-250-*-^	50.8	88.9	63.5	60.5	31.8	127.0	118.1	M20	M12 x 1.75	OR^-2-232	5.50 (2.49)	2500 (175)
3"	TPOM7-34-300-*-^	62.0	106.4	76.2	73.2	44.5	152.4	145.0	M24	M16 x 2.00	OR^-2-237	10.85 (4.92)	2000 (140)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

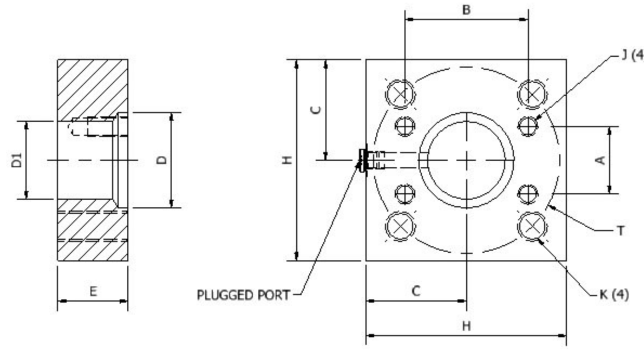
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

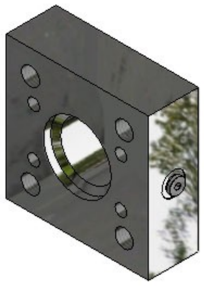
Ordering Example: TPOM7-34-250-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar Transition Plate Reducer

ISO 6164/SAE Code 62 (ISO 6164/6162-2) Flange Union Style





TPR7-64 - Transition Plate Reducer Flat Face with Threaded Holes Complete With #4 SAE Port (Plugged), NPS

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (in)								Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2” x 1-1/2”	TPR7-64-250x150-*	4.65	1.44	3.13	2.50	2.38	1.50	2.00	5.00	3/4”-10	5/8”-11	11.46 (5.20)	5800 (400)
2-1/2” x 2”	TPR7-64-250x200-*	4.65	1.75	3.81	3.00	2.38	1.94	1.50	6.00	3/4”-10	3/4"-10	8.65 (3.92)	5800 (400)
3” x 2”	TPR7-64-300x200-*	5.71	1.75	3.81	3.00	2.88	1.94	2.25	6.00	1”-8	3/4"-10	17.80 (8.07)	5800 (400)
4” x 2”	TPR7-64-400x200-*	6.89	1.75	3.81	3.50	3.50	1.94	2.25	7.00	1 1/8”-7	3/4"-10	25.54 (11.58)	5800 (400)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

Ordering Example: TPR7-64-250x150-SS
* Insert Material

TPRM7-64 - Transition Plate Reducer Flat Face with Threaded Holes Complete with G1/8 Port (Plugged), Metric

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (mm)								Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H				
2-1/2” x 1-1/2”	TPRM7-64-250x150-*	118.1	36.6	79.5	63.5	60.5	38.1	50.8	127.0	M20 x 2.50	M16 x 2.00	11.49 (5.21)	5800 (400)
2-1/2” x 2”	TPRM7-64-250x200-*	118.1	44.5	96.8	76.2	60.5	49.3	38.1	152.4	M20 x 2.50	M20 x 2.50	8.66 (3.93)	5800 (400)
3” x 2”	TPRM7-64-300x200-*	145.0	44.5	96.8	76.2	73.2	49.3	57.2	152.4	M24 x 3.00	M20 x 2.50	17.84 (8.09)	5800 (400)
4” x 2”	TPRM7-64-400x200-*	175.0	44.5	96.8	88.9	88.9	49.3	57.2	177.8	M30 x 3.50	M20 x 2.50	25.60 (11.61)	5800 (420)

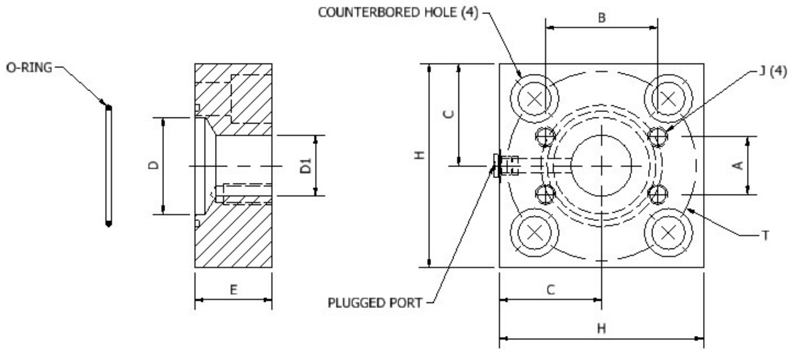
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

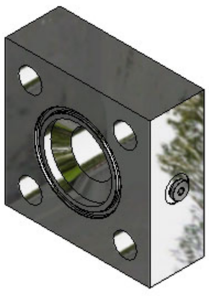
Ordering Example: TPRM7-64-250x150-SS
* Insert Material

3D step models available upon request

ISO 6164, 400 bar Transition Plate Reducer

ISO 6164/SAE Code 62 (ISO 6164/6162/2) Flange Manifold Mount Style





TPRO7-64 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and #4 SAE Port (Plugged), NPS

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (in)								C'T Bore Bolt	Thread C'T Bore Bolt UNC-2B	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H					
2-1/2" x 1-1/2"	TPRO7-64-250x150-*	4.65	1.44	3.13	2.50	2.38	1.50	2.00	5.00	3/4"	5/8"-11	OR^-2-232	10.61 (4.82)	5800 (400)
3" x 2"	TPRO7-64-300x200-*	5.71	1.75	3.81	3.00	2.88	1.94	2.25	6.00	1"	3/4"-10	OR^-2-237	16.05 (7.30)	5800 (400)
4" x 2"	TPRO7-64-400x200-*	6.89	1.75	3.81	3.50	3.50	1.94	2.25	7.00	1-1/8"	3/4"-10	OR^-2-241	23.09 (10.50)	5800 (400)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPRO7-64-250x150-SS-V
* Insert Material
^ Insert O-Ring Type

TPROM7-64 - Transition Plate Reducer O-Ring Face with Counterbored Holes Complete with Buna O-Ring and G1/8 Port (Plugged), Metric

Size (ISO 6164 x SAE Code 62)	Reducer Part Number	Dimensions (mm)								C'T Bore Bolt	Thread	O-Ring (Buna) Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	A	B	C	D	D1	E	H					
2-1/2" x 1-1/2"	TPROM7-64-250x150-*	118.1	36.6	79.5	63.5	60.5	38.1	50.8	127.0	M20	M16 x 2.00	OR^-2-232	10.61 (4.82)	5800 (400)
3" x 2"	TPROM7-64-300x200-*	145.0	44.5	96.8	76.2	73.2	49.3	57.2	152.4	M24	M20 x 2.50	OR^-2-237	16.05 (7.30)	5800 (400)
4" x 2"	TPROM7-64-400x200-*	175.0	44.5	96.8	88.9	88.9	49.3	57.2	177.8	M30	M20 x 2.50	OR^-2-241	23.09 (10.50)	5800 (420)

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

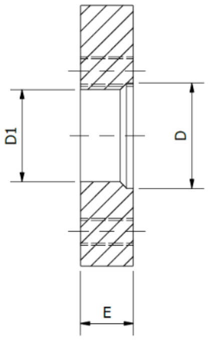
Standard, No Designation = Buna Nitrile.
V = Viton.

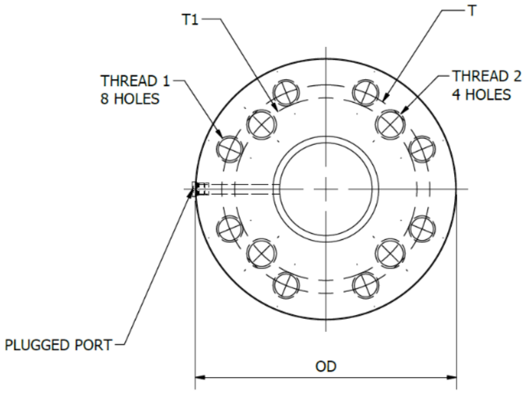
Ordering Example: TPROM7-64-250x150-SS-V
* Insert Material
^ Insert O-Ring Type

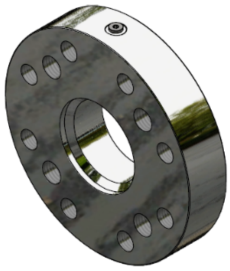
3D step models available upon request

Transition Plate Reducer, TMI 8-Bolt/ISO 6164

5000 PSI (350 bar) Flange Union Style







TPR4-74 Transition Plate Reducer – TMI 8-Bolt/ISO 6164 Flat Face with Threaded Holes, Complete with #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)						Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E				
5” x 4”	TPR4-74-500x400-*	8.07	6.89	4.00	3.50	9.88	2.00	1” - 8	1-1/8”-7	31.67 (14.4)	5000 (350)
6” x 4”	TPR4-74-600x400-*	9.65	6.89	4.90	3.50	11.81	2.00	1 1/8”-7	1-1/8”-7	52.19 (23.7)	5000 (350)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

Ordering Example: TPR4-74-500x400-SS
* Insert Material

TPRM4-74 Transition Plate Reducer – TMI 8-Bolt/ISO 6164 Flat Face with Threaded Holes, Complete with G1/8 Port (Plugged), Metric

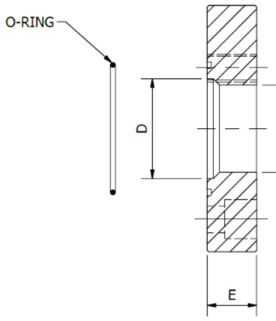
Size	Reducer Part Number	Dimensions (mm)						Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E				
4-1/2” x 3”	TPRM4-74-450x300-*	175.0	145.0	100.0	73.0	216.0	63.5	M20 x 2.5	M24 x 3.0	29.90 (13.6)	5000 (350)
4-1/2” x 4”	TPRM4-74-450x400-*	175.0	175.0	100.0	88.9	216.0	50.8	M20 x 2.5	M30 x 3.5	28.40 (12.9)	5000 (350)
5” x 4”	TPRM4-74-500x400-*	205.0	175.0	101.6	88.9	250.9	50.8	M24 x 3.0	M30 x 3.5	31.67 (14.4)	5000 (350)
6” x 4”	TPRM4-74-600x400-*	245.0	175.0	124.5	88.9	300.0	50.8	M30 x 3.5	M30 x 3.5	52.19 (23.7)	5000 (350)

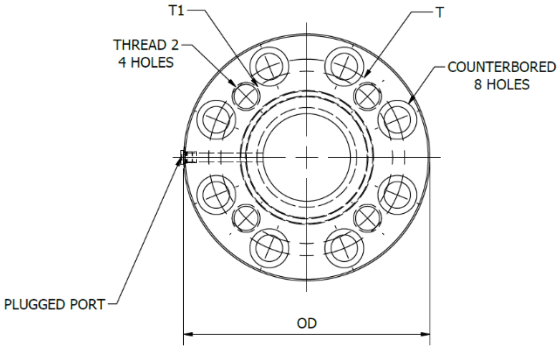
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = All Stainless Steel, Type 316.

Ordering Example: TPRM4-74-500x400-SS
* Insert Material

Transition Plate Reducer, TMI 8-Bolt/ISO 6164

5000 PSI (350 bar) Flange Manifold Mount Style





TPRO4-74 Transition Plate Reducer – TMI 8-Bolt/ISO 6164 O-ring Face, Manifold Mount with Countersunk Holes, Complete with Buna O-ring, #4 SAE Port (plugged), NPS

Size	Reducer Part Number	Dimensions (in)						C'Tbore Bolt	Thread UNC-2B	O-Ring Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E					
5"x 4"	TPRO4-74-500x400-*-^	8.07	6.89	4.00	3.50	9.88	2.00	1"	1-1/8"-7	OR^-2-353	28.70 (13.0)	5000 (350)
6"x 4"	TPRO4-74-600x400-*-^	9.65	6.89	4.90	3.50	11.81	3.00	1-1/8"	1-1/8"-7	OR^-2-359	56.20 (25.5)	5000 (350)

Ordering Example: TPRO4-74-600x400-SS-V
* Insert Material
^ Insert O-Ring Type

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

TPROM4-74 Transition Plate Reducer – TMI 8-Bolt/ISO 6164 O-ring Face, Manifold Mount with Countersunk Holes, Complete with Buna O-ring, G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)						C'Tbore Bolt	Thread UNC-2B	O-Ring Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E					
4-1/2" x 3"	TPROM4-74-450x300-*-^	175.0	145.0	100.0	73.0	216.0	63.5	M20	M24x3.0	OR^-2- 245	27.60 (12.5)	5000 (350)
4-1/2" x 4"	TPROM4-74-450x400-*-^	175.0	175.0	100.0	88.9	216.0	50.4	M20	M30x3.5	OR^-2-245	24.20 (11.0)	5000 (350)
5" x 4"	TPROM4-74-500x400-*-^	205.0	175.0	101.6	88.9	250.9	50.8	M24	M30x3.5	OR^-2-353	28.70 (13.0)	5000 (350)
6" x 4"	TPROM4-74-600x400-*-^	245.0	175.0	124.5	88.9	300.0	76.2	M30	M30 x3.5	OR^-2-359	56.20 (25.5)	5000 (350)

Ordering Example: TPROM4-74-600x400-SS-V
* Insert Material
^ Insert O-Ring Type

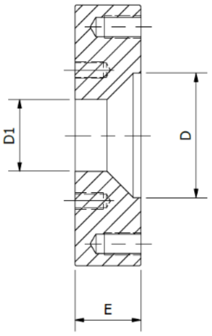
*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

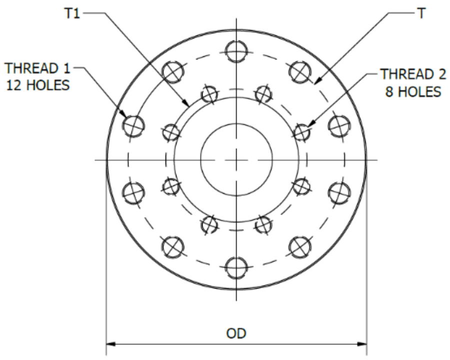
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

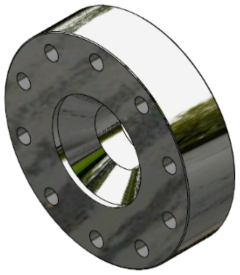
3D step models available upon request

Transition Plate Reducer, TMI 12-Bolt/TMI 8-Bolt

3600 PSI (250 bar) Flange Union Style







TPR412-48 Transition Plate Reducer – TMI 12-Bolt/TMI 8-Bolt Flat Face with Threaded Holes, Complete with #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)						Thread 1 UNC-2B	Thread 2 UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E				
10” x 6”	TPR412-48-1000x600-*	14.76	9.65	8.46	4.90	17.75	4.50	1-1/2”-6	1-1/8”-7	266.0 (121.0)	3600 (250)
10” x 8”(1)	TPR412-48-1000x800-290BC-*	14.76	11.42	8.46	6.81	17.75	6.00	1-1/2”-6	1-1/8”-7	319.0 (145.0)	3600 (250)
10” x 8”	TPR412-48-1000x800-*	14.76	12.40	8.46	6.81	17.75	6.50	1-1/2"-6	1-1/2”-6	339.0 (154.1)	3600 (250)

(1) Special Bolt Circle

Ordering Example:TPR412-48-1000x600-SS

* Insert Material

*** Materials:**

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.

SS = All Stainless Steel, Type 316.

TPRM412-48 Transition Plate Reducer – TMI 12-Bolt/TMI 8-Bolt Flat Face with Threaded Holes, Complete with G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)						Thread 1	Thread 2	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E				
10” x 6”	TPRM412-48-1000x600-*	375.0	245.0	215.0	125.0	450.0	114.3	M36 x 4.0	M30 x 3.5	266.0 (121.0)	3600 (250)
10” x 8”(1)	TPRM412-48-1000x800-290BC-*	375.0	290.0	215.0	173.0	450.0	152.4	M36 x 4.0	M30 x 3.5	319.0 (145.0)	3600 (250)
10” x 8”	TPRM412-48-1000x800-*	375.0	315.0	215.0	173.0	450.0	165.0	M36 x 4.0	M36 x 4.0	339.0 (154.1)	3600 (250)

(1) Special Bolt Circle

Ordering Example:TPRM412-48-1000x600-SS

* Insert Material

*** Materials:**

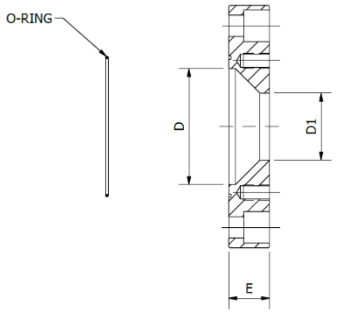
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.

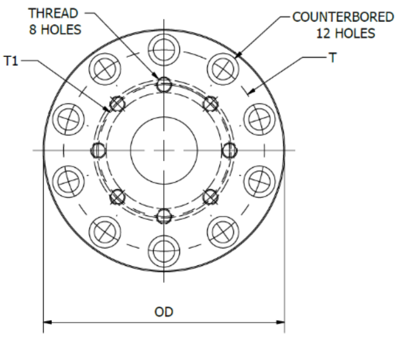
SS = All Stainless Steel, Type 316.

3D step models available upon request

Transition Plate Reducer, TMI 12-Bolt/TMI 8-Bolt

3600 PSI (250 bar) Flange Manifold Mount Style





TPRO412-48 Transition Plate Reducer – TMI 12-Bolt/TMI 8-Bolt O-ring Face, Manifold Mount with Countersunk Holes, Complete with Buna O-ring, #4 SAE Port (Plugged), NPS

Size	Reducer Part Number	Dimensions (in)						C'Tbore Bolt	Thread UNC-2B	O-Ring Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E					
10" x 6"	TPRO412-48-1000x600-*-^	14.76	9.65	8.46	4.90	17.75	4.50	1-1/2"	1-1/8"-7	OR^-2-377	155.0 (70.5)	3600 (250)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: TPRO412-48-1000x600-SS-V
* Insert Material
^ Insert O-Ring Type

TPROM412-48 Transition Plate Reducer – TMI 12-Bolt/TMI 8-Bolt O-ring Face, Manifold Mount with Countersunk Holes, Complete with Buna O-ring, G1/8 Port (Plugged), Metric

Size	Reducer Part Number	Dimensions (mm)						C'Tbore Bolt	Thread UNC-2B	O-Ring Part Number	WT lbs (kg)	Working Pressure PSI (bar)
		T	T1	D	D1	OD	E					
10" x 6"	TPROM412-48-1000x600-*-^	375.0	245.0	215.0	125.0	450.0	114.3	M36	M30 x 3.5	OR^-2-377	155.0 (70.5)	3600 (250)

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

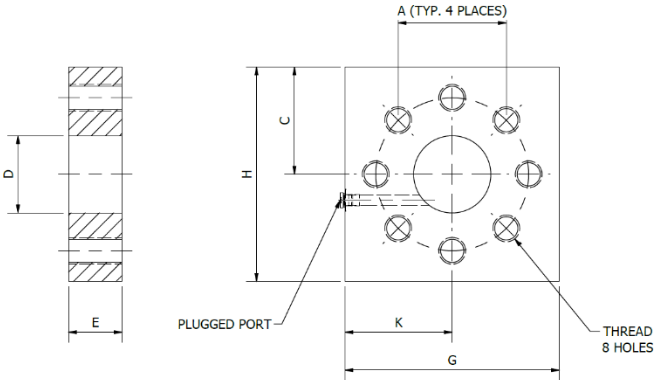
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

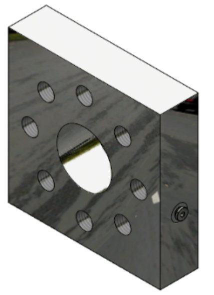
Ordering Example: TPROM4-74-600x400-SS-V
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar Adapter Plate

DIN 400 bar (ISO 6164)





AP74 Adapter Plate –ISO 6164 Flat Face with Threaded Holes, Complete with #4 SAE Port (Plugged), NPS

Size	Adapter Plate Part Number	Dimensions (in)							Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	C	D	E	G	H	K			
1-1/2”	AP74-150-*	2.37	2.50	1.50	1.25	5.00	5.00	2.50	5/8”- 11	7.25 (3.3)	5800 (400)
2”	AP74-200-*	2.73	2.50	1.94	1.25	5.00	5.00	2.50	5/8”- 11	8.10 (3.7)	5800 (400)
2-1/2”	AP74-250-*	3.29	3.00	2.38	1.50	6.00	6.00	3.00	3/4"- 10	12.50 (5.7)	5800 (400)
3”	AP74-300-*	4.04	4.00	2.88	2.00	8.00	8.00	4.00	1”- 8	21.00 (9.5)	5800 (400)
4”	AP74-400-*	4.87	4.25	3.50	2.00	8.50	8.50	4.25	1-1/8”-7	22.70 (10.3)	5800 (400)

* Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

Ordering Example: AP74-200-SS
* Insert Material

APM74 Adapter Plate – ISO 6164 Flat Face with Threaded Holes Complete with G 1/8 Port (Plugged), Metric

Size	Adapter Plate Part Number	Dimensions (mm)							Thread UNC-2B	WT lbs (kg)	Working Pressure PSI (bar)
		A	C	D	E	G	H	K			
1-1/2”	APM74-150-*	60.1	63.5	38.1	31.8	127.0	127.0	63.5	M16 x 2.00	7.25 (3.3)	5800 (400)
2”	APM74-200-*	69.3	63.5	49.2	31.8	127.0	127.0	63.5	M16 x 2.00	8.10 (3.7)	5800 (400)
2-1/2”	APM74-250-*	83.5	76.2	60.5	38.1	152.4	152.4	76.2	M20 x 2.50	12.50 (5.7)	5800 (400)
3”	APM74-300-*	102.5	101.6	73.2	50.8	203.2	203.2	101.6	M24 x 3.00	21.00 (9.5)	5800 (400)
4”	APM74-400-*	123.7	108.0	88.9	50.8	216.0	216.0	108.0	M30 x 3.50	22.70 (10.3)	5800 (400)

* Materials:

Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

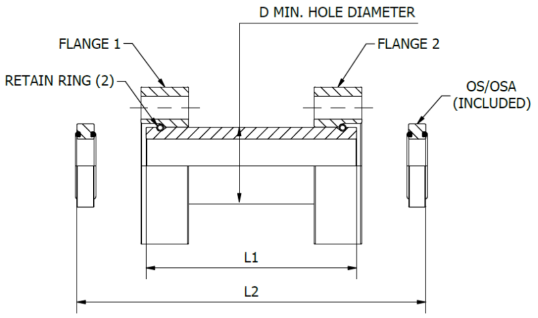
Ordering Example: AP74-200-SS
* Insert Material

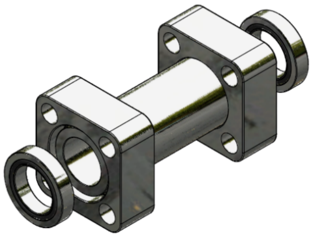
3D step models available upon request

ISO 6164, 400 bar Retain Ring Bulkhead

Complete Assembly

DIN 400 bar (ISO 6164)





Complete Assembly Consists Of:

- One (1) retain ring flange bulkhead body
- Two (2) retain ring flanges
- Two (2) retain rings
- Two (2) o-ring spacers

A/RFBH – Retain Ring Flange Bulkhead, Complete Assembly

Size	Complete Part Number	Dimensions in (mm)			Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L1	L2	D				
1-1/2"	A/RFBH-150-FC74-FC74-*-^	6.09 (154.6)	7.09 (180.0)	2.20 (56.0)	13.30 (6.05)	RFBH-150-*-^	7.04 (3.2)	5800 (400)
2"	A/RFBH-200-FC74-FC74-*-^	7.27 (184.6)	8.27 (210.0)	2.60 (66.0)	16.20 (7.36)	RFBH-200-*-^	9.02 (4.1)	5800 (400)
2-1/2"	A/RFBH-250-FC74-FC74-*-^	6.66 (169.2)	8.66 (220.0)	3.15 (80.0)	25.80 (11.73)	RFBH-250-*-^	13.20 (6.0)	5800 (400)
3"	A/RFBH-300-FC74-FC74-*-^	7.45 (189.2)	9.45 (240.0)	3.82 (97.0)	40.36 (18.35)	RFBH-300-*-^	19.14 (8.7)	5800 (400)
4"	A/RFBH-400-FC74-FC74-*-^	9.00 (229.2)	11.00 (280.0)	4.53 (115.0)	58.22 (26.46)	RFBH-400-*-^	22.88 (10.4)	5800 (400)

Flange Options:
Standard, FC74 = (ISO 6164) Clearance Flange.

Materials
No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
No Designation = Buna Nitrile.
V = Viton.

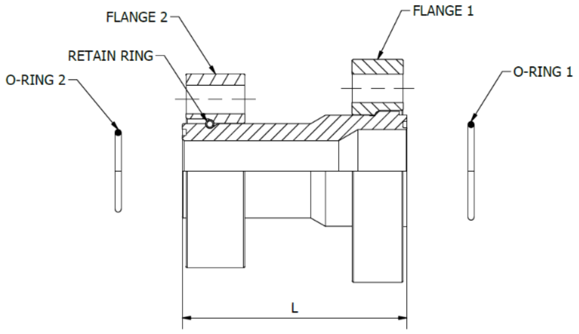
Ordering Example: A/RFBH-150-FC74-FC74-SS-V

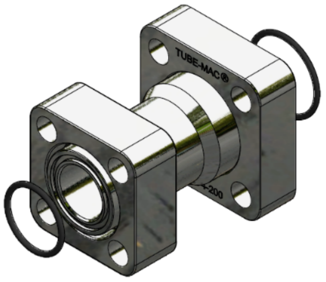
Flange 1 Option
Flange 2 Option
* Insert Material
^ Insert O-Ring Type

3D step models available upon request

ISO 6164, 400 bar Retain Ring Flange Concentric Reducer Assembly

DIN 400 bar (ISO 6164)





Complete Assembly Consists Of:

- One (1) Concentric Reducer Body
- Two (2) Retain Ring Flanges
- One (1) Retain Ring
- Two (2) Buna O-Rings (Standard)

CR – Retain Ring Flange Concentric Reducer Assembly

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring 1 (Buna) Part Number	O-Ring 2 (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L						
2” x 1-1/2”	A/CR-200x150-FC74-FC74-*-^	5.26 (133.6)	OR^-3-928	OR^-3-924	9.64 (4.38)	CR-200x150-*-^	3.74 (1.70)	5800 (400)
2-1/2” x 1-1/2”	A/CR-250x150-FC74-FC74-*-^	6.06 (153.9)	OR^-2-232	OR^-2-924	12.53 (5.70)	CR-250x150-*-^	4.67 (2.12)	5800 (400)
2-1/2” x 2”	A/CR-250x200-FC74-FC74-*-^	6.06 (153.9)	OR^-2-232	OR^-2-928	13.42 (6.10)	CR-250x200-*-^	5.20 (2.36)	5800 (400)
3” x 1 -1/2”	A/CR-300x150-FC74-FC74-*-^	6.50 (165.1)	OR^-2-237	OR^-2-924	18.17 (8.26)	CR-300x150-*-^	6.58 (2.99)	5800 (400)
3” x 2”	A/CR-300x200-FC74-FC74-*-^	6.98 (177.3)	OR^-2-237	OR^-2-928	19.65 (8.93)	CR-300x200-*-^	7.70 (3.49)	5800 (400)
3” x 2-1/2”	A/CR-300x250-FC74-FC74-*-^	6.98 (177.3)	OR^-2-237	OR^-2-232	22.42 (10.198)	CR-300x250-*-^	8.50 (3.86)	5800 (400)
4” x 2”	A/CR-400x200-FC74-FC74-*-^	7.76 (197.1)	OR^-2-241	OR^-2-928	30.91 (14.05)	CR-400x200-*-^	12.95 (20.7)	5800 (400)
4” x 2-1/2”	A/CR-400x250-FC74-FC74-*-^	7.76 (197.1)	OR^-2-241	OR^-2-232	34.03 (15.47)	CR-400x250-*-^	14.10 (6.40)	5800 (400)
4” x 3”	A/CR-400x300-FC74-FC74-*-^	7.76 (197.1)	OR^-2-241	OR^-2-237	38.21 (17.37)	CR-400x300-*-^	14.50 (6.58)	5800 (400)

Flange Options:

Standard, FC74 = ISO 6164 Clearance Flange.

Materials

No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

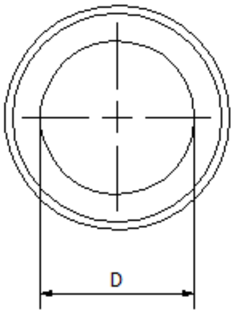
No Designation = Buna Nitrile.
V = Viton.

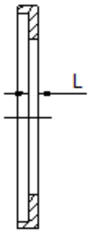
Ordering Example: A/CR-200x150-FC74-FC74-SS-V

Flange 1 Option
Flange 2 Option
* Insert Material
^ Insert O-Ring Type

ISO 6164, 400 bar O-Ring Connector Plate

DIN 400 (ISO 6164)





OCP - O-Ring Connector Plate

Size	Connector Plate Part Number	Dimensions in (mm)		WT lbs (kg)
		D	L	
1-1/2"	OCP-150-*	1.50 (38.1)	0.13 (3.3)	0.11 (0.05)
2”	OCP-200-*	1.94 (49.3)	0.13 (3.3)	0.13 (0.06)
2-1/2"	OCP-250-*	2.36 (59.9)	0.13 (3.3)	0.18 (0.08)
3”	OCP-300-*	2.88 (73.2)	0.13 (3.3)	0.26 (0.12)
4”	OCP-400-*	3.35 (85.1)	0.13 (3.3)	0.34 (0.15)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

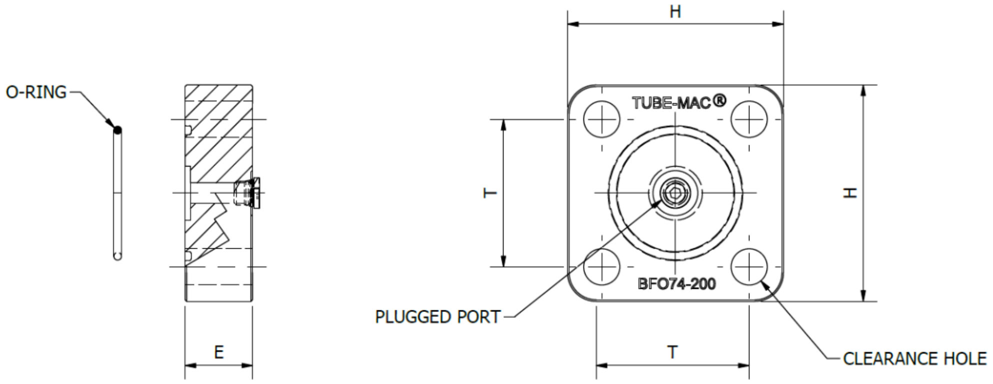
Ordering Example: OCP-200-SS
* Insert Material

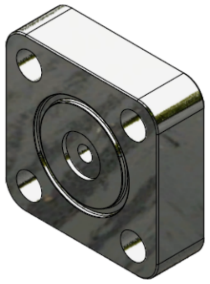
3D step models available upon request

ISO 6164, 400 bar Blanking Flange

O-Ring Face with Clearance Holes

DIN 400 (ISO 6164)





BFO74 – Blanking Flange O-Ring Face with Clearance Holes and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)			Bolt Size UNC	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		T	H	E				
1-1/2"	BFO74-150-*-^	2.37	3.50	1.38	5/8”	OR^-3-924	5800 (400)	3.79 (1.72)
2"	BFO74-200-*-^	2.73	4.00	1.18	5/8”	OR^-3-928	5800 (400)	4.34 (1.97)
2-1/2"	BFO74-250-*-^	3.29	4.72	1.48	3/4"	OR^-2-232	5800 (400)	8.71 (3.96)
3"	BFO74-300-*-^	4.04	5.91	1.73	1”	OR^-2-237	5800 (400)	16.00 (7.28)
4”	BFO74-400-*-^	4.87	7.00	1.98	1 1/8”	OR^-2-241	5800 (400)	25.23 (11.47)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: BFO74-200-SS-V

* Insert Material

^ Insert O-Ring 2 Type

BFOM74 – Blanking Flange O-Ring Face with Clearance Holes and G1/8 BSPP Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)			Bolt Size	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		T	H	E				
1-1/2"	BFOM74-150-*-^	60.1	88.9	35.0	M16	OR^-3-924	5800 (400)	3.79 (1.72)
2"	BFOM74-200-*-^	69.3	101.6	29.9	M16	OR^-3-928	5800 (400)	4.34 (1.97)
2-1/2"	BFOM74-250-*-^	83.5	119.9	37.6	M20	OR^-2-232	5800 (400)	8.71 (3.96)
3"	BFOM74-300-*-^	102.5	150.1	43.9	M24	OR^-2-237	5800 (400)	16.00 (7.28)
4”	BFOM74-400-*-^	123.7	177.8	50.3	M30	OR^-2-241	5800 (400)	25.23 (11.47)

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

^ O-Ring Type:

Standard, No Designation = Buna Nitrile.
V = Viton.

Ordering Example: BFOM74-200-SS-V

* Insert Material

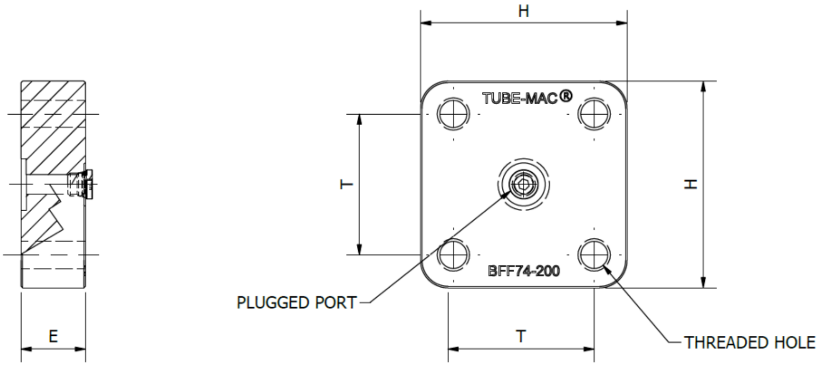
^ Insert O-Ring 2 Type

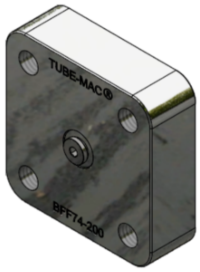
3D step models available upon request

ISO 6164, 400 bar Blanking Flange

Flat Face with Threaded Holes

DIN 400 (ISO 6164)





BFF74 – Blanking Flange Flat Face with Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)			Thread UNC-2B	Working Pressure PSI (bar)	WT lbs (kg)
		T	H	E			
1-1/2"	BFF74-150-*	2.37	3.50	1.38	5/8”-11	5800 (400)	3.79 (1.72)
2"	BFF74-200-*	2.73	4.00	1.18	5/8”-11	5800 (400)	4.34 (1.97)
2-1/2"	BFF74-250-*	3.29	4.72	1.48	3/4"-10	5800 (400)	8.71 (3.96)
3"	BFF74-300-*	4.04	5.91	1.73	1”-8	5800 (400)	16.00 (7.28)
4”	BFF74-400-*	4.87	7.00	1.98	1 1/8”-7	5800 (400)	25.23 (11.47)

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: BFF74-200-SS
* Insert Material

BFFM74 – Blanking Flange O-Ring Face with Clearance Holes and G1/8 BSPP Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)			Thread	Working Pressure PSI (bar)	WT lbs (kg)
		T	H	E			
1-1/2"	BFFM74-150-*	60.1	88.9	35.0	M16x2.00	5800 (400)	3.79 (1.72)
2"	BFFM74-200-*	69.3	101.6	29.9	M16x2.00	5800 (400)	4.34 (1.97)
2-1/2"	BFFM74-250-*	83.5	119.9	37.6	M20x2.50	5800 (400)	8.71 (3.96)
3"	BFFM74-300-*	102.5	150.1	43.9	M24x3.00	5800 (400)	16.00 (7.28)
4”	BFFM74-400-*	123.7	177.8	50.3	M30x3.50	5800 (400)	25.23 (11.47)

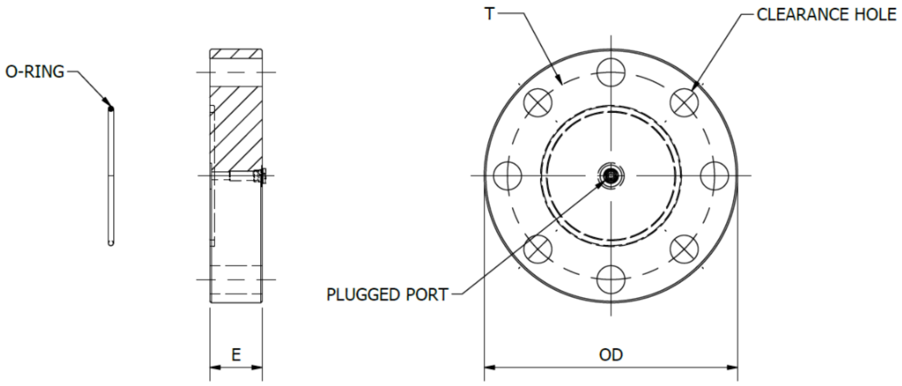
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

Ordering Example: BFFM74-200-SS
* Insert Material

3D step models available upon request

Blanking Flange O-Ring Face with Clearance Holes

TMI® 8-Bolt and 10” TMI® 12-Bolt



BFO48 – Blanking Flange TMI® 8-Bolt O-Ring Face with Clearance Holes and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)			Bolt Size UNC	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		T	OD	E				
4-1/2"	BF048-450-*-^	6.89	8.43	1.97	3/4”	OR^-2-245	5000 (350)	28.90 (13.14)
5"	BF048-500-*-^	8.07	9.65	2.00	1”	OR^-2-353	5000 (350)	37.84 (17.20)
6"	BF048-600-*-^	9.65	11.81	2.31	1-1/8"	OR^-2-359	5000 (350)	71.30 (32.41)
8"(1)	BF048-800-290BC-*-^	11.42	13.78	3.00	1-1/8”	OR^-2-368	5000 (350)	122.76 (55.80)
8"	BF048-800-*-^	12.40	15.13	3.00	1-1/2”	OR^-2-368	5000 (350)	138.60 (63.00)
10”(2)	BF0412-1000-*-^	14.76	17.75	3.80	1-1/2”	OR^-2-241	3600 (250)	239.00 (108.64)

Notes: (1) Special Flange Size, (2) 12-Bolt Flange

Ordering Example: BF048-600-SS-V
* Insert Material
^ Insert O-Ring 2 Type

*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

BFOM48 – Blanking Flange TMI® 8-Bolt O-Ring Face with Clearance Holes and G1/8 BSPP Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)			Bolt Size	O-Ring (Buna) Part Number	Working Pressure PSI (bar)	WT lbs (kg)
		T	OD	E				
4-1/2"	BF0M48-450-*-^	175.0	214.0	50.0	M20	OR^-2-245	5000 (350)	28.90 (13.14)
5"	BF0M48-500-*-^	205.0	245.0	50.8	M24	OR^-2-353	5000 (350)	37.84 (17.20)
6"	BF0M48-600-*-^	245.0	300.0	58.7	M30	OR^-2-359	5000 (350)	71.30 (32.41)
8"(1)	BF0M48-800-290BC*-^	290.0	350.0	76.2	M30	OR^-2-368	5000 (350)	122.76 (55.80)
8"	BF0M48-800-*-^	315.0	385.0	76.2	M36	OR^-2-368	5000 (350)	138.60 (63.00)
10”(2)	BF0M412-1000-*-^	375.0	450.0	96.5	M36	OR^-2-241	3600 (250)	239.00 (108.64)

Notes: (1) Special Flange Size, (2) 12-Bolt Flange

Ordering Example: BF0M48-600-SS-V
* Insert Material
^ Insert O-Ring 2 Type

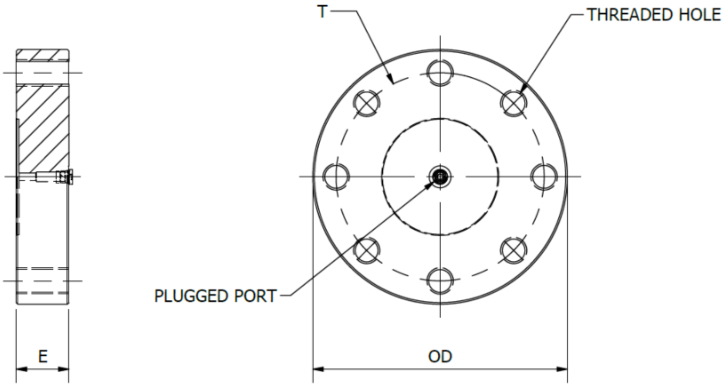
*** Materials:**
Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

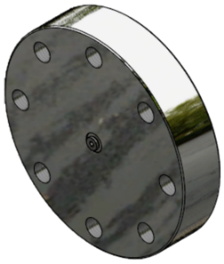
^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

Blanking Flange O-Ring Face with Threaded Holes

TMI® 8-Bolt and 10” TMI® 12-Bolt





BFF48 – Blanking Flange TMI® 8-Bolt Flat Face with Threaded Holes and #4 SAE Port (Plugged), NPS

Size	Blanking Flange Part Number	Dimensions (in)			Thread UNC	Working Pressure PSI (bar)	WT lbs (kg)
		T	OD	E			
4-1/2"	BFF48-450-*	6.89	8.43	1.97	3/4”-10	5000 (350)	28.90 (13.14)
5"	BFF48-500-*	8.07	9.65	2.00	1”-8	5000 (350)	37.84 (17.20)
6"	BFF48-600-*	9.65	11.81	2.31	1-1/8"-7	5000 (350)	71.30 (32.41)
8"(1)	BFF48-800-290BC-*	11.42	13.78	3.00	1-1/8”-7	5000 (350)	122.76 (55.80)
8"	BFF48-800-*	12.40	15.13	3.00	1-1/2”-6	5000 (350)	138.60 (63.00)
10”(2)	BFF412-1000-*	14.76	17.75	3.80	1-1/2”-6	3600 (250)	239.00 (108.64)

Notes: (1) Special Flange Size, (2) 12-Bolt Flange

Ordering Example: BFF48-600-SS

* Insert Material

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

BFFM48 – Blanking Flange TMI® 8-Bolt Flat Face with Clearance Holes and G1/8 BSPP Port (Plugged), Metric

Size	Blanking Flange Part Number	Dimensions (mm)			Thread	Working Pressure PSI (bar)	WT lbs (kg)
		T	OD	E			
4-1/2"	BFFM48-450-*	175.0	214.0	50.0	M20x2.5	5000 (350)	28.90 (13.14)
5"	BFFM48-500-*	205.0	245.0	50.8	M24x3.0	5000 (350)	37.84 (17.20)
6"	BFFM48-600-*	245.0	300.0	58.7	M30x3.5	5000 (350)	71.30 (32.41)
8"(1)	BFFM48-800-290BC*	290.0	350.0	76.2	M30x3.5	5000 (350)	122.76 (55.80)
8"	BFFM48-800-*	315.0	385.0	76.2	M36x4.0	5000 (350)	138.60 (63.00)
10”(2)	BFFM412-1000-*	375.0	450.0	96.5	M36x4.0	3600 (250)	239.00 (108.64)

Notes: (1) Special Flange Size, (2) 12-Bolt Flange

Ordering Example: BFFM48-600-SS

* Insert Material

*** Materials:**

Standard, No Designation = Carbon Steel, Zinc Nickel Plated.
HDG = Carbon Steel, Hot Dip Galvanized.
SS = Stainless Steel, Type 316.

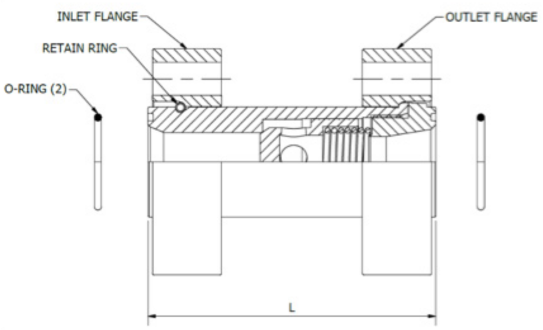
^ O-Ring Type:

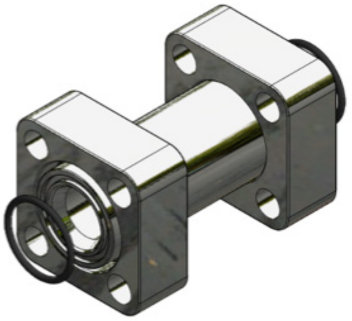
Standard, No Designation = Buna Nitrile.
V = Viton.

3D step models available upon request

ISO 6164, 400 bar Check Valve Retain Ring Flange Style Complete Assembly

DIN 400 (ISO 6164)





Complete Assembly Consists Of:

- One (1) Check Valve Body – Poppet Style
- Two (2) Retain Ring Flanges
- One (1) Retain Ring
- Two (2) Buna O-Rings (Standard)

CV Check Valve Complete with Buna O-Rings (Standard)

Size	Complete Assembly Part Number	Dimensions in (mm)	O-Ring (Buna) Part Number	Assembly WT lbs (kg)	Body Only Part Number	Body Only WT lbs (kg)	Working Pressure PSI (bar)
		L					
1-1/2"	A/CV-150-FC74-FC74-07-*-^	5.76 (146.3)	OR^-3-924	9.80 (4.45)	CV-150-07-*-^	4.25 (1.93)	5800 (400)
2"	A/CV-200-FC74-FC74-07-*-^	6.74 (171.2)	OR^-3-928	11.88 (5.40)	CV-200-07-*-^	5.62 (2.55)	5800 (400)
2-1/2"	A/CV-250-FC74-FC74-07-*-^	7.14 (181.4)	OR^-2-232	19.18(8.72)	CV-250-07-*-^	8.99 (2.45)	5800 (400)
3"	A/CV-300-FC74-FC74-07-*-^	7.53 (191.3)	OR^-2-237	31.36 (14.25)	CV-300-07-*-^	13.66 (6.21)	5800 (400)

Flange Option:
Standard, FC74 = ISO 6164 Clearance Flange.

*** Materials:**
Standard, No Designation = All Carbon Steel, Zinc Nickel Plated.
SS = Stainless Steel, Type 316.

^ O-Ring Type:
Standard, No Designation = Buna Nitrile.
V = Viton.

Opening Pressure

	PSI (bar)
Standard	07 (0.5)
Optional	21 (1.5)
Optional	43 (3.0)

Ordering Example: A/CV-200-FC74-FC74-07-SS-V

Inlet Flange Option
Outlet Flange Option
Opening Pressure
* Insert Material
^ Insert O-Ring Type

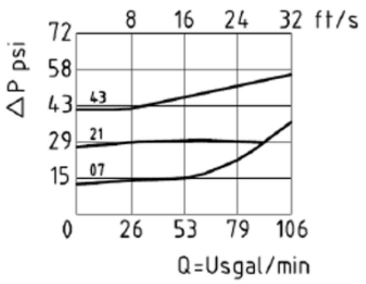
3D step models available upon request

ISO 6164, 400 bar Check Valve Performance Curves

DIN 400 (ISO 6164)

Chart 1: Measured using oil at 190SUS and 122º F

1-1/2”



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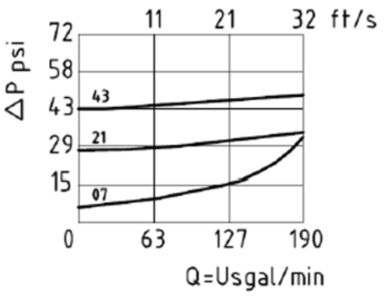
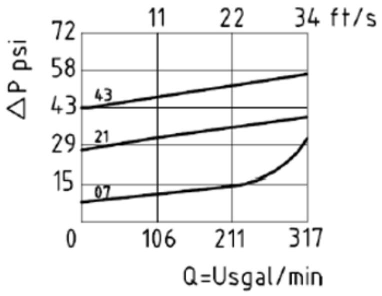


2-1/2”



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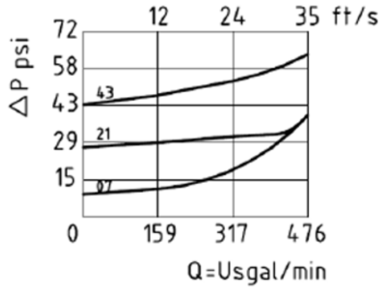
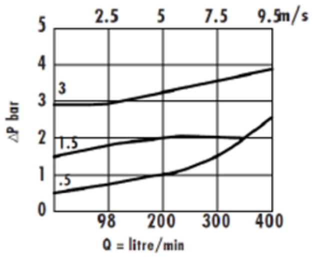


Chart 2: Measured using oil at 190SUS and 50º C

1-1/2”



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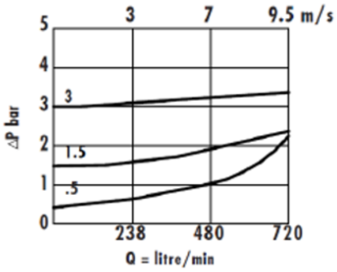
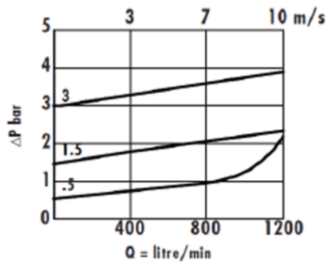
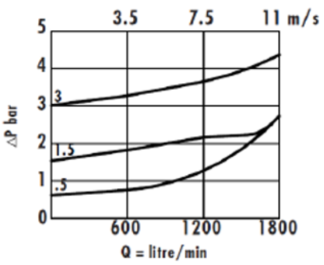


2-1/2”



3”



3D step models available upon request

Notes

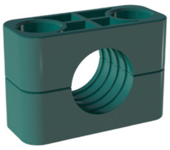
Notes

ISO 6164, 400 bar F10° Flare

3D step models available upon request

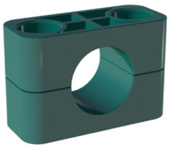
3D step models available upon request

Clamp Supports – Heavy Series Reference Guide



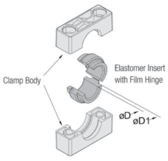
Clamp Body

Page L1,L2



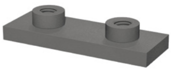
Clamp Body
Type H
Smooth Inside

Page L3



Clamp Body
Type RI
Rubber Insert

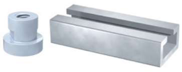
Page L4



Weld Plates
Types SPAL and SPAS

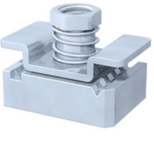
Page L5

Elongated Weld Plates
Types SPAL-DUEB
SPAS-DUEB
Page L6



Rail Nuts RNH Mounting Rail
Types STSV

Page L7



Channel Rail Adaptoers
Types CRA

Page L8

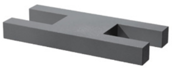
Cover Plates
Types DPAL and DPAS

Page L9

Hex Bolt
Type AS and
Socket Screw Cap
Type IS
Page L10

Safety Washer
Type SI

Page L11



Safety Plate SIP
and
Safety Bolt
Type AF
Page L12

SPAL - 3006 - PP -

Clamp Assembly Ordering Code

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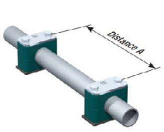
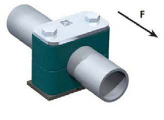
Clamp Assembly Order Examples

Page L15, L16



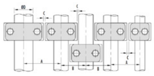
Installation and Distance Between Clamps

Page L17



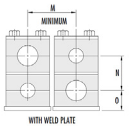
Tightening Torques and Maximum Loads

Page L18



Pipe and Clamp Spacing

Page L19



Clamp Stacking and Dimensions and Weights

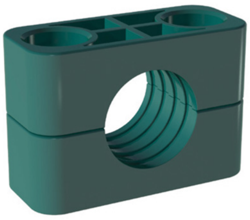
Page L20

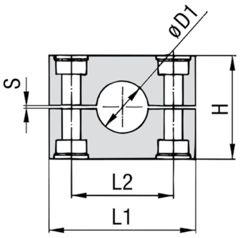
Notes:

1. Heavy Series Clamp Supports according to DIN 3015 Part 2.
2. Other sizes available, consult factory.
3. Lights Series and Twin Series Clamp Supports are available, consult factory.

Clamp Body - Profiled Design Profiled Inside Surface With Tension Clearance

Heavy Series According to DIN 3015, Part 2





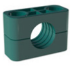
Ordering Codes:

Clamp Body ***3*006-*PP**
One clamp body consisting of two clamp halves
- 1st part of Group Series 3
- Exact outside diameter Ø D1 (mm) 006
- Material code (see below) PP

Clamp Body - Profiled Design - Profiled Inside Surface with Tension Clearance

Group		Outside Diameter Pipe/Tube Ø D1		Nominal Bore		Ordering Codes (2 Clamp Halves) (**=material)	Dimensions (mm/in)					
Series	DIN	(mm)	(in)	Pipe (in)	Copper Tube ASTM 888 (in)		L1 PP/ PA/ SA	L1 AL	L2	H	S min.	Width
3S	1	6				3006-**	55	56	33	32	0,6	30,5
		6,4	1/4			3006.4-**						
		8	5/16			3008-**						
		9,5	3/8		1/4	3009.5-**						
		10		1/8		3010-**						
		12				3012-**						
		12,7	1/2		3/8	3012.7-**	2.16	2.20	1.30	1.26	.02	1.20
		13,5		1/4		3013,5-**						
		14				3014-**						
		15				3015-**						
		16	5/8		1/2	3016-**						
		17,2		3/8		3017.2-**						
		18				3018-**						
		20				3020-**						
4S	2	19	3/4			4019-**	70	70	45	48	0,6	30.5
		20				4020-**						
		21,3		1/2		4021.3-**						
		22	7/8		3/4	4022-**						
		25				4025-**						
		25,4	1			4025.4-**	2.76	2.76	1.77	1.89	.02	1.20
		26,9		3,4		4026.9-**						
		28				4028-**						
		30				4030-**						
5S	3	30				5030-**	85	85	60	60	0,6	30.5
		32	1-1/4			5032-**						
		33,7		1		5033.7-**						
		35			1-1/4	5035-**						
		38	1-1/2			5038-**	3.35	3.35	2.36	2.36	0.2	1.20
		40				5040-**						
		41,3			1-1/2	5041.3-**						
		42		1-1/4		5042-**						
6S	4	38	1-1/2			6038-**	115	120	90	89	2	45
		42		1-1/4		6042-**						
		44,5	1-3/4			6044.5-**						
		48,3		1-1/2		6048.3-**						
		50,8	2			6050.8-**						
		54			2	6054-**						
		55				6055-**	4.53	4.72	3.54	3.50	.08	1.77
		57				6057-**						
		57,2	2-1/4			6057.2-**						
		60,3		2		6060.3-**						
		63,5	2-1/2			6063.5-**						
		65				6065-**						
		70	2-3/4			6070-**						

Standard Materials



Polypropylene
Colour: Green
Material Code: **PP**

Polypropylene
Colour: Black
Material Code: **PP-BK**

Polyamide
Colour: Black
Material Code: **PA**

Thermoplastic Elastomer
(87 Shore-A)
Colour: Black
Material Code: **SA**

Aluminum
Colour: Self-Colour
Material Code: **AL**

Product Features:

Proven, tested and trusted product in various markets

Recommended for the safe installation of rigid pipes and tubes

Available for all commonly used pipe and tube outside diameters

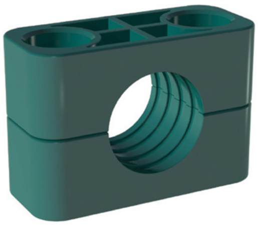
Environmental protection due to vibration/noise reducing design

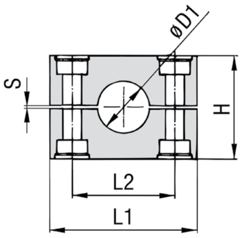
Excellent weathering resistance, even under extreme conditions

3D step models available upon request

Clamp Body - Profiled Design Profiled Inside Surface With Tension Clearance

Heavy Series According to DIN 3015, Part 2





Ordering Codes:

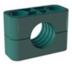
Clamp Body ***7*060.3-*PP**
One clamp body consisting of two clamp halves

- 1st part of Group Series 7
- Exact outside diameter Ø D1 (mm) 060.3
- Material code (see below) PP

Clamp Body - Profiled Design - Profiled Inside Surface with Tension Clearance

Group		Outside Diameter Pipe/Tube Ø D1		Nominal Bore	Ordering Codes (2 Clamp Halves) (**=material)	Dimensions (mm/in)					
Series	DIN	(mm)	(in)	Pipe (in)		L1 PP/ PA/ SA	L1 AL	L2	H	S min.	Width
7S	5	60.3			7060.3-**	154	152	122	120	2	60
		65			7065-**						
		70	2-3/4		7070-**						
		73		2-1/2 (ANSI B 36-10)	7073-**						
		75			7075-**						
		76,1	3	2-1/2 (DIN EN 10220)	7076.1-**	6.06	5.98	4.80	4.72	.08	2.36
		80			7080-**						
		82,5			7082.5-**						
		88,9	3-1/2	3	7088.9-**						
8S	6	88,9	3-1/2	3	8088.9-**	206	208	168	168	2	80
		100			8100-**						
		102	4	3-1/2	8102-**						
		108			8108-**						
		114	4-1/2	4	8114-**	8.11	8.19	6.61	6.61	.08	3.15
		127	5		8127-**						
		133			8133-**						
9S	7	127	5		9127-**	251	255	205	200	3	91
		133			9133-**						
		140		5	9140-**						
		152	6		9152-**						
		159			9159-**	9.88	10.04	8.07	7.87	.12	3.58
		165			9165-**						
		168		6	9168-**						
10S	8	168		6	10168-**	336	326	265	270	3	120
		177,8			10177.8-**						
		193,7			10193.7-**						
		203	8		10203-**	13.22	12.83	10.43	10.63	.12	4.72
		216			10216-**						
		219		8	10219-**						
11S	9	219		8	11219-**	470	470	395	410	8	162
		273		10	11273-**	18.50	18.50	15.55	16.14	.31	6.38
		324		12	11324-**						
12S	10	356		14	12356-**	630	630	534	530	20	182
		406		16	12406-**	4.80	4.80	21.02	20.87	.79	7.16

Standard Materials



Polypropylene
Colour: Green
Material Code: **PP**

Polypropylene
Colour: Black
Material Code: **PP-BK**

Polyamide
Colour: Black
Material Code: **PA**

Aluminum
Colour: Self-Colour
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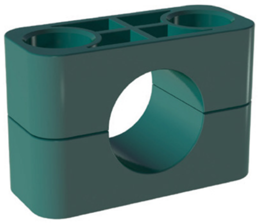
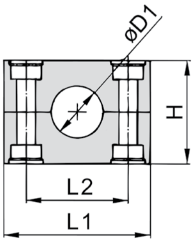
Clamp Body - Type H Smooth Inside Surface Without Tension Clearance

Heavy Series According to DIN 3015, Part 2





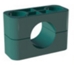
Ordering Codes:

Clamp Body ***3*006-*PP-H**

One clamp body consisting of two clamp halves

- 1st part of Group Series 3
- Exact outside diameter Ø D1 (mm) 006
- Material code (see below) PP-H

Standard Materials



Polypropylene
Colour: Green
Material Code: **PP-H**

Polypropylene
Colour: Black
Material Code: **PP-H-BK**

Polyamide
Colour: Black
Material Code: **PA-H**

Thermoplastic Elastomer
(87 Shore-A)
Colour: Black
Material Code: **SA-H**

Clamp Body - Type H - Smooth Inside Surface without Tension Clearance

Group		Outside Diameter Hose Ø D1		Ordering Codes (2 Clamp Halves) (**-H=material)	Dimensions (mm/in)			
Series	DIN	(mm)	(in)		L1	L2	H	Width
3S	1	6		3006-**-H	55	33	30,5	30,5
		6,4	1/4	3006.4-**-H				
		8	5/16	3008-**-H				
		9,5	3/8	3009.5-**-H				
		10		3010-**-H				
		12		3012-**-H				
		12,7	1/2	3012.7-**-H	2.16	1.30	1.20	1.20
		13,5		3013,5-**-H				
		14		3014-**-H				
		15		3015-**-H				
		16	5/8	3016-**-H				
		17,2		3017.2-**-H				
		18		3018-**-H				
4S	2	19	3/4	4019-**-H	70	45	46,5	30,5
		20		4020-**-H				
		21,3		4021.3-**-H				
		22	7/8	4022-**-H				
		25		4025-**-H				
		25,4	1	4025.4-**-H	2.76	1.77	1.83	1.20
		26,9		4026.9-**-H				
		28		4028-**-H				
		30		4030-**-H				
5S	3	30		5030-**-H	85	60	58	30,5
		32	1-1/4	5032-**-H				
		33,7		5033.7-**-H				
		35		5035-**-H				
		38	1-1/2	5038-**-H	3.35	2.36	2.28	1.20
		40		5040-**-H				
		41,3		5041.3-**-H				
		42		5042-**-H				
6S	4	38	1-1/2	6038-**-H	115	90	87	45
		42		6042-**-H				
		44,5	1-3/4	6044.5-**-H				
		48,3		6048.3-**-H				
		50,8	2	6050.8-**-H				
		54		6054-**-H				
		55		6055-**-H				
		57		6057-**-H	4.53	3.54	3.43	1.77
		57,2	2-1/4	6057.2-**-H				
		60,3		6060.3-**-H				
		63,5	2-1/2	6063.5-**-H				
		65		6065-**-H				
		70	2-3/4	6070-**-H				

Product Features:

Proven, tested and trusted product in various markets

Recommended for the safe installation of hoses and cables

Chamfered edges avoid damaging of the hose or cable

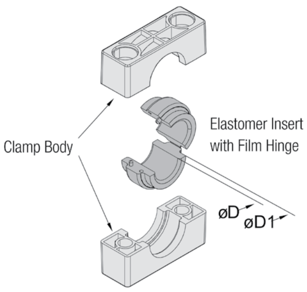
Available for all commonly used hose and cable outside diameters

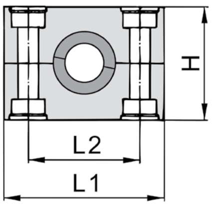
Excellent weathering resistance, even under extreme conditions

3D step models available upon request

Clamp Body with Elastomer Insert Type RI

Heavy Series According to DIN 3015, Part 2





Clamp Body with Elastomer Insert - Type RI

Group		Outside Diameter Pipe/Tube/Hose Ø D1		Ordering Codes (**R=Clamp Body Material)			Dimensions (mm/in)				
Series	DIN	(mm)	(in)	Clamp Assembly (Clamp Body + Insert)	Clamp Body (2 Clamp Halves)	Insert*	Ø D1	L1	L2	H	Width
4S	2	6		4006-**-R	4S-**-R	RI-06-4/4S	25	70	45	46,5	30,5
		8	5/16	4008-**-R		RI-08-4/4S					
		10		4010-**-R		RI-10-4/4S					
		12		4012-**-R		RI-12-4/4S					
		12,7	1/2	4012.7-**-R		RI-12.7-4/4S					
		14		4014-**-R		RI-14-4/4S	.98	2.76	1.77	4.83	1.20
		15		4015-**-R		RI-15-4/4S					
		16	5/8	4016-**-R		RI-16-4/4S					
		17,2		4017.2-**-R		RI-17.2-4/4S					
		18		4018-**-R		RI-18-4/4S					
		19	3/4	4020-**-R		RI-19-4/4S					
5S	3	20		5020-**-R	5S-**-R	RI-20-6/5S	38	85	60	58	30,5
		21,3		5021.3-**-R		RI-21.3-6/5S					
		22	7/8	5022-**-R		RI-22-6/5S					
		25		5025-**-R		RI-25-6/5S					
		26,9		5026.9-**-R		RI-26.9-6/5S	1.50	3.35	2.36	2.28	1.20
		28		5028-**-R		RI-28-6/5S					
		30		5030-**-R		RI-30-6/5S					
		32	1-1/4	5032-**-R		RI-32-6/5S					
6S	4	32	1-1/4	6032-**-R	6S-**-R	RI-32-6S	64	115	90	87	45
		33,7		6033.7-**-R		RI-33.7-6S					
		35		6035-**-R		RI-35-6S					
		38,7		6038-**-R		RI-38-6S					
		40		6040-**-R		RI-40-6S					
		42		6042-**-R		RI-42-6S					
		45,5		6045.5-**-R		RI-45.5-6S	2.52	4.53	3.54	3.43	1.77
		48		6048-**-R		RI-48-6S					
		51	2	6051-**-R		RI-51-6S					
		53,4		6053.4**-R		RI-53.4-6S					
		56,4		6056.4**-R		RI-56.4-6S					
7S	5	55		7055-**-R	7S-**-R	RI-55-7S	88	154	122	120	60
		57	2-1/4	7057-**-R		RI-57-7S					
		60		7060-**-R		RI-60-7S					
		63,5	2-1/2	7063.5-**-R		RI-63.5-7S					
		65		7065-**-R		RI-65-7S	3.56	6.06	4.80	4.72	2.36
		70	2-3/4	7070-**-R		RI-70-7S					
		72		7072-**-R		RI-72-7S					
		76	3	7076-**-R		RI-76-7S					
8S	6	80		8080-**-R	8S-**-R	RI-80-8S	114	208	168	168	80
		88,9	3-1/2	8088.9-**-R		RI-88.9-8S	4.49	8.11	6.61	6.61	3.15
		102		8102-**-R		RI-102-8S					
9S	7	114		9114-**-R	9S-**-R	RI-114-9S	150	251	205	200	91
		133	5-1/4	9133-**-R		RI-133-9S	5.91	9.88	8.07	7.87	3.58
		140		9140-**-R		RI-140-9S					
10S	8	150		10150-**-R	10S-**-R	RI-150-10S	200	336	265	270	120
		165		10165-**-R		RI-165-10S					
		168		10168-**-R		RI-168-10S	7.87	13.22	10.43	10.63	4.72
		172		10172-**-R		RI-172-10S					

Ordering Codes:

Clamp Assembly ***4006-*PP-R**

One assembly consisting of one clamp body and one insert

1st part of Group Series	3
Exact outside diameter Ø D1 (mm)	006
Material code (see below)	PP-R

Clamp Body ***4S-*PP-R**

One clamp body consisting of two clamp halves

Group Series	4S
Material code (see below)	PP-R

Elastomer Insert ***RI-*06-*4/4S**

Elastomer Insert	RI
Exact Outside Diameter Ø D (mm)	06
Group Series 4S (Heavy) and 4 (Standard)	4/4S
5S (Heavy) and 6 (Standard)	6/5S
6S (Heavy)	6S
7S (Heavy)	7S
8S (Heavy)	8S
9S (Heavy)	9S
10S (Heavy)	10S

Standard Materials

Polypropylene
Colour: Green
Material Code: **PP-R**

Polyamide
Colour: Black
Material Code: **PA-R**

Elastomer Insert
4S to 6S: Thermoplastic Elastomer (73 Shore-A)
7S to 10S: EPDM (70 Shore-A)
Colour: Black

Product Features:

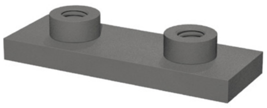
Proven, tested and trusted product in various markets

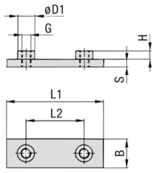
Either for the extra vibration/ noise reducing installation of pipes and tubes or the extra gentle installation of hoses and cables

3D step models available upon request

Weld Plates Type SPAL and Type SPAS

Heavy Series According to DIN 3015, Part 2





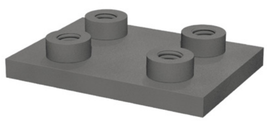
Weld Plate for Single Clamps - Type SPAL

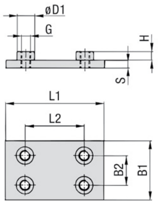
Group		Dimensions (mm/in)							Ordering Codes (Standard Options)
Series	DIN	L1	L2	B	S	H	Thread G	Ø D1	
3S	1	74	33	30	8	8	M10	18	SPAL-3S-M-W2
		2.91	1.30	1.18	.31	.31	3/8-16 UNC	.71	SPAL-3S-U-W2
4S	2	86	45	30	8	8	M10	18	SPAL-4S-M-W2
		3.39	1.77	1.18	.31	.31	3/8-16 UNC	.71	SPAL-4S-U-W2
5S	3	100	60	30	8	8	M10	18	SPAL-5S-M-W2
		3.94	2.36	1.18	.31	.31	3/8-16 UNC	.71	SPAL-5S-U-W2
6S	4	140	90	45	10	8	M12	20	SPAL-6S-M-W2
		5.51	3.54	1.77	.39	.31	7/16-14 UNC	.78	SPAL-6S-U-W2
7S	5	180	122	60	10	12	M16	24	SPAL-7S-M-W2
		7.09	4.8	2.36	.39	.47	5/8-11 UNC	.94	SPAL-7S-U-W2
8S	6	226	168	80	15	18	M20	30	SPAL-8S-M-W2
		8.90	6.61	3.15	.59	.71	3/4-10 UNC	1.18	SPAL-8S-U-W2
9S	7	270	205	90	15	21	M24	35	SPAL-9S-M-W2
		10.63	8.07	3.54	59	.83	7/8-9 UNC	1.38	SPAL-9S-U-W2
10S	8	340	265	120	25	21	M30	45	SPAL-10S-M-W2
		13.39	10.43	4.72	.98	.83	1-1/8-7 UNC	1.77	SPAL-10S-U-W2
11S	9	520	395	160	30	38	M30	50	SPAL-11S-M-W2
		20.47	15.55	6.30	1.18	1.50	1-1/4-7 UNC	1.97	SPAL-11S-U-W2
12S	10	680	534	180	30	38	M30	50	SPAL-12S-M-W2
		27.16	21.02	7.09	1.18	1.50	1-1/4-7 UNC	1.97	SPAL-12S-U-W2

All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.

Ordering Codes:

Weld Plate			***SPAL-*3S-*M-W2**
•	Weld Plate for Single Clamps		SPAL
•	Group Series		3S
•	Thread Code	Metric ISO thread	M
		Unified coarse (UNC) thread	U
•	Material Code	Carbon Steel, uncoated	W1
		Carbon Steel, phosphated	W2
		Carbon Steel, zinc/nickel-plated	W3
		Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)	W4
		Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5





Weld Plate for Double Clamps - Type SPAS

Group		Dimensions (mm/in)							Ordering Codes (Standard Options)
Series	DIN	L1	L2	B	S	H	Thread G	Ø D1	
3S	1	74	33	30	8	8	M10	18	SPAS-3S-M-W2
		2.91	1.30	1.18	.31	.31	3/8-16 UNC	.71	SPAS-3S-U-W2
4S	2	86	45	30	8	8	M10	18	SPAS-4S-M-W2
		3.39	1.77	1.18	.31	.31	3/8-16 UNC	.71	SPAS-4S-U-W2
5S	3	100	60	30	8	8	M10	18	SPAS-5S-M-W2
		3.94	2.36	1.18	.31	.31	3/8-16 UNC	.71	SPAS-5S-U-W2
6S	4	140	90	45	10	8	M12	20	SPAS-6S-M-W2
		5.51	3.54	1.77	.39	.31	7/16-14 UNC	.78	SPAS-6S-U-W2
7S	5	180	122	60	10	12	M16	24	SPAS-7S-M-W2
		7.09	4.8	2.36	.39	.47	5/8-11 UNC	.94	SPAS-7S-U-W2
8S	6	226	168	80	15	18	M20	30	SPAS-8S-M-W2
		8.90	6.61	3.15	.59	.71	3/4-10 UNC	1.18	SPAS-8S-U-W2
9S	7	270	205	90	15	21	M24	35	SPAS-9S-M-W2
		10.63	8.07	3.54	59	.83	7/8-9 UNC	1.38	SPAS-9S-U-W2
10S	8	340	265	120	25	21	M30	45	SPAS-10S-M-W2
		13.39	10.43	4.72	.98	.83	1-1/8-7 UNC	1.77	SPAS-10S-U-W2
11S	9	520	395	160	30	38	M30	50	SPAS-11S-M-W2
		20.47	15.55	6.30	1.18	1.50	1-1/4-7 UNC	1.97	SPAS-11S-U-W2
12S	10	680	534	180	30	38	M30	50	SPAS-12S-M-W2
		27.16	21.02	7.09	1.18	1.50	1-1/4-7 UNC	1.97	SPAs-12S-U-W2

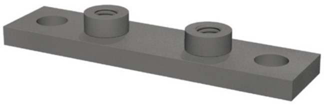
Ordering Codes:

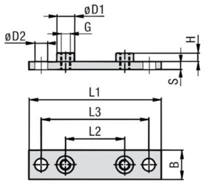
Weld Plate			***SPAS-*3S-*M-W2**
•	Weld Plate for Double Clamps		SPAS
•	Group Series		3S
•	Thread Code	Metric ISO thread	M
		Unified coarse (UNC) thread	U
•	Material Code	Carbon Steel, uncoated	W1
		Carbon Steel, phosphated	W2
		Carbon Steel, zinc/nickel-plated	W3
		Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)	W4
		Stainless Steel V4A 1.4401/1.4571 (AISI 316/316 TI)	W5

3D step models available upon request

Elongated Weld Plates Type SPAL-DUEB and Type SPAS-DUEB

Heavy Series According to DIN 3015, Part 2





Ordering Codes:

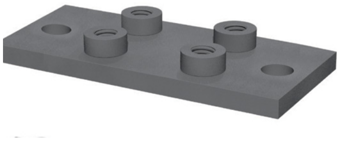
Weld Plate ***SPAL-DUEB-*3S-*M-W2**

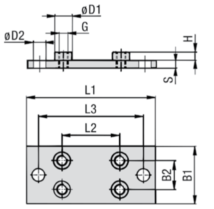
- Elongated Weld Plate for Single Clamps SPAL-DUEB
- Group Series 3S
- Thread Code
  - Metric ISO thread M
  - Unified coarse (UNC) thread U
- Material Code
  - Carbon Steel, uncoated W1
  - Carbon Steel, phosphated W2
  - Carbon Steel, zinc/nickel-plated W3
  - Stainless Steel V2A 1.4301/1.4305 (AISI 304/303) W4
  - Stainless Steel V4A 1.4401/1.4571 (AISI 316/ 316 TI) W5

Elongated Weld Plate for Single Clamps - Type SPAL-DUEB

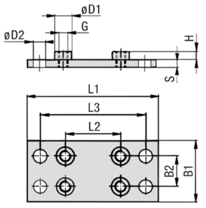
Group		Dimensions (mm/in)									Ordering Codes (Standard Options)
Series	DIN	L1	L2	L3	B	S	H	Thread G	Ø D1	Ø D2	
3S	1	113	33	85	30	8	8	M10	18	13	SPAL-DUEB-3S-M-W2
		4.45	1.30	3.35	1.18	.31	.31	3/8-16 UNC	.71	.51	SPAL-DUEB-3S-U-W2
4S	2	125	45	97	30	8	8	M10	18	13	SPAL-DUEB-4S-M-W2
		4.92	1.77	3.82	1.18	.31	.31	3/8-16 UNC	.71	.51	SPAL-DUEB-4S-U-W2
5S	3	1440	60	112	30	8	8	M10	18	13	SPAL-DUEB-5S-M-W2
		5.51	2.36	4.41	1.18	.31	.31	3/8-16 UNC	.71	.51	SPAL-DUEB-5S-U-W2
6S	4	187	90	155	45	10	8	M12	20	16	SPAL-DUEB-6S-M-W2
		7.36	3.54	6.10	1.77	.39	.31	7/16-14 UNC	.78	.62	SPAL-DUEB-6S-U-W2
7S	5	238	122	198	60	10	12	M16	24	21	SPAL-DUEB-7S-M-W2
		9.37	4.80	7.80	2.36	.39	.47	5/8-11 UNC	.94	.83	SPAL-DUEB-7S-U-W2
8S	6	309	168	259	80	15	18	M20	30	26	SPAL-DUEB-8S-M-W1
		12.17	6.61	10.20	3.15	.59	.71	3/4-10 UNC	1.18	1.02	SPAL-DUEB-8S-U-W1
9S	7	370	205	310	90	15	21	M24	35	31	SPAL-DUEB-9S-M-W1
		14.57	8.07	12.20	3.54	.59	.83	7/8-9 UNC	1.38	1.22	SPAL-DUEB-9S-U-W1
10S	8	460	265	400	120	25	21	M30	45	31	SPAL-DUEB-10S-M-W1
		18.11	10.43	15.75	4.72	.98	.83	1-1/8-7 UNC	1.77	1.22	SPAL-DUEB-10S-U-W1
11S	9	590	395	530	160	30	38	M30	50	31	SPAL-DUEB-11S-M-W1
		23.23	15.55	20.87	6.30	1.18	1.50	1-1/4-7 UNC	1.97	1.22	SPAL-DUEB-11S-U-W1
12S	10	750	534	690	180	30	38	M30	50	31	SPAL-DUEB-12S-M-W1
		29.53	21.02	27.17	7.09	1.18	1.50	1-1/4-7 UNC	1.97	1.22	SPAL-DUEB-12S-U-W1

All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.





Group 3S to 9S



Group10S to 12S

Ordering Codes:

Weld Plate ***SPAS-DUEB-*3S-*M-W2**

- Elongated Weld Plate for Double Clamps SPAS-DUEB
- Group Series 3S
- Thread Code
  - Metric ISO thread M
  - Unified coarse (UNC) thread U
- Material Code
  - Carbon Steel, uncoated W1
  - Carbon Steel, phosphated W2
  - Carbon Steel, zinc/nickel-plated W3
  - Stainless Steel V2A 1.4301/1.4305 (AISI 304/303) W4
  - Stainless Steel V4A 1.4401/1.4571 (AISI 316/ 316 TI) W5

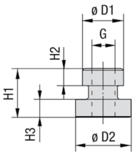
Elongated Weld Plate for Double Clamps - Type SPAS-DUEB

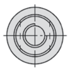
Group		Dimensions (mm/in)										Ordering Codes (Standard Options)
Series	DIN	L1	L2	L3	B1	B2	S	H	Thread G	Ø D1	Ø D2	
3S	1	113	33	85	60	30,5	8	8	M10	18	13	SPAS-DUEB-3S-M-W2
		4.45	1.30	3.35	2.36	1.20	.31	.31	3/8-16 UNC	.71	.51	SPAS-DUEB-3S-U-W2
4S	2	125	45	97	60	30,5	8	8	M10	18	13	SPAS-DUEB-4S-M-W2
		4.92	1.77	3.82	2.36	1.20	.31	.31	3/8-16 UNC	.71	.51	SPAS-DUEB-4S-U-W2
5S	3	1440	60	112	60	30,5	8	8	M10	18	13	SPAS-DUEB-5S-M-W2
		5.51	2.36	4.41	2.36	1.20	.31	.31	3/8-16 UNC	.71	.51	SPAS-DUEB-5S-U-W2
6S	4	187	90	155	90	46	10	8	M12	20	16	SPAS-DUEB-6S-M-W2
		7.36	3.54	6.10	3.54	1.81	.39	.31	7/16-14 UNC	.78	.62	SPAS-DUEB-6S-U-W2
7S	5	238	122	198	120	61	10	12	M16	24	21	SPAS-DUEB-7S-M-W2
		9.37	4.80	7.80	4.72	2.40	.39	.47	5/8-11 UNC	.94	.83	SPAS-DUEB-7S-U-W2
8S	6	309	168	259	160	81	15	8	M20	30	26	SPAS-DUEB-8S-M-W1
		12.17	6.61	10.20	6.61	3.19	.59	.71	3/4-10 UNC	1.18	1.02	SPAS-DUEB-8S-U-W1
9S	7	370	205	310	180	91	15	21	M24	35	31	SPAS-DUEB-9S-M-W1
		14.57	8.07	12.20	7.09	3.58	.59	.83	7/8-9 UNC	1.38	1.22	SPAS-DUEB-9S-U-W1
10S	8	460	265	400	240	121	25	21	M30	45	31	SPAS-DUEB-10S-M-W1
		18.11	10.43	15.75	9.45	4.78	.98	.83	1-1/8-7 UNC	1.77	1.22	SPAS-DUEB-10S-U-W1
11S	9	590	395	530	324	166	30	38	M30	50	31	SPAS-DUEB-11S-M-W1
		23.23	15.55	20.87	12.76	6.54	1.18	1.50	1-1/4-7 UNC	1.97	1.22	SPAS-DUEB-11S-U-W1
12S	10	750	534	690	364	186	30	38	M30	50	31	SPAS-DUEB-12S-M-W1
		29.53	21.02	27.17	14.33	7.32	1.18	1.50	1-1/4-7 UNC	1.97	1.22	SPAS-DUEB-12S-U-W1

3D step models available upon request

Rail Nuts Heavy RNH, Mounting Rail

Heavy Series According to DIN 3015, Part 2





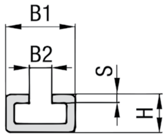
Mounting Rail Nut (for Use with Mounting Rail STSV) Type RNH

Group		Dimensions (mm/in)						Ordering Codes
Series	DIN	Ø D1	Ø D2	H1	H2	H3	Thread G	(Standard Options)
3S	1	17.8	24	21	7,6	7,4	M10	RNH345-M-*
4S	2							
5S	3	.70	.94	.83	.30	.29	3/8-16 UNC	RNH345-*
6S	4	19.8	24	23	8.8	8.8	M12	RNH6-M-*
		.78	.94	.91	.35	.35	3/8-16 UNC	RNH6-*
7S	5	24.1	28.7	38.8	23.6	8.8	M16	RNH7-M-*
		.95	1.13	1.53	.93	.35	5/8-11 UNC	RNH7-*

All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.

Ordering Codes:

Mounting Rail Nut			**RNH345-SS**
•	Mounting Rail Nut		RNH
•	Group Series	3S to 5S (DIN Group 1 to 3)	345
		6S (DIN Group 4)	6
		7S (DIN Group 5)	7
•	Thread Code	Metric ISO thread	M
		Unified coarse (UNC) thread	Standard
•	Material Code	Carbon Steel, zinc/nickel-plated	Standard
		* Stainless Steel Type 316	SS

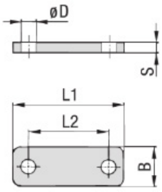


Mounting Rail (for Use with Mounting Rail Nut RNH) Type STSV

Group		Dimensions (mm/in)				Ordering Codes (Standard Options)	
Series	DIN	B1	B2	H	S	Length of Rail: 1m/3.28 ft.	Length of Rail: 2m/6.56 ft.
3S	1	40	13	22	5	STSV-100/3-*	STSV-100/6-*
4S	2						
5S	3						
6S	4	1.57	.51	.86	.19		
7S	5						

Ordering Codes:

Mounting Rail			**STSV 100/6**
•	Mounting Rail		STSV
•	Length of Rail	1 m / 3.28 ft.	3
		2 m / 6.56 ft.	6
		Alternative lengths available upon request.	
•	Material Code	Carbon Steel, uncoated	Standard
		*Stainless Steel Type 316	SS



Rail Nut Plate, Type RNP for use with Rail and Group 7 Rail Nut

Group		Dimensions (mm/in)					Ordering Codes (Standard Options)
Series	DIN	L1	LB2	B	S	Ø D1	
7S	5	152.4	122.2	63.5	12.7	25	RNP-7-*
		6.00	4.81	2.50	0.50	0.98	

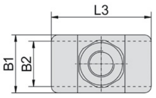
Ordering Codes:

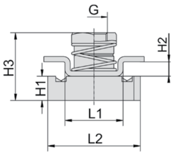
Rail Nut Plate			**RNP-7**
•	Rail Nut Plate		RNP
•	Group Series		7S
•	Material Code	Carbon Steel, uncoated	Standard
		*Stainless Steel Type 316	SS

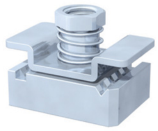
3D step models available upon request

Channel Rail Adaptors, Type CRA

Heavy Series According to DIN 3015, Part 2







Ordering Codes:

Adaptor			***CRA-*3-5S-*M-*W3**
•	Channel Rail Adaptor		CRA
•	Group Series	3S to 5S (DIN Group 1 to 3)	3-5S
		6S (DIN Group 4)	6S
•	Thread Code	Metric ISO thread	M
		Unified coarse (UNC) thread	U
•	Material Code	Carbon Steel, zinc/nickel-plated	W3
		Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5

Channel Rail Adaptor (for Use with Various Channel Rails) Type CRA

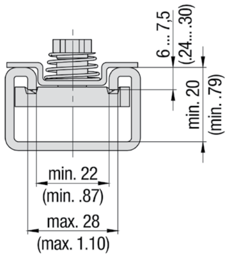
Group		Dimensions (mm/in)									Ordering Codes (Standard Options)
Series	DIN	Thread G	L1	L2	L3	B1	B2	H1	H2	H3	
3S 4S 5S	1 2 3	M10	22	35	38	22	20,5	9,2	5,5	27,5	CRA-3-5S-M-W3
		3/8-16 UNC	.87	1.38	1.50	.87	.81	.36	.22	1.08	CRA-3-5S-U-W3
6S	4	M12	21,5	35	45	25	19	9,2	5	27,5	CRA-3-5S-M-W3
		7/16-14 UNC	.85	1.38	1.77	.98	.75	.36	.20	1.08	CRA-3-5S-U-W3

All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.

Compatibility with Channel Rails

The Channel Rail Adaptor, type CRA is suitable for various channel rails, including the following types:

HALFEN	HILTI	UNISTRUT®	Series (Cushion Clamp Series)
HM 41/41	MQ-21, MQ-41, MQ-52	P1000, P1000T, P1000V, P1001	SCS-048-1-PL, SCS-048-1-GR
HZA-41/22	MQ-21U, MQ-41U, MQ-72U	P2000, P2000T	SCS-120-1-PL, SCS-120-1-GR
HZM 41/41	MQ-21D, MQ-41D, MQ-52-72D	03993, P3003T, P3300V, P3300VT, P3301	See page 149 for technical information
HZM 41/22		P4000, P4000T	
HL 41/41, HL 41/B2		P5000, P5000T, P5001, P5500, P5500T, P5501	



Basic dimensional requirements for channel rails to be used with STAUFF Channel Rail Adaptors, Type CRA

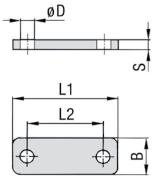
Recommended Bolt Lengths when using the Channel Rail Adaptor, Type CRA

Group		Hexagon Head Bolts AS (used with Cover Plates DPAL or DPAS)		Socket Cap Screws (used without Cover Plates DPAL or DPAS)	
Series	DIN	Metric ISO Thread	Unified Coarse (UNC) Thread	Metric ISO Thread	Unified Coarse (UNC) Thread
3S	1	M10x40	3/8-16 UNC x 1-1/2	M10 x 25	3/8-16 UNC x 1
4S	2	M10x55	3/8-16 UNC x 2-1/4	M10 x 40	3/8-16 UNC x 1-1/2
5S	3	M10x65	3/8-16 UNC x 2-3/4	M10 x 50	3/8-16 UNC x 2
6S	4	M12x100	7/16-14 UNC x 3-3/4	M12 x 75	7/16-14 UNC x 3

3D step models available upon request

Cover Plates Type DPAL and DPAS

Heavy Series According to DIN 3015, Part 2

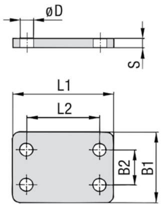


Ordering Codes:

Cover Plate			***DPAL-*3S-*W2**
•	Cover Plate for Single Clamps		DPAL
•	Group Series		3S
•	Material Code	Carbon Steel, uncoated	W1
		Carbon Steel, phosphated	W2
		Carbon Steel, zinc/nickel-plated	W3
		Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)	W4
		Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5
		Aluminum EN AW-6060 (for group sizes 3S to 5S only)	W85

Cover Plate for Single Clamps, Type DPAL

Group		Dimensions (mm/in)					Ordering Codes (Standard Options)
Series	DIN	L1	L2	B	S	ØD	
3S	1	55	33	30	8	11	DPAL-3S-W2
		2.16	1.30	1.18	.31	.43	
4S	2	70	45	30	8	11	DPAL-4S-W2
		2.76	1.77	1.18	.31	.43	
5S	3	85	60	30	8	11	DPAL-5S-W2
		3.35	2.36	1.18	.31	.43	
6S	4	115	90	45	10	14	DPAL-6S-W2
		4.53	3.54	1.77	.39	.55	
7S	5	152	122	60	15	19	DPAL-7S-W2
		5.98	4.80	2.36	.59	.75	
8S	6	206	168	80	15	22	DPAL-8S-W1
		8.11	6.61	3.15	.59	.87	
9S	7	251	205	90	15	26	DPAL-9S-W1
		9.88	8.07	3.54	.59	1.02	
10S	8	320	265	120	25	35	DPAL-10S-W1
		12.60	10.43	4.72	.98	1.38	
11S	9	470	395	160	30	35	DPAL-11S-W1
		18.50	15.55	6.30	1.18	1.38	
12S	10	630	534	180	30	35	DPAL-12S-W1
		24.80	21.02	7.09	1.18	1.38	



Ordering Codes:

Cover Plate			***DPAS-*3S-*W2**
•	Cover Plate for Double Clamps		DPAS
•	Group Series		3S
•	Material Code	Carbon Steel, uncoated	W1
		Carbon Steel, phosphated	W2
		Carbon Steel, zinc/nickel-plated	W3
		Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)	W4
		Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5

Cover Plate for Double Clamps, Type DPAS

Group		Dimensions (mm/in)						Ordering Codes (Standard Options)
Series	DIN	L1	L2	B1	B2	S	ØD	
3S	1	55	33	60	30,5	8	11	DPAS-3S-W2
		2.16	1.30	2.36	120	.31	.43	
4S	2	70	45	60	30,5	8	11	DPAS-4S-W2
		2.76	1.77	2.36	120	.31	.43	
5S	3	85	60	60	30,5	8	11	DPAS-5S-W2
		3.35	2.36	2.36	120	.31	.43	
6S	4	115	90	90	46	10	14	DPAS-6S-W2
		4.53	3.54	3.54	1.81	.39	.55	
7S	5	152	122	120	61	15	19	DPAS-7S-W2
		5.98	4.80	4.72	2.40	.59	.75	
8S	6	206	168	160	81	15	22	DPAS-8S-W1
		8.11	6.61	6.61	3.19	.59	.87	
9S	7	251	205	180	91	15	26	DPAS-9S-W1
		9.88	8.07	7.09	3.58	.59	1.02	
10S	8	320	265	240	121	25	35	DPAS-10S-W1
		12.60	10.43	9.45	4.78	.98	1.38	
11S	9	470	395	321	166	30	35	DPAS-11S-W1
		18.50	15.55	12.64	6.54	1.18	1.38	
12S	10	630	534	361	186	30	35	DPAS-12S-W1
		24.80	21.02	14.21	7.32	1.18	1.38	

3D step models available upon request

Hex Bolt Type AS and Screw Cap Type IS

Heavy Series According to DIN 3015, Part 2

Hexagon Head Bolt AS
(according to DIN 931/933 or ANSI/ASME B18.2.1)
Dimensions applicable only when used with Cover Plates DPAL or DPAS

Hexagon Head Bolt, Type AS

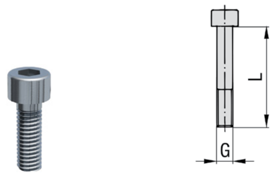
Group		Dimensions (mm/in)	Ordering Codes (Standard Options)
Series	DIN	Thread GxL	
3S	1	M10x45	AS-M10x45-W1
		3/8-16 UNC x 1-3/4	AS-3/8-16UNCx1-3/4-W3*
4S	2	M10x60	AS-M10x45-W1
		3/8-16 UNC x 2-1/4	AS-3/8-16UNCx2-1/4-W3*
5S	3	M10x70	AS-M10x70-W1
		3/8-16 UNC x 2-3/4	AS-3/8-16UNCx2-3/4-W3*
6S	4	M12x100	AS-M12x100-W1
		7/16-14 UNC x 4	AS-7/16-14UNCx4-W3*
7S	5	M16x130	AS-M16x130-W1
		5/8-11 UNC x 5-1/4	AS-5/8-11UNCx5-1/4-W3*
8S	6	M20x190	AS-M20x190-W1
		3/4-10 UNC x 5-1/4	AS-3/4-10UNCx5-1/4-W1
9S	7	M24x220	AS-M24x220-W1
		7/8-9 UNC x 8-3/4	AS-7/8-9UNCx8-3/4-W1
10S	8	M30x300	AS-M30x300-W1
		1-1/8-7 UNC x 12	AS-1-1/8-7UNCx12-W1
11S	9	M30x450	AS-M30x450-W1
		1-1/4-7 UNC x 17-1/2	AS-1-1/5-7UNCx17-1/2-W1
12S	10	M30x560	AS-M30x560-W1
		1-1/4-7 UNC x 22	AS-1-1/4-7UNCx22-W1

All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.

Ordering Codes:

Hexagon Head Bolt			***AS-*M10x70-*W1**
• Type of bolt		Hexagon Head Bolt (according to DIN 931/933 or ANSI/SME B18.2.1)	AS
• Thread type and size acc. to dimension table			M10x70
• Material Code		Carbon Steel, uncoated	W1
		Carbon Steel, zinc/nickel-plated	W3
		Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)	W4
		Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5

* Standard finishing option for Heavy Group Series sizes 3S to 7S in North America is W3 (Carbon Steel, zinc/nickel plated).



Socket Cap Screw Type IS
(according to ISO 4762 or ANSI/ASME B18.3)
Dimensions applicable only when used without Cover Plates

Socket Cap Screw, Type IS

Group		Dimensions (mm/in)	Ordering Codes (Standard Options)
Series	DIN	Thread GxL	
3S	1	M10x30	IS-M10x30-W1
		3/8-16 UNC x 1	IS-3/8-16UNCx1-W3
4S	2	M10x40	IS-M10x40-W1
		3/8-16 UNC x 1-3/4	IS-3/8-16UNCx1-3/4-W3
5S	3	M10x50	IS-M10x50-W1
		3/8-16 UNC x 2	IS-3/8-16UNCx2-W3
6S	4	M12x80	IS-M12x80-W1
		7/16-14 UNC x 3-1/4	IS-7/16-14UNCx3-1/4-W3

All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.

Ordering Codes:

Socket Cap Screw			***IS-*M10x50-*W1**
• Type of bolt		Socket Cap Screw (according to ISO 4762 or ANSI/ASME B18.3	IS
• Thread type and size acc. to dimension table			M10x50
• Material Code		Carbon Steel, uncoated	W1
		Carbon Steel, zinc/nickel-plated	W3
		Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)	W4
		Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5

Safety Washer Type SI

Heavy Series According to DIN 3015, Part 2

Safety Washer SI

(Bend longer tab down towards the side of the clamp body and one side up towards one of the flats of the hexagon head bolt)

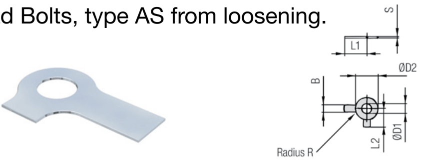
Safety Washer (for Use with Hexagon Head Bolt AS), Type SI (DIN 93)

Group		Dimensions (mm/in)						Ordering Codes (Standard Options)
Series	DIN	ØD1	B	ØD2	L	R	S	
3S	1	10.5	10	26	22	4	0.75	SI-10.5-DIN93-W3
		.41	.39	1.02	.87	.16	.03	
4S	2	10.5	10	26	22	4	0.75	SI-10.5-DIN93-W3
		.41	.39	1.02	.87	.16	.03	
5S	3	10.5	10	26	22	4	0.75	SI-10.5-DIN93-W3
		.41	.39	1.02	.87	.16	.03	
6S	4	13	12	30	28	6	1	SI-13-DIN93-W3
		.51	.47	1.18	1.10	.24	.04	
7S	5	17	15	36	32	6	1	SI-17-DIN93-W3
		.67	.59	1.42	1.26	.24	.04	
8S	6	21	18	42	36	6	1	SI-21-DIN93-W3
		.83	.71	1.65	1.42	.24	.04	
9S	7	25	20	50	42	6	1	SI-25-DIN93-W3
		.98	.79	1.97	1.65	.24	.04	
10S	8	31	26	63	52	10	1,6	SI-31-DIN93-W3
		1.22	1.02	2.48	2.05	.39	.06	
11S	9	31	26	63	52	10	1,6	SI-31-DIN93-W3
		1.22	1.02	2.48	2.05	.39	.06	
12S	10	31	26	63	52	10	1,6	SI-31-DIN93-W3
		1.22	1.02	2.48	2.05	.39	.06	

Safety Washers, type SI are used as locking devices to prevent Hexagon Head Bolts, type AS from loosening.

Ordering Codes:

Safety Washer		***SI-*10.5-*DIN93-*W3**
• Safety Washer		SI
• Exact Inner Diameter ØD1 (mm)		10.5
• Type of Washer	Safety Washer with 2 tabs (according to DIN 93)	DIN 93
• Material Code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5



Safety Washer SI

(Bend longer tab down towards the side of the clamp body and shorter tab up towards one of the flats of the hexagon head bolt)

Safety Washer (for Use with Hexagon Head Bolt AS), Type SI (DIN 463)

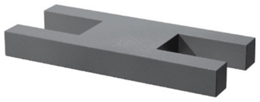
Group		Dimensions (mm/in)							Ordering Codes (Standard Options)
Series	DIN	ØD1	B	ØD2	L	L2	R	S	
3S	1	10.5	10	21	22	13	4	0.75	SI-10.5-DIN463-W3
		.41	.39	.83	.87	.51	.16	.03	
4S	2	10.5	10	21	22	13	4	0.75	SI-10.5-DIN463-W3
		.41	.39	.83	.87	.51	.16	.03	
5S	3	10.5	10	21	22	13	4	0.75	SI-10.5-DIN463-W3
		.41	.39	.83	.87	.51	.16	.03	
6S	4	13	12	24	28	15	6	1	SI-13-DIN463-W3
		.51	.47	.94	1.10	.59	.24	.04	
7S	5	17	15	30	32	18	6	1	SI-17-DIN463-W3
		.67	.59	1.18	1.26	.71	.24	.04	
8S	6	21	18	37	36	21	6	1	SI-21-DIN463-W3
		.83	.71	1.46	1.42	.83	.24	.04	
9S	7	25	20	44	42	25	6	1	SI-25-DIN463-W3
		.98	.79	1.73	1.65	.98	.24	.04	
10S	8	31	26	56	52	32	10	1,6	SI-31-DIN463-W3
		1.22	1.02	2.20	2.05	1.26	.39	.06	
11S	9	31	26	56	52	32	10	1,6	SI-31-DIN463-W3
		1.22	1.02	2.20	2.05	1.26	.39	.06	
12S	10	31	26	56	52	32	10	1,6	SI-31-DIN463-W3
		1.22	1.02	2.20	2.05	1.26	.39	.06	

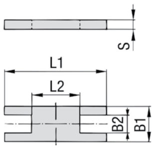
Ordering Codes:

Safety Washer		***SI-*10.5-*DIN463-*W3**
• Safety Washer		SI
• Exact Inner Diameter ØD1 (mm)		10.5
• Type of Washer	Safety Washer with 2 tabs (according to DIN 463)	DIN 463
• Material Code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)	W5

Safety Plate Type SIP and Stacking Bolt Type AF

Heavy Series According to DIN 3015, Part 2



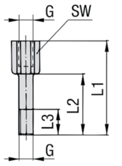


Ordering Codes:

Safety Locking Plate			***SIP-*3S-*W2**
• Safety Locking Plate			SIP
• Group Series			3S
• Material Code	Carbon Steel, uncoated		W1
	Carbon Steel, phosphated		W2
	Carbon Steel, zinc/nickel-plated		W3
	Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)		W4
	Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)		W5

Safety Locking Plate (for Use with Stacking Bolt AF), Type SIP

Group		Dimensions (mm/in)					Ordering Codes (Standard Options)
Series	DIN	L1	L2	B1	B2	S	
3S	1	57	13	30	15,2	8	SIP-3S-W2
		2.24	.51	1.18	.60	.31	
4S	2	70	26	30	15,2	8	SIP-4S-W2
		2.76	1.02	1.18	.60	.31	
5S	3	85	40	30	15,2	8	SIP-5S-W2
		3.35	1.57	1.18	.60	.31	
6S	4	116	68	45	17,2	10	SIP-6S-W2
		4.57	2.68	1.77	.68	.39	
7S	5	153	96	60	22	10	SIP-7S-W2
		6.02	3.78	2.36	.87	.39	
8S	6	206	130	80	28	15	SIP-8S-W1
		8.11	5.12	3.15	1.10	.59	
9S	7	251	166	90	31	15	SIP-9S-W1
		9.88	6.54	3.54	1.22	.59	
10S	8	317	205	120	49	25	SIP-10S-W1
		12.48	8.07	4.72	1.02	.98	



Ordering Codes:

Stacking Bolt			***AF-*3S-*M-*W2**
• Stacking Bolt			AF
• Group Series			3S
• Thread Code	Metric ISO thread		M
	Unified coarse (UNC) thread		U
• Material Code	Carbon Steel, uncoated		W1
	Carbon Steel, phosphated		W2
	Carbon Steel, zinc/nickel-plated		W3
	Stainless Steel V2A 1.4301/1.4305 (AISI 304/303)		W4
	Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 TI)		W5

Stacking Bolt (for Use with Safety Locking Plate SIP), Type AF

Group		Dimensions (mm/in)					Ordering Codes (Standard Options)
Series	DIN	L1	L2	L3 min.	Hex	Thread G	
3S	1	49	25	15	15	M-10	AF-3S-M-W2
		1.93	.98	.59	.59	3/8-16 UNC	AF-3S-U-W3*
4S	2	65	40	15	15	M-10	AF-4S-M-W2
		2.56	1.57	.59	.59	3/8-16 UNC	AF-4S-U-W3*
5S	3	77	51	15	15	M-10	AF-5S-M-W2
		3.03	2.01	.59	.59	3/8-16 UNC	AF-5S-U-W3*
6S	4	110	82	18	17	M12	AF-6S-M-W2
		4.33	3.23	.71	.67	7/16-14 UNC	AF-6S-U-W3*
7S	5	144	110	24	22	M16	AF-7S-M-W2
		5.67	4.33	.94	.87	5/8-11 UNC	AF-7S-U-W3*
8S	6	200	150	30	27	M20	AF-8S-M-W2
		7.87	5.91	1.18	1.06	3/4-10 UNC	AF-8S-U-W1*
9S	7	240	180	50	30	M24	AF-9S-M-W2
		9.45	7.09	1.97	1.18	7/8-9 UNC	AF-9S-U-W1*
10S	8	331	256	62	46	M30	AF-10S-M-W2
		13.03	10.08	2.44	1.81	1-1/8-7 UNC	AF-10S-U-W1*

All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.

3D step models available upon request

Clamp Assembly Ordering Code

SPAL	3006	PP	DPAL-AS	M	W12	K
①	②	③	④	⑤	⑥	⑦

① Type of Installation

Please select the type of installation (e.g. Weld Plates, Rail Nuts, etc.) and add the corresponding Code to positon ① of the order code for your clamp assembly.

Without Installation Equipment
Code: none

Installation on Weld Plate

Weld Plate for Single Clamps
Code: **SPAL**

Weld Plate for Double Clamps
Code: **SPAS**

Elongated Weld Plate for Single Clamps
Code: **SPAL-DUEB**

Elongated Weld Plate for Double Clamps
Code: **SPAS-DUEB**

Installation on Mounting/Channel Rail

Mounting Rail Nut
Code: **RNH** (for Group 3S to 6S only)
Code: **RNH-RNP** (for Group 7S only)

Channel Rail Adaptor
Code: **CRA** (for Group 3S to 6S only)

② Group Size & Diameter

Please select the required group size and diameter and add the corresponding Code to Position ② of the order code for your clamp assembly.

Group	Outside Diameter	Availability of Clamp Body Materials & Designs			Code
Series (DIN)	P/T/H (mm)	Profiled Design	Type H	Type RI	
3S (1)	6	•	•	○	3006
	6,4	•	•	○	3006.4
	8	•	•	○	3008
	9,5	•	•	○	3009.5
	10	•	•	○	3010
	12	•	•	○	3012
	12,7	•	•	○	3012.7
	13,5	•	•	○	3013.5
	14	•	•	○	3014
	15	•	•	○	3015
	16	•	•	○	3016
	17,2	•	•	○	3017.2
	18	•	•	○	3018
	20	•	○	○	3020

3D step models available upon request

② Group Size & Diameter Continuation

Group	Outside Diameter	Availability of Clamp Body Materials & Designs			Code
Series (DIN)	P/T/H (mm)	Profiled Design	Type H	Type RI	
4S (2)	8	○	○	•	4006
	8	○	○	•	4008
	10	○	○	•	4010
	12	○	○	•	4012
	12,7	○	○	•	4012.7
	14	○	○	•	4014
	15	○	○	•	4015
	16	○	○	•	4016
	17,2	○	○	•	4017.2
	18	○	○	•	4018
	19	•	•	•	4019
	20	•	•	○	4020
	21,3	•	•	○	4021.3
	22	•	•	○	4022
	25	•	•	○	4025
	25,4	•	•	○	4025.4
	28	•	•	○	4028
	30	•	•	○	4030
5S (3)	20	○	○	•	5020
	21,3	○	○	•	5021.3
	22	○	○	•	5022
	25	○	○	•	5025
	25,4	○	○	•	5025.4
	26,9	○	○	•	5026.9
	28	○	○	•	5028
	30	•	•	•	5030
	32	•	•	•	5032
	33,7	•	•	○	5033.7
	35	•	•	○	5035
	38	•	•	○	5038
	40	•	•	○	5040
	41,3	•	•	○	5041.3
	42	•	•	○	5042
6S (4)	32	○	○	•	6032
	33,7	○	○	•	6033.7
	35	○	○	•	6035
	38	•	•	○	6038
	38,7	○	○	•	6038.7
	40	○	○	•	6040
	42	•	•	•	6042
	44,5	•	•		6044.5
	35,5	○	○	•	6035.5
	48	○	○	•	6048
	48,3	•	•	○	6048.3
	50,8	•	•	○	6050.8
	51	○	○	•	6051
	53,4	○	○	•	6053.4
	54	•	○	○	6054
	55	•	•	○	6055
	56,4	○	○	•	6056.4
	57	•	•	○	6057
	57,2	•	•	○	6057.2

② Group Size & Diameter Continuation

Group	Outside Diameter	Availability of Clamp Body Materials & Designs			Code
Series (DIN)	P/T/H (mm)	Profiled Design	Type H	Type RI	
6S (4)	60,3	•	•	○	6060.3
	63,5	•	•	○	6063.5
	65	•	•	○	6065
	70	•	•	○	6070
7S (5)	55	○	○	•	7055
	57	○	○	•	7057
	60	○	○	•	7060
	60,3	•	○		7060.3
	63,5	○	○	•	7063.5
	65	•	○	•	7065
	70	•	○	•	7070
	72	○	○	•	7072
	73	•	○	○	7073
	75	•	○	○	7075
	76	○	○	•	7076
	76,1	•	○	○	7076.1
	80	•	○	○	7080
	82,5	•	○	○	7082.5
	88,9	•	○	○	7088.9
8S (6)	80	○	○	•	8080
	88,9	•	○	•	8088.9
	100	•	○	○	8100
	102	•	○	•	8102
	108	•	○	○	8108
	114	•	○	○	8114
	127	•	○	○	8127
	133	•	○	○	8133
9S (7)	114	○	○	•	9114
	127	•	○	○	9127
	133	•	○	•	9133
	140	•	○	•	9140
	153	•	○	○	9153
	159	•	○	○	9159
	165	•	○	○	9165
	168	•	○	○	9168
10 (S)	150	○	○	•	10150
	165	○	○	•	10165
	168	•	○	•	10168
	172	○	○	•	10172
	177,8	•	○	○	10177.8
	193,7	•	○	○	10193.7
	203	•	○	○	10203
	216	•	○	○	10216
	219	•	○	○	10219
11 (S)	219	•	○	○	11219
	273	•	○	○	11273
	324	•	○	○	11324
12 (S)	356	•	○	○	12356
	406	•	○	○	12406

- Standard Option

Clamp Assembly Ordering Code

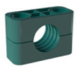
Please see pages K15 and K16 with detailed order examples for some fo the most popular Heavy Series clamp assemblies.

③ Clamp Body Design & Material

Please select the design and material of your clamp body and at the corresponding Code to position ③ of the order code for your clamp assembly.

Please check the availability of the selected clamp body design and material according to the matrix table in ②.

Profiled Design



Polypropylene
Code: **PP**

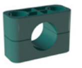
Polypropylene (Colour: Black)
Code: **PP-BK**

Polyamide
Code: **PA**

Thermoplastic Elastomer (87 Shore-A)
Code: **SA** (Group 3S to 6S only)

Aluminum
Code: **AL**

Type H (Smooth)



Polypropylene
Code: **PP-H** (Group 3S to 6S only)

Polypropylene (Colour: Black, Group 3S to 6S only)
Code: **PP-H-BK**

Polyamide
Code: **PA-H** (Group 3S to 6S only)

Thermoplastic Elastomer (87 Shore-A)
Code: **SA-H** (Group 3S to 6S only)

Type RI (with Elastomer Insert)

Polypropylene
Code: **PP-R** (Group 4S to 10S only)

Polyamide
Code: **PA-R** (Group 4S to 10S only)

④ Mounting & Fitting Combination

Please select the mounting and fitting combination (e.g. bolts, screws, cover plates, etc.) and add the corresponding Code to position ④ of the order code for your clamp assembly.

Installation with Cover Plate and Bolts

Cover Plate for Single Clamps DPAL with **Hexagon Head Bolts AS**
Code: **DPAL-AS**

Cover Plate for Double Clamps DPAS with **Hexagon Head Bolts AS**
Code: **DPAS-AS**

Cover Plate for Single Clamps DPAL with **Socket Cap Screws IS***
Code: **DPAL-IS** (for STAUFF Group 3S to 6S only)

Installation with Locking Plates and Bolts

Safety Locking Plate SIP with **Stacking Bolts AF**
Code: **SIP-AF**

Installation with Bolts only

Socket Cap Screws IS
Code: **IS**

*Special lengths of Socket Cap Screws IS required. For exact lengths, please see details of Hexagon Head Bolt, type AS (for use with Cover Plates DPAL or DPAS) on page 45.

⑤ Thread Type

Please select the required thread type and add the corresponding Code to position ⑤ of the order code for your clamp assembly.

Metric ISO thread
Code: **M**

Unified Coarse (UNCO thread
Code: **U**

*All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

⑥ Material & Surface Finishing

Please select the required material & surface finishing of the metal parts and add the corresponding Code to position ⑥ of the order code for your clamp assembly.

Metal parts made of Carbon Steel, uncoated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V4A 1.4301/1.4305 (AISI 304/303)	**W4**
Metal parts made of Stainless Steel V4A 1.4401/1.4571 (AISI 316/316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Weld Plate and Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, uncoated	**W12**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, uncoated	**W13**
Weld Plate/Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W15**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon-Steel, zinc/nickel-plated	**W16**
Safety Locking Plate made of Carbon Steel, phosphated; Stacking Bolts made of Carbon Steel, zinc/nickel-plated	**W17**
Safety Locking Plate made of Carbon Steel, uncoated; Stacking Bolts made of Carbon Steel, phosphated	**W18**
Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, uncoated	**W19**

Individual combinations of alternative materials and surface finishings are available upon request.

⑦ Assembling & Kitting

If required, please select an additional assembling and kitting option and add the corresponding Code to the last position of the order code for your clamp assembly.

Components supplied separately
Code: **none** (standard option)

Components assembled
Code: **A** (special option)

Components packed in kits
Code: **K** (special option)

Clamp Assemblies, Ordering Examples

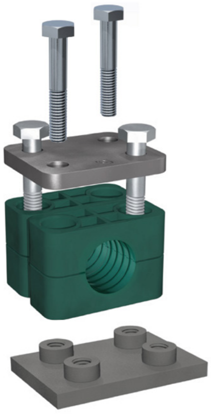
2x **Hexagon Head Bolt**
Surface: W1
Thread: Metric

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Weld Plate for Single Clamps**
Surface: W2
Thread: Metric

Order Code
SPAL-3006-PP-DPAL-AS-M-W12
W12 (Group 3S to 7S) and **W1** (Group 8S to 12S) are the standard options for this type of installation



4x **Hexagon Head Bolt**
Surface: W1
Thread: Metric

1x **Cover Plate for Double Clamps**
Surface: W2

1x **Clamp Body** (four halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Weld Plate for Double Clamps**
Surface: W2
Thread: Metric

Order Code
SPAS-3006-PP-DPAS-AS-M-W12
W12 (Group 3S to 7S) and **W1** (Group 8S to 12S) are the standard options for this type of installation

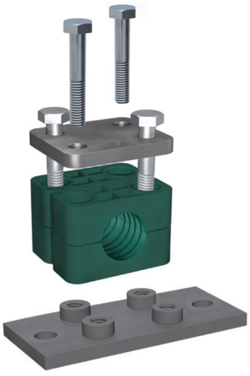
2x **Hexagon Head Bolt**
Surface: W1
Thread: Metric

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Elongated Weld Plate for Single Clamps**
Surface: W2
Thread: Metric

Order Code
SPAL-DUEB-3006-PP-DPAL-AS-M-W12
W12 (Group 3S to 7S) and **W1** (Group 8S to 12S) are the standard options for this type of installation



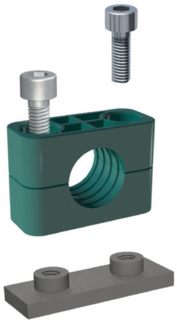
4x **Hexagon Head Bolt**
Surface: W1
Thread: Metric

1x **Cover Plate for Double Clamps**
Surface: W2

1x **Clamp Body** (four halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Elongated Weld Plate for Double Clamps**
Surface: W2
Thread: Metric

Order Code
SPAS-DUEB-3006-PP-DPAS-AS-M-W12
W12 (Group 3S to 7S) and **W1** (Group 8S to 12S) are the standard options for this type of installation

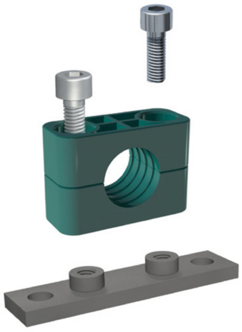


2x **Socket Cap Screw**
Surface: W1
Thread: Metric

1x **Clamp Body** (two halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Weld Plate for Single Clamps**
Surface: W2
Thread: Metric

Order Code
SPAL-3006-PP-IS-M-W12
W12 is the standard option for this type of installation
Available up to Group 6S (DIN Group 4) only.



2x **Socket Cap Screw**
Surface: W1
Thread: Metric

1x **Clamp Body** (two halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Elongated Weld Plate for Single Clamps**
Surface: W2
Thread: Metric

Order Code
SPAL-DUEB-3006-PP-IS-M-W12
W12 is the standard option for this type of installation
Available up to Group 6S (DIN Group 4) only.

3D step models available upon request

Clamp Assemblies, Ordering Examples

2x **Hexagon Head Bolt**
Surface: W1
Thread: Metric

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Mounting Rail Nut**
Surface: W3
Thread: Metric

Order Code (Mounting Rail STSV not inluded)
GMV-3006-PP-DPAL-AS-M-W13
W13 is the standard option for this type of installation
Available up to Group 6S (DIN Group 4) only.

2x **Socket Cap Screw**
Surface: W1
Thread: Metric

1x **Clamp Body** (four halves)
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

2x **Mounting Rail Nut**
Surface: W3
Thread: Metric

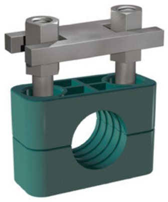
Order Code (Mounting Rail STSV not inluded)
GMV-3006-PP-IS-M-W13
W13 is the standard option for this type of installation
Available up to Group 6S (DIN Group 4) only.

2x **Hexagon Head Bolt**
Surface: W1
Thread: Metric

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
Group Series 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

Order Code
3006-PP-DPAL-AS-M-W19
W19 (Group 3S to 7S) and **W1** (Group 8S to 12S) are the standard options for this type of installation



2x **Stacking Bolt**
Surface: W2
Thread: Metric

1x **Safety Locking Plate**
Surface: W2

1x **Clamp Body** (two halves)
Group Series 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance

Order Code
3006-PP-SIP-AF-M-W12
W2 (Group 3S to 7S) and **W18** (Group 8S to 10S) are the standard options for this type of installation. Available up to Group 10S (DIN Group 8) only.

Thread Codes

All threaded parts are availble with Metric ISO thread or unified coarse (UNC) thread according to the dimension table.

Metric ISO thread	**M**
Unified coarse (UNC) thread	**U**

Material Codes

The below listed material codes describe the materials and surface finishings of metal parts that are most relevant for Heavy Series clamp assemblies. Individual combinations of alternative materials and surface finishings are available upon request.

Metal parts made of Carbon Steel, uncoated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel plated	**W3**
Metal parts made of Stainless Steel V2A: 1.4301/1.4305 (AISI 304/303)	**W4**
Metal parts made of Stainless Steel V2A: 1.4401/1.4571 (AISI 316/316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Weld Plate and Cover Plate made of Carbon Steel, phosphated Bolts made of Carbon Steel, uncoated	**W12**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, Uncoated	**W13**
Weld Plate and Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W15**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W16**
Safety Locking Plate made of Carbon Steel, uncoated, Bolts made of Carbon Steel, zinc/nickel-plated	**W17**
Safety Locking Plate made of Carbon Steel, uncoated, Bolts made of Carbon Steel, phosphated	**W18**
Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, uncoated.	**W19**

Installation and Distance Between Clamps

Basic Installation Instructions

Installation on Weld Plate

Different types of weld plates are available for all Clamps according to DIN 3015 as well as for most of the other series and many custom-designed special clamps

- Place weld plates in there designated positions. Please make sure these positions are suitable for the expected loads.
- Mark the postitions of the weld plates to ensure best alignment.
- Weld the weld plates into position. Elongated weld plates can also be mounted to their positions by using screws or bolts.
- Push bottom clamp half onto weld plate.
- Insert pipe, tube, hose, cable or any other type of line.
- Place second clamp half and cover plate (optional) on top and mount clamp assembly by using screws or bolts.

Unless otherwise stated, the bolt lengths indicated for clamps according to DIN 3015 refer to the installation on the weld plates and mounting rails as well as multi-level (stacking) installation. For direct installation, different lengths may be required.

Installation on Mounting Rail

Rail Nuts are available for all Clamps according to DIN 3015 (Heavy Series up to Group 6S only) as well as for many custom-designed special clamps.

- Place mounting rails in their designated positions. Please make sure these bases are suitable for the expected loads.
- Mark the positions of the mounting rails to ensure best alignment.
- Weld the mounting rails into position. Mounting rails can also be moutned to their positions by using side-mounting brackets with screws or bolts.
- Insert rail nuts into mouting rail and turn until stop to lock (Standard and Twin Series) or slide in rail nut (Heavy Series).
- Push bottom clamp half onto rail nuts
- Insert pipe, tube, hose, cable or any other type of line.
- Place second clamp half and cover plate (optional) on top and mount clamp assembly by using screws and bolts.

The exact positions of the clamp assemblies can still be adjusted before being firmly bolted.

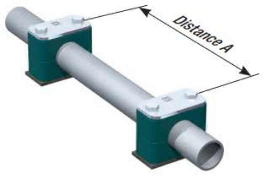
Multi-Level (Stacking) Installation

Stacking bolts permit the multi-level assembly of clamps of identical group sizes. Safety locking plates inserted between the levels prevent the stacking bolts from turning. The Twin Series also allows stacking of different group sizes (Groups 2D to 5D)

- Push bottom clamp half onto weld plate or rail nuts.
- Insert pipe, tube, hose, cable or any other type of line.
- Place second clamp half.
- Insert stacking bolts into the clamp assembly and tighten using the following tightening torques (or in a way that the clamp halves are in contact with the line over the entire internal contact surface): Heavy Series 5N·m/3.75ft·lb
- Place safety locking plate on top of clamp assembly.
- Proceed with next levels. Top level to be assembled with cover plate and hexagon head bolts using the tightening torques as indicated on page K18.

Multi-level clamp assemblies can be mounted both to weld plates or to mounting rails (with rail nuts).

Recommended Distance Between Clamps



Please note: The recommended distances between clamps stated below are standard values and valid for static loads only.

Outside Diameter		Distance A	
(mm)	(in)	(m)	(ft)
6,0 ... 12,7	.23 ... .50	1,00	3.28
12,7 ... 22,0	.50 ... .86	1,20	3.94
22,0 ... 32,0	.86 ... 1.25	1,50	4.92
32,0 ... 38,0	1.25 ... 1.50	2,00	6.56
38,0 ... 57,0	1.5 ... 2.25	2,00	6.56
57,0 ... 75,0	2.25 ... 2.95	3,00	9.84
75,0 ... 76,1	2.95 ... 3.00	3,50	11.48
76,1 ... 88,9	3.00 ... 3.50	3,70	12,14
88,9 ... 102,0	3.50 ... 4.00	4,00	13.12

Outside Diameter		Distance A	
(mm)	(in)	(m)	(ft)
114,0 ... 168,0	4.50 ... 6.60	5,00	16.40
168,0 ... 219,0	6.60 ... 8.60	6,00	19.68
219,0 ... 324,0	8.60 ... 12.70	6,70	21,98
324,0 ... 356,0	12.70 ... 14.00	7,00	22,96
356,0 ... 406,0	14.00 ... 16.00	7,50	24,60
406,0 ... 419,0	16.00 ... 16.50	8,20	26.90
419,0 ... 508,0	16.50 ... 20.00	8,50	27.88
508,0 ... 521,0	20.00 ... 20.50	9,00	29.52
521, 0 ... 558,0	20.50 ... 22.00	10,00	32.80

Installation next to Pipe Bends, Connectors / Couplings and Valves

Please note the following information on the installation of Clamps next to pipe bends, connectors/ couplings and valves:

Pipe Bends

Pipe bends should be supported by Clamps as close to the bends as possible. Furthermore, it is recommended to design these clamps as fixed point clamps.

Connection/Couplings

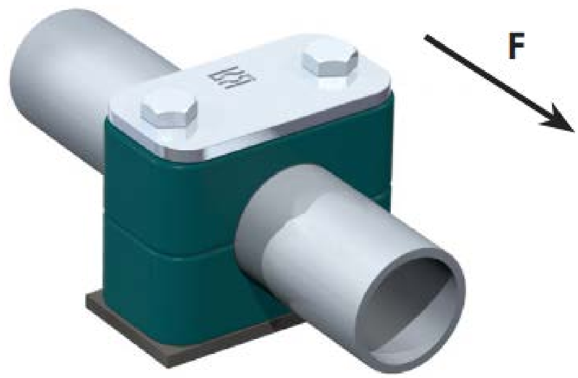
The first clamp should be placed directly next to the connector/coupling. This protects the connector/ coupling from vibrations.

Valves

If valves are incorporated in the pipelines, it is recommended that support is provided in front of and behind these valves.

3D step models available upon request

Tightening Torques and Maximum Loads in Pipe Direction



All tightening torques and maximum loads in pipe direction refer to Clamp Bodies (profiled inside surface with tension clearance) with Cover Plates and Hexagon Head Bolts according to DIN EN ISO 4014/4017 (DIN 931/933)

The max. load in pipe direction (according to DIN 3015-10.1999) is an average value, determined by three tests at +23°C/+73°F with a steel pipe according to DIN EN 10220, St37 - rolled surface - taking static friction into consideration.

Sliding starts when the shown values (F) are reached.

Group		Hexagon Head Bolt DIN EN ISO 4014.4017 (DIN 931/933)		Polypropylene				Polyamide				Aluminium			
		Metric ISO Thread	Unified Coarse (UNC) Thread	Tightening Torque		Maximum Load in Pipe Direction F		Tightening Torque		Maximum Load in Pipe Direction F		Tightening Torque		Maximum Load in Pipe Direction F	
Series	DIN			(N·m)	(ft·lb)	(kN)	(lbf)	(N·m)	(ft·lb)	(kN)	(lbf)	(N·m)	(ft·lb)	(kN)	(lbf)
3S	1	M10	3/8-16 UNC	12	9	1,6	360	20	15	4,2	944	30	22	12,1	2720
4S	2	M10	3/8-16 UNC	12	9	2,9	652	20	15	4,5	1044	30	22	15,1	3395
5S	3	M10	3/8-16 UNC	15	11	3,3	742	25	18	5,1	1146	35	26	15,5	3485
6S	4	M12	7/16-14 UNC	30	22	8,2	1843	40	30	9,3	2090	55	41	29,5	6609
7S	5	M16	5/8-11 UNC	45	33	11,0	2472	55	41	15,8	3551	120	86	34,9	7845
8S	6	M20	3/4-10 UNC	80	59	14,0	3147	150	111	21,0	4720	220	162	50,0	11240
9S	7	M24	7/8-9 UNC	110	81	28,0	6300	200	148	32,0	7193	250	184	70,6	15871
10S	8	M30	1-1/8-7 UNC	180	133	40,0	8992	350	258	48,0	10790	500	369	84,5	18966
11S	9	M30	1-1/4 UNC	200	148	119,0	26752	370	273	125,0	27650	500	369	181,5	40802
12S	10	M30	1-1/4 UNC	270	199	168,0	37767	450	332	180,0	40465	600	443	244,5	54965

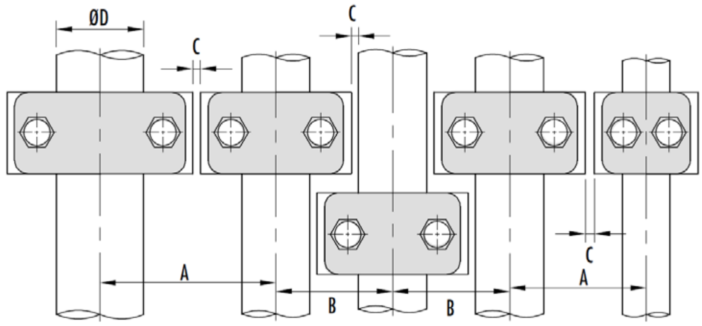
Pipe and Clamp Spacing

Assumption:

Easy to read center line spacing for side to side and staggered installation when placing same or various size pipe on drawings or installing.

Inline clamping - MInimum spacing C between weld-plates:
Group 4s to 5s 1/4” (6.5 mm)
Group 6s to 7s 1/2” (13 mm)
Group 8s to 9s 5/8” (16 mm)
Group 10s to 11s 1” (26 mm)

Staggered clamping - Minimum spacing between Tube OD and clamp body:
Group 4s to 5s 1/4” (6.5 mm)
Group 6s to 7s 1/2” (13 mm)
Group 8s to 9s 5/8” (16 mm)
Group 10s to 11s 1” (26 mm)

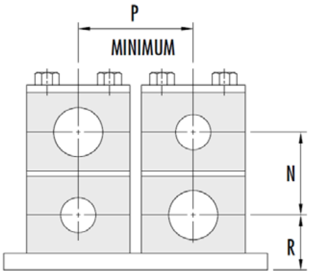


Note:
The minimum Center Distances referred to above don’t take into account space requirement for union connections, valves and other fittings.

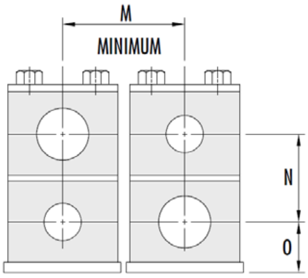
			A= Inline - Side to Side clamping														
		Group	4S		5S	6S			7S		8S		9S		10S	11S	
	Group	d=Size in inch and mm	1/2 21.3	3/4 26.9	1 33.7	1-1/4 42	1-1/2 48.3	2 60.3	2-1/2 73	3 88.9	3-1/2 102	4 114	5 140	6 168	8 219	10 273	12 324
B= Staggered clamping	4S	1/2 21.3		3-5/8 91.5	3-15/16 99	5 127			6 152		7-1/8 181		9 203		9-9/16 242	12-3/8 314	
		3/4 26.9	2-1/16 52	2-3/16													
	5S	1 33.7	2-5/16 59	61.5	4-3/16 2-9/16	5-9/16 135			6-5/16 160		7-3/8 188		8-1/4 210		9-7/8 25-	12-11/16	
	6S	1-1/4 42	3-1/16 78	3-3/16 81	3-5/16 84	3-5/8	6-7/16 163		7-1/16 188		8-9/16 217		9-7/16 239		10-15/16 278	13-3/4 350	
		1-1/2 48.3				3-3/4 95											
		2 60.3				4 101											
	7S	2-1/2 73	3-13/16 96.5	3-1/8 99	4-1/16 103	4-3/8 110	4-1/2 113	4-11/16 119	5	8-3/8 213	9-9/16 242		10-7/16 264		11-15/16 303	14-13/16 375	
		3 88.9							5-1/4 134								
	8S	3-1/2 102	4-7/8 125	5 128	5-1/8 138	5-7/16 138	5-9/16 141	5-3/4 147	6-1/16 154	6-3/8 161	6-5/8	10-5/8 270	11-1/2 292		13-1/16 354	16-3/4 426	
		4 114									6-7/8 174						
	9S	5 140	5-13/16 147	5-15/16 150	6-1/16 153	6-3/16 153	6-5/16 160	6-9/16 166	6-13/16 154	7-1/8 181	7-9/16 192	7-13/16 198	8-5/16	12-3/8 314	13-15/16 354	16-3/4 426	
		6 168											8-7/8 225				
	10S	8 219	7-7/8 200		8-1/8 205	8-5/16 210			8-1/2 216	8-7/8 224	9-1/8 232	9-3/8 238	9-7/8 250	10-7/16 265	15-1/2 11-5/8	18-15/16 465	
	11S	10 273	10-13/16 275		11 280	10-13/16 275	10-15/16 278	11-3/16 284	11-1/2 292	11-13/16 300	12-1/16 306	12-5/16 312	12-13/16 325	13-3/8 339	14-9/16 370	15-5/8	21-3/16 537
		12 324														16-5/8 422	

3D step models available upon request

Clamp Stacking



RAIL MOUNTING

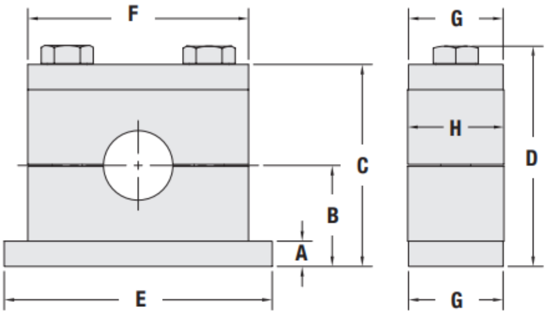


WITH WELD PLATE

Group	Size Range Ød	Installation Dimensions (in)					WT (lbs)
		M	N	O	P	R	
4S	3/4 - 1-3/16	3-1/2	2-3/16	1-1/4	2-7/8	1-13/16	.92
5S	1-3/16 - 1-37/64	4-1/16	2-11/16	1-1/2	3-7/16	2-1/16	1.12
6S	1-1/2 - 2-3/4	5-7/8	3-7/8	2-1/8	4-5/8	2-5/8	2.86
7S	2-9/16 - 3-1/2	7-1/8	5-1/16	2-3/4	*		5.35
8S	3-1/2 - 5-15/64	10-5/8	7-1/16	3-3/16	N/A		13.11
9S	5-15/64 - 6-5/8	11-1/8	8-3/8	4-7/16	N/A		17.16
10S	6-5/8 - 8-5/8	13-7/8	11-3/8	6-1/16	N/A		46.20
11S	8-5/8 - 12-3/4	21-1/16	17-1/8	9-1/16	N/A		108.90

*For Group 7S Rail Mounting - Contact Factory

Dimensions and Weights of Clamp Assemblies



Heavy Series (DIN 3015, Part 2)

Group		Dimensions (mm/in)												Weight per 1 pc. SPAL-**-PP-DPAL-AS (kg/lb)
		A	B		C		D		E	F		G	H	
Series	DIN		Profiled Design	Type H (Smooth)	Profiled Design	Type H (Smooth)	Profiled Design	Type H (Smooth)		PP/PA/SA	AL			
3S	1	8	24	23,25	48	46,5	54,4	52,9	74	55	56	30	30,5	0,32
		.31	.94	.92	1.89	1.83	2.14	2.09	2.91	2.16	2.20	1.18	1.20	.70
4S	2	8	32	32,25	64	62,5	70,4	68,9	86	70	70	30	30,5	0,40
		.31	1.26	1.23	2.52	2.46	2.77	2.72	3.39	2.76	2.76	1.18	1.20	.88
5S	3	8	38	37	76	74	82.4	80.4	100	85	85	30	30,5	0,49
		.31	1.50	1.46	2.99	2.91	3.24	3.17	3.94	3.35	3.35	1.18	1.20	1.08
6S	4	10	54,5	53,5	109	107	116,5	114,5	140	115	120	45	45	1,21
		.39	2.15	2.11	4.29	4.21	4.59	4.51	5.51	4.53	4.72	1.77	1.77	2.66
7S	5	10	70		140		150		180	154	152	60	60	2,30
		.39	2.76		5.51		5.91		7.09	6.06	5.98	2.36	2.36	5.06
8S	6	15	99		198		210,5		226	206	208	80	80	5,56
		.59	3.90		7.80		8.29		8.90	8.11	8.19	3.15	3.15	12.26
9S	7	15	115		230		245		270	251	255	90	91	7.97
		.59	4.53		9.06		9.65		10.63	9.88	10.04	3.54	3.58	17.58
10S	8	25	160		320		338,7		340	336	326	120	120	22,16
		.98	6.30		12.60		13.33		13.39	13.22	12.83	4.72	4.72	48.75
11S	9	30	235		470		488,7		520	470	470	160	162	54,11
		1.18	9.25		18.50		19.24		20.47	18.50	18.50	6.30	6.38	119.04

Notes

Valves, Ball and Check Reference Guide

Female NPT, SAE,
BSP and ORFS
Block Body
BBV-2
Pages M1, M2, M3

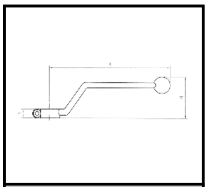
Female NPT, SAE,
BPS and ORFS
Forged Body
FBV-2
Pages M4, M5, M6

Split Flange SAE
Code 61 (3000 PSI)
Code 62 (6000 PSI)
Block Body BBV-2-F
Pages M7, M8

Split Flange SAE
Code 61 (3000 PSI)
Code 62 (6000 PSI)
Forged Body BBV-2-F
Pages M9, M10

Dual Pattern SAE
Code 61 (3000 PSI)
Code 62 (6000 PSI)
BV-2-C36
Pages M11,M12

Flat Face
ISO 6164
250/400/350 bar
BV-2-ISO
Pages M13, M14



Ball Valve
Levers/Handles
SW

Page M15

Ball Valve
Locking Devices
LD

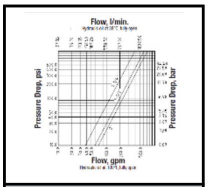
Pages M16, M17, M18

Ball Valve
Acutators and Limit
Switches

Page M19

Female NPT and
SAE Low Pressure
Ball Valve
2BVL
Page M20

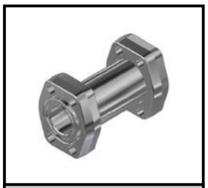
Check Valve
Inline Female
Thread
6C/3C
Page M21



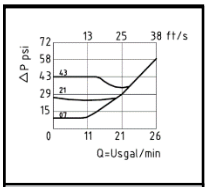
Check Valve
Pressure Drop
Charts

Page M22

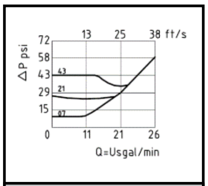
Check Valve
Body Only, Retain
Ring Style
CV
Page M23



Check Valve
Assembly, Retain
Ring Flange Style
A/CV
Page M24



Check Valve
Retain Ring Style
Performance Curves
PSI - gal/min
Page M25



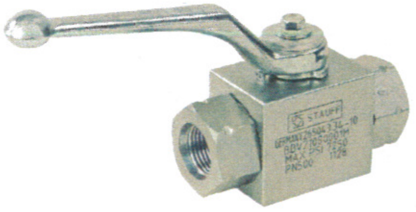
Check Valve
Retain Ring Style
Performance Curves
PSI - litre/min
Page M26

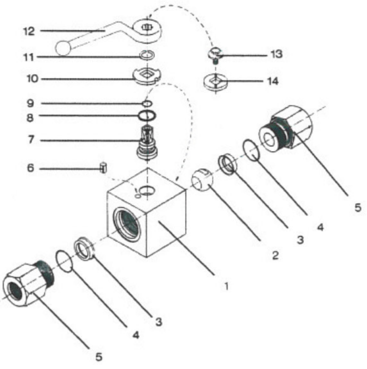
Notes:

Please consult factory for the following:

1. Stainless Steel Ball Valves and Check Valves are available.
2. Other Styles and Sizes of Ball Valves are available such as 3-way, Multi-way and Manifold Mount.
3. Other Pneumatic or Electric Actuators, Limit Switches and Proximity Switches are available.

High-Pressure Block Body Ball Valve - Type BBV-2





List of Components

No .	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seal
4*	2	Connector O-Ring
5	2	Connector
6	1	Stop Pin
7	1	Stem
8*	1	Thrust Ring
9*	1	Stem O-Ring
10	1	Cam Plate
11	1	Snap Ring
12	1	Lever
13	1	Stem Screw
14	1	Flow Indicator

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (Sizes 02 to 08)
  Aluminium (Size 10)
  Carbon Steel (Sizes 12 to 24R)
- Ball seat: Delrin® (POM)
- O-rings: FKM (Viton®)

Standard Connections Styles / Sizes
- Female BSP thread (DIN ISO 2208)>G 1-1/2 BSP
- Female NPT thread (ANSI B1.20.1)>1-1/2-11-1/2 NPT
- Female UN/UNF thread (SAE J 514)>1-7/8-12 UN (1-1/2" SAE)
- Male ORFS Connection (ISO 8434-3)>1-11/16-12UN

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve**)**

Temperature Range
- Operating temperature range: -20°C...+100°C / -4°F... +212°F

Options / Accessories
- Alternative lever designs / materials
- Locking devices
- Actuator packages
- Limit switches
- Stainless Steel body
- Stainless Steal ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Seal kits (including items marked by * in the above list)

Order Codes

BBV - 2 - G 02 - 0 0 0 1 - 0 0 1

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① **Type**

High-Pressure Block Body Ball Valve	**BBV**

② **Number of Ports**

Two Ports (Two-Way Ball Valve)	**2**

③ **Connection Style**

Female BSP Thread (DIN ISO 22B)	**G**
Female NPT Thread (ANSI B1.20.1)	**N**
Female UN/UNF Thread (SAE J 514)	**U**
Male ORFS Connection (ISO 8434-3)	**ORFS**

④ **Connection Size**

Size (according to dimension table) for connection styles G, N, U and ORFS: **02 04 06 08 10 12 16 20R 24R**
Tube Size (according to dimension table)

⑤ **Body Material / Surface Finishing**

Carbon Steel, zinc/iron plated	**0**
Carbon Steel, zinc/nickel plated	**8**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request.

⑥ **Ball / Stem Material**

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**
Ball: Brass, hard chrome-plated Stem: Carbon Steel	**2**

Alternative materials / surface finishings are available upon request.

⑦ **Ball Seat Material**

Delrin®	**0**

Alternative materials are available upon request.

⑧ **O-Ring Material**

NBR (Buna-N®)	**0**
FKM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request.

⑨ **Manufacturing Code**

Manufacturing code for all connection Style	**M**
Manufacturing code for high-pressure version of connection styles G, N and U.	**H**

⑩ **Lever Options**

Supplied with standard lever (according to table)	**-**
Supplied without lever	**0**

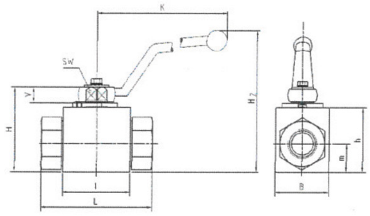
Alternative levers can be ordered separately.

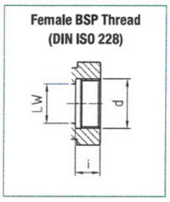
⑪ **Accessories / Options**

Supplied without accessories	**-**
Supplied with Locking Device LD1	**LD1**
Supplied with Locking Device LD2	**LD2**
Supplied with Locking Device LD3	**LD3**
Supplied with Locking Device LD4	**LD4**

High-Pressure Block Body Ball Valve - Type BBV-2

Female BSP Thread (DIN ISO 228)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

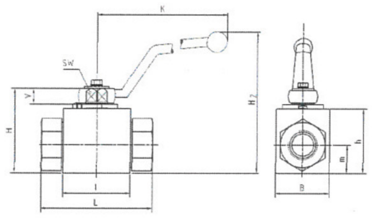
Body, ball and stem:	Carbon Steel
Lever:	Zinc (Sizes 02 to 08) Aluminium (Size 10) Carbon Steel (Sizes 12 to 24R)
Ball Seat:	Delrin® (POM)
O-rings:	FKM (Viton®)

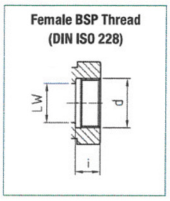
Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	l	H2			
02	G 1/8 BSP	4	5	69	40	26	47	33	13,5	11	9	115	10	82	500	0,41	**BBV-2-G02-8001-M**
			.20	2.70	1.57	1.02	1.84	1.29	5.3	.43	.35	4.50	.39	3.23	7250	.90	
04	G 1/4 BSP	6	6	69	40	26	47	33	13,5	11	9	115	14	82	500	0,40	**BBV-2-G04-8001-M**
			.23	2.70	1.57	1.02	1.84	1.29	5.3	.43	.35	4.50	.55	3.23	7250	.88	
06	G 3/8 BSP	10	10	72	43	32	52	38	17,5	11	9	115	14	87	500	0,54	**BBV-2-G06-8001-M**
			.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.55	3.43	7250	1.19	
08	G 1/2 BSP	13	13	83	48	35	54	40	19	11	9	115	16,3	89	500	0,65	**BBV-2-G08-8001-M**
			.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	64	3.50	7250	1.43	
10	G 5/8 BSP	16	15	83	48	38	63	46	19	13	12	160	16	106	420	0,70	**BBV-2-G10-8001-M**
			.59	3.25	1.88	1.49	2.47	1.80	.74	.51	.47	6.26	.63	4.17	6000	1.54	
12	G 3/4 BSP	20	20	95	62	49	75	57	24,5	14	14	170	18	126	420	1,50	**BBV-2-G12-8001-M**
			.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.70	4.96	6000	3.31	
16	G 1 BSP	25	25	113	66	58	83	65	29,5	14	14	170	20	134	350	2,20	**BBV-2-G16-8001-M**
			.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.78	5.28	5076	4.85	
16	G 1 BSP	25	25	113	74	70	88	70	34,5	14	14	170	20	139	500	3,10	**BBV-2-G16-8001-H**
			.98	4.42	2.91	2.76	3.46	2.76	1.36	.55	.55	6.69	.78	5.47	7250	6.83	
20R	G 1-1/4 BSP	25/32	25	120	66	58	83	65	29,5	14	14	170	22	134	315	2,30	**BBV-2-G20R-8001-M**
			.98	4.70	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.86	5.28	4500	5.07	
24R	G 1-1/2 BSP	25/40	25	130	66	58	83	65	29,5	14	14	170	24	134	250	2,60	**BBV-2-G24R-8001-M**
			.98	5.09	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.94	5.28	3600	5.73	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve - Type BBV-2

Female NPT Thread (ANSI B1.20.1)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

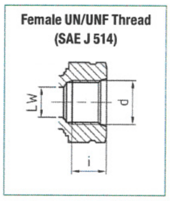
Body, ball and stem:	Carbon Steel
Lever:	Zinc (Sizes 02 to 08) Carbon Steel (Sizes 12 to 24R)
Ball Seat:	Delrin® (POM)
O-rings:	FKM (Viton®)

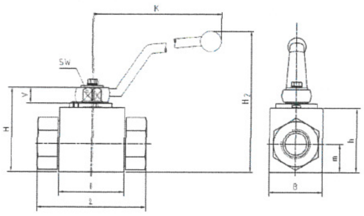
Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	l	H2			
02	1/8-27 NPT	4	5	69	40	26	47	33	13,5	11	9	115	10,5	82	500	0,33	**BBV-2-N02-8001-M**
			.20	2.70	1.57	1.02	1.84	1.29	5.3	.43	.35	4.50	.41	3.23	7250	.66	
04	1/4-18 NPT	6	6	69	40	26	47	33	13,5	11	9	115	13,7	82	500	0,40	**BBV-2-N04-8001-M**
			.23	2.70	1.57	1.02	1.84	1.29	5.3	.43	.35	4.50	.54	3.23	7250	.88	
06	3/8-18 NPT	10	10	72	43	32	52	38	17,5	11	9	115	13,5	87	500	0,50	**BBV-2-N06-8001-M**
			.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.53	3.43	7250	1.10	
08	1/2-14 NPT	13	13	83	48	35	54	40	19	11	9	115	17	89	500	0,75	**BBV-2-N08-8001-M**
			.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	.67	3.50	7250	1.65	
12	3/4-14 NPT	20	20	95	62	49	75	57	24,5	14	14	170	18,3	126	420	1,63	**BBV-2-N12-8001-M**
			.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.72	4.96	6000	3.57	
16	1-11-1/2 NPT	25	25	113	66	58	83	65	29,5	14	14	170	21,6	134	350	2,30	**BBV-2-N16-8001-M**
			.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.85	5.28	5076	5.06	
16	1-11-1/2 NPT	25	25	113	74	70	88	70	34,5	14	14	170	20	139	500	3,16	**BBV-2-N16-8001-H**
			.98	4.42	2.91	2.76	3.46	2.76	1.36	.55	.55	6.69	.78	5.47	7250	6.97	
20R	1-1/4-11-1/2 NPT	25/32	25	120	66	58	83	65	29,5	14	14	170	22,1	134	315	2,51	**BBV-2-N20R-8001-M**
			.98	4.70	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.87	5.28	4500	5.52	
24R	1-1/2-11-1/2 NPT	25/40	25	130	66	58	83	65	29,5	14	14	170	22,1	134	250	2,70	**BBV-2-N24R-8001-M**
			.98	5.09	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.87	5.28	3600	5.94	

3D step models available upon request

High-Pressure Block Body Ball Valve - Type BBV-2

Female UN/UNF Thread (SAE J 514)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

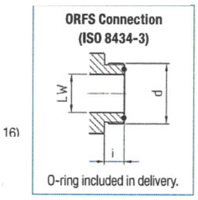
Body, ball and stem:	Carbon Steel
Lever:	Zinc (Sizes 04 to 08) Carbon Steel (Sizes 12 to 24R)
Ball Seat:	Delrin® (POM)
O-rings:	FKM (Viton®)

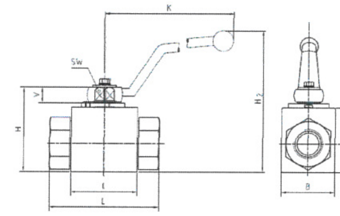
Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	l	H2			
04	7/16-20 UNF (1/4” SAE)	6	6	69	40	26	47	33	13,5	11	9	115	14	82	500	0,40	**BBV-2-U04-8001-M**
			.23	2.70	1.57	1.02	1.84	1.29	5.3	.43	.35	4.50	.55	3.23	7250	.88	
06	9/16-18 UNF (3/8” SAE)	10	10	72	43	32	52	38	17,5	11	9	115	14	87	500	0,50	**BBV-2-U06-8001-M**
			.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.55	3.43	7250	1.10	
08	3/4-16 UNF (1/2” SAE)	13	13	83	48	35	54	40	19	11	9	115	16,3	89	500	0,70	**BBV-2-U08-8001-M**
			.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	64	3.50	7250	1.54	
12	1-1/16-12 UN (3/4” SAE)	20	20	95	62	49	75	57	24,5	14	14	170	18	126	420	1,50	**BBV-2-U12-8001-M**
			.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.70	4.96	6000	3.31	
16	1-5/16-12 UN (1” SAE)	25	25	113	66	58	83	65	29,5	14	14	170	20	134	350	2,20	**BBV-2-U16-8001-M**
			.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.78	5.28	5076	4.85	
16	1-5/16-12 UN (1” SAE)	25	25	113	74	70	88	70	34,5	14	14	170	20	139	500	2,20	**BBV-2-U16-8001-H**
			.98	4.42	2.91	2.76	3.46	2.76	1.36	.55	.55	6.69	.78	5.47	7250	4.85	
20R	1-5/8-12 UN (1-1/4” SAE)	25/32	25	120	66	58	83	65	29,5	14	14	170	22	134	315	2,50	**BBV-2-U20R-8001-M**
			.98	4.70	2.60	2.28	3.27	2.56	1.16	.55	.55	6.69	.86	5.28	4500	5.50	
24R	1-7/8-12 UN (1-1/2” SAE)	25/40	25	130	66	58	83	65	29,5	14	14	170	24	134	315	2,61	**BBV-2-U24R-8001-M**
			.98	5.09	2.60	2.28	3.27	2.56	1.16	.55	.55	6.69	.94	5.28	4500	5.74	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve - Type BBV-2

O-Ring Face Seal Connection - Male Thread (ISO 8434-3)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

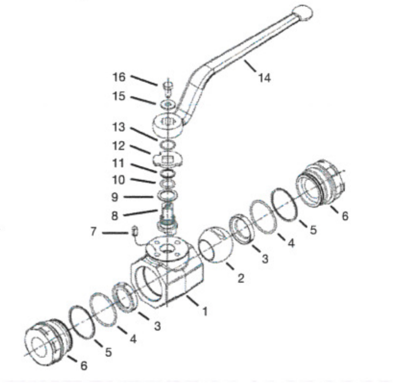
Body, ball and stem:	Carbon Steel
Lever:	Zinc (Sizes 04 to 08) Aluminium (Size 10) Carbon Steel (Sizes 12 and 16)
Ball Seat:	Delrin® (POM)
O-rings:	FKM (Viton®)

Size	Thread Size d	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
		LW	L	l	B	H	h	m	V	SW	K	l	H2	O-ring			
04	9/16-18 UNF	4,5	73	40	26	47	33	13,5	11	9	115	10	82	7,65x1,78	500	0,37	**BBV-2-ORFS04-8001-M**
		.18	2.87	1.57	1.02	1.84	1.29	5.3	.43	.35	4.50	.39	3.23		7250	.81	
06	11/16-16 UN	6,5	73	40	26	47	33	13,5	11	9	115	11	82	9,25x1,78	500	0,38	**BBV-2-ORFS06-8001-M**
		.26	2.87	1.57	1.02	1.84	1.29	5.3	.43	.35	4.50	.43	3.23		7250	.83	
08	13/1-16 UN	9,5	78	43	32	52	38	17,5	11	9	115	13	87	12,42x1,78	500	0,50	**BBV-2-ORFS08-8001-M**
		.37	3.07	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	51	3.43		7250	1.10	
10	1-14 UNS	12,5	90	48	35	54	40	19	14	9	115	15,5	89	15,60x1,78	420	0,61	**BBV-2-ORFS10-8001-M**
		.49	3.54	1.88	1.37	2.11	1.57	.74	.55	.35	4.50	.61	3.50		6000	1.34	
12	1-3/16-12 UN	15,5	98	48	35	63	40	19	14	12	160	17	106	18,77x1,78	420	0,80	**BBV-2-ORFS12-8001-M**
		.61	3.86	1.88	1.37	2.47	1.57	.74	.55	.47	6.26	.67	4.17		6000	1.76	
16	1-7/16-12 UN	20,5	111	62	49	88	57	24,5	14	14	170	17,5	126	23,52x1,78	315	1,55	**BBV-2-ORFS16-8001-M**
		.81	4.37	2.43	1.92	3.46	2.23	.96	.55	.55	6.69	.69	4.96		4500	3.41	
20	1-11/16-12 UN	26	120	66	58	83	65	29,5	14	14	170	17,5	134	29,87x1,78	315	2,10	**BBV-2-ORFS20-8001-M**
		1.02	4.72	2.58	2.27	3.27	2.55	1.16	.55	.55	6.69	.69	5.28		4500	4.63	

Please note the pressure ratings of the tube connections.

3D step models available upon request

High-Pressure Forged Body Ball Valve - Type FBV-2



List of Components

No .	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seal
4*	2	Connector O-Ring
5	2	Connector Back-Up Ring
6	2	Connector
7	1	Stop Pin
8*	1	Stem
9*	1	Thrust Ring
10	1	Stem O-Ring
11	1	Stem Back-Up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Washer
16	1	Stem Bolt

Characteristics

Two-Way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Forged body design for in-line assembly
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FKM (Viton®)

Standard Connections Styles / Sizes
- Female BSP thread (DIN ISO 228)>G 2 BSP
- Female NPT thread (ANSI B1.20.1)>2-11-1/2 NPT
- Female UN/UNF thread (SAE J 514)>2-1/2-12 UN (1-1/2” SAE)
- Male ORFS Connection (ISO 8434-3)>2-12UN
- 24° Cone Connection (DIN 2353 / ISO 8434-1)>42L
- 24° Cone Connection (DIN 2353 / ISO 8434-1)>38S

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve**)**

Temperature Range
- Operating temperature range: -20°C...+100°C / -4°F... +212°F

Options / Accessories
- Alternative lever designs / materials
- Locking devices
- Actuator packages
- LImit switches
- Additional assembling threads/holes
- Stainless Steel body
- Stainless Steal ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Seal kits (including items marked by * in the above list)

Order Codes

FBV - 2 - G 20 - 0 0 0 1 - M - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① **Type**

High-Pressure Forged Body Ball Valve	**FBV**

② **Number of Ports**

Two Ports (Two-Way Ball Valve)	**2**

③ **Connection Style**

Female BSP Thread (DIN ISO 22B)	**G**
Female NPT Thread (ANSI B1.20.1)	**N**
Female UN/UNF Thread (SAE J 514)	**U**
Male ORFS Connection (ISO 8434-3)	**ORFS**

④ **Connection Size**

Size (according to dimension table) for connection styles G, N, U and B: **20** **24** **32**	
Tube Size (according to dimension table) for 24° Cone Connection (Light Series):	**35L**
Tube Size (according to dimension table) for 24° Cone Connection (Light Series):	**42L**
Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):	**38S**

⑤ **Body Material / Surface Finishing**

Carbon Steel, zinc/iron plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request.

⑥ **Ball / Stem Material**

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**
Ball: Brass, hard chrome-plated Stem: Carbon Steel	**2**

Alternative materials / surface finishings are available upon request.

⑦ **Ball Seat Material**

Delrin®	**0**

Alternative materials are available upon request.

⑧ **O-Ring Material**

NBR (Buna-N®)	**0**
FKM (Viton®)	**1**

Alternative materials are available upon request.

⑨ **Manufacturing Code**

Manufacturing code for all connection Style	**M**

⑩ **Lever Options**

Supplied with standard lever (according to table)	**-**
Supplied without lever	**0**

Alternative levers can be ordered separately. Please see page 114 for further information.

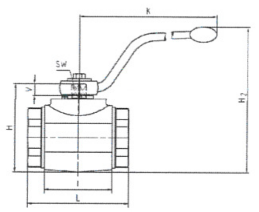
⑪ **Accessories / Options**

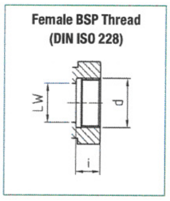
Supplied without accessories	**-**
Supplied with Locking Device LD1	**LD1**
Supplied with Locking Device LD2	**LD2**
Supplied with Locking Device LD3	**LD3**
Supplied with Locking Device LD4	**LD4**
Supplied with Locking Device LD6 (US version)	**LD6**

3D step models available upon request

High-Pressure Forged Body Ball Valve - Type FBV-2

Female BSP Thread (DIN ISO 228)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball Seat: Delrin® (POM)
- O-rings: FKM (Viton®)

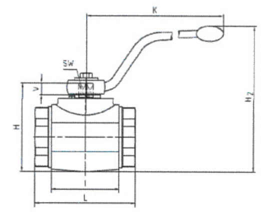
Dimensions of stainless steel ball valves may vary!

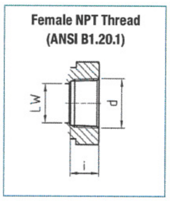
Size	Thread Size d	Nominal Size DN	Dimensions (mm/in												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	I	H2			
20	G 1-1/4 BSP	32	32	111	80	81	107	86	40,5	16,5	17	306	22	171	420	3,47	FBV-2-G20-0001-M
			1.26	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	.87	6.73	6000	7.63	
24	G 1-1/2 BSP	40	38	130	85	100	124	103	50	16,5	17	306	24	188	420	5,67	FBV-2-G24-0001-M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	.94	7.40	6000	12.47	
32	G 2 BSP	50	48	140	100	118	138	117	59	16,5	17	306	26	202	420	8,14	FBV-2-G32-0001-M
			1.89	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.05	1.02	7.96	6000	17.91	

Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve - Type FBV-2

Female NPT Thread (AINSI B1.20.1)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball Seat: Delrin® (POM)
- O-rings: FKM (Viton®)

Dimensions of stainless steel ball valves may vary!

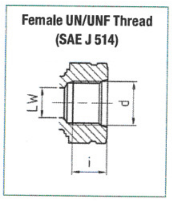
Size	Thread Size d	Nominal Size DN	Dimensions (mm/in												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	I	H2			
20	G 1-1/4 BSP	32	32	111	80	81	107	86	40,5	16,5	17	306	22	171	420	3,47	FBV-2-N20-0001-M
			1.26	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	.87	6.73	6000	7.63	
24	G 1-1/2 BSP	40	38	130	85	100	124	103	50	16,5	17	306	24	188	420	5,67	FBV-2-N24-0001-M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	.94	7.40	6000	12.47	
32	G 2 BSP	50	48	140	100	118	138	117	59	16,5	17	306	26	202	420	8,14	FBV-2-N32-0001-M
			1.89	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.05	1.02	7.96	6000	17.91	

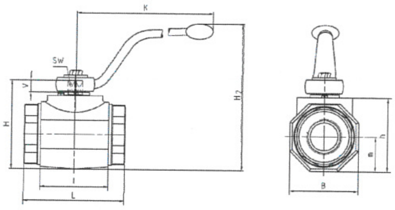
Please note the pressure ratings of the tube connections.

3D step models available upon request

High-Pressure Forged Body Ball Valve - Type FBV-2

Female UN/UNF Thread (SAE J 514)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball Seat: Delrin® (POM)
- O-rings: FKM (Viton®)

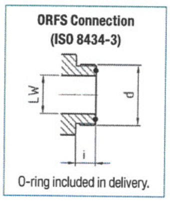
Dimensions of stainless steel ball valves may vary!

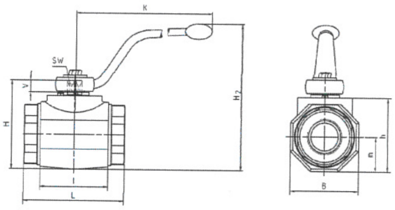
Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)												Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	I	B	H	h	m	V	SW	K	I	H2			
20	1-5/8-12 UN (1-1/4" SAE)	32	30	111	80	81	107	86	40,5	16,5	17	306	20	171	420	3,52	FBV-2-U20-0001-M
			1.18	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	.79	6.73	6000	7.75	
24	1-7/8-12 UN (1-1/2" SAE)	40	38	130	85	100	124	103	50	16,5	17	306	20	188	420	5,69	FBV-2-U24-0001-M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	.79	7.40	6000	12.52	
32	2-1/2-12 UN (2" SAE)	50	45	140	100	118	138	117	59	16,5	17	306	20	202	420	8,14	FBV-2-U32-0001-M
			1.79	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.05	.79	7.96	6000	17.91	

Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve - Type FBV-2

O-Ring Face Seal Connection - Male Thread (ISO 8434-3)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball Seat: Delrin® (POM)
- O-rings: FKM (Viton®)

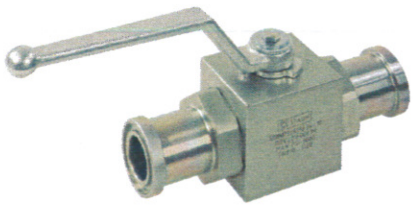
Dimensions of stainless steel ball valves may vary!

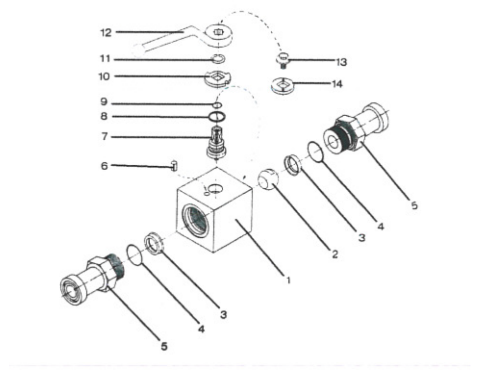
Size	Thread Size d	Nominal Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	I	B	H	h	m	V	SW	K	I	H2	O-ring			
20	2-12 UN	32	32	139	80	81	107	86	40,5	16,5	17	306	17,5	171	37,82x1,78	320	3.52	FBV-2-ORFS20-0001-M
			1.26	5.47	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	.69	6.73		4600	7.75	

Please note the pressure ratings of the tube connections.

3D step models available upon request

High-Pressure Block Body Ball Valve - Type BBV-2-F





List of Components

No .	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seal
4*	2	Connector O-Ring
5	2	Connector
6	1	Stop Pin
7	1	Stem
8*	1	Thrust Ring
9*	1	Stem O-Ring
10	1	Cam Plate
11	1	Snap Ring
12	1	Handle
13	1	Stem Screw
14	1	Flow Indicator

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Size 8)
  Steel (STAUFF Size 12-16)
- Ball seat: Delrin® (POM)
- O-rings: FKM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE split flange connectors
- 6000 PSI (code 62) SAE split flange connectors

Standard and extended adapter lengths

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by the flange and pipe/ tubing rating.

Temperature Range
- Operating temperature range: -20°C...+100°C / -4°F... +212°F

Options / Accessories
- Flanges and flange kits
- Alternative lever designs / materials
- Locking devices
- Actuator packages
- Limit switches
- Additional assembling threads
- Stainless Steel body
- Stainless Steal ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Seal kits (including items marked by * in the above list)

Order Codes

BBV - 2 - F3 16 - 0 0 0 1 - M - -
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① **Type**

High-Pressure Block Body Ball Valve	BBV

② **Number of Ports**

Two Ports (Two-Way Ball Valve)	2

③ **Connection Style**

3000 PSI (Code 61) SAE Split Flange Connectors (Standard Adapter Length)	F3
3000 PSI (Code 61) SAE Split Flange Connectors (Extended Adapter Length)	F3X
6000 PSI (Code 62) SAE Split Flange Connectors (Standard Adapter Length)	F6
6000 PSI (Code 62) SAE Split Flange Connectors (Extended Adapter Length)	F6X

④ **Connection Size**

Size (according to dimension table)		
08	12	16

⑤ **Body Material / Surface Finishing**

Carbon Steel, zinc/iron plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials are available upon request.

⑥ **Ball / Stem Material**

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request.

⑦ **Ball Seat Material**

Delrin®	0

Alternative materials are available upon request.

⑧ **O-Ring Material**

NBR (Buna-N®)	0
FKM (Viton®)	1

Alternative materials are available upon request.

⑨ **Manufacturing Code**

Manufacturing code for all connection Style	M
Manufacturing code for high-pressure version of connection styles G, N and U.	H

⑩ **Lever Options**

Supplied with standard lever (according to table)	-
Supplied without lever	0

Alternative levers can be ordered separately.

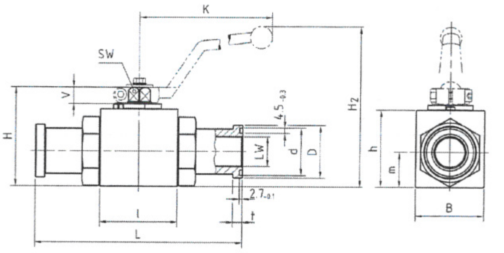
⑪ **Accessories / Options**

Supplied without accessories	-
Supplied with Locking Device LD1	LD1
Supplied with Locking Device LD2	LD2

3D step models available upon request

High-Pressure Block Body Ball Valve - Type BBV-2-F3

3000 PSI SAE Split Flange Connection (ISO 6162-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (Size 8)
  Steel (Size 12-16)
- Ball Seat: Delrin® (POM)
- O-rings: FKM (Viton®)

3000 PSI Series (Code 61) - Standard Adaptor Length

Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)														Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]	H2			
08	1/2	13	13	151	48	35	54	40	19	11	9	115	25,5	30,2	6,8	89	350	0,85	BBV-2-F308-0001-M
			.51	5.94	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.19	.27	3.50	5000	1.87	
12	3/4	20	19	162	62	49	75	57	24,5	14	14	171	31,9	38.1	6,8	127	350	1,87	BBV-2-F312-0001-M
			.75	6.38	2.44	1.93	2.95	2.24	.96	.55	.55	6.73	1.26	1.50	.27	5	5000	4.11	
16	1	25	25	178	66	58	83	65	29,5	14	14	171	39,8	44,4	8,1	135	350	2,70	BBV-2-F316-0001-M
			.98	7.01	2.60	2.28	3.27	2.56	1.16	.55	.55	6.73	1.57	1.75	.32	5.31	5000	5.94	

3000 PSI Series (Code 61) - Extended Adaptor Length

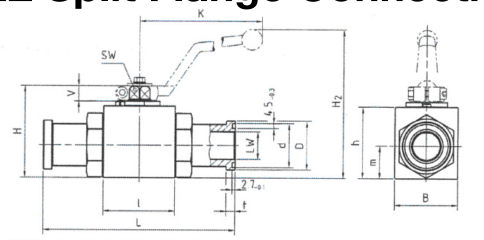
Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)														Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]	H2			
08	1/2	13	13	170	48	35	54	40	19	11	9	115	25,5	30,2	6,8	89	350	0,85	BBV-2-F3X08-0001-M
			.51	6.69	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.19	.27	3.50	5000	1.87	
12	3/4	20	19	200	62	49	75	57	24,5	14	14	171	31,9	38.1	6,8	127	350	1,87	BBV-2-F3X12-0001-M
			.75	7.87	2.44	1.93	2.95	2.24	.96	.55	.55	6.73	1.26	1.50	.27	5	5000	4.11	
16	1	25	25	215	66	58	83	65	29,5	14	14	171	39,8	44,4	8,1	135	350	2,70	BBV-2-F3X16-0001-M
			.98	8.46	2.60	2.28	3.27	2.56	1.16	.55	.55	6.73	1.57	1.75	.32	5.31	5000	5.94	

Please note: the final maximum working pressure is determined by flange and pipe/tubing rating.

[1]Dimension d: ±0,1mm/.004 in [2]Dimension D: -0,2 mm/.008 in [3]Dimension t: -0,2 mm/.008 in

High-Pressure Block Body Ball Valve - Type BBV-2-F6

6000 PSI SAE Split Flange Connection (ISO 6162-2)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball Seat: Delrin® (POM)
- O-rings: FKM (Viton®)

6000 PSI Series (Code 62) - Standard Adaptor Length

Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)														Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]	H2			
08	1/2	13	13	151	48	35	54	40	19	11	9	115	25,5	31,8	7,9	89	420	0.90	BBV-2-F608-0001-M
			.51	5.94	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.25	.31	3.50	6000	1.98	
12	3/4	20	19	174	62	49	75	57	24,5	14	14	171	31,9	41,3	8,9	127	420	1,95	BBV-2-F612-0001-M
			.75	6.85	2.44	1.93	2.95	2.24	.96	.55	.55	6.73	1.26	1.63	.35	5	6000	4.29	
16	1	25	25	198	66	58	83	65	29,5	14	14	171	39,8	47,6	9,6	135	320	3,00	BBV-2-F616-0001-M
			.98	7.80	2.60	2.28	3.27	2.56	1.16	.55	.55	6.73	1.57	1.87	.38	5.31	4600	6.60	
16	1	25	25	206	74	70	88	70	34,5	14	14	171	39,8	47,6	9,6	140	420	3,00	BBV-2-F616-0001-M
			.98	8.11	2.91	2.76	3.46	2.76	1.36	.55	.55	6.73	1.70	1.87	.38	5.51	6000	6.60	

6000 PSI Series (Code 62) - Standard Adaptor Length

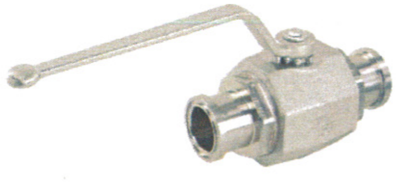
Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)														Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]	H2			
08	1/2	13	13	180	48	35	54	40	19	11	9	115	25,5	31,8	7,9	89	420	1,00	BBV-2-F6X08-0001-M
			.51	7.09	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.25	.31	3.50	6000	2.20	
12	3/4	20	19	200	62	49	75	57	24,5	14	14	171	31,9	41,3	8,9	127	420	2,10	BBV-2-F6X12-0001-M
			.75	7.87	2.44	1.93	2.95	2.24	.96	.55	.55	6.73	1.26	1.63	.35	5	6000	4.62	
16	1	25	25	250	66	58	83	65	29,5	14	14	171	39,8	47,6	9,6	135	320	3,15	BBV-2-F6X16-0001-M
			.98	9.84	2.60	2.28	3.27	2.56	1.16	.55	.55	6.73	1.57	1.87	.38	5.31	4600	6.93	
16	1	25	25	250	74	70	88	70	34,5	14	14	171	39,8	47,6	9,6	140	420	3,15	BBV-2-F6X16-0001-M
			.98	9.84	2.91	2.76	3.46	2.76	1.36	.55	.55	6.73	1.70	1.87	.38	5.51	6000	6.93	

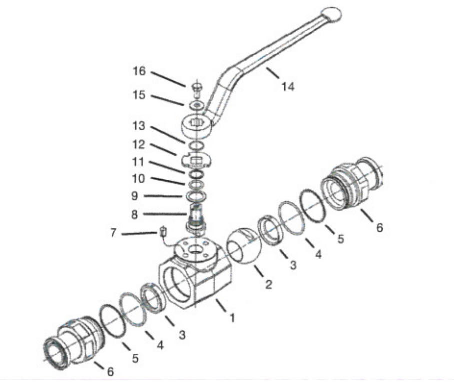
Please note: the final maximum working pressure is determined by flange and pipe/tubing rating.

[1]Dimension d: ±0,1mm/.004 in [2]Dimension D: -0,2 mm/.008 in [3]Dimension t: -0,2 mm/.008 in

3D step models available upon request

High-Pressure Forged Body Ball Valve - Type FBV-2-F





List of Components

No .	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seal
4*	2	Connector O-Ring
5*	2	Connector Back-Up Ring
6	2	Connector
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Stem Back-Up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Washer
16	1	Stem Bolt

Characteristics

Two-Way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Forged body design for in-line assembly
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FKM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) SAE split flange connectors
- 6000 PSI (code 62) SAE split flange connectors
- Standard and extended adapter lengths

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve**)**

Please note: The final maximum working pressure is determined by the flange and pipe/ tubing rating.

Temperature Range

- Operating temperature range: -20°C...+100°C / -4°F... +212°F

Options / Accessories

- Flanges and flange kits
- Alternative lever designs / materials
- Locking devices
- Actuator packages
- Limit switches
- Additional assembling threads
- Stainless Steel body
- Stainless Steal ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Seal kits (including items marked by * in the above list)

Order Codes

FBV - **2** - **F3** **20** - **0** **0** **0** **1** - **M** **-** **-**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① **Type**

High-Pressure Forged Body Ball Valve	**FBV**

② **Number of Ports**

Two Ports (Two-Way Ball Valve)	**2**

③ **Connection Style**

3000 PSI (Code 61) SAE Split Flange Connectors (Standard Adapter Length)	**F3**
3000 PSI (Code 61) SAE Split Flange Connectors (Extended Adapter Length)	**F3X**
6000 PSI (Code 62) SAE Split Flange Connectors (Standard Adapter Length)	**F6**
6000 PSI (Code 62) SAE Split Flange Connectors (Extended Adapter Length)	**F6X**

④ **Connection Size**

Size (according to dimension table)		
20	**24**	**32**

⑤ **Body Material / Surface Finishing**

Carbon Steel, zinc/iron plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials are available upon request.

⑥ **Ball / Stem Material**

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request.

⑦ **Ball Seat Material**

Delrin®	**0**

Alternative materials are available upon request.

⑧ **O-Ring Material**

NBR (Buna-N®)	**0**
FKM (Viton®)	**1**

Alternative materials are available upon request.

⑨ **Manufacturing Code**

Manufacturing code for all connection Style	**M**

⑩ **Lever Options**

Supplied with standard lever (according to table)	**-**
Supplied without lever	**0**

Alternative levers can be ordered separately.

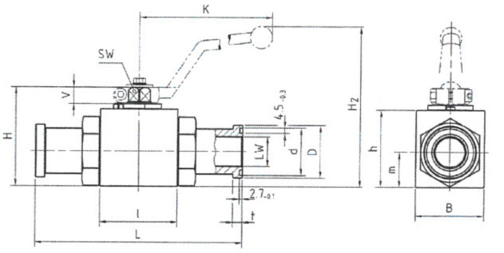
⑪ **Accessories / Options**

Supplied without accessories	**-**
Supplied with Locking Device LD1	**LD1**
Supplied with Locking Device LD2	**LD2**
Supplied with Locking Device LD6 (US version	**LD6**

3D step models available upon request

High-Pressure Forged Body Ball Valve - Type FBV-2-F3

3000 PSI SAE Split Flange Connection (ISO 6162-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

Body, ball and stem:	Carbon Steel
Lever:	Carbon Steel
Ball Seat:	Delrin® (POM)
O-rings:	FKM (Viton®)

Dimensions of stainless steel ball valves may vary!

3000 PSI Series (Code 61) - Standard Adaptor Length

Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]			
20	1-1/4	32	30	191	80	81	107	86	40,5	16,5	17	306	44,6	50,8	8,1	280	4,22	FBV-2-F320-0001-M
			1.18	7.52	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	1.76	2.00	.32	4000	9.28	
24	1-1/2	40	38	231	85	100	124	103	50	16,5	17	306	54,1	60,3	8,1	210	6,54	FBV-2-F324-0001-M
			1.50	9.09	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	2.13	2.37	.32	5000	14.39	
32	2	50	48	232	100	118	138	117	59	16,5	17	306	63,6	71,4	9,6	210	9,29	FBV-2-F332-0001-M
			1.89	9.09	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	2.50	2.81	.38	5000	20.44	

3000 PSI Series (Code 61) - Extended Adaptor Length

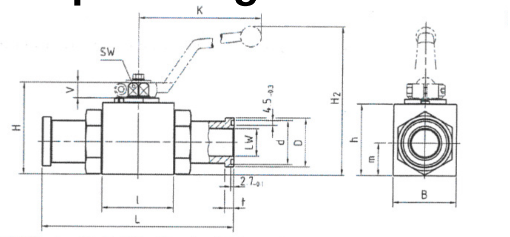
Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]			
20	1-1/4	32	30	275	80	81	107	86	40,5	16,5	17	306	44,6	50,8	8,1	280	5,15	FBV-2-F3X20-0001-M
			1.18	10.83	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	1.76	2.00	.32	4000	11.33	
24	1-1/2	40	38	320	85	100	124	103	50	16,5	17	306	54,1	60,3	8,1	210	7,20	FBV-2-F3X24-0001-M
			1.50	12.60	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	2.13	2.37	.32	5000	15.84	
32	2	50	48	323	100	118	138	117	59	16,5	17	306	63,6	71,4	9,6	210	11,50	FBV-2-F33X2-0001-M
			1.89	12.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	2.50	2.81	.38	5000	25.30	

Please note: the final maximum working pressure is determined by flange and pipe/tubing rating.

[1] Dimension d: ±0,1mm/.004 in [2] Dimension D: -0,2 mm/.008 in [3] Dimension t: -0,2 mm/.008 in

High-Pressure Block Body Ball Valve - Type FBV-2-F6

6000 PSI SAE Split Flange Connection (ISO 6162-2)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

Body, ball and stem:	Carbon Steel
Lever:	Zinc
Ball Seat:	Delrin® (POM)
O-rings:	FKM (Viton®)

Dimensions of stainless steel ball valves may vary!

6000 PSI Series (Code 62) - Standard Adaptor Length

Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]			
20	1-1/4	32	30	223	80	81	107	86	40,5	16,5	17	306	44,6	54	10,4	420	4,72	FBV-2-F620-0001-M
			1.18	8.78	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	1.76	2.13	.41	6000	10.38	
24	1-1/2	40	38	281	85	100	124	103	50	16,5	17	306	54,1	63,5	12,7	420	7,49	FBV-2-F624-0001-M
			1.50	11.06	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	2.13	2.50	.50	6000	16.48	
32	2	50	48	316	100	118	138	117	59	16,5	17	306	63,6	79,4	12,7	420	11,39	FBV-2-F632-0001-M
			1.89	12.44	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	2.50	3.13	.50	6000	25.06	

6000 PSI Series (Code 62) - Standard Adaptor Length

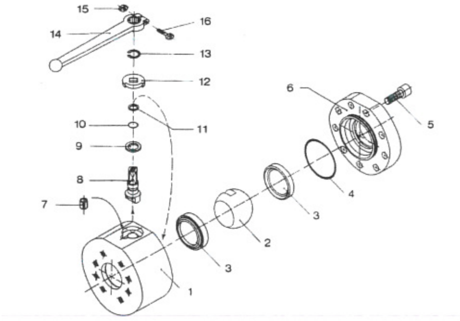
Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)													Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
			LW	L	l	B	H	h	m	V	SW	K	d[1]	D[2]	t[3]			
20	1-1/4	32	30	322	80	81	107	86	40,5	16,5	17	306	44,6	54	10,4	420	5,55	FBV-2-F6X20-0001-M
			1.18	12.68	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	1.76	2.13	.41	6000	12.21	
24	1-1/2	40	38	380	85	100	124	103	50	16,5	17	306	54,1	63,5	12,7	420	7,65	FBV-2-F6X24-0001-M
			1.50	14.96	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	2.13	2.50	.50	6000	16.83	
32	2	50	48	385	100	118	138	117	59	16,5	17	306	63,6	79,4	12,7	420	12,00	FBV-2-F6X32-0001-M
			1.89	15.16	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	2.50	3.13	.50	6000	26.40	

Please note: the final maximum working pressure is determined by flange and pipe/tubing rating.

[1] Dimension d: ±0,1mm/.004 in [2] Dimension D: -0,2 mm/.008 in [3] Dimension t: -0,2 mm/.008 in

3D step models available upon request

High-Pressure Round Body Ball Valve - Type BV-2-C36



List of Components

No .	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	1	Cover O-Ring
5	7-9**	Cover Screws
6	1	Cover
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Back-Up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Nut
16	1	Screw

** Depending on valve size

Characteristics

Two-Way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction

- Round body design for in-line assembly
- Designed for direct mount to reduce threads in fluid flow
- Supplied with off-set lever

Standard Materials

- Body: Carbon Steel, zinc/iron plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
  Carbon Steel (STAUFF Sizes 12 and 32)
  Carbon Steel (STAUFF Sizes 40 and 48)
- Ball seat: Delrin® (POM)
- O-rings: FKM (Viton®)

Standard Connections Styles / Sizes

- 3000 PSI (code 61) direct SAE flange connection
- 6000 PSI (code 62) direct SAE flange connection
- Dual pattern: 3000 PSI (code 61) and 6000 PSI (code 62)
- Metric ISO and unified coarse (UNC) threads

Pressure Range

- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve**)**

Please note: The final maximum working pressure is determined by the flange and pipe/ tubing rating.

Temperature Range

- Operating temperature range: -20°C...+100°C / -4°F... +212°F

Options / Accessories

- Flanges and flange kits
- Alternative lever designs / materials
- Locking devices
- Actuator packages
- Limit switches
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Seal kits (including items marked by * in the above list)

Order Codes

BV	-	2	-	C36	32	M	-	0	0	0	1	-	M	-	-
①		②		③	④	⑤		⑥	⑦	⑧	⑨		⑩	⑪	⑫

① Type

High-Pressure Round Body Valve	BV

② Number of Ports

Two Ports (Two-Way Ball Valve)	2

③ Connection Style

3000/6000 PSI (Code 61/62) SAE Direct Flange Connection	C36

④ Connection Size

STAUFF Size (according to dimension table)							
08	12	16	20	24	32	40	48

⑤ Thread Type

Flange Connection with metric ISO Threads	M
Flange Connection with Unified Coarse (UNC) Threads	U

⑥ Body Material / Surface Finishing

Carbon Steel, zinc/iron plated	0

Alternative materials are available upon request.

⑦ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel / Duplex (for Stauff Size 48)	0

Alternative materials / surface finishings are available upon request.

⑧ Ball Seat Material

Delrin® (POM)	0

Alternative materials are available upon request.

⑨ O-Ring Material

NBR (Buna-N®)	0
FKM (Viton®)	1

Alternative materials are available upon request.

⑩ Manufacturing Code

Manufacturing code for all connection styles	M

⑪ Lever Options

Supplied with standard lever (according to table)	-
Supplied without lever	0

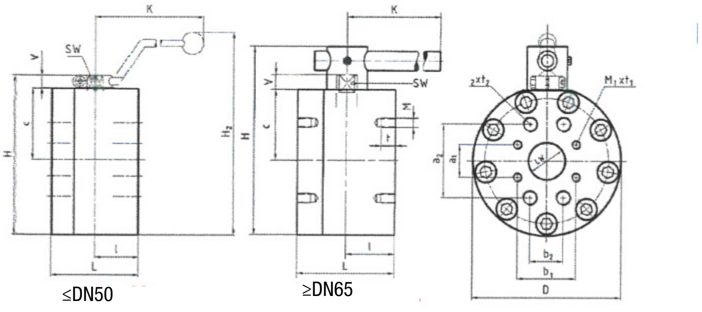
⑫ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device up to DN50	LD2
Supplied with Locking Device up to DN50	LD4
Supplied with Locking Device from DN65	LD5
Supplied with Locking Device LD7 (US version)	LD7

3D step models available upon request

High-Pressure Round Body Ball Valve - Type BV-2-C36

3000 /6000 PSI Flange Connection (ISO 6162-1/2)



≤DN50 ≥DN65

When ordering the standard option as indicated in the table below, the following materials will be supplied:

Body, ball and stem:	Carbon Steel
Lever:	Aluminium (Size 08) Carbon Steel (Sizes 12 and 32) Carbon Steel (Sizes 40 and 48) Delrin® (POM)
Ball Seat:	Delrin® (POM)
O-rings:	FKM (Viton®)

Dual Pattern - 3000/6000 PSI Series (Code 61/62) - Metric ISO Threads

Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/ lbs)	Ordering Codes (Standard Option)
			LW	L	l	D	H	c	V	K	SW	a1	b1	M1	t1	a2	b2	M2	t2	H2			
08	1/2	15	15	75	35	88	88	31	13	160	12	17,5	38,1	M8	18	40,5	18,2	M8	18	132	420	2,96	BV-2-C3608M-0001-M
			.59	2.95	1.38	3.46	3.46	1.22	.51	6.30	.47	.69	1.50		.71	1.59	.72		.71	5.20	6000	6.51	
12	3/4	20	20	80	35	98	100	36,5	14	171	14	22,2	47,6	M10	18	50,8	23,8	M10	18	151	420	4,20	BV-2-C3612M-0001-M
			.79	3.15	1.38	3.86	3.94	1.44	.55	6.73	.55	.87	1.87		.71	2.00	.94		.71	5.94	6000	9.24	
16	1	25	25	88	38	118	113	39,5	14	171	14	27,8	57,2	M12	20	52,4	26,2	M10	20	164	420	6,00	BV-2-C3616M-0001-M
			.98	3.46	1.50	4.65	4.45	1.56	.55	6.73	.55	1.09	2.25		.79	2.06	1.03		.79	6.46	6000	13.20	
20	1-1/4	32	32	100	50	145	158	68	17	306	17	30,2	58,7	M10	20	66,6	31,8	M12	22	229	420	11,71	BV-2-C3620M-0001-M
			1.26	3.94	1.97	5.71	6.22	2.68	.67	12.05	.67	1.19	2.31		.79	2.62	1.25		.87	9.02	6000	25.76	
24	1-1/2	40	38	110	55	165	178	78	17	306	17	35,7	69,8	M12	20	79,4	36,5	M16	27	249	420	17,10	BV-2-C3624M-0001-M
			1.50	4.33	2.17	6.50	7.01	3.07	.67	12.05	.67	1.41	2.75		.79	3.13	1.44		1.06	9.80	6000	37.62	
32	2	50	48	116	58	198	210	94	17	306	17	42,9	77,8	M12	20	96.8	44,5	M20	28	281	420	24,60	BV-2-C3632M-0001-M
			1.89	4.57	2.28	7.80	8.27	3.70	.67	12.05	.67	1.69	3.06		.79	3.81	1.75		1.10	11.06	6000	54.12	
40	2-1/2	65	63	170	75	218	275	100	20	600	16	58,7	123,8	M24	41	88,9	50,8	M12	19		420	44,50	BV-2-C3640M-0001-M
			2.48	6.69	2.95	8.58	10.83	3.94	.79	23.62	.63	2.31	4.78		1.61	3.50	2.00		.75		6000	97.90	
48	3	80	76	170	79	258	315	114,5	26	600	19	71,4	152,4	M30	47	106,4	61,9	M16	24		420	60,40	BV-2-C3648M-0001-M
			2.99	6.69	3.11	10.16	12.40	4.51	1.02	23.62	.75	2.81	6.00		1.85	4.19	2.44		.95		6000	132.88	

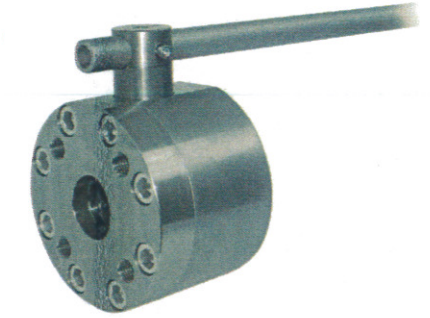
Dual Pattern - 3000/6000 PSI Series (Code 61/62) - Unified Coarse (UNC) Threads

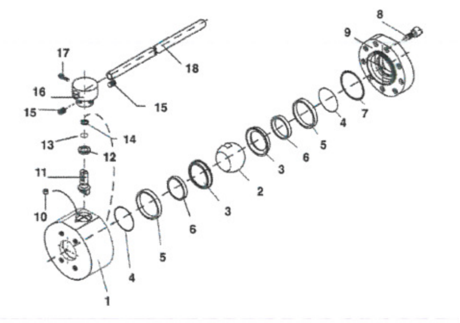
Size	SAE Flange Size	Nom. Size DN	Dimensions (mm/in)																	Nom. Pressure (bar/PSI)	Weight (kg/ lbs)	Ordering Codes (Standard Option)
			LW	L	l	D	H	c	V	K	SW	a1	b1	M1	t1	a2	b2	M2	t2	H2			
08	1/2	15	15	75	35	88	88	31	13	160	12	17,5	38,1	5/16-18	18	40,5	18,2	5/16-18	18	132	420	2,96	BV-2-C3608U-0001-M
			.59	2.95	1.38	3.46	3.46	1.22	.51	6.30	.47	.69	1.50	UNC	.71	1.59	.72	UNC	.71	5.20	6000	6.51	
12	3/4	20	20	80	35	98	100	36,5	14	171	14	22,2	47,6	3/8-16	18	50,8	23,8	3/8-16	18	151	420	4,20	BV-2-C3612U-0001-M
			.79	3.15	1.38	3.86	3.94	1.44	.55	6.73	.55	.87	1.87	UNC	.71	2.00	.94	UNC	.71	5.94	6000	9.24	
16	1	25	25	88	38	118	113	39,5	14	171	14	27,8	57,2	7/16-14	20	52,4	26,2	3/8-16	20	164	420	6,00	BV-2-C3616U-0001-M
			.98	3.46	1.50	4.65	4.45	1.56	.55	6.73	.55	1.09	2.25	UNC	.79	2.06	1.03	UNC	.79	6.46	6000	13.20	
20	1-1/4	32	32	100	50	145	158	68	17	306	17	30,2	58,7	7/16-14	20	66,6	31,8	1/2-13	22	229	420	11,71	BV-2-C3620U-0001-M
			1.26	3.94	1.97	5.71	6.22	2.68	.67	12.05	.67	1.19	2.31	UNC	.79	2.62	1.25	UNC	.87	9.02	6000	25.76	
24	1-1/2	40	38	110	55	165	178	78	17	306	17	35,7	69,8	1/2-13	20	79,4	36,5	5/8-11	27	249	420	17,10	BV-2-C3624U-0001-M
			1.50	4.33	2.17	6.50	7.01	3.07	.67	12.05	.67	1.41	2.75	UNC	.79	3.13	1.44	UNC	1.06	9.80	6000	37.62	
32	2	50	48	116	58	198	210	94	17	306	17	42,9	77,8	1/2-13	20	96.8	44,5	3/4-10	28	281	420	24,60	BV-2-C3632U-0001-M
			1.89	4.57	2.28	7.80	8.27	3.70	.67	12.05	.67	1.69	3.06	UNC	.79	3.81	1.75	UNC	1.10	11.06	6000	54.12	

Please note: the final maximum working pressure is determined by flange and pipe/tubing rating.
Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

3D step models available upon request

High-Pressure Round Body Ball Valve - Type BV-2-ISO





List of Components

No .	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	O-Ring
5	2	Outer S/S Support Ring
6	2	Inner S/S Support Ring
7*	1	Cover O-Ring
8	9	Cover Bolts
9	1	Cover
10	1	Stop Screw
11	1	Stem
12*	1	Thrust Ring
13*	1	Stem O-Ring
14*	1	Back-up Ring
15	2	Set Screws
16	1	Stem/Handle Adaptor
17	1	Screw
18	1	Steel Handle

Characteristics

Two-Way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (Nominal Size DN13)
  Carbon Steel (Nominal Sizes DN19 and DN56)
  Carbon Steel (Nominal Sizes DN63 and DN200)
- Ball seat: Delrin® (POM)
- O-rings: FKM (Viton®)

Standard Connections Styles / Sizes
- 250 bar / 3600 PSI series ISO 6164 flange connection
- 400 bar / 5800 PSI series ISO 6164 flange connection
- 350 bar / 5000 PSI series ISO 6164 flange connection
- Metric ISO and unified coarse (UNC) threads

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by the flange and pipe/ tubing rating.

Temperature Range
- Operating temperature range: -20°C...+100°C / -4°F... +212°F

Options / Accessories
- Alternative lever designs / materials
- Locking devices
- Actuator packages
- Limit switches
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Seal kits (including items marked by * in the above list)

Order Codes

BV	-	2	-	ISO3	DN19	-	0	0	0	1	-	M	-	-		-
①		②		③	④		⑤	⑥	⑦	⑧		⑨		⑩		⑪

① **Type**

High-Pressure Round Body Ball Valve	BV

② **Number of Ports**

Two Ports (Two-Way Ball Valve)	2

③ **Connection Style**

250 bar / 3600 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	ISO2
400 bar / 5800 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	ISO4
350 bar / 5000 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	ISO3

④ **Connection Size**

Nominal Size DN

DN13	DN19	DN25	DN32	DN38	DN51
DN56	DN63	DN80	DN100	DN125	DN150
DN200					

3D step models available upon request

⑤ **Body Material / Surface Finishing**

Carbon Steel, zinc/iron plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials are available upon request.

⑥ **Ball / Stem Material**

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel (from DN63 on)	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request.

⑦ **Ball Seat Material**

Delrin®	0

Alternative materials are available upon request.

⑧ **O-Ring Material**

NBR (Buna-N®)	0
FKM (Viton®)	1

Alternative materials are available upon request.

⑨ **Manufacturing Code**

Manufacturing code for all connection Style	M

⑩ **Lever Options**

Supplied with standard lever (according to table)	-
Supplied without lever	0

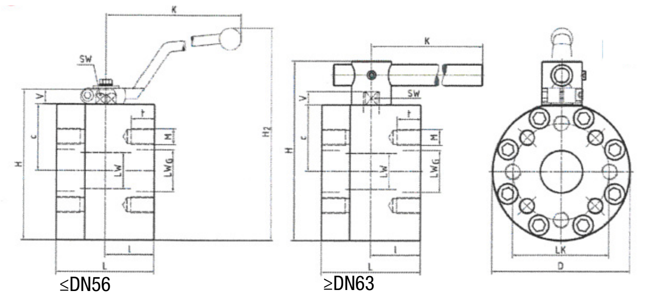
Alternative levers can be ordered separately.

⑪ **Accessories / Options**

Supplied without accessories	-
Supplied with Locking Device up to DN50	LD2
Supplied with Locking Device up to DN50	LD4
Supplied with Locking Device up to DN65	LD5
Supplied with Locking Device LD7 (US Version)	LD7

High-Pressure Round Body Ball Valve - Type BV-2-ISO

ISO 6164 PSI Flange Connection



≤DN56 ≥DN63

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (Nominal Size DN 13)
  Carbon Steel (Nominal Sizes DN12 and DN32)
  Carbon Steel (Nominal Sizes DN63 to DN200)
  Delrin® (POM)
- Ball Seat: Delrin® (POM)
- O-rings: FKM (Viton®)

250 bar / 3600 PSI Series (ISO 6164) - Metric ISO Threads

Size	Nom. Size DN	Dimensions (mm/in)														Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
		LW	LW_G	L	l	D	H	c	V	K	SW	LK	M	t	H2			
08	13	15 .59	15 .59	85 3.35	45 1.77	78 3.07	83 3.27	31 1.22	13 .51	160 6.30	12 .47	42[1] 1.65[1]	4xM8	16 .63	127 5.00	350 5000	2,90 4.84	BV-2-ISO2DN13-0001-M
12	19	20 .79	20 .79	88 3.46	38 1.50	119 4.69	110 4.33	36,5 1.44	14 .55	171 6.73	14 .55	50 1.97	4xM8	15 .59	161 6.34	350 5000	6,80 14.96	BV-2-ISO2DN19-0001-M
16	25	25 .98	25 .98	88 3.46	38 1.50	126 4.96	117 4.61	39,5 1.56	14 .55	171 6.73	14 .55	62 2.44	4xM10	20 .79	168 6.61	315 4568	7,20 15.84	BV-2-ISO2DN25-0001-M
20	32	32 1.26	32 1.26	105 4.13	50 1.97	145 5.71	158 6.22	68 2.68	17 .67	306 12.05	17 .67	73 2.87	4xM12	21 .83	229 9.02	250 3600	12,50 27.50	BV-2-ISO2DN32-0001-M
24	38	38 1.50	38 1.50	110 4.33	55 2.17	165 6.50	178 7.01	78 3.07	17 .67	306 12.05	17 .67	85 3.35	4xM16	24.5 .96	249 9.80	250 3600	16,60 36.52	BV-2-ISO2DN38-0001-M
32	51	48 1.89	47 1.85	116 4.57	58 2.28	198 7.80	210 8.27	94 3.70	17 .67	306 12.05	17 .67	98 3.86	4xM16	25.5 1.00	281 11.06	250 3600	24,90 54.78	BV-2-ISO2DN51-0001-M
-	56	48 1.89	58 2.28	123 4.84	58 2.28	198 7.80	210 8.27	94 3.70	17 .67	306 12.05	17 .67	118 4.65	4xM20	33 1.30	281 11.06	250 3600	26,60 58.52	BV-2-ISO2DN56-0001-M
40	63	63 2.48	70 2.76	150 5.9	75 2.9	208 8.19	270 10.6	100 3.94	20 .79	600 23.6	16 .63	145 5.71	4xM20	33 1.3		250 3600	36,90 81.18	BV-2-ISO2DN63-0001-M

400 bar / 5800 PSI Series (ISO 6164) - Metric ISO Threads

Size	Nom. Size DN	Dimensions (mm/in)														Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
		LW	LW_G	L	l	D	H	c	V	K	SW	LK	M	t	H2			
08	13	15 .59	14 .55	85 3.35	45 1.77	78 3.07	83 3.27	31 1.22	13 .51	160 6.30	12 .47	42 1.65	4xM8	16 .63	127 5.00	400 5800	2,90 6.38	BV-2-ISO4DN13-0001-M
12	19	20 .79	18 .71	88 3.46	38 1.50	119 4.69	110 4.33	36,5 1.44	14 .55	171 6.73	14 .55	50 1.97	4xM8	15 .59	161 6.34	400 5800	6,80 14.96	BV-2-ISO4DN19-0001-M
16	25	25 .98	22 .87	88 3.46	38 1.50	126 4.96	117 4.61	39,5 1.56	14 .55	171 6.73	14 .55	62 2.44	4xM10	20 .79	168 6.61	400 5800	7,20 15.84	BV-2-ISO4DN25-0001-M
20	32	32 1.26	29 1.14	105 4.13	50 1.97	145 5.71	158 6.22	68 2.68	17 .67	306 12.05	17 .67	73 2.87	4xM12	21 .83	229 9.02	400 5800	12,50 27.50	BV-2-ISO4DN32-0001-M
24	38	38 1.50	35 1.38	110 4.33	55 2.17	165 6.50	178 7.01	78 3.07	17 .67	306 12.05	17 .67	85 3.35	4xM16	24,5 .96	249 9.80	400 5800	16,60 36.52	BV-2-ISO4DN38-0001-M
32	51	48 1.89	43 1.69	123 4.84	58 2.28	198 7.80	210 8.27	94 3.70	17 .67	306 12.05	17 .67	98 3.86	4xM16	25,5 1.00	281 11.06	400 5800	24,90 54.78	BV-2-ISO4DN51-0001-M
-	56	48 1.89	53 2.09	123 4.84	58 2.28	198 7.80	210 8.27	94 3.70	17 .67	306 12.05	17 .67	118 4.65	4xM20	31 1.22	281 11.06	400 5800	26,60 58.52	BV-2-ISO4DN56-0001-M
40	63	65 2.56	58 2.28	150 5.91	75 2.95	224 8.82	286 11.26	108 4.25	20 .79	600 23.62	16 .63	145 5.71	4xM24	37,5 1.48		400 5800	42,53 93.57	BV-2-ISO4DN63-0001-M
-	70	65 2.56	63 2.48	150 5.91	75 2.95	224 8.82	286 11.26	108 4.25	20 .79	600 23.62	16 .63	160 6.30	4xM24	37,5 1.48		315 4568	43,00 94.60	BV-2-ISO4DN70-0001-M
48	80	76 2.99	76 2.99	1.70 6.69	78 3.07	258 10.16	315 12.40	114,5 4.51	26 1.02	600 23.62	19 .75	175 6.89	4xM30	35 1.38		400 5800	63,00 138.60	BV-2-ISO4DN80-0001-M

350 bar / 5000 PSI Series (ISO 6164) - Metric ISO Threads

Size	Nom. Size DN	Dimensions (mm/in)														Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Ordering Codes (Standard Option)
		LW	LW_G	L	l	D	H	c	V	K	SW	LK	M	t	H2			
12	19	20 .79	20 .79	88 3.46	38 1.50	119 4.69	110 4.33	36,5 1.44	14 .55	171 6.73	14 .55	64 2.52	4xM12	22 .87	161 6.34	350 5000	6,80 14.96	BV-2-ISO3DN19-0001-M
16	25	25 .98	25 .98	88 3.46	38 1.50	126 4.96	117 4.61	39,5 1.56	14 .55	171 6.73	14 .55	72 2.83	4xM12	20 .79	168 6.61	350 5000	7,20 15.84	BV-2-ISO3DN25-0001-M
20	32	32 1.26	32 1.26	105 4.13	50 1.97	145 5.71	158 6.22	68 2.68	17 .67	306 12.05	17 .67	80 3.15	4xM16	24 .95	229 9.02	350 5000	12,50 27.50	BV-2-ISO3DN32-0001-M
24	38	38 1.50	38 1.50	110 4.33	55 2.17	165 6.50	178 7.01	78 3.07	17 .67	306 12.05	17 .67	98 3.86	4xM16	25 .98	249 9.80	350 5000	16,60 36.52	BV-2-ISO3DN38-0001-M
32	51	48 1.89	48 1.89	122 4.85	58 2.28	198 7.80	210 8.27	94 3.70	17 .67	306 12.05	17 .67	118 4.65	4xM20	28 1.10	281 11.06	350 5000	24,90 54.78	BV-2-ISO3DN51-0001-M
40	63	65 2.56	63 2.48	150 5.91	75 2.95	208 8.19	270 1.63	100 3.94	20 .79	600 23.62	16 .63	145 5.71	4xM24	36 1.42		350 5000	36,00 79.36	BV-2-ISO3DN63-0001-M
48	80	Use BV-2-ISO4DN80-0001-M from the 400 bar / 5800 PSI Series (ISO 6164)																BV-2-ISO3DN80-0001-M
64	100	100 3.94	100 3.94	200 7.87	100 3.94	260 1.24	327 12.87	122 4.80	26 1.02	900 35.43	24 .94	200 7.87	8xM24	36 1.42		350 5000	70,00 154.32	BV-2-ISO3DN100-0001-M
80	125	118 4.65	118 4.65	230 9.06	110 4.33	390 15.35	470 18.50	185 7.28	32 1.26	900 35.43	36 1.42	245 9.65	8xM3-	45 1.77		350 5000	209,00 460.77	BV-2-ISO3DN125-0001-M
96	150	150 5.91	150 5.91	285 11.22	130 5.12	390 15.35	475 18.70	190 7.48	32 1.26	900 35.43	36 1.42	245 9.65	8xM30	46 1.81		350 5000	225,00 496.04	BV-2-ISO3DN150-0001-M
128	200	192 7.56	200 7.87	3.78 14.88	150 5.91	456 17.95	598 23.54	223 8.78	61 2.40	940 37.01	46 1.81	315 12.40	8xM36	55 2.17		350 5000	395,00 868.62	BV-2-ISO3DN200-0001-M

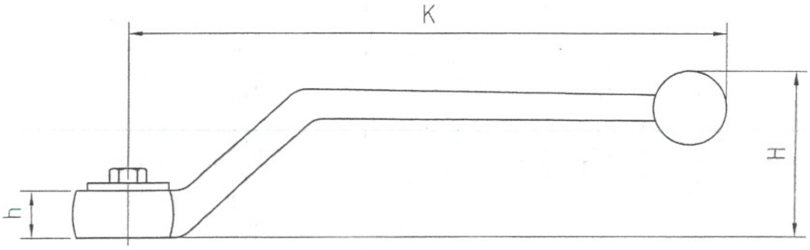
Please note: the final maximum working pressure is determined by flange and pipe/tubing rating.

[1] Please note: Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

3D step models available upon request

Spare Parts / Accessories / Options

Levers



Zinc - Off-Set Design

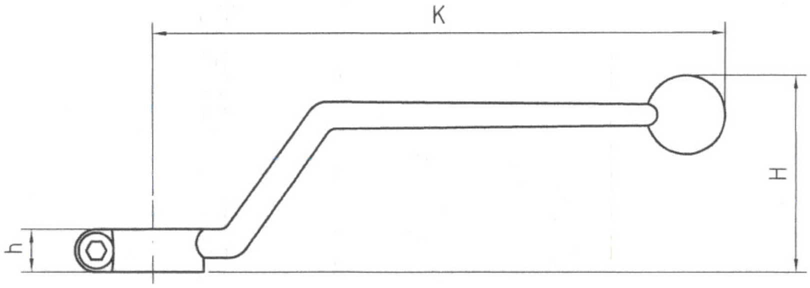
SW	Dimensions (mm/in)			Weight (kg/ lbs)	Order Codes
	K	h	H		
7	80	6,5	30	0,03	Lever-SW7-ZNO
	3.15	.26	1.18	.07	
9	115	8,7	45	0,09	Lever-SW9-ZNO
	4.52	.34	1.77	.20	

Carbon Steel - Off-Set Design

SW	Dimensions (mm/in)			Weight (kg/ lbs)	Order Codes
	K	h	H		
7	80	6,5	30	0,05	Lever-SW7-CSO
	3.15	.26	1.18	.11	
9	115	9	47	0,09	Lever-SW9-CSO
	4.52	.35	1.85	.20	
14	170	12	64	0,23	Lever-SW14-CSO
	6.73	.47	2.52	.51	
17	306	17	80	0,66	Lever-SW17-CSO
	12.04	.69	3.15	1.45	

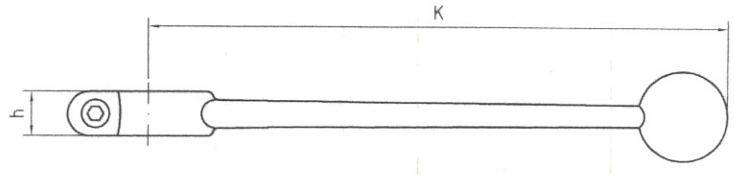
Stainless Steel V4A - Off-Set Design

SW	Dimensions (mm/in)			Weight (kg/ lbs)	Order Codes
	K	h	H		
7	60	6,5	22	0,04	Lever-SW7-W50
	2.36	.26	.87	.09	
9	115	9	47	0,10	Lever-SW9-W50
	4.52	.35	1.85	.22	
14	173	12	64	0,23	Lever-SW14-W50
	6.80	.47	2.52	.51	
17	227,5	15	90	0,66	SW17-W50
	8.96	.59	3.54	1.45	



Aluminium - Off-Set Design

SW	Dimensions (mm/in)			Weight (kg/ lbs)	Order Codes
	K	h	H		
12	160	12	55	0,07	Lever-SW12-ALO
	6.30	.47	2.17	.16	



Zinc - Straight Design

SW	Dimensions (mm/in)		Weight (kg/lbs)	Order Codes
	K	h		
9	155	10	0,09	Lever-SW9-ZNS
	6.10	.29	.20	
14	200	14	0,22	Lever-SW14-ZNS
	7.87	.55	.48	

Aluminium - Straight Design

SW	Dimensions (mm/in)		Weight (kg/lbs)	Order Codes
	K	h		
9	150	11	0,06	Lever-SW9-ALS
	5.91	.43	.13	
14	200	12	0,11	Lever-SW14-ALS
	7.87	.47	.24	
17	320	16	0,27	Lever-SW17-ALS
	12.60	.63	.59	

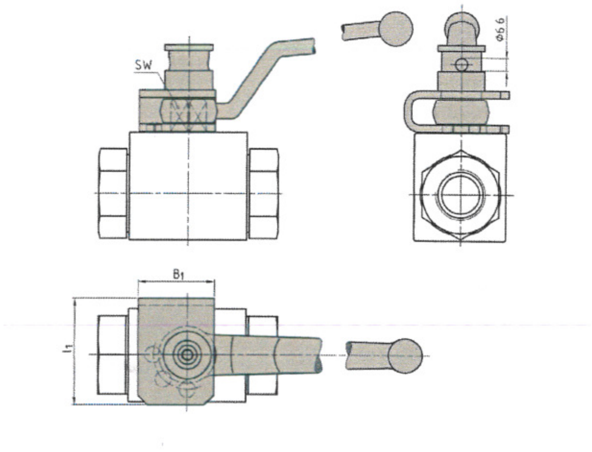
3D step models available upon request

Spare Parts / Accessories / Options

Locking Device - Type LD1

Dimensions / Order Codes

Nom. Size DN	SW	Dimensions (mm/in)		Order Codes	180° Operation
		B	L1		
4-13	9	9 .35	25 .98	**LD1-SW09**	**LD1S-SW09**
16	12	12 .47	40 1.57	**LD1-SW12**	**LD1S-SW12**
20-25	14	14 .55	40 1.57	**LD1-SW14**	**LD1S-SW14**
32-50	17	17 .67	50 1.97	**LD1-SW17**	**LD1S-SW17**



Characteristics

Locking kit consisting of shackle, sliding sleeve, link with screw and Steel lever.

Features

- Universal field-installed locking device
- High security: Cannot be dismounted when locked

Ordering Example: BBV-2-G10-0001-M-LD01

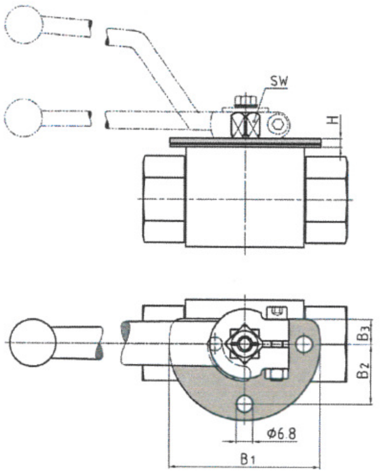
Suitability

Type	Description	Type	Description	Type	Description
BBV	Block Body Valve with Threaded Connections (SW 9-14)	**FBV-2-F**	Forged Body Valve with SAE Split Flange Connections (SW 17)	**MCBVL-3**	Block Body Valve (Two-Way Selector) for Manifold Mounting (SW 9-17)
FBV	Forged Body Valve with Threaded Connections (SW 17)	**BBV**	Block Body Valve with SAE Flange Connections (SW 9-14)	**MCBVSL-3**	Block Body Valve (Three-Way Selector) for Manifold Mounting (SW 9-17)
HBV	High Pressure Body Block Valve with Threaded Connections (SW 9-14)	**FBV**	Forged Body Valve with SAE Flange Connections (SW 17)	**CBV**	Block Body Valve (Three-Way Selector) with Threaded Connections (SW 9-17)
BBV-2-F	Block Body Valve with SAE Split Flange Connections (SW 9-14)	**MBBV-2**	High Pressure Body Block Valve with Threaded Connections (SW 9-14)	**CBVS**	Block Body Valve (Three-Way Selector) with Threaded Connections (SW 9-17)

Locking Device - Type LD2

Dimensions / Order Codes

Nom. Size DN	SW	Dimensions (mm/in)				Order Codes Individual Part
		H	B1	B2	B3	
4-8	9	3,5 .14	61 2.41	24 94	10 .39	**LD2-SW09-DN4-8**
10-13	9	3,5 .14	61 2.41	24 94	10 .39	**LD2-SW09-DN10-13**
16	12	4,5 .18	64 2.52	25,5 1.00	12 .47	**LD2-SW12**
20-25	14	4,5 .18	84 3.31	35,5 1.40	14 .55	**LD2-SW14**
32-50	17	4,5 .18	136 5.35	61,5 2.42	15 .59	**LD2-SW17**



Characteristics

Locking kit consisting of locking plate, stopping disk and ring.

Features

- Field-installed locking device
- Can be dismounted after disassembly of lever

Ordering Example: BBV-2-G10-0001-M-LD02

Suitability

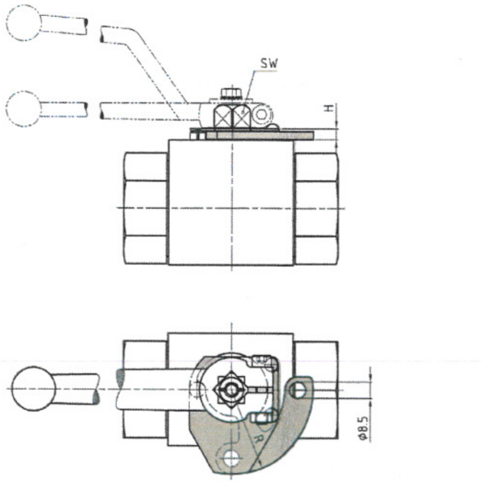
Type	Description	Type	Description	Type	Description
BBV	Block Body Valve with Threaded Connections (SW 9-14)	**BBV-2-F**	Block Body Valve with SAE Split Flange Connections (SW 9-14)	**CBV** (≤DN25)	Block Body Valve (Three-Way Selector) with Threaded Connections
FBV	Forged Body Valve with Threaded Connections (SW 17)	**FBV-2-F**	Forged Body Valve with SAE Split Flange Connections (SW 17)	**BV-2**	Round Body Valve with Direct Flange Connections up to DN 50 (acc. to SAE, ISO, CETOP)

Spare Parts / Accessories / Options

Locking Device - Type LD3

Dimensions / Order Codes

Nom. Size DN	SW	Dimensions (mm/in)	
		H	R
4-13	9	4	37
		.16	1.47
16	12	4,3	40
		.17	1.57
20-25	14	5,5	43,5
		.22	1.71
32-50	17	6	69,5
		.24	2.74



Characteristics

Only available in combination with suitable ball valve.

Features
- Factory-installed locking device
- High security: Cannot be dismounted when locked

Ordering Example: FBV-2-G20-0001-M-LD03

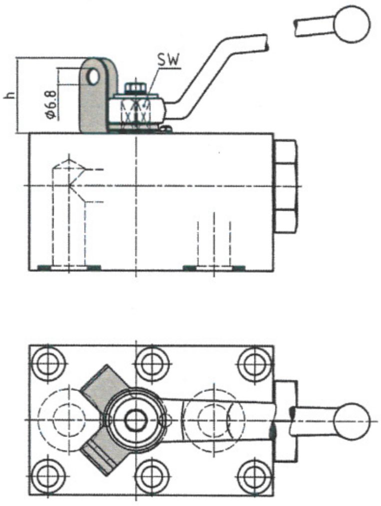
Suitability

Type	Description	Type	Description	Type	Description
BBV	Block Body Valve with Threaded Connections	**FBV**	Forged Body Valve with Threaded Connections	**CBV** (≤DN25)	Block Body Valve (Three-Way Selector) with Threaded Connections

Locking Device - Type LD3

Dimensions / Order Codes

SW	Dimensions (mm/in)	Order Codes 90° Operation	180° Operation
	H		
7	24	**LD4-SW07-SS**	**LD4S-SW07-SS**
	.94		
9*	28	**LD4-SW09-SS**	**LD4S-SW09-SS**
	1.10		
14*	34,5	**LD4-SW14-SS**	**LD4S-SW14-SS**
	1.36		
17	44	**LD4-SW17-SS**	**LD4S-SW17-SS**
	1.73		



Characteristics

Locking kit consisting of locking plate, stopping disk and ring.

Features
- Field-installed locking device
- Can be dismounted after disassembly of lever

Ordering Example: BBV-2-G10-0001-M-LD04

Suitability

Type	Description	Type	Description
BBV	Block Body Valve with Threaded Connections	**MBBV-2**	Block Body Valve (Two-Way Selector) for Manifold Mounting
FBV	Forged Body Valve with Threaded Connections	**MCBVL-3**	Block Body Valve (Three-Way Selector) for Manifold Mounting
HBV	High-Pressure Body Valve with Threaded Connections	**MCBVSL-3**	Block Body Valve (Three-Way Selector) for Manifold Mounting
BV-2-C	Round Body Valve with DIrect SAE Flange Connections up to DN50	**CBV**	Block Body Valve (Three-Way Selector) with Threaded Connections
BV-2-ISO	Round Body Valve with ISO Flange Connections up to DN50	**CBV**	Block Body Valve (Three-Way Selector) with SAE Flange Connections
BV-2-CET	Round Body Valve with CETOP Flange Connections up to DN50	**CBVS**	Block Body Valve (Three-Way Selector) with Threaded Connections
		LBV	Block Body Valve (Three-Way Selector) with Threaded Connections
		TBV	Block Body Valve (Three-Way Selector) with Threaded Connections
		TBV	Block Body Valve (Four-Way Selector) with Threaded Connections
		XBV	Block Body Valve (Four-Way Selector) with Threaded Connections

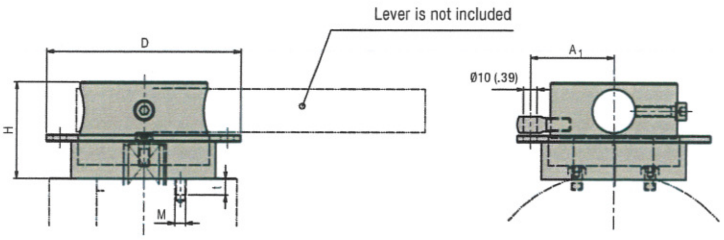
3D step models available upon request

Spare Parts / Accessories / Options

Locking Device - Type LD5

Dimensions

STAUFF Size	Dimensions (mm/in)				
	A1	D	H	M	t
40	62,5	145	71,5	M6	10
	2.46	5.71	2.81		.39
48	62,5	145	71,5	M8	12
	2.46	5.71	2.81		.47
64	67,5	155	74,5	M8	12
	2.66	6.10	2.93		.47
80	72,5	165	104,5	M8	12
	2.85	6.50	4.11		.47



Characteristics

Only available in combination with suitable ball valve.
Locking device requires modification in valve body.

Ordering Example: BV-2-C340U-0001-M-LD5

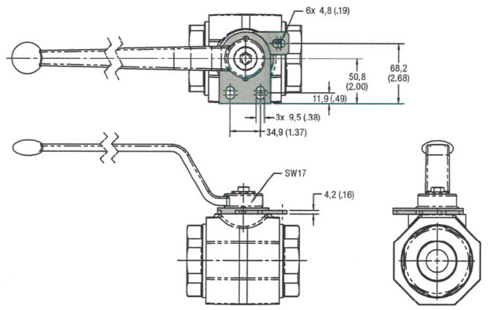
Suitability

Type	Description	Type	Description	Type	Description
BV-2-C	Round Body Valve with Direct SAE Flange Connections	**BV-2-CET**	Round Body Valve with Direct ISO 6164 Flange Connection	**BV-2-ISO**	Round Body Valve with Direct CETOP Flange Connection

Locking Device - Type LD6 US Version

Suitability

Type	Description
FBV	Forged Body Valve with Threaded Connections
FBV-2-F	Forged Body Valve with SAE Split Connections
FBV	Forged Body Valve with SAE Flange Connections



Characteristics

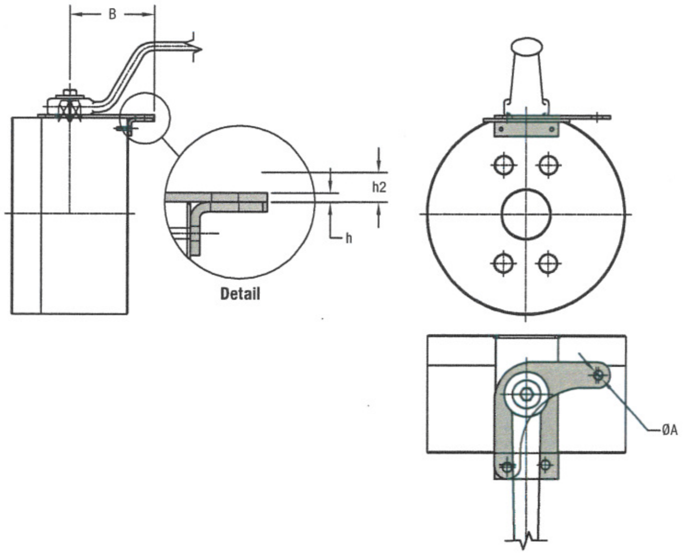
Only available in combination with suitable ball valve.

Ordering Example: FBV-2-G20-0001-M-LD6

Locking Device - Type LD7 US Version

Dimensions

STAUFF Size	Dimensions (mm/in)				
	SW	ØA	B	h	h2
08	12	8,5	59	2	
		.33	2.32	.08	
12-16	14	8,5	64	2	
		.33	2.52	.08	
20-32	17	9,5	83	2	
		.37	3.27	.08	
40	16	9,5	102	3	
		.37	4.01	.12	
48	19	9,5	93		27
		.37	3.66		1.06
64	24	9,5	113	3	
		.37	4.45	.12	
80	36	9,5	134	3	
		.37	5.28	.12	



Suitability

Type	Description
BV-2-C	Round Body Valve with Direct SAE Flange Connections

Characteristics

Only available in comgination with stuiable ball valve.
Locking device requires modification in valve body.

Ordering Example: BV-2-C3632U-0001-M-L07

3D step models available upon request

Spare Parts / Accessories / Options

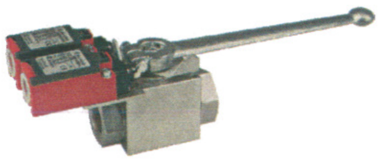
Double-Acting Pneumatic Actuators - Type AD
Single-Acting Pneumatic Actuators - Type AS
Electric Actuators - Type AE

Most ball valves can be factory-mounted to compact and efficient pneumatic or electric actuators for both high-pressure and low-pressure applications.

The actuators feature simple, robust constructions and are suitable for applications with high cycle requirements.

Please note: The miniumum air supply for pneumatic actuators is usually 5,5 bar / 80 PSI. They are designed for 90° open / close applications only and should not be used for valve throttling.

Limit / Proximity Switches



Limit Switches

Options / configurations available:

-SO	open
-SC	closed
-SOC	open/closed

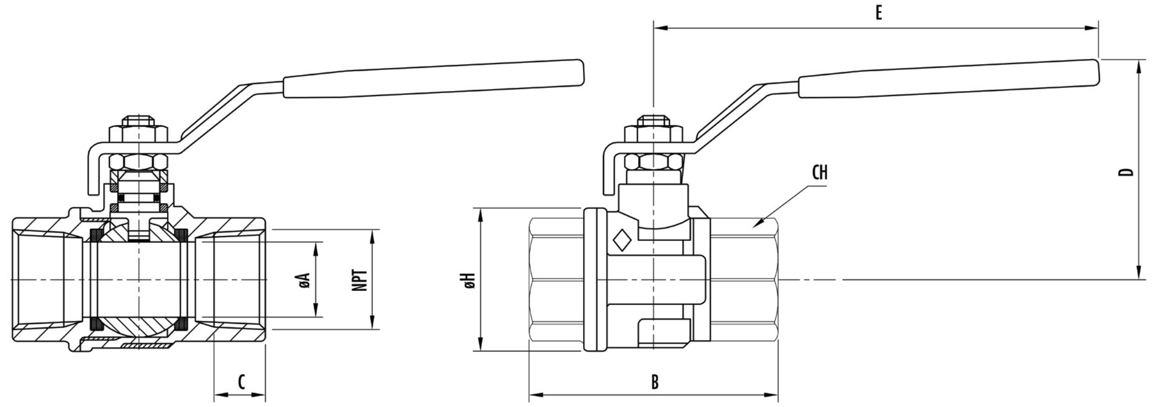
Proximity Switches

Options / configurations available:

-PO	open
-PC	closed
-POC	open/closed

3D step models available upon request

Ball Valves
Low Pressure

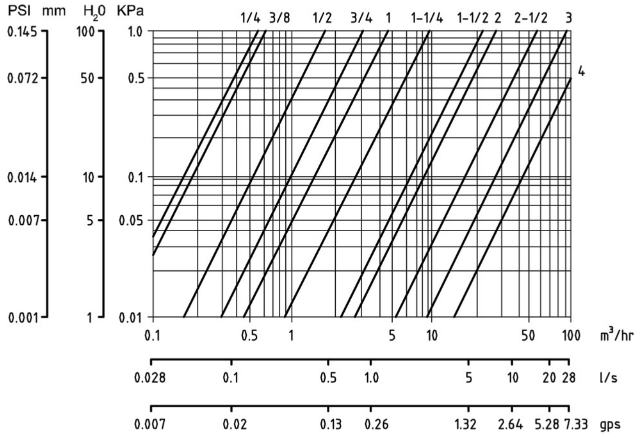


2BVL Female Thread Ball Valve - Low Pressure

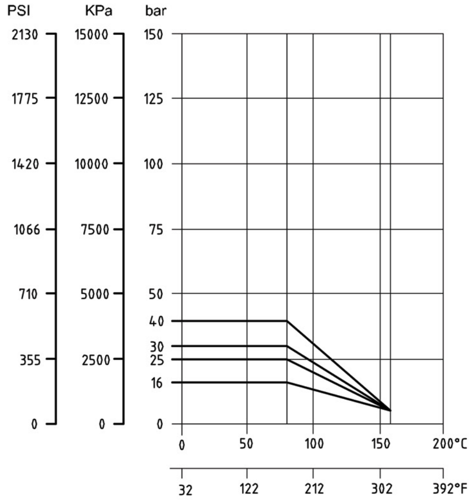
Size	NPT Ball Valve Part Number	SAE Ball Valve Part Number	Dimensions (in)						Cv	WT lbs/pc	Working Pressure PSI (bar)
			A	B	C	D	E	H			
1/4”	2BVL20-04-B*	2BVL21-04-B*	0.39	2.02	0.39	1.75	3.85	0.90	6.29	0.30	600 (40)
3/8”	2BVL20-06-B*	2BVL21-06-B*	0.39	2.02	0.40	1.75	3.85	0.90	6.99	0.28	600 (40)
1/2”	2BVL20-08-B*	2BVL21-08-B*	0.59	2.44	0.53	1.88	3.85	1.25	19.00	0.41	600 (40)
3/4”	2BVL20-12-B*	2BVL21-12-B*	0.78	2.71	0.55	2.28	4.80	1.53	34.42	0.67	600 (40)
1”	2BVL20-16-B*	2BVL21-16-B*	0.98	3.07	0.66	2.44	4.80	1.92	50.18	1.09	600 (40)
1-1/4”	2BVL20-20-B*	2BVL21-20-B*	1.25	3.42	0.68	3.07	6.02	2.32	103.70	2.01	600 (40)
1-1/2”	2BVL20-24-B*	2BVL21-24-B*	1.57	3.89	0.68	3.34	6.02	2.87	268.41	3.08	600 (40)
2”	2BVL20-32-B*	2BVL21-32-B*	1.96	4.33	0.69	3.79	6.37	3.38	309.20	4.18	600 (40)
2-1/2”	2BVL20-40-B*	2BVL21-40-B*	2.56	5.59	1.19	5.02	8.07	4.37	629.00	8.00	600 (40)
3”	2BVL20-48-B*	2BVL21-48-B*	3.15	6.45	1.31	5.45	8.07	5.35	1018.17	12.90	600 (40)
4”	2BVL20-64-B*	2BVL21-64-B*	3.94	7.60	1.55	6.34	10.23	6.35	1622.00	22.04	600 (40)

* Insert ‘L‘ to indicate optional assembled locking device
Valves are full port
Buna seals (standard)

Pressure/Drop



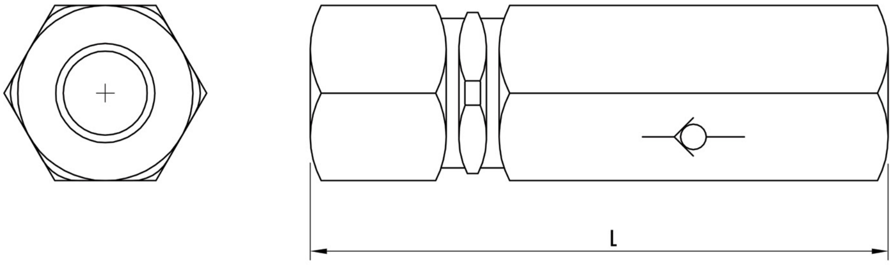
Pressure/Temperature Ratings



3D step models available upon request

Check Valves

Inline Female Thread - Poppet Style 3000-6000 PSI



6C/3C - Inline Check Valve - Female Threaded Port Style, Poppet Style Soft Seat - 3000-6000 PSI (210-420 bar)

Size	*Dimensions (in)		Cv	WT lbs/pc	Flow gpm	Working Pressure PSI (bar)
	L	HEX				
1/4”	2.82	0.75	0.45	0.29	3.00	6000 (420)
3/8”	3.38	1.12	1.80	0.81	8.00	6000 (420)
1/2”	3.73	1.25	3.40	1.20	12.00	6000 (420)
3/4”	4.91	1.62	7.40	2.05	20.00	6000 (420)
1”	6.07	1.88	9.50	3.40	30.00	6000 (420)
1-1/4”	5.76	2.00	12.30	3.75	90.00	3000 (210)
1-1/2”	6.51	2.50	16.15	7.80	125.00	3000 (210)
2”	7.28	3.25	21.80	13.00	175.00	3000 (210)

* Dimensions shown are for NPTF ported valves; for other end-fitting configurations - consult factory.

Complete Part Number

Code | Valve Body - Port Size - Inlet - Outlet - Spring Pressure - Option

		Code
Valve Body	**6000 PSI** 1/4” - 1”	**6C**
	3000 PSI 1-1/4” - 2”	**3C**
Port Size	**1/4”**	4
	3/8”	6
	1/2”	8
	3/4”	12
	1”	16
	***1-1/4”**	20
	***1-1/2”**	24
	***2”**	32
Thread Type	**Female SAE**	**EF**
	Female NPTF	**F**
	Female British Parallel BS 2779	**RP**
Spring Pressure	**5 PSI (.35 bar)**	**05**
	25 PSI (1.75 bar)	**25**
	65 PSI (4.5 bar)	**65**
Option	**Buna**	**A**

* Only available in 3000 psi
Viton ‘O’ rings (standard)
For pressure/drop charts reference page p15
Part no. (Example): 6C - 4 - F - F - 05

Material:
Carbon Steel, Clear Zinc Dichromate Plated, (316 Stainless Steel Available)

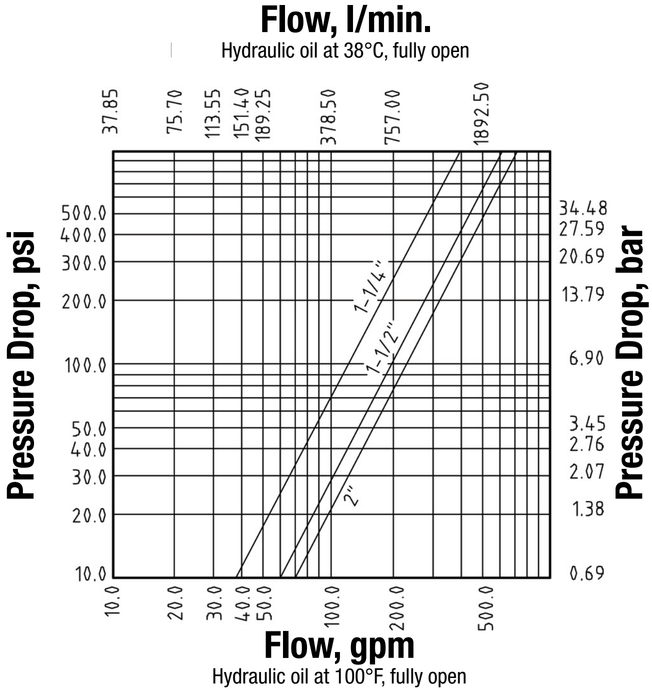
Note:
To order 316 stainless steel check valve insert S into the beginning of the assembly part number PART NO. (EXAMPLE): S 6C - 4 - F - F - 05

3D step models available upon request

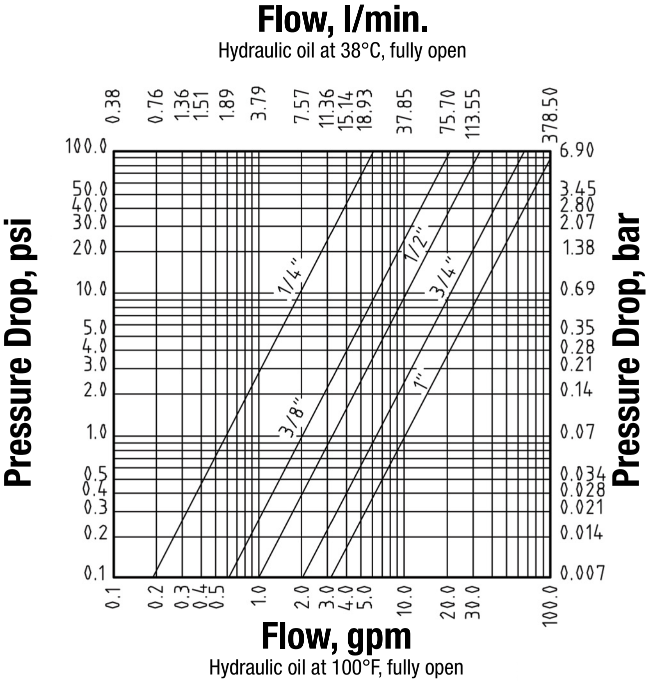
Check Valves

Pressure Drop Charts

3C 3000 PSI



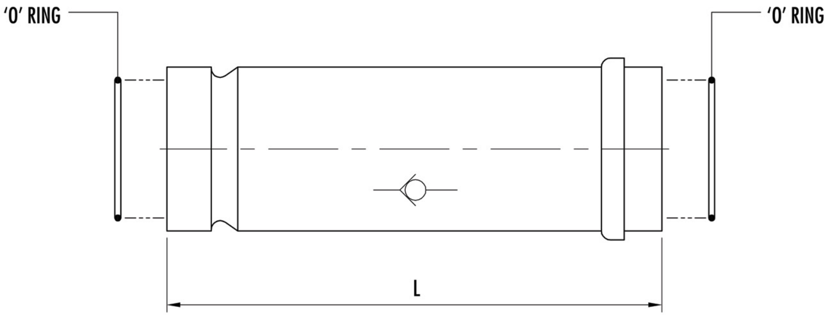
6C 6000 PSI



3D step models available upon request

Check Valves

Retain Ring Flange Style - Body Only



CV - Check Valve Body - Poppet Style Complete with Buna 'O' Rings (Standard)

Size	Check Valve Part Number	*Dimensions (in) L	"O" Ring (Buna) Part Number	WT lbs/pc	Working Pressure (Body Only) PSI (bar)
3/4"	**CV-075-07-***	3.60	OR*-3-913	1.30	5000 (350)
1"	**CV-100-07-***	4.40	OR*-3-916	1.67	5000 (350)
1-1/4"	**CV-125-07-***	5.18	OR*-3-918	2.50	5000 (350)
1-1/2"	**CV-150-07-***	5.76	OR*-3-924	4.25	5000 (350)
2"	**CV-200-07-***	6.74	OR*-3-928	5.62	5000 (350)
2-1/2"	**CV-250-07-***	7.14	OR*-2-232	8.99	5000 (350)
3	**CV-300-07-***	7.53	OR*-2-237	13.66	5000 (350)

* Insert 'V' to indicate optional viton 'O' rings
To order a complete check valve assembly reference page L14

Material:
Carbon Steel, Yellow Zinc Dichromate Plated, (Stainless Steel Available)

Opening Pressure

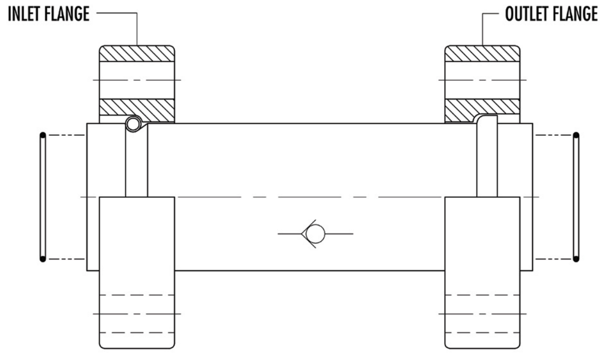
	PSI	(bar)
Standard	**7**	(0.5)
Optional	**21**	(1.5)
Optional	**43**	(3.0)

3D step models available upon request

Check Valve Assembly

Complete Assembly Part Number

Typical A/CV Assembly



Complete Assembly Consists of:

- One (1) Check Valve Body - Poppet Style
- Two (2) Retain Ring Flanges
- One (1) Retain Ring
- Buna ‘O’ Rings (Standard)

Code | **A** / **CV** - **Valve Size** - **Inlet Flange** - **Outlet Flange** - **Opening Pressure** - **Options**

Assembly		**A**
Valve Body	**Check Valve**	**CV**
Valve Size	**3/4”**	075
	1”	100
	1-1/4”	125
	1-1/2”	150
	2”	200
	2-1/2”	250
	3”	300
Flange Type Carbon Steel Yellow Zinc Dicromate Plated	**RFC34** SAE Code 61 W/Clearance Holes	FC34
	***RFT34** SAE Code 61 W/Tapped Holes	FT34
	RFC64 SAE Code 62 W/Clearance Holes	FC64
	***RFT64** SAE Code 62 W/TappedHoles	FT64
	***RFC74** ISO 6164 W/Clearance Holes	FC74
Opening Pressure	**7 PSI - Standard**	**07**
	21 PSI - Optional	**21**
	43 PSI - Optional	**43**
Options	**Viton**	V

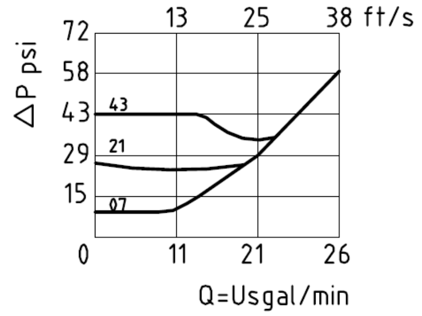
Opening Pressure		
	PSI	**(bar)**
Standard	**7**	(0.5)
Optional	**21**	(1.5)
Optional	**43**	(3.0)

* FTM34 and FTM64 for Metric Threads
For connection to hose use connector plate OCP (to be ordered seperately)
Part no. (Example): A/CV - 075 - FC64 - FT64 - 07
Assembly working pressure ratings are subject to the lesser of the flange or the valve check ratings
See reference page indicated above for pressure ratings
Other materials are available

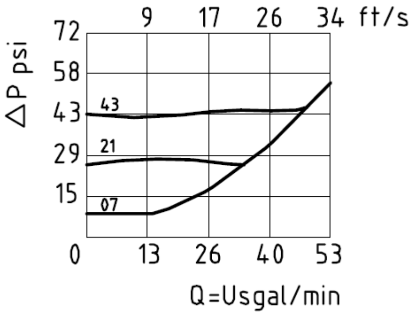
Check Valve Retain Ring Flange Style

Performance Curves: Measured using oil at 190SUS and 122º F

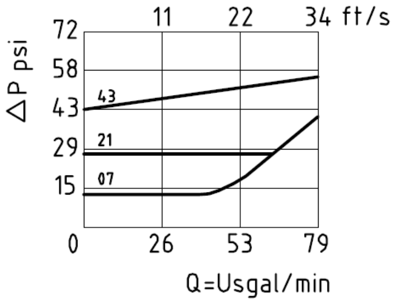
3/4”



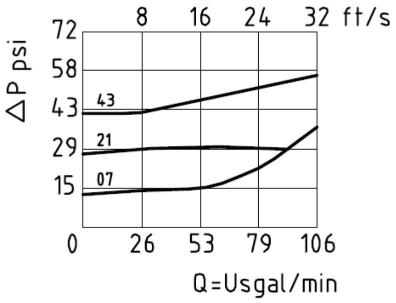
1”



1-1/4”



1-1/2”



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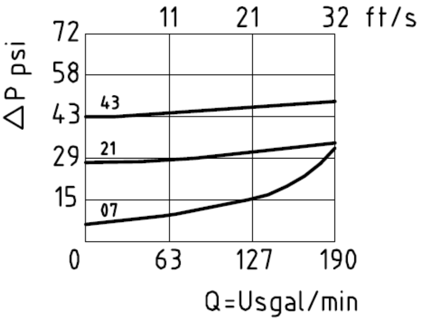

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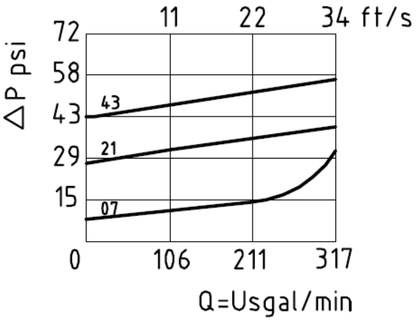

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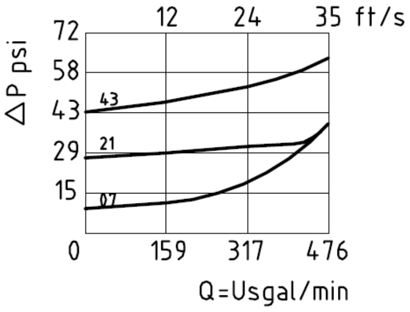
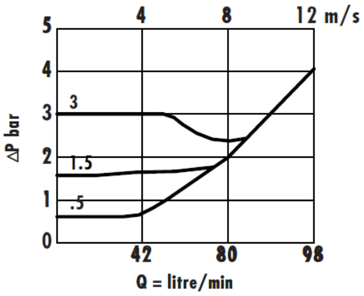


Check Valve Retain Ring Flange Style

Performance Curves: Measured using oil at 190SUS and 50º C

3/4”



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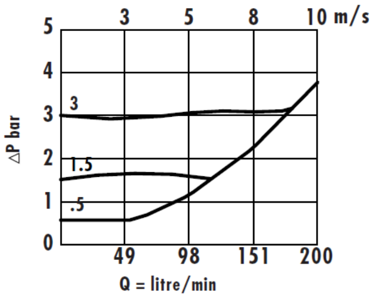
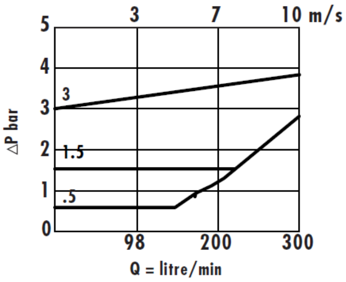


1-1/4”



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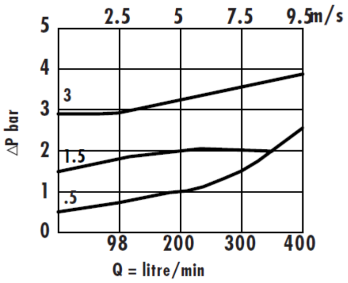

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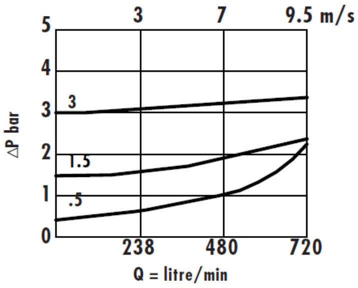

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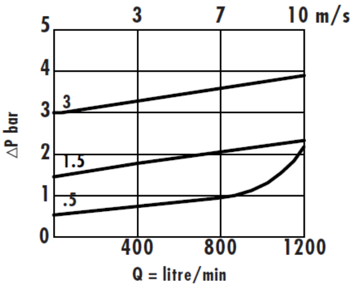

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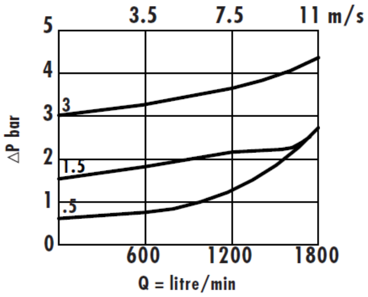

3D step models available upon request

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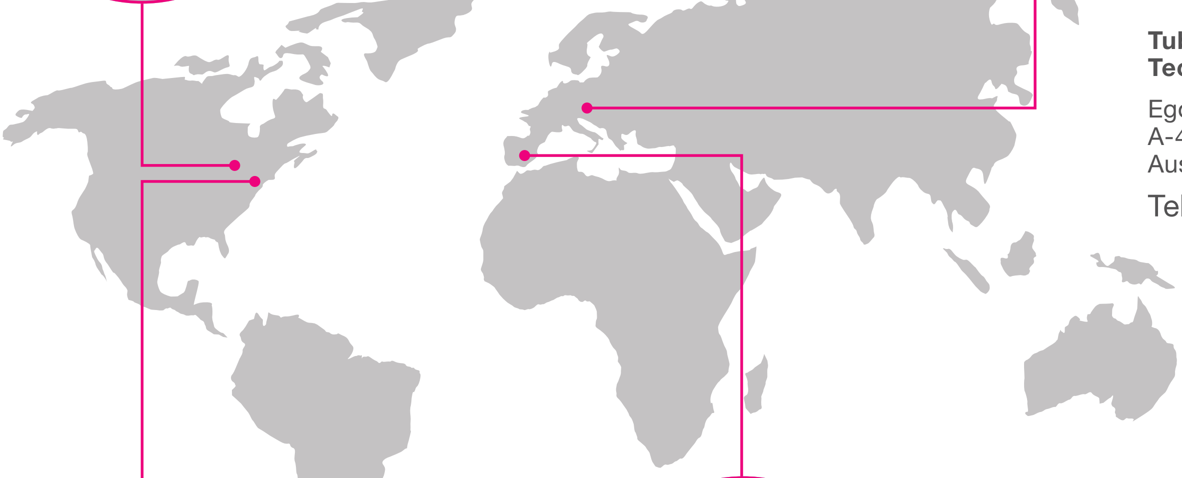

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