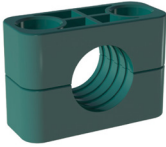
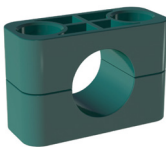
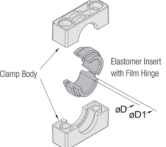
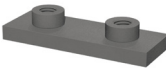

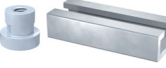
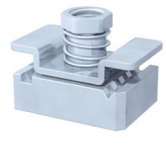



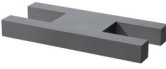
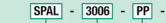


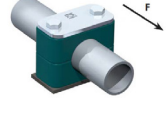
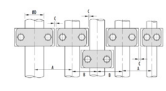
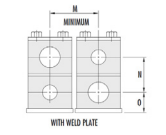


Clamp Supports – Heavy Series Reference Guide

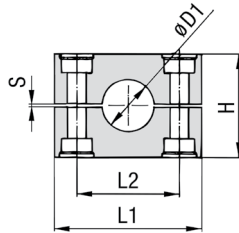
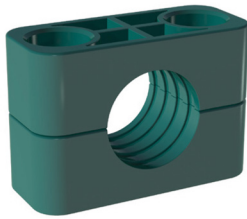
					
<p>Clamp Body Type H</p> <p>Page L1, L2</p>	<p>Clamp Body Type H Smooth Inside</p> <p>Page L3</p>	<p>Clamp Body Type RI Rubber Insert</p> <p>Page L4</p>	<p>Weld Plates Types SPAL and SPAS</p> <p>Page L5</p>	<p>Elongated Weld Plates Types SPAL-DUEB SPAS-DUEB</p> <p>Page L6</p>	<p>Rail Nuts RNH Mounting Rail Types STSV</p> <p>Page L7</p>
					
<p>Channel Rail Adaptors Types CRA</p> <p>Page L8</p>	<p>Cover Plates Types DPAL and DPAS</p> <p>Page L9</p>	<p>Hex Bolt Type AS and Socket Screw Cap Type IS</p> <p>Page L10</p>	<p>Safety Washer Type SI</p> <p>Page L11</p>	<p>Safety Plate SIP and Safety Bolt Type AF</p> <p>Page L12</p>	<p>Clamp Assembly Ordering Code</p> <p>Page L13, L14</p>
					
<p>Clamp Assembly Order Examples</p> <p>Page L15, L16</p>	<p>Installation and Distance Between Clamps</p> <p>Page L17</p>	<p>Tightening Torques and Maximum Loads</p> <p>Page L18</p>	<p>Pipe and Clamp Spacing</p> <p>Page L19</p>	<p>Clamp Stacking and Dimensions and Weights</p> <p>Page L20</p>	

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)											
				Pipe (in)	Copper Tube ASTM 888 (in)		L1 PP/PA/SA	L1 AL	L2	H	S min.	Width						
Series	DIN	(mm)	(in)															
3S	1	6				3006-**	55	56	33	32	0,6	30,5	2.16	2.20	1.30	1.26	.02	1.20
		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-**												
		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	2.76	2.76	1.77	1.89	.02	1.20
		20				4020-**												
		21,3			1/2	4021.3-**												
		22	7/8		3/4	4022-**												
		25				4025-**												
		25,4	1			4025.4-**												
		26,9			3,4	4026.9-**												
		28				4028-**												
		30				4030-**												
		30				5030-**												
5S	3	32	1-1/4			5032-**	85	85	60	60	0,6	30,5	3.35	3.35	2.36	2.36	0.2	1.20
		33,7			1	5033.7-**												
		35			1-1/4	5035-**												
		38	1-1/2			5038-**												
		40				5040-**												
		41,3			1-1/2	5041.3-**												
		42			1-1/4	5042-**												
		38	1-1/2			6038-**												
6S	4	42			1-1/4	6042-**	115	120	90	89	2	45	4.53	4.72	3.54	3.50	.08	1.77
		44,5	1-3/4			6044.5-**												
		48,3			1-1/2	6048.3-**												
		50,8	2			6050.8-**												
		54			2	6054-**												
		55				6055-**												
		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

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

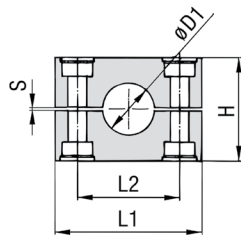
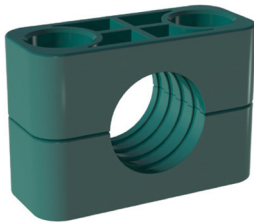
Clamp Supports - Heavy Series

Valves, Ball and Check



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 Pipe (in)	Ordering Codes (2 Clamp Halves) (**=material)	Dimensions (mm/in)					
Series	DIN	(mm)	(in)			L1 PP/PA/SA	L1 AL	L2	H	S min.	Width
7S	5	60.3			7060.3-**	6.06	5.98	4.80	4.72	.08	2.36
		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-**						
		80			7080-**						
		82,5			7082.5-**						
8S	6	88,9	3-1/2	3	7088.9-**	8.11	8.19	6.61	6.61	.08	3.15
		88,9	3-1/2	3	8088.9-**						
		100			8100-**						
		102	4	3-1/2	8102-**						
		108			8108-**						
		114	4-1/2	4	8114-**						
		127	5		8127-**						
		133			8133-**						
9S	7	127	5		9127-**	9.88	10.04	8.07	7.87	.12	3.58
		133			9133-**						
		140		5	9140-**						
		152	6		9152-**						
		159			9159-**						
		165			9165-**						
		168		6	9168-**						
		168		6	10168-**						
10S	8	177,8			10177.8-**	13.22	12.83	10.43	10.63	.12	4.72
		193,7			10193.7-**						
		203	8		10203-**						
		216			10216-**						
		219		8	10219-**						
		219		8	11219-**						
11S	9	273		10	11273-**	18.50	18.50	15.55	16.14	.31	6.38
		324		12	11324-**						
		356		14	12356-**						
12S	10	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
 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

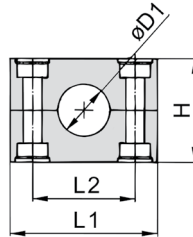
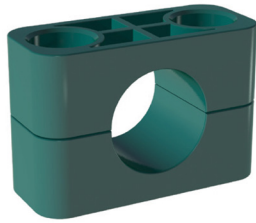
Environmental protection due to vibration/noise reducing design

Excellent weathering resistance, even under extreme conditions

3D step models available upon request

Clamp Body - 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

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)			
					L1	L2	H	Width
Series	DIN	(mm)	(in)					
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				
		13,5		3013.5-**-H				
		14		3014-**-H				
		15		3015-**-H				
4S	2	16	5/8	3016-**-H	2.16	1.30	1.20	1.20
		17,2		3017.2-**-H				
		18		3018-**-H				
		19	3/4	4019-**-H				
		20		4020-**-H				
		21,3		4021.3-**-H				
		22	7/8	4022-**-H				
		25		4025-**-H				
		25,4	1	4025.4-**-H				
		26,9		4026.9-**-H				
5S	3	28		4028-**-H	70	45	46,5	30,5
		30		4030-**-H				
		30		5030-**-H				
		32	1-1/4	5032-**-H				
		33,7		5033.7-**-H				
		35		5035-**-H				
		38	1-1/2	5038-**-H				
		40		5040-**-H				
		41,3		5041.3-**-H				
		42		5042-**-H				
6S	4	38	1-1/2	6038-**-H	3.35	2.36	2.28	1.20
		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				
		57,2	2-1/4	6057.2-**-H				
		60,3		6060.3-**-H				
		63,5	2-1/2	6063.5-**-H	4.53	3.54	3.43	1.77
		65		6065-**-H				
		70	2-3/4	6070-**-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**

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

TUBE-MAC.com

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

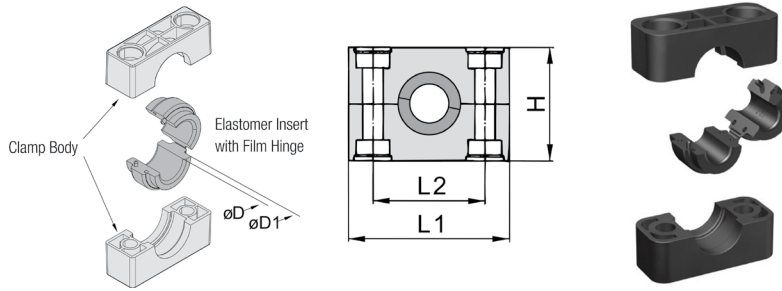
Clamp Supports - Heavy Series

Valves, Ball and Check



Clamp Body with Elastomer Insert Type RI

Heavy Series According to DIN 3015, Part 2



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

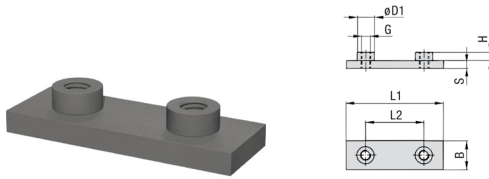
Either for the extra vibration/noise reducing installation of pipes and tubes or the extra gentle installation of hoses and cables

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					
		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					
5S	3	19	3/4	4020-**-R	5S-**-R	RI-19-4/4S	.98	2.76	1.77	4.83	1.20
		20		5020-**-R		RI-20-6/5S					
		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					
		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					
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						
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					
		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					
		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					
		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					
		172		10172-**-R		RI-172-10S					

3D step models available upon request

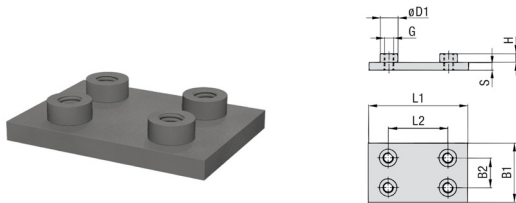
Weld Plates Type SPAL and Type SPAS

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.



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

3D step models available upon request

Ordering Codes:

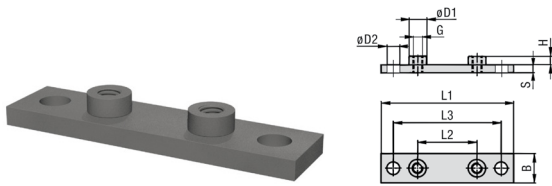
Weld Plate	*SPAL-*3S-*M-W2
• Weld Plate for Single Clamps	SPAL
• Group Series	3S
• Thread	Metric ISO thread
Code	Unified coarse (UNC) thread
• Material	Carbon Steel, uncoated
Code	Carbon Steel, phosphated
	Carbon Steel, zinc/nickel-plated
	Stainless Steel V2A
	1.4301/1.4305 (AISI 304/303)
	Stainless Steel V4A
	1.4401/1.4571 (AISI 316/316 TI)

Ordering Codes:

Weld Plate	*SPAS-*3S-*M-W2
• Weld Plate for Double Clamps	SPAS
• Group Series	3S
• Thread	Metric ISO thread
Code	Unified coarse (UNC) thread
• Material	Carbon Steel, uncoated
Code	Carbon Steel, phosphated
	Carbon Steel, zinc/nickel-plated
	Stainless Steel V2A
	1.4301/1.4305 (AISI 304/303)
	Stainless Steel V4A
	1.4401/1.4571 (AISI 316/316 TI)

Elongated Weld Plates Type SPAL-DUEB and Type SPAS-DUEB

Heavy Series According to DIN 3015, Part 2



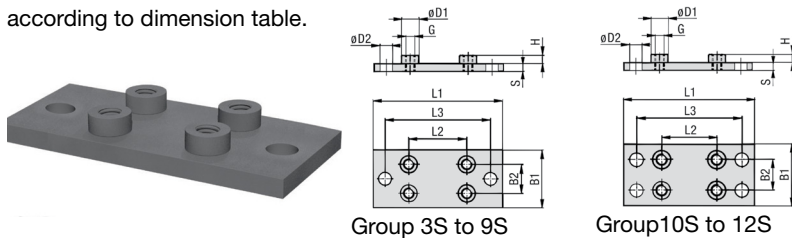
Ordering Codes:

- Weld Plate** ***SPAL-DUEB-*3S-*M-W2**
- Elongated Weld Plate for Single Clamps SPAL-DUEB
 - Group Series 3S
 - Thread Metric ISO thread M
 - Code Unified coarse (UNC) thread U
 - Material Carbon Steel, uncoated W1
 - Code Carbon Steel, phosphated W2
 - Carbon Steel, zinc/nickel-plated W3
 - Stainless Steel V2A W4
 - 1.4301/1.4305 (AISI 304/303)
 - Stainless Steel V4A W5
 - 1.4401/1.4571 (AISI 316/ 316 TI)

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

Group 10S to 12S

Ordering Codes:

- Weld Plate** ***SPAS-DUEB-*3S-*M-W2**
- Elongated Weld Plate for Double Clamps SPAS-DUEB
 - Group Series 3S
 - Thread Metric ISO thread M
 - Code Unified coarse (UNC) thread U
 - Material Carbon Steel, uncoated W1
 - Code Carbon Steel, phosphated W2
 - Carbon Steel, zinc/nickel-plated W3
 - Stainless Steel V2A W4
 - 1.4301/1.4305 (AISI 304/303)
 - Stainless Steel V4A W5
 - 1.4401/1.4571 (AISI 316/ 316 TI)

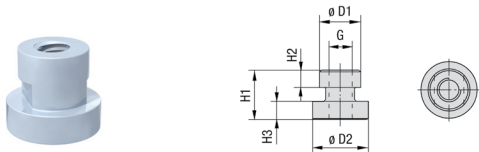
Elongated Weld Plate for Double Clamps - Type SPAS-DUEB

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 (Standard Options)
Series	DIN	Ø D1	Ø D2	H1	H2	H3	Thread G	
3S	1	17.8	24	21	7,6	7,4	M10	RNH345-M-*
4S	2	.70	.94	.83	.30	.29	3/8-16 UNC	RNH345-*
5S	3							
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.



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						



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:

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

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

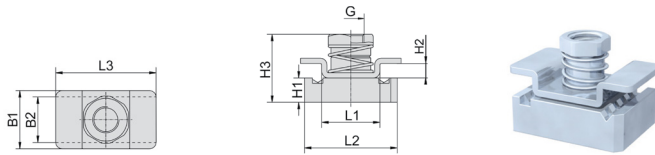
Ordering Codes:

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



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	1	M10	22	35	38	22	20,5	9,2	5,5	27,5	CRA-3-5S-M-W3
4S	2										
5S	3	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

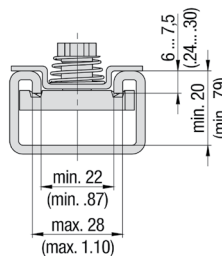
All threaded parts are available with Metric ISO thread or unified course (UNC) thread according to dimension table.



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

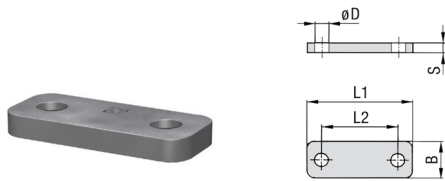
Group		Hexagon Head Bolts AS (used with Cover Plates DPAL or DPAS)		Socket Cap Screws (used without Cover Plates DPAL or DPAS)	
Series	DIN	Metric ISO Thread	Unified Coarse (UNC) Thread	Metric ISO Thread	Unified Coarse (UNC) Thread
3S	1	M10x40	3/8-16 UNC x 1-1/2	M10 x 25	3/8-16 UNC x 1
4S	2	M10x55	3/8-16 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

Ordering Codes:

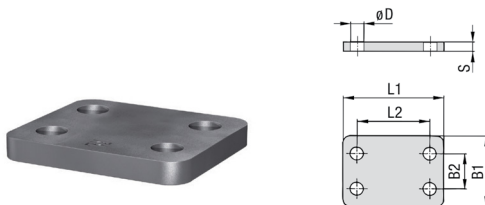
Adaptor	*CRA-*3-5S-*M-*W3	
• Channel Rail Adaptor		CRA
• Group Series	3S to 5S (DIN Group 1 to 3) 6S (DIN Group 4)	3-5S 6S
• Thread Code	Metric ISO thread Unified coarse (UNC) thread	M U
• Material Code	Carbon Steel, zinc/nickel-plated Stainless Steel V4A	W3 W5
	1.4401/1.4571 (AISI 316 /316 Ti)	

Cover Plates Type DPAL and DPAS

Heavy Series According to DIN 3015, Part 2



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	



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

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 W4
	1.4301/1.4305 (AISI 304/303)
	Stainless Steel V4A W5
	1.4401/1.4571 (AISI 316 /316 Ti)
	Aluminum EN AW-6060 W85
	(for group sizes 3S to 5S only)

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 W4
	1.4301/1.4305 (AISI 304/303)
	Stainless Steel V4A W5
	1.4401/1.4571 (AISI 316 /316 Ti)

Hex Bolt Type AS and Screw Cap Type IS

Heavy Series According to DIN 3015, Part 2



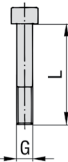
Hexagon Head Bolt AS

(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.



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:

Hexagon Head Bolt	*AS-*M10x70-*W1
• Type of bolt	Hexagon Head Bolt AS (according to DIN 931/933 or ANSI/SME B18.2.1)
• Thread type and size acc. to dimension table	M10x70
• Material Code	Carbon Steel, uncoated W1 Carbon Steel, zinc/nickel-plated W3 Stainless Steel V2A W4 1.4301/1.4305 (AISI 304/303) W5 Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 Ti)

* Standard finishing option for Heavy Group Series sizes 3S to 7S in North America is W3 (Carbon Steel, zinc/nickel plated).

Ordering Codes:

Socket Cap Screw	*IS-*M10x50-*W1
• Type of bolt	Socket Cap Screw IS (according to ISO 4762 or ANSI/ASME B18.3)
• Thread type and size acc. to dimension table	M10x50
• Material Code	Carbon Steel, uncoated W1 Carbon Steel, zinc/nickel-plated W3 Stainless Steel V2A W4 1.4301/1.4305 (AISI 304/303) W5 Stainless Steel V4A 1.4401/1.4571 (AISI 316 /316 Ti)

3D step models available upon request

Safety Washer Type SI

Heavy Series According to DIN 3015, Part 2



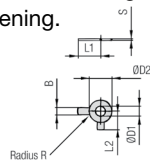
Safety Washer SI

(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.



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	

3D

Ordering Codes:

- Safety Washer** ***SI-*10.5-*DIN93-*W3**
- Safety Washer SI
 - Exact Inner Diameter ØD1 (mm) 10.5
 - Type of Washer DIN 93
Safety Washer with 2 tabs (according to DIN 93)
 - Material Code W3
Carbon Steel, zinc/nickel-plated
 - W5
Stainless Steel V4A
1.4401/1.4571 (AISI 316 /316 TI)

Ordering Codes:

- Safety Washer** ***SI-*10.5-*DIN463-*W3**
- Safety Washer SI
 - Exact Inner Diameter ØD1 (mm) 10.5
 - Type of Washer DIN 463
Safety Washer with 2 tabs (according to DIN 463)
 - Material Code W3
Carbon Steel, zinc/nickel-plated
 - W5
Stainless Steel V4A
1.4401/1.4571 (AISI 316 /316 TI)

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

Safety Plate Type SIP and Stacking Bolt Type AF

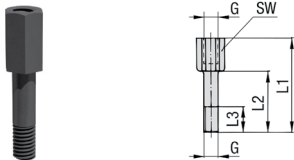
Heavy Series According to DIN 3015, Part 2



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:

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 W4
	1.4301/1.4305 (AISI 304/303)
	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*

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 W4
	1.4301/1.4305 (AISI 304/303)
	Stainless Steel V4A
	1.4401/1.4571 (AISI 316 /316 TI) W5

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 position 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	
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	

② Group Size & Diameter Continuation

Group	Outside Diameter	Availability of Clamp Body Materials & Designs			Code
		Series (DIN)	P/T/H (mm)	Profiled Design	
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
20	○	○	•	5020	
5S (3)	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	
32	○	○	•	6032	
6S (4)	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	
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
8S (6)	80	•	•	○	7080
	82,5	•	•	○	7082.5
	88,9	•	•	○	7088.9
	80	○	○	•	8080
	88,9	•	•	○	8088.9
	100	•	•	○	8100
	102	•	•	○	8102
	108	•	•	○	8108
	114	•	•	○	8114
	127	•	•	○	8127
	133	•	•	○	8133
	9S (7)	114	○	○	•
127		•	•	○	9127
133		•	•	○	9133
140		•	•	○	9140
153		•	•	○	9153
159		•	•	○	9159
165		•	•	○	9165
168		•	•	○	9168
150		○	○	•	10150
165		○	○	•	10165
168		•	•	○	10168
172		○	○	•	10172
10 (S)	177,8	•	•	○	10177.8
	193,7	•	•	○	10193.7
	203	•	•	○	10203
	216	•	•	○	10216
	219	•	•	○	10219
	219	•	•	○	11219
11 (S)	273	•	•	○	11273
	324	•	•	○	11324
	356	•	•	○	12356
12 (S)	406	•	•	○	12406

• Standard Option

3D step models available upon request

Clamp Assembly Ordering Code

Please see pages K15 and K16 with detailed order examples for some of the most popular Heavy Series clamp assemblies.

③ Clamp Body Design & Material

Please select the design and material of your clamp body and add 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 (UNC) 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)

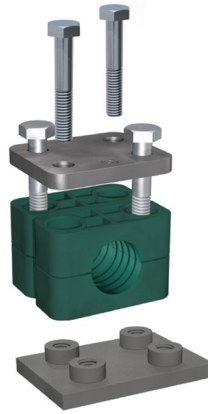
Components packed in kits
Code: **K** (special option) **3D step models available upon request**

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 **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



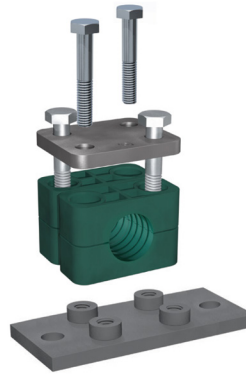
- 4x **Hexagon Head Bolt**
Surface: W1
Thread: Metric
- 1x **Cover Plate for Double Clamps**
Surface: W2
- 1x **Clamp Body (four halves)**
Group 3S (DIN 1)
O.D. 6mm/.24 in
Material: Polypropylene
Profiled inside surface with tension clearance
- 1x **Weld Plate for Double Clamps**
Surface: W2
Thread: 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 included)
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 included)
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.

Thread Codes

All threaded parts are available 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 **W10**
- Other metal parts made of Carbon Steel, zinc/nickel-plated **W10**
- Weld Plate and Cover Plate made of Carbon Steel, phosphated **W12**
- 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**



- 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.

3D step models available upon request

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 their designated positions. Please make sure these positions are suitable for the expected loads.
- Mark the positions 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 mounted to their positions by using side-mounting brackets with screws or bolts.
- Insert rail nuts into mounting 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.



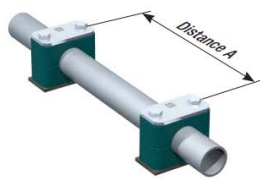
Multi-Level (Stacking) Installation

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	.2350	1,00	3.28
12,7 ... 22,0	.5086	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

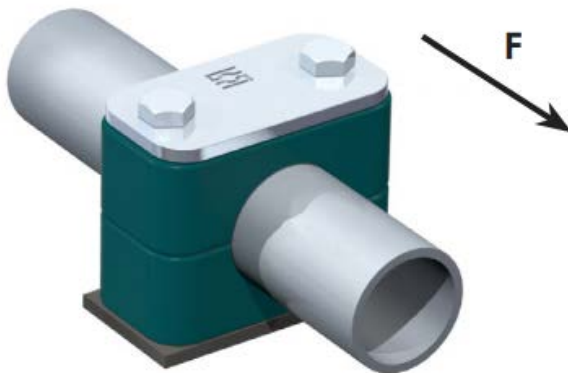
The first clamp should be placed directly next to the connector/coupling. This protects the connector/coupling from vibrations.

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			
				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	Metric ISO Thread	Unified Coarse (UNC) Thread	(N-m)	(ft-lb)	(kN)	(lbf)	(N-m)	(ft-lb)	(kN)	(lbf)	(N-m)	(ft-lb)
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:

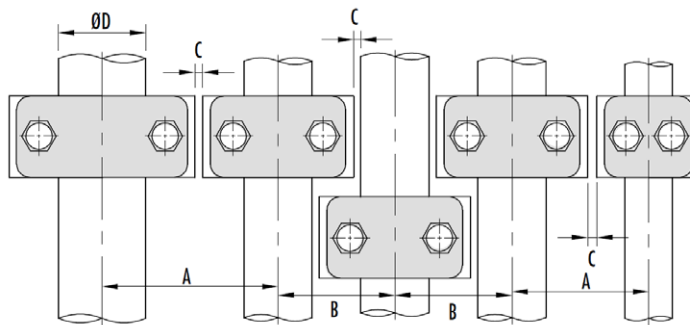
Easy to read center line spacing for side to side and staggered installation when placing same or various size pipe on drawings or installing.

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	Group	4S		5S	6S			7S		8S		9S		10S		11S				
	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					6-7/16 163													
		1-1/2 48.3	3-1/16 78	3-3/16 81	3-5/16 84	3-5/8 95	3-3/4 95		7-1/16 188		8-9/16 217		9-7/16 239		10-15/16 278		13-3/4 350			
		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	5 134	8-3/8 213	9-9/16 242		10-7/16 264		11-15/16 303		14-13/16 375			
		3 88.9																		
	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	6-5/8 174		10-5/8 270		11-1/2 292		13-1/16 354		16-3/4 426	
		4 114																		
	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	8-5/16 225		12-3/8 314		13-15/16 354		16-3/4 426	
6 168																				
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	21-3/16 537		15-5/8 422			
	12 324																			

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

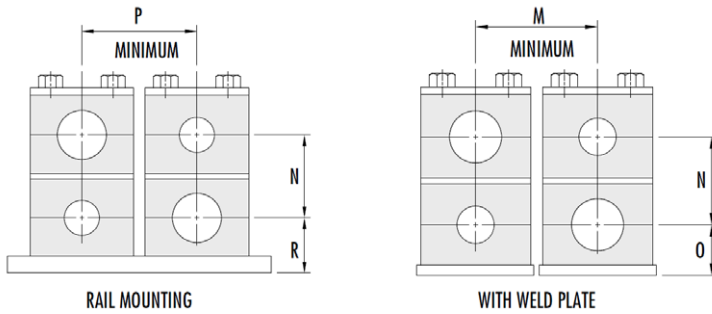
ISO 6164, 400 bar

ISO 6164, 400 bar F10° Flare

Clamp Supports - Heavy Series

Valves, Ball and Check

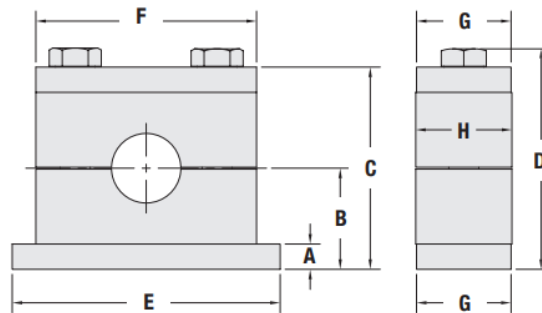
Clamp Stacking



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)	
Series	DIN	A	B		C		D		E	F		G		H
			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

