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1	TYPE OF INSTALLATION *11
<i>no code</i>	without mounting plate, rail adaptor or rail nuts
SPAL	Weld Plate for Single Clamps
SPAS	Weld Plate for Double Clamps
SPAL/DUEB	Elongated Weld Plate for Single Clamps
CRA *2 *3	Channel Rail Adaptor
GMV *2	Mounting Rail Nut

3	MATERIAL & DESIGN OF CLAMP BODY *1
PP	Polypropylene, profiled inside, with tension clearance
PPH *2	Polypropylene, smooth inside, without tension clearance
PA	Polyamide, profiled inside, with tension clearance
PAH *2	Polyamide, smooth inside, without tension clearance
SA *10	Santoprene, profiled inside, with tension clearance
SAH *10	Santoprene, smooth inside, without tension clearance
AL	Aluminium, profiled inside, with tension clearance

4	MOUNTING & FITTING COMBINATION *11
DPAL - AS	Single Cover Plate / Hexagon Head Bolt
DPAS - AS	Double Cover Plate / Hexagon Head Bolt
IS *2	Socket Cap Screw
SIP - AF *4	Safety Locking Plate / Stacking Bolt

7	ASSEMBLING & PACKAGING
<i>no code</i>	components supplied separately (standard)
A	assembled (optional)
K	packed in kits (optional)

2 STAUFF GROUP & SIZE OF CLAMP BODY							
Group	Tube O.D. in mm	Tube O.D. in inch	Nominal Bore Pipe	Nominal Bore Copper tube	Nominal Bore SAE 100R2/ABT concentric	Material Code Clamp Body (both halves)	
STAUFF 3S DIN 1	6					3006	
	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	
	STAUFF 4S DIN 2	15				1/4	4015 *7
		19	3/4				4019
19,8					3/8	4019,8 *7	
20						4020	
21,3			1/2			4021,3	
22,1					1/2	4022,1 *7	
22				3/4		4022	
25,1					5/8	4025,1 *7	
25,4		1				4025,4	
26,9			3/4			4026,9	
28						4028	
28,6				1		4028,6	
29,2					3/4	4029,2 *7	
STAUFF 5S DIN 3		32	1 1/4				5032
		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	

2 STAUFF GROUP & SIZE OF CLAMP BODY						
CONTINUATION						
Group	Tube O.D. in mm	Tube O.D. in inch	Nominal Bore Pipe	Nominal Bore Copper Tube	Nominal Bore Pressureless Riser**	Material Code Clamp Body (both halves)
STAUFF 6S DIN 4	37,8				1	6037,8 *7
	42		1 1/4			6042
	44,5	1 3/4				6044,5
	48,3		1 1/2			6048,3
	48,4				1 1/4	6048,4 *7
	50,8	2				6050,8
	54			2		6054
	54,4				1 1/2	6054,4 *7
	57,2	2 1/4				6057,2
	60,3		2			6060,3
	63,5	2 1/2				6063,5
	70	2 3/4				6070
STAUFF 7S DIN 5	70	2 3/4				7070
	73		2 1/2	*8		7073
	76,2	3	2 1/2	*9		7076,2
	88,9	3 1/2	3			7088,9
STAUFF 8S DIN 6	88,9	3 1/2	3			8088,9
	102	4	3 1/2			8102
	114	4 1/2	4			8114
	127	5				8127
STAUFF 9S DIN 7	127	5				9127
	140		5			9140
	152	6				9152
	168		6			9168
ST. 10S DIN 8	168		6			10168
	203	8				10203
	219		8			10219
	219		8			11219
ST. 11S DIN 9	273		10			11273
	324	12				11324
	356		14			12356
	406		16			12406

5	TYPE OF THREAD *5
M	Metric Thread
U	UNC Thread

6	MATERIAL & SURFACE FINISHING OF METAL PARTS *6
W1	all parts are untreated
W2	all parts are phosphated
W3	all parts are zinc plated
W4	all metal parts made of stainless steel A2 - 1.4301/1.4305 (AISI 304/303)
W5	all metal parts made of stainless steel A4 - 1.4401/1.4571 (AISI 316/316Ti)
W10	weld plate phosphated, all other parts zinc plated
W12	weld plate and cover plate phosphated, bolts untreated
W13	rail nut zinc plated, cover plate phosphated, bolts untreated
W15	weld plate and cover plate phosphated, bolts zinc plated
W16	rail nut zinc plated, cover plate phosphated, bolts zinc plated
W17	safety locking plate phosphated, stacking bolts zinc plated
W18	safety locking plate untreated, stacking bolts phosphated

TECHNICAL NOTES

*1 SEE MATERIAL PROPERTIES ON PAGE C59. OTHER CLAMP BODY MATERIALS AND COLORS ARE AVAILABLE UPON REQUEST.

*2 AVAILABLE UP TO STAUFF GROUP 6S ONLY

*3 SPECIAL LENGTH BOLTS REQUIRED. SUPPLIED WHEN ORDERED AS KITS.

*4 AVAILABLE FOR STAUFF GROUP 3S TO 10S ONLY

*5 PLEASE NOTE THAT YOU HAVE TO SPECIFY THREAD TYPE.

*6 INDIVIDUAL COMBINATIONS OF ALTERNATIVE SURFACE FINISHES AND SPECIAL PROPERTY MATERIALS ARE AVAILABLE UPON REQUEST.

*7 CLAMPS WILL BE SMOOTH INSIDE AND WITHOUT TENSION CLEARANCE. HOSE SIZES LISTED ARE FOR SAE 100R2 SERIES HYDRAULIC HOSES.

*8 ACCORDING TO ANSI B 36-10.

*9 OTHER STANDARDS.

*10 SA AND SAH ARE SPECIAL ORDER MATERIALS AND ONLY AVAILABLE UP TO STAUFF GROUP 6S ONLY. CONTACT FACTORY FOR FURTHER INFORMATION.

*11 METAL PARTS ARE UNTREATED FOR STAUFF GROUPS 8S TO 12S.

SPAL 3006 PP DPAL-AS U W15

2x **Hexagon Head Bolt**
Surface: W3, Zinc Plated
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2, phosphated

1x **Clamp (two halves)**
Material: Polypropylene
Design: profiled inside, with tension clearance
Group: STAUFF 3S / DIN 1
Tube-O.D. 6 mm / 0.24"

1x **Weld Plate for Single Clamps**
Surface: W2, phosphated
Thread: UNC

W15 (up to Group 7S) or W1 (Group 8S to 12S) are standards for this type of installation.

SPAS 3006 PP DPAS-AS U W15

4x **Hexagon Head Bolt**
Surface: W3, Zinc Plated
Thread: UNC

1x **Cover Plate for Double Clamps**
Surface: W2, phosphated

2x **Clamp (two halves)**
Material: Polypropylene
Design: profiled inside, with tension clearance
Group: STAUFF 3S / DIN 1
Tube-O.D. 6 mm / 0.24"

1x **Weld Plate for Double Clamps**
Surface: W2, phosphated
Thread: UNC

W15 (up to Group 7S) or W1 (Group 8S to 12S) are standards for this type of installation.

SPAL/DUEB 3006 PP DPAL-AS U W15

2x **Hexagon Head Bolt**
Surface: W3, Zinc Plated
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2, phosphated

1x **Clamp (two halves)**
Material: Polypropylene
Design: profiled inside, with tension clearance
Group: STAUFF 3S / DIN 1
Tube-O.D. 6 mm / 0.24"

1x **Elongated Weld Plate for Single Clamps**
Surface: W2, phosphated
Thread: UNC

W15 (up to Group 7S) or W1 (Group 8S to 12S) are standards for this type of installation.

SPAL 3006 PP IS U W10

2x **Socket Cap Screw**
Surface: W3, Zinc Plated
Thread: UNC

1x **Clamp (two halves)**
Material: Polypropylene
Design: profiled inside, with tension clearance
Group: STAUFF 3S / DIN 1
Tube-O.D. 6 mm / 0.24"

1x **Weld Plate for Single Clamps**
Surface: W2, phosphated
Thread: UNC

W10 (up to Group 6S) is standard for this type of installation. This combination is available up to group 6S only.

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1	TYPE OF INSTALLATION *11
<i>no code</i>	without mounting plate, rail adaptor or rail nuts
<i>SPAL</i>	Weld Plate for Single Clamps
<i>SPAS</i>	Weld Plate for Double Clamps
<i>SPAL/DUEB</i>	Elongated Weld Plate for Single Clamps
<i>CRA</i> *2 *3	Channel Rail Adaptor
<i>GMV</i> *2	Mounting Rail Nut

3	MATERIAL & DESIGN OF CLAMP BODY *1
<i>PP</i>	Polypropylene, profiled inside, with tension clearance
<i>PPH</i> *2	Polypropylene, smooth inside, without tension clearance
<i>PA</i>	Polyamide, profiled inside, with tension clearance
<i>PAH</i> *2	Polyamide, smooth inside, without tension clearance
<i>SA</i> *10	Santoprene, profiled inside, with tension clearance
<i>SAH</i> *10	Santoprene, smooth inside, without tension clearance
<i>AL</i>	Aluminium, profiled inside, with tension clearance

4	MOUNTING & FITTING COMBINATION *11
<i>DPAL - AS</i>	Single Cover Plate / Hexagon Head Bolt
<i>DPAS - AS</i>	Double Cover Plate / Hexagon Head Bolt
<i>IS</i> *2	Socket Cap Screw
<i>SIP - AF</i> *4	Safety Locking Plate / Stacking Bolt

7	ASSEMBLING & PACKAGING
<i>no code</i>	components supplied separately (standard)
<i>A</i>	assembled (optional)
<i>K</i>	packed in kits (optional)

2 STAUFF GROUP & SIZE OF CLAMP BODY					
Group	Tube O.D. in mm	Tube O.D. in inch	Nominal Bore Pipe	Nominal Bore Copper Tube	Nominal Bore Pressure-Water Hose*
STAUFF 3S DIN 1	6				3006
	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
STAUFF 4S DIN 2	15			1/4	4015 *7
	19	3/4			4019
	19,8			3/8	4019,8 *7
	20				4020
	21,3		1/2		4021,3
	22,1			1/2	4022,1 *7
	22		3/4		4022
	25,1			5/8	4025,1 *7
	25,4	1			4025,4
	26,9		3/4		4026,9
	28				4028
STAUFF 5S DIN 3	28,6		1		4028,6
	29,2			3/4	4029,2 *7
	32	1 1/4			5032
	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

2 STAUFF GROUP & SIZE OF CLAMP BODY					
CONTINUATION					
Group	Tube O.D. in mm	Tube O.D. in inch	Nominal Bore Pipe	Nominal Bore Copper Tube	Nominal Bore Pressureless Riser*
STAUFF 6S DIN 4	37,8				1
	42		1 1/4		
	44,5	1 3/4			
	48,3		1 1/2		
	48,4			1 1/4	
	50,8	2			
	54			2	
	54,4				1 1/2
	57,2	2 1/4			
	60,3		2		
	63,5	2 1/2			
	70	2 3/4			
STAUFF 7S DIN 5	70	2 3/4			
	73		2 1/2	8	
	76,2	3	2 1/2	9	
	88,9	3 1/2	3		
STAUFF 8S DIN 6	88,9	3 1/2	3		
	102	4	3 1/2		
	114	4 1/2	4		
	127	5			
STAUFF 9S DIN 7	127	5			
	140		5		
	152	6			
ST. 10S DIN 8	168		6		
	203	8			
	219		8		
ST. 11S DIN 9	219		8		
	273		10		
	324		12		
ST. 12S DIN 10	356		14		
	406		16		

5	TYPE OF THREAD *5
<i>M</i>	Metric Thread
<i>U</i>	UNC Thread

6	MATERIAL & SURFACE FINISHING OF METAL PARTS *6
<i>W1</i>	all parts are untreated
<i>W2</i>	all parts are phosphated
<i>W3</i>	all parts are zinc plated
<i>W4</i>	all metal parts made of stainless steel A2 - 1.4301/1.4305 (AISI 304/303)
<i>W5</i>	all metal parts made of stainless steel A4 - 1.4401/1.4571 (AISI 316/316Ti)
<i>W10</i>	weld plate phosphated, all other parts zinc plated
<i>W12</i>	weld plate and cover plate phosphated, bolts untreated
<i>W13</i>	rail nut zinc plated, cover plate phosphated, bolts untreated
<i>W15</i>	weld plate and cover plate phosphated, bolts zinc plated
<i>W16</i>	rail nut zinc plated, cover plate phosphated, bolts zinc plated
<i>W17</i>	safety locking plate phosphated, stacking bolts zinc plated
<i>W18</i>	safety locking plate untreated, stacking bolts phosphated

TECHNICAL NOTES

*1 SEE MATERIAL PROPERTIES ON PAGE C59. OTHER CLAMP BODY MATERIALS AND COLORS ARE AVAILABLE UPON REQUEST.

*2 AVAILABLE UP TO STAUFF GROUP 6S ONLY

*3 SPECIAL LENGTH BOLTS REQUIRED. SUPPLIED WHEN ORDERED AS KITS.

*4 AVAILABLE FOR STAUFF GROUP 3S TO 10S ONLY

*5 PLEASE NOTE THAT YOU HAVE TO SPECIFY THREAD TYPE.

*6 INDIVIDUAL COMBINATIONS OF ALTERNATIVE SURFACE FINISHES AND SPECIAL PROPERTY MATERIALS ARE AVAILABLE UPON REQUEST.

*7 CLAMPS WILL BE SMOOTH INSIDE AND WITHOUT TENSION CLEARANCE. HOSE SIZES LISTED ARE FOR SAE 100R2 SERIES HYDRAULIC HOSES.

*8 ACCORDING TO ANSI B 36-10.

*9 OTHER STANDARDS.

*10 SA AND SAH ARE SPECIAL ORDER MATERIALS AND ONLY AVAILABLE UP TO STAUFF GROUP 6S ONLY. CONTACT FACTORY FOR FURTHER INFORMATION.

*11 METAL PARTS ARE UNTREATED FOR STAUFF GROUPS 8S TO 12S.

3006 PP SIP-AF U W17

2x **Stacking Bolt**
Surface: W3, Zinc Plated
Thread: UNC

1x **Safety Locking plate**
Surface: W2, phosphated

1x **Clamp (two halves)**
Material: Polypropylene
Design: profiled inside, with tension clearance
Group: STAUFF 3S / DIN 1
Tube-O.D. 6 mm / 0.24"

W17 (up to Group 7S) or W18 (Group 8S to 10S) are standards for this type of installation.

GMV 3006 PP DPAL-AS U W16

2x **Hexagon Head Bolt**
Surface: W3, Zinc Plated
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2, phosphated

1x **Clamp (two halves)**
Material: Polypropylene
Design: profiled inside, with tension clearance
Group: STAUFF 3S / DIN 1
Tube-O.D. 6 mm / 0.24"

2x **Mounting Rail Nut**
Surface: W3, Zinc Plated
Thread: UNC

W16 (up to Group 6S) is standard for this type of installation. This combination is available up to Group 6S only.

SPAL 3006 PPH DPAL-AS U W15

2x **Hexagon Head Bolt**
Surface: W3, Zinc Plated
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2, phosphated

1x **Clamp (two halves)**
Material: Polypropylene
Design: smooth inside, without tension clearance
Group: STAUFF 3S / DIN 1
Hose-O.D. 6 mm / 0.24"

1x **Weld Plate for Single Clamps**
Surface: W2, phosphated
Thread: UNC

W15 (up to Group 6S) is standard for this type of installation. This combination is available up to Group 6S only.

NOTES REGARDING THE USE OF THE CHANNEL RAIL ADAPTOR CRA

The CHANNEL RAIL ADAPTOR Type **CRA** is suitable for the following channel rails:

UNISTRUT-Rails
P1000, P1000T, P1000V, P1000VT, P1001
P2000, P2000T
P3003, P3003T, P3300V, P3300VT, P3301
P4000, P4000T
P5000, P5000T, P5001, P5500, P5500T, P5501

STAUFF-Rails
SCS-048-1-PL, SCS-120-1-PL, SCS-048-1-GR, SCS-120-1-GR
(see page C42 for details)

HALFEN-Rails
HM 41/41
HZA 41/22
HZM 41/41
H2M 41/22
HL 41/41, HL 41/B2

HILTI-Rails
MQ-21, MQ-41, MQ-52, MQ-72
MQ-21U, MQ-41U, MQ-72U
MQ-21D, MQ-41D, MQ-52-72D