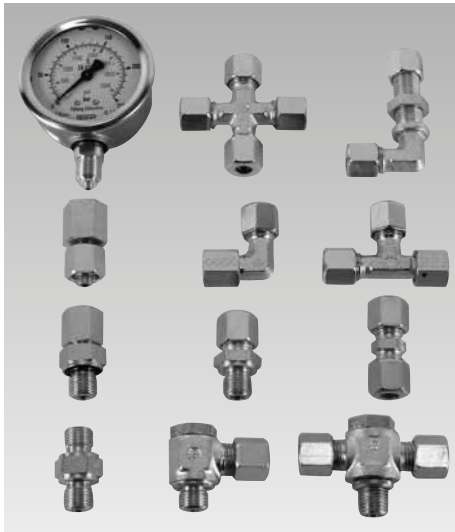




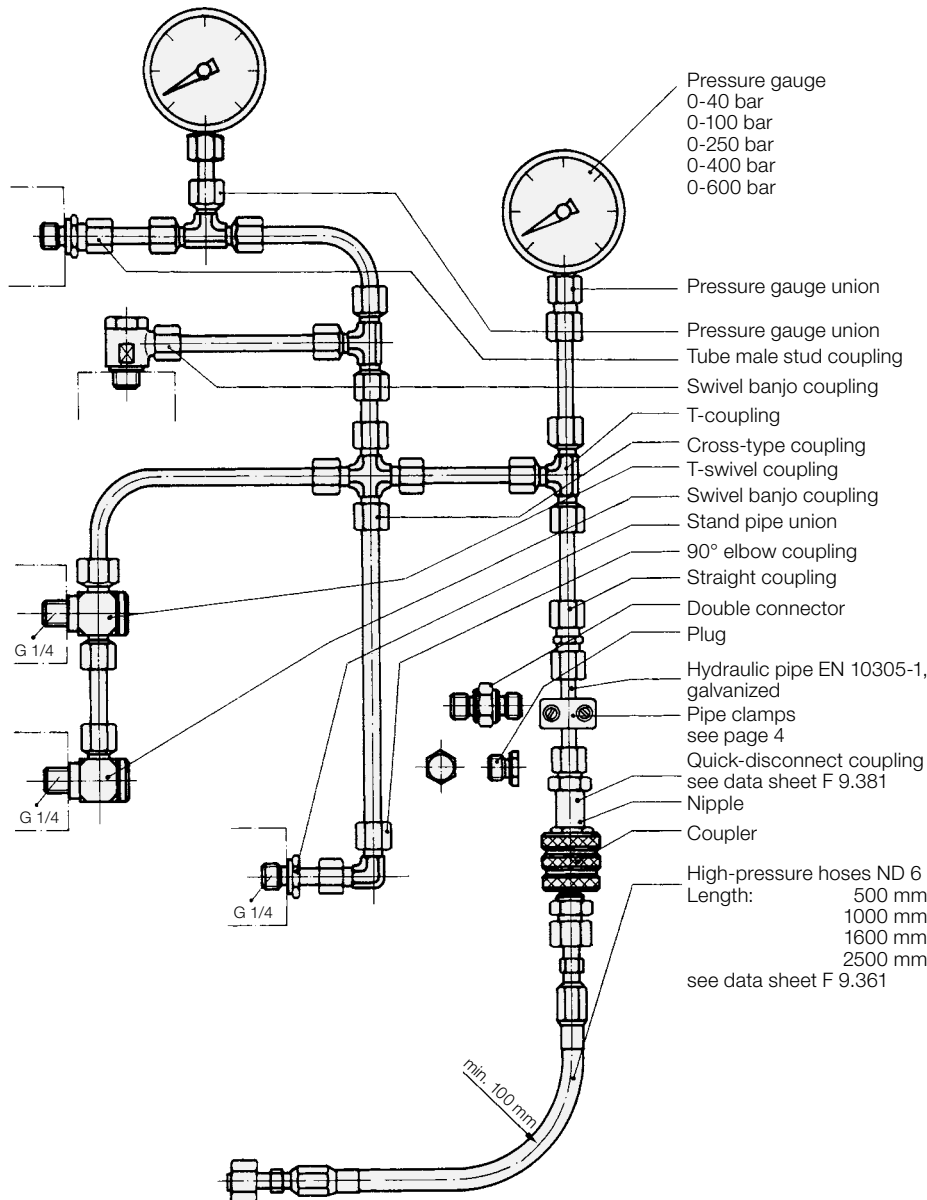
**Fittings with 24° cone as per DIN EN ISO 8434-1**  
Fitting accessories, plug-type connectors,  
hydraulic pipes, pipe clamps, pressure gauges



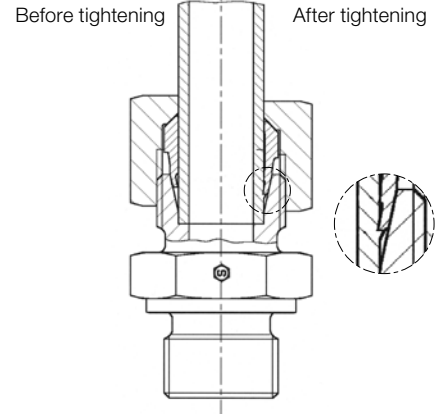
**Advantages**

- Worldwide spread high-pressure fitting system with quadruple safety
- Leak-free connection of piping and components
- Positive and safe connection by defined and limited digging into the hydraulic pipe
- Secure grip even with vibration stress due to the spring effect of the cutting ring
- Retightening of the union nut is not required
- The fitting can be disconnected and connected again as often as required.
- Fitting components free from Cr(VI)

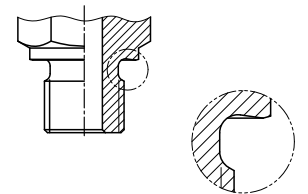
**Application example**



**Tube male stud coupling with cutting ring and union nut**

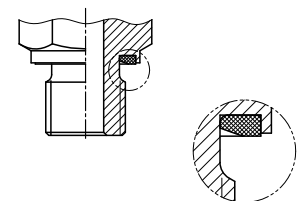


**Screwed plug with knife edge**  
DIN 3852 T2 form B and EN ISO 1179-4



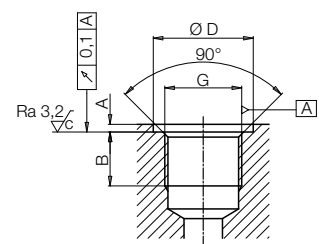
Suitable for high temperatures and aggressive media.

**Screwed plug with elastic sealing**  
DIN 3852 T11 form E and EN ISO 1179-2  
NBR: -35°C.....+100°C (series)  
FKM: -25°C.....+200°C (available)


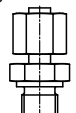
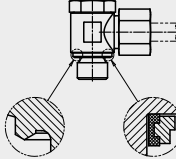
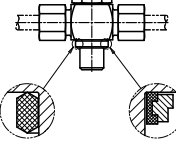


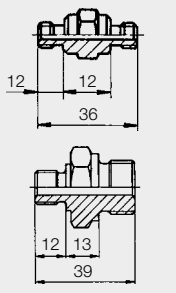




Suitable for soft mating materials (Alu).  
High precision sealing (no sweating).  
No retightening required.  
Unlimited repeated mounting.  
Interchangeable sealing ring.



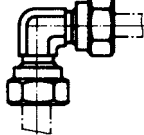

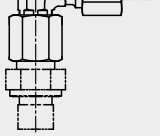

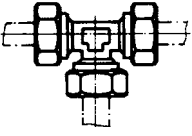

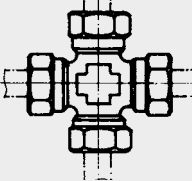
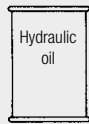
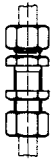
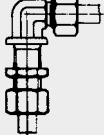
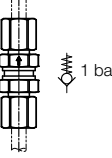
**Tapped hole with Whitworth pipe thread**  
EN ISO 1179-1 counterbore form N



## Fittings as per DIN EN ISO 8434-1

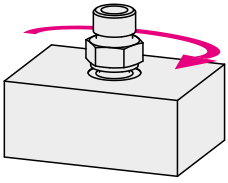
Description	Pipe Ø	Screw-in threads	Form B with sealing edge			Form E with elastic seal		
			Type	PN [bar]	Part no.	Type	PN [bar]	Part no.
 Tube male stud coupling	6 8 8 10 15 8 8 10 16	G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>2</sub> G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub>	D6L D8L G <sup>1</sup> / <sub>8</sub> D8L D10L D15L D8S G <sup>1</sup> / <sub>8</sub> D8S D10S D16S	250 250 250 250 250 400 400 400 400	<b>9206-003</b> <b>9208-034</b> <b>9208-003</b> <b>9210-004</b> <b>9215-003</b> <b>9208-116</b> <b>9208-102</b> <b>9210-104</b> <b>9216-004</b>	D6L ED D8L G <sup>1</sup> / <sub>8</sub> ED D8L ED D10L ED D15L ED D8S G <sup>1</sup> / <sub>8</sub> ED D8S ED D10S ED D16S ED	250 250 250 250 250 500 630 630 500	<b>9206-028</b> <b>9208-075</b> <b>9208-131</b> <b>9210-028</b> <b>9215-033</b> <b>9208-164</b> <b>9208-132</b> <b>9210-029</b> <b>9216-021</b>
 Stand pipe union with sealing cone	8 10 8 10	G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub>				DCD8L DCD10L DCD8S DCD10S	250 250 630 630	<b>9208-017</b> <b>9210-109</b> <b>9208-018</b> <b>9210-136</b>
 Swivel banjo coupling	6 8 10 15 8 10 16	G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>2</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub>	SVH6LR SVH8LR SVH10LR SVH15LR SVH10SR SVH16SR	250 250 250 250 315 250	<b>9206-004</b> <b>9208-004</b> <b>9210-015</b> <b>9215-004</b> <b>9210-105</b> <b>9216-005</b>	DSVK6LROKDS DSVK8LROKDS DSVK10LROKDS DSVK15LROKDS SVH8SR ED DSVK10SROKDS DSVK16SROKDS	250 250 250 250 500 400 315	<b>9206-044</b> <b>9208-080</b> <b>9210-038</b> <b>9215-048</b> <b>9208-177</b> <b>9210-149</b> <b>9216-033</b>
 T-swivel coupling	6 8 10 15 8 10 16	G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>4</sub> G <sup>1</sup> / <sub>2</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub>	DSVQ6LRO DSVQ8LRO DSVQ10LRO DSVQ15LRO DSVQ8SR ED DSVQ10SRO DSVQ16SRO	250 250 250 250 500 315 315	<b>9206-019</b> <b>9208-120</b> <b>9210-006</b> <b>9215-030</b> <b>9210-107</b> <b>9216-007</b>	DSVQ6LROKDS DSVQ8LROKDS DSVQ10LROKDS DSVQ15LROKDS DSVQ8SR ED DSVQ10SROKDS DSVQ16SROKDS	250 250 250 250 500 400 315	<b>9206-048</b> <b>9208-169</b> <b>9210-154</b> <b>9215-050</b> <b>9208-178</b> <b>9210-153</b> <b>9216-035</b>
 Plug		G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub> G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub>	VSDG <sup>1</sup> / <sub>8</sub> A VSDG <sup>1</sup> / <sub>4</sub> A VSDG <sup>1</sup> / <sub>2</sub> A	400 400 400	<b>3610-047</b> <b>3300-821</b> <b>3610-045</b>	VSG <sup>1</sup> / <sub>8</sub> ED VSG <sup>1</sup> / <sub>4</sub> ED VSG <sup>3</sup> / <sub>8</sub> ED VSG <sup>1</sup> / <sub>2</sub> ED SW 14 x 7 high SW 19 x 8 high SW 22 x 10 high SW 27 x 11 high	400 400 400 400 500 500 500 500	<b>3610-158</b> <b>3610-191</b> <b>3610-099</b> <b>3610-098</b> <b>3610-263</b> <b>3610-264</b> <b>3610-325</b> <b>3610-265</b>
 Thread reducing adaptor		G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub> G <sup>1</sup> / <sub>2</sub>	GWR <sup>3</sup> / <sub>8</sub> - <sup>1</sup> / <sub>4</sub> GWR <sup>1</sup> / <sub>2</sub> - <sup>1</sup> / <sub>4</sub> GWR <sup>1</sup> / <sub>2</sub> - <sup>3</sup> / <sub>8</sub>	400 315 315	<b>3613-016</b> <b>3613-015</b> <b>3613-018</b>	GWR <sup>3</sup> / <sub>8</sub> ED- <sup>1</sup> / <sub>4</sub> GWR <sup>1</sup> / <sub>2</sub> ED- <sup>1</sup> / <sub>4</sub> GWR <sup>1</sup> / <sub>2</sub> ED- <sup>3</sup> / <sub>8</sub>	400 400 400	<b>3613-073</b> <b>3613-055</b> <b>3613-074</b>
 Double connector		G <sup>1</sup> / <sub>4</sub> – G <sup>1</sup> / <sub>4</sub>					500	<b>3610-261</b>
		G <sup>1</sup> / <sub>4</sub> – G <sup>1</sup> / <sub>2</sub>		400	<b>3610-062</b>		500	<b>3610-262</b>
 Elastic sealing for screwed plug form E		G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub>	ED10x1-G <sup>1</sup> / <sub>8</sub> ED14x1,5-G <sup>1</sup> / <sub>4</sub> ED G <sup>3</sup> / <sub>8</sub> ED G <sup>1</sup> / <sub>2</sub>	630 630 630 500	<b>NBR</b> <b>3002-253</b> <b>3002-142</b> <b>3002-256</b> <b>3002-258</b>	ED10x1-G <sup>1</sup> / <sub>8</sub> ED14x1,5-G <sup>1</sup> / <sub>4</sub> ED G <sup>3</sup> / <sub>8</sub> ED G <sup>1</sup> / <sub>2</sub>	630 630 630 500	<b>FKM</b> <b>3002-254</b> <b>3002-255</b> <b>3002-257</b> <b>3002-259</b>
 KDS sealing ring for swivel banjo couplings (.....KDS)		G <sup>1</sup> / <sub>8</sub> G <sup>1</sup> / <sub>4</sub> G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub>	KDS10 KDS14 KDS16 KDS22	250 400 400 315	<b>3002-260</b> <b>3002-261</b> <b>3002-262</b> <b>3002-263</b>	KDS10 KDS14 KDS16 KDS22	250 400 400 315	<b>3001-766</b> <b>3001-765</b> <b>3002-323</b> <b>3002-324</b>

## Cutting ring unions as per DIN EN ISO 8434-1 Accessories • Hydraulic pipes • Hydraulic oil

Description	Pipe Ø	Union nut	Type	PN [bar]	Part no.	Description	Pipe Ø	Union nut	Type	PN [bar]	Part no.	
Straight coupling 	6	M 12x1.5	E6L	250	<b>9206-007</b>	Union nut 	6	M 12x1.5	m6L	250	<b>9206-001</b>	
	8	M 14x1.5	E8L	250	<b>9208-007</b>		8	M 14x1.5	m8L	250	<b>9208-001</b>	
	10	M 16x1.5	E10L	250	<b>9210-007</b>		10	M 16x1.5	m10L	250	<b>9210-002</b>	
	15	M 22x1.5	E15L	250	<b>9215-007</b>		15	M 22x1.5	m15L	250	<b>9215-001</b>	
	8	M 16x1.5	E8S	630	<b>9208-106</b>		8	M 16x1.5	m8S	630	<b>9208-100</b>	
	10	M 18x1.5	E10S	630	<b>9210-108</b>		10	M 18x1.5	m10S	630	<b>9210-102</b>	
16	M 24x1.5	E16S	500	<b>9216-008</b>	16	M 24x1.5	m16S	500	<b>9216-002</b>			
90° elbow coupling 	6	M 12x1.5	K6L	250	<b>9206-008</b>	Cutting ring 	6		s6L	250	<b>9206-002</b>	
	8	M 14x1.5	K8L	250	<b>9208-008</b>		8		s8L/S	250	<b>9208-101</b>	
	10	M 16x1.5	K10L	250	<b>9210-008</b>		10		s10L/S	250	<b>9210-103</b>	
	15	M 22x1.5	K15L	250	<b>9215-008</b>		15		s15L	250	<b>9215-002</b>	
	8	M 16x1.5	K8S	630	<b>9208-107</b>		8		s8L/S	630	<b>9208-101</b>	
	10	M 18x1.5	K10S	630	<b>9210-112</b>		10		s10L/S	630	<b>9210-103</b>	
16	M 24x1.5	K16S	500	<b>9216-009</b>	16		s16S	500	<b>9216-003</b>			
Standpipe elbow with sealing cone 	8	M 14x1.5	KED8L	250	<b>9208-038</b>	Blanking plug 	6		VB6S	630	<b>9206-023</b>	
	8	M 16x1.5	KED8S	630	<b>9208-036</b>		8		VB8S	630	<b>9208-039</b>	
T-coupling 	6	M 12x1.5	Q6L	250	<b>9206-009</b>	Hydr. pipe galvanized as per EN 10305-1 	8x1			250	<b>3128-112</b>	
	8	M 14x1.5	Q8L	250	<b>9208-009</b>		8x1.5			400	<b>3128-113</b>	
	10	M 16x1.5	Q10L	250	<b>9210-009</b>		8x2			500	<b>3128-212</b>	
	15	M 22x1.5	Q15L	250	<b>9215-009</b>		10x1			200	<b>3128-114</b>	
	8	M 16x1.5	Q8S	630	<b>9208-108</b>		15x1.5			200	<b>3128-119</b>	
	10	M 18x1.5	Q10S	630	<b>9210-113</b>		Available lengths 1.5 or 3.0 m					
16	M 24x1.5	Q16S	500	<b>9216-010</b>								
Cross-type coupling 	6	M 12x1.5	KV6L	250	<b>9206-011</b>	Hydraulic oil as per DIN 51524-2 (max. 120°C) 	HLP 22	1 L			<b>9892-001</b>	
	8	M 14x1.5	KV8L	250	<b>9208-010</b>			5 L				<b>9893-001</b>
	10	M 16x1.5	KV10L	250	<b>9210-010</b>			20 L				<b>9894-001</b>
	15	M 22x1.5	KV15L	250	<b>9215-010</b>		HLP 32	1 L				<b>9895-001</b>
	8	M 16x1.5	KV8S	630	<b>9208-109</b>			5 L				<b>9891-001</b>
	10	M 18x1.5	KV10S	630	<b>9210-114</b>			20 L				<b>9899-001</b>
16	M 24x1.5	KV16S	400	<b>9216-011</b>	HLP 46	1 L				<b>9896-001</b>		
							5 L				<b>9897-001</b>	
							20 L				<b>9898-001</b>	
Straight bulk head fitting 	6	M 12x1.5	R6L	250	<b>9206-026</b>	Fire-resistant hydraulic liquids Oemeta HF-Du (max. 200°C) <b>on request</b>						
	8	M 14x1.5	R8L	250	<b>9208-023</b>							
	10	M 16x1.6	R10L	250	<b>9210-117</b>							
	15	M 22x1.5	R15L	250	<b>9215-022</b>							
	8	M 16x1.5	R8S	630	<b>9208-117</b>							
	10	M 18x1.5	R10S	630	<b>9210-119</b>							
16	M 24x1.5	R16S	500	<b>9216-017</b>								
90° elbow bulk head fitting 	6	M 12x1.5	U6L	250	<b>9206-014</b>							
	8	M 14x1.5	U8L	250	<b>9208-029</b>							
	10	M 16x1.5	U10L	250	<b>9210-110</b>							
	15	M 22x1.5	U15L	250	<b>9215-018</b>							
	8	M 16x1.5	U8S	630	<b>9208-118</b>							
	10	M 18x1.5	U10S	630	<b>9210-027</b>							
16	M 24x1.5	U16S	500	<b>9216-020</b>								
Check valve, poppet type 	6	M 12x1.5	RWD6L	250	<b>9206-012</b>							
	8	M 14x1.5	RWD8L	250	<b>9208-012</b>							
	10	M 16x1.5	RWD10L	250	<b>9210-012</b>							
	15	M 22x1.5	RWD15L	250	<b>9215-011</b>							
	8	M 16x1.5	RWD8S	400	<b>9208-111</b>							
	10	M 18x1.5	RWD10S	400	<b>9210-116</b>							
16	M 24x1.5	RWD16S	400	<b>9216-012</b>								

## Mounting torque • Pipe clamps

### Mounting torques for tube male stud couplings and swivel banjo couplings



Series	Fitting		Mounting torque [Nm]			
	Pipe OD	Thread	Screwed plug with Knife edge	Sealing ring	Swivel banjo couplings Knife edge	KDS ring
L	6	G 1/8	18	18	18	18
L	8	G 1/4	35	35	45	40
L	10	G 1/4	35	35	45	40
L	15	G 1/2	140	90	120	90
-----						
S	8	G 1/4	55	55	45	40
S	10	G3/8	90	80	70	65
S	16	G 1/2	130	115	120	110
			Body material:		Steel lubricated Aluminium -15%	

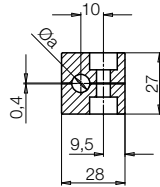
### Single pipe clamps

Material: polyamide  
 Depth of clamp: 30 mm  
 Fixing screws: M6



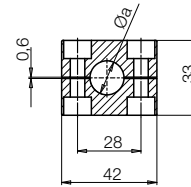
1 clamp consists of two clamp segments

#### Clamp size I



Pipe Ø a [mm]	Part no.
8	3300-892
10	3300-893
12	3300-895

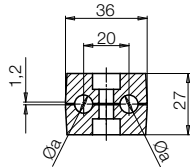
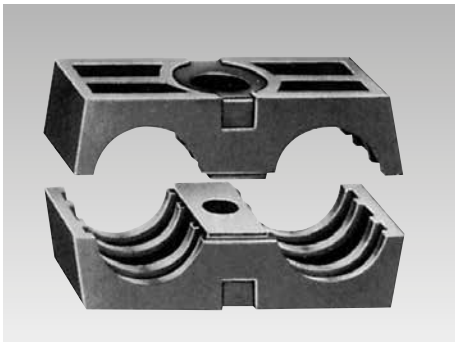
#### Clamp size II



Pipe Ø a [mm]	Part no.
15	3300-897
16	3300-890

### Twin clamp

1 clamp consists of two clamp segments



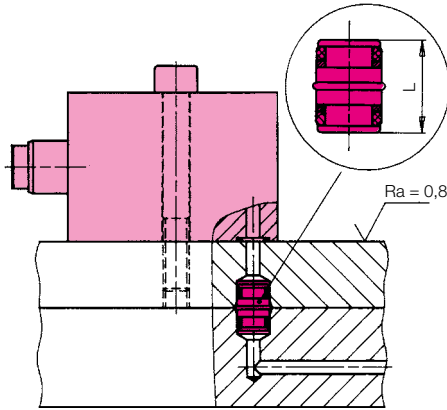
Pipe Ø a [mm]	Part no.
8	3300-891
10	3300-449

# Plug-type connectors • Screw plugs

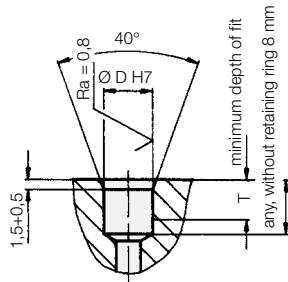
## Plug-type connectors with FKM sealings for plates and piping strips (max. operating pressure 500 bar)

### Short version for connections without space

Installation example



Installation dimensions short version

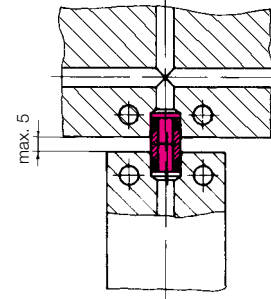


**Note:** max. mismatch of bore holes: short version 0.05 mm

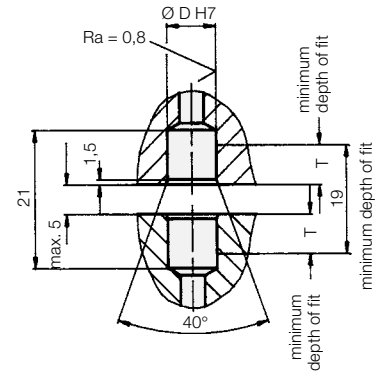
ND	Ø D H7	L	T	Part no.
3	8	12	5.5	9210-145
5	10	14	7	9210-132

### Long version for connections with space up to 5 mm

Installation example



Installation dimensions long version

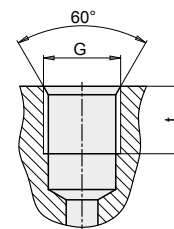
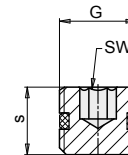


**Note:** max. mismatch of bore holes: long version 0.1 mm

ND	Ø D H7	L	T	Part no.
5	10	19	7	9210-127

## Screw plug with threaded sealing ring (max. operating pressure 500 bar)

G		G 1/8	G 1/4
s	[mm]	8.5	12
t	[mm]	8.5	12.5
SW	[mm]	4	6
<b>Part no.</b>		<b>0361-986</b>	<b>0361-987</b>
Spare O-ring		<b>3001-748</b>	<b>3000-102</b>



Porting details

## Pressure gauges for pipe mounting



### Pressure gauge with sealing plug

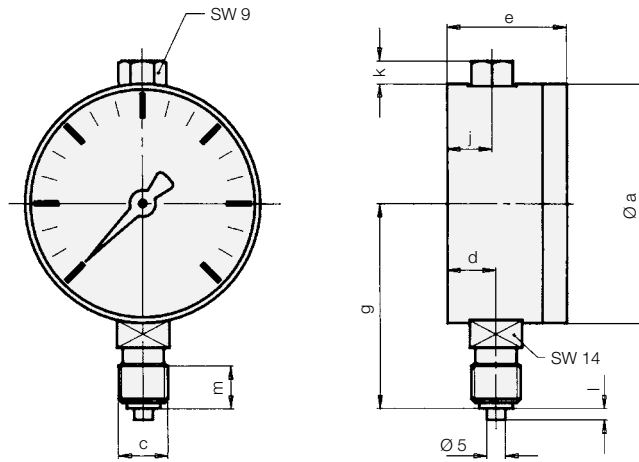
#### Important note

Pressure gauges with screw plugs must not be used in coolant jets.

In this case, the pressure gauge has to be used with screw plug or closed housing.



### Pressure gauge with screw plug



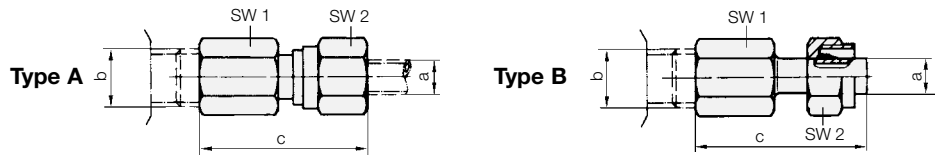
### Pressure gauge with glycerine filling and sealing plug

Measuring range	Ø a	c	d	e	g <sup>±1</sup>	j	k	l	m	Part no.
0– 40 bar	68	G ¼	13	32	54	12	–	3	12	<b>9820-000</b>
0–100 bar	68	G ¼	13	32	54	12	–	3	12	<b>9821-000</b>
0– 250 bar without glycerine filling	68	G ¼	13	32	54	–	–	3	12	<b>9810-000</b>
0–250 bar	68	G ¼	13	32	54	12	–	3	12	<b>9822-000</b>
0–400 bar	68	G ¼	13	32	54	12	–	3	12	<b>9823-000</b>

### Pressure gauge with glycerine filling and screw plug, wrench size SW 9 or closed housing

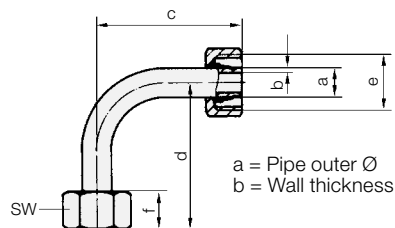
Measuring range	Ø a	c	d	e	g <sup>±1</sup>	j	k	l	m	Part no.
0–250 bar	63	G ¼	17.5	42	53	16	5	3	12	<b>9822-005</b>
0–400 bar	63	G ¼	17.5	42	53	16	5	3	12	<b>9823-005</b>
0–600 bar	63	G ¼	17.5	42	53	16	5	3	12	<b>9846-000</b>

### Pressure gauge union with edge sealing ring



Type	Fitting	a	b	c	SW1	SW2	Part no.
A	0–250 bar	8	G ¼	37	17	17	<b>9208-011</b>
B	0–250 bar	8	G ¼	40	19	17	<b>9208-042</b>
A	0–500 bar	8	G ¼	42	19	19	<b>9208-040</b>
B	0–500 bar	8	G ¼	40	19	19	<b>9208-041</b>
A	0–500 bar	8	G ½	41	27	19	<b>9208-110</b>

### 90°-elbow



90°-elbow	a	b	c	d	e	f	SW	Part no.
0–250 bar	8	1	48	48	M 14 x 1.5	15	17	<b>9811-011</b>
0–500 bar	8	2	48	76	M 16 x 1.5	16	19	<b>9811-012</b>