

How to assemble cutting ring couplings of steel or stainless steel.

1

Saw the tube at right angles, do not use tube cutters. Lightly debur tube ends inside and outside. If possible use a sawing device.

2

Couplings should preferably be pre-assembled in a vice. We recommend the pre-assembly adaptors type FM.

3

Clean and oil cutting ring, inner cone and thread of the coupler body. Use Molybdenumdisulfide lubricants with stainless steel couplings.

4

Press the tube into fitting body up to the tube abutment. The tube must always reach the bottom!

5

Turn the nut until the ferrule grips the tube and you can not turn the tube by hand. Finalise the assembly by turning the nut a further 3/4-1 turn. The tube must not be turned!

6

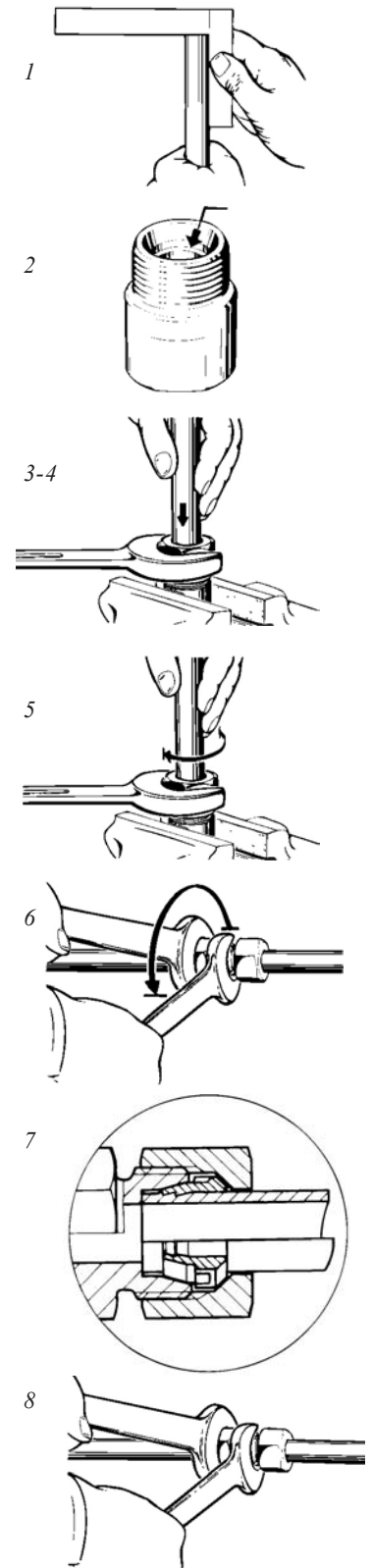
Loosen the nut and check the penetration of the cutting edge. A visible ring of material should fill the space in front of the ring end face. The ring may turn on the tube but should not be capable of axial displacement.

7

For tube bends, the length of the straight tube end up to the start of the bending radius must be at least twice the nut length.

8

Final assembly in the fitting body. Tighten the nut until a noticeable increase in force is required. Tighten the nut by approx. 1/4 of a turn beyond this point for final assembly.



Installation Components, Oil

Pipe dimensioning with different pipe lengths (DIN2391/C St 37,4)

Tube Length	Diameter
0-50 m	ø22x1,5 mm
51-100 m	ø28x2 mm
101-300 m	ø35x3 mm

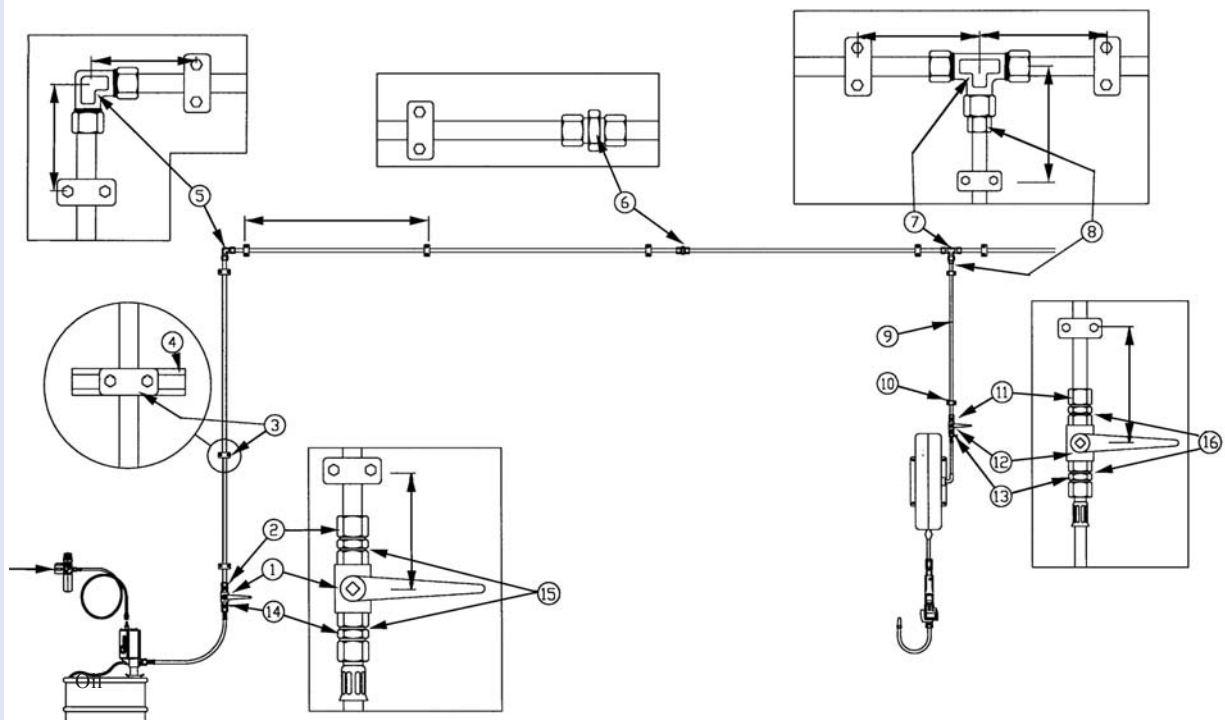
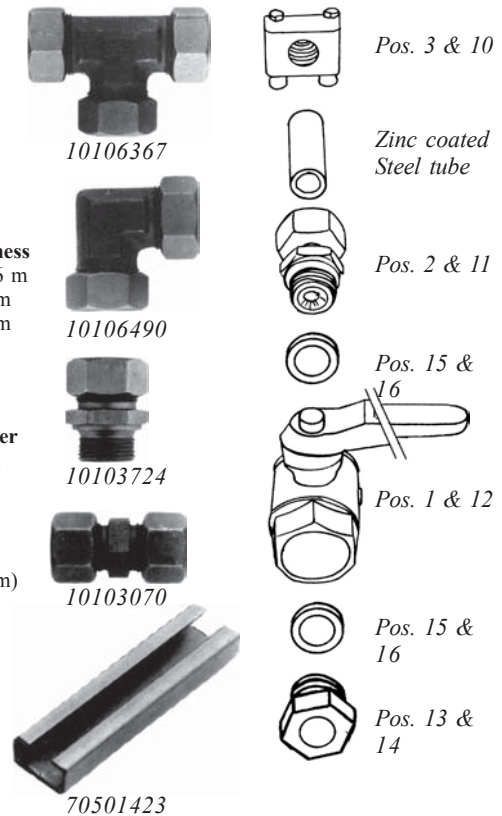
Zinc coated steel tubes for oil

Part No	Description	Dimension, ø x wall thickness
90101120	22x1,5FZ Zinc coated Steel tube	ø22 x 1,5 mm, pipe length 6 m
90101162	28x2FZ Zinc coated Steel tube	ø28 x 2 mm, pipe length 6 m
90101192	35x3FZ Zinc coated Steel tube	ø35 x 3 mm, pipe length 6 m

Installation Components

Item Nos refer to the drawing below

Item	Description	Pipe diameter	Pipe diameter	Pipe diameter
		ø22 x 1,5 mm	ø28 x 2 mm	ø35 x 3 mm
1	Shut-off valve	30101111	30101081	30101087
2	Male connector	10103724	10103292	10103325
3	Pipe clamp	70101249	70101273	70101297
4	Bracket for clamp	70501423 (Length= 2 m)	70501423 (Length= 2 m)	70501423 (Length= 2 m)
5	Angle connector	10106490	10106496	10106502
6	Union connector	10103070	10103079	10103088
7	Tee connector	10106367	10106373	10106379
8	Reducer	-	10101519	10101564
9	Pipe	90101120 (L= 6 m)	90101120 (L= 6 m)	90101120 (L= 6 m)
10	Pipe clamp	70101249	70101249	70101249
11	Male connector	10103265	10103265	10103265
12	Shut-off valve	30101111	30101111	30101111
13	Adapter	25102053	25102053	25102053
14	Adapter	-	10105962	10105941
15	Rubber/Steel washer	10103544	10103517	10103523
16	Rubber/Steel washer	10103544	10103544	10103544



Installation Components, Grease

Pipe dimensioning with different pipe lengths (DIN 2391/C St 37,4)

Tube Length	Diameter
0-20 m	ø20x2 mm
21-35 m	ø25x2,5 mm
36-60 m	ø38x4 mm

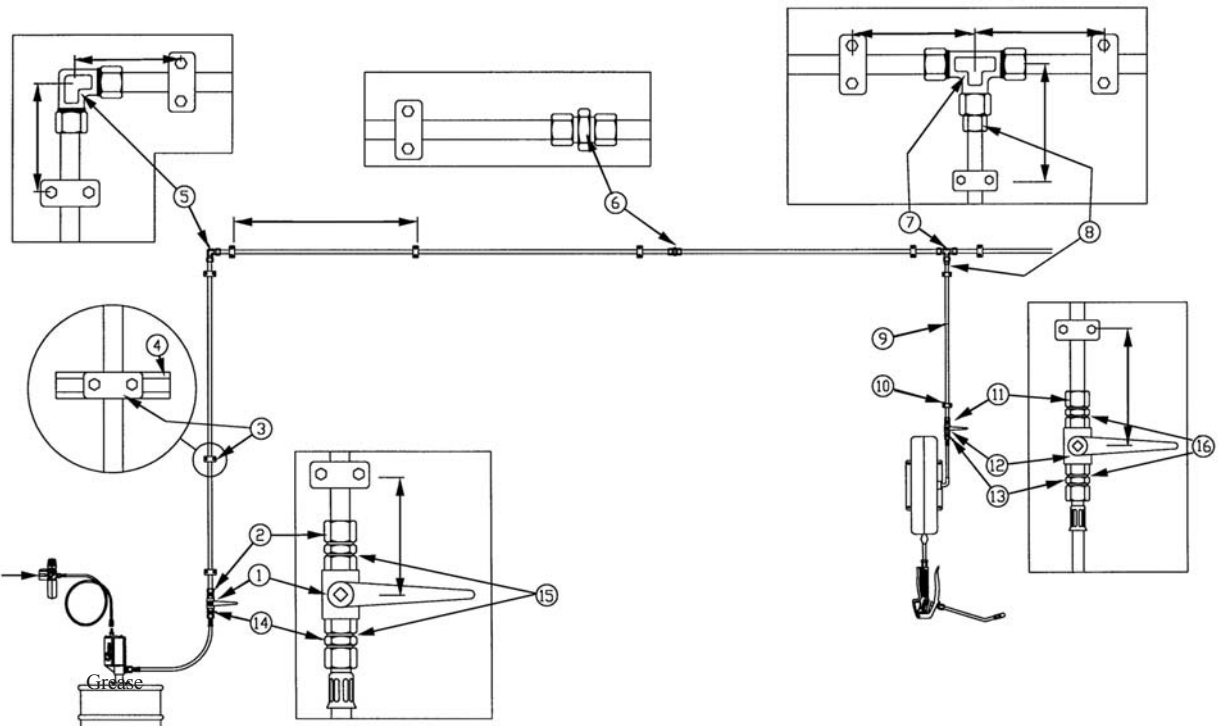
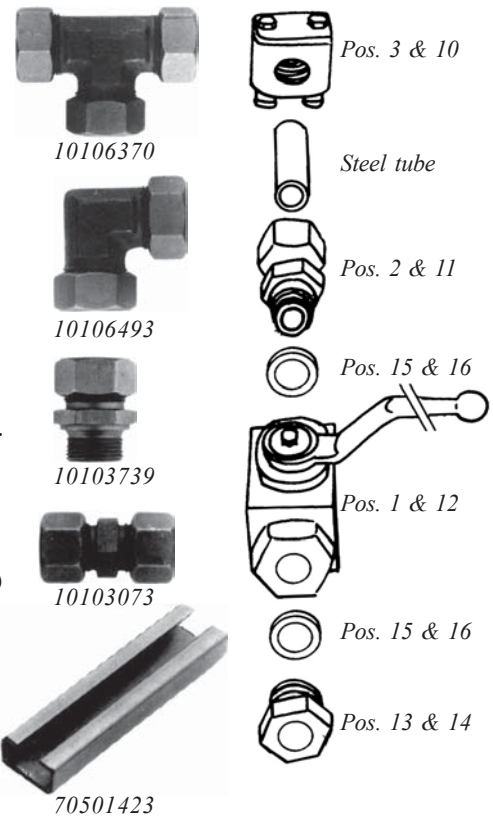
Steel tubes for grease

Part No	Description	Dimension, ø x wall thickness
73202	Steel tube	ø20 x 2 mm, pipe length 6 m
73252	Steel tube	ø25 x 2,5 mm, pipe length 6 m
73383	Steel tube	ø38 x 4 mm, pipe length 6 m

Installation Components

Item Nos refer to the drawing below.

Item	Description	Pipe diameter ø20 x 2 mm	Pipe diameter ø25 x 2,5 mm	Pipe diameter ø38 x 4 mm
1	Shut-off valve	30201345	30201300	30201309
2	Male connector	10103250	10103280	10103337
3	Pipe clamp	70101237	70101261	70101303
4	Bracket for clamp	70501423 (Length=2 m)	70501423 (Length= 2 m)	70501423 (Length= 2 m)
5	Angle connector	10106487	10106493	10106505
6	Union connector	10103064	10103073	10103091
7	Tee connector	10106364	10106370	10106382
8	Reducer	-	10101498	10101588
9	Pipe	73202 (L= 6 m)	73202 (L=6 m)	73202 (L=6 m)
10	Pipe clamp	70101237	70101237	70101237
11	Male connector	10103250	10103250	10103250
12	Shut-off valve	30201345	30201345	30201345
13	Adapter	10105998	10105998	10105998
14	Adapter	10106001	10105965	10105941
15	Rubber/steel washer	10103544	10103517	10103523
16	Rubber/steel washer	10103544	10103544	10103544



Installation Components, Water Based Fluids

Pipe dimensioning with different pipe lengths

Tube Length	Diameter
0-50 m	ø15 x 1,5 mm
51-300 m	ø22x1,5 mm

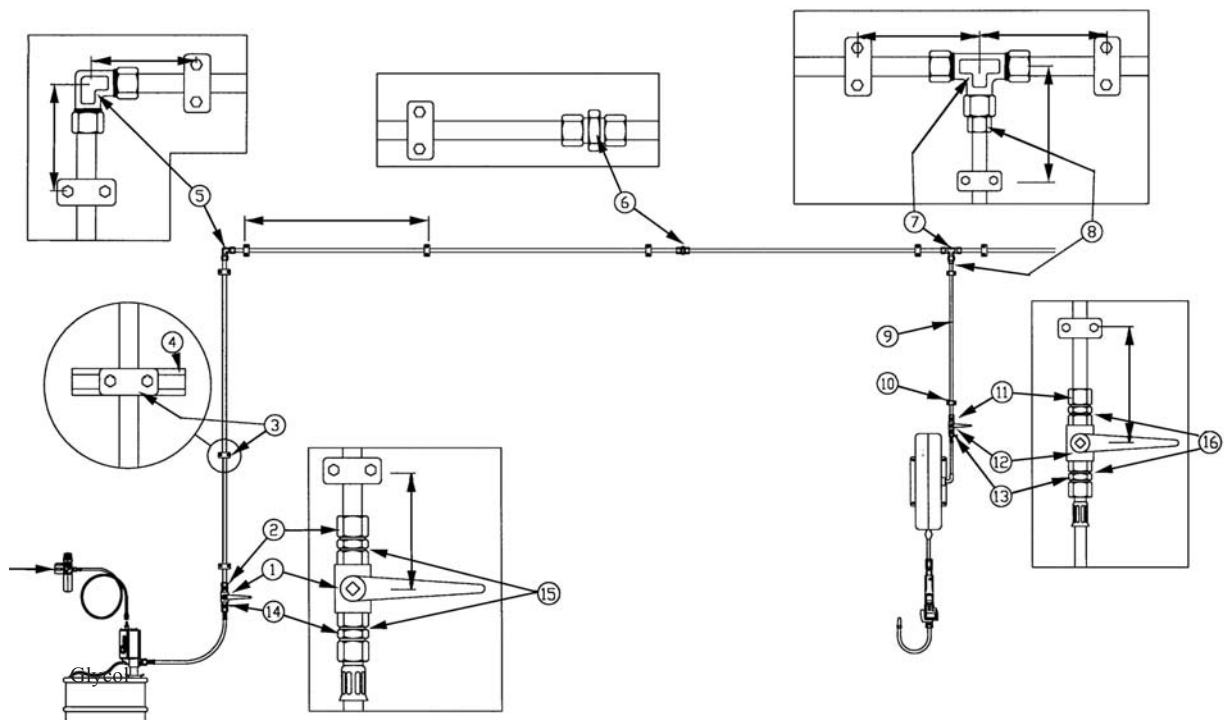
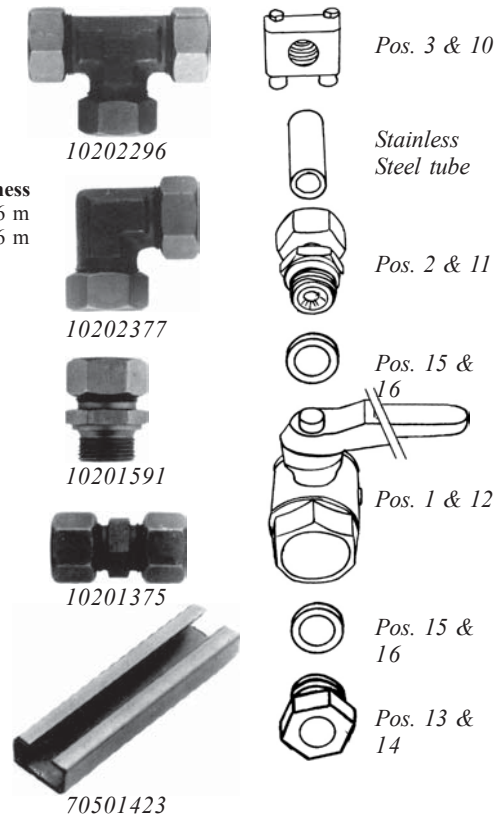
Stainless Steel tubes for water, glycol etc.






Part No	Description	Dimension, ø x wall thickness
9020101515x1,5ROS	V Stainless Steel, SS 2333	ø15 x 1,5 mm, pipe length 6 m
9020103022x1,5ROS	V Stainless Steel, SS 2333	ø22 x 1,5 mm, pipe length 6 m

Installation Components

Item Nos refer to the drawing below

Item	Description	Pipe diameter ø15 x 1,5 mm	Pipe diameter ø22 x 1,5 mm
1	Shut-off valve	30101093	30101111
2	Male connector	10201441	10201459
3	Pipe clamp	70101207	70101249
4	Bracket for clamp	70501423 (Length= 2 m)	70501423 (Length= 2 m)
5	Angle connector	10202365	10202377
6	Union connector	10201363	10201375
7	Tee connector	10202275	10202296
8	Reducer	-	10101474
9	Pipe	90201015 (Length= 6 m)	90201015 (Length= 6 m)
10	Pipe clamp	70101207	70101207
11	Male connector	10201441	10201441
12	Shut-off valve	30101093	30101093
13	Adapter	25101999	25101999
14	Adapter	-	10106004
15	Rubber/Steel washer	10103526	10103544
16	Rubber/Steel washer	10103526	10103526



Installation Components, Oil and Grease				Part.No	
Rubber/Steel Washer					
Description	Description				
GBR 1/8	Rubber/steel washer			10103532	
GBR 1/4	Rubber/steel washer			10103529	
GBR 3/8	Rubber/steel washer			10103547	
GBR 1/2	Rubber/steel washer			10103526	
GBR 3/4	Rubber/steel washer			10103544	
GBR 1	Rubber/steel washer			10103517	
GBR 1-1/4	Rubber/steel washer			10103523	
GBR 1-1/2	Rubber/steel washer			10103520	
GBR 2	Rubber/steel washer			10103538	
Adapters, in Steel					
Description	Threads male - male	Max. pressure			
0101-4 Adapter	G1/4" - G1/4"	64 MPa (640 bar)		25101981	
0101-6-4 Adapter	G3/8" - G1/4"	64 MPa (640 bar)		25102032	
0101-6 Adapter	G3/8" - G3/8"	64 MPa (640 bar)		25101987	
0101-8-6 Adapter	G1/2" - G3/8"	64 MPa (640 bar)		25102041	
0101-8 Adapter	G1/2" - G1/2"	64 MPa (640 bar)		25101999	
0101-12 Adapter	G3/4" - G3/4"	64 MPa (640 bar)		25102008	
0101-12-6 Adapter	G3/4" - G3/8"	64 MPa (640 bar)		25102047	
0101-12-8 Adapter	G3/4" - G1/2"	64 MPa (640 bar)		25102053	
0101-16 Adapter	G1" - G1"	40 MPa (400 bar)		25102011	
0101-16-8 Adapter	G1" - G1/2"	40 MPa (400 bar)		25102056	
0101-16-12 Adapter	G1" - G3/4"	40 MPa (400 bar)		25102065	
0101-24 Adapter	G2"-G2"	40 MPa (400 bar)		25102020	
Bushings, in Steel					
Description	Threads male - male	Max. pressure			
RIO 3/4-1/4 Bushing	G3/4" - G1/4"	40 MPa (400 bar)		10105998	
RIO 3/4-3/8 Bushing	G3/4" - G3/8"	40 MPa (400 bar)		10106001	
0103-12-8 Bushing	G3/4" - G1/2"	40 MPa (400 bar)		25101864	
RIO 1 1/4-3/4 Bushing	G1 1/4" - G3/4"	40 MPa (400 bar)		10105941	
Connectors, in Steel					
Description	Pipe dimension	Max. pressure			
BORO 2215L Reducing, water	ø22 - ø15 mm	25 MPa (250 bar)		10101474	
BORO 2822L Reducing, oil	ø28 - ø22 mm	25 MPa (250 bar)		10101519	
BORO 3528L Reducing, oil	ø35 - ø28 mm	25 MPa (250 bar)		10101567	
BORO 3522L Reducing, oil	ø35 - ø22 mm	25 MPa (250 bar)		10101564	
BORO 2520S Reducing, grease	ø25 - ø20 mm	40 MPa (400 bar)		10101498	
BORO 3825S Reducing, grease	ø38 - ø25 mm	40 MPa (400 bar)		10101591	
BORO 3820S Reducing, grease	ø38 - ø20 mm	40 MPa (400 bar)		10101588	
Adapters with a swivelling nut, in Steel					
Description	Threads male - female	Max. pressure			
Adapter	G1/4" - G1/4"	64 MPa (640 bar)		25102341	
Adapter	G1/4" - G3/8"	64 MPa (640 bar)		25102032	
Adapter	G3/8" - G1/2"	64 MPa (640 bar)		25102041	
Adapter	G1/2" - G1/2"	64 MPa (640 bar)		25102359	
Adapter	G3/4" - G3/4"	64 MPa (640 bar)		25102383	

Installation Components

Part.No

Adapters, in Brass

Description	Threads male - male	Part.No
RNA 1/8-1/8 Adapter	G1/8" - G1/8"	25201216
RNA 1/4-1/4 Adapter	G1/4" - G1/4"	25201210
RNA 1/2-1/2 Adapter	G1/2" - G1/2"	25201192
RNA 1/2-3/8 Adapter	G1/2" - G3/8"	25201201
RNA 1-1 Adapter	G1" - G1"	25201171
RNA 1 1/2-1 Adapter	G1 1/2" - G1"	25201177
RNA 2-2 Adapter	G2" - G2"	25201219



Bushings, in Brass

Description	Threads male - female	Part.No
RNI 1/4-3/8 Bushing	G1/4" - G3/8"	25201057
RNI 1/4-1/8 Bushing	G1/4" - G1/8"	25201279
RNI 3/8-1/4 Bushing	G3/8" - G1/4"	25201303
RNI 3/4-1/2 Bushing	G3/4" - G1/2"	25201294
RNI 3/4-3/8 Bushing	G3/4" - G3/8"	25201300
RNI 3/4-1/4 Bushing	G3/4" - G1/4"	25201297
RNI 1-3/4 Bushing	G1" - G3/4"	25201273
RNI 1-1/2 Bushing	G1" - G1/2"	25201243
RNI 1-3/8 Bushing	G1" - G3/8"	25201276
RNI 1 1/2-3/4 Bushing	G1 1/2" - G3/4"	25201252
RNI 2-1 1/2 Bushing	G2" - G1 1/2"	25201285
RNI 2-1 Bushing	G2" - G1"	25201282



Hose Fitting in Brass

Description	Hose Dimension	Thread (m)	Part.No
Hose Fiting	3/8" (10 mm)	G1/2"	38220806
Hose Fiting	1/2" (13 mm)	G1/2"	38220808
Hose Fiting	3/8" (10 mm)	G3/8"	38220406
Hose Fiting	1/2" (13 mm)	G1/2"	38220408
Hose Fiting	3/4" (20 mm)	G 1"	38221612



Hose Clamb

Description	Dimension	Part.No
Hose Clamb	ø 8 - 16 mm	72101051
Hose Clamb	ø 12 - 22 mm	72101126
Hose Clamb	ø 16 - 27 mm	72101081



Installation Components

Part.No

Shut-off Valves

Made in steel.

Description	Media	Thread (f)	Max. pressure	Part.No
BKH R 1/8	Grease and oil	G1/8"	50 MPa (500 bar)	30201339
BKH R 1/4	Grease and oil	G1/4"	50 MPa (500 bar)	30201330
BKH R 3/8	Grease and oil	G3/8"	50 MPa (500 bar)	30201354
BKH R 1/2	Grease and oil	G1/2"	50 MPa (500 bar)	30201315
BKH R 3/4	Grease and oil	G3/4"	40 MPa (400 bar)	30201345
BKH R 1	Grease and oil	G 1"	35 MPa (350 bar)	30201300
BKH R 1 1/4	Grease and oil	G 1 1/4"	35 MPa (350 bar)	30201309



Shut-off Valves

Made in brass.

Description	Media	Thread (f)	Max. pressure	Part.No
7640 3/8	Oil, air and water	G3/8"	6,4 MPa (64 bar)	30101117
7640 1/2	Oil, air and water	G1/2"	6,4 MPa (64 bar)	30101093
7640 3/4	Oil, air and water	G3/4"	4 MPa (40 bar)	30101111
7640 1	Oil, air and water	G1"	4 MPa (40 bar)	30101081
7640 1 1/4	Oil, air and water	G 1 1/4"	2,5 MPa (25 bar)	30101087
7640 1 1/2	Oil, air and water	G 1 1/2"	2,5 MPa (25 bar)	30101084



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