

### PRESSURE GENERATORS(PUMPS)

- SERVICE PUMP UNITS UP TO 4000 BAR
- **MULTIFLUID PUMP** UNITS UP TO 4000 BAR

### HIGH PRESSURE HOSE LINES AND DIVERTERS

- HOSE LINES 2800 BAR
- HOSE LINES 3200 BAR
- HOSE LINES 4000 BAR
- DIVERTERS UP TO 4000 BAR

### ADAPTERS AND QUICK CONNECTIONS

- ADAPTERS UP TO 4000 BAR
- QUICK CONNECTIONS 3000 BAR



## Service pump units 3200 and 4000 bar for different fluids up to ISO VG 680



Basic unit with one (1) outlet

Service pump units have been developed for applications in which fluids are to be pumped up to 4000 bar and to maintain the pressure level by compensating the gap losses. This is particularly the case when joining and separating highly stressed shrink joints (Bearing / axle or also gear / shaft). Example: Large gear service.

The driving energy for the pump units is compressed air.

The maximum eligible viscosity is 680 cSt. (ISO VG 680) at 20°C. Above ISO VG 100 an additional diaphragm pump is used to feed the high pressure pump.

The units are modular designed:

- 1) Pump module with silencer and liquid switch
- 2) High pressure module with valves, gauge(s), outlet(s)
- 3) Compressed air module with shut off, pump control, filter
- 4) Tank module 10 Liter tank and filter.
- 5) Stainless steel frame with lockable wheels

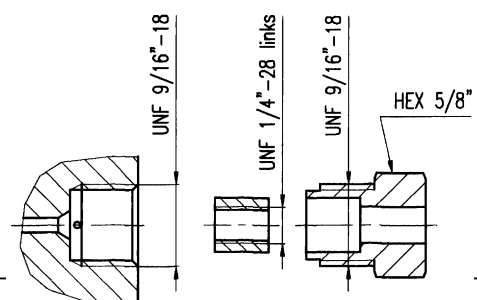
### Technical data:

	Model 1	Model 2
max. working pressure WP	3200 bar (46400 psi)	4000 bar (58000 psi)
required air pressure WP	7 bar (100 psi)	5.4 bar (78 psi)
intensification factor i	460:1	740:1
pump capacity per stroke	3 cm <sup>3</sup>	2 cm <sup>3</sup>
gauge range / accuracy	0-4000 bar (1%)	0-5000 bar (1%)
gauge scale	bar / psi	bar / psi
air safety valve	7.5 bar (3450 bar hp) 110 psi (50000 psi hp)	6 bar (4400 bar hp) 87 psi (63800 psi hp)
number of fluid reservoirs	1	1
fluid reservoir capacity	10 l	10 l
fluid filter porosity	25 µ	25 µ
air filter porosity	5 µ	5 µ
dimensions (w x h x d)	30cm x 74 cm x 48 cm	30cm x 74 cm x 48 cm
weight (empty)	30 kg	30 kg



High pressure gauge with bar / psi - scale, safety glass and liquid fill

High pressure outlet type HIP HF4 for hose lines with 1/4" high pressure tubing ends (coned / threaded).



### Available configurations (outlets, gauges):



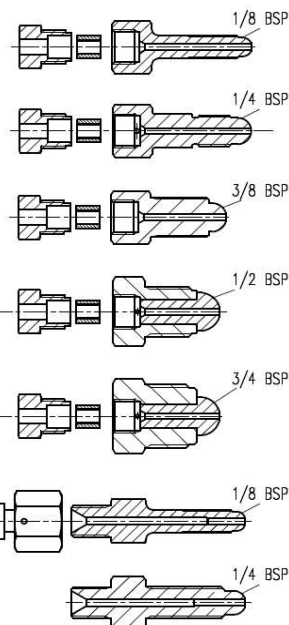
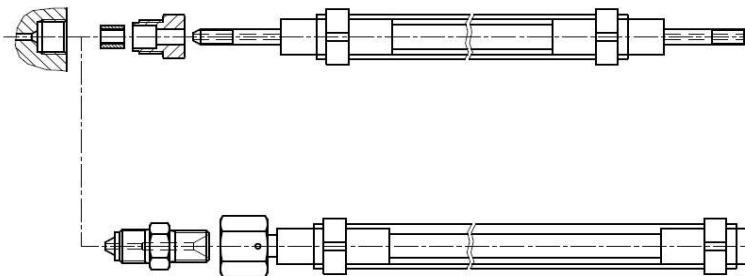
Left to right:  
configuration A, B, C



Rear view A/B/C

	Number of outlets / shut off valve(s) / gauge(s) / waste valve			
A)	1	1	1	1
B)	2	2	1	1
C)	2	2	2	1

Outlet 1/4" - high pressure hose lines (coned / threaded)



### **Optional Separate accessories:**



Flight case for one  
multi-fluid pump  
unit and  
accessories



Diverter valve  
(one inlet – two outlets)

Adapters (separate accessories)  
with straight pipe threads and  
ball shaped front



- Hose lines
- Adapters
- Quick connections



Oil ISO VG 5 to 1500 cSt.  
Cans 5 to 20 l

## Multifluid pump units 3200 and 4000 bar for oil and glycerin



Basic unit with one (1) outlet

Multifluid pump units have been developed for applications in which high viscous fluids are to be pumped up to 4000 bar and to maintain the pressure level by compensating the gap losses. This is particularly the case when joining and separating highly stressed shrink joints (bearing / axle or also gear / shaft). Example: Large gear service.

The maximum eligible viscosity is 1500 cSt. (ISO VG 1500) at 20°C. The driving energy for the pump units is compressed air.

The units are modular designed:

- 1) Pump module with silencer and liquid switch
- 2) High pressure module with valves, gauge(s), outlet(s)
- 3) Compressed air module with shut off, pump control, filter
- 4) Tank module with two liquid tanks and filters.
- 5) Stainless steel frame with backflow reservoir

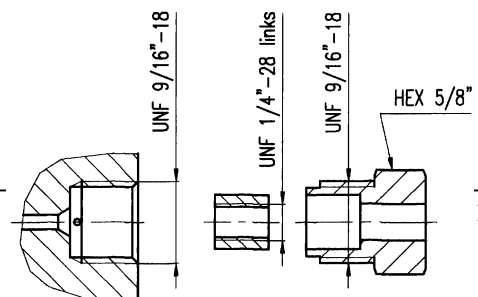
### Technical data:

	Model 1	Model 2
max. working pressure WP	3200 bar (46400 psi)	4000 bar (58000 psi)
required air pressure for max. WP	7 bar (100 psi)	5.4 bar (78 psi)
intensification factor i	460:1	740:1
pump capacity per stroke	3 cm <sup>3</sup>	2 cm <sup>3</sup>
gauge range / accuracy	0-4000 bar (1%)	0-5000 bar (1%)
gauge scale	bar / psi	bar / psi
air safety valve	7.5 bar (3450 bar hp) 110 psi (50000 psi hp)	6 bar (4400 bar hp) 87 psi (63800 psi hp)
number of fluid reservoirs	2	2
fluid reservoir capacity	2 x 1,25 l	2 x 1,25 l
fluid filter porosity	25 µ	25 µ
air filter porosity	5 µ	5 µ
dimensions (w x h x d)	30cm x 74 cm x 48 cm	30cm x 74 cm x 48 cm
weight (empty)	40 kg	40 kg



high pressure gauge with bar / psi -scale, safety glass and liquid fill

High pressure outlet type HIP HF4 for hose lines with 1/4" high pressure tubing ends (coned / threaded).





**Available configurations (outlets, gauges):**

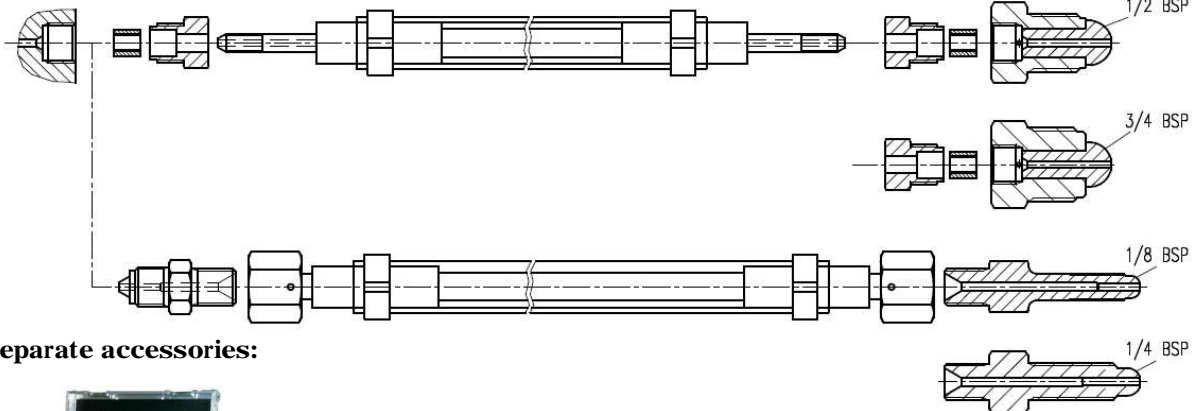


Left to right:  
configuration A, B, C

	Number of outlets	shut off valve(s)	gauge(s)	waste valve
A)	1	1	1	1
B)	2	2	1	1
C)	2	2	2	1

In addition to the existing outlet(s) a separate diverter valve can be installed (option).

Outlet(s) für 1/4" - high pressure hose lines (coned / threaded)



**Separate accessories:**



Flight case for one  
multifluid pump unit  
and accessories



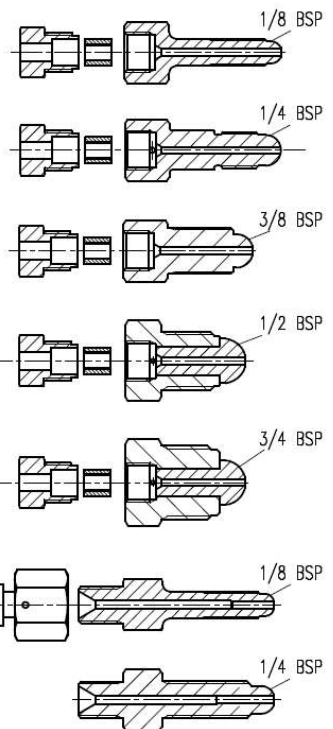
- hose lines
- adapter
- quick connections



Oil ISO VG 5 to 1500 cSt.  
Cans 5 to 20 l



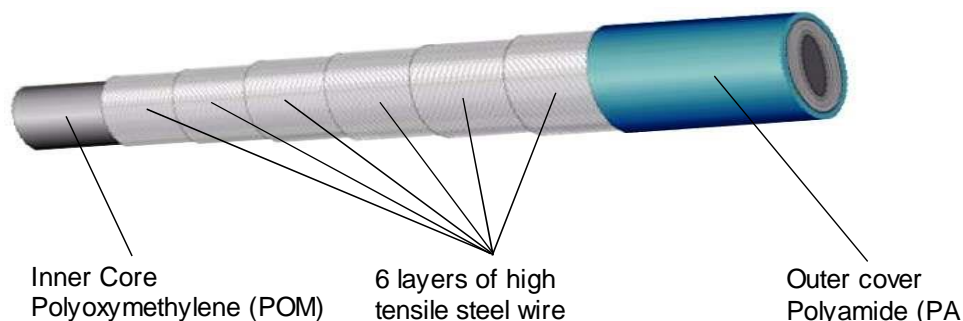
Diverter valve (option)



Adapters (separate accessories)  
with straight pipe threads and  
ball shaped front

## High pressure hose line 2.800 bar Type 306

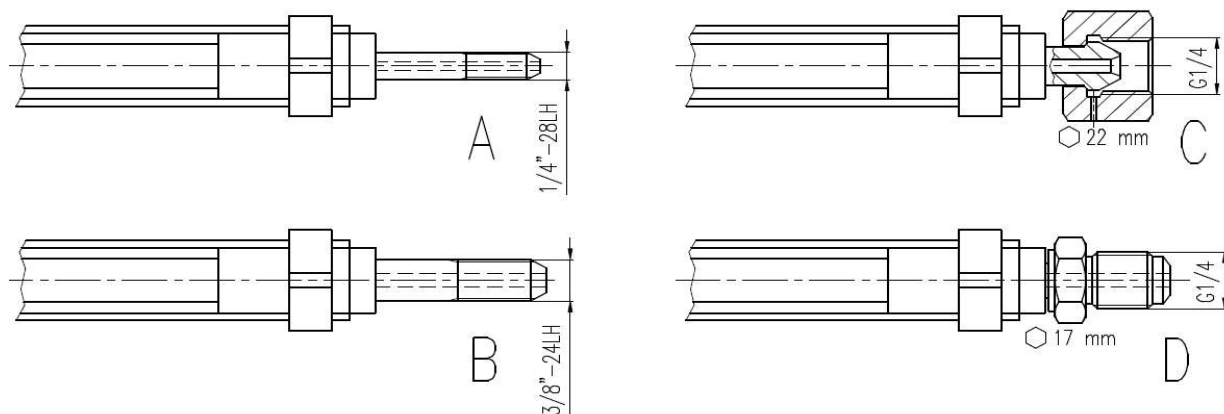
### Structure:



### Technical data:

Operating pressure:	2.800 bar (40.000 psi)
Burst pressure:	7.000 bar (100.000 psi)
Inside diameter:	3 mm (hose)
Operating temperature:	- 30° bis +60° C
Smalles bending radius:	150 mm
Operating fluids:	Hydraulic oil, water, glyzerine + all fluids compatible with POM Not suitable for gas
Color:	Blue (hose)
Protection hose:	PVC (clear)

### Fittings:



A: HP nipple 1/4" (outside diameter 6,35 mm) with 59°-cone and left hand thread UNF1/4"-28LH (order code HM4)

B: HP nipple 3/8" (outside diameter 9,52 mm) with 59°-cone and left hand thread UNF3/8"-24LH (order code HM6)

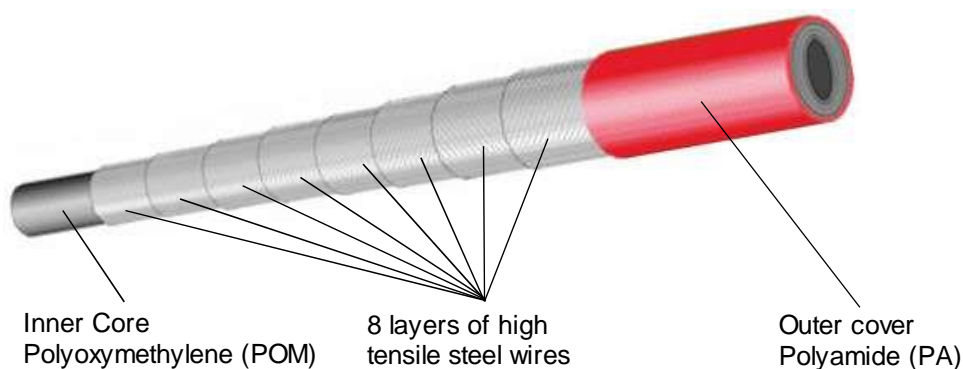
C: Swivel joint (Inside thread G1/4 (BSP 1/4 straight)) (order code UKG1/4)

D: Male fitting G1/4 (BSP 1/4 straight) for connecting nipples or couplings with G1/4 (BSP 1/4 straight) inside thread (order code G1/4AG)

**Order number:** 306 - L – order code 1 – (order code 2) -S  
L= length in mm (stocked length 1000, 2000, 3000)  
S= protection hose PVC

## High pressure hose line 3.200 bar Type 408

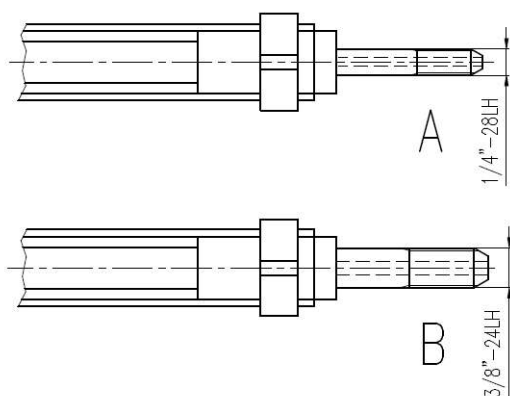
### Structure:



### Technical data:

Operating pressure:	3.200 bar (46.400 psi)
Burst pressure:	8.000 bar (116.000 psi)
Inside diameter:	4 mm (hose line)
Operating temperature:	- 30° bis +60° C
Smallest bending radius:	175 mm
Operating fluids:	Hydraulic oil, water, glyzerine + all fluids compatible with POM Not suitable for gas
Color:	Dark red (hose)
Protection hose:	PVC (clear)

### Fittings:



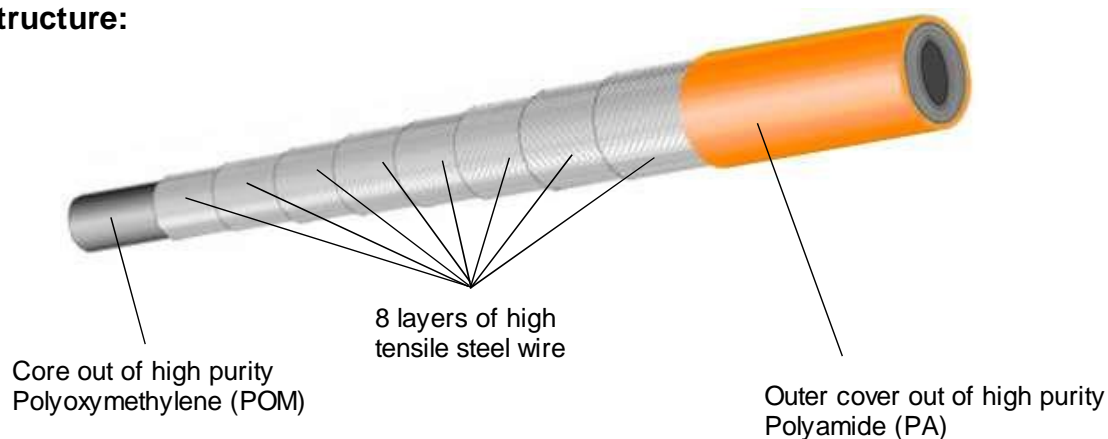
A: HP nipple 1/4" (outside diameter 6,35 mm) with 59°-cone and left hand thread  
UNF1/4"-28LH (order code HM4)

B: HP nipple 3/8" (outside diameter 9,52 mm) with 59°-cone and left hand thread  
UNF3/8"-24LH (order code HM6)

**Order number:** 408 - L – order code 1 – (order code 2) -S  
L = length in mm (stocked length 1000, 2000, 3000)  
S = protection hose PVC

## High pressure hose line 4.000 bar Type 5mmUHPX

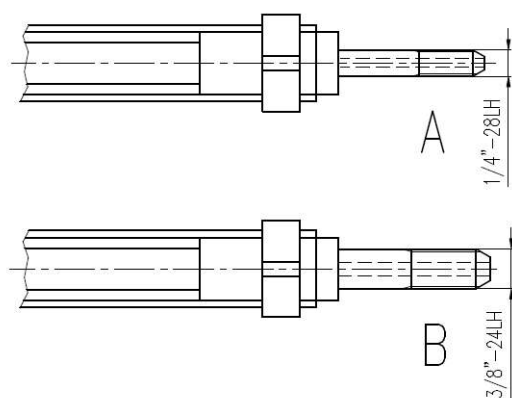
### Structure:



### Technical data:

Operating pressure:	4.000 bar (58.000 psi)
Burst pressure:	8.000 bar (116.000 psi)
Inside diameter:	4,5 mm (hose line)
Operating temperature:	- 30° bis +60° C
Smallest bending radius:	250 mm
Operating fluids:	Hydraulic oil, water, glyzerine + all fluids compatible with POM Not suitable for gas
Color:	Yellow (hose line)
Protection hose:	PVC (clear)

### Fittings:



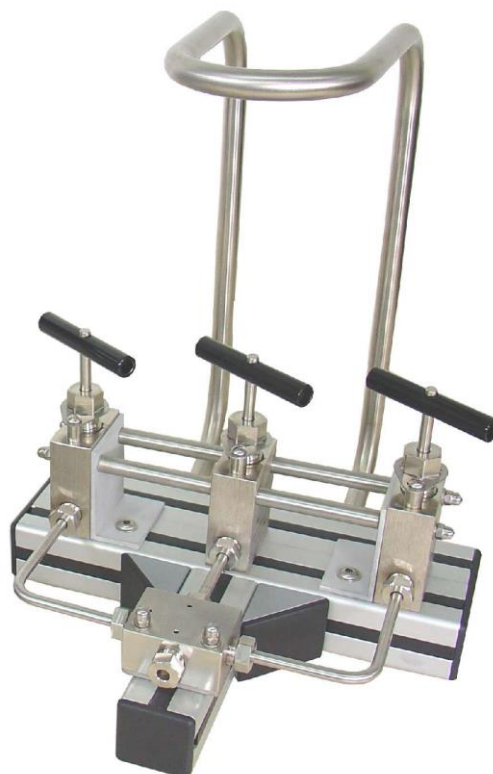
A: HP nipple 1/4" (outside diameter 6,35 mm) with 59°-cone and left hand thread UNF1/4"-28LH (order code HM4)

B: HP nipple 3/8" (outside diameter 9,52 mm) with 59°-cone and left hand thread UNF3/8"-24LH (order code HM6)

**Order number:** 5mmUHPX - L – order code 1 – (order code 2) -S  
L = length in mm (stocked length 1000, 2000, 3000)  
S = protection hose PVC



## HIGH PRESSURE DIVERTERS UP TO 4.000 BAR



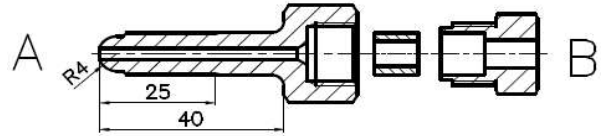


## Ball shaped adapters HF4

### Extracted list:

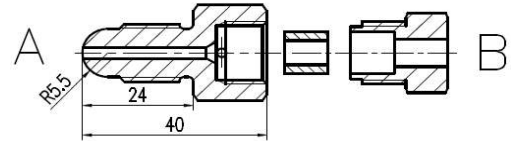
#### Pos. 28: Adapter SKF1/8K - HF4 (4.000 bar)

- A: Straight BSP1/8 male with ball shape.  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines



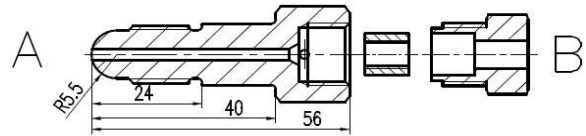
#### Pos. 29: Adapter SKF1/4 K40 - HF4 (4.000 bar)

- A: Straight BSP1/4 male with ball shape. (24 mm / 40 mm)  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines



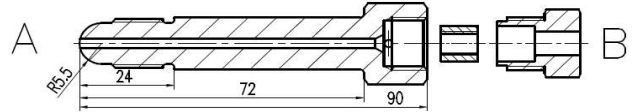
#### Pos. 30: Adapter SKF1/4 K56 - HF4 (4.000 bar)

- A: Straight BSP1/4 male with ball shape. (40 mm / 56 mm)  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines



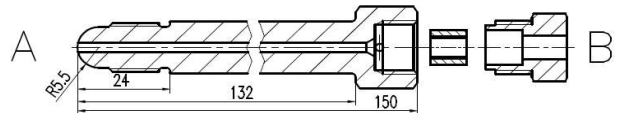
#### Pos. 31: Adapter SKF1/4 K90 - HF4 (4.000 bar)

- A: Straight BSP1/4 male with ball shape. (72 / 90 mm)  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines



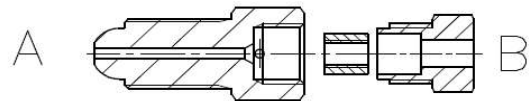
#### Pos. 32: Adapter SKF1/4 K150 - HF4 (4.000 bar)

- A: Straight BSP1/4 male with ball shape. (132 / 150 mm)  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines



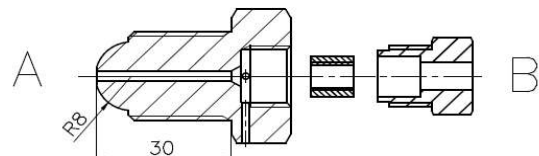
#### Pos. 33: Adapter SKF3/8 K - HF4 (4.000 bar)

- A: Straight BSP3/8 male with ball shape.  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines



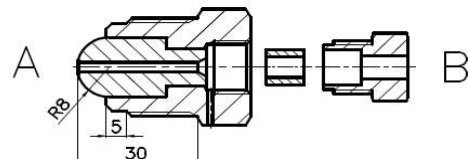
#### Pos. 34: Adapter SKF1/2 K - HF4 (4.000 bar)

- A: Straight BSP1/2 male with ball shape.  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines



#### Pos. 35: Adapter SKF3/4 K - HF4-E (4.000 bar)

- A: Straight BSP3/4 male with ball shape.  
B: UNF9/16-18 female for the connection of 1/4"-high pressure tubing / hose lines

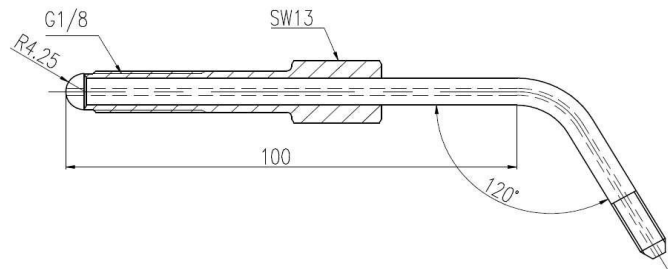




## Special ball shaped connectors

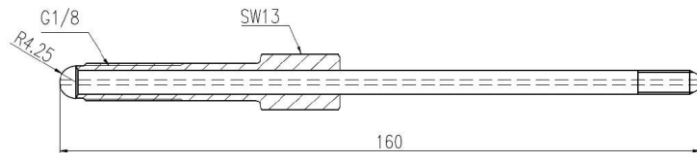
**Pos. 45:**  
**Special tubing SKF1/8 K8,5-120°**  
**(4.000 bar)**

- A: Straight BSP1/8 male with ball shape.  
(wrench size 13 mm)
- B: 1/4" high pressure tubing coned /  
threaded (1/4"-28 LH)



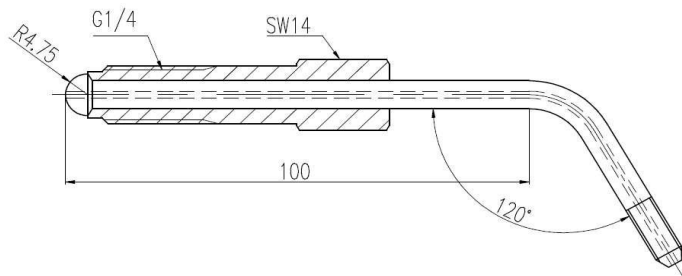
**Pos. 46:**  
**Special tubing SKF1/8 K8,5-160**  
**(4.000 bar)**

- A: Straight BSP1/8 male with ball shape.  
(wrench size 13 mm)
- B: 1/4" high pressure tubing coned /  
threaded (1/4"-28 LH)



**Pos. 48:**  
**Special tubing SKF1/4 K11-120°**  
**(4.000 bar)**

- A: Straight BSP1/4 male with ball shape.  
(wrench size 14 mm)
- B: 1/4" high pressure tubing coned /  
threaded (1/4"-28 LH)

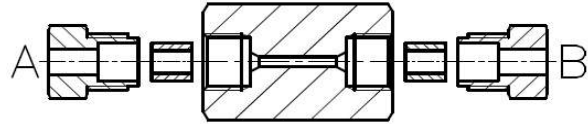




## Tubing / connectors / couplings

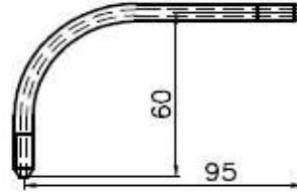
### Pos. 27: Straight coupling 60-21HF4 (4.000 bar)

- A: UNF9/16-18 female for the connection of  
1/4"-high pressure tubing / hose lines  
B: UNF9/16-18 female for the connection of  
1/4"-high pressure tubing / hose lines



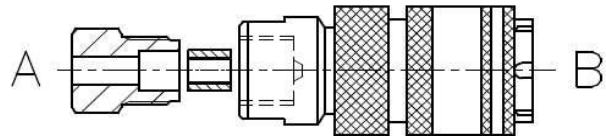
### Pos. 41: Tubing elbow RB1/4-60/95 (4.200 bar)

- Both sides 1/4" high pressure tubing coned /  
threaded (1/4"-28 LH)



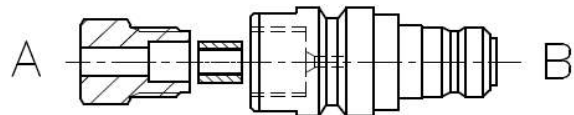
### Pos. 49: Coupling K135-FM16x1,5 (3000 bar)

- A: M16x1,5 female for the connection of  
1/4"-high pressure tubing / hose lines  
B: Coupling (female) side



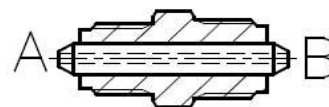
### Pos. 50: Nipple N135-FM16x1,5 (3000 bar)

- A: M16x1,5 female for the connection of  
1/4"-high pressure tubing / hose lines  
B: Nipple (male) side



### Pos. 13: Adapter A8M-R (4.000 bar)

- A: UNF9/16"-18 male  
B: M16x1,5 male  
with 1/4" coned tubing



This adapter is needed to connect any of the ball shaped adapters (Pos. 28-35) with either couplings (Pos. 49) or nipples (Pos. 50).

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