Cycle switches, cycle indicators, crossporting bars, overpressure indicators, rupture discs

Accessories for Progressive Systems

For oil, grease and fluid grease
For use in SKF ProFlex progressive centralized lubrication systems

Progressive feeder with cycle switch

SKF ProFlex systems are designed for small and medium-sized machines. They are used, for example, in the printing industry, construction machines, industrial presses and wind turbines. A feed pump or flow limiter supplies lubricant to the distributor that serves each outlet progressively, with a defined amount of lubricant.

Electric overpressure indicator

Each distributor outlet can also serve a secondary distributor that divides the amount into smaller portions for progressive delivery to their outlets. To control the system's function, only one metering piston has to be controlled on a frequency basis.

Spray nozzle

SKF ProFlex progressive lubrication systems are designed for up to 150 lubrication points with grease or oil. In combination with parallel flow limiters, they can serve up to one thousand lubrication points or even more with oil. SKF ProFlex includes a wide range of progressive distributors based on a block, segmental or modular design with 2 to 20 outlets, flow rates of 0,01 cm^3 to 6 000 cm^3/min and system pressures as high as 300 bars.

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Cycle switch (Piston detector)

177-300-...

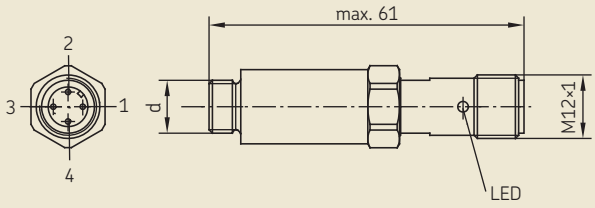

Table 1

Order No.	d	Feeder model	Version
177-300-091	M12×1	VP / PSG	2-wire
177-300-092	M10×1	VPK	2-wire
177-300-096	M10×1	VPB	2-wire
177-300-094	M12×1	VP / PSG	3-wire
177-300-095	M10×1	VPK	3-wire
177-300-097	M10×1	VPB	3-wire

Line sockets (see leaflet 1-1730-EN)
Order No.

179-990-372
179-990-382

Technical data

Function	NC contact
Operating voltage	10 36 V DC
Current-carrying capacity	100 mA
Max. operating pressure	350 bars
Operating temperature	–25 bis +80 °C
Type of enclosure	IP 67
Housing material	1.4571

Cycle switch with built-in micro switch

VP-ZYS

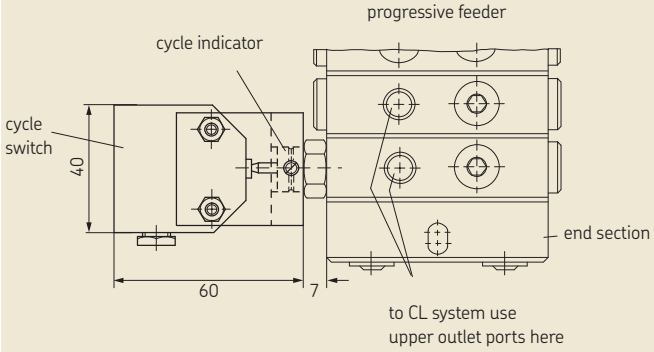

Table 2

The unit is mounted on a feeder section with cycle indicator..

Order No.	Feeder model	Information
VP-ZYS [1]	VP	The cycle switch can used for all feeder sections starting at 2T. It is supplied detached.

[1] state in order in addition to the feeder

Technical data

Rated voltage	230 V
Rated switching capacity	230 V / 25 mA – 24 V / 2 A
Contact	1 changeover
Type of enclosure (DIN 40050)	IP 67
Type of connection	soldered
Temperature range	–5 to +80 °C

⚠ CAUTION!

For all systems or components described in that brochure, see important product usage information on the back cover.

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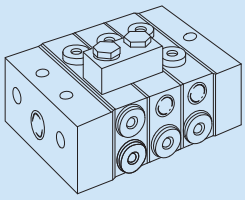
Crossporting bars

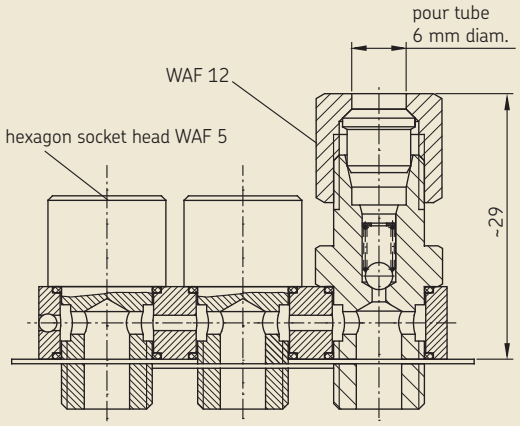
Crossporting bars are used to combine adjacent outlet ports. They are screwed into the lateral outlet ports or, if on hand, into the upper alternative outlet ports.

Table 3

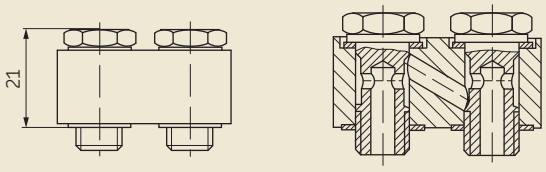
Order No.	Feeder model	Number of outlet ports to be combined
VP-C	VPM	2
VPG-C	VPG	2
VPBG(M)-C2	VPB	2
VPBG(M)-C3	VPB	3
VPBG(M)-C4	VPB	4
VPBM-C2-VS	VPB	2
VPBM-C3-VS	VPB	3
VPBM-C4-VS	VPB	4
24-2151-3732	PSG2	2
24-2151-3736	PSG3	2



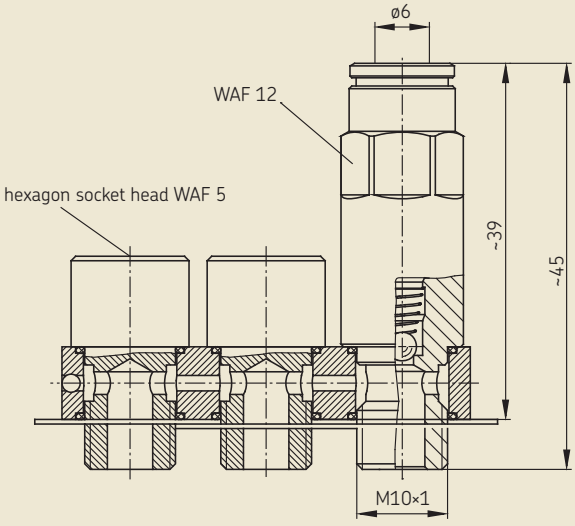
VPBM-C3 / VPBG-C3



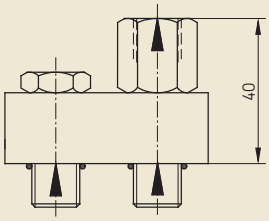
VP-C / VPG-C



VPBM-C3-VS for tube 6 mm diam. with plug-in connector



24-2151-3732 / 24-2151-3736

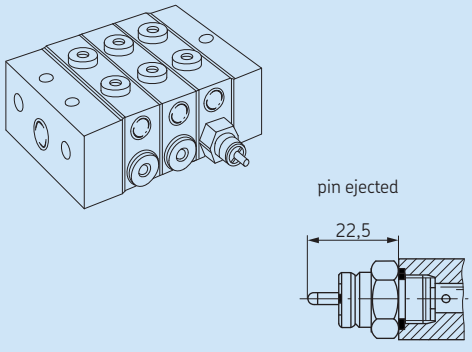


Cycle indicators

Cycle indicators are used to monitor feeder functions. They are screwed into the piston bore of the first or last feeder section. In the course of each cycle, the display pin moves in and out. This motion does not take place if the feeder is blocked.

The cycle switch is only available complete with feeder section.

Cycle indicators



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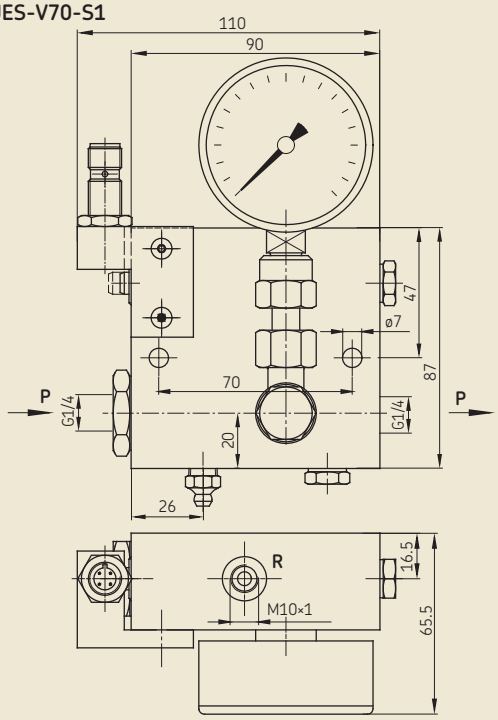
Electric overpressure switch with proximity switch (120 bars)

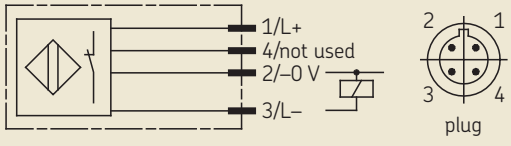
PPU-UES-V70-S1



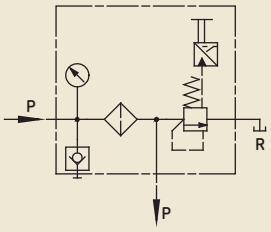
Technical data

Order No	**PPU-UES-V70-S1**
Operating voltage	10 ... 36 V DC
Current load	100 mA max.
Contact	NC type
Function indicate	yellow (4×90°)
Type of enclosure (DIN 40050)	IP 67
Temperature range	–25 to +70 °C
Proximity switch	adjusted to 120 bars

Electrical terminal diagram

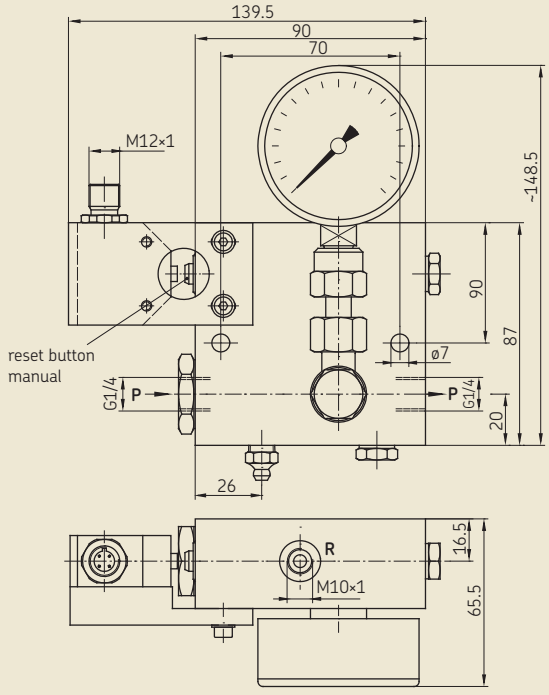


Hydraulic layout



Electric overpressure switch with micro switch

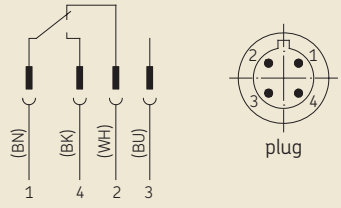
PPU-UES-V57



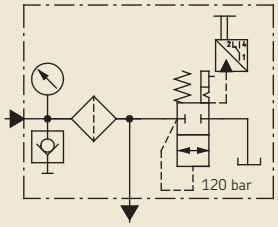
Technical data

Order No	**PPU-UES-V57**
Rated voltage	230 V
Rated switching capacity	230 V / 25 mA – 24 V / 2 A
Contact	1 changeover
Type of enclosure (DIN 40050)	IP 67
Temperature range	–5 to +80 °C

Electrical terminal diagram



Hydraulic layout



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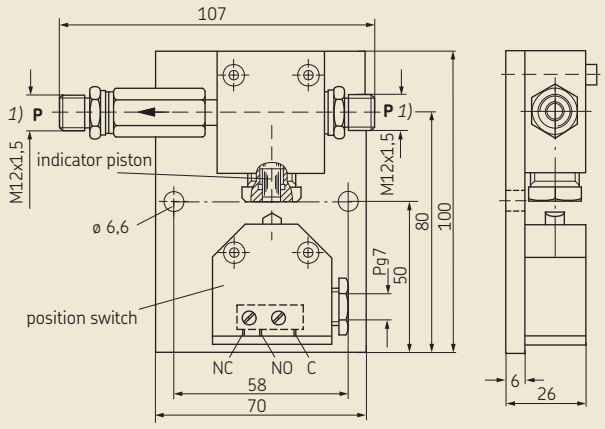
Electric overpressure indicator

PPU-UES



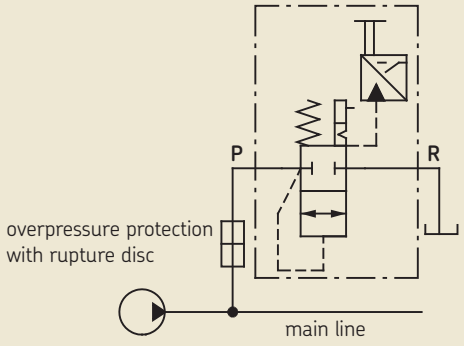
1) For cutting-sleeve screw unions to DIN 2353 for ø6 tubing.
Cutting ring 406-301, union nut 406-302 (order separately).

Technical data

Order No.	**PPU-UES**
Rated voltage	230 V
Rated switching capacity	230 V / 25 mA – 24 V / 2 A
Contact	1 changeover
Type of enclosure (DIN 40050)	IP 67
Type of connection	soldered
Temperature range	–5 to +80 °C

Practical example 1 (for PPU-UES)

Hydraulic layout

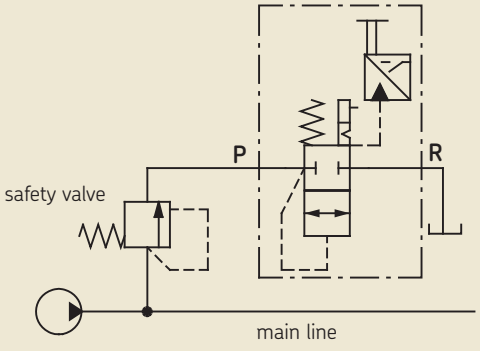


A rise in the system's pressure (malfunction) beyond the specified value destroys the rupture disc. The lubricant pushes the indicator piston out, resulting in the limit switch being actuated. The latter emits an electrical signal for acoustic or visual indication. But it can also be used to switch off the machine.

After the malfunction has been remedied and the rupture disc replaced, the indicator piston has to be pressed in again by hand.

Practical example 2 (für PPU-UES)

Hydraulic layout



Functions like example 1, but the rupture disc does not have to be replaced since it is not destroyed and the safety valve automatically closes again when the specified pressure is restored.The indicator piston has to be pressed in again as in example 1.

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Overpressure indicators

Overpressure indicators on progressive feeders make it easier to localize malfunctions when they occur. They are screwed into the upper alternative outlet ports. If the specified lubricant pressure is exceeded in an outlet port equipped with an overpressure indicator, a pin emerges from the front of the indicator, thus pointing out the overpressure. After the fault is remedied, the pin has to be pressed in again by hand.

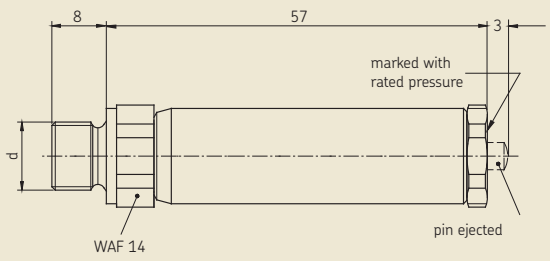
Table 5

Rated pressure [bar]	Order No. with metric threads	d	Order No. with Whitworth tubing threads	d
16	**VPM-UE16-2**	M10×1	**VPG-UE16-2**	G1/8A
32	**VPM-UE32-2**	M10×1	**VPG-UE32-2**	G1/8A
63	**VPM-UE63-2**	M10×1	**VPG-UE63-2**	G1/8A
80	**VPM-UE80-2**	M10×1	**VPG-UE80-2**	G1/8A
100	**VPM-UE100-2**	M10×1	**VPG-UE100-2**	G1/8A
140	**VPM-UE140-2**	M10×1	**VPG-UE140-2**	G1/8A
180	**VPM-UE180-2**	M10×1	**VPG-UE180-2**	G1/8A

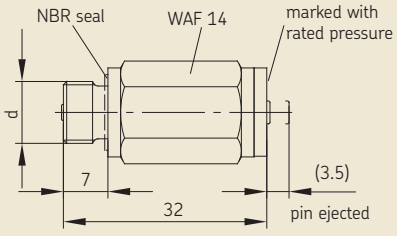
Table 6

Rated pressure [bar]	Order No. with metric threads	d	Order No. with Whitworth tubing threads	d
50	**VPM-UE50-3**	M10×1	**VPG-UE50-3**	G1/8A
100	**VPM-UE100-3**	M10×1	**VPG-UE100-3**	G1/8A
150	**VPM-UE150-3**	M10×1	**VPG-UE150-3**	G1/8A
200	**VPM-UE200-3**	M10×1	**VPG-UE200-3**	G1/8A

VP / VPG-...-2



VPM / VPG-...-3



Rupture discs

Table 7

Order No.	Rupture pressure [bar]	Color	Thickness [mm]
PPU-BS60	60	black	0,152
PPU-BS80	80	green	0,203
PPU-BS100	100	yellow	0,254
PPU-BS120	120	red	0,305
PPU-BS140	140	orange	0,356
PPU-BS160	160	silver	0,406
PPU-BS180	180	pink	0,457

Retainer for burst discs

Retainer PPU-SH

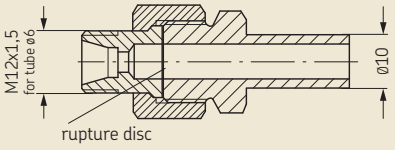


Table 8

Order No.	for tube diam.	Version
PPU-SH	10	**with tube neck for cuttingsleeve screw union**

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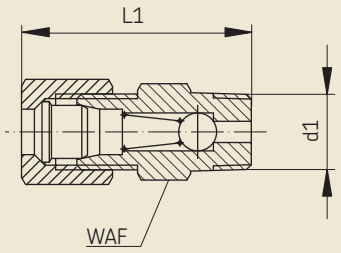
Check valves

VPG / VPKG / VPKM / VPM



VPKG-...-VS / VPKM-...-VS

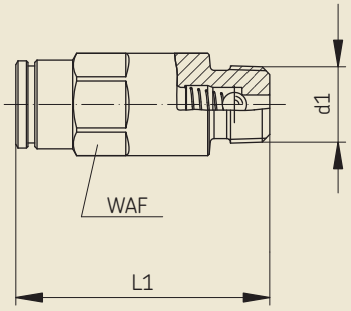


Table 9

Order No	Screw in thread d1	Tube diameter	Opening pressure [bar]	PN [bar]	SW	Length L1	Information
VPG-RV	R 1/8 keg	4 (LL)	10	100	12	23	–
VPG-RV6	R 1/8 keg	6 (L)	10	315	14	25	–
VPG-RV8	R 1/8 keg	8 (L)	10	315	14	25	–
VPKG-RV	R 1/8 keg	6 (LL)	3	100	12	29,5	with sleeve and socket union
VPKG-RV-VS	R 1/8 keg	6	3	300	12	33,5	with SKF Quick Connector
VPKM-RV-S3	M 10x1 keg	6 (LL)	3	100	12	29,5	Stainless steel, with sleeve and socket union
VPKM-RV-S4	M 10x1 keg	6 (LL)	2	100	11	30,3	with sleeve and socket union
VPKM-RV-VS	M 10x1 keg	6	3	300	12	33,5	with SKF Quick Connector
VPM-RV	M 10x1 keg	6 (L)	10	315	14	25	–
VPM-RV10	M 10x1 keg	10 (L)	10	315	17	26	–
VPM-RV4	M 10x1 keg	4 (LL)	10	100	12	23	–
VPM-RV8	M 10x1 keg	8 (L)	10	315	14	25	–

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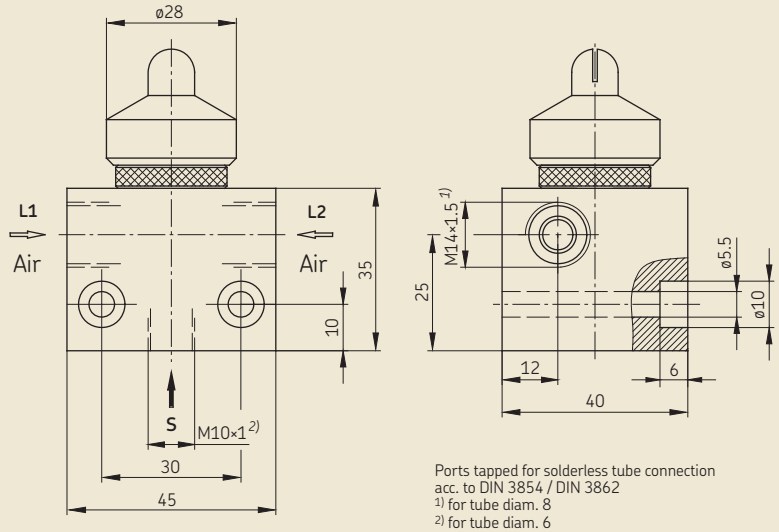
SKF

Spray nozzles for grease up to NLGI grade 2

SP31/SP32



Ports tapped for solderless tube connection acc. to DIN 3854 / DIN 3862
1) for tube diam. 8
2) for tube diam. 6

These spray nozzles are used to spray grease up to NLGI grade 2 on surfaces, e.g. on the tooth surface of large gears.

Function

The grease is supplied by pulsation via inlet S by, for instance, a progressive feeder and is blown out by compressed air flowing continuously during the entire lubrication period. Compressed air in connected to inlet L1, optionally to L2. Depending on the construction of the spray nozzle, the spray pattern is either rectangular (SP31) or circular (SP32).

Several spray nozzles may be connected in series to one compressed air line. At the last spray nozzle of one line, however, one inlet borehole for the compressed air must be closed with a screw plug. This also applies where there is only one spray nozzle.

Technical data

Order No.	**SP31**
Spray pattern	rectangular
Order No.	**SP32**
Spray pattern	circular
Lubricant	Grease up to NLGI-Grade. 2
Air pressure	5 bars min.
Air flow rate with 5 bars	7 Nm^3/h
Spraying distance	approx. 300 mm
Sprayed surface at a distance of 100 mm:	
SP31	approx. 50×220 mm
SP32	approx. ø45 mm

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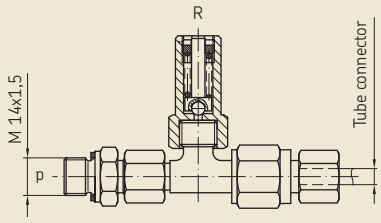
Pressure relief valve (PRV)

In order to prevent an excessive operating pressure in a lubrication system, a pivoted pressure relief valve should be attached. If the operating pressure exceeds the cracking pressure of the pressure relief valve, then the valve will open and the lubricant can escape. One can select among the following variants:

- PRV with T-fitting
- PRV with lubricating nipple
- PRV with switch
- PRV with lubricating nipple and SKF Quick Connector
- PRV with elbow fitting

PRV with T-fitting



PRV with lubricating nipple

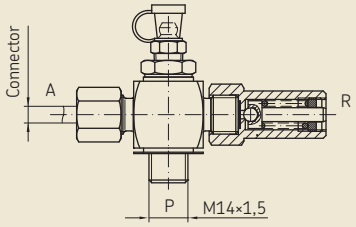
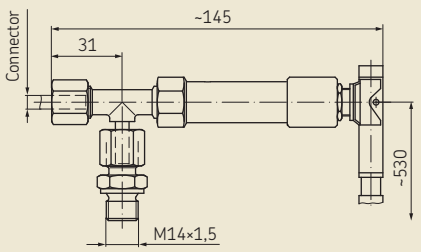


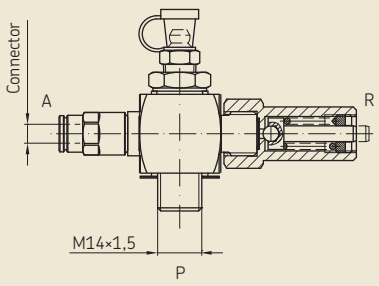
Table 10

Order number	Type	Opening pressure [bar]	Tube diameter [mm]
161-210-016	PRV with T-fitting	300	10
161-210-039	PRV with T-fitting	300	8
161-210-038	PRV with T-fitting	300	6
161-210-030	PRV with T-fitting	200	10
161-210-031	PRV with T-fitting	200	8
161-210-032	PRV with T-fitting	200	6
161-210-040	PRV with T-fitting	120	10
161-210-041	PRV with T-fitting	120	8
161-210-042	PRV with T-fitting	120	6
161-210-014	PRV with lubricating nipple	300	6
161-210-025	PRV with lubricating nipple	300	8
169-200-130	PRV with switch	250	6
161-210-020	PRV with lubricating nipple und SKF Quick Connector	300	6
161-210-022	PRV with lubricating nipple und SKF Quick Connector	300	8
161-210-006	PRV with elbow fitting	300	6
161-210-018	PRV with elbow fitting	300	8
161-210-035	PRV with elbow fitting	300	10
161-210-049	PRV with elbow fitting	200	6
161-210-050	PRV with elbow fitting	200	8
161-210-051	PRV with elbow fitting	200	10

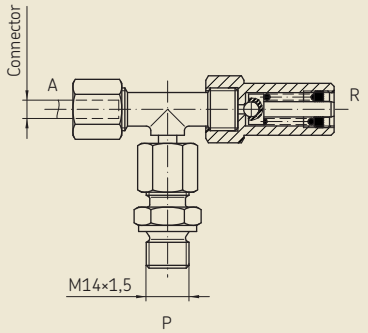
PRV with switch



PRV with lubricating nipple and SKF Quick Connector



PRV with elbow fitting



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Notes

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Important information on product usage
SKF and Lincoln lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

Additional brochures for further information:

1-0103-DE *Fittings and Accessories*
1-9201-DE *Transport of Lubricants in Centralized Lubrication Systems*

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