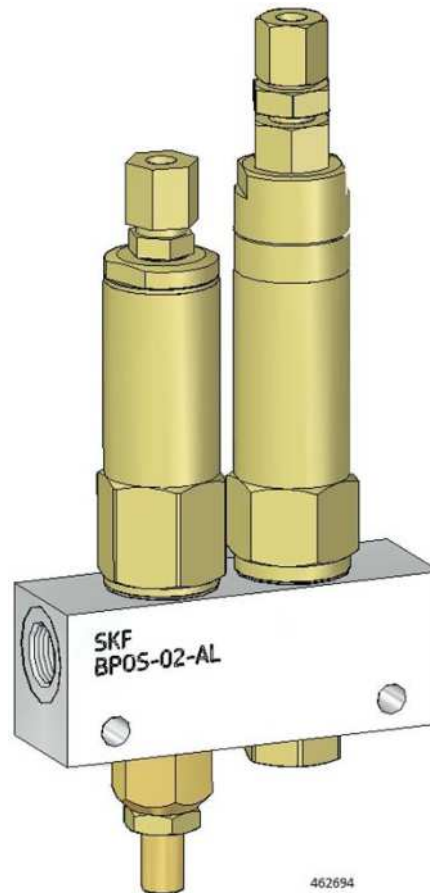


OS DOSER GROUP



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Read this manual before installing or commissioning the product and keep it at hand for later reference.



Read these operating instructions before installation and commissioning.

Only a professional is allowed to complete the installation and make electrical connections.
Failure to observe warnings or cautions - as well as non-compliance with the instructions - will result in loss of warranty claim or equipment liability.

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For more information about your local dealer, see SKF.com

Disclaimer

The manufacturer does not accept any liability for any damage caused by the following actions by the customer:

- Negligent or inappropriate use, assembly, operation, configuration, maintenance or repairs, or accidents;
- Improper or late response to malfunctions;
- Unauthorized modifications, negligence or wilful violation.
- The use of non-original (non-SKF) spare parts.

SKF's liability for damage resulting from the use of products is limited to the maximum purchase price. Liability for consequential damages of any kind is excluded.

1. Safety alerts, visual presentation, and layout

While reading these instructions, you will encounter various symbols, illustrations, and text layouts intended to help you navigate and understand the instructions.

Safety alerts:

Activities that present specific hazards (to life and limb or possible damage to property) are indicated with safety alerts. Always be sure to follow the instructions given in the safety alerts.

WARNING

These safety alerts indicate a direct and imminent danger. Ignoring them could result in death or serious injury.

WARNING

These safety alerts indicate a potential danger. Ignoring them could result in death or serious injury.

WARNING

These safety alerts indicate a potential danger. Ignoring them could result in minor injury.

CAUTION

These safety alerts indicate a potentially harmful situation. Ignoring them could result in damage to property or malfunctions.

NOTE

These notes indicate what should be taken into account in the various sections of the guide.

1. Safety instructions

1.1 Intended use

This product is only intended to be used as a component in a central lubrication system.

Use is only permitted within the scope of commercial or economic activity by professional users, in compliance with the specifications, technical data, and limits specified in this manual.

Unauthorized changes to the product are prohibited.

1.2 User's responsibilities

The product should only be used with awareness of the potential risks, in an appropriate technical condition and in accordance with the information in the operation instructions. It is the responsibility of the user to maintain and ensure the legibility of all safety/instruction signs.

These operation instructions must always be available to persons working with the product. Always read and follow the lubricant manufacturer's safety data sheet and recommendations for lubricant compatibility and the use of protective equipment. In addition to these instructions, the general statutory regulations on accident prevention and environmental protection must be observed.

1.3 Delivery/receipt

After receipt of the shipment, check the shipment for transport damage and completeness by comparing it to the shipping documents. Immediately report any damage suffered in transport to the forwarding agent. Keep the packaging material until any discrepancies are resolved.

WARNING

Always comply with the lifting and transport markings on the packaging to eliminate the risk of injury and damage.

1.4 Installation and operation

WARNING

Only start installing the product after you have read and fully understood the safety instructions and this manual.

Local safety regulations for installation, operation and maintenance must be observed.

- Keep unauthorized people away.
- Always use personal protective equipment. Appropriate personal protective equipment must be worn to prevent lubricants from splashing onto the skin or into the eyes.
- Always disconnect the power source (electrical, pneumatic, or hydraulic) from the product during installation or when not in use, and ensure that it cannot be accidentally switched on (lock and tag).
- Electrical work must be carried out only when the device is de-energized and using insulated tools suitable for electrical work.
- Only make connections according to the wiring diagrams.
- Only original SKF spare parts and SKF accessories may be used with the product.
- Check after installation, and before the first commissioning that all cables, connections and protective devices are properly secured.

1.5 Inspections, maintenance and cleaning

- Perform maintenance and inspections in accordance with the instructions provided in this manual. Note that maintenance intervals may be shorter in challenging applications.
- We recommend annual inspections by the nearest factory-authorized warranty and maintenance centre.

WARNING

When you clean electric devices, only use non-flammable detergents designed for electric components and take the device IP class into consideration.

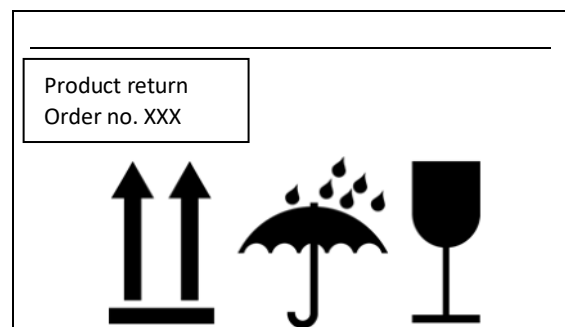
1.6 Damaged equipment

WARNING

Do not use a device that appears to be damaged, severely worn, or operating abnormally!
Disable the device and contact SKF or an authorized dealer.

1.7 Return consignments

Before returning the product, all dirty parts must be cleaned. However, if this is not feasible or practical, for example, because it would prevent the detection of the defect in connection with a complaint, the transport company must be notified of the chemical used. On return consignments, at least the following information must be marked on the packaging:



Marking of return consignments

1.8 Storage

SKF products are subject to the following storage conditions:

- Storage indoors in a dry, vibration-free environment with a low level of dust and ambient temperature of a room temperature.
- No corrosive, aggressive substances or factors permitted in the storage space (e.g. UV radiation, ozone)
- Keep the products in the original, unopened packaging before the first use.
- If temperature fluctuations or humidity in the storage space are significant, take the appropriate steps to prevent condensation.
- For long-term storage or in corrosive storage conditions, consider the use of anti-corrosion materials (VCP).

CAUTION

Inspect the products before use for any damage that may have occurred during storage. This applies especially to plastic components (as they may become brittle).

2. General description

The numbers in brackets are the position numbers for Figure 1.

A doser group consists of a mounting rail (pos. 1) and one or several dosers (pos. 2) fastened to it. The mounting rail distributes lubricant to the dosers, which, in turn, feed a prescribed amount of lubricant to each lubrication point.

3. Main components

The OS doser includes the dispenser body (pos. 2), the loading valve (pos. 3), the dosing chamber (pos. 4), the dosing plunger (pos. 5), the spring (pos. 6) and the adjusting screw (pos. 7). In addition, a separately ordered mounting rail is required for installing the doser (pos. 1).

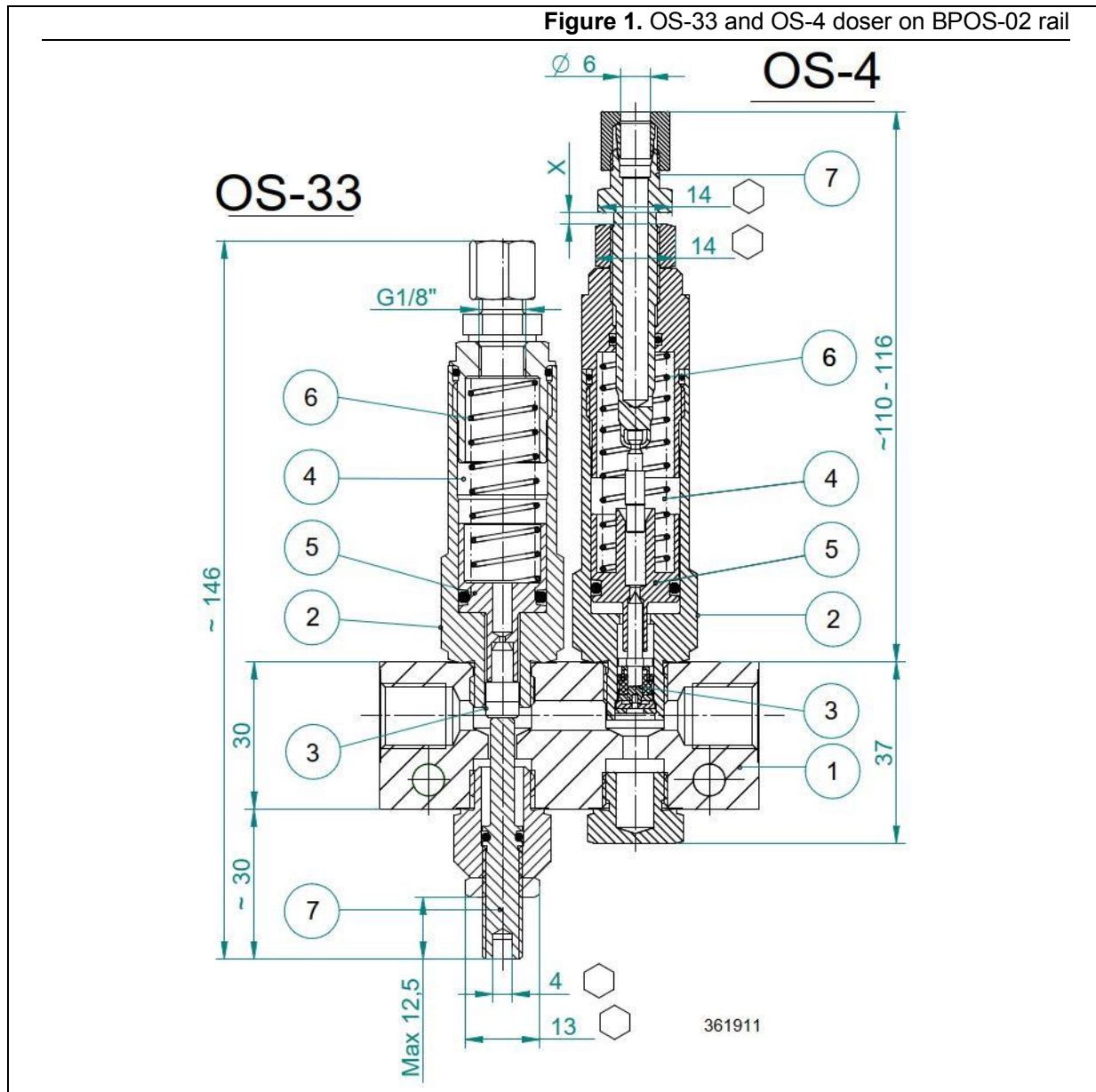


Figure 2. OS-3 and OS-4 doser on BPOS-02 rail

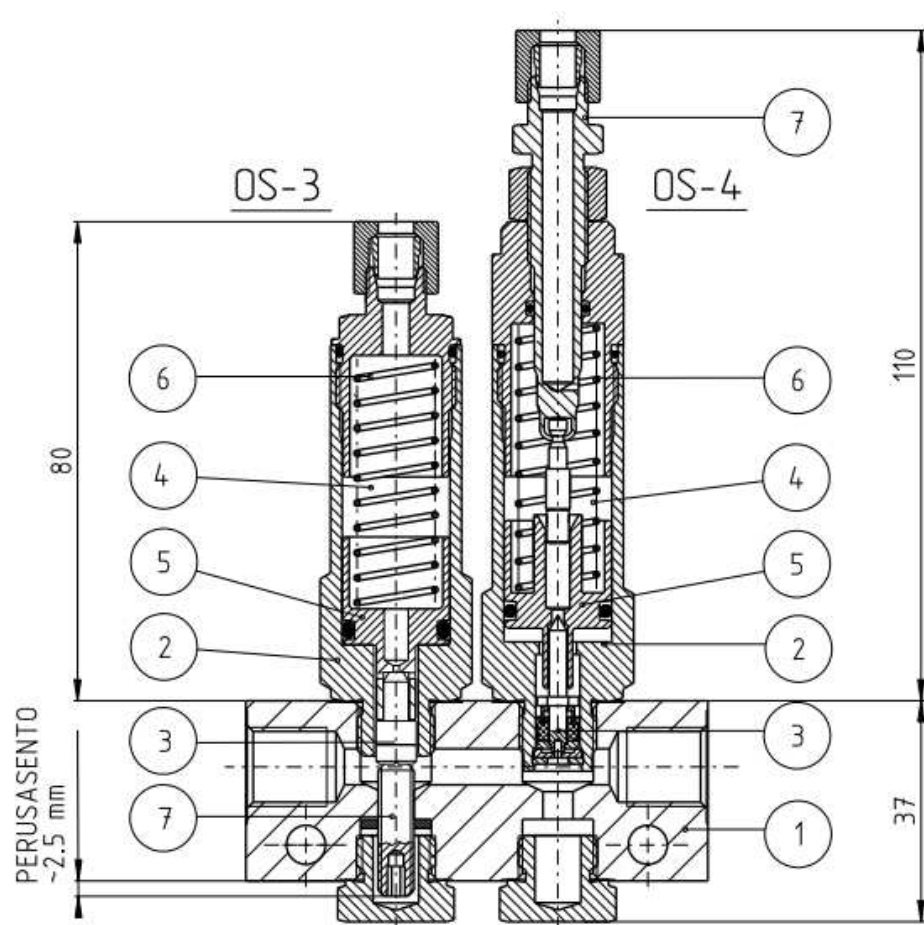
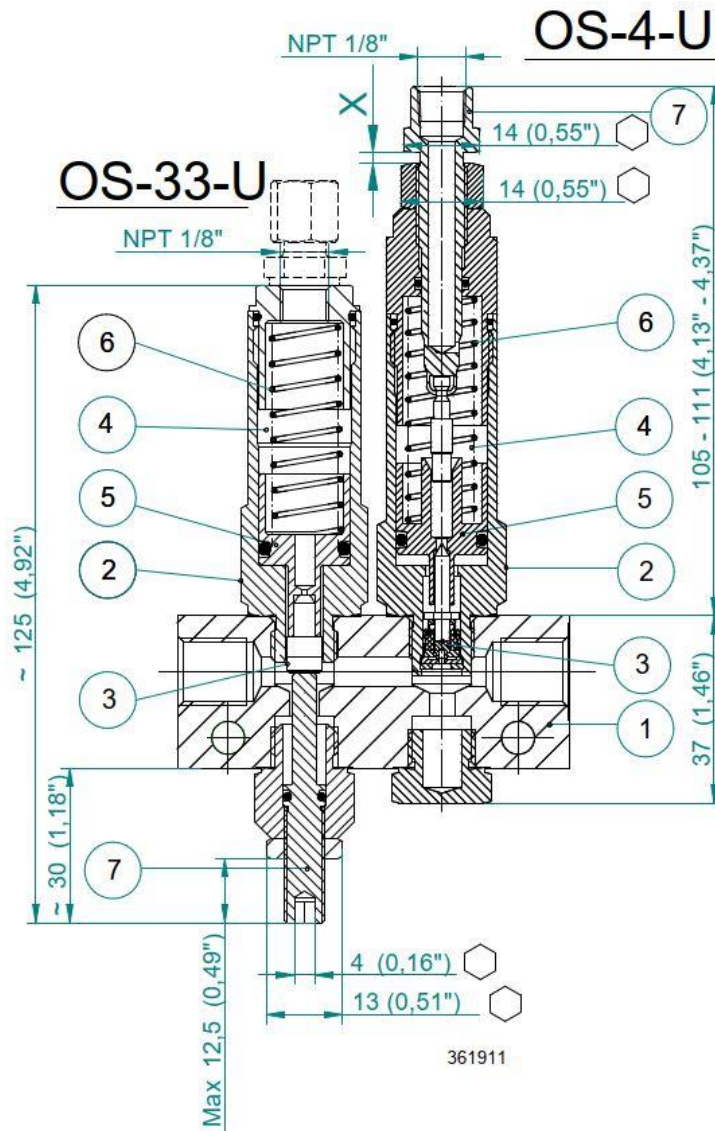


Figure 3. OS-33-U and OS-4-U doser on BPOS-02 rail



4. Operation

4.1 OS-3 and OS-33 dosers

During pressurisation, line pressure increases and the doser charging valve moves to its upper position. At the same time, lubricant flows past the charging valve and moves the dosing piston to its upper position. When the dosing piston moves to its upper position, it pushes the adjusted lubricant dosage from the dosing chamber to the lubrication point.

After pressing, the line pressure decreases and the spring returns the charging valve to the lower position and closes. At the same time, the lubricant flows above the dosing plunger into the dosing chamber.

4.2 OS-4 doser

During pressurisation, line pressure increases and the doser charging valve moves to its upper position. At the same time, lubricant flows past the charging valve and moves the dosing piston to its upper position. When the dosing piston moves to its upper position, it pushes a dose of lubricant from the dosing chamber to the lubrication point. Adjustable lubricant flow goes through the channel inside the doser to the lubrication point throughout pressurization.

After pressurisation, line pressure decreases and the charging valve moves to its lower position and closes. The spring returns the dosing piston to its lower position and, at the same time, lubricant flows above the dosing piston into the dosing chamber.

4.3 Unfastening and fastening OS dosers

The dosers are unfastened and fastened with a socket wrench OS-3-4(SKF code 12394400).

WARNING



When replacing dosers, make sure that there is no pressure in the system.

5. Adjustments

5.1 Adjustment of OS-3 and OS-33 dosers

1. Loosen the adjusting screw's clamp nut.
2. Ensure that the Allen screw (pos. 7) on the bottom of the doser is in the fully open position.
3. Adjust the dose by turning the adjusting screw to the desired dose as shown in Table 1.
4. Lock the adjusting screw with the clamp nut.

Table 1. OS-3 and OS-33 adjustment values

Set screw turns closed from max. position	0	1	2	3	4	5	6	7	8	9	10	11	12	12.5
Lubricant dose (~cm ³)	2.8	2.7	2.5	2.2	2	1.8	1.6	1.3	1.1	0.9	0,7	0.45	0.2	0

CAUTION



OS-3 and OS-33 dosers are delivered with factory-adjusted setting max. open ~2.8 cm³

5.2 Adjustment of OS-4 -doser

5. Screw off the tube connector at the doser's lubrication tube outlet.
6. Turn open the locking nut in the upper part of the doser.
7. Adjust the flow by turning the adjustment screw located above the locking nut (pos. 7).
8. Tighten the locking nut located on top of the doser.
9. Reattach the tube connector to the doser's lubrication tube outlet.
10. Check the adjustment by measuring the spacing X (see Figure 1).

Table 2. OS-4 doser's adjustment values at oil viscosity of 80 cSt (420 SUS), 20°C/68F)

Rotations of the adjusting screw from the basic position = spacing X mm	0	1	2	3	4	5	6
Oil flow (~cm ³ /min)	25	100	180	260	340	420	500

CAUTION



OS-4 dosers are delivered with a factory setting of ~500 cm³/min

6. Technical specifications

6.1 Technical data

Table 3. Technical specifications of OS-dosers

Quantity	Value	Unit	Description
t	-25...+120	°C	Operating temperature range
p	15 - 75	bar	Operating pressure
w x h x d	25 x 117 x 25 25 x 146 x 25 25 x 125 x 25 25 x 147 x 25	mm	OS-3 doser dimensions OS-33 doser dimensions OS-33-U doser dimensions OS-4 doser dimensions

6.2 Connections

Inlets, mounting rail

Lubricant (1 pc), header piping inlet, female thread G 1/4"

Outputs, dosers

OS-3: lubricant (1 pc), lubrication pipe outlet G 1/8"

OS-33-U: lubricant (1 pc), lubrication pipe output NPT 1/8"

OS-33: lubricant (1 pc), lubrication pipe output G 1/8"

OS-4: lubricant (1 pc), lubrication piping outlet, lubrication pipe Ø 6 mm

OS-4-U: lubricant (1 pc), lubrication pipe output NPT 1/8"

6.3 Legend

Table 4. Doser designation

OS-X-YY-ZZ	Abbreviation	Description
OS:	OS	Lubrication system type: SKF MonoFlex
X:	33	Doser size: size 3
	4	Doser size: size 4
YY:	ZN	Doser material: galvanised and yellow-passivated steel
	SS	Doser material: AISI316
ZZ:	06	Lubricant outlet, barbed tube fitting: Ø 6 mm
	U	Lubricant outlet, barbed tube fitting NPT 1/8"

Example:

OS-33-ZN-06

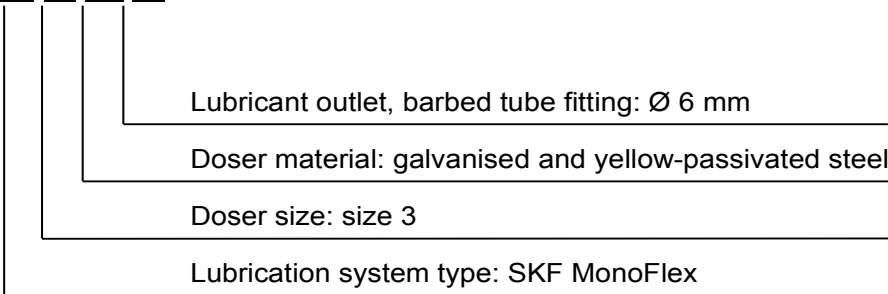


Table 5. OS doser codes

Doser type	Code
OS-33-SS-06	12394441
OS-33-ZN-06	12394440
OS-33-ZN-U	12394444
OS-4-ZN-06	12394550
OS-4-ZN-U	12394560

Table 6. Mounting rail designation

BPOS-XX-YY-U	Abbreviation	Description
BP:	BP	Mounting rail ("Base Plate")
OS:	OS	Lubrication system type: SKF MonoFlex
XX:	01	1-slot mounting rail
	02	Two-slot mounting rail
	03	Three-slot mounting rail
	04	Four-slot mounting rail
	05	Two-slot mounting rail
	06	Six-slot mounting rail
YY:	AL	Mounting rail material, anodized aluminium
	SS	Mounting rail material AISI316
U:	no symbol	Connections, G internal threads

Example:

BPOS-03-AL

	Mounting rail material, aluminium
	Mounting rail size: three doser slots
	Lubrication system type: SKF MonoFlex
	Mounting rail ("Base Plate")

Connections: internal G-threads

Dimensioning and types of mounting rails BPOS-XX-YY:

Figure 4. Mounting rail BPOS-XX-YY dimensioning

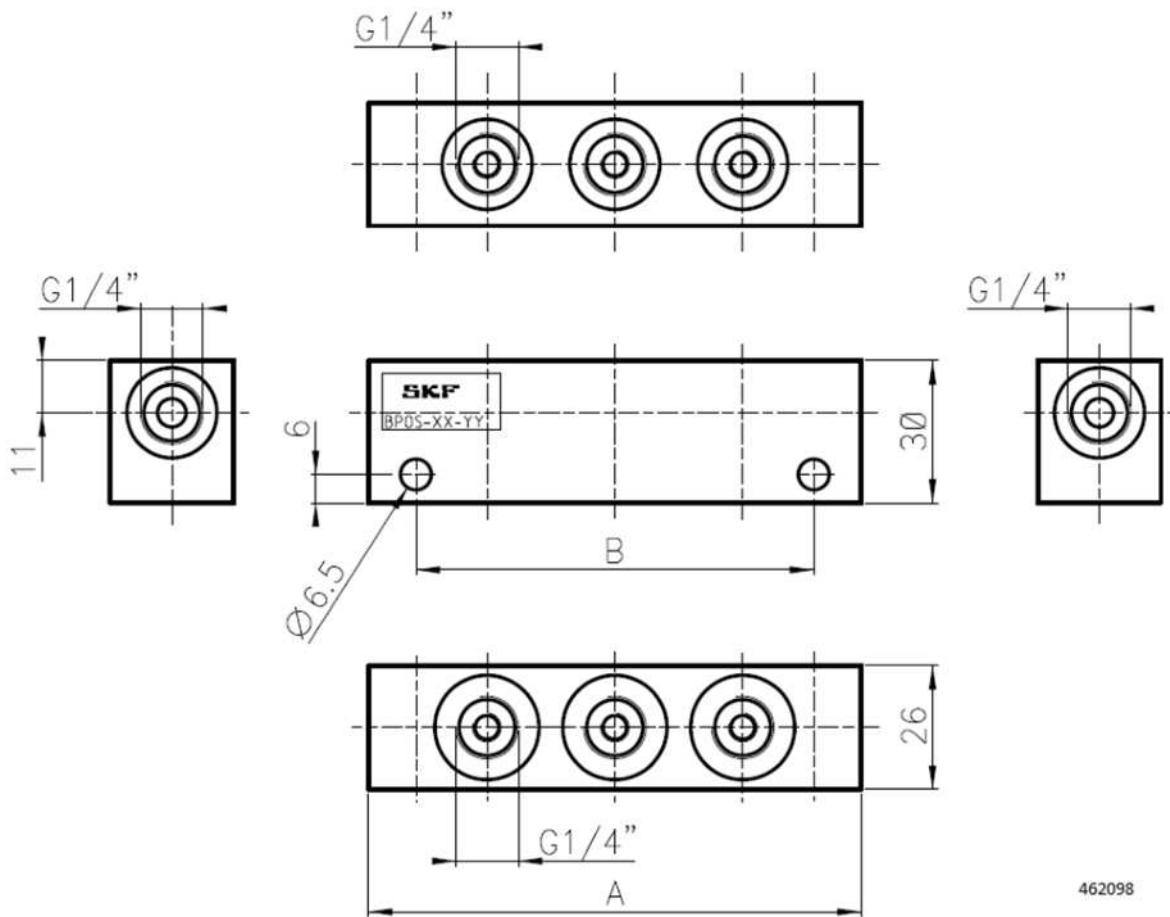
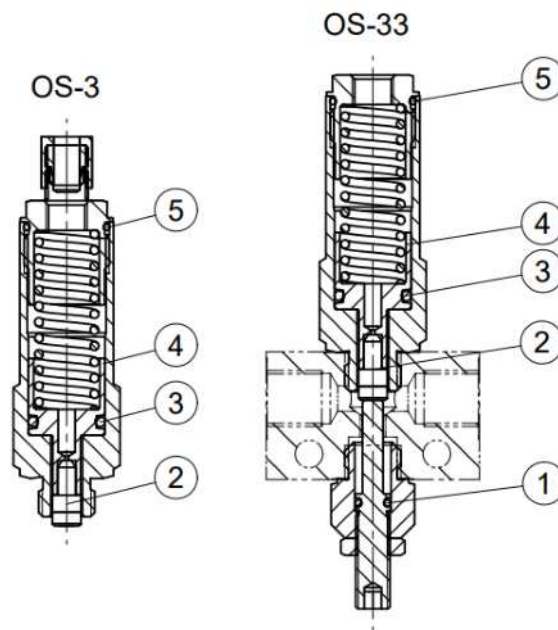


Table 7. BPOS-XX-YY mounting rail types

MODEL	A	B	CODE
BPOS-01-AL	50	30	12390350
BPOS-02-AL	77	57	12390400
BPOS-03-AL	104	84	12390450
BPOS-04-AL	131	111	12390500
BPOS-05-AL	158	138	12390550
BPOS-06-AL	185	165	12390600
BPOS-02-SS	77	57	12390610
BPOS-04-SS	131	111	12390615
BPOS-06-SS	185	165	12390620

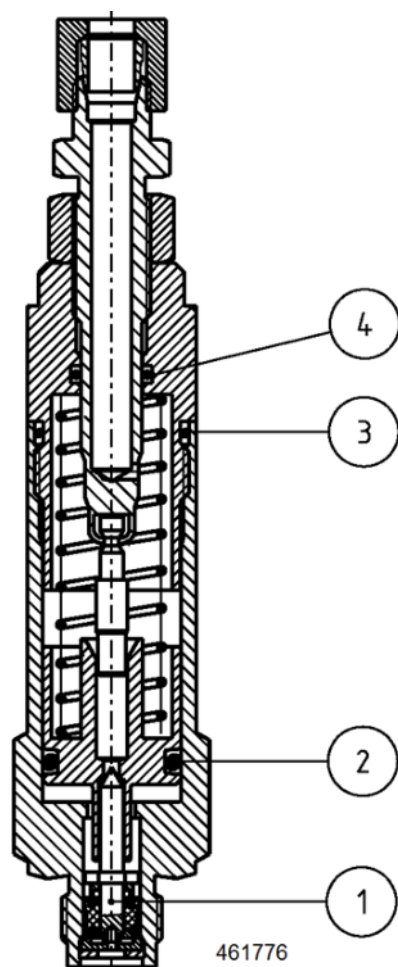
7. Spare parts

Figure 5. OS-3-KIT1 sealing kit, 12394580



ITEM	NAME	MATERIAL	CODE
5	O-RING 17.1 x 1.6	NBR 70	11680250
4	PISTON OS-3	MS 358	12403150
3	O-RING 13.3 X 2.4	NBR 70	11680400
2	PISTON B1-6 RUBBERIZED		11407950
1	O-RING 5.1 x 1.6	NBR 70	11680100

Figure 6. OS-4-KIT1 sealing kit, 12394590



ITEM	NAME	MATERIAL	CODE
4	O-RING 8.1 x 1.6	NBR 70	13680800
3	O-RING 17.1 x 1.6	NBR 70	11680250
2	O-RING 13.3 X 2.4	NBR 70	11680400
1	CHARGING VALVE OS-4		12394570

8. Appendices, China RoHS Table

部件名称 (Part Name)	有毒害物质或元素		(Hazardous substances)			
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
用钢和黄铜加工的零件 (Components made of machining steel and brass)	X	0	0	0	0	0
本表格依据SJ/T11364的规定编制 (This table is prepared in accordance with the provisions of SJ/T 11364.)						
0 :	表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。 (Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.)					
X :	表示该有毒有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572标准规定的限量要求。 (Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.)					