

By-pass valve

Flangeable on axial piston pump A17FO series 10

A-VALV-BY-PASS

08.91.11.00 - K

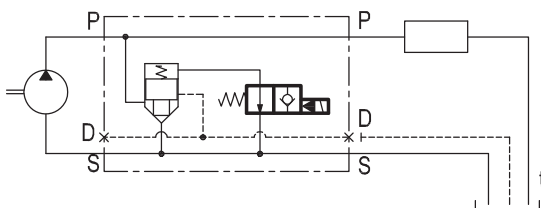
RE 18309-66

Edition: 01.2017



Description

This valve module includes a poppet type logic element piloted by a normally open solenoid valve. With solenoid valve de-energized, flow at port P is by-passed to S through the logic element, with minimized pressure drop. With solenoid valve energized, the logic element is forced to remain closed and flow at port P is available for the directional valve. Port D can be used to discharge a small amount of oil directly to tank for cooling. This by-pass valve is recommended for vehicles where the pump is installed on an engine power takeoff (PTO) that cannot be disengaged (e.g. in truck mounted cranes, tippers, hook loaders where the hydraulic equipment does not have to be operated during transit). During transit the by-pass has to be opened in order to minimize the energy loss. In this condition there is no load on the pump, therefore the pump can run at maximum speed without risk of being damaged. Additionally, the by-pass valve can offer redundancy for safety in combination with switchable PTOs. The valve is designed to be installed directly on the pump with banjo fittings.



Technical data

| Hydraulic | |
|---|---|
| Max. operating pressure port P | 350 bar (5000 psi) |
| Max. peak pressure | 400 bar (5800 psi) |
| Max. operating pressure port S | 2 bar (29 psi) |
| Min. pressure in port P | 10 bar (145 psi) |
| Max. flow | see "Dimensions" |
| Weight | see "Dimensions" |
| Manifold material | Zinc plated steel |
| Fluid | Mineral oil (HL, HLP) according DIN 51524 |
| Ambient temperature range | -30 to 90 °C (-22 to 194 °F) |
| Fluid temperature range | -20 to 80 °C (-4 to 176 °F) |
| Viscosity range | 20 to 380 mm ² /s (cSt) |
| Recommended degree of fluid contamination | Class 19/17/14 according to ISO 4406 |
| FKM seals | |
| Other technical data | see data sheet 18350-50 |
| Spare parts | |
| Flange seal kit pump size 63 | E00000000000061 (R930062963) |
| pump size 80 / 107 | E00000000000062 (R930062964) |
| Seals kit coil | RG01Z0010000100 (R930058940) |
| Seals kit solenoid cartridge | RG08A20105201V0 (R930060565) |
| Solenoid cartridge | OD150618AV00000 (R930060900) |
| Electrical | |
| Type of voltage | DC voltage |
| Coil type | D36 see data sheet 18325-90 |
| Supply voltage | See data sheet 18325-90 |
| Power consumption | 20 W |
| Type of protection | See data sheet 18325-90 |
| Coils must be ordered separately | |

Note: for applications outside these parameters, please consult us.

Ordering code

| | |
|--------------------|----------|
| 08.91.11.00 | K |
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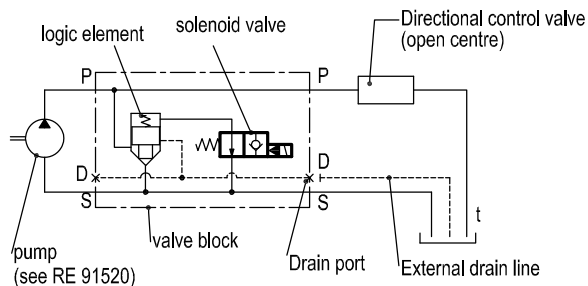
| | PUMP SIZE |
|-------------|-----------|
| 0402 | 63 |
| 0501 | 80 |
| 0502 | 107 |

Preferred types

| Type | Material number |
|-----------------|-----------------|
| 089111000402000 | R930062926 |
| 089111000501000 | R930062927 |

| Type | Material number |
|-----------------|-----------------|
| 089111000502000 | R930062928 |

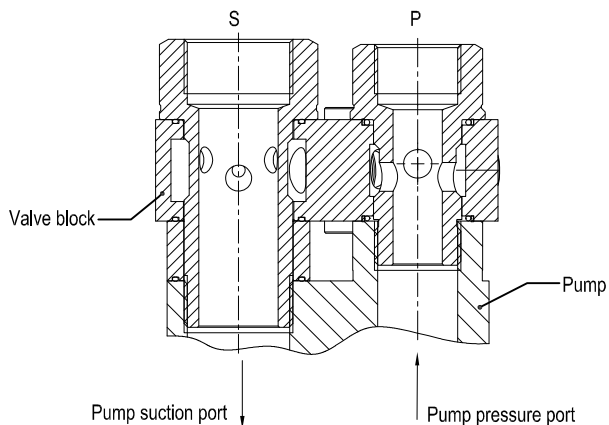
Installation information



It is important to ensure a flow of 5 l/min going to the tank (ref. "t" in the scheme) in order to avoid heat increase in the pump during truck movement. This applies to an open center main directional block when the valve is in by-pass mode (non-energized solenoid).
 Instead if the flow "t" towards the tank is less than 5 l/min (due to a high pressure drop in the main directional block) or if the main directional block is a "closed center" type, with the valve in by-pass mode, we recommend to install always an external drain line from port "D" directly to tank (see the schematic).

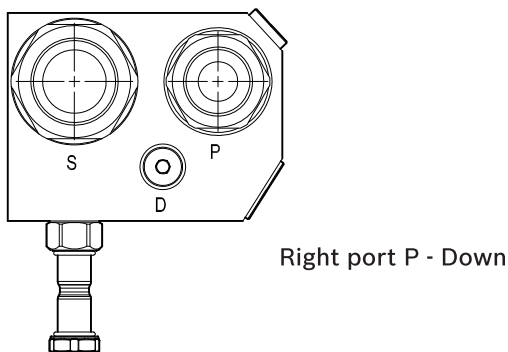
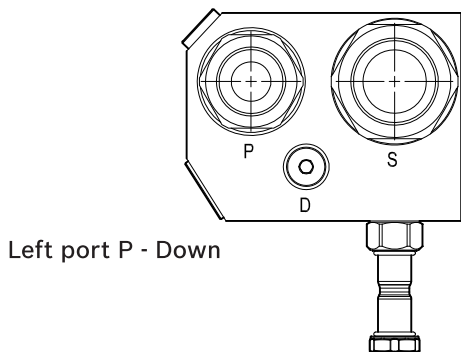
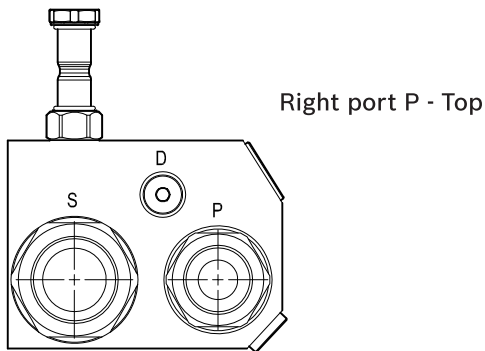
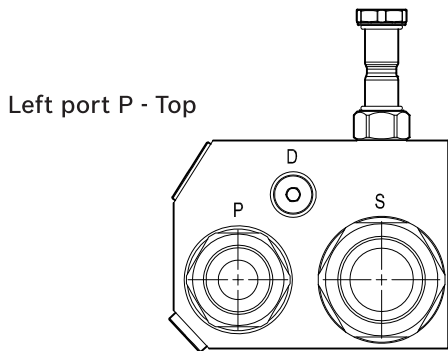
IMPORTANT!

Always tighten the pressure connector P before tightening the pressure connector S.

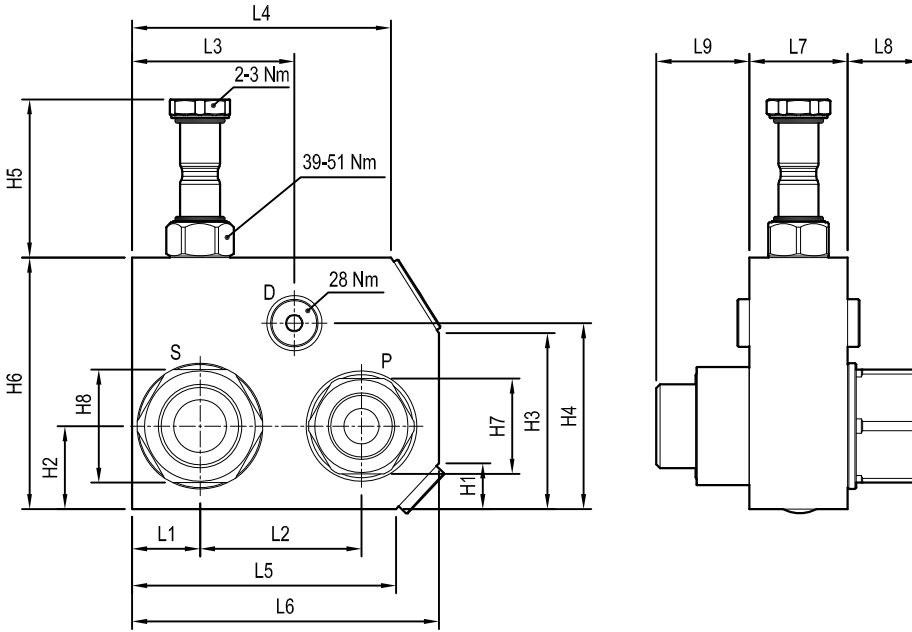


| Installation torque [Nm] | | |
|--------------------------|--------|--------|
| Pump size | port P | port S |
| 63 | 110 | 140 |
| 80 | 220 | 220 |
| 107 | 220 | 220 |

The valve allows 4 positions in mounting positions. This depends on the direction of pump rotation: two for clockwise and two for counter-clockwise.

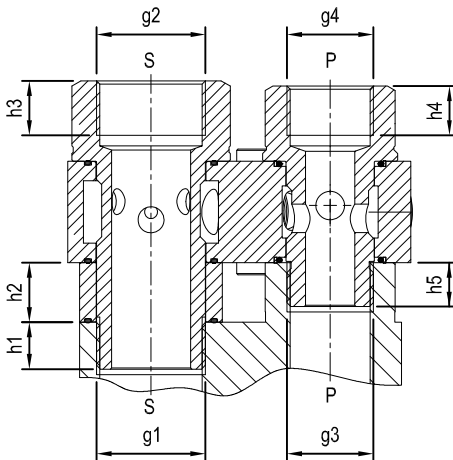


Dimensions



Dimensions [mm (inches)]

| | | | | | | | | | | | | | | | | | | |
|--------------|--------------|---------------|--------------|--------------|--------------|-------------|----------------|--------------|--------------|--------------|---------------|-----------------|-----------------|----------------|----------------|--------------|--------------------|--------------|
| 55 (2.17) | 45 (1.77) | 100 (3.94) | 63 (2.48) | 74 (2.91) | 70 (2.76) | 33 (1.3) | 17.7 (0.69) | 41 (1.61) | 31 (1.22) | 39 (1.54) | 137 (5.39) | 120.5 (4.74) | 117.5 (4.63) | 79.5 (3.13) | 77 (3.03) | 32 (1.26) | 4.3 (9.5) | 107 |
| 55 (2.17) | 45 (1.77) | 100 (3.94) | 63 (2.48) | 74 (2.91) | 70 (2.76) | 33 (1.3) | 18.2 (0.72) | 41 (1.61) | 31 (1.22) | 39 (1.54) | 132 (5.2) | 115 (4.53) | 113 (4.45) | 74.5 (2.93) | 69 (2.72) | 32 (1.26) | 4.2 (9.3) | 80 |
| 45 (1.77) | 38 (1.5) | 100 (3.94) | 63 (2.48) | 74 (2.91) | 70 (2.76) | 33 (1.3) | 18.2 (0.72) | 37 (1.46) | 29 (1.14) | 39 (1.54) | 122 (4.8) | 105 (4.13) | 103 (4.06) | 64.5 (2.54) | 64.2 (2.53) | 27 (1.06) | 4 (8.8) | 63 |
| H8 | H7 | H6 | H5 | H4 | H3 | H2 | H1 | L9 | L8 | L7 | L6 | L5 | L4 | L3 | L2 | L1 | Weight kg (lbs) | Pump size |



| | | | | | | | | | | |
|--------------|--------------|--------------|--------------|--------------|-------|-------|---------|---------|---------------------------|------------|
| 17 (0.67) | 19 (0.75) | 21 (0.83) | 23 (0.91) | 18 (0.71) | G 1 | G 1 | G 1-1/4 | G 1-1/4 | 250 (66) | 107 |
| 17 (0.67) | 19 (0.75) | 21 (0.83) | 23 (0.91) | 18 (0.71) | G 1 | G 1 | G 1-1/4 | G 1-1/4 | 250 (66) | 80 |
| 15 (0.59) | 17 (0.67) | 19 (0.75) | 21 (0.83) | 16 (0.63) | G 3/4 | G 3/4 | G 1 | G 1 | 140 (37) | 63 |
| h5 | h4 | h3 | h2 | h1 | g4 | g3 | g2 | g1 | Max. Flow l/min. (gpm) | Pump size |

Note: for dimension without tolerance consider +/- 0.5 mm

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