

Pilot-Operated Check Valve

without/with pre-release, manifold-mounting type, max. operating pressure 500 bar



General information

Pilot-operated check valves are spring-loaded poppet valves with free flow from B to A and blocked flow in the opposite direction that can be "unblocked" by pressurising the control port Z.

The minimum pressure required for unblocking depends on the height of the counter pressure at port A (see diagram).

In the version with pre-release first a smaller poppet valve located in the main valve piston is opened. This offers the following advantages:

- 1. The control pressure required for opening is considerably lower, and thereby the use of swing clamps with unfavourable surface ratios is possible.
- 2. Pressure reduction is effected relatively softly. That saves all hydraulics components and the noise level sinks.

Application

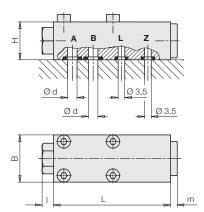
Blocking of leakage-free cylinders combined with non leakage-free directional control valves and pressure maintenance on uncoupled parts of the installation (clamping pallets).

Using the manifold-mounting type, connections without pipes can be realised on the fixture body (see application example).

Important notes!

In the case of swing clamps and pull-type cylinders, a dangerous pressure intensification can occur during unclamping, if the release pressure is not sufficient for opening. Therefore check valves with pre-release must be used, that require a substantially lower opening pressure.

The leakage port for the relief of the piston area is imperative for a safe functioning. It has to be protected against liquids and contamination.



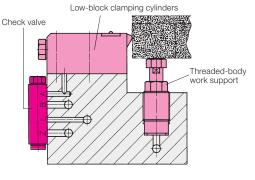
Technical data

Max. operating pressure A,B,Z [bar] 500 500 L without pressure to oil reservoir Control flow [cm³] 0.2 0.5 Control pressure pz (p _B =0 bar) without pre-release [bar] 0.318xp_A+4 0.222xp_A+4 with pre-release [bar] 0.318xp_A+4 0.222xp_A+4 4 fixing screws M4x25 M6x45 Seating torque [N/m] 2.6 9 L [mm] 62 70 B [mm] 25 355 H [mm] 20 35 a [mm] 26 26 c [mm] 18 25 Ød [mm] 18 25 Ød [mm] 13 31 f [mm] 10 13 g [mm] 36 42 i [mm] 30 56 without pre-release [wim] 3.5 4 Weight [kg] 0.3 0.7 Part no. 2951416 2951419 2	recrimcal uata			
A,B,Z [bar] 500 500 L without pressure to oil reservoir Control flow [cm³] 0.2 0.5 Control pressure pz (p_B=0 bar) without pre-release [bar] 0.318xp_A+4 0.222xp_A+4 with pre-release [bar] 0.318xp_A+4 0.222xp_A+4 4 fixing screws M4x25 M6x45 Seating torque [N/m] 2.6 9 L [mm] 62 70 B [mm] 2.6 9 L [mm] 62 70 B [mm] 2.6 9 L [mm] 2.6 9 L [mm] 2.6 9 L [mm] 2.5 35 a [mm] 1.8 2.5 Ød [mm] 1.8 2.5 Ød [mm] 1.8 2.5 I [mm] 1.0 1.3 g [mm] 1.6 40 i [mm] 3.5 4 Veight	Max. flow rate	[l/min]	20	50
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A,B 9.19x2.62 3000022 Port L,Z 4.47x1.78 3000968 3000968 Fixing screws **) 3300580 3300229 M4x25 3300229 3300229 3300229				
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M6x40 3300229				
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				3300229

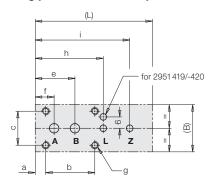
*) Pay attention to important notes!

**) Are included in our delivery.

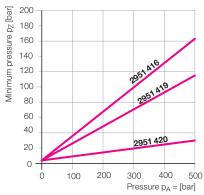
Application example



Drilling pattern of the base plate

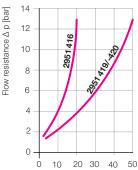


Minimum pressure p_{Z} for unblocking at pressure p_{A} ($p_{B} = 0$ bar)



Δ p-Q characteristic curves

for kinematic viscosity of 60 mm²/s



Flow rate Q [I/min]

