

Check valve

Spring loaded check

$Q_{\max} = 120 \text{ l/min}$, $p_{\max} = 350 \text{ bar}$

ball type

Type series: RKVE-G-10-__-VD



- Screw-in cartridge valve
- Exceptionally high Q_{\max} with extremely low Δp
- No soft seal, thus not depending on temperature and pressure fluid
- Virtually leak-proof in closed condition
- Compact, customary cavity type

Description

The spherical poppet-type check valve of the RKVE-VD series is characterized by very high pressure load capacity and extremely low Δp . Compared with the RKVE, the permissible flow rate for the RKVE...-VD valve series has been increased by 50% for the same pressure differential. Therefore, it is possible to use a smaller valve in many cases, which in turn has a positive effect on costs and installation space. The valve has a cutting edge for metal-to-metal sealing. By eliminating the soft seal, the valve can be applied without regard to temperature and pressure fluid. The spring-loaded

spherical poppet-type check valve is very robust, extremely leak-proof and insensitive to contamination. Valve seat, poppet and body are hardened. The properties of the sealing faces have been enhanced by precision mechanical processing. The hydraulic volume flow is blocked in the screw-in direction (B to A) and is released in the opposite direction. The valve is available in nominal sizes 04, 06, 08, 10 and 16 and with soft seal also available in nominal sizes 25, 32 and 40.

Symbol



Technical Data

General Characteristics	Description, value, unit
Function group	Check valve
Function	Spring loaded check
Design	Screw-in cartridge valve
Characteristic	ball type
Construction size	nominal size 10
Thread size	G 1/2"
Mounting attitude	unrestricted
Weight	0.025 kg
Tightening torque steel	50 Nm

Hydraulic Characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	120 l/min
Nominal flow rate	80 l/min
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	- 30 °C
Maximum fluid temperature	+ 120 °C
Viscosity range	10 ... 500 mm ² /s (cSt)
Minimum fluid cleanliness (cleanliness class according to ISO 4406:1999)	class 20/18/15
Opening pressure	0.2 / 0.5 / 1.0 bar

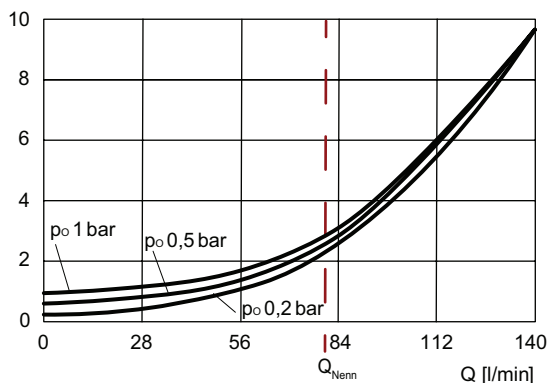
i NOTE!
For other values please contact Bucher Hydraulics.

Performance graphs

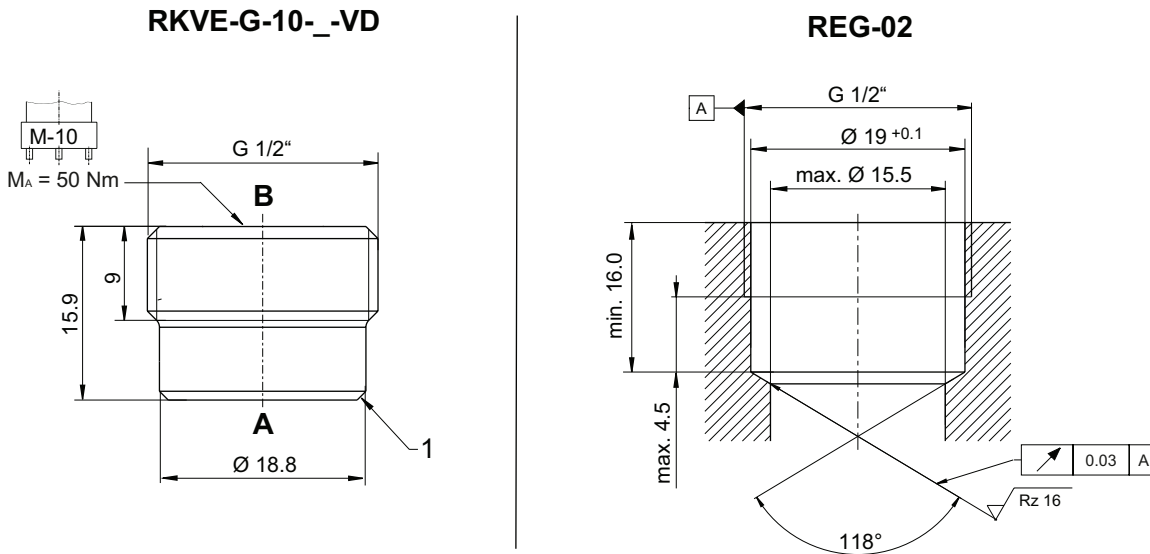
measured with oil viscosity 33.0 mm²/s (cSt)

$\Delta p = f(Q)$ Pressure drop-flow rate characteristic

Δp [bar]



Dimensions and sectional view



RKVE-G-10-_-VD = check valve / screw-in cartridge valve
REG-02 = dimension of the cavity for screw-in cartridge RKVE-G-10-_-VD
1 = sealing edge for metal-to-metal sealing
 The dimensions specified apply to the mounted state.

Installation information

NOTE!
 When fitting the screw-in cartridge valve, use the specified tightening torque. The value can be found in the chapter technical data. Orifices or nozzles are to be placed after the check valve. If this is not possible, a right-angled bore must be designated between the check valve and the nozzle. (see data sheet 170-P-059000). Suitable fitting tools are available at Bucher Hydraulics (see data sheet 170-P-051600).

ATTENTION!
 When fitting the valve, make sure that it is firmly seated on the sealing surface and that it is not deformed by the use of excessive force.

Application Notes

NOTE!
 The maximum operating pressure must not be exceeded even when pressure peaks occur. In applications such as accumulator circuits, where sudden pressure can be applied to the valve in the free-flow direction, ensure that the specified flow ratings are not exceeded. Buyers bear the sole responsibility for ensuring that the valve is suitable for their applications and must be substantiated by trials or testing, if necessary.

ATTENTION!
 The valves are only suitable for pressure relief in the opening direction to a limited extent. (if necessary, please consult Bucher Hydraulics).

Ordering code

RKVE - G - 10 - 02 - VD

- RKVE = check valve, screw-in type, spherical poppet,
- G = whitworth pipe thread G1/2"
- 10 = nominal size 10, Q_{Nominal} 80 l/min
- 02 = opening pressure 0,2 bar (Item no.: 170648360)
- 05 = opening pressure 0,5 bar (Item no.: 170648361)
- 1 = opening pressure 1,0 bar (Item no.: 170648362)
- VD Δp optimized version for pressure up to 350 bar

Related data sheets

Reference	Description
170-P-051600	Mounting tool for series RKVE... and RV...
170-P-059000	Using nozzles or orifices before a Check Valve