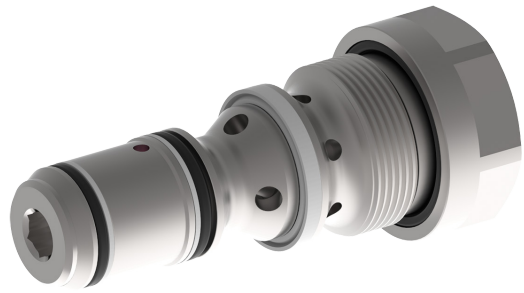
Check valve
Pilot operated check

Q_{max} = 120 l/min, p_{max} = 350 bar
pilot operated, poppet type, hydraulical operation
Type series: REPYB-10-...

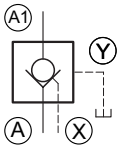


- Screw-in cartridge valve
- For cavity RCY
- All external parts with zinc-nickel coating according to DIN EN ISO 19598
- Installation in threaded port body type GCRA
- High flow rates
- Seated pilot stage
- Seat tight shut-off
- With external pilot-drain port

Description

The pilot-operated check valves, series REPY..., are size 10, two stage, screw-in valves with an M32×1,5 mounting thread. The poppet seat design ensures that the valves are leak-tight from A1 to A. The check function can be overridden by applying a suitable pilot pressure at port X. In the flow direction A to A1, flow can pass freely through the screw-in valve (opening pressure >2 bar). The leakage-oil from the pilot piston is drained via port Y. This type series is used where the pressure in the A line can be more than 20 % of the pressure in X while the valve is piloted open (oil flow A1 to A). If this situation will not arise, series REP... cartridge check valves with internal leakage-oil drain can be used. All external parts of the screw-in valve are zinc-nickel plated, and are thus suitable for use in the harshest operating environments. These valves are mainly used in mobile and industrial applications as pilot valves for controlling the travel direction of actuators such as hydraulic motors and cylinders. For self-assembly, please refer to the section related data sheets.

Symbol



Technical data

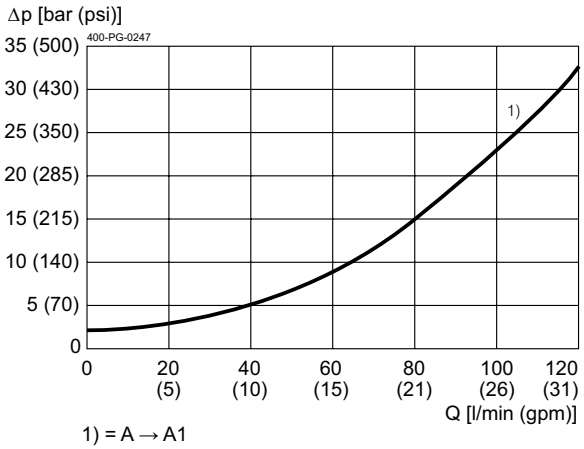
General Characteristics	Description, value, unit
Function group	Check valve
Function	Pilot operated check
Design	Screw-in cartridge valve
Controls	hydraulical operation
Characteristic	pilot operated, poppet type
Construction size	nominal size 10
Thread size	M32×1,5
Mounting attitude	unrestricted
Weight	0.40 kg
Cavity acc. factory standard	For cavity RCY
Tightening torque steel	200 Nm
Tightening torque aluminium	200 Nm
Tightening torque tolerance	± 10 %
Minimum ambient temperature	- 25 °C
Maximum ambient temperature	+ 80 °C
Surface protection	All external parts with zinc-nickel coating according to DIN EN ISO 19598
Available seal types	several seal types available, see ordering code
Seal kit order number	NBR: DS-301-N / FKM: DS-301-V

Hydraulic Characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	120 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	- 25 °C
Maximum fluid temperature	+ 80 °C
Viscosity range	10 ... 650 mm^2/s (cSt)
Recommended viscosity range	15 ... 250 mm^2/s (cSt)
Minimum fluid cleanliness (cleanlineless class according to ISO 4406:1999)	class 20/18/15
Geometric Differential Area Ratio	1:8.8
Opening pressure	A to A1: > 2 bar
Pilot pressure	see table at chapter "dimensions and sectional view"

Performance graphs

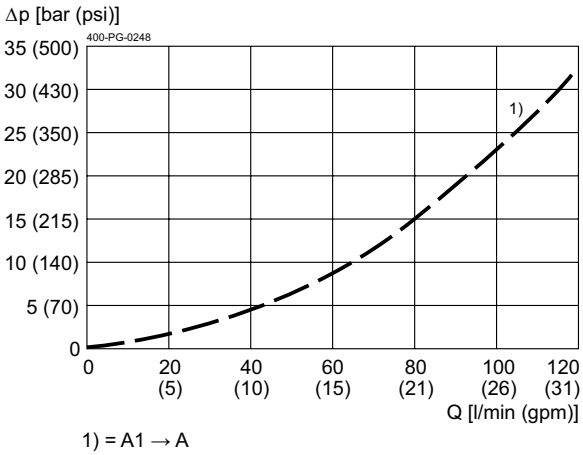
measured with oil viscosity 33.0 mm²/s (cSt)

Δp = f (Q) Pressure drop-flow rate characteristic



1) = A → A1

Δp = f (Q) Pressure drop-flow rate characteristic

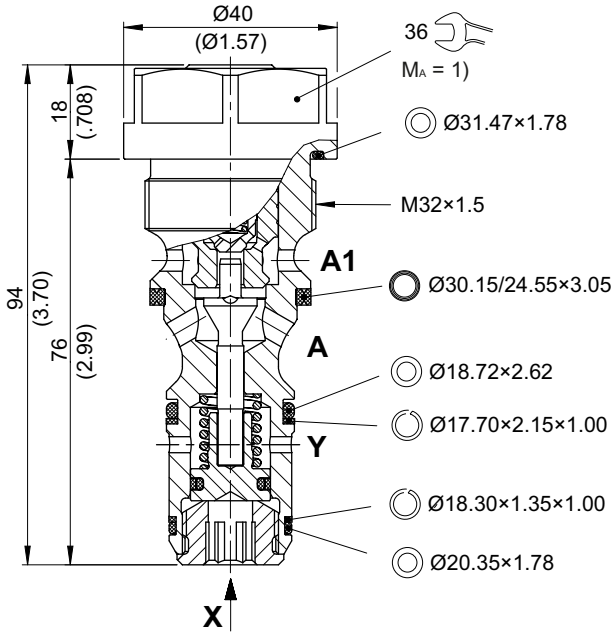


1) = A1 → A

Dimensions and sectional view

Beispiel für die Masseinheit:
Example for the dimensional units:

0.79 = 0.79 mm millimeter
(.031) = 0.031" inch



Pilot pressure at X port 1) [*reference values*]

p A1 [bar (psi)]	pX [bar (psi)] @ Q = 40 l/min (10 gpm)	pX [bar (psi)] @ Q = 80 l/min (21 gpm)	pX [bar (psi)] @ Q = 120 l/min (31 gpm)
300 (4300)	26 (370)	26 (370)	26 (370)
200 (2900)	20 (285)	20 (285)	20 (285)
100 (1400)	14 (200)	14 (200)	14 (200)
50 (700)	11 (160)	11 (160)	11 (160)

1) The pilot pressure needed at the X port depends on the flow and pressure from A1→ A

Installation information

NOTE!
1) When fitting the screw-in cartridge valve, use the specified tightening torque. The value can be found in the chapter "Technical data".

ATTENTION!
Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

NOTE!
The seals are not available individually. The seal kit order number can be found in the chapter "Technical data".

Ordering code

R	=	check valve
E	=	pilot operated
P	=	cartridge design
Y	=	with external drain port
A ... Q	=	standard model according to valid data sheet *(standard)*
Z ... R	=	special model after consultation
10	=	nominal size 10
(blank)	=	NBR (nitril-butadien-rubber / BUNA) seals *(standard)*
V	=	FKM (fluorocarbon rubber / VITON) seals *(special seals - please consult BUCHER)*
1 ... 9	=	technical design no. (omit when ordering)

Related data sheets

Reference	Description
400-P-040011	Form tools
400-P-060161	Cavity RCY
400-P-740211	Threaded port body GCRA

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