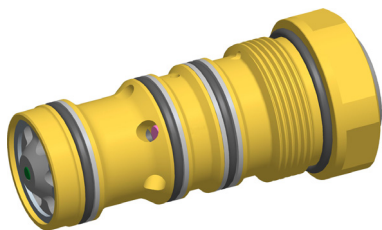


Cartridge Check Valve, Size 16

$Q_{\max} = 300 \text{ l/min}$, $p_{\max} = 350 \text{ bar}$

Pilot operated, two-stage

Series REPNB..., REPYB...



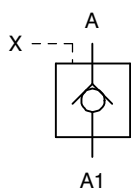
- Seated pilot stage
- Internal- or external-drain can be chosen
- Zero-leakage shut-off in one direction
- High flow rates
- All exposed parts with zinc-nickel plating
- Can be fitted in a line-mounting body

1 Description

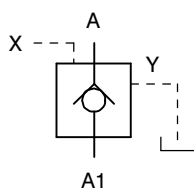
These pilot-operated check valves are size 16, two stage, high performance screw-in cartridges with an M42 x 2 mounting thread. The conical-seat design ensures that the cartridges are leak-tight from A1 → A. The check function can be overridden by applying a suitable pilot pressure at port X. In the A → A1 direction, flow can pass freely through the valve (opening pressure in A > 2 bar). Two different models are available, in which the leakage oil from the pilot piston is drained either externally (REPYB-16...) or internally (REPNB-16...). The "Y" model is used where the pressure in the A line can exceed 20 % of the pressure at X while the valve is piloted open (oil flow A1 → A). The "N" model can be used where the pressure in the A-line is a maximum

of 20 % of the pilot pressure in X, because the A-line pressure acts on the rear side of the pilot piston, opposing the pilot pressure X acting on the front side. These screw-in cartridges are predominantly used in certain mobile and industrial applications to maintain the position of loaded actuators (e.g. cylinders or motors) after the pump pressure has been disconnected. All external parts of the cartridge are zinc-nickel plated to DIN 50 979 and are thus suitable for use in the harshest operating environments. If you intend to manufacture your own cavities or are designing a line-mounting installation, please refer to the section "Related data sheets".

2 Symbol



REPNB-16...



REPYB-16...

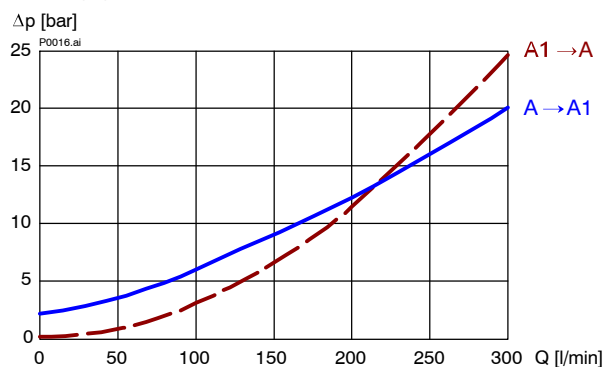
3 Technical data

General characteristics	Description, value, unit
Designation	cartridge check valve
Design	pilot operated, two-stage
Mounting method	screw-in cartridge M42 x 2
Tightening torque	400 ± 20 Nm
Size	size 16, cavity type EC or ECY (with Y port)
Weight	0.77 kg
Mounting attitude	unrestricted
Ambient temperature range	-25 °C ... +80 °C

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	300 l/min
Flow direction	shut-off direction A1 → A leak-free, A → A1 check-valve function (opening pressure in A > 2 bar)
Pilot pressure at the X port	see table – performance graphs ¹⁾ (permissible ...350 bar)
Opening pressure	> 2 bar (A → A1)
Geometric opening ratio	1 : 16
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-25 °C ... +80 °C
Viscosity range	10...650 mm ² /s (cSt), recommended 15...250 mm ² /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15

4 Performance graphs [measured with oil viscosity 33 mm²/s (cSt)]

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

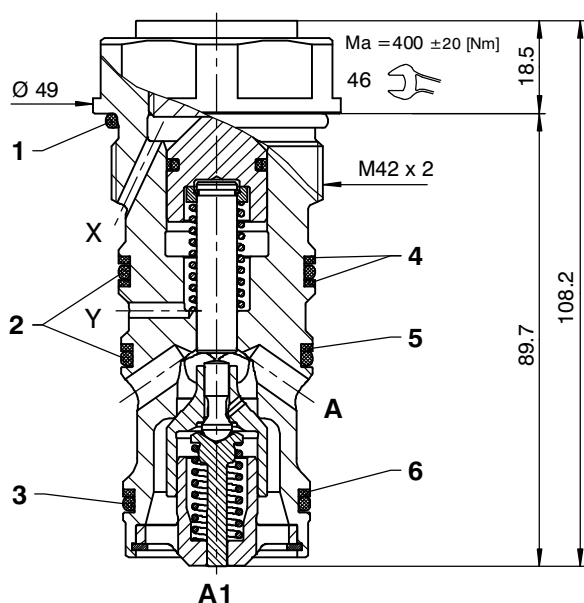


Pilot pressure at X port ¹⁾ [reference values]

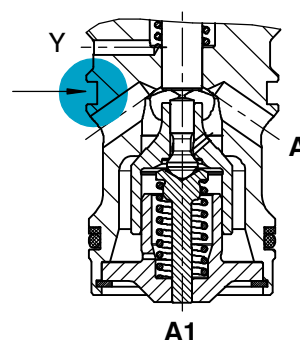
p A1 [bar]	Q [l/min]	p X [bar]	
		REPYB...	REPNB...
300	100 / 150 / 200	45 / 48 / 51	50 / 60 / 72
200	100 / 150 / 200	31 / 33 / 35	35 / 45 / 52
100	100 / 150 / 200	16 / 18 / 20	18 / 24 / 36
50	100 / 150 / 200	6 / 7 / 8	14 / 22 / 28

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

5 Dimensions & sectional view



Model with internal drain (REPNB-16...)



IMPORTANT!

For applications in which the cartridge check valve's leakage oil is to be internally drained, the O-ring and backup ring at the marked position must be removed.

6 Installation information



IMPORTANT!

When fitting the cartridges, use the specified tightening torque. No adjustments are necessary, since the cartridges are set in the factory.



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.

Seal kit no. DS-361-N

Item	Qty.	Description
1	1	O-ring no. 129 \varnothing 39,34 x 2,62 N90
2	2	O-ring no. 125 \varnothing 32,99 x 2,62 N90
3	1	O-ring no. 124 \varnothing 31,42 x 2,62 N90
4	2	Backup ring \varnothing 31,70 x 2,25 x 1,40 FI0751
5	1	Backup ring \varnothing 30,80 x 2,25 x 1,40 FI0751
6	1	Backup ring \varnothing 29,90 x 2,25 x 1,40 FI0751

7 Ordering code

R E P - B - 16 - - - 1

- R = cartridge check valve
- E = pilot operated to open
- P = cartridge design
- N = without external drain
- Y = with external drain
- A ... Q = standard model - see relevant data sheets
- Z ... R = special features - please consult BUCHER
- 16 = nominal size 16
- (blank) = NBR (Nitrile) seals (standard)
- V = FKM (Viton) seals
(special seals - please contact BUCHER)
- 1 ... 9 = design stage (omit when ordering new units)

8 Related data sheets

Reference	(Old no.)	Description
400-P-040011	(i-32)	The form-tool hire programme
400-P-080121	(i-55.3)	Cavity type EC / ECY (with Y port)
400-P-750201	(G-29.50)	Line-mounting body, type GEAA (G 1")

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Classification: 430.315.345.305.330.325 (R-13)