

# Lock valve Pilot operated dual check valve

$Q_{\max} = 10 \text{ gpm}$ ,  $p_{\max} = 3600 \text{ psi}$

hydraulically operated, pilot operated, poppet type

Type series: PDCV-10-...



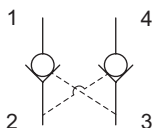
- Screw-in cartridge valve
- For cavity C1040
- All external parts with zinc-nickel plating according to ASTM-B841
- Installation in threaded port body type B1040
- A low friction pilot piston is standard
- Internal spring ensures fast return to neutral position
- Reliable and high positive re-seat duration
- Replaces valve type POCD-10

## Description

The PDCV-10... series of dual pilot operated check valve cartridges are size SAE 10 / NG 8, high performance screw-in valves with a 7/8-14 UNF mounting thread. The cartridge-type unit uses a high strength steel guided poppet to achieve low leakage performance. It is a dual hydraulic pilot operated check valve, for use as a blocking or load-holding device in high pressure applications. This valve allows free flow from port 2 to port 1 and from port 3 to port 4, and it blocks flow from port 1 to port 2 and from port 4 to port 3.

Flow is allowed from port 1 to port 2 when sufficient pilot pressure is applied to port 3 and flow is allowed from port 4 to port 3 when sufficient pilot pressure is applied to port 2. In order to open the valve, the pilot pressure at port 2 or port 3 needs to exceed one-third of the load pressure at port 4 or port 1 respectively. All external parts of the cartridge are zinc-nickel plated according to ASTM B841 and are thus suitable for use in the harshest operating environments.

## Symbol



## Technical data

General characteristics	Description, value, unit
Function group	Lock valve
Function	Pilot operated dual check valve
Design	Screw-in cartridge valve
Controls	hydraulically operated
Characteristic	pilot operated, poppet type
Construction size	size SAE 10
Thread size	7/8-14 UNF-2A
Mounting attitude	unrestricted
Weight	0.359 lb
Cavity acc. factory standard	For cavity C1040
Tightening torque steel	57.5 ft·lb
Tightening torque aluminium	37.5 ft·lb
Tightening torque tolerance	± 5 %
Minimum ambient temperature	- 40 °F
Maximum ambient temperature	+ 248 °F
Surface protection	All external parts with zinc-nickel plating according to AS-TM-B841
Sealing material	see ordering code
Seal kit order number	NBR: SKN-1042 / FKM: SKV-1042

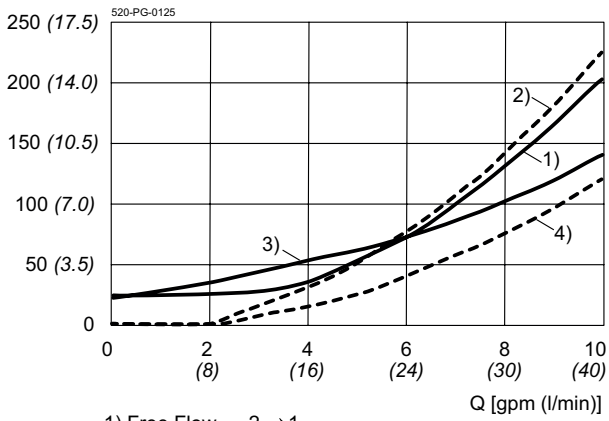
Hydraulic characteristics	Description, value, unit
Maximum operating pressure	3600 psi
Maximum flow rate	10 gpm
Flow direction	see symbol
Hydraulic fluid	mineral-based or synthetics with lubricating properties. HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	-15 °F
Maximum fluid temperature	+ 176 °F
Viscosity range	10 ... 500 mm <sup>2</sup> /s (cSt)
Recommended viscosity range	20 ... 130 mm <sup>2</sup> /s (cSt)
Minimum fluid cleanliness (cleanliness class according to ISO 4406:1999)	class 18/16/13
Internal leakage flow rate	5 drops/min at 3400 psi

Performance graphs

measured with oil viscosity 33.0 mm<sup>2</sup>/s (cSt)

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

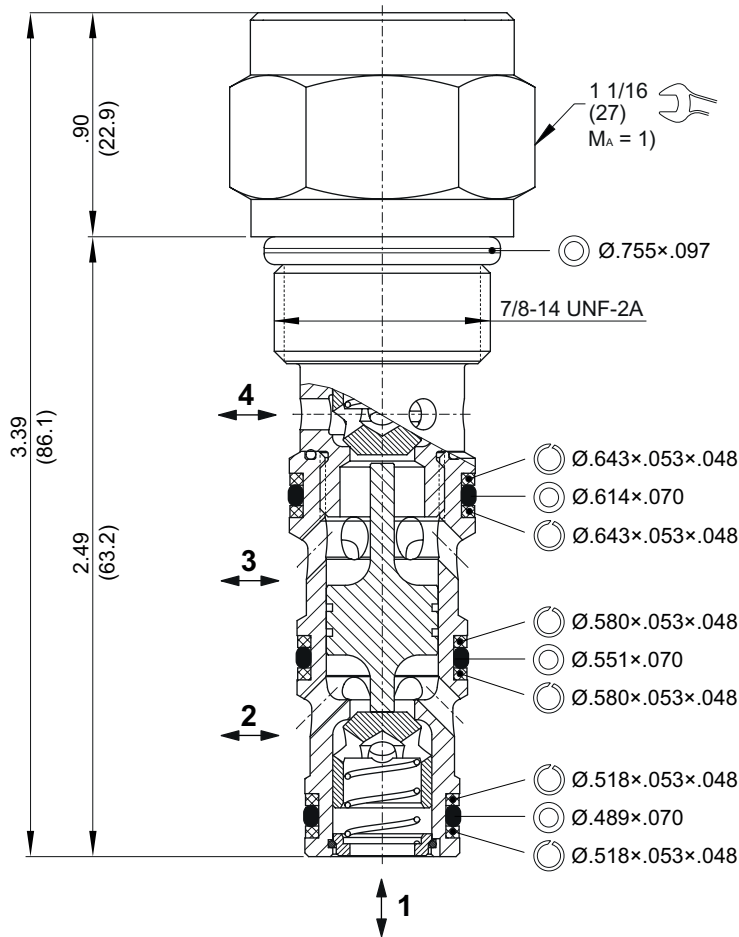
$\Delta p$  [psi (bar)]



- 1) Free Flow 2 → 1 —
- 2) Pilot 3; Flow 1 → 2 - -
- 3) Free Flow 3 → 4 —
- 4) Pilot 2; Flow 4 → 3 - -

Dimensions and sectional view

**Beispiel für die Masseinheit:**  
**Example for the dimensional units:**  
 .031 = 0.031" inch  
 (0.79) = 0.79 mm millimeter



Installation information



**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!**

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

Ordering code

PDCV - 10 - N - C - 0

- PDCV = pilot operated dual check valve
- 10 = nominal size SAE 10 / NG 8
- N1 = NBR (nitril-butadien-rubber / BUNA) seals (*standard*)
- V1 = FKM (fluorocarbon rubber / VITON) seals  
(*special seals - please consult BUCHER*)
- C = no thermal relief
- 0 = cartridge only
- 06TA = line-mounting body aluminium SAE #06 ports
- 06TS = line-mounting body steel SAE #06 ports
- 08TA = line-mounting body aluminium SAE #08 ports
- 08TS = line-mounting body steel SAE #08 ports
- 02BA = line-mounting body aluminium G 1/4" BSPP \*
- 02BS = line-mounting body steel G 1/4" BSPP \*
- 03BA = line-mounting body aluminium G 3/8" BSPP \*
- 03BS = line-mounting body steel G 3/8" BSPP \*

**i** **IMPORTANT!**  
\* Available on request for quantities of 100 pcs/year

Related data sheets

Reference	Description
520-P-040011	Form tools
520-P-000420	Cavity C1040
520-P-000421	Threaded port body B1040