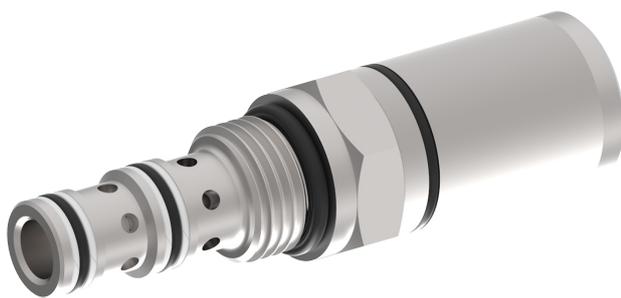


# Directional valve 3-way/2-position

$Q_{max} = 30 \text{ l/min}$ ,  $p_{max} = 350 \text{ bar}$

direct acting, spool type, pneumatical or hydraulic operation

Type series: AODV-10-\_-3A-...



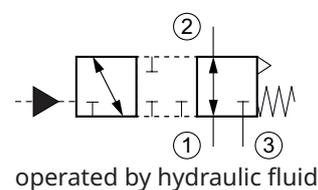
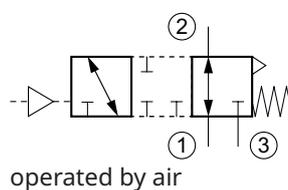
- Screw-in cartridge valve
- For cavity C1030
- All external parts zinc plated, chromited (CrVI-free)
- Installation in threaded port body type B1030
- Hardened precision fitted spool and sleeve provides reliable, long life
- Closed center transition
- The non-corrosive piston assembly allows this valve to operate by air or any type of hydraulic fluid
- Control spool is isolated from hydraulic fluid with high pressure seals

## Description

This unit is a three-way, two-position, screw-in cartridge style, direct acting, spool type, air or hydraulic operated, spring return, hydraulic directional control valve. When pilot piston is not actuated, this valve allows flow between ports 2 to 1 and port 3 is blocked. When

pilot piston is pressurized, the spool in this valve is shifted and allows flow between ports 3 to 2 and port 1 is blocked. This valve shifts in a closed center position. Port 1 can be pressurized to  $18.5 \times$  pilot port pressure.

## Symbol



## Technical data

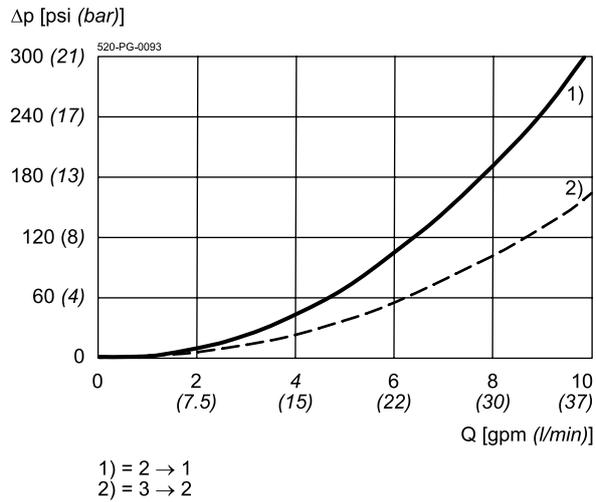
General Characteristics	Description, value, unit
Function group	Directional valve
Function	3-way/2-position
Design	Screw-in cartridge valve
Controls	pneumatical or hydraulical operation
Characteristic	direct acting, spool type
Transition/central position of spool/piston	zero or positive overlap (closed)
Construction size	SAE 10 / nominal size 8
Thread size	7/8-14 UNF-2A
Mounting attitude	unrestricted
Weight	0.29 kg
Cavity acc. factory standard	For cavity C1030
Tightening torque steel	77.5 Nm
Tightening torque aluminium	50.5 Nm
Tightening torque tolerance	± 5 %
Minimum ambient temperature	- 40 °C
Maximum ambient temperature	+ 120 °C
Surface protection	All external parts zinc plated, chromited (CrVI-free)
Available seal types	several seal types available, see ordering code
Seal kit order number	NBR: SKN-1032 / FKM: SKV-1032

Hydraulic Characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	30 l/min
Flow direction	see symbol
Hydraulic fluid	All general purpose hydraulic fluids such as MIL-H-5606, SAE-#10, SAE-#20, etc.
Minimum fluid temperature	- 25 °C
Maximum fluid temperature	+ 80 °C
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
Pilot piston area ratio to system pressure area	18.5:1
Internal leakage flow rate	82 cc/min at 350 bar
Pilot operating media	air or hydraulic fluid
Pilot pressure	pneumatical: 3.5 ... 17.5 bar / hydraulical: 3.5 ... 70 bar

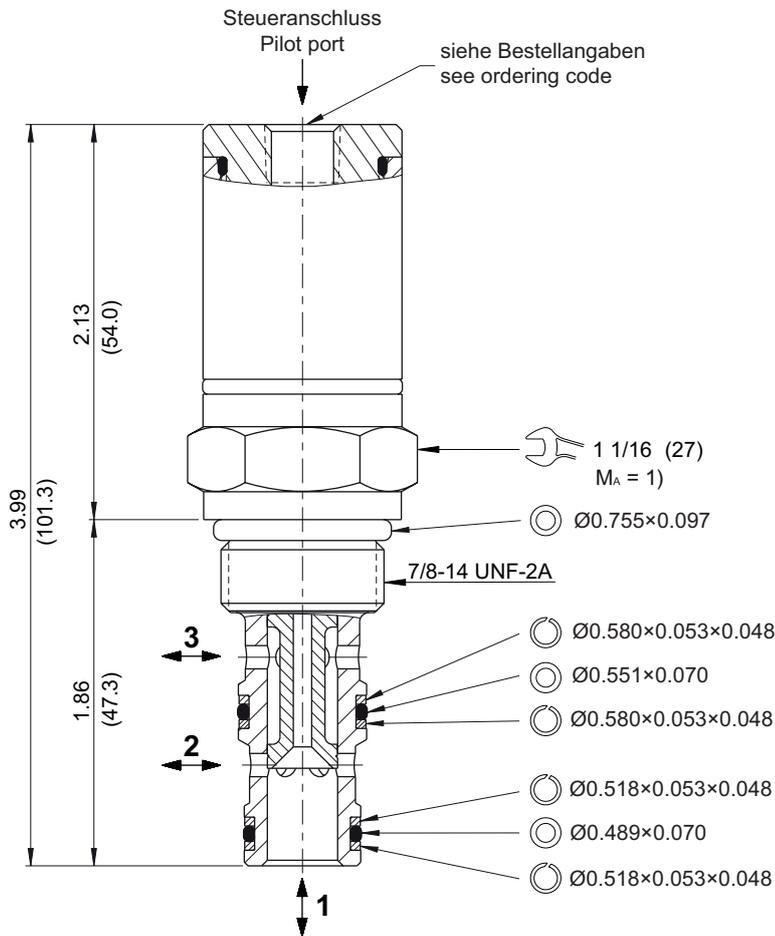
## Performance graphs

measured with oil viscosity 28.5 mm<sup>2</sup>/s (cSt)

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



Dimensions and sectional view



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".



**NOTE!**

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

Ordering code

e.g. AODV - 10 - N - 3A - 0 - 1P

AODV = air or hydraulic operated directional control valve

10 = nominal size SAE 10 / NG 8

N = NBR (nitril-butadien-rubber / BUNA) seals (*standard*)

V = FKM (fluorocarbon rubber / VITON) seals  
(*special seals - please consult BUCHER*)

3A = spool type A (3-way/2-position)

0 = screw-in cartridge only

06TA = line-mounting body aluminum      SAE #06 ports

06TS = line-mounting body steel            SAE #06 ports

08TA = line-mounting body aluminum      SAE #08 ports

08TS = line-mounting body steel            SAE #08 ports

1P = pilot port 1/8" NPTF

1B = pilot port G 1/8" BSPP

4T = pilot port SAE #4

Related data sheets

Reference	Description
520-P-000050	Form tools
520-P-000320	Cavity C1030
520-P-000321	Threaded port body B1030