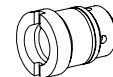


**3-way shifting valve
Screw-in cartridge**

- $Q_{max} = 20 \text{ l/min}$
- $p_{max} = 210 \text{ bar}$

G1/2"
Wandfluh standard


DESCRIPTION

Shifting valve cartridge for cavity according to Wandfluh standard. Port size G1/2". Valve body made from steel. If P-part drilled from the side into the cavity port G1/2" may be plugged. Port G1/2" may also be used to screw a pipe or hose fitting directly into it.

FUNCTION

If P-port is pressurised oil flows to A-port through the check valve mounted in the poppet spool. Pressure drop over the check valve and area ratio P to A result in a force moving the poppet spool into its seat. T port is sealed off leakfree. If P-port is depressurised poppet spool will be pushed open by the pressure in A-port. Flow passes from A to T. The check valve in the poppet spool prevents leak to P-port.

APPLICATION

See application example

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TYPE CODE

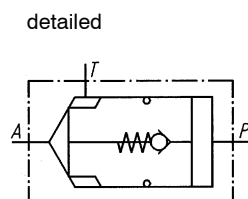
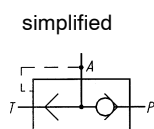
	DWW 404 - <input type="checkbox"/> / 2,5 # <input type="checkbox"/>
3-way shifting valve	
Size 4	
Norminal flow 10 bar	
Valve pressure drop	Q_N at Δp 10 bar = 15 l/min <input type="checkbox"/> 15 Q_N at Δp 10 bar = 20 l/min <input type="checkbox"/> 20
Opening pressure over RV	$p_o = 2,5 \text{ bar}$
Design-Index (Subject to change)	

GENERAL SPECIFICATIONS

Description	3-way shifting valve
Construction	Screw-in cavity acc. to Wandfluh standard
Mounting	Screw-in thread G1/2"
Ambient temperature	-20...+50°C
Mounting position	any
Fastening torque	$M_D = 60 \text{ Nm}$
Weight	$m = 0,04 \text{ kg}$

HYDRAULIC SPECIFICATIONS

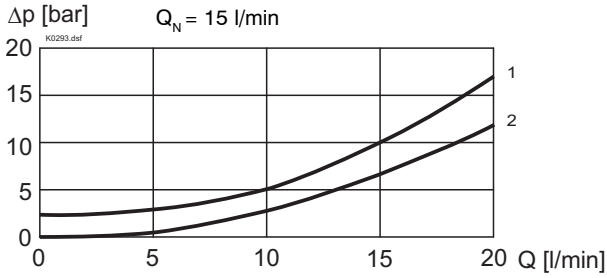
Fluid	Mineral oil, other fluid on request
Contamination efficiency-	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$) refer to data sheet 1.0-50/2
Viscosity range	12 mm ² /s...320 mm ² /s
Fluid temperature	-20...+70°C
Peak pressure	$p_{max} = 210 \text{ bar}$
Opening pressure over non-return valve	$p_o = 2,5 \text{ bar}$
Norminal volume flow	$Q_N = 15 \text{ l/min}$
at Δp 10 bar	$Q_N = 20 \text{ l/min}$
Max. volume flow	$Q_{max} = 20 \text{ l/min}$
Area ratio of the inner spool	P : A = 1,2 : 1

SYMBOLS

CONTROL MECHANICAL

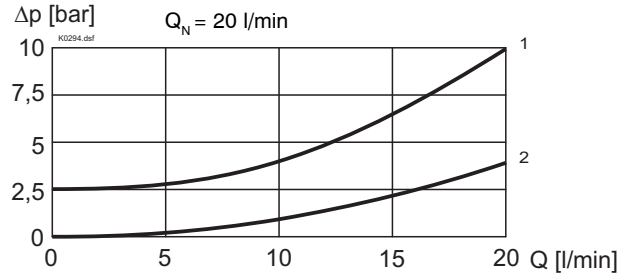
Fixed setting

CHARACTERISTICS Oilviscosity $\nu = 30 \text{ mm}^2/\text{s}$

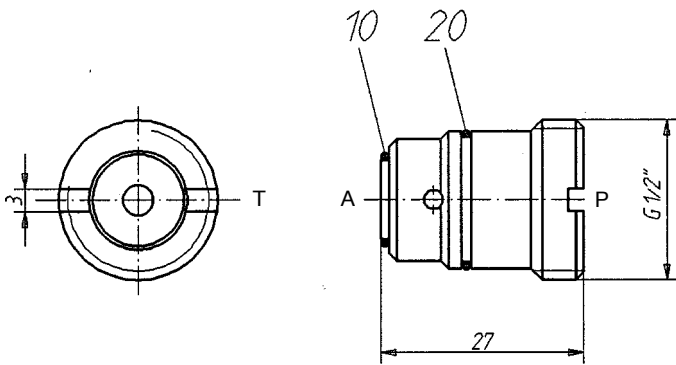
$\Delta p = f(Q)$ Pressure drop characteristic



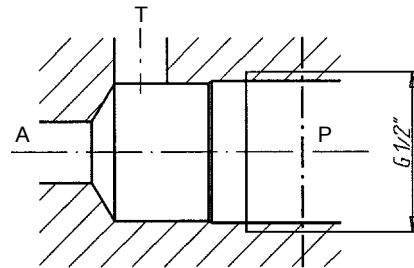
1 Flow direction P→A
2 Flow direction A→T



DIMENSIONS

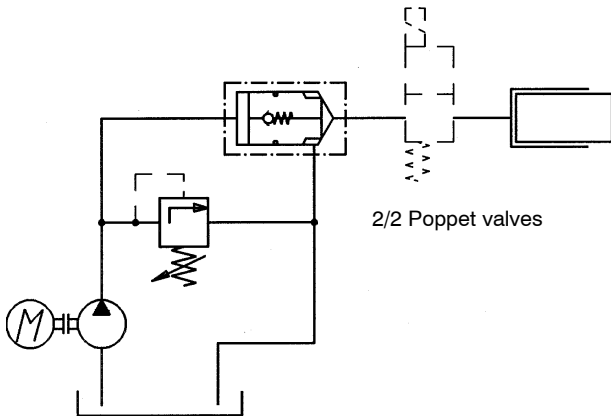


Cavity drawing acc. to Wandfluh-Norm



For detailed cavity drawing see register 2.13-1033

EXAMPLE OF AMPLICATION



Possible functions:

1. Motor running, cylinder extends
2. Motor stopped, cylinder automatically lowered by gravity load
3. By using a 2-way, 2-position poppet valve, the cylinder can be held in any desired position

PARTS LIST

Position	Article	Description
10	160.1100	O-Ring ID 10,00x1,00
20	160.1161	O-Ring ID 16,00x1,00

Technical explanation see data sheet 1.0-100E

ACCESSORIES

Assembly tools 983.6000 to 3-way shifting valve DWV404