3-way shifting valve
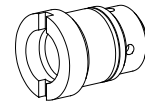**Screw-in cartridge**
- Q_{max} = 20 l/min
- p_{max} = 210 bar

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 ar hose fitting directly into it.

FUNCTION

If P-port is pressurised oil flows to A-port through the check valve mometed in the poppet spool. Pressure drop over the check valve and area ratio P to A result in a force moving the poppet spool auto its seat. T port is seald 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

TYPE CODE

DWW 404 - ☐ / 2,5 # ☐

|	
3-way shifting valve	
Normal size 4	
Nominal volume flow rate Q_N 15 l/min 20 l/min	15 20
Non-return valve, Opening pressure $p_ö$ 2,5 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 Nm
Weight	m = 0,04 kg

HYDRAULIC SPECIFICATIONS

|	
Fluid	Mineral oil, other fluid on request
Contamination efficiency-	ISO 4406:1999, class 18/16/13 (Required filtration grade ß6...10≥75) refer to data sheet 1.0-50/2
Visconsity range	12 mm²/s…320 mm²/s
Fluid temperature	-20…+70 °C
Peak pressure	p_{max} = 210 bar
Opening pressure over non-return valve	$p_ö$ = 2,5 bar
Norminal volume flow at ∆p 10 bar	Q_N = 15 l/min Q_N = 20 l/min
Max. volume flow	Q_{max} = 20 l/min
Area ratio of the innner spool	P : A = 1,2 : 1

SYMBOLS
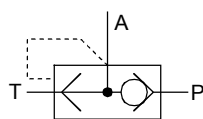
simplified   detailed
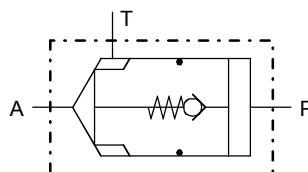
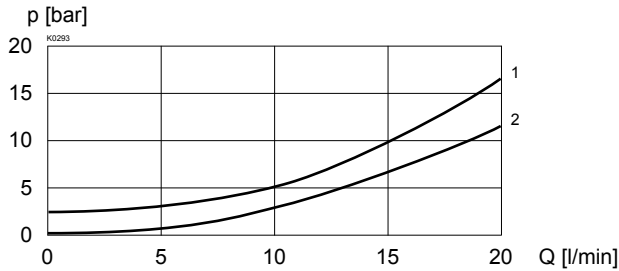## CONTROL MECHANICAL

Fixed setting

CHARACTERISTICS Oilviscosity υ = 30 mm²/s

Δp = f (Q) Pressure drop characteristic
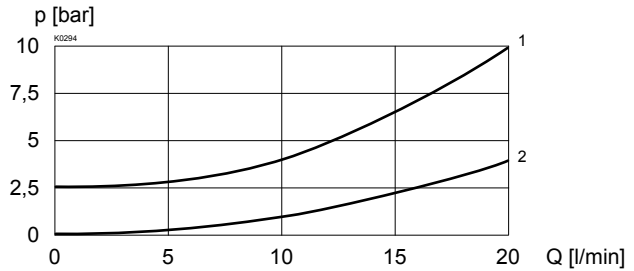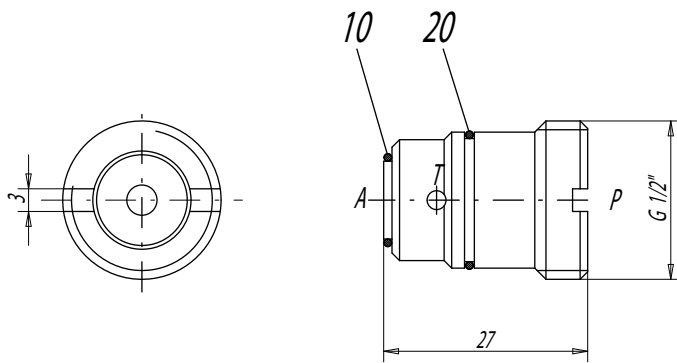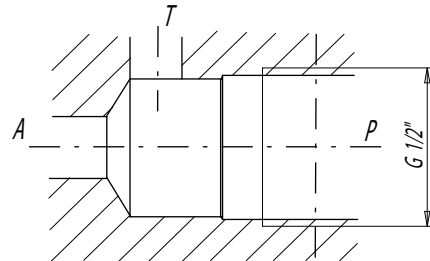1 = Flow direction P→A
2 = Flow direction A→T
Q_N = 15 l/min

Δp = f (Q) Pressure drop characteristic
1 = Flow direction P→A
2 = Flow direction A→T
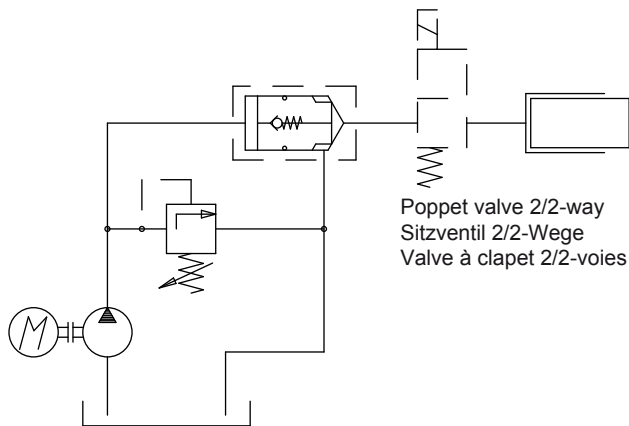Q_N = 20 l/min

p [bar]

K0293

20				1
15				
10				2
5				
0				

0   5   10   15   20   Q [l/min]

p [bar]

K0294

10				1
7,5				
5				
2,5				2
0				

0   5   10   15   20   Q [l/min]

DIMENSIONS

10   20

A   T   P

G 1/2"

27

Cavity drawing acc.
to Wandfluh-Norm

T

A   P

G 1/2"

For detailed cavity drawing
see register 2.13-1033

EXAMPLE OF AMPLICATION

Poppet valve 2/2-way
Sitzventil 2/2-Wege
Valve à clapet 2/2-voies

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	160.2093	O-Ring ID 9,24x1,78
20	160.1161	O-Ring ID 16,00x1,00

Technical explanation see data sheet 1.0-100

ACCESSORIES

Assembly tools 983.6000 to 3-way shifting valve DWW404