

Spool valve

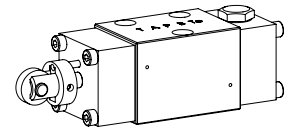
Flange construction

- ◆ roller operated
- ◆ 4/2-way with spring reset
- ◆ $Q_{max} = 20 \text{ l/min}$
- ◆ $p_{max} = 350 \text{ bar}$

DESCRIPTION

Direct operated valve, roller operated with 4 connections in 5 chamber design. Without actuation, the spool is switched back to the offset position. Precise spool fit, low leakage, long service life time. Spool made from hardened steel, body from high quality hydraulic cast steel.

NG4-Mini



APPLICATION

Spool valves are mainly used for controlling direction of movement and stopping of hydraulic cylinders and motors. The direction of movement is determined by the position of the spool and its symbol. Manually or mechanically operated valves are particularly suitable for use in installations where no electric current is available or for applications in explosion hazard areas. Miniature valves are used where both, reduced dimensions and weight are important.

TYPE CODE

Mounting interface acc. to Wandfluh standard			B T 4	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Roller with spring reset								
Number of control ports								
Designation of symbols acc. to table	Operation a-side	<input type="checkbox"/>	...	a				
	Operation b-side	<input type="checkbox"/>	...	b				
Sealing material	NBR	<input type="checkbox"/>						
	FKM (Viton)	<input type="checkbox"/>	D1					
Design index (subject to change)			1.5-20					

GENERAL SPECIFICATIONS

Designation	4/2-spool valve
Construction	Direct operated
Mounting	Flange construction
Nominal size	NG4-Mini according to Wandfluh standard
Actuation	Roller operated
Ambient temperature	-25...+70 °C (NBR) -20...+70 °C (FKM)
Weight	0,85 kg
MTTFd	150 years

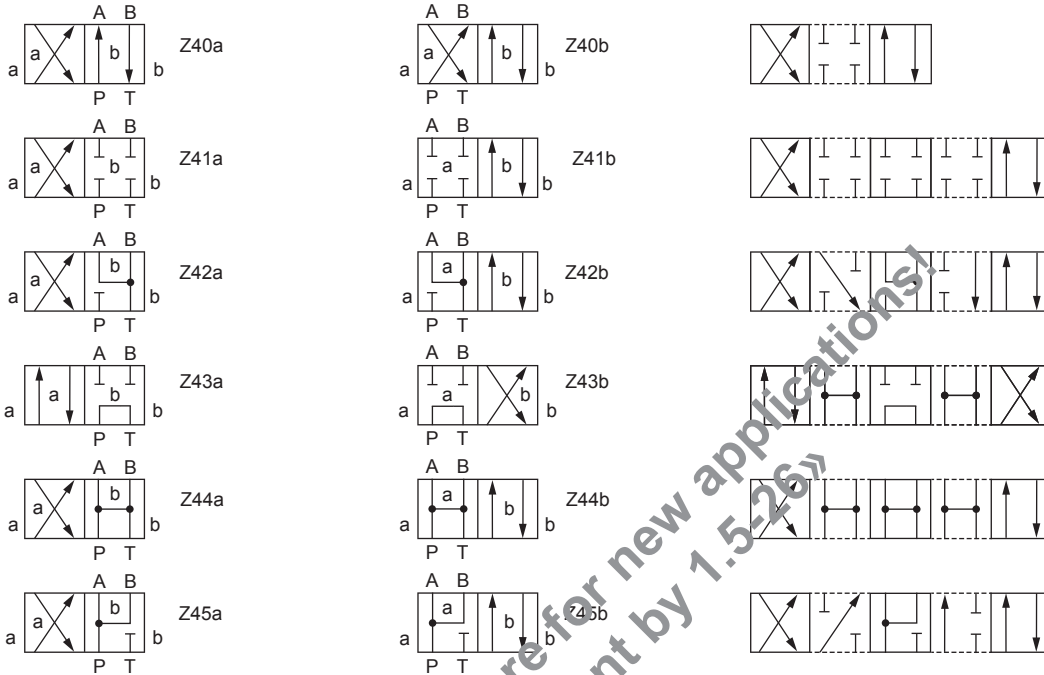
ACTUATION

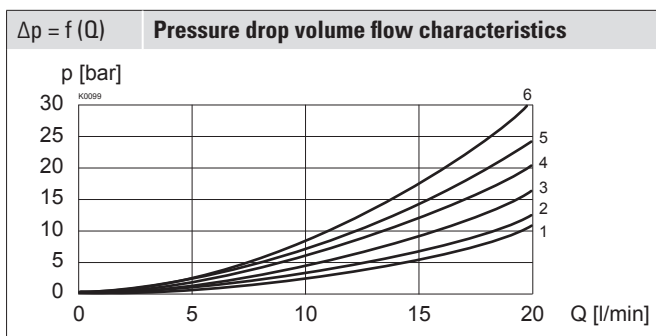
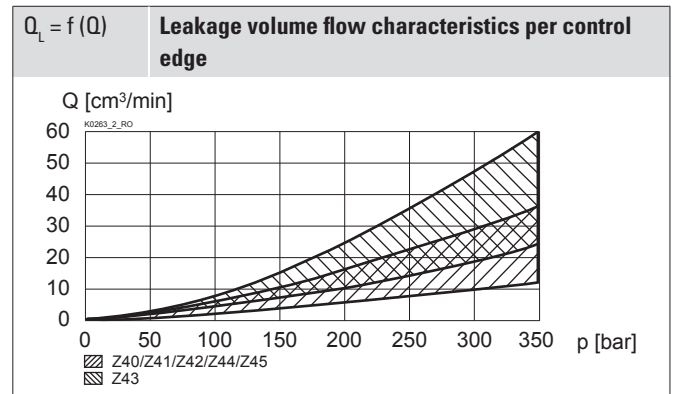
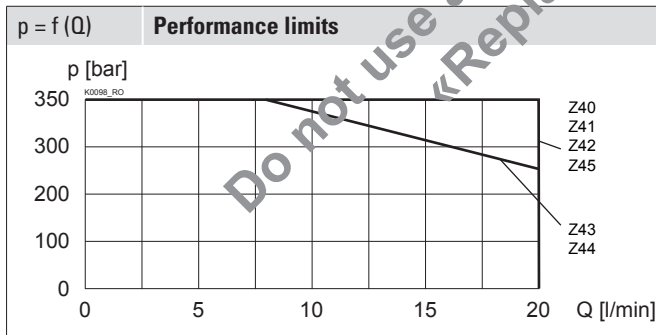
Actuation	Roller
Actuation stroke	s = 2,0 mm
Actuation force	$F_b = 90 - 120 \text{ N}$

HYDRAULIC SPECIFICATIONS

Working pressure	$p_{max} = 350 \text{ bar}$
Tank pressure	$p_{Tmax} = 100 \text{ bar}$
Maximum volume flow	$Q_{max} = 20 \text{ l/min}$, see characteristics
Leakage volume flow	See characteristics
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm ² /s...320 mm ² /s
Temperature range fluid	-25...+70 °C
Contamination efficiency	Class 20 / 18 / 14
Filtration	Required filtration grade $\beta_{10...16} \geq 75$, see data sheet 1.0-50

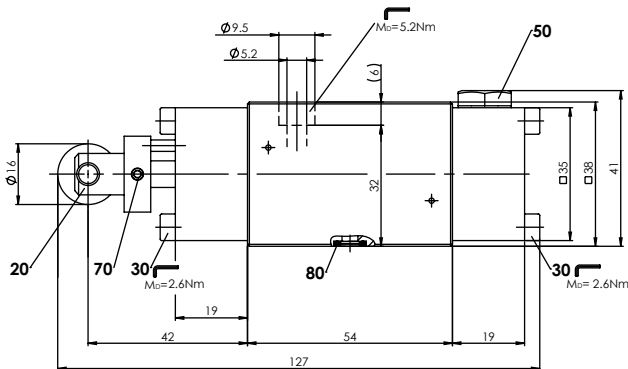
SYMBOL
Overview valves

Overview spool types

PERFORMANCE SPECIFICATIONS

 Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$


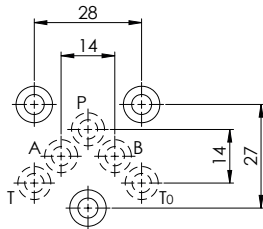
Symbol	Volume flow direction				
	P - A	P - B	P - T	A - T	B - T
Z40	5	5	-	2	2
Z41	5	5	-	2	2
Z42	5	5	-	2	2
z43	4	4	6	1	1
z44	4	4	3	1	1
z45	4	4	-	2	2

DIMENSIONS



Width of the roller = 4,8 mm

HYDRAULIC CONNECTION



STANDARDS

Mounting interface	Wandfluh standard
Contamination efficiency	ISO 4406

INSTALLATION NOTES

Mounting type	Flange mounting 5 fixing holes for socket head screws M5 x 40
Mounting position	Any, preferably horizontal
Tightening torque	$M_D = 5,2 \text{ Nm}$ (screw quality 8.8, zinc coated) Fixing screws

Note!



The length of the fixing screw depends on the base material of the connection element.

PARTS LIST

Position	Article	Description
20	253.2100	Mechanical control head BT II
30	246.1126	Socket head screw M4 x 25 DIN 912
50	238.1100	Screw plug M10 x 1 DIN 7604A
70	221.2272	Spring tension split pin $\varnothing 3 \times 16$ DIN 1481
80	160.2052	O-ring ID 5,28 x 1,78 (NBR)

ACCESSORIES

Fixing screws	Data sheet 1.0-60
Threaded subplates	Data sheet 2.9-10
Multi-station subplates	Data sheet 2.9-50
Horizontal mounting blocks	Data sheet 2.9-90
Technical explanations	Data sheet 1.0-100
Hydraulic fluids	Data sheet 1.0-50
Filtration	Data sheet 1.0-50

SEALING MATERIAL

NBR or FKM (Viton) as standard, choice in the type code

SURFACE TREATMENT

- ◆ The valve body is painted with a two component paint
- ◆ The roller housing, the screws and the cover are zinc coated