

Spool valve

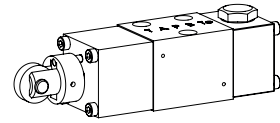
Flange construction

- ◆ roller operated
- ◆ 4/2-way with spring reset
- ◆ $Q_{max} = 8 \text{ l/min}$
- ◆ $p_{max} = 350 \text{ bar}$

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.

NG3-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

| | | | | | | | | | | | |
|--|------------------|-----------------------------------|---|---|-----|---|----------------------|---|----------------------|---|----------------------|
| Spool valve, direct operated | | WD | T | F | A03 | - | <input type="text"/> | - | <input type="text"/> | # | <input type="text"/> |
| Roller with spring reset | | | | | | | | | | | |
| Flange construction | | | | | | | | | | | |
| Mounting interface acc. to Wandfluh standard, NG3-Mini | | | | | | | | | | | |
| Designation of symbols acc. to table | Operation a-side | <input type="text" value="...1"/> | | | | | | | | | |
| | Operation b-side | <input type="text" value="...2"/> | | | | | | | | | |
| Sealing material | NBR | <input type="text"/> | | | | | | | | | |
| | FKM (Viton) | <input type="text" value="D1"/> | | | | | | | | | |
| Design index (subject to change) | | | | | | | | | | | |

1.5-15

GENERAL SPECIFICATIONS

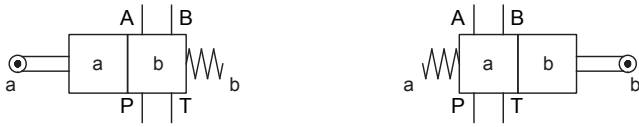
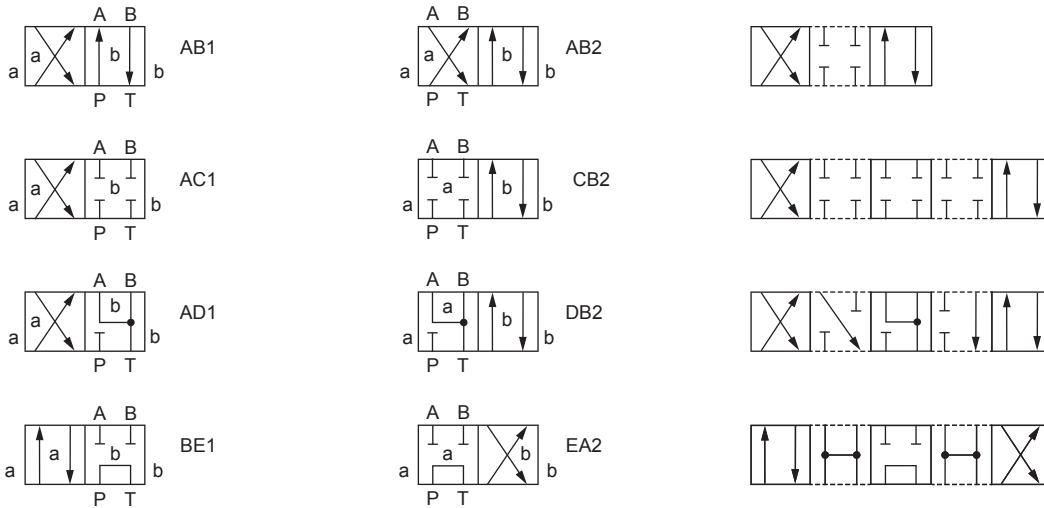
| | |
|---------------------|---|
| Designation | 4/2-spool valve |
| Construction | Direct operated |
| Mounting | Flange construction |
| Nominal size | NG3-Mini according to Wandfluh standard |
| Actuation | Roller actuated |
| Ambient temperature | -25...+70 °C |
| Weight | 0,62 kg |
| MTTFd | 150 years |

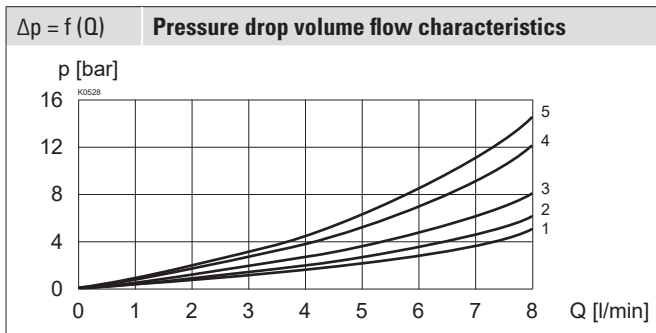
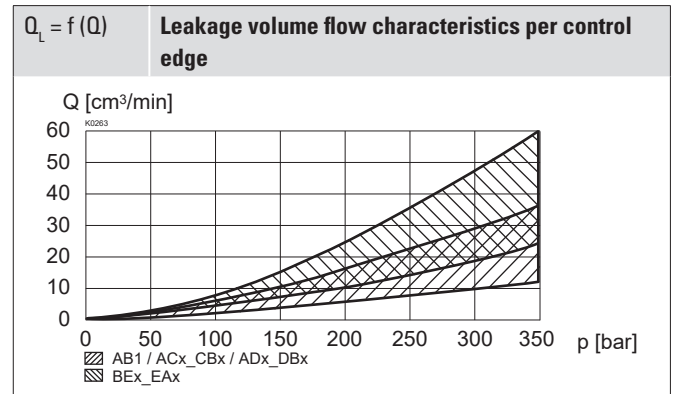
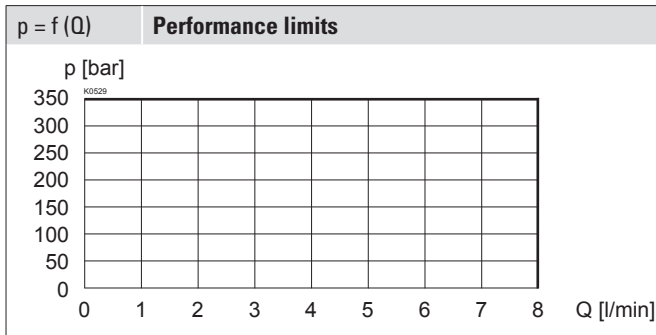
HYDRAULIC SPECIFICATIONS

| | |
|--------------------------|---|
| Working pressure | $p_{max} = 350 \text{ bar}$ ($p_T < 20 \text{ bar}$) |
| | $p_{max} = 315 \text{ bar}$ ($p_T > 20 \text{ bar}$) |
| Tank pressure | $p_{Tmax} = 100 \text{ bar}$ |
| Maximum volume flow | $Q_{max} = 8 \text{ l/min}$, see characteristics |
| Leakage oil | 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 (NBR) |
| | -20...+70 °C (FKM) |
| Contamination efficiency | Class 20 / 18 / 14 |
| Filtration | Required filtration grade $\beta_{10...16} \geq 75$, see data sheet 1.0-50 |

ACTUATION

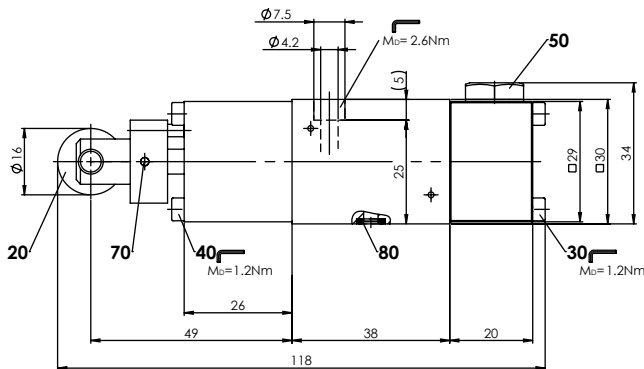
| | |
|------------------|----------------------------|
| Actuation | Roller |
| Actuation stroke | $s = 1,7 \text{ mm}$ |
| Actuation force | $F_b = 90 - 120 \text{ N}$ |

SYMBOL
Overview valves

Overview spool types

PERFORMANCE SPECIFICATIONS

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


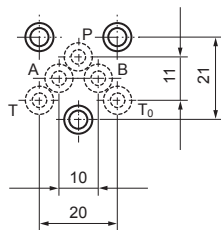
| Symbol | Volume flow direction | | | | |
|-----------|-----------------------|-------|-------|-------|-------|
| | P - A | P - B | P - T | A - T | B - T |
| AB1 / AB2 | 3 | 3 | - | 2 | 2 |
| AC1 / CB2 | 3 | 3 | - | 1 | 1 |
| AD1 / DB2 | 2 | 2 | - | 1 | 1 |
| BE1 / EA2 | 5 | 5 | 3 | 4 | 4 |

DIMENSIONS



Width of the roller = 4.8 mm

HYDRAULIC CONNECTION



STANDARDS

| | |
|--------------------------|-------------------|
| Mounting interface | Wandfluh standard |
| Contamination efficiency | ISO 4406 |

SURFACE TREATMENT

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

PARTS LIST

| Position | Article | Description |
|----------|----------|--|
| 20 | 253.1100 | Mechanical control head BT III |
| 30 | 246.0126 | Socket head screw M3 x 25 DIN 912 |
| 40 | 246.0131 | Socket head screw M3 x 30 DIN 912 |
| 50 | 238.1100 | Screw plug M10 x 1 DIN 7604A |
| 70 | 221.1166 | Spring tension split pin \varnothing 2 x 16 DIN 6325 |
| 80 | 160.2045 | O-ring ID 4,50 x 1,50 (NBR) |

ACCESSORIES

| | |
|----------------------------|--------------------|
| Fixing screws | Data sheet 1.0-60 |
| Threaded subplates | Data sheet 2.9-05 |
| Multi-station subplates | Data sheet 2.9-45 |
| Horizontal mounting blocks | Data sheet 2.9-85 |
| Technical explanations | Data sheet 1.0-100 |
| Filtration | Data sheet 1.0-50 |

SEALING MATERIAL

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

INSTALLATION NOTES

| | |
|-------------------|---|
| Mounting type | Flange mounting 3 fixing holes for socket head screws M4 x 30 |
| Mounting position | Any, preferably horizontal |
| Tightening torque | $M_D = 2,6$ Nm (quality 8.8, zinc coated) Fixing screws |

Note!



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