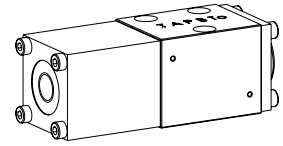


## Spool valve

### Flange construction

- ◆ pneumatically operated
- ◆ 4/2-way impulse valve
- ◆ 4/3-way with spring centred mid position
- ◆ 4/2-way with spring reset
- ◆  $Q_{max} = 8 \text{ l/min}$
- ◆  $p_{max} = 350 \text{ bar}$

### NG3-Mini



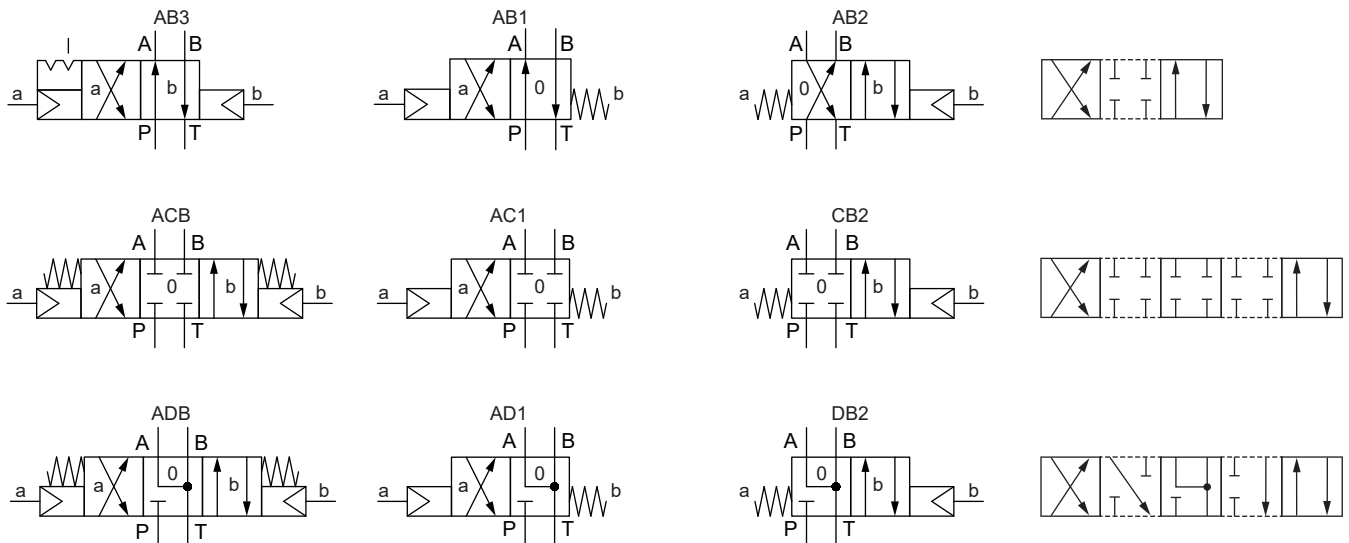
## DESCRIPTION

Direct operated spool valve, pneumatically operated, with 4 connections in a 5 chamber system. Spool detented or with spring reset. Without actuation, the spool is held in the center position by the spring (4/3), or switched back to the offset position (4/2). With the detent, the spool is held in the last switching position selected. Precise spool fit, low leakage, long service life time. Spool made from hardened steel, valve body from high quality hydraulic cast steel.

## APPLICATION

Spool valves are mainly used for controlling direction of movement and stopping of hydraulic cylinders and motors. Miniature valves are used where both, reduced dimensions and weight are important.

## SYMBOL



## GENERAL SPECIFICATIONS

|                     |   |
|---------------------|---|
| Designation         | 4/2-, 4/3-spool valve                           |
| Construction        | Direct operated                                 |
| Mounting            | Flange construction                             |
| Nominal size        | NG3-Mini according to Wandfluh standard         |
| Actuation           | Pneumatically operated                          |
| Ambient temperature | -25...+70 °C                                    |
| Weight              | 0.42 kg (1 actuation)<br>0.57 kg (2 actuations) |
| MTTFd               | 150 years                                       |

## ACTUATION

|                |   |
|----------------|---|
| Actuation      | Pneumatically operated  |
| Execution      | Actuation CKIII   |
| Pilot pressure | $p_{Vmin} = 2 \text{ bar}$ at $p_T = 20 \text{ bar}$<br>$p_{Vmin} = 5 \text{ bar}$ at $p_T = 100 \text{ bar}$ |
| Control volume | $V = 2 \text{ cm}^3$  |

## TYPE CODE

|  |                    |    |   |   |     |   |  |   |  |   |  |
|--|--------------------|----|---|---|-----|---|--|---|--|---|--|
| Spool valve, direct operated                           |                    | WD | L | F | A03 | - |  | - |  | # |  |
| Pneumatically operated                                 |                    |    |   |   |     |   |  |   |  |   |  |
| Flange construction                                    |                    |    |   |   |     |   |  |   |  |   |  |
| Mounting interface acc. to Wandfluh standard, NG3-Mini |                    |    |   |   |     |   |  |   |  |   |  |
| Designation of symbols acc. to table                   |                    |    |   |   |     |   |  |   |  |   |  |
| Sealing material                                       | NBR<br>FKM (Viton) |    |   |   |     |   |  |   |  |   |  |
|  |                    |    |   |   |     |   |  |   |  |   |  |
| Design index (subject to change)                       |                    |    |   |   |     |   |  |   |  |   |  |

1.6-15

## HYDRAULIC SPECIFICATIONS

|                          |  |
|--------------------------|--|
| Working pressure         | $p_{\max} = 350 \text{ bar}$ ( $p_T < 20 \text{ bar}$ )<br>$p_{\max} = 315 \text{ bar}$ ( $p_T > 20 \text{ bar}$ ) |
| Tank pressure            | $p_{T \max} = 100 \text{ bar}$   |
| 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 <sup>2</sup> /s...320 mm <sup>2</sup> /s   |
| Temperature range fluid  | -25...+70 °C (NBR)<br>-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  |

## SURFACE TREATMENT

- ◆ The valve body and the cover are zinc-nickel coated
- ◆ The pneumatic actuation is zinc coated

## MANUAL OVERRIDE

None

## SEALING MATERIAL

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

## STANDARDS

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

## INSTALLATION NOTES

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

### Note!



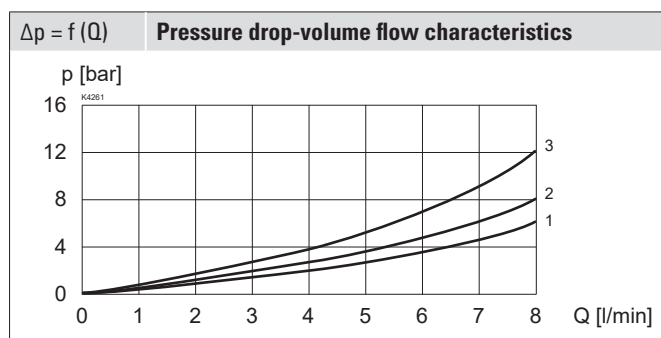
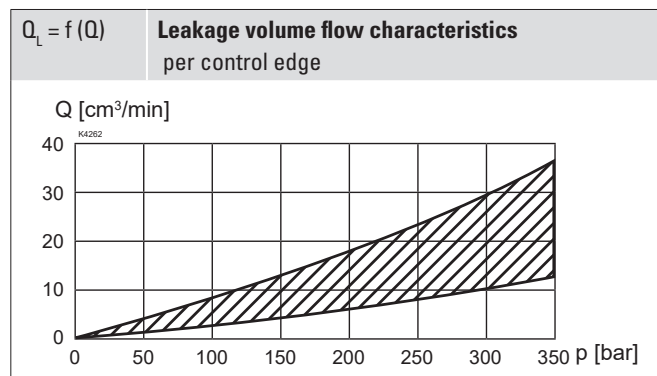
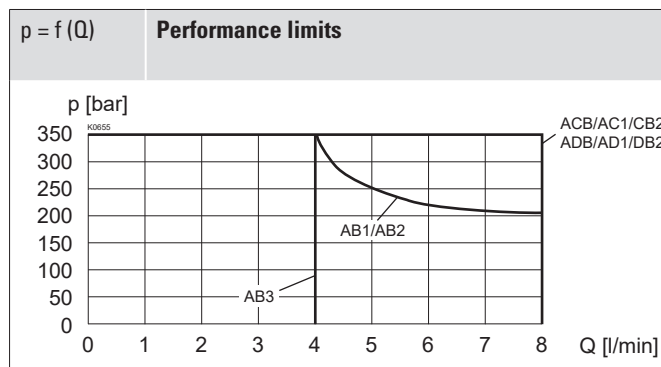
The length of the fixing screw depends on the base material of the connection element.

## 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  |

## PERFORMANCE SPECIFICATIONS

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



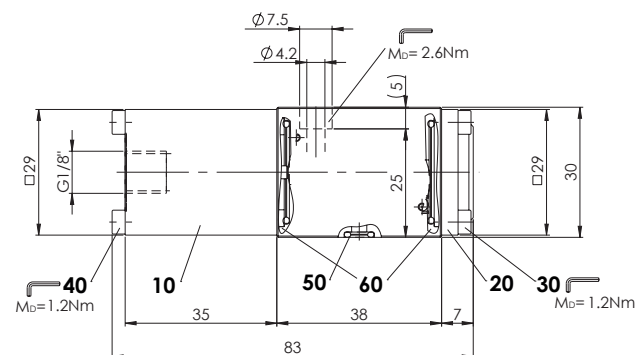
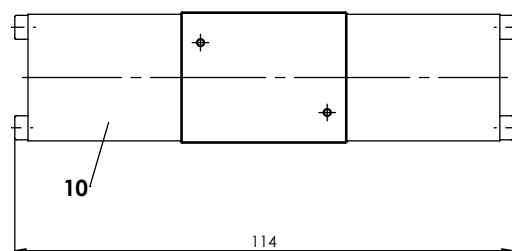
| Symbol          | Volume flow direction |       |       |       |       |
|-----------------|-----------------------|-------|-------|-------|-------|
|                 | P - A                 | P - B | P - T | A - T | B - T |
| AB1 / AB2 / AB3 | 3                     | 3     | -     | 2     | 2     |
| ACB / AC1 / CB2 | 3                     | 3     | -     | 1     | 1     |
| ADB / AD1 / DB2 | 2                     | 2     | -     | 1     | 1     |

## DIMENSIONS

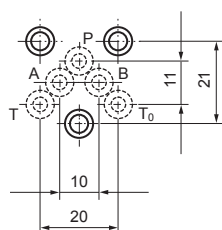
4/3-way valve (spring centred)

4/2-way valve (impulse)

4/2-way valve (spring reset)



## HYDRAULIC CONNECTION



## PARTS LIST

| Position | Article  | Description                       |
|----------|----------|-----------------------------------|
| 10       | 254.1000 | Pneumatic actuation CKIII         |
| 20       | 056.4200 | Cover                             |
| 30       | 246.0109 | Socket head screw M3 x 8 DIN 912  |
| 40       | 246.0141 | Socket head screw M3 x 40 DIN 912 |
|          | Seal kit | WDLFA03                           |

### Seal kit consisting of:

|    |        |                 |
|----|--------|-----------------|
| 50 | O-ring | ID 4,50 x 1,50  |
| 60 | O-ring | ID 23,00 x 1,50 |

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