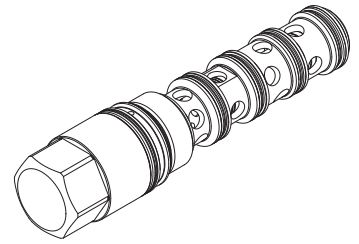


## Proportional spool valve

### Screw-in cartridge construction

- ◆ pilot operated
- ◆  $Q_{max} = 250$  l/min
- ◆ 1 volume flow level
- ◆  $Q_{Nmax} = 150$  l/min
- ◆  $p_{max} = 315$  bar

**M42 x 2**  
**Wandfluh standard**



## DESCRIPTION

Pilot operated proportional spool valve in screw-in cartridge construction. Precise spool fit, low leakage, long service life time. Spool made of hardened steel. The valve is controlled externally through a pilot pressure via the x and y connections. Without control, the piston is held in the central position by a spring. Proportional to the pilot pressure, the spool opening and the valve volume flow increase. Thanks to the optimum spool form, sensitive movement processes are possible. For the control, Wandfluh proportional pressure valves (see register 2.3) and Wandfluh proportional amplifiers (see register 1.13) are available.

## APPLICATION

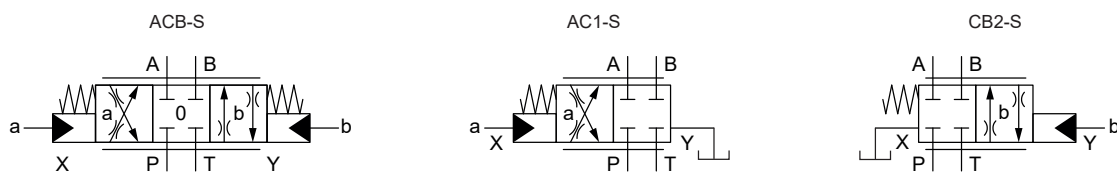
Proportional spool valves are perfectly suitable for demanding tasks due to the high resolution, large volume flow and low hysteresis. The applications are in the industry as well as in the mobile hydraulics for the smooth control of hydraulic actuators. Some examples: control of the rotor blades of wind generators, forestry and earth moving machines, machine tools and paper production machines, simple position controls, robotics and fan control.

## TYPE CODE

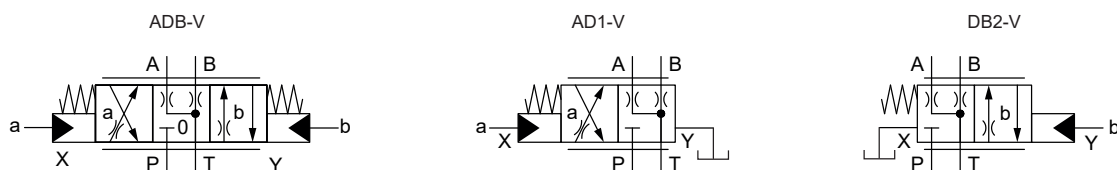
|                                      |   |   |   |      |   |  |   |  |   |     |       |  |
|--------------------------------------|---|---|---|------|---|--|---|--|---|-----|-------|--|
| Spool valve                          | W | V | P | PM42 | - |  | - |  | - | 150 | #     |  |
| Pilot operated                       |   |   |   |      |   |  |   |  |   |     |       |  |
| Proportional                         |   |   |   |      |   |  |   |  |   |     |       |  |
| Screw-in cartridge M42 x 2           |   |   |   |      |   |  |   |  |   |     |       |  |
| Designation of symbols acc. to table |   |   |   |      |   |  |   |  |   |     |       |  |
| Nominal volume flow rate $Q_N$       |   |   |   |      |   |  |   |  |   | 150 | l/min |  |
| Design index (subject to change)     |   |   |   |      |   |  |   |  |   |     |       |  |
| 1.10-2410                            |   |   |   |      |   |  |   |  |   |     |       |  |

## SYMBOL

### Symmetrical control



### Meter-in control

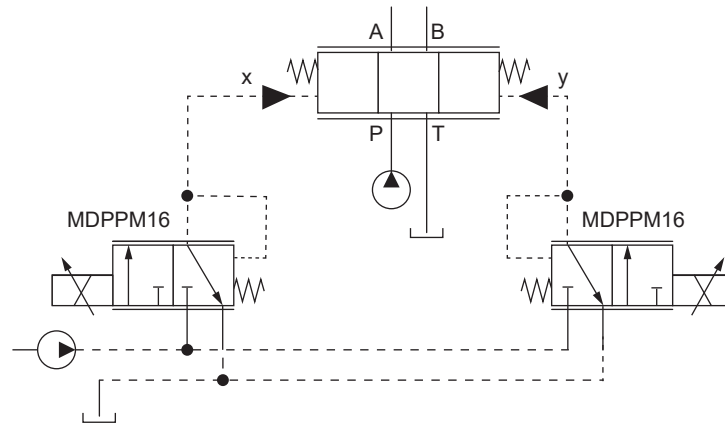


\* These 4/2-way valves with spring reset are being delivered as 4/3-way valves.

### Note!



When the pilot ports are not actuated (without pressure), or not needed, the leakage oil must be discharged.

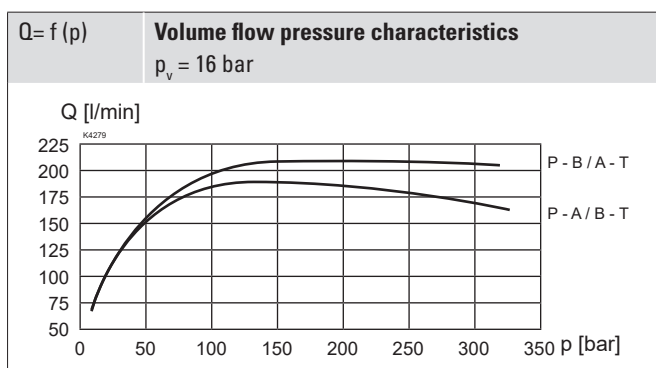
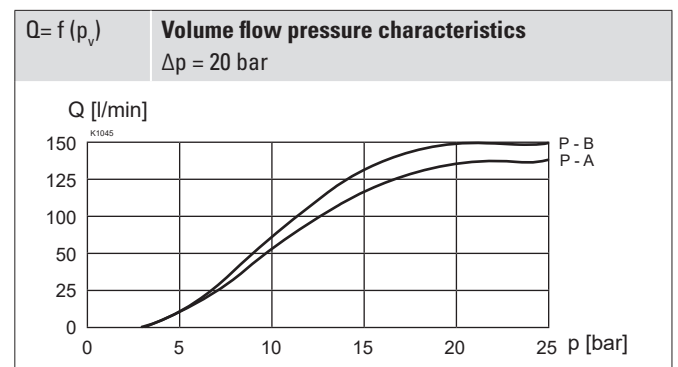
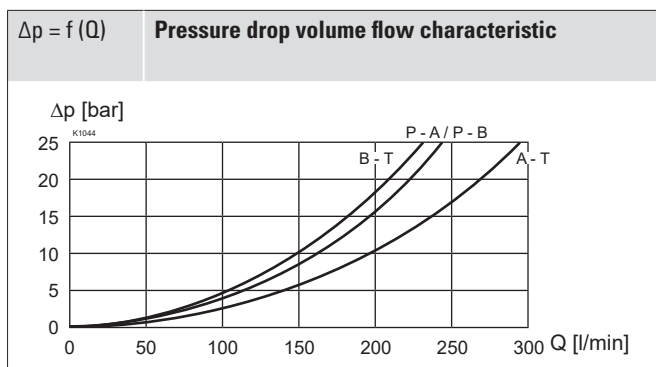
**Connection example**

**GENERAL SPECIFICATIONS**

|                     |  |
|---------------------|--|
| Designation         | Proportional spool valve               |
| Construction        | Pilot operated                         |
| Mounting            | Screw-in cartridge construction        |
| Nominal size        | M42 x 2 according to Wandfluh standard |
| Actuation           | Pilot valve                            |
| Ambient temperature | -30...+90 °C                           |
| Weight              | 1,4 kg                                 |
| MTTFd               | 150 years                              |

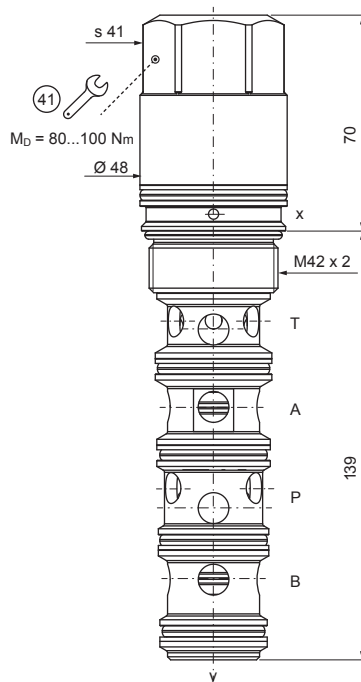
**HYDRAULIC SPECIFICATIONS**

|                          |  |
|--------------------------|--|
| Working pressure         | $p_{max} = 315$ bar  |
| Tank pressure            | $p_{Tmax} = 100$ bar   |
| Maximum volume flow      | $Q_{max} = 250$ l/min, see characteristics                                 |
| Nominal volume flow      | $Q_N = 150$ l/min  |
| Leakage oil              | P → T (at 200 bar): < 0,5 l/min  |
| 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 18 / 16 / 13   |
| Filtration               | Required filtration grade $\beta_{6...10} \geq 75$ , see data sheet 1.0-50 |

**PERFORMANCE SPECIFICATIONS**

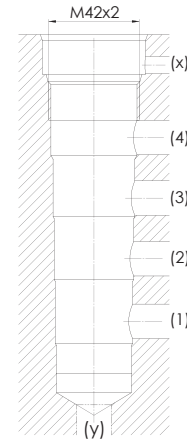
 Oil viscosity  $\nu = 30$  mm<sup>2</sup>/s


## DIMENSIONS



## HYDRAULIC CONNECTION

Cavity drawing according to Wandfluh standard



**Note!**



For detailed cavity drawing and cavity tools see data sheet 2.13-1052

## ACCESSORIES

|                              |                    |
|------------------------------|--------------------|
| Proportional pressure valves | Register 2.3       |
| Proportional amplifier       | Register 1.13      |
| Technical explanations       | Data sheet 1.0-100 |
| Filtration                   | Data sheet 1.0-50  |

## ACTUATION

|                        |               |
|------------------------|---------------|
| Actuation              | Pilot control |
| Minimum pilot pressure | 4,5 bar       |
| Maximum pilot pressure | 30 bar        |

## INSTALLATION NOTES

|                   |  |
|-------------------|--|
| Mounting type     | Screw-in cartridge M42 x 2                         |
| Mounting position | Any, preferably horizontal                         |
| Tightening torque | $M_D = 80 \dots 100 \text{ Nm}$ Screw-in cartridge |

## SURFACE TREATMENT

The external parts of the cartridge body are zink / nickel coated

## STANDARDS

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

## SEALING MATERIAL

NBR as standard