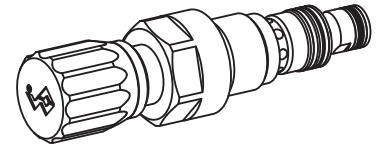


**Pressure relief valve  
Screw-in cartridge**

- Direct operated
- $Q_{max} = 25 \text{ l/min}$
- $p_{max} = 400 \text{ bar}$
- $p_{Nmax} = 315 \text{ bar}$

**M22x1,5**  
Wandfluh standard


**DESCRIPTION**

Direct operated pressure relief valve as a screw-in cartridge with a thread M22x1,5 and cavity according to Wandfluh-Norm. The valve is available in 2 different setting versions: Key setting „S“ and turning knob setting „D“. Key adjustment „S“ is also available with cover see data sheet 2.0-50.2 standard pressure levels are available: 100 bar and 315 bar. The cartridge body made of steel is galvanized and therefore rust-protected.

**FUNCTION**

**BX:** If pressure in pilot line x reaches the set pressure poppet spool will be pushed against the spring. Oil passage from P to T line will be opened-up irrespective of pressure in P line, this due to a drain connection separating x and P line. Poppet spool and pilot piston are physically linked.

**BY:** If pressure in pilot line x reaches the set pressure poppet spool will be pushed against the spring. Oil passage from P to T line will be opened-up. Poppet spool and pilot piston are separate items. Due to the area ratio of the pilot the required pilot pressure in x line is lower than pressure in P line by the percentage of the differential pressure.

**APPLICATION**
**BX:**

Used to pilot e.g.a logic elements wich must relief independent of system pressure.

**BY:**

Used to pilot e.g.a logic element with loading/unloading and relief function in an accumulator or dual pump system.

For machining the cavity in steel or aluminium tools are available for rent or sale. See also data sheet in register 2.13

**CONTENT**

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**TYPE CODE**

|   |                                     |                                     |                          |        |                      |   |                      |
|---|-------------------------------------|-------------------------------------|--------------------------|--------|----------------------|---|----------------------|
| Pressure relief valve                     | B                                   | <input type="checkbox"/>            | <input type="checkbox"/> | PM22 - | <input type="text"/> | # | <input type="text"/> |
| Relief valve remote controlled            | <input checked="" type="checkbox"/> |                                     |                          |        |                      |   |                      |
| Relief and unloading valve                | <input checked="" type="checkbox"/> |                                     |                          |        |                      |   |                      |
| Types of adjustment:                      | Key                                 | <input checked="" type="checkbox"/> |                          |        |                      |   |                      |
|   | Control knob                        | <input type="checkbox"/>            |                          |        |                      |   |                      |
|   | Cover                               | <input type="checkbox"/>            | (see data sheet 2.0-50)  |        |                      |   |                      |
| Screw cartridge M22x1,5                   |                                     |                                     |                          |        |                      |   |                      |
| Nominal pressure: $p_N = 100 \text{ bar}$ | <input checked="" type="checkbox"/> |                                     |                          |        |                      |   |                      |
| $p_N = 315 \text{ bar}$                   | <input type="checkbox"/>            |                                     |                          |        |                      |   |                      |
| Design-Index (Subject to change)          |                                     |                                     |                          |        |                      |   |                      |

**GENERAL CHARACTERISTICS**

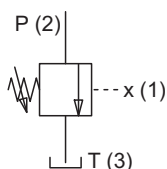
|                       |   |
|-----------------------|---|
| Description           | BX: Direct operated relief valve, remote controlled<br>BY: Direct operated relief valve, with additional unloading function |
| Construction          | Screw-in cartridge for cavity acc. to Wandfluh-standard   |
| Mounting              | M22x1.5 screw thread  |
| Ambient temperature   | -20...+50°C   |
| Installation position | any   |
| Tightening torque     | $M_D = 50 \text{ Nm}$   |
| Weight:               | $m = 0,20 \text{ kg}$ (key)<br>$m = 0,21 \text{ kg}$ (control knob)   |

**HYDRAULIC CHARACTERISTICS**

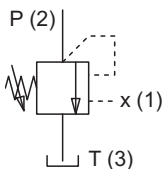
|  |   |
|--|---|
| Hydraulic fluid                          | Mineral oils, other fluids on request   |
| Max permissible contamination level      | ISO 4406:1999, class 18/16/13 (recommended filter gauge $\beta_{10...25} \geq 75$ ) see data sheet 1.0-50/2 |
| Viscosity range                          | 12 mm <sup>2</sup> /s...320 mm <sup>2</sup> /s  |
| Hydraulic fluid temp.                    | -20...+70°C   |
| Peak pressure                            | $p_{max} = 400 \text{ bar}$<br>$p_{Tmax} = p_p + 20 \text{ bar}$  |
| Nominal pressure                         | $p_N = 100 \text{ bar}$ , $p_N = 315 \text{ bar}$   |
| Min. pressure                            | see characteristic  |
| Differential pressure (only for BY.PM22) | 11% for $p_N = 100 \text{ bar}$<br>7,5% for $p_N = 315 \text{ bar}$   |
| Volume flow                              | $Q = 0,1...25 \text{ l/min}$  |
| Leak volume flow                         | max. 4 drops/min (up to 80% of the adjusted pressure)   |

**SYMBOLS**

BX.PM22



BY.PM22

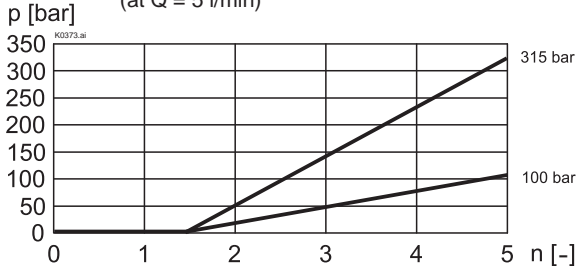

**MECHANICAL ACTUATION**

2 types of adjustments:

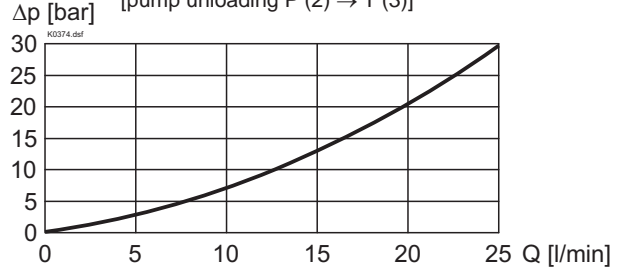
- S = Screw adjustment with fork wrench and Allen key
- D = control knob
- Actuation stroke  $S_b = 5 \text{ mm}$
- Actuation angle  $\alpha_b = 180^\circ$  (5 revolutions)

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

$p = f(n)$  Pressure adjustable characteristics  
(at  $Q = 5 \text{ l/min}$ )



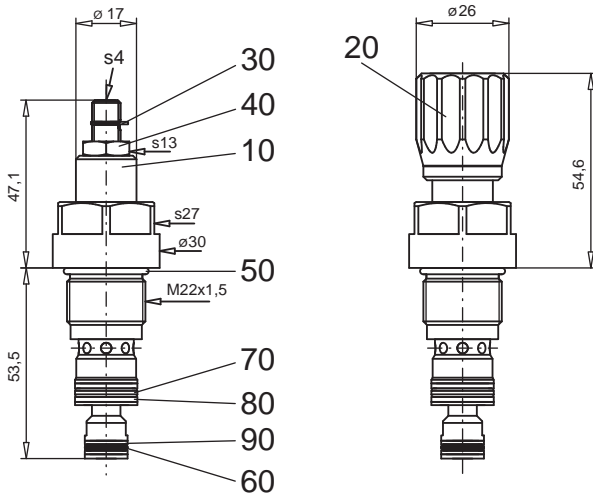
$p = f(Q)$  Pressure volume flow characteristics  
[pump unloading P (2) → T (3)]



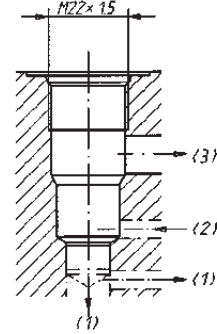
**DIMENSIONS**

Screw adjustment „S“

Knob adjustment „D“



Cavity drawing acc. to  
Wandfluh-Norm



For detailed cavity drawing  
and cavity tools see data sheet  
2.13-1037.

**PARTS LIST**

| Position | Article  | Description                   |
|----------|----------|-------------------------------|
| 10       | 592.4308 | BX.PM22-100 pre-mounted       |
|          | 592.4309 | BX.PM22-315 pre-mounted       |
|          | 592.4306 | BY.PM22-100 pre-mounted       |
|          | 592.4307 | BY.PM22-315 pre-mounted       |
| 20       | 114.2224 | Knob                          |
| 30       | 193.1061 | Safety plate RD6 DIN 6799     |
| 40       | 153.1402 | Hexagonal nut 0,5D M8x1       |
| 50       | 160.2188 | O-ring ID 18,77x1,78          |
| 60       | 160.2140 | O-ring ID 14,00x1,78          |
| 70       | 160.2087 | O-ring ID 8,73x1,78           |
| 80       | 049.3177 | Back up ring RD 14,6x17,5x1,4 |
| 90       | 049.3126 | Back up ring RD 9,1x12x1,4    |

Technical explanation see data sheet 1.0-100E