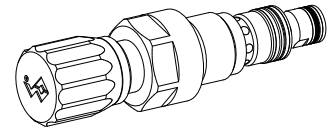


**Pressure relief valve
Screw-in cartridge**

- Direct operated
- $Q_{max} = 25 \text{ l/min}$
- $p_{max} = 400 \text{ bar}$
- $p_{Nmax} = 350 \text{ bar}$

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

TYPE CODE

Pressure relief valve	B	<input type="checkbox"/>	PM22 -	<input type="checkbox"/>	#	<input type="checkbox"/>
Relief valve remote controlled	<input checked="" type="checkbox"/>					
Relief and unloading valve	<input checked="" type="checkbox"/>					
Type 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 range p_N	100 bar	<input type="checkbox"/>	100			
	315 bar	<input type="checkbox"/>	315			
	350 bar	<input type="checkbox"/>	350			
Design-Index (Subject to change)						

GENERAL CHARACTERISTICS

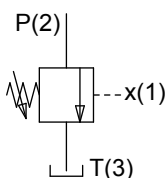
Description	BX: Direct operated relief valve, remote controlled BY: Direct operated relief valve, with additional unloading function
Construction	Screw-in cartridge for cavity acc. to Wandfluh-standard
Mounting	M22x1.5 screw thread
Ambient temperature	-20...+50°C
Installation position	any
Tightening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

HYDRAULIC CHARACTERISTICS

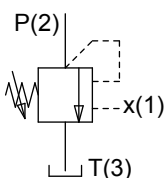
Hydraulic fluid	Mineral oils, other fluids on request
Max permissible contamination level	ISO 4406:1999, class 18/16/13 (recommended filter gauge $\beta_{10} \dots 25 \geq 75$) see data sheet 1.0-50/2
Viscosity range	12 mm ² /s...320 mm ² /s
Hydraulic fluid temp.	-20...+70°C
Peak pressure	$p_{max} = 400 \text{ bar}$ $p_{Tmax} = p_p + 20 \text{ bar}$
Nominal pressure	$p_N = 100 \text{ bar}, p_N = 315 \text{ bar}, p_N = 350 \text{ bar}$
Min. pressure	see characteristic
Differential pressure (only for BY.PM22)	11% for $p_N = 100 \text{ bar}$ 7,5% for $p_N = 315 \text{ bar}$ and $p_N = 350 \text{ bar}$
Volume flow	$Q = 0,1 \dots 25 \text{ l/min}$
Leak volume flow	see characteristic (BX.PM22) tight seating (BY.PM22)

SYMBOLS

BX.PM22

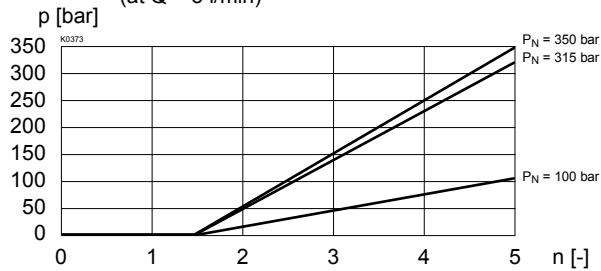
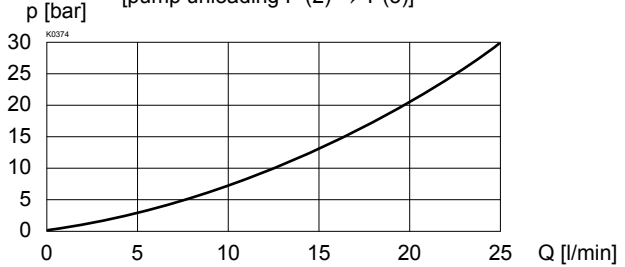
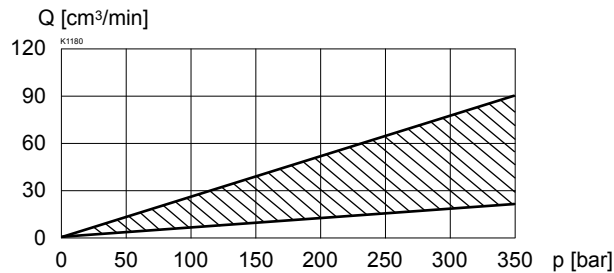


BY.PM22


MECHANICAL ACTUATION

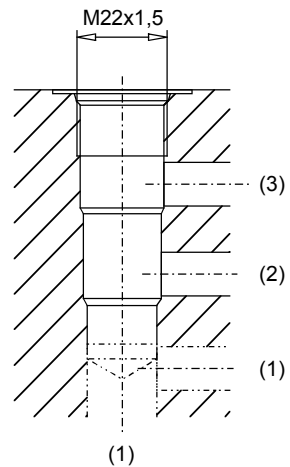
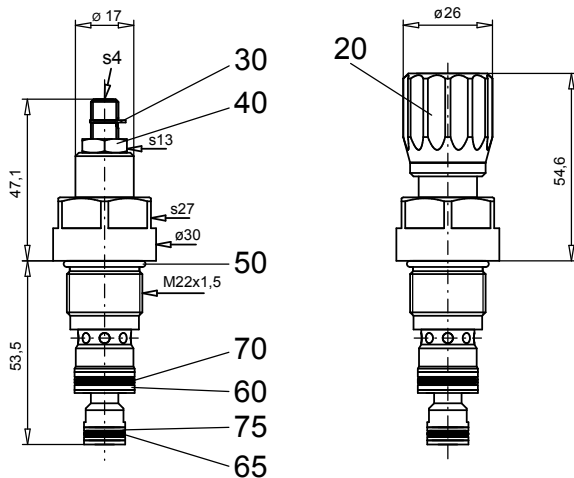
2 types of adjustments:

- S = Screw adjustment with fork wrench and Allen key
- D = Control knob adjustment, fixed
- 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) \rightarrow T (3)]

 $Q_L = f(p)$ Leakage volume flow characteristics
 BX.PM22
 [P (2) + x(1) \rightarrow 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
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
65	160.2087	O-ring ID 8,73x1,78
70	049.3177	Back up ring RD 14,6x17,5x1,4
75	049.3126	Back up ring RD 9,1x12x1,4

Technical explanation see data sheet 1.0-100