

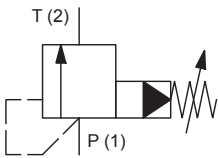
### Pressure relief cartridge stainless

- ◆ pilot operated
- ◆  $p_{max} = 400$  bar
- ◆  $p_{N_{max}} = 350$  bar
- ◆  $Q_{max} = 100$  l/min

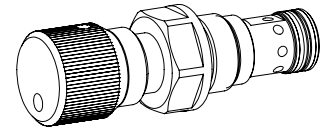
### DESCRIPTION

Pilot operated pressure relief valve in screw-in cartridge construction for cavity according to ISO 7789. High flow capacity, very sensitively adjustable. If the pressure in P (1) exceeds the adjusted value of the valve, the excessive pressure is drained to T (2). Rapid switching with low hysteresis and excellent stability over the whole flow range. The small clearance of the hardened spool ensures a low leakage volume flow. The stainless execution is especially suitable for the use in wet and salty environment.

### SYMBOL



**M22 x 1,5**  
**ISO 7789**



### APPLICATION

These valves are used for limiting the operating pressure in the hydraulic system or for protection against pressure peaks. Can be used in double pressure relief switches. For machining the cartridge cavity in steel and aluminum blocks, cavity tools are available (hire or purchase). Please refer to the data sheets in register 2.13.

**Attention!** As of design index #2, applications with periodically changing flow direction are admitted.



### ACTUATION

Actuation	Adjustment spindle M8 x 1
Execution	S = blockable key adjustment D = blockable knob adjustment Optionally: G = star handle adjustment
Actuation angle	$\alpha_b = 1800^\circ$ (5 rotations)
Actuation stroke	$S_b = 5$ mm

### TYPE CODE

Pressure relief valve			B V	<input type="checkbox"/>	PM22	-	<input type="checkbox"/>	-	<input type="checkbox"/>	K9 # 2
Pilot operated										
Type of adjustment	Key <input type="checkbox"/>	Control knob <input type="checkbox"/>	Cover <input type="checkbox"/>							
Screw-in cartridge M22 x 1,5										
Nominal pressure range $p_N$	63 bar <input type="checkbox"/>	160 bar <input type="checkbox"/>	350 bar <input type="checkbox"/>							
Sealing material	NBR <input type="checkbox"/>	FKM (Viton) <input type="checkbox"/>	NBR 872 <input type="checkbox"/>							
Stainless										
Design index (subject to change)										

2.1-530S

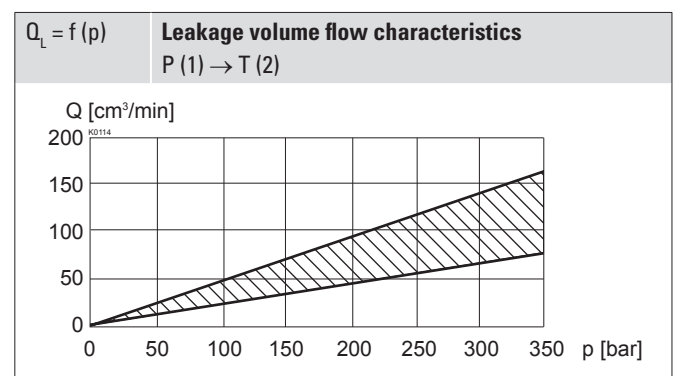
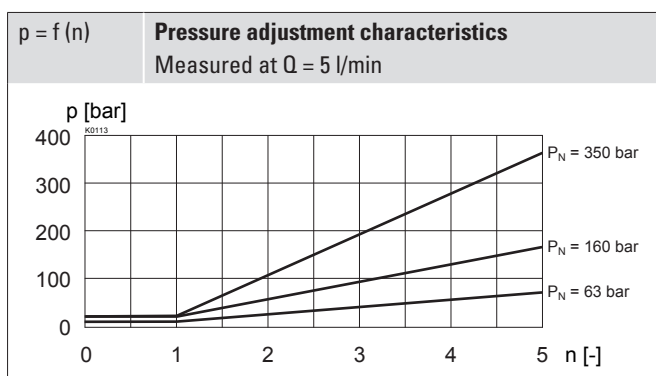
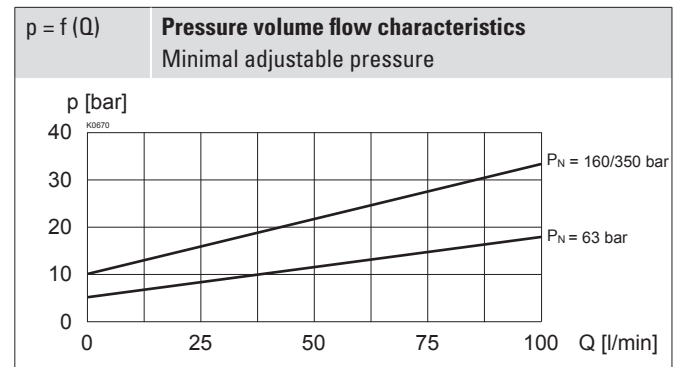
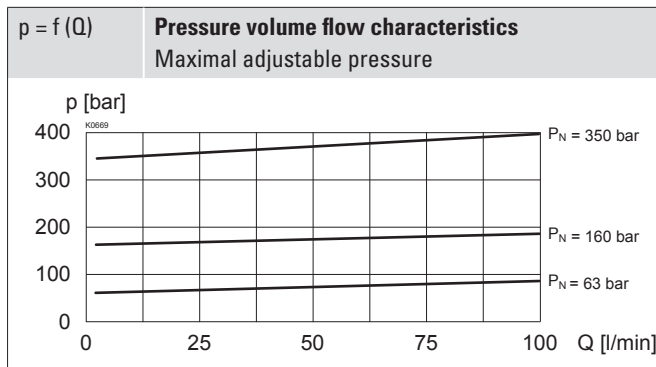
**GENERAL SPECIFICATIONS**

Designation	Pressure relief valve
Construction	Pilot operated
Mounting	Screw-in cartridge construction
Nominal size	M22 x 1,5 according to ISO 7789
Actuation	Manually
Ambient temperature	-25...+90 °C
Weight	0,17 kg key adjustment 0,26 kg control knob adjustment 0,21 kg cover
MTTFd	150 years

**HYDRAULIC SPECIFICATIONS**

Working pressure	$p_{max} = 400$ bar
Tank pressure	$p_{Tmax} = 210$ bar
Nominal pressure range	$p_N = 63; 160; 350$ bar
Minimum pressure	See characteristics
Volume flow range	$Q = 0,2 \dots 100$ l/min
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...+90 °C (NBR) -20...+90 °C (FKM)
Contamination efficiency	Class 18 / 16 / 13
Filtration	Required filtration grade $\beta_{6 \dots 10} \geq 75$ , see data sheet 1.0-50

**PERFORMANCE SPECIFICATIONS**

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

**SEALING MATERIAL**

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

**SURFACE TREATMENT**

- ◆ The cartridge body and the control knob are made of stainless steel

**STANDARDS**

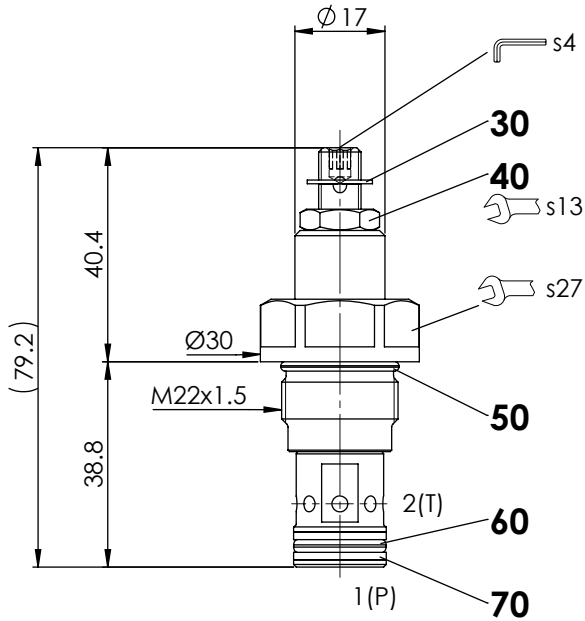
Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406

**INSTALLATION NOTES**

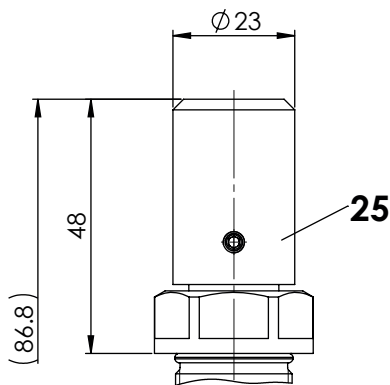
Mounting type	Screw-in cartridge M22 x 1,5
Mounting position	Any, preferably horizontal
Tightening torque	$M_D = 60$ Nm Screw-in cartridge

**DIMENSIONS**

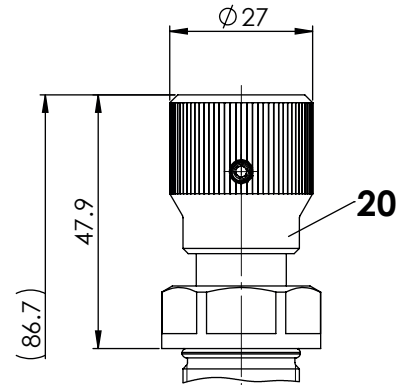
Key adjustment «S»



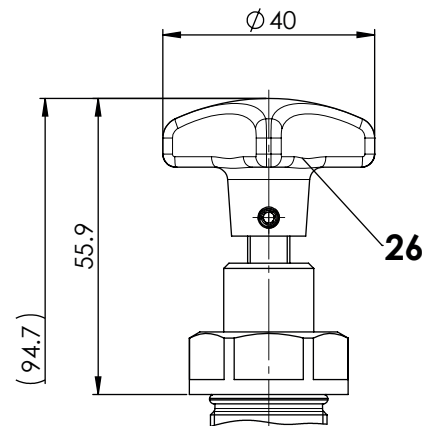
Cover «A»



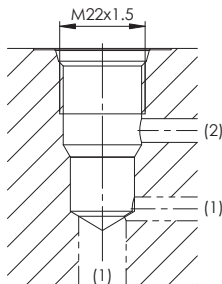
Control knob adjustment «D»



Star handle «G»


**HYDRAULIC CONNECTION**

Cavity drawing according to ISO 7789-22-02-0-98


**Note!**


For detailed cavity drawing and cavity tools see data sheet 2.13-1003

**ACCESSORIES**

Types of adjustment for screw-in cartridges	Data sheet 2.0-50
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

**PARTS LIST**

Position	Article	Description
20	114.2228	Control knob K9
25	032.0616	Cover rd 23 / 3 x 35 K9
26	082.2004	Star handle rd 40 x 26
30	193.1062	Retainer rd 6 DIN 6799
40	154.7407	Hexagon nut M8 x 1 x 4
50	160.2188	O-ring ID 18,77 x 1,78 (NBR)
	160.6188	O-ring ID 18,77 x 1,78 (FKM)
60	160.2140	O-ring ID 14,00 x 1,78 (NBR)
	160.6141	O-ring ID 14,00 x 1,78 (FKM)
70	049.8177	Back-up ring PTSM rd 12,4 x 15,3 x 1,4

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