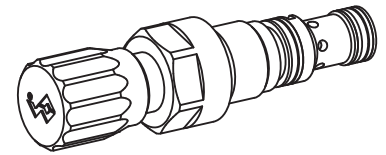


**Vented relief valve  
Screw-in cartridge**

- Pilot operated
- $Q_{max} = 80 \text{ l/min}$
- $p_{max} = 400 \text{ bar}$
- $p_{Nmax} = 350 \text{ bar}$

**M22x1,5**  
 ISO 7789

**DESCRIPTION**

Spool type pilot operated relief valve, vented. Thread M22x1,5 and cavity in accordance with ISO 7789. 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. Three standard pressure levels are available: 63, 160 and 350 bar. The steel cartridge body and adjustment spindle are galvanised to protect them from corrosion. The quality of this product is reflected in the good performance data and the relevant design.

**FUNCTION**

If the operating pressure exceeds a set value, the pilot part opens. A control fluid then starts to flow and relieves the back of the spool in the direction of the tank. The pressure difference generated displaces the spool towards the spring and the valve opens the closed pipe to the tank. When the excess pressure has been reduced, the pilot control interrupts the flow of control fluid and the pressures at the spool are equilibrated. The spring displaces the spool and the valve closes. If the control pipe x is switched to unpressurised by an external valve, the pressure shut off valve switches to an unpressurised circuit.

**APPLICATION**

To limit the operating pressure in hydraulic systems. The valve function can be remote controlled via connection x. When relieving/opening control pipe x (3), the circuit is more or less unpressurised. The screw in cartridge is very suitable for installing in control blocks. Cavity tools are available for hire or sale for machining aluminium and steel. Please refer to data sheet 2.13. **Attention:** Should therefore not be utilized anymore in applications with periodically changing direction of flow.

**CONTENT**

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MECHANICAL ACTUATION.....	1
CHARACTERISTICS.....	2
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**TYPE CODE**

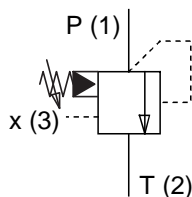
	B V <input type="checkbox"/> PM22 - <input type="checkbox"/> - Z9 # <input type="checkbox"/>
Pressure relief valve	
Pilot operated	
Setting versions: Key	S
Control knob	D
Cover	A (see data sheet 2.0-50)
Screw-in cartridge M22x1,5	
Pressure range: $p_N = 63 \text{ bar}$	63
$p_N = 160 \text{ bar}$	160
$p_N = 350 \text{ bar}$	350
Additional description	
Design-Index (Subject to change)	

**GENERAL SPECIFICATIONS**

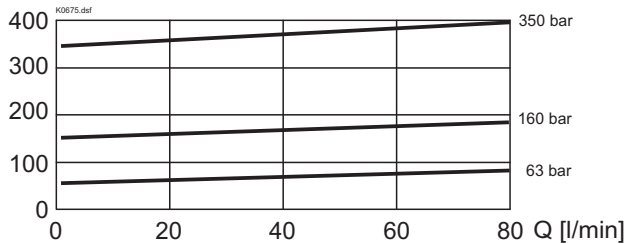
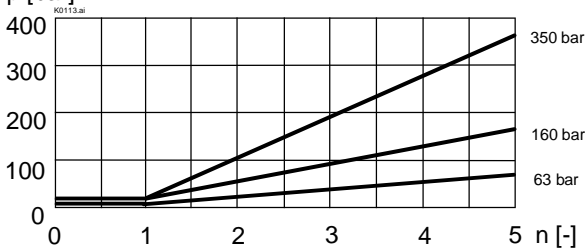
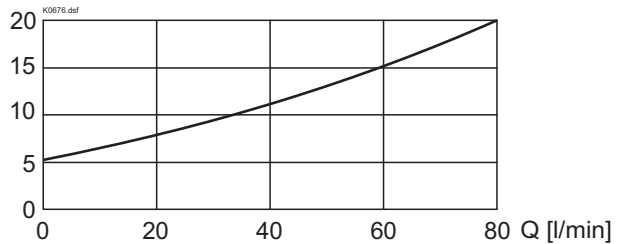
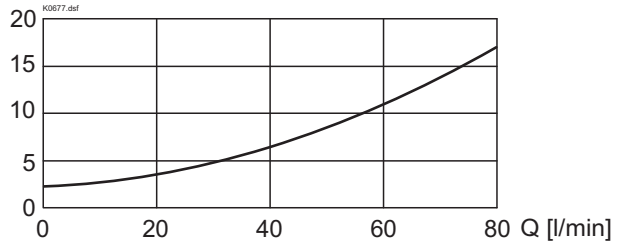
Description	Pilot operated relief valve, vented
Construction	Screw-in cartridge to ISO 7789
Mounting	Screw-in thread M22x1,5 to ISO 7789
Ambient temperature	-20...+50 °C
Mounting position	any
Fastening torque	$M_D = 50 \text{ Nm}$
Weight	$m = 0,21 \text{ kg}$ $m = 0,22 \text{ kg}$ (control knob)

**HYDRAULIC SPECIFICATIONS**

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$ ) refer to data sheet 1.0-50/2
Viscosity range	12 mm <sup>2</sup> /s...320 mm <sup>2</sup> /s
Peak pressure	$p_{max} = 400 \text{ bar}$ $p_{Tmax} = p_p + 20 \text{ bar}$
Fluid temperature	-20...+70 °C
Nominal pressure	$p_N = 63 \text{ bar}$ , $p_N = 160 \text{ bar}$ , $p_N = 350 \text{ bar}$
Volume flow	$Q = 0,5...80 \text{ l/min}$
Minimal pressure	see curve
Leakage volume flow	see data sheet 2.1-530

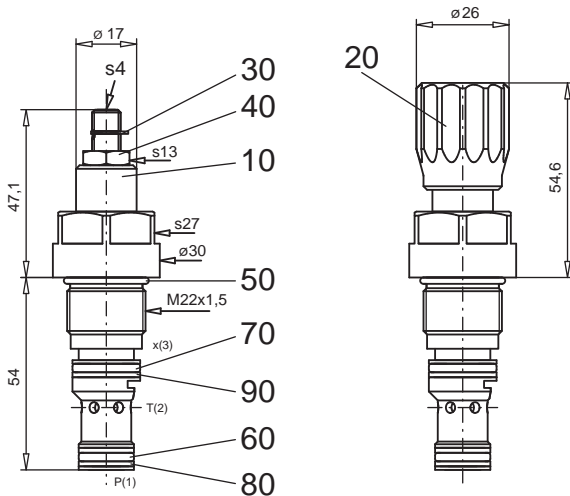
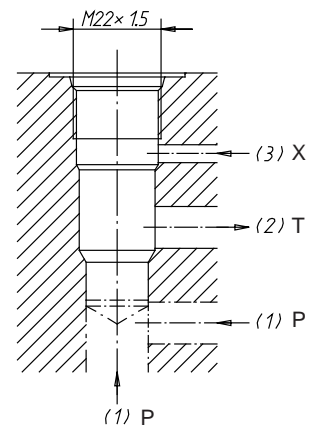
**SYMBOL**

**CONTROL MECHANICAL**

Mechanical types of operation in 2 different versions:	
S	= Screw adjustment with fork wrench and Allen key
D	= Knob
Stroke $S_b$	= 5 mm
Angle $\alpha_b$	= 180° (5 Turns)

**CHARACTERISTICS** Oil viscosity  $\nu = 30 \text{ mm}^2/\text{s}$ 
 $p = f(Q)$  Pressure volume flow characteristics  
 $p$  [bar] (Maximal adjustable pressure)

 $p = f(n)$  Pressure adjustment characteristics  
 $p$  [bar] (at  $Q = 5 \text{ l/min}$ )

 $p = f(Q)$  Pressure volume flow characteristics  
 $p$  [bar] (Minimal adjustable pressure)

 $\Delta p = f(Q)$  Pressure volume flow characteristics  
 $\Delta p$  [bar] [control line x unpressurised circ. - bypass P (1) → T (2)]

**DIMENSIONS**

Screw adjustment «S»

Knob adjustment «D»


 Cavity drawing to  
 ISO 7789-22-07-0-98


For detailed cavity drawing and cavity tools see data sheet 2.13-1007.

**PARTS LIST**

Position	Article	Discription
20	114.2224	Knob
30	193.1061	Safty plate RD6 DIN 6799
40	153.1402	Hexagon nut 0,5D M8x1
50	160.2188	O-ring ID 18,77x1,78
60	160.2120	O-ring ID 12,42x1,78
70	160.2156	O-ring ID 15,60x1,78
80	049.3157	Back-up ring RD 12,6x15,5x1,4
90	049.3196	Back-up ring RD 16,1x19x1,4

Technical explanation see data sheet 1.0-100E