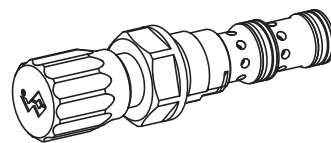


Pressure reducing valve
Screw-in cartridge
• Pilot operated

- $Q_{\max} = 80 \text{ l/min}$
- $p_{\max} = 400 \text{ bar}$
- $p_{N \text{ red max}} = 350 \text{ bar}$

M22x1,5
ISO 7789

DESCRIPTION

Pilot operated 3-way pressure reducing valve of the screw-in cartridge type with thread M22x1,5 for cavity in according to ISO 7789. This valve reduces the inlet pressure to a adjustable outlet pressure. The integrated pressure relief function prevents the reduced pressure from being exceeded as a result of external forces. The valve is available with 2 types adjustments. A cover is also available for key adjustment, see data sheet 2.0-50. There are 3 pressure stages to choose from. The steel cartridge body and adjustment spindle are galvanised. The quality of this product is reflected in the good performance data and design.

FUNCTION

The spool, located in the pilot operated main section of the valve, is held in the reset position by a spring. The connection to the consumer is fully open. With the pilot stage which is designed as relief valve, reduced pressure is adjustable. It opens when the set value is reached. As a result, a pilot volume flows through the nozzle in the spool. The resultant pressure difference displaces the spool towards the spring. The volume flow is throttled in the valve inlet and the reduced pressure is controlled. If forces acting on the actuator allow the reduced pressure to exceed the set value, the spool is displaced until the valve inlet closes and the reduced pressure port is being connected to tank. The pressure increase is then limited.

APPLICATION

Pressure reducing valves are used to keep the pressure constant in the consumer, irrespective of pressure fluctuations on the supply side. If there are several consumers, the pressure of the individual consumers can be set individually using the pressure reducing valve. The integrated pressure relief facility means that no additional pressure relief valve is needed in the actuator line. Installation of the screw-in cartridge in control blocks as well as in the Wandfluh sandwich plates (vertical stacked systems) and flange valves of the NG4-Mini, NG6 and NG10 types. (Please note the separate data sheets in register 2.2). Cavity tools are available for machining the cavities in steel and aluminium (hire or purchase). Please refer to the data sheets in register 2.13.

CONTENT

GENERAL SPECIFICATIONS	1
HYDRAULIC SPECIFICATIONS	1
SYMBOL.....	1
MECHANICAL ACTUATION.....	1
CHARACTERISTICS.....	2
DIMENSIONS/ SECTIONAL DRAWINGS.....	2
PARTS LIST	2
ACCESSORIES.....	2

TYPE CODE

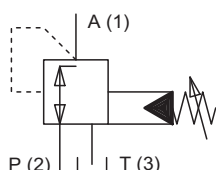
		M	V	<input type="checkbox"/>	PM22	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Pressure reducing valve									
Pilot operated									
Types of adjustment:	Key <input type="checkbox"/> S Control knob <input type="checkbox"/> D Cover <input type="checkbox"/> A	(see data sheet 2.0-50)							
Screw-in cartridge M22x1,5									
Standard nominal pressure range:	$p_{N \text{ red}} = 63 \text{ bar}$ <input type="checkbox"/> 63 $p_{N \text{ red}} = 160 \text{ bar}$ <input type="checkbox"/> 160 $p_{N \text{ red}} = 350 \text{ bar}$ <input type="checkbox"/> 350								
Design-Index (Subject to change)									

GENERAL SPECIFICATIONS

Description	Pilot operated pressure reducing valve
Construction	Screw-in cartridge for cavity according to ISO 7789
Mounting	Screw-in thread M22x1,5
Ambient temperature	-20...+50°C
Mounting position	any
Fastening torque	$M_D = 50 \text{ Nm}$
Weight:	$m = 0,17 \text{ kg}$ (Key) $m = 0,18 \text{ kg}$ (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 ² /s...320 mm ² /s
Fluid temperature	-20...+70 °C
Peak pressure	$p_{\max} = 400 \text{ bar}$
Nominal pressure ranges	$p_{N \text{ red}} = 63 \text{ bar}, 160 \text{ bar and } 350 \text{ bar}$
Volume flow	$Q = 0...80 \text{ l/min}$
Pilot- and leakage volume flow	see characteristics

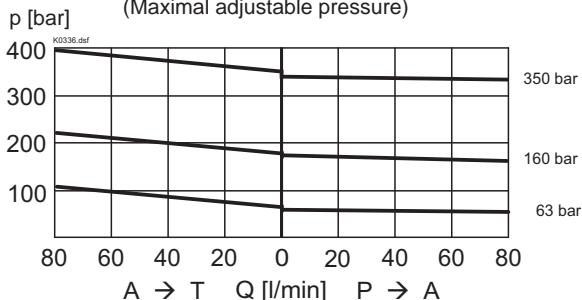
SYMBOL

MECHANICAL ACTUATION

Mechanical types of operation in 2 different versions:
S = Screw adjustment with fork wrench and Allen key

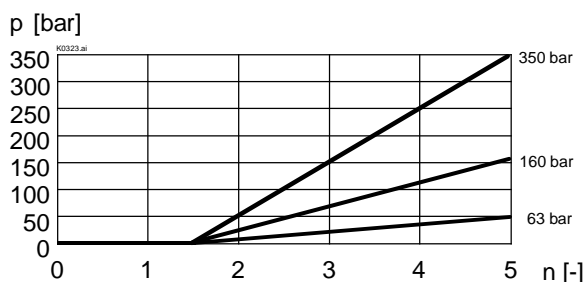
D = control knob
Control stroke $S_b = 5 \text{ mm}$
Control angle $\alpha_b = 1800^\circ$ (5 revolutions)

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

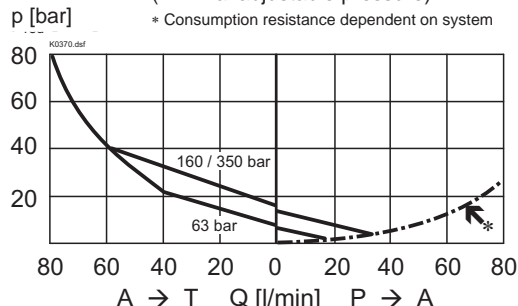
$p_{\text{red}} = f(Q)$ Pressure volume flow characteristics
(Maximal adjustable pressure)



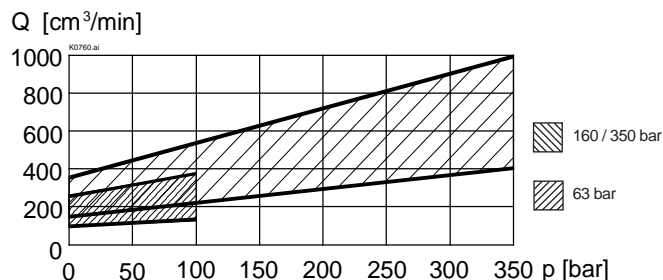
$p_{\text{red}} = f(n)$ Pressure adjustment characteristics
[at $Q = 0 \text{ l/min}$ (static)]



$p_{\text{red}} = f(Q)$ Pressure volume flow characteristics
(Minimal adjustable pressure)

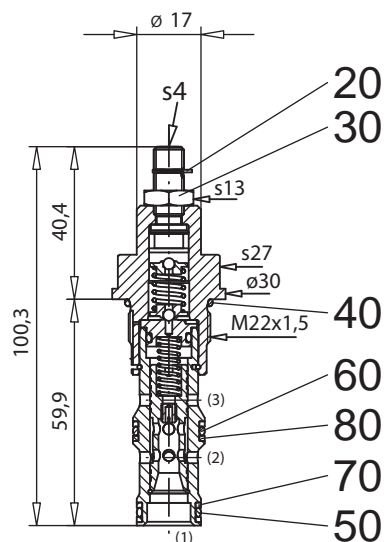


$Q_{\text{st}+L} = f(p)$ Pilot- and leakage volume flow characteristic [A (1) → T (3)]
(Pressure in P (2) = 350 bar)

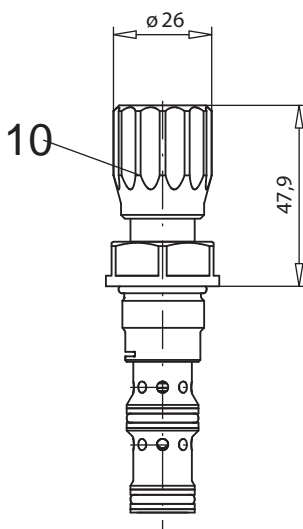


DIMENSIONS/SECTIONAL DRAWINGS

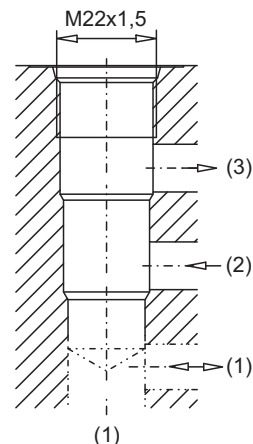
Screw adjustment „S“



Knob adjustment „D“



Cavity drawing acc. to
ISO 7789-22-04-0-98



For detailed cavity drawing
and cavity tools see data
sheet 2.13-1004

PARTS LIST

Position	Article	Description
10	114.2224	Knob
20	193.1061	Safety plate RD6 DIN 6799
30	153.1402	Hexagonal nut 0,5D M8x1
40	160.2188	O-ring ID 18,77x1,78
50	160.2140	O-ring ID 14,00x1,78
60	160.2156	O-ring ID 15,60x1,78
70	049.3176	Back-up ring RD 14,1x17x1,4
80	049.3196	Back-up ring RD 16,1x19x1,4

ACCESSORIES

Cartridge built into flange or sandwich body
Flange body / sandwichplate

register 2.2

Technical explanation see data sheet 1.0-100E