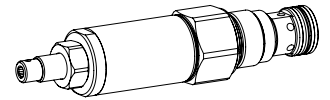


2-way pressure reducing cartridge, seat tight

- ◆ direct operated
- ◆ $p_{\max} = 350 \text{ bar}$
- ◆ $p_{N \text{ red max}} = 315 \text{ bar}$
- ◆ $Q_{\max} = 20 \text{ l/min}$

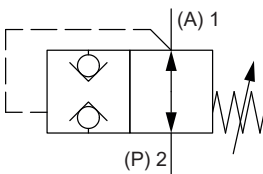
M22 x 1,5
ISO 7789

DESCRIPTION

Direct operated 2-way pressure reducing valve in screw-in cartridge construction for cavity according to ISO 7789. Oil flows from P (2) to A (1) (and vice versa) as long as the pressure in A (1) is lower than the value set on the adjusting screw. Otherwise the valve is closed seat-tight, even if the pressure drops in P (2). If the pressure in P (2) is sufficiently high, the valve ensures that the pressure in A (1) is regulated to the set value. Turning in the adjusting screw increases the setting pressure.

Note! An inadmissibly high pressure in port A (1) when the valve is closed, has eventually to be avoided by a separate pressure relief valve.


APPLICATION

Pressure reducing valves are used to maintain the pressure in a consumer constant independent of pressure fluctuations on the supply side. In the case of several consumers, the pressure of the specific consumers can be individually adjusted by the pressure reducing valve. The screw-in cartridge is perfectly suitable for installation in control blocks. 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.

SYMBOL

ACTUATION

Actuation	S = lockable key adjustment D = lockable knob adjustment
Actuation angle	$\alpha_b = 3240^\circ$ (9 rotations)
Actuation stroke	$S_b = 9 \text{ mm}$

TYPE CODE

Pressure reducing valve		M	S	<input type="checkbox"/>	PM22	-	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Direct operated, poppet spool											
Type of adjustment	Key <input type="checkbox"/> S Control knob <input type="checkbox"/> D										
Screw-in cartridge M22 x 1,5											
Nominal pressure range p_N	160 bar <input type="checkbox"/> 160 315 bar <input type="checkbox"/> 315										
Sealing material	NBR <input type="checkbox"/> FKM (Viton) <input type="checkbox"/> D1										
Design index (subject to change)											

2.2-532

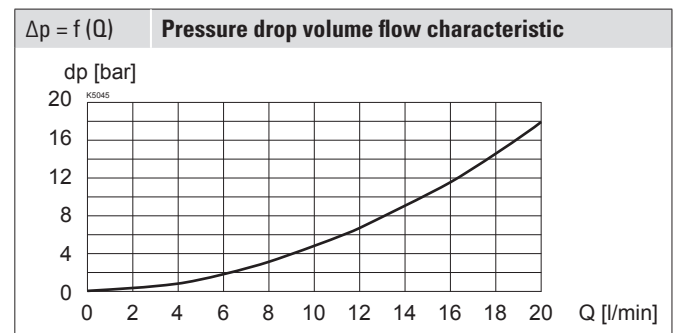
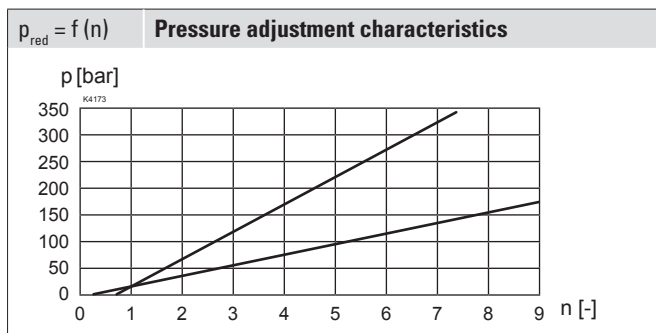
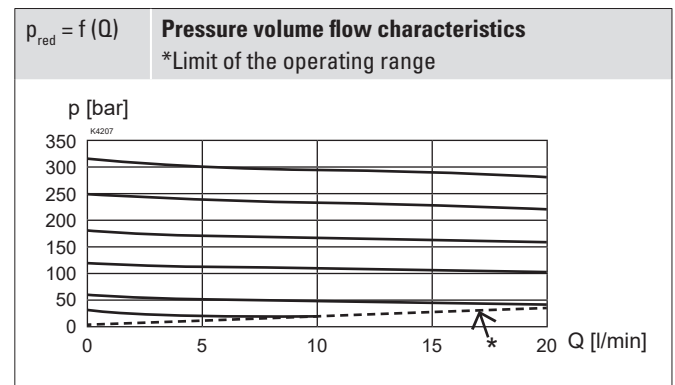
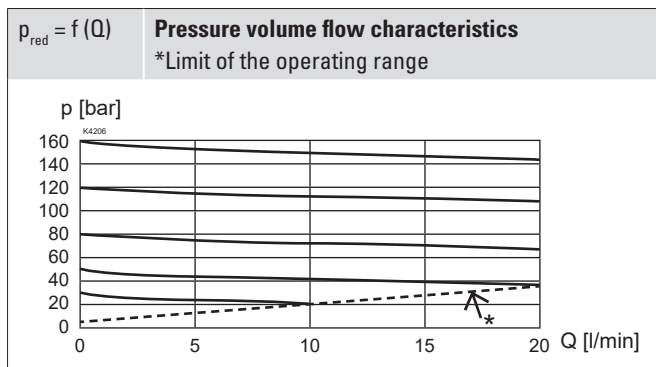
GENERAL SPECIFICATIONS

Designation	Pressure reducing valve
Construction	Direct operated
Mounting	Screw-in cartridge construction
Nominal size	M22 x 1,5 according to ISO 7789
Actuation	Manually
Ambient temperature	-25...+90 °C
Weight	0,29 kg key adjustment 0,29 kg control knob adjustment
MTTFd	150 years

HYDRAULIC SPECIFICATIONS

Working pressure	$p_{max} = 350$ bar
Nominal pressure range	$p_{N\ red} = 160$ bar, 315 bar
Volume flow range	See characteristic
Nominal volume flow	$Q_{nominal} = 15$ l/min
Leakage oil	Seat tight, max. 0,15 ml / min (approx. 3 drops / min) at 30 cSt
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm ² /s...320 mm ² /s
Temperature range fluid	-25...+90 °C (NBR) -20...+90 °C (FKM)
Contamination efficiency	Class 18 / 16 / 13
Filtration	Required filtration grade $\beta_{6...10} \geq 75$, see data sheet 1.0-50

PERFORMANCE SPECIFICATIONS

 Oil viscosity $\nu = 30$ mm²/s

ACCESSORIES

Types of adjustment for screw-in cartridges	Data sheet 2.0-50
Threaded body	Data sheet 2.9-205
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

SEALING MATERIAL

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

SURFACE TREATMENT

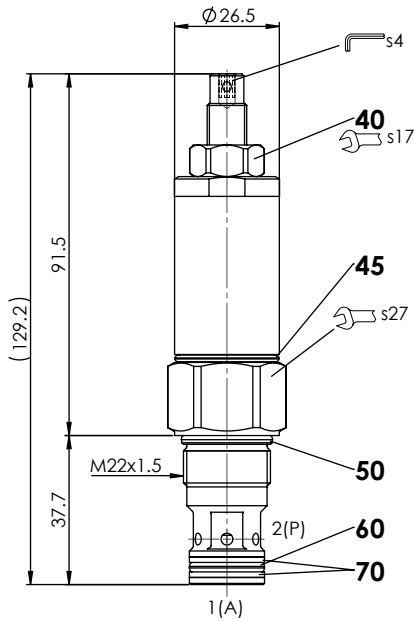
- ◆ The housing and the spindle are made of stainless steel
- ◆ The control knob is made of aluminium

INSTALLATION NOTES

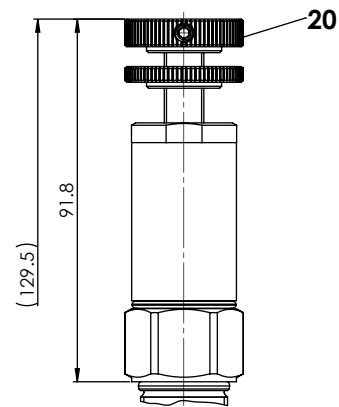
Mounting type	Screw-in cartridge M22 x 1,5
Mounting position	Any, preferably horizontal
Tightening torque	$M_D = 50$ Nm Screw-in cartridge

DIMENSIONS

Key adjustment „S”

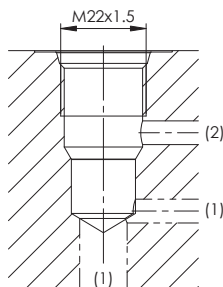


Control knob adjustment „D”



HYDRAULIC CONNECTION

Cavity drawing according to ISO 7789-22-01-0-98


Note!


For detailed cavity drawing and cavity tools see data sheet 2.13-1008

PARTS LIST

Position	Article	Description
20	113.1049	Standard knob incl. counter nut
40	153.1505	Hexagon nut 0,8d A4 M10 x 1
45	160.6218	O-ring ID 21,95 x 1,75 (FKM)
50	160.2188	O-ring ID 18,77 x 1,78 (NBR)
	160.6188	O-ring ID 18,77 x 1,78 (FKM)
60	160.2156	O-ring ID 15,60 x 1,78 (NBR)
	160.6156	O-ring ID 15,60 x 1,78 (FKM)
70	049.8196	Backup ring PTSM rd 14,5 x 17,4 x 1,4

STANDARDS

Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406