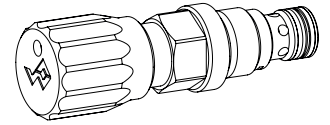


Pressure relief cartridge

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

M18 x 1,5
ISO 7789



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.

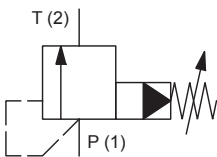
APPLICATION

These valves are used for limiting the operating pressure in the hydraulic system. The screw-in cartridge is perfectly suitable for installation in control blocks and is installed in sandwich- (vertical stacked systems) and in flange plates (corresponding data sheets in this register). 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! Not to be used in applications with periodically changing flow direction.



SYMBOL



ACTUATION

Actuation	Adjustment spindle M8 x 1
Execution	S = blockable key adjustment D = blockable knob adjustment Optionally: K = lockable adjustment G = star handle adjustment → see Data sheet 2.0-50
Actuation angle	$\alpha_b = 1800^\circ$ (5 rotations)
Actuation stroke	$S_b = 5 \text{ mm}$

TYPE CODE

Pressure relief valve				B	V		PM18	-		-		#	
Pilot operated													
Type of adjustment	Key	<input type="checkbox"/>	S										
	Control knob	<input type="checkbox"/>	D										
	Cover	<input type="checkbox"/>	A										
Screw-in cartridge M18 x 1,5													
Nominal pressure range p_N	63 bar	<input type="checkbox"/>	63										
	160 bar	<input type="checkbox"/>	160										
	350 bar	<input type="checkbox"/>	350										
Sealing material	NBR	<input type="checkbox"/>											
	FKM (Viton)	<input type="checkbox"/>	D1										
	NBR 872	<input type="checkbox"/>	y-Z604										
Design index (subject to change)													

2.1-510

GENERAL SPECIFICATIONS

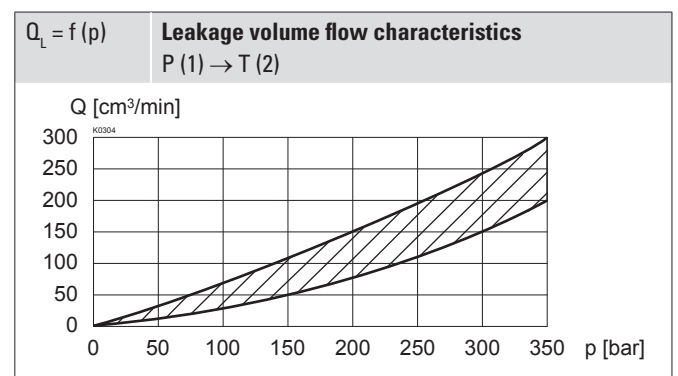
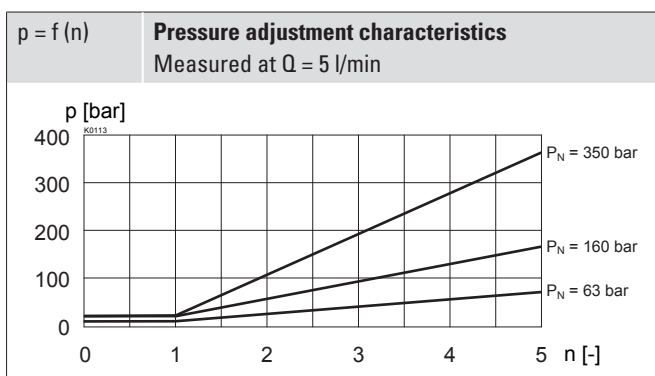
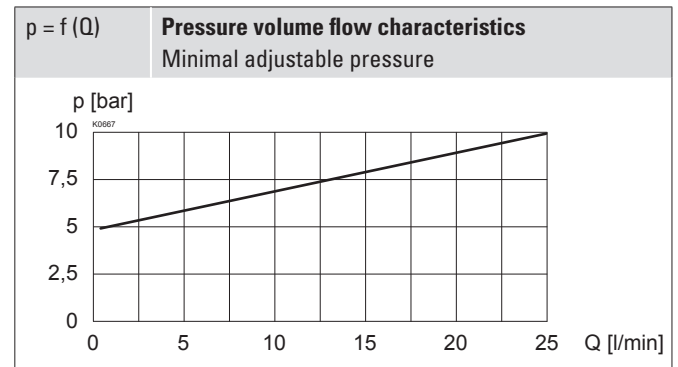
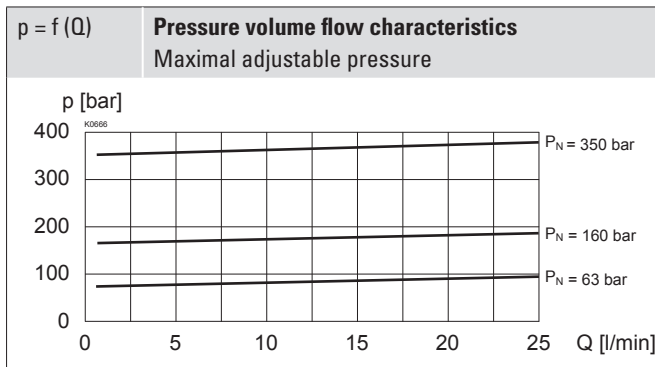
Designation	Pressure relief valve
Construction	Pilot operated
Mounting	Screw-in cartridge construction
Nominal size	M18 x 1,5 according to ISO 7789
Actuation	Manually
Ambient temperature	-25...+90 °C
Weight	0,10 kg key adjustment 0,12 kg control knob adjustment 0,16 kg cover
MTTFd	150 years

HYDRAULIC SPECIFICATIONS

Working pressure	$p_{max} = 400 \text{ bar}$
Tank pressure	$p_{Tmax} p_P + 80 \text{ bar}$
Nominal pressure range	$p_N = 63 \text{ bar}, 160 \text{ bar}, 350 \text{ bar}$
Minimum pressure	See characteristics
Volume flow range	$Q = 0,1 \dots 25 \text{ l/min}$
Leakage oil	See characteristics
Fluid	Mineral oil, other fluid on request
Viscosity range	$12 \text{ mm}^2/\text{s} \dots 320 \text{ mm}^2/\text{s}$
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 $\nu = 30 \text{ mm}^2/\text{s}$



SEALING MATERIAL

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

SURFACE TREATMENT

- ◆ The cartridge body is zinc-nickel coated
- ◆ The control knob is made of plastic

STANDARDS

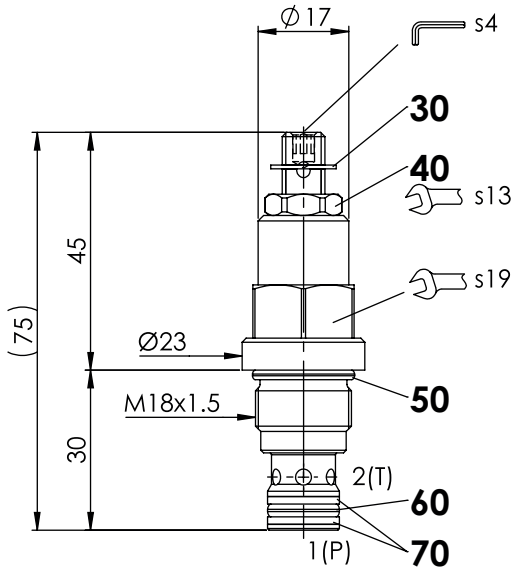
Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406

INSTALLATION NOTES

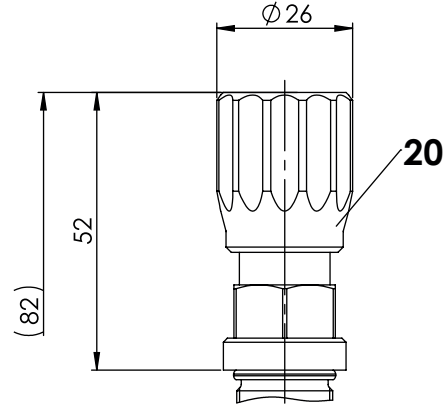
Mounting type	Screw-in cartridge M18 x 1,5
Mounting position	Any, preferably horizontal
Tightening torque	$M_D = 40 \text{ Nm}$ Screw-in cartridge

DIMENSIONS

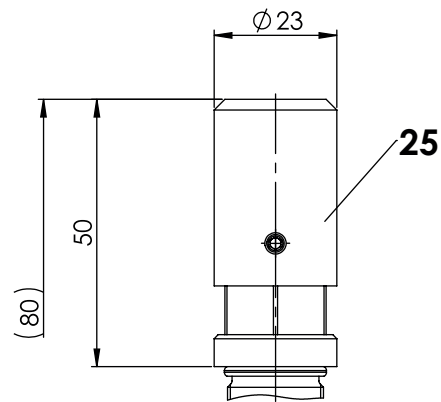
Key adjustment «S»



Control knob adjustment «D»



Cover «A»


PARTS LIST

Position	Article	Description
20	114.2224	Control knob
25	032.0611	Cover rd 23 / 3 x 35
30	193.1061	Retainer rd 6 DIN 6799
40	153.1402	Hexagon nut 0,5d M8 x 1
	251.5912	Seal kit BV/BS.PM18
	251.5905	Seal kit BV/BS.PM18-D1

Seal kit consisting of:

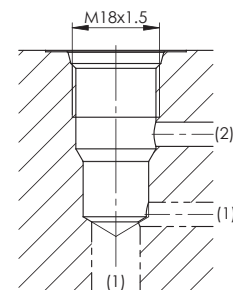
50	O-ring	ID 15,60 x 1,78
60	O-ring	ID 9,25 x 1,78
70	Back. ring	PTFE rd 10,6 x 13,5 x 1,4

ACCESSORIES

Types of adjustment for screw-in cartridges	Data sheet 2.0-50
Flange body / sandwich plate NG3-Mini	Data sheet 2.1-600
Threaded body	Data sheet 2.9-200
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

HYDRAULIC CONNECTION

Cavity drawing according to ISO 7789-18-02-0-98


Note!


For detailed cavity drawing and cavity tools see data sheet 2.13-1001