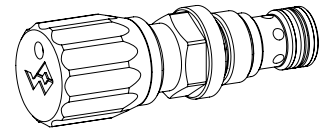


### Throttle cartridge

- ◆  $Q_{\max} = 25 \text{ l/min}$
- ◆  $Q_{N\max} = 25 \text{ l/min}$
- ◆  $p_{\max} = 350 \text{ bar}$

**M18 x 1,5**  
**ISO 7789**



### DESCRIPTION

Mechanically adjustable throttle valve in screw-in cartridge construction for cavity according to ISO 7789. The throttle spindle which can be adjusted via a fine thread releases a ring gap or a triangular notch for the volume flow entering the port 1 or 2. The adjusted throttle cross section generates a pressure drop which determines the volume flow. When screwed in, the throttle closes practically leakage-free. The oil flow is possible in both directions.

### APPLICATION

Throttle valves are used where volume flows have to be controlled continuously in both flow directions without taking into account pressure fluctuations. The screw-in cartridge is perfectly suitable for installation in control blocks and is installed in sandwich plates (vertical stacked systems, 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.

### SYMBOL



### ACTUATION

Actuation	S = lockable key adjustment D = lockable knob adjustment Optionally K = lockable adjustment G = star handle adjustment → see data sheet 2.0-50
Actuation angle	$\alpha_b = 1620^\circ$ (4,5 rotations)
Actuation stroke	$S_b = 4,5 \text{ mm}$

### TYPE CODE

Throttle valve			DN	<input type="checkbox"/>	PM18	-	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
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 volume flow rate $Q_N$	0,32 l/min	<input type="checkbox"/> 0,32									
	3,2 l/min	<input type="checkbox"/> 3,2									
	25 l/min	<input type="checkbox"/> 25									
Sealing material	NBR	<input type="checkbox"/>									
	FKM (Viton)	<input type="checkbox"/> D1									
	NBR 872	<input type="checkbox"/> Z604									
Design index (subject to change)											

2.4-510

### 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

### STANDARDS

Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406

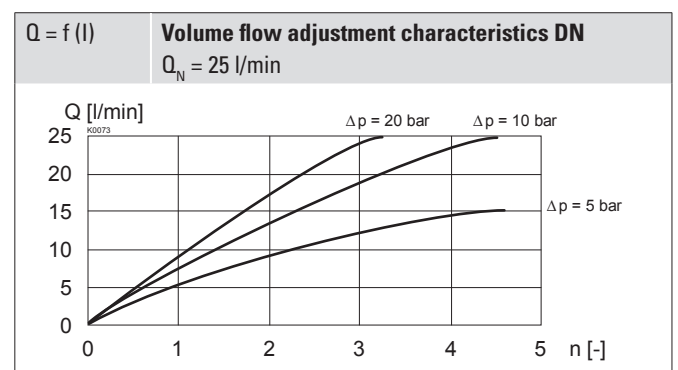
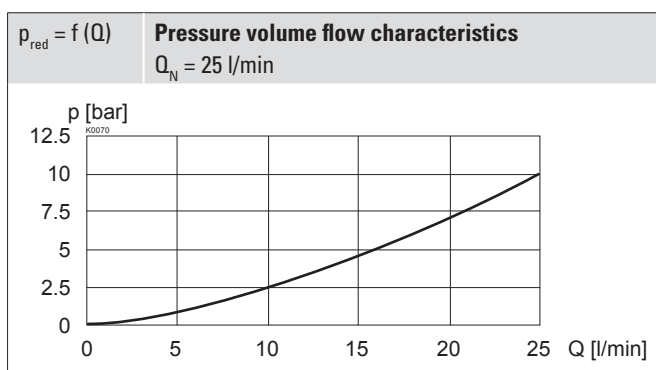
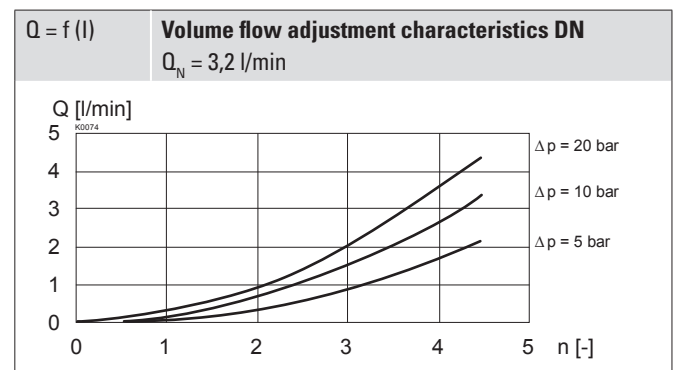
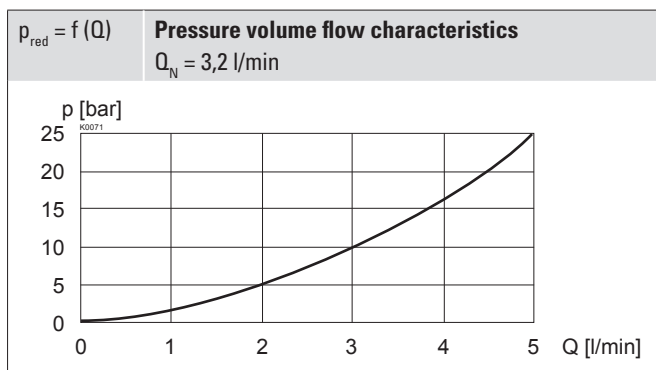
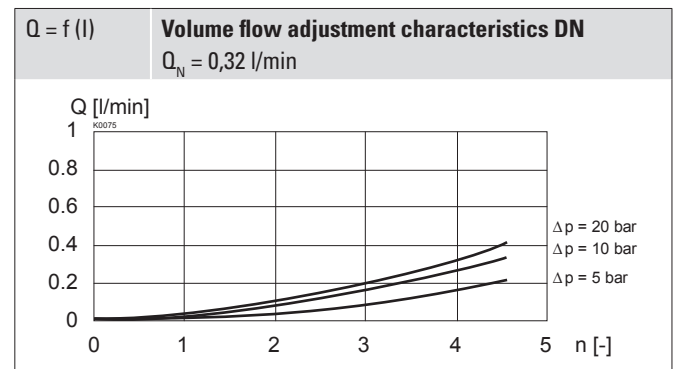
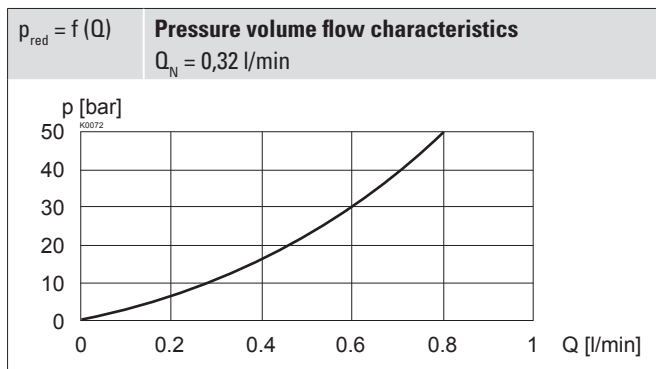
**GENERAL SPECIFICATIONS**

Designation	Throttle valve
Mounting	Screw-in cartridge construction
Nominal size	M18 x 1,5 according to ISO 7789
Ambient temperature	-25...+90 °C
Weight	0,09 kg key adjustment 0,10 kg control knob adjustment 0,16 kg cover
MTTFd	150 years

**HYDRAULIC SPECIFICATIONS**

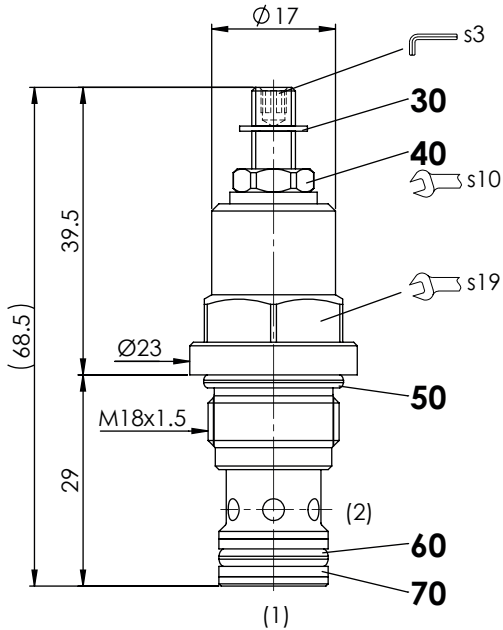
Working pressure	$p_{max} = 350$ bar
Maximum volume flow	$Q_{max} = 25$ l/min
Nominal volume flow	$Q_N = 0,32; 3,2; 25$ l/min at 10 bar valve pressure drop
Leakage oil	With closed throttle practically leakage-free
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm <sup>2</sup> /s...320 mm <sup>2</sup> /s
Temperature range fluid	-25...+90 °C (NBR) -20...+90 °C (FKM)
Contamination efficiency	Classe 20 / 18 / 14...21 / 19 / 15
Filtration	Required filtration grade $\beta_{10...25} \geq 75$ , see data sheet 1.0-50 / 2

**PERFORMANCE SPECIFICATIONS**

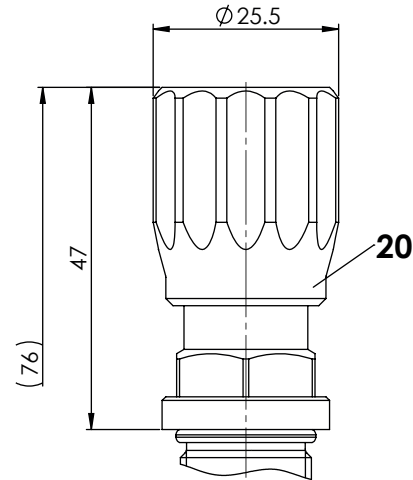
 Oil viscosity  $\nu = 30$  mm<sup>2</sup>/s


**DIMENSIONS**

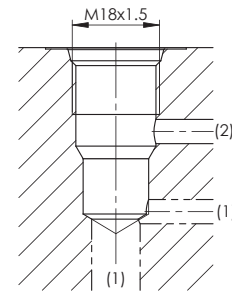
Key adjustment „S”



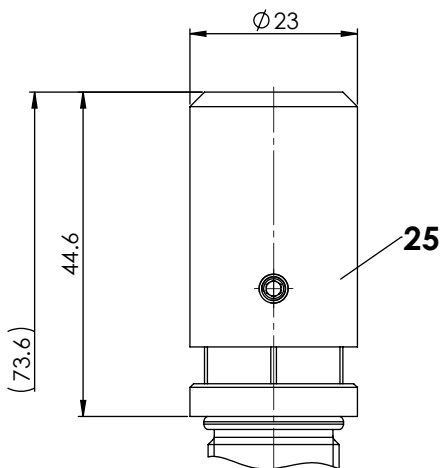
Control knob adjustment „D”


**HYDRAULIC CONNECTION**

Cavity drawing according to ISO 7789-18-01-0-98



Cover „A”


**Note!**


For detailed cavity drawing and cavity tools see data sheet 2.13-1002

**SEALING MATERIAL**

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

**SURFACE TREATMENT**

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

**PARTS LIST**

Position	Article	Description
20	114.2299	Control knob
25	032.0611	Cover rd 23 / 3 x 35
30	193.1040	Retainer rd 4 DIN 6799
40	153.1302	Hexagon nut 0,5d M6 x 3,2
45	234.1060	Washer DIN 125A M6
50	160.2156	O-ring ID 15,60 x 1,78 (NBR)
	160.6156	O-ring ID 15,60 x 1,78 (FKM)
60	160.2111	O-ring ID 11,11 x 1,78 (NBR)
	160.6111	O-ring ID 11,11 x 1,78 (FKM)
70	049.3156	Backup ring rd 12,1 x 15 x 1,4

**ACCESSORIES**

Types of adjustment for screw-in cartridges	Data sheet 2.0-50
Flange body / sandwich plate NG3-Mini	Data sheet 2.4-700
Threaded body	Data sheet 2.9-205
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

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