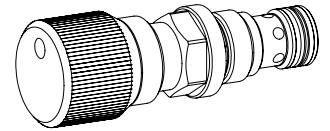


**Throttle cartridge stainless**

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

**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. The stainless execution is especially suitable for the use in wet and salty environment.

**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	Adjustment spindle M10 x 1
Execution	S = blockable key adjustment D = blockable knob adjustment Optionally: G = star handle adjustment
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"/>	K9 #	<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									
Stainless										
Design index (subject to change)										

2.4-510

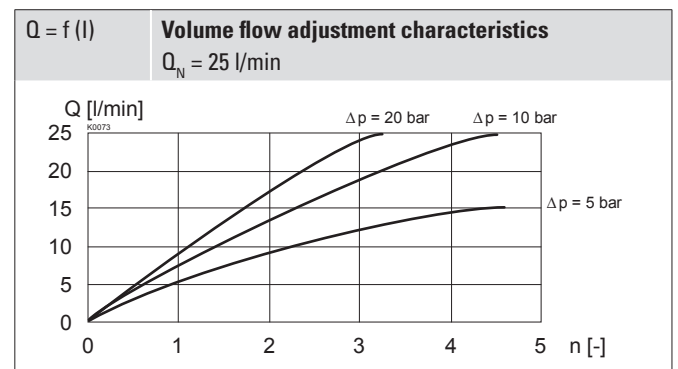
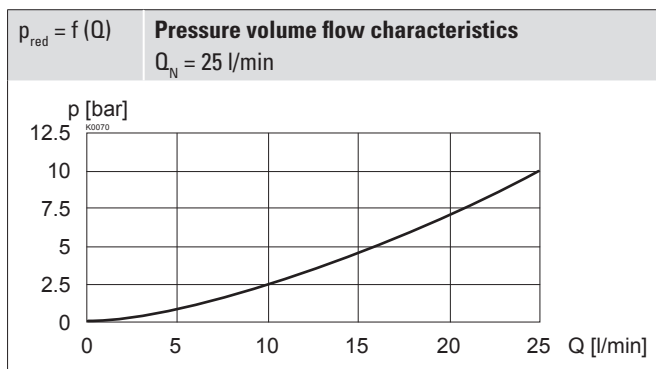
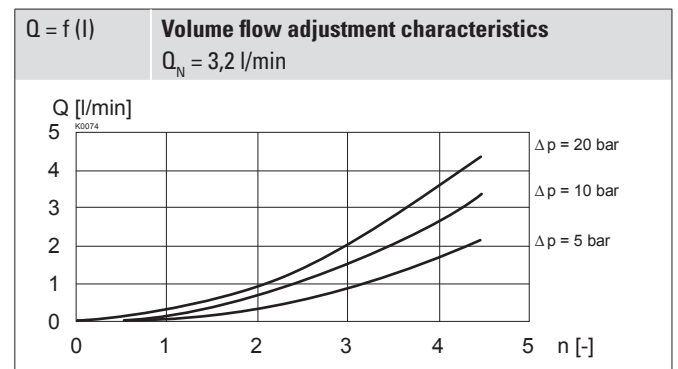
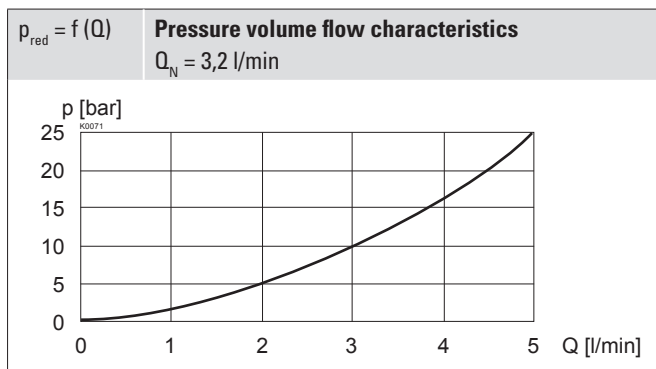
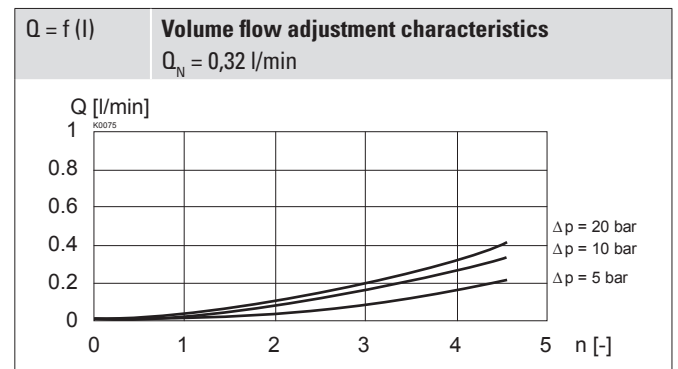
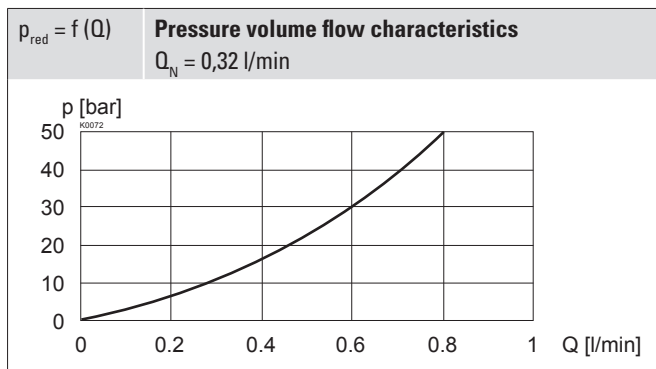
**GENERAL SPECIFICATIONS**

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 0,18 kg control knob adjustment 0,16 kg cover
MTTFd	150 years

**HYDRAULIC SPECIFICATIONS**

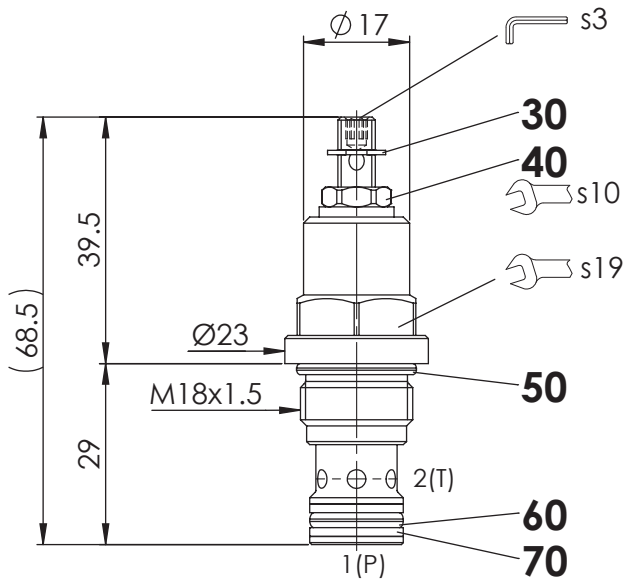
Working pressure	$p_{max} = 350$ bar
Maximum volume flow	$Q_{max} = 25$ l/min
Nominal volume flow	$Q_N = 0,32; 3,2; 25$ l/min at 10 bar valve pressure drop
Leakage oil	With closed throttle practically leakage-free
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm <sup>2</sup> /s...320 mm <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**

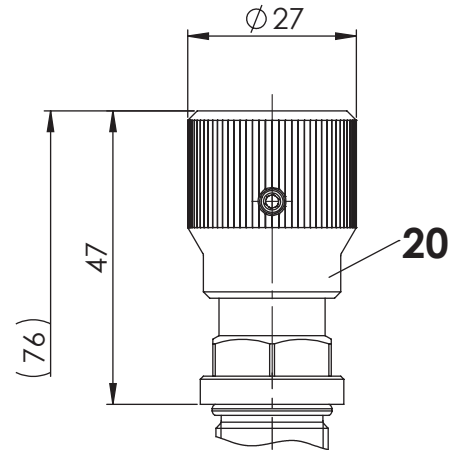
 Oil viscosity  $\nu = 30$  mm<sup>2</sup>/s


**DIMENSIONS**

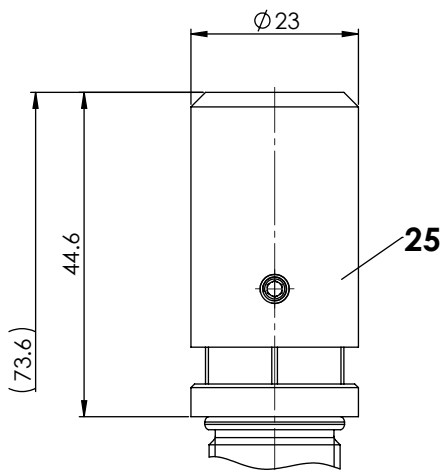
Key adjustment „S”



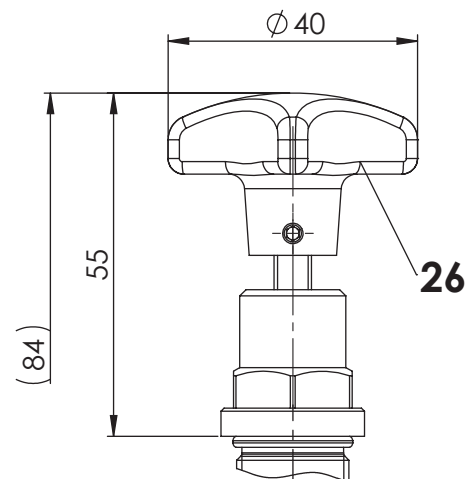
Control knob adjustment „D”



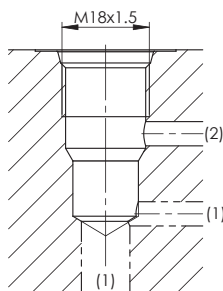
Cover „A”



Star handle „G”


**HYDRAULIC CONNECTION**

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


**Note!**


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

**PARTS LIST**

Position	Article	Description
20	114.2228	Control knob K9
25	032.0616	Cover rd 23 / 3 x 35 K9
26	082.2004	Star handle rd 40 x 26
30	193.1042	Retainer stainless rd 4 DIN 6799
40	153.1303	Hexagon nut 0,5d A4 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
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

## 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

## SURFACE TREATMENT

- ◆ The cartridge body and the control knob are made of stainless steel

## STANDARDS

Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406