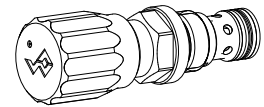


Throttle valve
Screw-in cartridge

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

M18x1,5
 ISO 7789

DESCRIPTION

Manually adjustable, M18x1,5 screw-in cartridge throttle valve in accordance with cavity ISO 7789. The valve can be adjusted and locked in two ways, either with a spanner («S» type), a knob («D» type). Three volume flow stages are available as standard: $Q_N = 0,32 / 3,2$ and 25 l/min with a $\Delta p = 10 \text{ bar}$. The cartridge body made of steel is galvanized and therefore rust-protected.

FUNCTION

A fine tread on the adjustable throttle reveals an annular gap or triangular notch. The adjusted throttle cross-section produces a pressure drop which determines the volume flow. The volume flow is zero when the throttle is screwed in (the metal sealing edge seals completely). The valve flow is bidirectional.

APPLICATION

Throttle valves can be used anywhere where volume flows can be infinitely controlled in both directions without taking pressure fluctuations into account. The screwed cartridge design is ideal for installing in control blocks and is used as a functional part in sandwich plates (vertical linkage) of the Wandfluh NG3-Mini hydraulics (please refer to the separate data sheets in register 2.4). Stepped tools are available for making the receptacle bores in steel and aluminium (hire or purchase). Please refer to the data sheets in register 2.13.

TYPE CODE

		DN	<input type="checkbox"/>	PM18	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Throttle valve								
Type of adjustment	Key	<input type="checkbox"/>	S					
	Control knob	<input type="checkbox"/>	D					
Screw-in cartridge M18x1,5								
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					
Design-Index (Subject to change)								

GENERAL SPECIFICATIONS

Description	Throttle valve
Construction	Screw-in cartridge for cavity acc. to ISO 7789
Mounting	Screw-in thread M18x1,5
Ambient temperature	-20...+50 °C
Mounting position	any
Fastening torque	$M_D = 30 \text{ Nm}$
Weight	$m = 0,12 \text{ kg}$ (Screw) $m = 0,13 \text{ kg}$ (Knob)
Volume flow direction	1 ↔ 2

HYDRAULIC SPECIFICATIONS

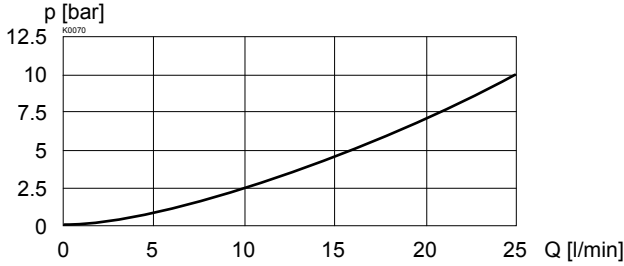
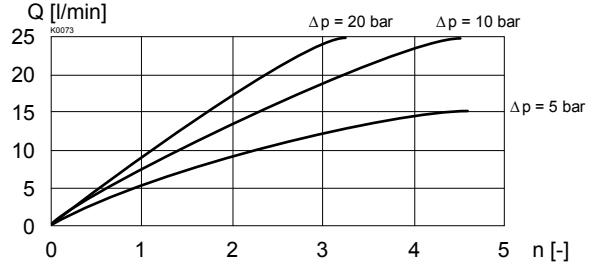
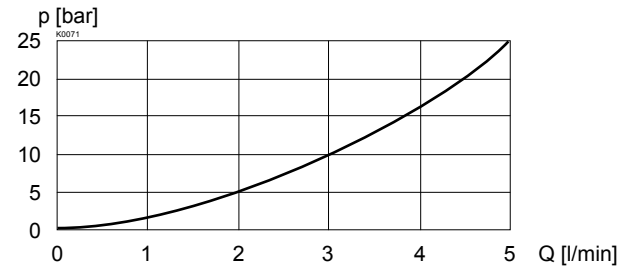
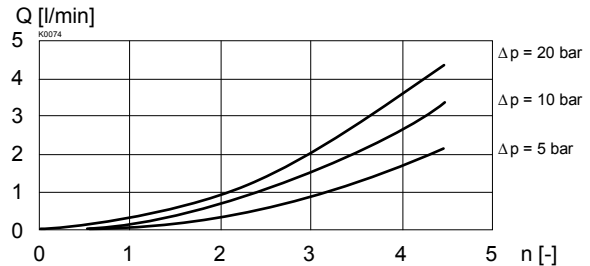
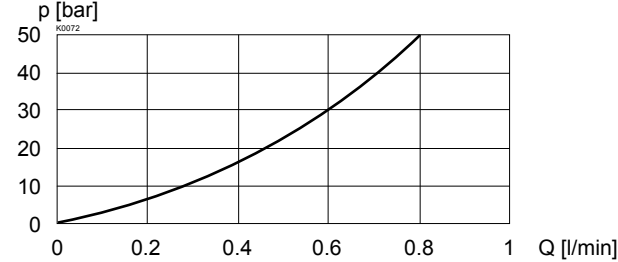
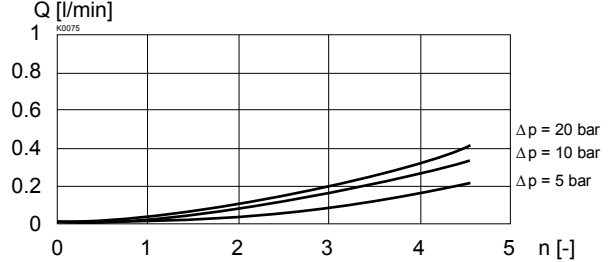
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14...21/19/15
	Required filtration grade ($\beta_{10...25} \geq 75$) (refer to data sheet 1.0-50/2)
Viscosity range	12mm ² /s...320mm ² /s
Fluid temperature	-20...+70 °C
Peak pressure	$p_{\max} = 350 \text{ bar}$
Nominal volume flow rates	$Q_N = 0,32 \text{ l/min}$, $Q_N = 3,2 \text{ l/min}$ $Q_N = 25 \text{ l/min}$
	Q_N at 10 bar valve pressure loss
Max. volume flow	$Q_{\max} = 25 \text{ l/min}$
Leakage volume flow	Almost leak free with closed restrictor

SYMBOL

MECHANICAL ACTUATION

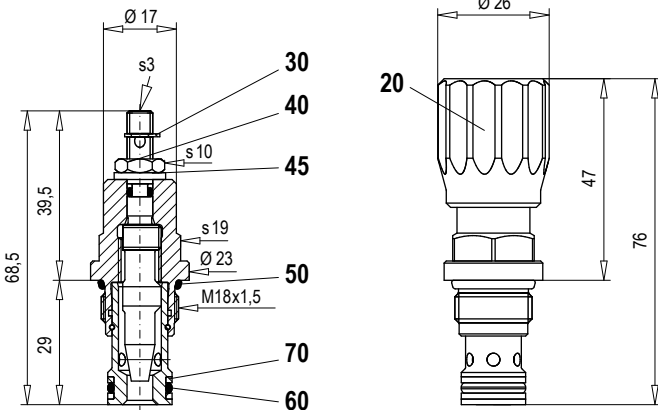
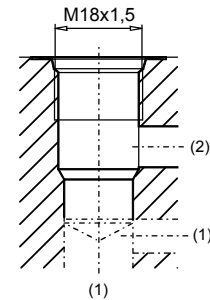
Mechanical types of operation in 2 different versions:

S	= Screw adjustment with fork wrench and Allen key
D	= Control knob adjustment, fixed
Control stroke S_b	= 4,5 mm
Control angle α_b	= 1620° / 4,5 turns

CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$
 $\Delta p = f(Q)$ Pressure drop/flow characteristics
 $Q_N = 25 \text{ l/min}$

 $Q = f(n)$ Volume flow adjustment characteristics
 $Q_N = 25 \text{ l/min}$

 $\Delta p = f(Q)$ Pressure drop/flow characteristics
 $Q_N = 3,2 \text{ l/min}$

 $Q = f(n)$ Volume flow adjustment characteristics
 $Q_N = 3,2 \text{ l/min}$

 $\Delta p = f(Q)$ Pressure drop/flow characteristics
 $Q_N = 0,32 \text{ l/min}$

 $Q = f(n)$ Volume flow adjustment characteristics
 $Q_N = 0,32 \text{ l/min}$

DIMENSIONS / SECTIONAL DRAWING

Screw adjustment «S»

Knob adjustment «D»


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

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

PARTS LIST

Position	Article	Description
20	114.2299	Knob
30	193.1040	Safety plate RD4 DIN 6799
40	153.1302	Hexagonal nut 0,5D M6x3,2
45	234.1060	Disc
50	160.2156	O-ring ID 15,60x1,78
60	160.2111	O-ring ID 11,11x1,78
70	049.3156	Back-up ring RD 12,1x15x1,4

ACCESSORIES

 Flange/sandwich plate NG3-Mini Data sheet 2.4-700
 Line mount body Data sheet 2.9-205

Technical explanation see data sheet 1.0-100