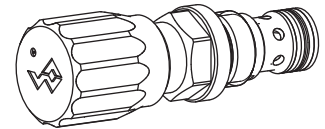


**Throttle valve**
**Screw-in cartridge**

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

**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  $25 \text{ l/min}$  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.

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**TYPE CODE**

	DN	<input type="checkbox"/>	PM18	-	<input type="text"/>	#	<input type="checkbox"/>
Throttle valve							
Setting versions: Key	<input type="checkbox"/>						
Control knob	<input type="checkbox"/>						
Screw-in cartridge M18x1,5							
Standard nominal volume flow rates:	$Q_N = 0,32 \text{ l/min}$	<input type="checkbox"/>					
(at 10 bar valve pressure loss)	$Q_N = 3,2 \text{ l/min}$	<input type="checkbox"/>					
	$Q_N = 25 \text{ l/min}$	<input type="checkbox"/>					
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

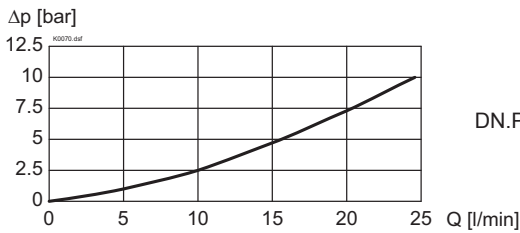
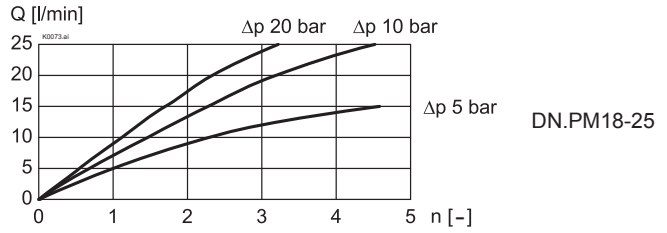
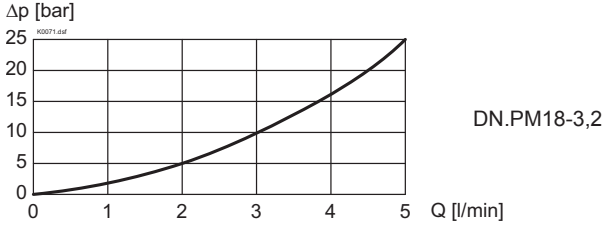
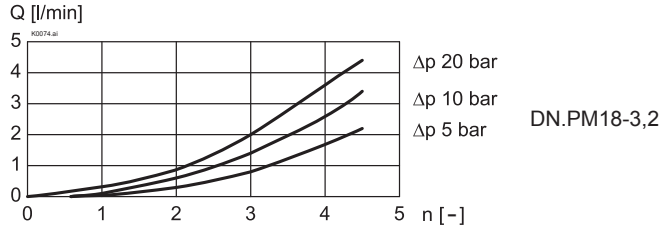
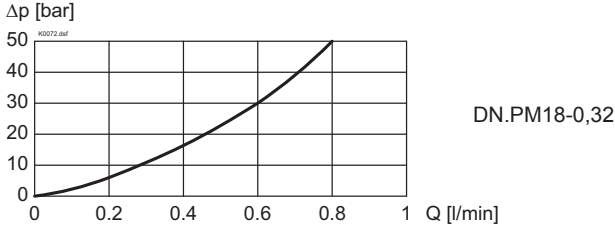
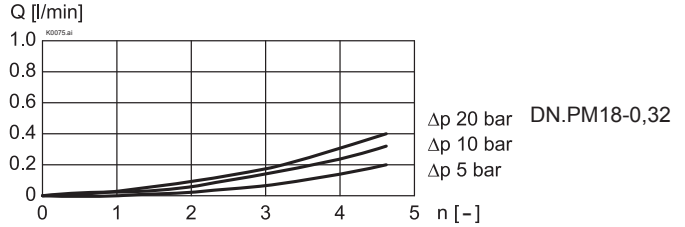
**HYDRAULIC SPECIFICATIONS**

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 <sup>2</sup> /s...320mm <sup>2</sup> /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

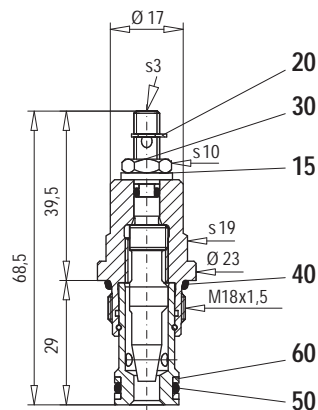
**SYMBOL**

**MECHANICAL ACTUATION**

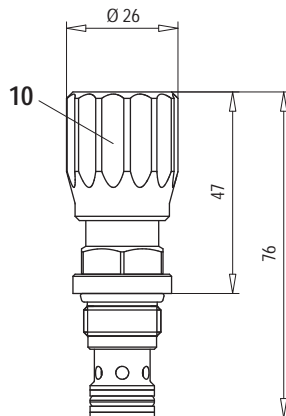
Mechanical types of operation in 2 different versions:	
S	= Screw adjustment with fork wrench and Allen key
D	= Control knob
Control stroke $S_b$	= 4,5 mm
Control angle $\alpha_b$	= 1620° / 4,5 turns

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

 $Q = f(n)$  Volume flow adjustment characteristics

 $\Delta p = f(Q)$  Pressure drop/flow characteristics

 $Q = f(n)$  Volume flow adjustment characteristics

 $\Delta p = f(Q)$  Pressure drop/flow characteristics

 $Q = f(n)$  Volume flow adjustment characteristics

**DIMENSIONS / SECTIONAL DRAWING**

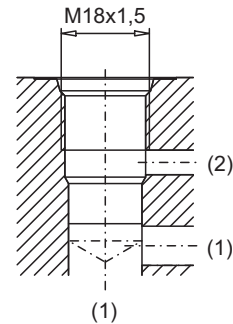
Screw adjustment «S»



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
10	114.2299	Knob
15	234.1060	Disc
20	193.1040	Safety plate RD4 DIN 6799
30	153.1302	Hexagonal nut 0,5D M6x3,2
40	160.2156	O-ring ID 15,60x1,78
50	160.2111	O-ring ID 11,11x1,78
60	049.3156	Back-up ring RD 12,1x15x1,4

**ACCESSORIES**

 Cartridge built into sandwich plate:  
 Sandwich valve

register 2.4

Technical explanation see data sheet 1.0-100