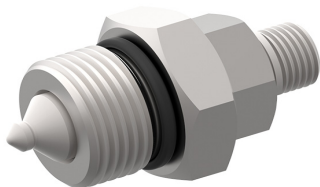


# Throttle and Shut-off Cartridges, Size 5

$Q_{\max} = 50 \text{ l/min}$ ,  $p_{\max} = 350 \text{ bar}$   
 Semi-cartridge, seat-valve design  
 Series MDPWA...



- Throttle and shut-off function in both directions
- Compact design for cavity type AW to Bucher standards
- Leak-free shut-off function
- For space-saving direct mounting in manifold blocks or housings
- Available with hand-knob
- All exposed parts with zinc-nickel plating

## 1 Description

Series MDPW... throttle and shut-off valves are size 5, high performance screw-in cartridges with an M20x1.5 mounting thread. With this semi-cartridge design, the valve seat is formed by the bottom part of the stepped cavity. Due to the conical seat design, the cartridges are leak-free in both directions (A → B / B → A) in the closed position (drain valve function). Both flow directions are also possible when functioning as a throttle cartridge. Pressure (the pump) should

preferably be connected to port A. The flow is set, or the valve is shut, by means of an adjusting screw or a hand-knob. The throttle and shut-off cartridges (drain valves) can be used in manifold blocks and line-mounting bodies. All external parts of the cartridge are zinc-nickel plated to DIN 50 979 and are thus suitable for use in the harshest operating environments.

## 2 Symbol



## 3 Technical data

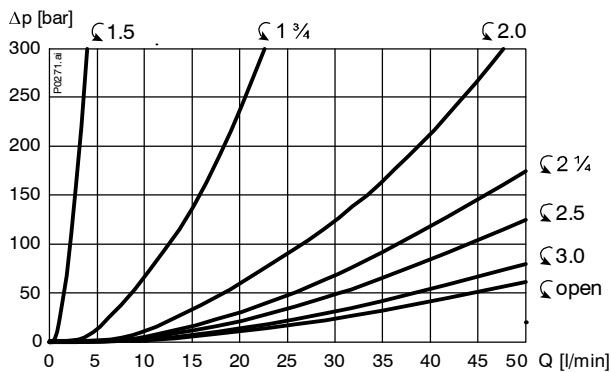
General characteristics	Description, value, unit
Designation	throttle and shut-off cartridge
Design	semi-cartridge, seat-valve design
Mounting method	screw-in cartridge M20 x 1.5
Tightening torque	50 Nm ± 10 %
Size	nominal size 5 mm, cavity type AW to Bucher standards
Weight	0,075 kg
Mounting attitude	unrestricted
Ambient temperature range	-25 °C ... +80 °C
MTTF <sub>D</sub> values	150 years, see data sheet 400-P-010101-en

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	50 l/min
Flow direction	both directions, but preferably A → B
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-25 °C ... +80 °C
Viscosity range	10...650 mm <sup>2</sup> /s (cSt), recommended 15...250 mm <sup>2</sup> /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15

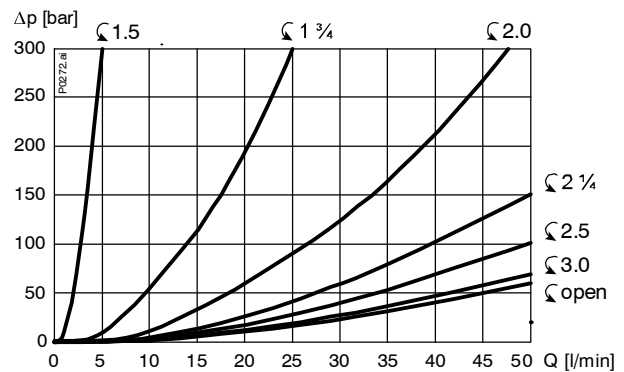
## 4 Performance graphs

measured with oil viscosity 33 mm<sup>2</sup>/s (cSt)

$\Delta p = f(Q)$  Pressure drop - Flow rate characteristic [A → B]

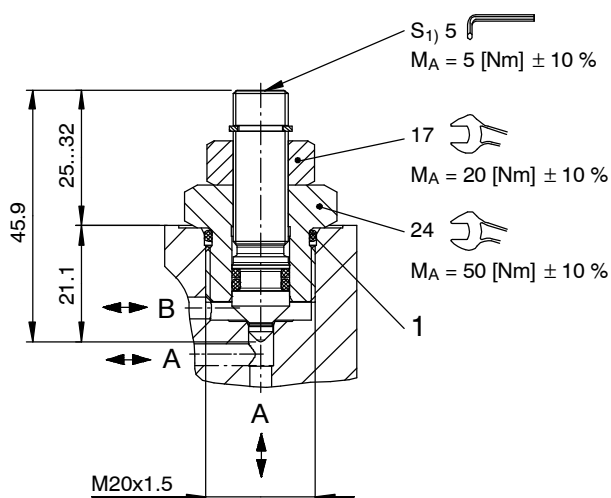


$\Delta p = f(Q)$  Pressure drop - Flow rate characteristic [B → A]

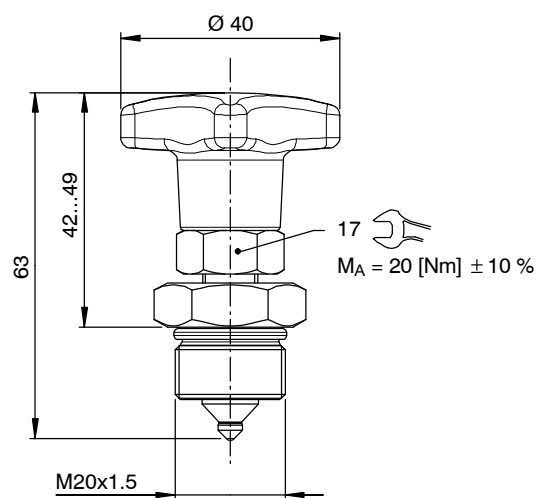


## 5 Dimensions & sectional view

With adjusting screw "S"



With hand-knob adjuster "H"



## 6 Installation information



### IMPORTANT!

When fitting the cartridges, use the specified tightening torque. Set the required pressure with the adjusting screw ( $s_1$ ). When the cartridge is used as a shut-off valve (drain valve), tighten the adjusting screw ( $s_1$ ) with a tightening torque  $Ma = 5 \text{ Nm} \pm 10 \%$ . After you have set the valve, lock the adjusting screw with the lock nut.



### ATTENTION!

Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

### Seal kit NBR no. DS-410-N 2)

Item	Qty.	Description
1	1	O-ring no. 017 $\varnothing 17.17 \times 1.78$ N90



### IMPORTANT!

2) Seal kit with FKM (Viton) seals, no. DS-410-V

## 7 Ordering code

Ex. 

M	DP	W	A
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5	S	
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- M = flow-regulating valve
- DP = throttle cartridge
- W = cavity type AW
- A ... Q = standard model - see relevant data sheets
- Z ... R = special features - please consult BUCHER
- 5 = nominal size 5
- S = screw adjuster (standard)
- H = hand-knob adjuster
- (blank) = NBR (Nitrile) seals (standard)
- V = FKM (Viton) seals  
(special seals - please contact BUCHER)
- 1 ... 9 = design stage (omit when ordering new units)

## 8 Related data sheets

Reference	(Old no.)	Description
400-P-040011	(i-32)	The form-tool hire programme
400-P-040251		Cavity type AW
400-P-010101		MTTF <sub>D</sub> values for hydraulic valves

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