

Throttle and Shut-off Cartridges, Size 10

Q_{max} = 140 l/min, p_{max} = 350 bar Semi-cartridge / screw-in cartridge, seat-valve design Series MDPAA... / MDPCA



- Throttle and shut-off function in both directions
- Compact design for cavity types CA or DC to Bucher standards
- Leak-free shut-off function
- For space-saving direct mounting in manifold blocks or housings
- · Available with adjusting screw or hand-knob
- · All exposed parts with zinc-nickel plating
- · Can be fitted in a line-mounting body

1 Description

Series MDPAA... throttle/shut-off valves are size 10, high performance screw-in cartridges with an M18x1.5 mounting thread. With this semi-cartridge design, the valve seat is formed by the bottom part of the stepped cavity. In series MDPCA..., however, the semi-cartridge is fitted in a cartridge body with an M24x1.5 mounting thread, and the valve seat is part of the cartridge body. Due to the conical seat design, the cartridges are leak-free in both directions (A \rightarrow B / B \rightarrow 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. Please note: above approximately 150 bar, adjustment by hand-knob becomes increasingly difficult. In this situation we recommend that you use an Allen key (6 A/F). 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 / screw-in cartridge, seat-valve design
Mounting method	- MDPAA - MDPCA	screw-in cartridge M18 x 1.5 (semi-cartridge) screw-in cartridge M24 x 1.5
Tightening torque		70 Nm ± 10 %
Size		nominal size 10 mm, cavity types CA or DC to Bucher standards
Weight	- MDPAA - MDPCA	0,10 kg 0,19 kg
Mounting attitude		unrestricted
Ambient temperature range		-25 °C +80 °C

Reference: 400-P-405101-EN-01

Issue: 09.2015 (Replaces: M-13a / 08.99)

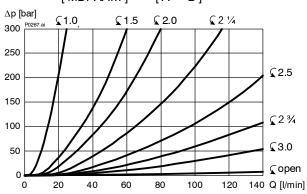


Hydraulic characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	140 l/min
Flow direction	both directions, but preferably A →□B
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-25 °C +80 °C
Viscosity range	10650 mm ² /s (cSt), recommended 15250 mm ² /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15

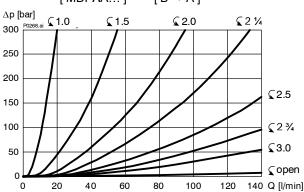
4 Performance graphs

measured with oil viscosity 33 mm²/s (cSt)

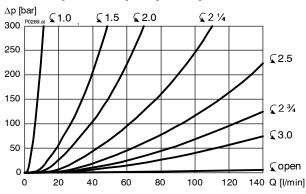
 $\Delta p = f(Q)$ Pressure drop - Flow rate characteristic [MDPAA...] [A \rightarrow B]



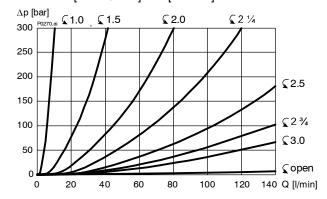
 $\Delta p = f(Q)$ Pressure drop - Flow rate characteristic [MDPAA...] [B \rightarrow A]



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



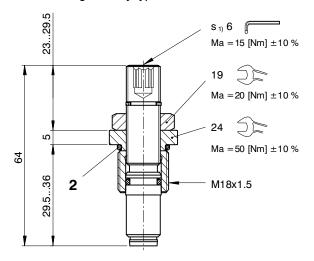
 $\Delta p = f(Q)$ Pressure drop - Flow rate characteristic [MDPCA...] [B \rightarrow A]



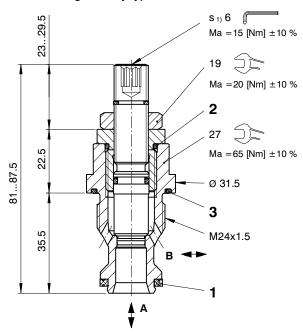


5 Dimensions & sectional view

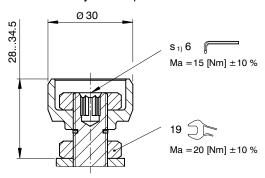
For mounting in cavity type CA - standard



For mounting in cavity type DC



Hand-knob adjuster - optional



6 Installation information



IMPORTANT!

When fitting the cartridges, use the specified tightening torque. Set the required pressure with the adjusting screw (s_1) or hand-knob. When the cartridge is used as a shut-off valve (drain valve), tighten the adjusting screw (s_1) with a tightening torque Ma = 15 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-253-N 2)

Item	Qty.	Description		
1	1	Seal ring Ø 22,10 / 16,50 x 2,50		
2	1	O-ring no. 015 Ø 14,00 x 1,78 N90		
3	1	O-ring no 021 Ø 23,52 x 1,78 N90		

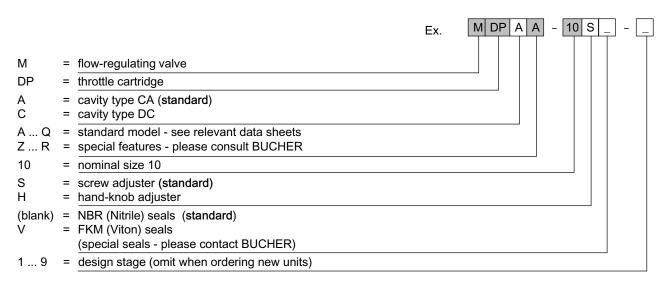


IMPORTANT!

2) Seal kit with FKM (Viton) seals, no. DS-253-V



7 Ordering code



8 Related data sheets

Reference	(Old no.)	Description
400-P-040011	(i-32)	The form-tool hire programme
400-P-060101		Cavity type CA
400-P-060111		Cavity type DC
400-P-740101	(G-24.20)	Line- and manifold-mounting body, type DC-12 (G 1/2")

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