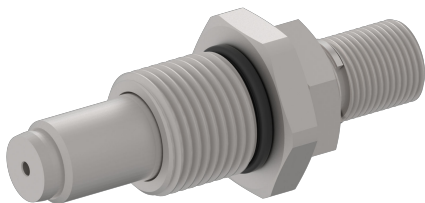


# Flow valve

## Throttle valve

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$Q_{\max} = 36 \text{ gpm}$ ,  $p_{\max} = 5000 \text{ psi}$   
poppet type, mechanically adjustable  
Type series: MDPAA-10...



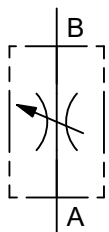
- Screw-in cartridge valve
- For cavity CA
- All external parts with zinc-nickel plating according to DIN EN ISO 19598
- Leak-free shut-off function
- For space-saving direct mounting in manifold blocks or housings
- Function possible in both directions.
- Available with hand-knob

### Description

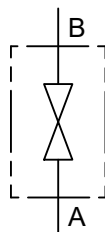
These throttle valves, series MDPAA-10..., are size 10, mechanically operated screw-in cartridge valves with an M18×1.5 mounting thread. The valves are designed on the poppet/seat principle, and they are therefore virtually leak-free in both directions of flow in the closed position. The pressure should preferably be connected to port A. These valves are mainly used in

mobile and stationary applications where a flow needs to be manually throttled or blocked. The setting is by means of an adjusting spindle. All external parts of the screw-in valves are zinc-nickel plated and are thus suitable for use in the harshest operating environments. For installation and further information, please refer to the section related data sheets.

### Symbol



Throttlet valve



Drain valve

## Technical data

General characteristics	Description, value, unit
Function group	Flow valve
Function	Throttle valve
Design	Screw-in cartridge valve
Controls	mechanically adjustable
Characteristic	poppet type
Construction size	NG 10
Thread size	M18×1,5
Mounting attitude	unrestricted
Weight	0.22 lb
Cavity acc. factory standard	For cavity CA
Tightening torque steel	37 ft·lb
Tightening torque aluminium	37 ft·lb
Tightening torque tolerance	± 10 %
Minimum ambient temperature	- 22 °F
Maximum ambient temperature	+ 176 °F
Surface protection	All external parts with zinc-nickel plating according to DIN EN ISO 19598
Seal kit order number	NBR: DS-253-N / FKM: DS-253-V

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	5000 psi
Maximum flow rate	36 gpm
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	- 22 °F
Maximum fluid temperature	+ 176 °F
Viscosity range	10 ... 650 mm <sup>2</sup> /s (cSt)
Recommended viscosity range	15 ... 250 mm <sup>2</sup> /s (cSt)
Minimum fluid cleanliness (cleanliness class according to ISO 4406:1999)	class 20/18/15

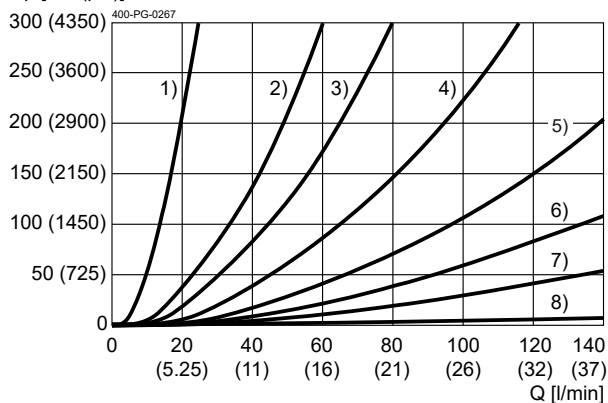
## Performance graphs

measured with oil viscosity 33.0 mm<sup>2</sup>/s (cSt)

$\Delta p = f(Q)$  Pressure drop-flow rate characteristic

Throttle setting per revolution A to B

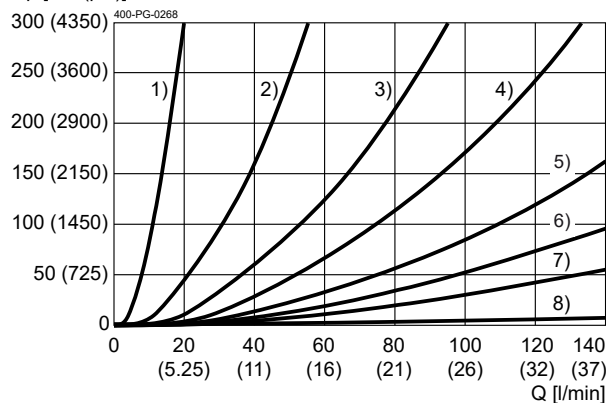
$\Delta p$  [bar (psi)]



$\Delta p = f(Q)$  Pressure drop-flow rate characteristic

Throttle setting per revolution B to A

$\Delta p$  [bar (psi)]

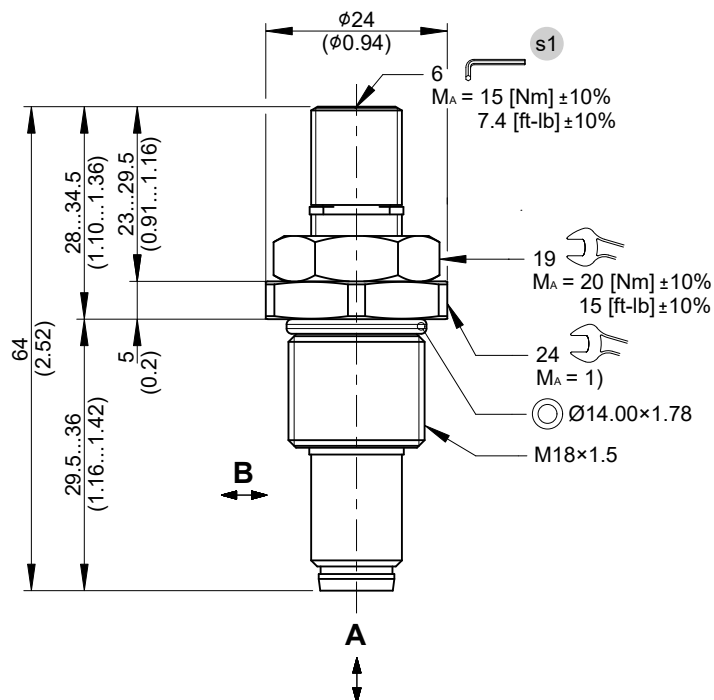


## Dimensions and sectional view

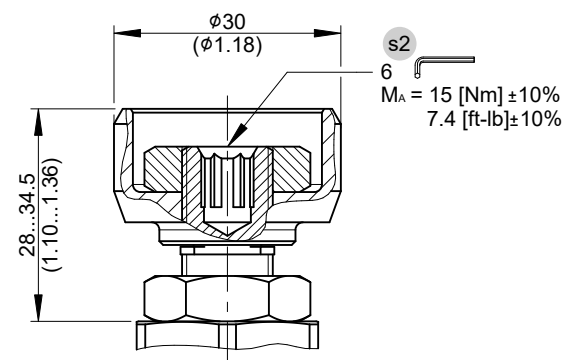
Beispiel für die Masseinheit:  
Exampel for the dimensional units:

0.79 = 0.79 mm millimeter  
(.031) = 0.031" inch

Version "S": Einstellschraube mit Innensechskant (Standard)  
Version "S": adjustment screw with internal hexagon (standard)



Version "H": Einstellschraube mit Handrad  
Version "H": adjustment screw with handknob



## Installation information



### NOTE!

1) When fitting the screw-in cartridge valve, use the specified tightening torque. The value can be found in the chapter "Technical data".



### ATTENTION!

Difficult adjustment by handknob from 150 bar, it is recommended to adjust the adjusting spindle with the hexagon socket (s2).



### NOTE!

Set the required pressure with the adjusting screw (s1). After you have set the valve, lock the adjusting screw (s1) 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.



### NOTE!

The seals are not available individually. The seal kit order number can be found in the chapter "Technical data".

## Ordering code

	Ex.	M	DP	A	A	-	10	S	-	1
M	=	flow-regulating valve								
DP	=	throttle cartridge								
A	=	cavity type CA								
A ... Q	=	standard model according to valid data sheet								
Z ... R	=	special model (on request)								
10	=	nominal size 10								
S	=	adjustment screw with internal hexagon <b>(standard)</b>								
H	=	adjustment screw with hand knob								
(blank)	=	NBR (nitril-butadien-rubber / BUNA) seals <b>(standard)</b>								
V	=	FKM (fluorocarbon rubber / VITON) seals (special seals on request)								
1 ... 9	=	technical design no. (omit by ordering)								

## Related data sheets

Reference	Description
<a href="#">400-P-040011</a>	Form tools
<a href="#">400-P-060101</a>	Cavity CA

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