

# Flow valve

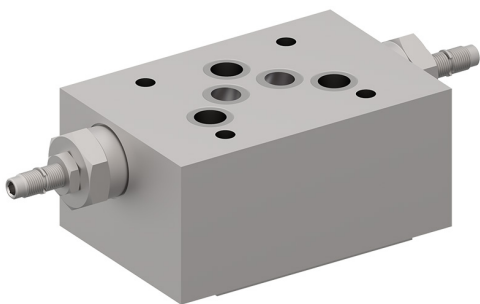
## Throttle check valve

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$Q_{\max} = 160 \text{ l/min}$ ,  $p_{\max} = 350 \text{ bar}$

direct acting, spool type

Type series: SMDR-\_-10-...



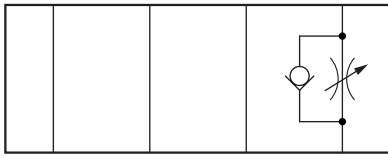
- Stack valve
- Interface to ISO 4401-05-04
- External parts of screw-in valves with zinc-nickel plating according to DIN EN ISO 19598
- Stack-mounting body with temporary corrosion protection
- Stackable valve elements
- High degree of flexibility due to the possibility of different combinations

### Description

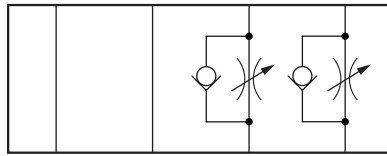
The throttle check valves, series SMDR..., are size 10, direct acting stack valves with interface to ISO 4401-05-04. They are designed on the proven sliding-spool principle. The integral check function allows free flow in one direction (opening pressure approx. 0.7 bar) and the set, throttled flow in the opposite direction. The design of the throttle ensures automatic self-cle-

aning under reverse flow. The setting is made at the self-locking adjusting screw and can be additionally secured with the lock nut. There are different versions available. These valves are mainly used in mobile and industrial applications, and provide high flexibility for stackable system solutions. For installation, please refer to the section related data sheets.

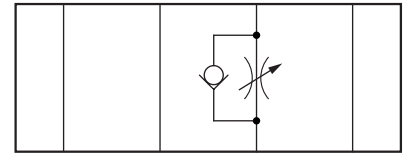
Symbol



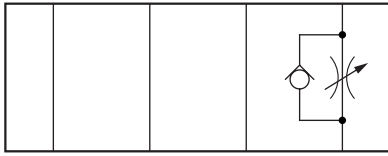
SMDR-AZ-...



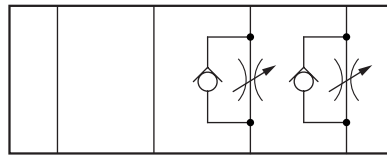
SMDR-ABZ-...



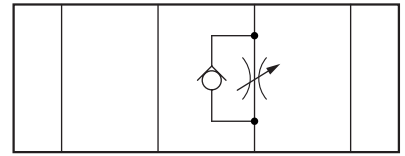
SMDR-BZ-...



SMDR-AA-...



SMDR-ABA-...



SMDR-BA-...

Technical data

General Characteristics	Description, value, unit
Function group	Flow valve
Function	Throttle check valve
Design	Stack valve
Characteristic	direct acting, spool type
Construction size	nominal size 10
Mounting attitude	unrestricted
Weight	2.90 kg
Interface according to	ISO 4401-05-04
Minimum ambient temperature	- 25 °C
Maximum ambient temperature	+ 80 °C
Surface protection	External parts of screw-in valves with zinc-nickel plating according to DIN EN ISO 19598
Surface protection	Stack-mounting body with temporary corrosion protection
Sealing material	see ordering code
Seal kit order number	NBR: DS-214-N / FKM: DS-214-V

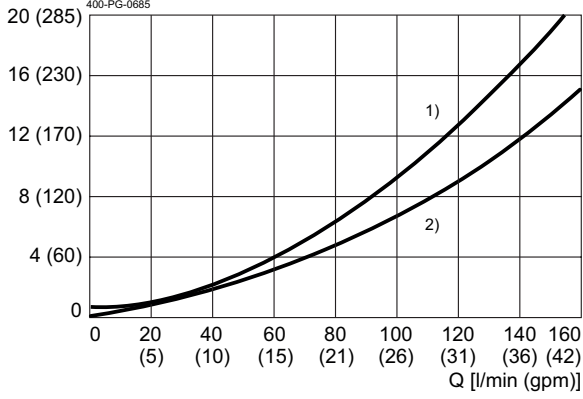
Hydraulic Characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	160 l/min
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	- 25 °C
Maximum fluid temperature	+ 80 °C
Viscosity 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

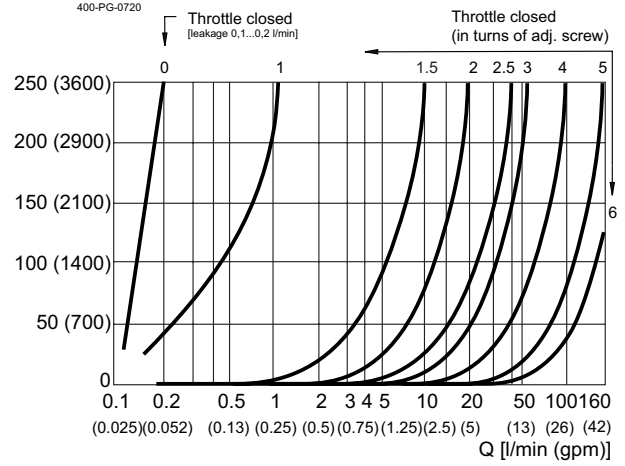
$\Delta p = [\text{bar (psi)}]$



- 1) through check valve: throttle closed
- 2) through check valve: throttle open

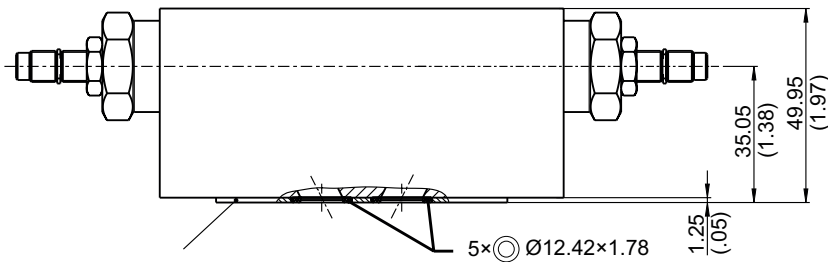
$\Delta p = f(Q)$  Pressure drop-flow rate characteristic

$\Delta p = [\text{bar (psi)}]$  at constant throttle setting



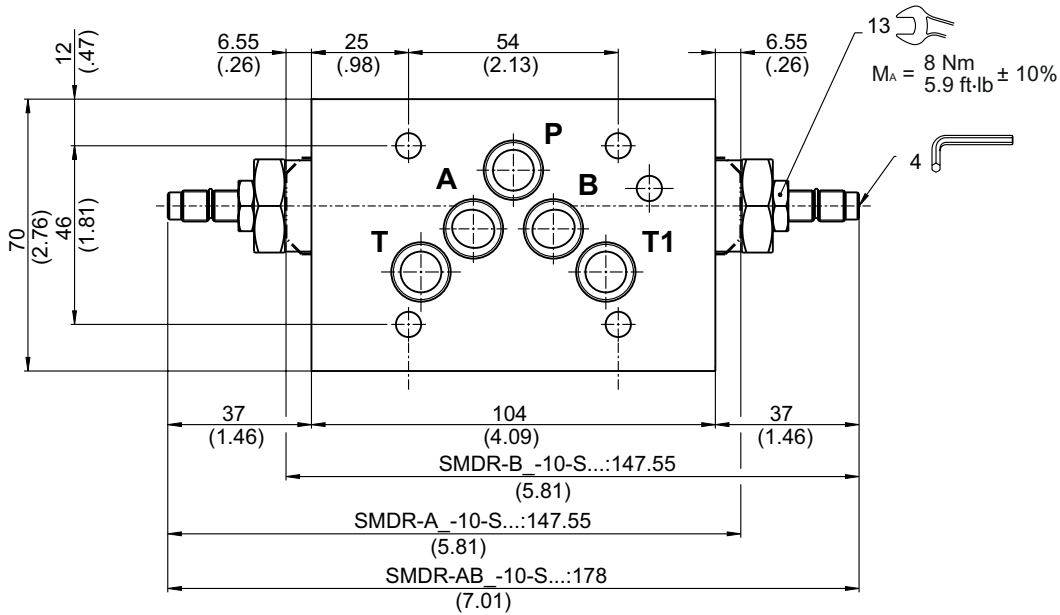
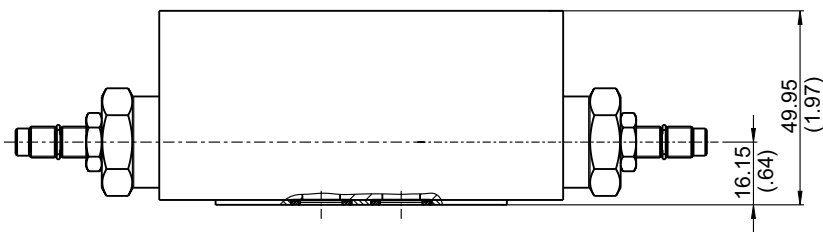
Dimensions and sectional view

Funktion (Drosselung) im Ablauf / function (throttling) in outlet

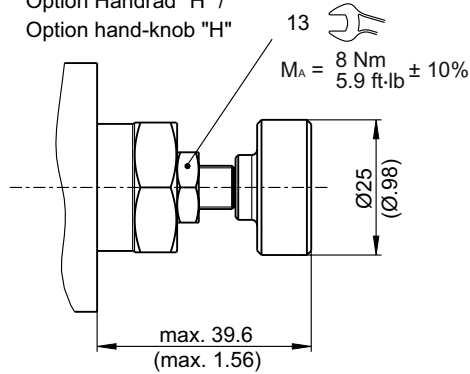


Dichtblech mit 5 O-Ringen im Lieferumfang enthalten /  
Seal plate with 5 O-rings included in the delivery

Funktion (Drosselung) im Zulauf / function (throttling) in inlet



Option Handrad "H" /  
Option hand-knob "H"



**Beispiel für die Masseinheit:**  
**Example for the dimensional units:**

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

## Installation information



### 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.

## Ordering code

Ex. 

S	M	D	R	-	AA	-	10	-	S	-	_	-	N	A	1
---	---	---	---	---	----	---	----	---	---	---	---	---	---	---	---

- S = stack valve
- M = flow-control valve
- D = throttle valve
- RV = check valve function
- AA = function in A, throttling in outlet
- AZ = function in A, throttling in inlet
- BA = function in B, throttling in outlet
- BZ = function in B, throttling in inlet
- ABA = function A and B, throttling in outlet
- ABZ = function in A and B, throttling in inlet
- 10 = nominal size 10
- S = screw adjuster (standard)
- H = hand-knob adjuster
- (blank) = temporary corrosion protection (standard)
- BZN = coating ZnNi (on request)
- N = NBR (nitril-butadien-rubber / BUNA) seals (standard)
- V = FKM (fluorocarbon rubber / VITON) seals  
(special seals - please contact BUCHER)
- A...Q = standard model - see relevant data sheets
- Z...R = special features - please consult BUCHER
- 1...9 = design stage (omit when ordering new units)

## Related data sheets

Reference	Description
400-P-050101	Interface ISO 05 (Size 10) according to ISO 4401-05-04

[info.ch@bucherhydraulics.com](mailto:info.ch@bucherhydraulics.com)

[www.bucherhydraulics.com](http://www.bucherhydraulics.com)

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