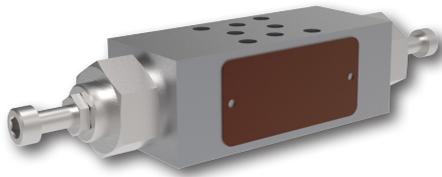


Restrictor Valve with Reverse Flow Check, Modular

VSO1-04/M

Size 04 (D02) • Q_{max} 25 l/min (7 GPM) • p_{max} 320 bar (4600 PSI)



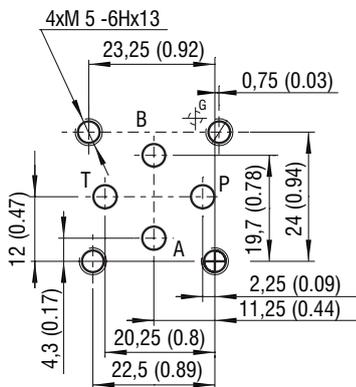
Technical Features

- › Restrictor valve with reverse flow check, mounting interface acc. to ISO 4401, DIN 24340 (CETOP 02)
- › Meter-in or meter-out flow control
- › Leak-free closing in one or two service ports
- › Linear adjustment and positive seat overlap
- › Desired settings may be locked down
- › Optionally adjustable by allen key
- › In the standard version, the sandwich plate of valve is phosphated for basic surface corrosion protection and as preparation for painting. Steel parts are zinc-coated for corrosion protection 240 h in NSS acc. to ISO 9227.
- › Enhanced surface protection for mobile applications is available. The sandwich plate and steel parts are zinc-coated with corrosion protection 520 h in NSS

Functional Description

Dual hydraulic flow restrictor valves with optional by-pass check valves are used to control flow rates in two separate lines (A, B) of a hydraulic circuit. The modular design provides six functional versions. The valve restricts the fluid flow in one direction while providing unobstructed reverse flow in the opposite direction. The throttling is adjusted by a set screw, which can be operated by a key. The sandwich design supports stacking with other components of the same size. Depending on the valve installation it functions as a meter-in or meter-out flow control device. The orientation of the check valve(s) in the valve body corresponds with the symbol on the nameplate.

ISO 4401-02-01-0-05



Ports P, A, B, T - max. \varnothing 4.5 mm (0.18 in)

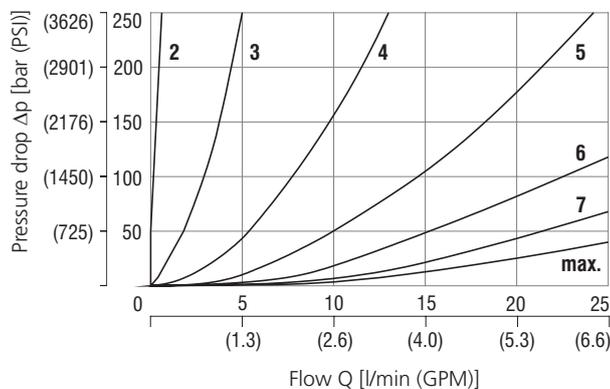
Technical Data

Valve size	04 (D02)	
Max. flow	l/min (GPM)	25 (6.6)
Max. operating pressure	bar (PSI)	320 (4600)
Fluid temperature range (NBR)	°C (°F)	-30 +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 +120 (-4 ... +248)
Weight	kg (lbs)	0.8 (1.76)

	Datasheet	Type
General information	HA 0060	Products and operating conditions
Mounting interface / tolerances	HA 0019	Size 04
Spare parts	HA 8010	

Characteristics measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS)

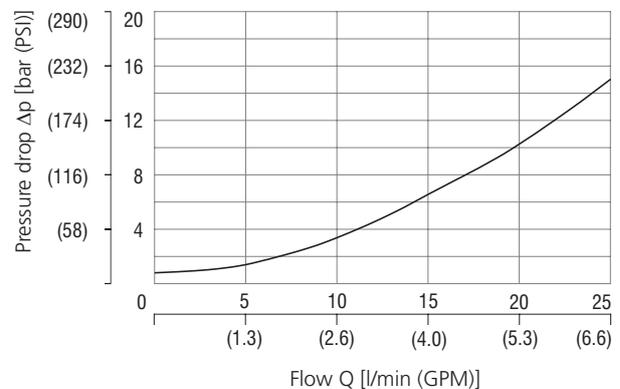
Pressure drop related to flow rate



Number of turns of the adjustment screw						
2	3	4	5	6	7	max.

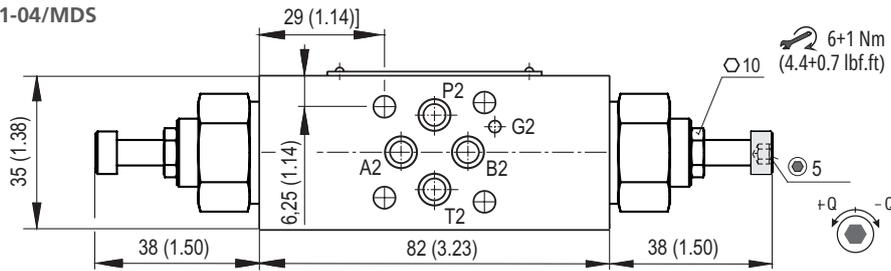
Check valve pressure drop related to flow rate

Throttle valve closed

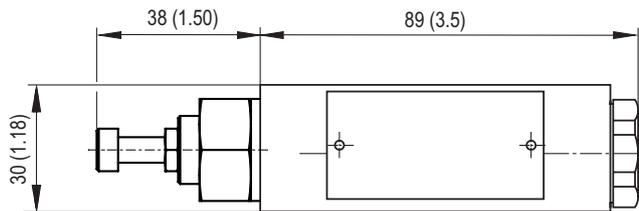


Dimensions in millimeters (inches)

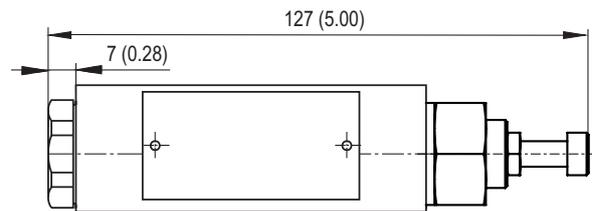
Model
VSO1-04/MCS
VSO1-04/MDS



Model
VSO1-04/MAS
VSO1-04/MES

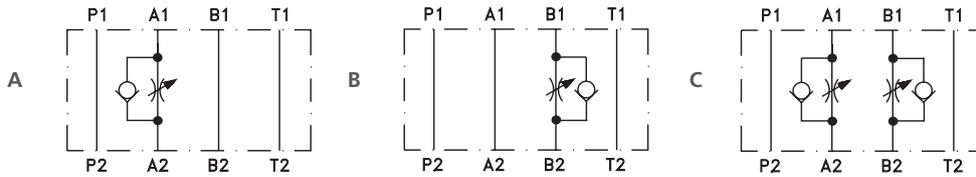


Model
VSO1-04/MBS
VSO1-04/MFS

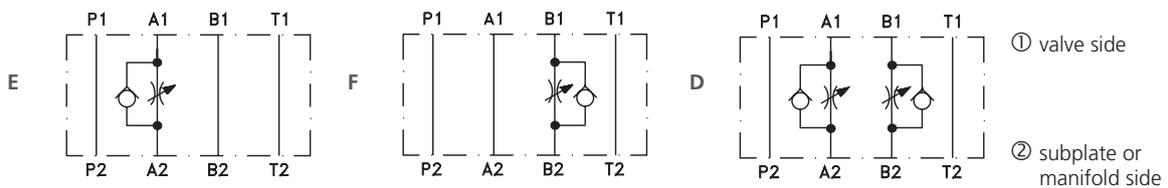


Functional Symbols

Meter-in control



Meter-out control



Notice: The orientation of the symbol on the name plate corresponds with the valve function.

Ordering Code

VSO1 - 04 / M S -

Restrictor valve with reverse flow check

Valve size

Modular, sandwich plate

Functional symbols

- check valve in line A, meter-in*
- check valve in line B, meter-in*
- check valve in line A and B, meter-in*
- check valve in line A, meter-out*
- check valve in line B, meter-out*
- check valve in line A and B, meter-out*

A
B
C
E
F
D

No designation

A
B

No designation

V

Surface treatment

- body phosphated, steel parts
- zinc-coated (ZnCr-3), ISO 9227 (240 h)
- zinc-coated (ZnCr-3), ISO 9227 (240 h)
- zinc-coated (ZnNi), ISO 9227 (520 h)

Seals

- NBR
- FPM (Viton)

Adjustment option

- allen key (hex. 5)

*see table of functional symbols