

- In-line mounting
- Attachment under panel
- Three models:
  - Fine throttle valve
  - Fine throttle valve + check valve in parallel
  - Fine throttle valve + check valve in series
- Four throttle seat diameters



## Functional Description

Fine throttle valves are used to control flow rates of pressure fluid. The connection threads in the valve body enable direct installation in line or hose. The valve is designed to be attached on the backside of a control panel by means of two bolts M6 (1). The outer bolt with the cylindrical head serves at the same time to limit to one revolution the hand knob.

The adjustment sensitivity of flow rate can be selected by using the respective seat diameter in the range from 2 up to 3.5 mm (see the flow characteristics).

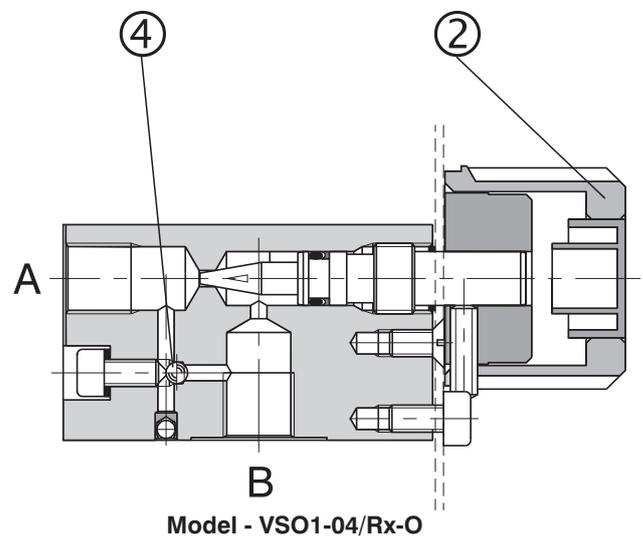
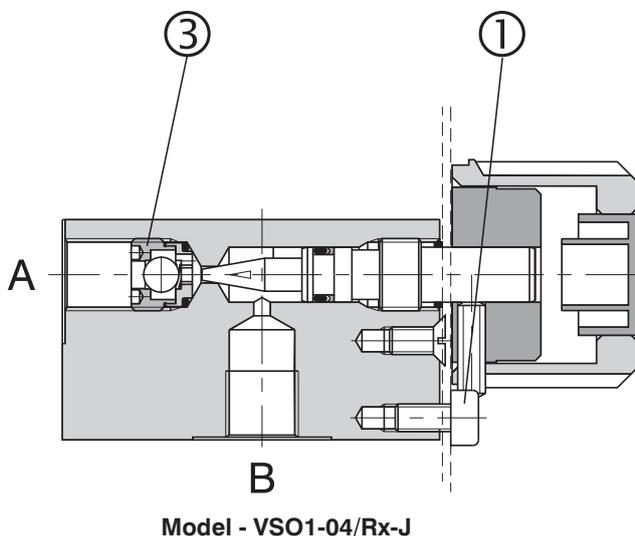
The attachment under the panel is carried out after removing the hand knob (2). The position of the hand

knob can then be adjusted either to the stop of the mounting bolt, or in line with the requested flow limitation, in a smaller angle of rotation.

If needed, the simple fine throttle valve can be completed with a check valve of the type VJO1-06/SG (3) HA 5004 which is installed in series.

To ensure the reverse free-flow through the valve, the model VSO1-04/Rx-O with a parallel ball valve (4) can be used.

The valve body is made of aluminum, the other parts of the valve do not have any surface treatment.



# Ordering Code

**VSO1-04/R**  -

Fine Throttle Valve

Nominal size

**04 (D 02)**

In-line mounting

**Model**  
 without designation      without check valve\*  
**J**                                  with check valve in series\*  
**O**                                  with check valve in parallel\*  
 \* see Functional Symbols

**2**  
**2,5**  
**3**  
**3,5**

**Seat diameter**

mm (0.787 in)  
 mm (0.984 in)  
 mm (0.118 in)  
 mm (0.138 in)

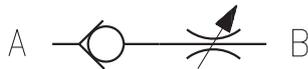
Other seat diameters after consultation.

# Functional Symbols

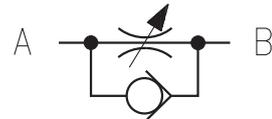
**VSO1-04/Rx**  
 without check valve



**VSO1-04/Rx-J**  
 with check valve in series



**VSO1-04/Rx-O**  
 with check valve in parallel



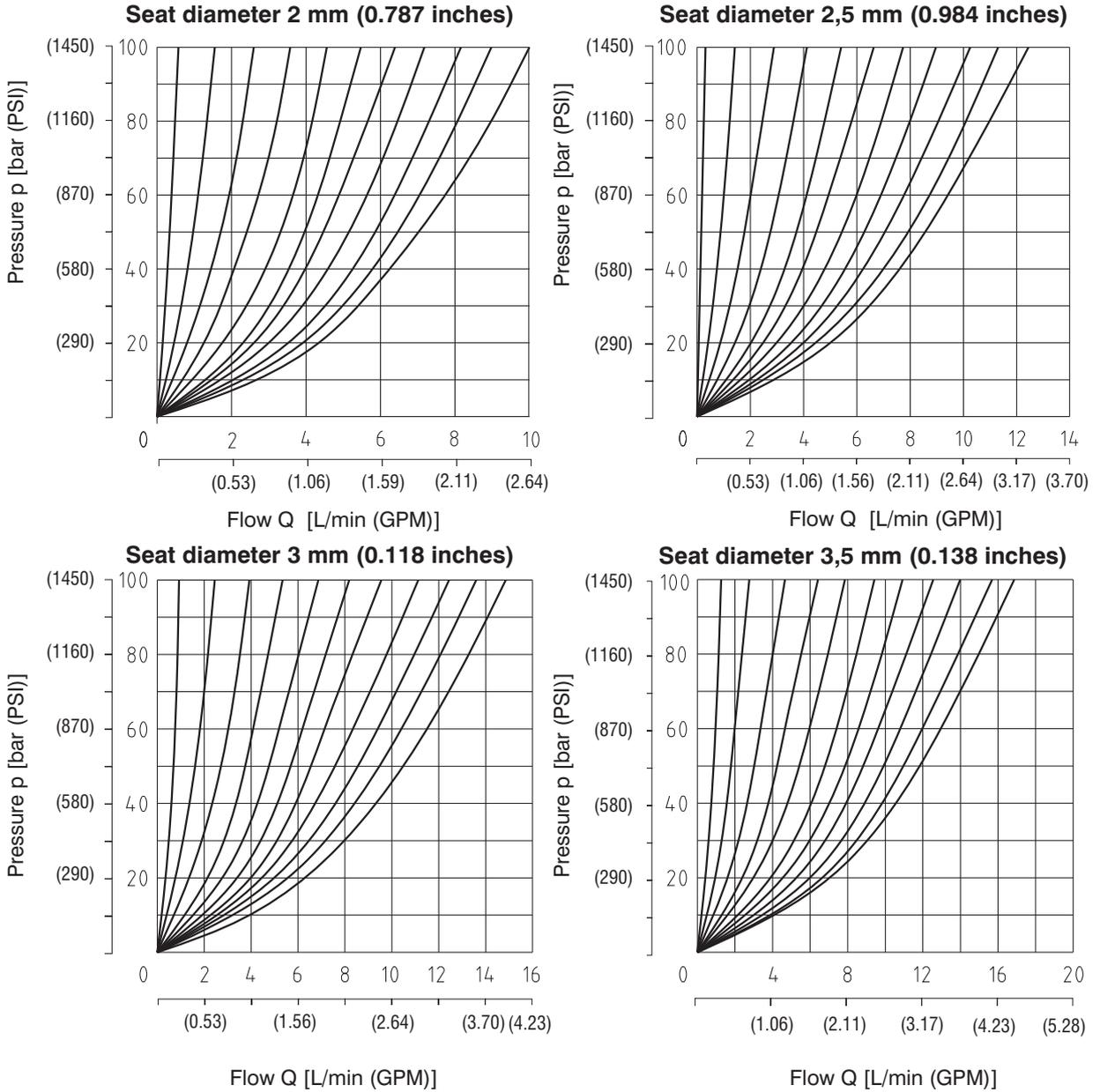
# Technical Data

Nominal size	mm (US)	04 (D 02)
Max. operating pressure	bar (PSI)	100 (1450)
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Fluid temperature range for (NBR)	°C (°F)	-30 ... +100 (-22... +212)
Viscosity range	mm <sup>2</sup> /s (SUS)	20 ... 400 (98... 1840)
Maximum degree of fluid contamination		Class 21/18/15 to ISO 4406
Weight	kg (lbs)	0,22 (0.485)
Mounting position		unrestricted

# p-Q Characteristics

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

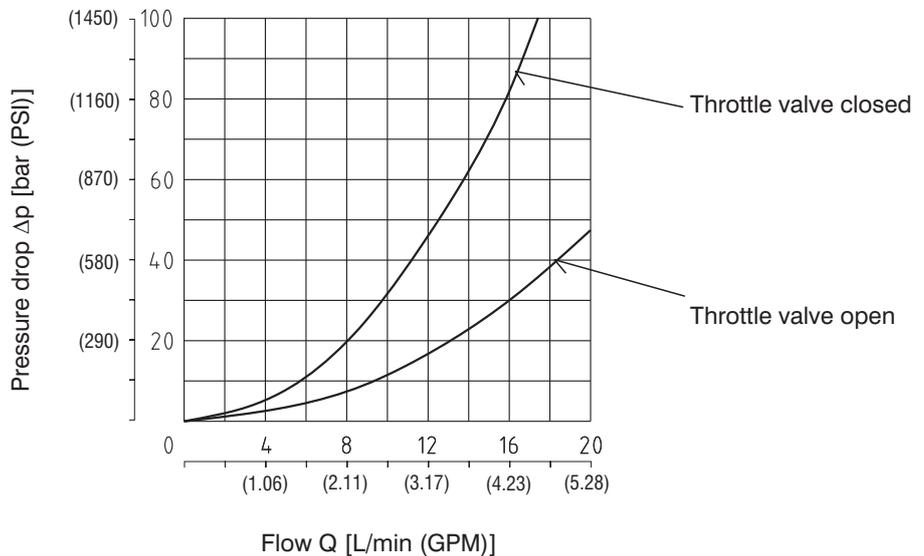
The characteristics were measured at hand knob positions set by 30°.



# $\Delta p$ -Q Characteristics

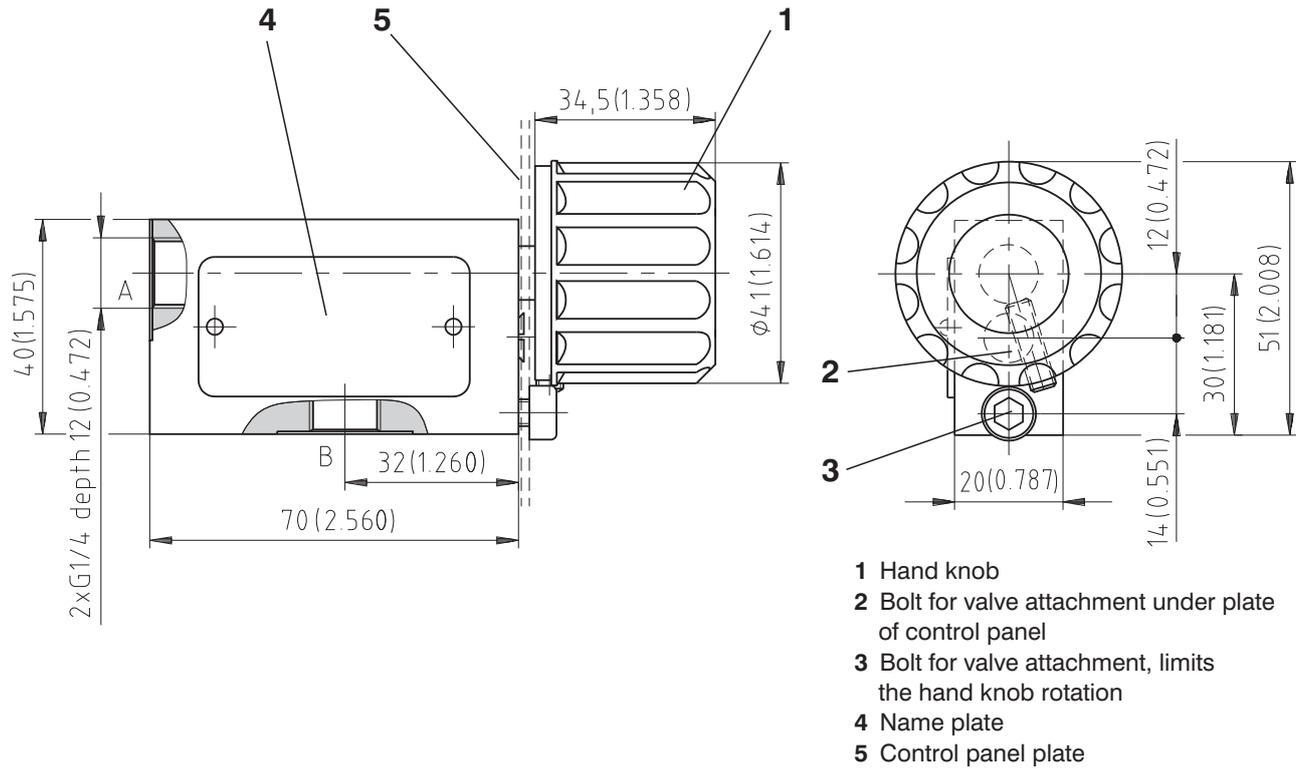
Measured at  $v = 32 \text{ mm}^2/\text{s}$  (156 SUS)

Valid for model VSO1-04/R20,  
flow direction B-A



## Valve Dimensions

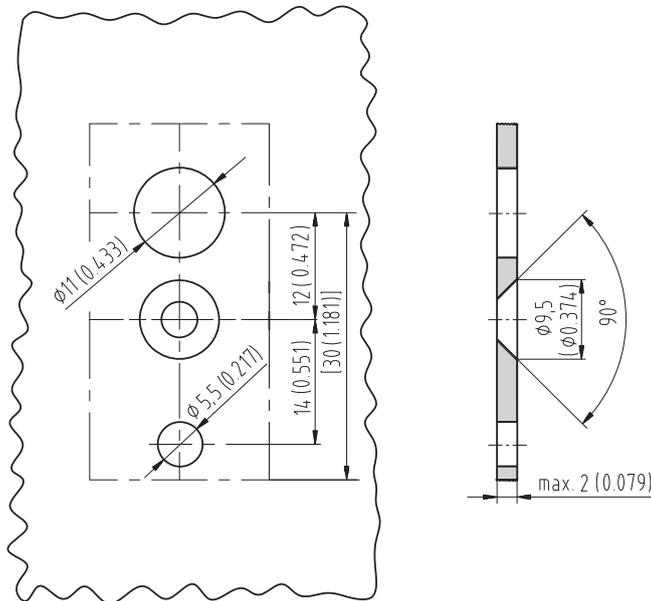
Dimensions in millimeters (inches)



## Board

Dimensions in millimeters (inches)

### Installation Dimensions



## Caution!

- The packing foil is recyclable.
- The technical information regarding the product presented in this catalogue is for descriptive purposes only. It should not be construed in any case as a guaranteed representation of the product properties in the sense of the law.

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