

## Proportional flow regulator pressure compensated, direct-acting VP-P2SRE6

### DESCRIPTION

HYDAC direct-acting flow control valves are 2-way proportional valves, which keep the required volume flow constant due to a control process. The volume flow is largely independent of pressure and viscosity.

The valve consists of a pressure compensator and a proportionally adjustable orifice.

For electrical control of the coil there are electronic controls available (see brochure 2.429.2).

### FEATURES

- Interface according to ISO 6263-03-03-0-97 (Cetop 4.5.2-2-03-250)
- Small hysteresis by superfinish of moving parts
- Electronic control by EHCD (see brochure 2.429.2)



Nominal size 6  
up to 25 l/min  
up to 250 bar

### CONTENT

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## MODEL CODE

VP-P2SRE 6 L 16 R D01 – 24 PG / V

### Type

Proportional flow control valve, direct-acting

### Nominal size

6

### Performance

L = linear

### Nominal volume flow

01 = 1,5 l/min

04 = 4 l/min

08 = 8 l/min

16 = 16 l/min

25 = 25 l/min

### Check valve

R = Check valve

### Series

D01 = standard

### Rated voltage of the solenoid coil

24 = 24 VDC

### Coil type

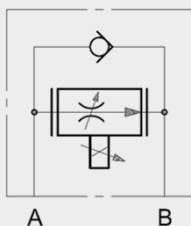
PG = Proportional device connector

### Sealing material

V = FKM (standard)

N = NBR

## SPOOL TYPES / SYMBOLS



## ACCESSORIES

|                            | Designation                | Part no. |
|----------------------------|----------------------------|----------|
| Seal kits (2-part set)     | 14 x 2 -FKM -90 Sh         | 3526085  |
|                            | 14 x 2 -NBR -90 Sh         | 3526072  |
| Mounting screws<br>(4 pcs) | DIN EN ISO 4762-M5x70-10.9 | 615551   |

## FUNCTION

The VP-P2SRE6 is a direct-acting 2-way flow control valve, which controls volume flow from port A to port B independently of the pressure. In the opposite direction there is free flow through the check valve without control.

The controlled flow rate is proportional to the electrical input signal at the coil. Analogue to the size the coil creates a force which pushes the piston against the spring. Hereby opening diameters are opened which determine the size of the flow independent from the pressure differential.

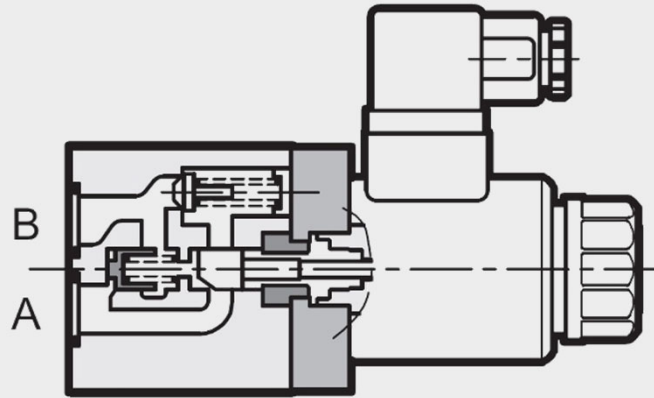
A built-in pressure compensator enables the regulation independent from pressure changes from port A to B.

For electronic control of the coil there are electronic controls available (see brochure 5.249.2).

### Hint:

Bleed system and valve before setting in motion.

## SECTION VIEW



## TECHNICAL DATA <sup>1</sup>

| General specifications                           |         |                                                                                                                           |                        |
|--------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------|------------------------|
| MTTFd                                            |         | 150 - 1200 years, according to DIN EN ISO 13849-1:2016; Table C.1, Confirmation from ISO 13849-2:2013; Tables C.1 and C.2 |                        |
| Ambient temperature                              | [°C]    | -20 to +50                                                                                                                |                        |
| Installation position                            |         | No orientation restrictions                                                                                               |                        |
| Weight                                           | [kg]    | 1,5                                                                                                                       |                        |
| Material                                         |         | Valve casing:                                                                                                             | Gusseisen              |
|                                                  |         | Name plate:                                                                                                               | Aluminium              |
| Surface coating                                  |         | Valve casing:                                                                                                             | Phosphatiert           |
| Hydraulic specifications                         |         |                                                                                                                           |                        |
| Operating pressure                               | [bar]   | Port A, B:                                                                                                                | p <sub>max</sub> = 250 |
| Volume flow range<br>(at Δp A → B min. 10 bar)   | [bar]   | 0 up to 1.5<br>0 up to 4<br>0 up to 8<br>0 up to 16<br>0 up to 25<br>(40 opposite direction B → A)                        |                        |
| Operating fluid                                  |         | Hydraulic oil to DIN 51524 part 1, 2 and 3                                                                                |                        |
| Media operating temperature range                | [°C]    | -20 to +80                                                                                                                |                        |
| Viscosity range                                  | [mm²/s] | 10 to 400 (25 is recommended)                                                                                             |                        |
| Permitted contamination level of operating fluid |         | class 18/16/13 to ISO 4406 or 17/15/12 for flows < 0,5 l/min                                                              |                        |
| Sealing material                                 |         | FKM (standard), NBR                                                                                                       |                        |
| Electrical specifications                        |         |                                                                                                                           |                        |
| Switching time                                   | [ms]    | On: 60 (0 - 100%); 50 (25 - 75%)<br>Off: 80 (100 - 0%); 70 (75 - 25%)                                                     |                        |
| Type of voltage                                  |         | DC                                                                                                                        |                        |
| Rated voltage                                    | [V]     | 24                                                                                                                        |                        |
| Resistance at 20°C                               | [Ω]     | 17,6                                                                                                                      |                        |
| Rated voltage                                    | [A]     | 0,86                                                                                                                      |                        |
| Duty cycle                                       | [%]     | 100                                                                                                                       |                        |
| Hysteresis                                       | [%]     | < 6 of Q <sub>max</sub>                                                                                                   |                        |
| Repeatability                                    | [%]     | ±2,5 of Q <sub>max</sub>                                                                                                  |                        |
| Protection class to DIN EN 60529                 |         | mit elektrischen Anschluss “G” IP65 <sup>2</sup>                                                                          |                        |

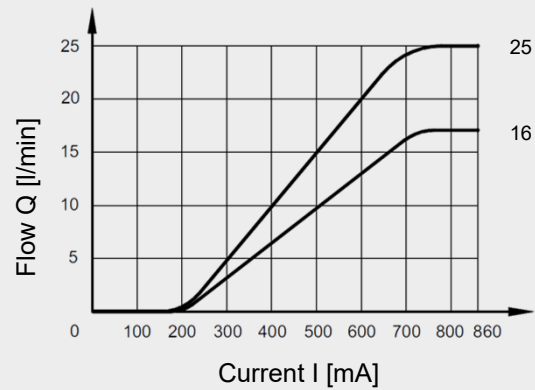
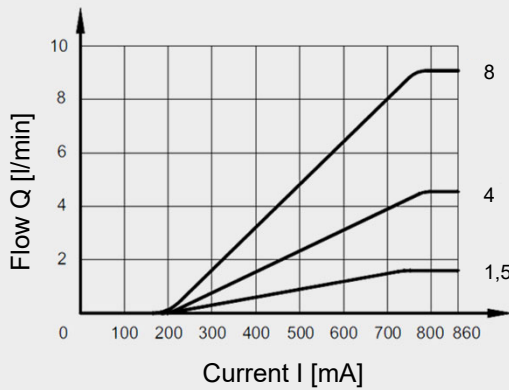
<sup>1</sup> see „Conditions and Instructions for Valves“ in brochure 53.000

<sup>2</sup> if installed correctly

## PERFORMANCE

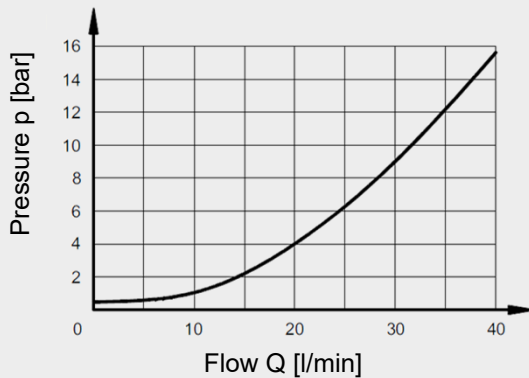
measured at  $v = 36 \text{ mm}^2/\text{s}$  and  $T_{\text{oil}} = 50^\circ\text{C}$

**Flow control  $Q = f(I)$**   
from port A  $\rightarrow$  B



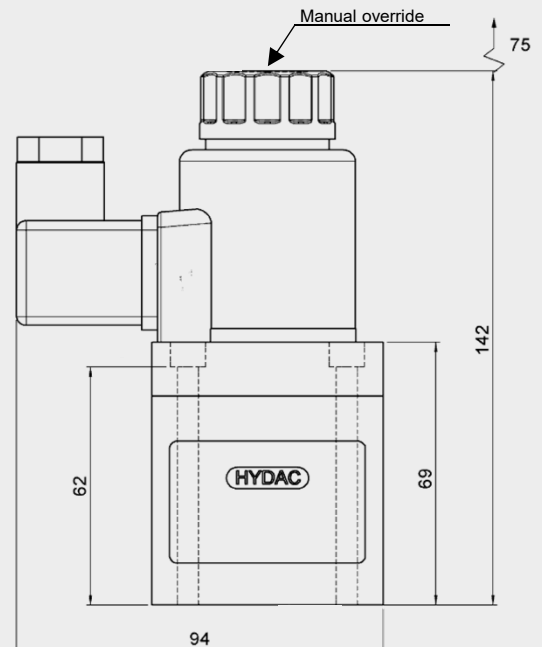
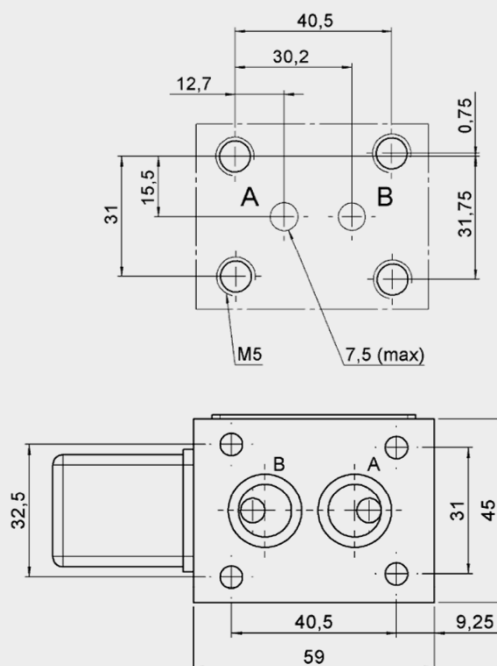
**Pressure drop  $\Delta p = f(Q)$**

with free flow from port B  $\rightarrow$  A through the check valve



## DIMENSIONS

Interface according to ISO 6263-03-03-0-97



**Mounting screws**  
(not included in delivery)  
DIN EN ISO 4762 – M5x70 – 10.9  
Tightening torque: 5 Nm

### Note

The information in this brochure relates to the operating conditions and applications described. For applications not described, please contact the relevant technical department.

All technical details are subject to change without notice.

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