

## Proportional pressure relief valve direct-acting VP-PDB6

### DESCRIPTION

HYDAC direct-acting proportional pressure relief valves limit pressure in meter-in in the system or control the power build-up in meter-out in hydraulic actuators.

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

### FEATURES

- Interface according to ISO 4401-03-02-0-05 (Cetop 4.2-4-03-350)
- Performance limits can be completely realized
- Electronic control by EHCD (see brochure 2.429.2)



Nominal size 6  
up to 2 l/min  
up to 350 bar

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## MODEL CODE

VP-PDB 6 070 D01 – 24 PG / N

### Type

Proportional pressure relief valve, direct-acting

### Nominal size

6

### Pressure range

025 = 0.9 up to 25 bar  
 070 = 1.6 up to 70 bar  
 140 = 2.4 up to 140 bar  
 210 = 3.2 up to 210 bar  
 350 = 5.0 up to 350 bar

### Series

D01 = standard

### Rated voltage of the solenoid coil

24 = 24 VDC

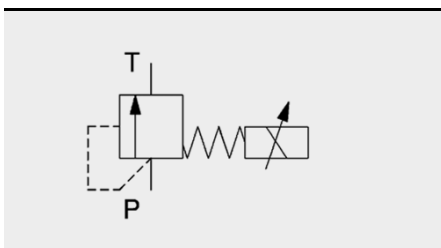
### Coil type

PG = Proportional device connector

### Sealing material

V = FKM  
 N = NBR

## SPOOL TYPES / SYMBOLS



## ACCESSORIES

	Designation	Part no.
Seal kits (2-part set)	9,25 x 1,78 -FKM -90 Sh	3526091
	9,25 x 1,78 -NBR -90 Sh	3526088
Mounting screws (4 pcs)	DIN EN ISO 4762-M5x30-10.9	603227

## FUNCTION

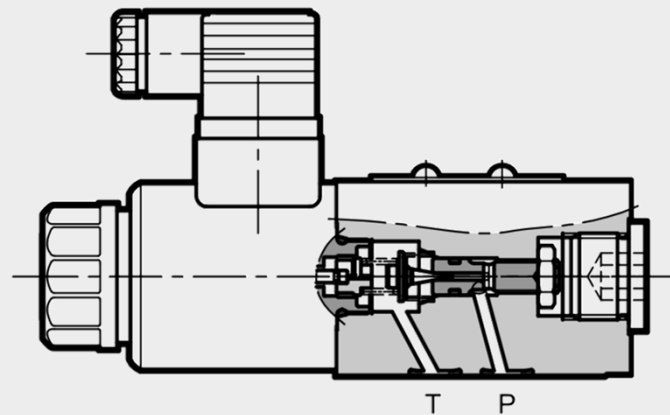
The VP-PDB6 is a direct-acting proportional pressure relief valve.

If the pressure at port P exceeds the spring force, the valve opens and oil flows to tank port T. The spring force is directly dependent on the solenoid force and thereby on the control current, enabling a continuous adjustment of the limiting depending on the control current.

### Attention:

Pressures at tank port T are added to the setting value.

## SECTION VIEW



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

General specifications	
MTTFd	According to EN ISO 13849-1:2015 chart C1 & C2
Ambient temperature	[°C] -20 to +60
Installation position	No orientation restrictions
Weight	[kg] 1,5
Material	Valve casing: Cast iron Name plate: Aluminium
Surface coating	Valve casing: Phosphate plated
Hydraulic specifications	
Operating pressure	[bar] Port P: $p_{max} = 350$ Port T: $p_{max} = 2$
Pressure range	[bar] 0.9 up to 25 1.6 up to 70 2.4 up to 140 3.2 up to 210 5.0 up to 350
Volume flow	[l/min] 2
Operating fluid	Hydraulic oil to DIN 51524 part 1, 2 and 3
Media operating temperature range	[°C] -20 to +80
Viscosity range	[mm <sup>2</sup> /s] 10 to 400 (25 is recommended)
Permitted contamination level of operating fluid	class 18/16/13 to ISO 4406
Sealing material	FKM, NBR
Electrical specifications	
Switching time	[ms] On: approx. 60 (0 – 100%) Off: approx. 70 (100 - 0%)
Type of voltage	DC
Rated voltage	[V] 24
Resistance at 20°C	[Ω] 17.6
Rated current	[A] 0.86
Duty cycle	[%] 100
Hysteresis	[%] < 5 of $p_{nom}$
Repeatability	[%] ±1.5 of $p_{nom}$
Protection class to DIN EN 60529	[%] with electrical connection "G" IP65 <sup>2</sup>

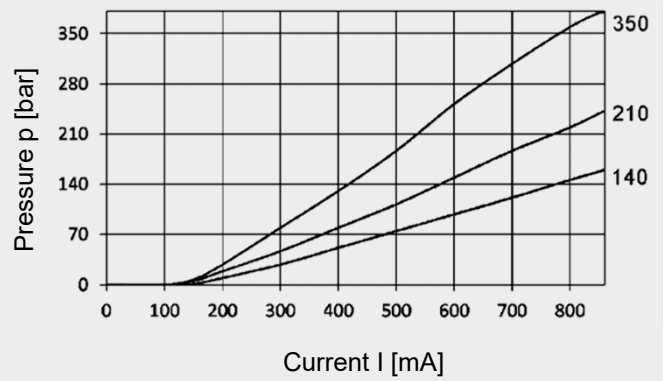
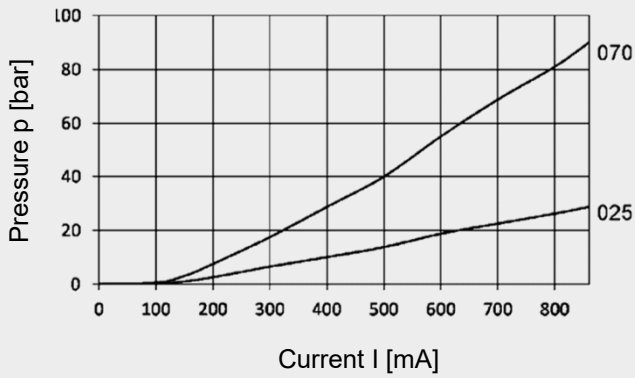
<sup>1</sup> see „Conditions and Instructions for Valves“ in brochure 53.000

<sup>2</sup> if installed correctly

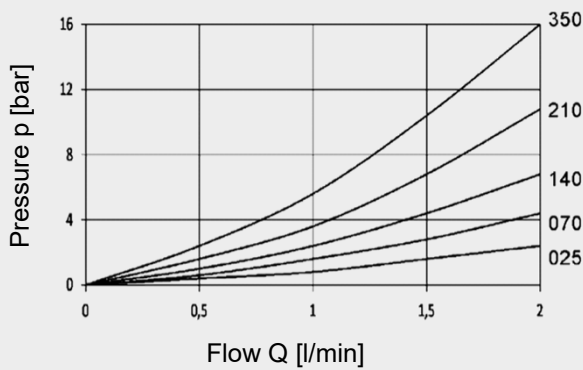
## PERFORMANCE

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

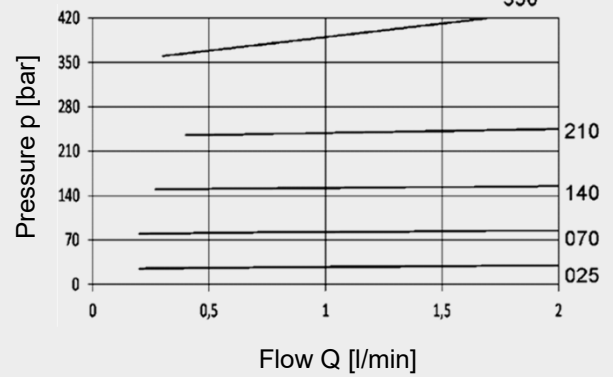
Pressure reducing diagram  $p = f(I)$  ( $Q = 1 \text{ l/min}$  factory setting)



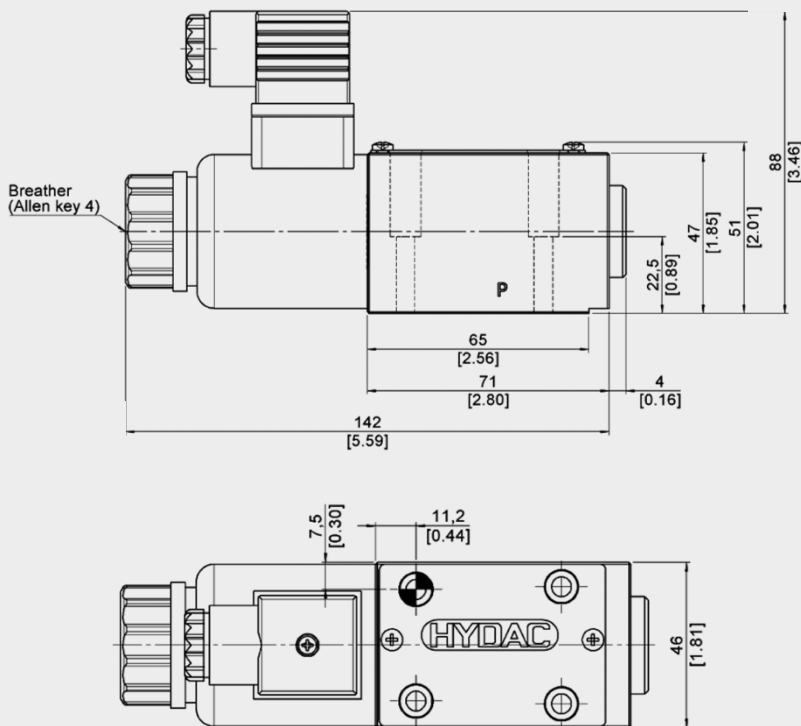
Flow  $p_{\text{min}} = f(Q)$



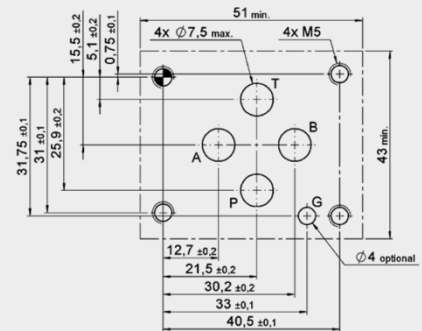
Pressure changes  $p_{\text{max}} = f(Q)$



## DIMENSIONS



Interface to ISO 4401-03-02-0-05  
(Cetop 4.2-4-03-350)



### Mounting screws

(not included in delivery)  
DIN EN ISO 4762 – M5x30 – 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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