

Proportional pressure relief valve direct-acting VP-PDB6

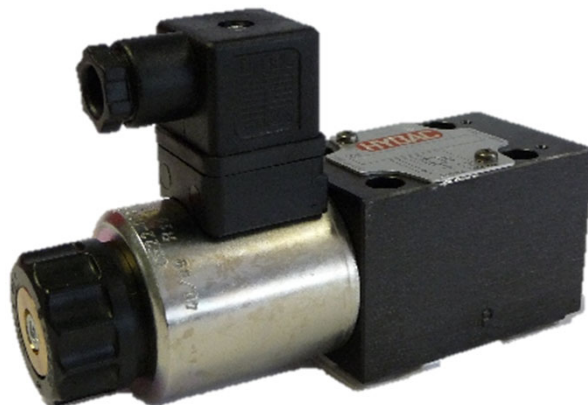
DESCRIPTION

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

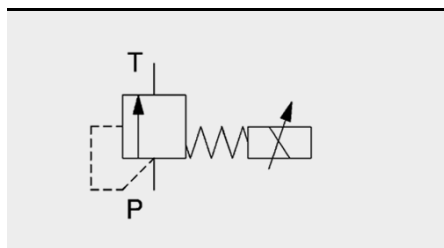
Coil type

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

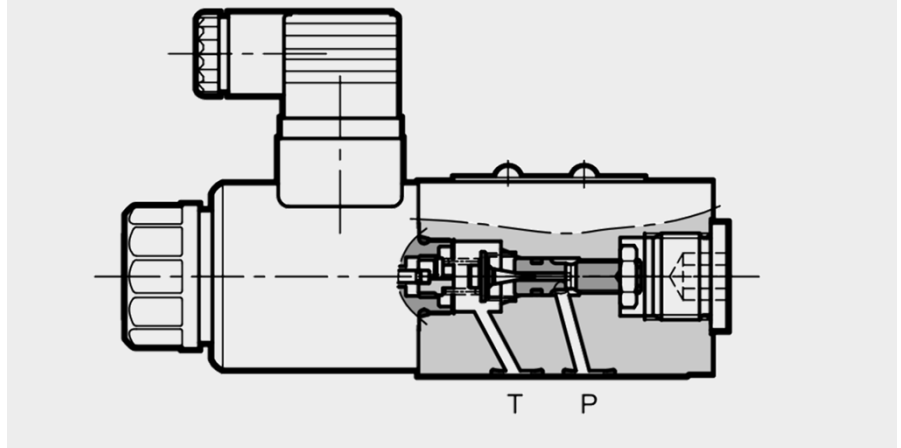
The VP-PDB6 is a direct-acting proportional pressure relief valve.

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 ¹

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 +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		[mm²/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 ²

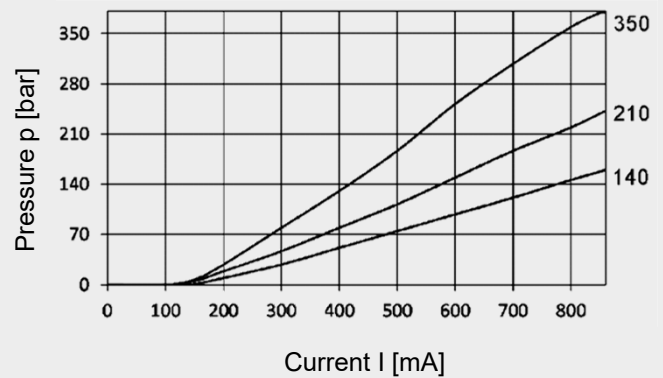
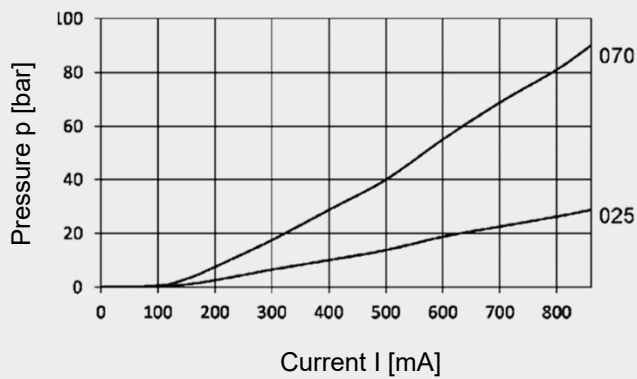
¹ see „Conditions and Instructions for Valves“ in brochure 53.000

² if installed correctly

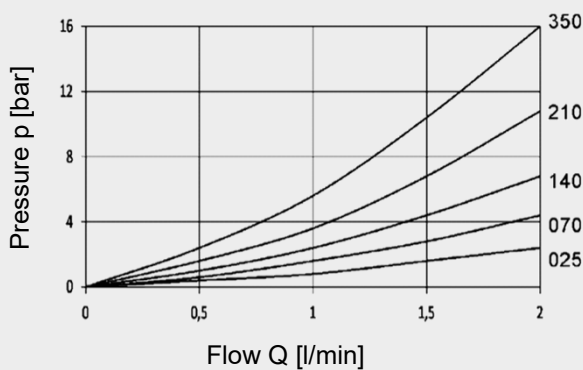
PERFORMANCE

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

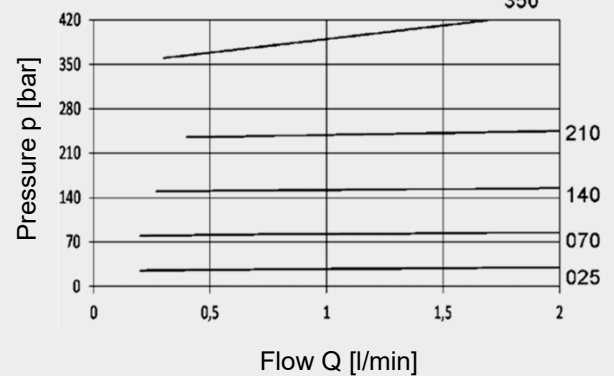
Pressure reducing diagram $p = f(I)$ ($Q = 1 \text{ l/min}$ factory setting)



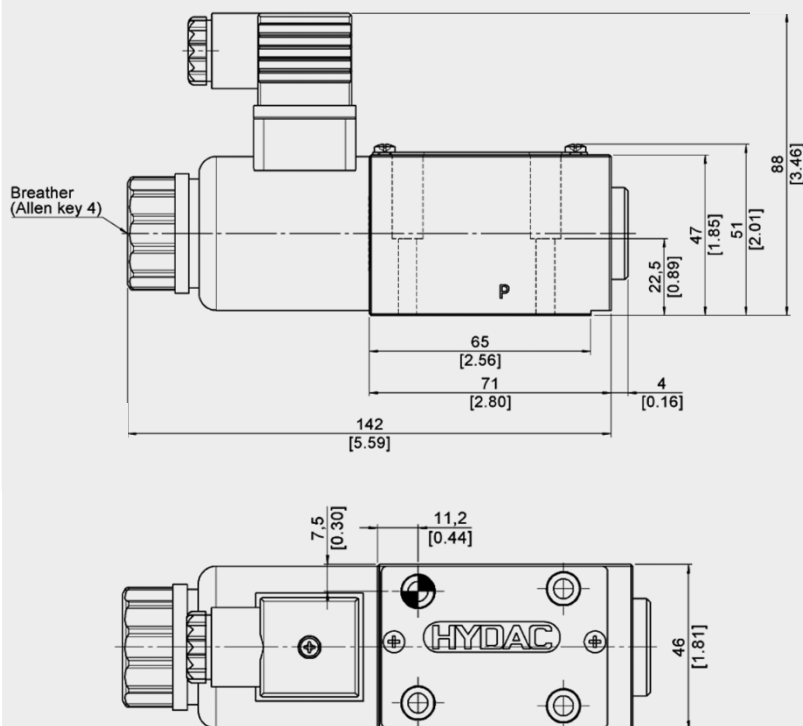
Flow $p_{\min} = f(Q)$



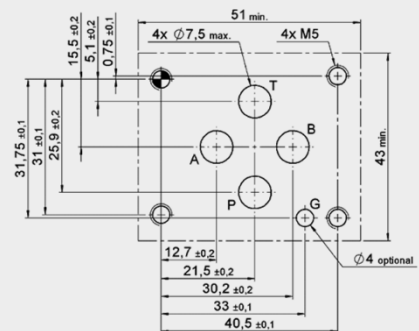
Pressure changes $p_{\max} = f(Q)$



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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