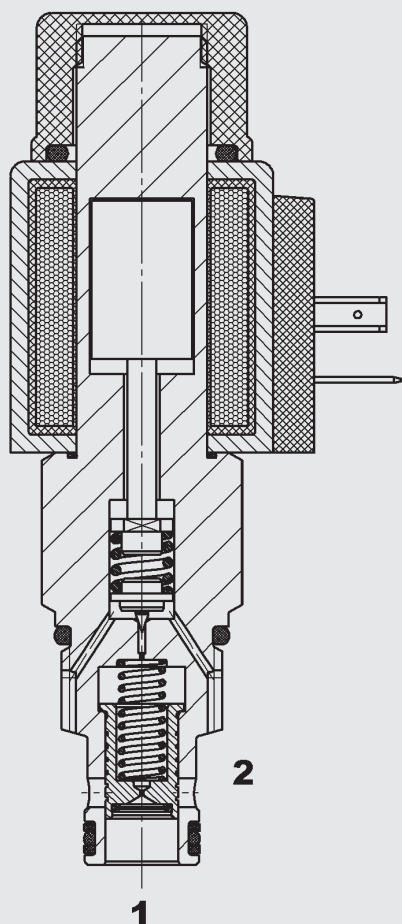


up to 120 l/min  
up to 350 bar

## FUNCTION



The PDB10P is a two stage spool type proportional pressure relief valve. If the pressure at port 1 rises above the setting defined by the electrical control signal, the pilot stage opens and allows flow from the back of the main piston to port 2. The resulting pressure imbalance causes the main piston to open against the return spring and allows flow from port 1 to port 2. As a function of the electrical signal, the relief pressure at port 1 can be changed steplessly.

## Proportional Pressure Relief Valve SAE 10-Cartridge – 350 bar

PDB10P-01

Spool Type – Pilot Operated

### FEATURES

- Excellent stability throughout flow range
- All surfaces zinc-plated and corrosion-proof
- Excellent dynamic performance
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and to extend service life
- Coil seals protect the solenoid system
- Wide variety of connectors available
- Rigid design using one-piece body minimizes the effect of eccentricities in cavity and maximizes reliability
- Low pressure drop by CFD optimized flow-path
- Screen protected measuring orifice enhances safety

### SPECIFICATIONS

Operating pressure:	max. 350 bar
Nominal flow:	max. 120 l/min
Operating pressure ranges:	up to 60 bar, up to 230 bar, up to 350 bar
Control current range (at 20 °C):	1050 mA, 8.8 Ω / 2100 mA, 2.2 Ω
Internal leakage:	less than 0.5 l/min at 350 bar
Media operating temperature range:	-20 °C to +120 °C
Ambient temperature range:	-20 °C to +60 °C
Dither frequency:	160 Hz - 250 Hz
Response time:	On: approx. 50 ms, Off: approx. 30 ms
Hysteresis with dither:	2 - 4 % of maximum control current
Repeatability:	1.5 % of maximum pressure range
Reversal error:	≤ 2 % of maximum control current
Response sensitivity:	≤ 1 % of maximum control current
Fluids:	Mineral-based or synthetics with lubricating properties
Viscosity:	7.4 to 420 mm <sup>2</sup> /s
Filtration:	Class 18/16/13 up to 19/17/14 according to ISO 4406 or cleaner
Installation:	no orientation restrictions
Material:	Valve body: carbon steel Spool: carbon steel Seals: NBR (standard) FKM (optional) Coil: Steel / Polyamide

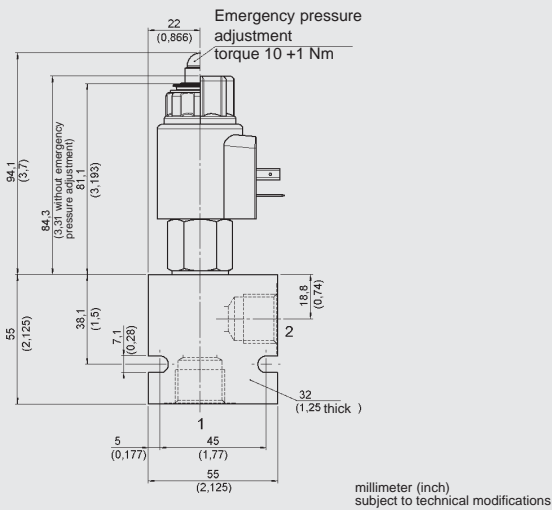
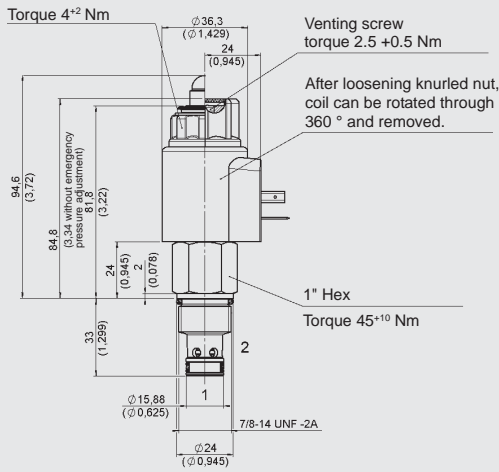
#### Notes:

The PDB10P can also be supplied with an emergency pressure adjustment (version -01M). This allows a mechanical pressure adjustment of the valve if the electrical signal is interrupted. This adjustment should be used only in case of electrical failure since the manual setting would be additive to the electrical setting and the danger of equipment damage could develop.

In order to achieve optimal function, any trapped air should be vented with the bleed screw on the face of the tube (not fitted to version -01M).

Cavity:	FC10-2
Weights:	Valve complete: 0.49 kg Coil only: 0.23 kg

## DIMENSIONS



## MODEL CODE

**PDB10P-01 M - C - N - 330 - 24 PG - 8.8**

### Basic model

### Option

Omission = No option  
M = Emergency pressure adjustment

### Body and Ports\*

C = Cartridge only  
SB4 = 1/2 BSP ports, steel body  
SS8 = SAE-8 ports, steel body  
AB4 = 1/2 BSP ports, aluminium body  
AS8 = SAE-8 ports, aluminium body

### Seals

N = NBR  
V = FKM

### Pressure range

87 = up to 60 bar  
330 = up to 230 bar  
500 = up to 350 bar

### Coil voltage

12 = 12 V (2.2 Ω)  
24 = 24 V (8.8 Ω)

### Coil connector

PG = Connector to EN 175301-803  
PL = Connector with 2 flying leads, 0.75mm<sup>2</sup>  
PN = Deutsch connector  
PT = AMP Junior Timer connector, 2 pole, radial  
other connectors on request

### Coil resistance

2.2 = 2.2 Ω (12 V)  
8.8 = 8.8 Ω (24 V)

## Standard models

Model code	Stock no.
PDB10P-01-C-N-87-12PG-2.2	3122867
PDB10P-01-C-N-330-12PG-2.2	3122958
PDB10P-01-C-N-500-12PG-2.2	3122959
PDB10P-01-C-N-87-24PG-8.8	3122964
PDB10P-01-C-N-330-24PG-8.8	3122965
PDB10P-01-C-N-500-24PG-8.8	3122966

other types on request

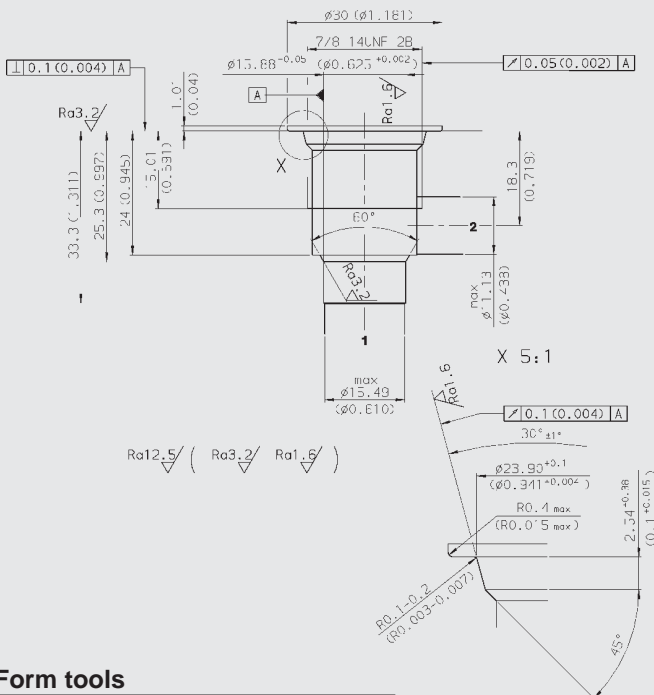
## \*Standard Line Bodies

Code	Part No	Material	Ports	Pressure
FH102-SB4	3037594	Steel, zinc-plated	1/2 BSP	420 bar
FH102-SS8	3037612	Steel, zinc-plated	SAE-8	420 bar
FH102-AB4	3037777	Aluminium, clear anodized	1/2 BSP	245 bar
FH102-AS8	3037778	Aluminium, clear anodized	SAE-8	245 bar

\* for other connection housings, see brochure 5.252.2

## CAVITY

FC10-2

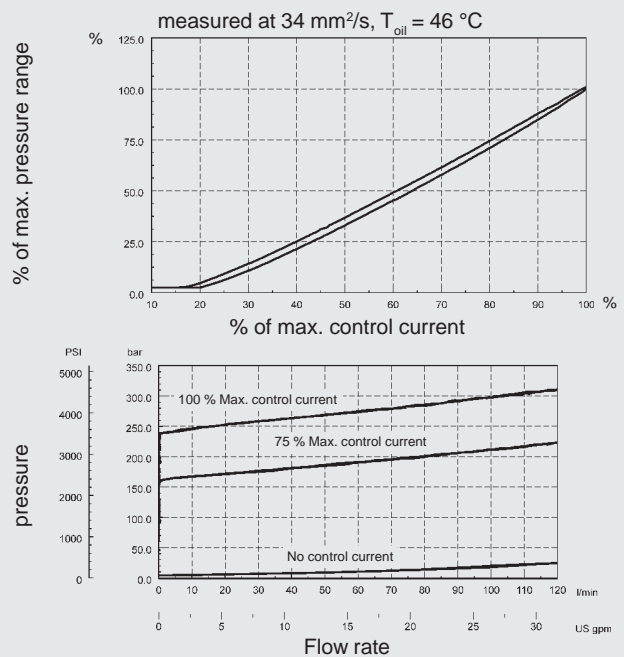


## Form tools

Tool	Part No
Rougher FC10-2	176379
Finisher FC10-2	165706

millimeter (inch)  
subject to technical modifications

## PERFORMANCE



## NOTE

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

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