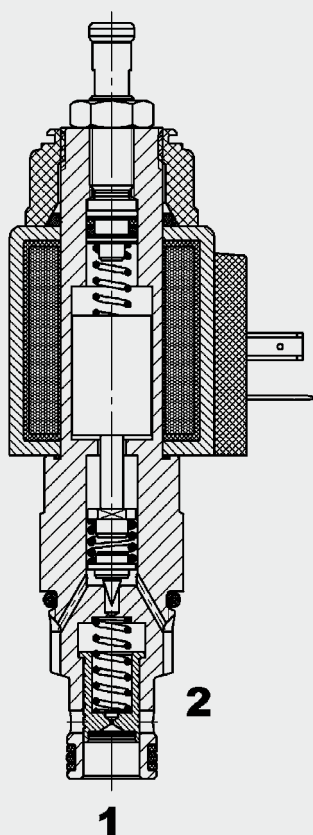


120 l/min  
350 bar

### FUNCTION



The PDB10PZ is a pilot-operated, spool type proportional pressure relief valve. If pressure at port 1 exceeds the setting defined by the electrical signal, the pilot poppet opens and oil flows from behind the main spool to tank port 2. The resulting pressure differential causes the main spool to lift 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.

The valve is inversely controlled: with decreasing control current the pilot poppet closes, the main stage follows the pilot stage and a counter-pressure is created at port 1.

## Proportional Pressure Relief Valve Inverse Controlled Spool Type, Pilot-Operated SAE-10 Cartridge – 350 bar

PDB10PZ-08/-09

### FEATURES

- Reduces cavitation
- External surfaces zinc-plated and corrosion-proof
- Good stability across the whole pressure and flow range
- Excellent dynamic performance
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Coil seals protect the solenoid system
- Low pressure drop due to CFD optimized flow path
- Adjustable throughout flow range

### SPECIFICATIONS

Operating pressure:	max. 350 bar	
Pressure ranges:	4 to 60, 230, 350 bar	
Nominal flow:	max. 120 l/min	
Internal leakage:	< 0.5 l/min at 80% of $p_{nom}$	
Media operating temperature range:	min. -20 °C to max. +100 °C	
Ambient temperature range:	min. -20 °C to max. +60 °C	
Operating fluid:	Hydraulic oil to DIN 51524 Part 1 and 2	
Viscosity range:	min. 7.4 mm <sup>2</sup> /s to max. 420 mm <sup>2</sup> /s	
Filtration:	Class 18/16/13 to class 19/17/14 to ISO 4406 or cleaner	
MTTF <sub>a</sub> :	150 years (see "Conditions and instructions for valves" in brochure 5.300)	
Installation:	No orientation restrictions	
Materials:	Valve body:	free-cutting steel
	Spool:	hardened and ground steel
	Seals:	NBR (standard) FKM (optional, media temperature range -20 °C to +120 °C)
	Back-up rings:	PTFE
	Coil:	steel / polyamide
	Cavity:	FC10-2
Weight:	Valve complete	0.50 kg
	Coil only	0.22 kg

### Electronic data:

Control currents:	1050 mA, 8.8 Ohm (24 Volt)
	2100 mA, 2.2 Ohm (12 Volt)
PWM frequency:	200 Hz
Hysteresis with dither:	2-4% of $I_{nom}$
Repeatability:	≤ 2% of $p_{nom}$
Hysteresis:	≤ 2% of $p_{nom}$
Response sensitivity:	≤ 1% of $p_{nom}$
Coil type:	Coil (12 or 24) P...-40-1836

### NOTE

In order to achieve optimal function, any trapped air should be vented using the air bleed screw on the face of the pole tube.

## MODEL CODE

**PDB 10PZ - 08 - C - N - 330 - V - 330 - 24 PG - 8.8**

### Basic model

Proportional pressure relief valve

### Type

08 = standard  
09 = flow  $\Delta p$  2-2.5

### Body and ports

C = cartridge only

### Seals

N = NBR (standard)  
V = FKM

### Pressure range

087 = 4 - 60 bar (870 PSI)  
330 = 4 - 228 bar (3300 PSI)  
500 = 4 - 345 bar (5000 PSI)

### Type of adjustment

V = adjustable using tool

### Setting

No details = no setting, spring relaxed  
029 = 20 bar, specific cracking pressure (290 PSI)

### Coil voltage

DC voltages:  
12 = 12 V DC (2.2 Ohm)  
24 = 24 V DC (8.8 Ohm)

### Coil connectors (type 40-1836)

PG = DIN connector to EN175301-803  
PL = 2 flying leads, 457 mm long; 0.75 mm<sup>2</sup>  
PN = Deutsch connector, 2-pole, axial  
PT = AMP Junior Timer, 2-pole, radial

### Coil resistance

2.2 = 2.2  $\Omega$  (12 V)  
8.8 = 8.8  $\Omega$  (24 V)

## Standard models

Model code	Part No.
PDB10PZ-09-C-N-087V087-12PG-2.2	3356441
PDB10PZ-09-C-N-087V087-24PG-8.8	3356455
PDB10PZ-08-C-N-300V300-12PG-2.2	3356442
PDB10PZ-08-C-N-300V300-24PG-8.8	3356456
PDB10PZ-08-C-N-500V500-12PG-2.2	3356444
PDB10PZ-08-C-N-500V500-24PG-8.8	3356457

Other models on request

## Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
FH102-SB4	3037594	Steel, zinc-plated	G1/2	420 bar
FH102-AB4	3037777	Aluminium, anodized	G1/2	210 bar

## Seal kits

Code	Material	Part No.
FS102-N SEAL KIT	NBR	3033872
FS102-V SEAL KIT	FKM	3051757

## PERFORMANCE

Measured at  $v = 34 \text{ mm}^2/\text{s}$ ,  $T_{\text{oil}} = 46 \text{ }^\circ\text{C}$

