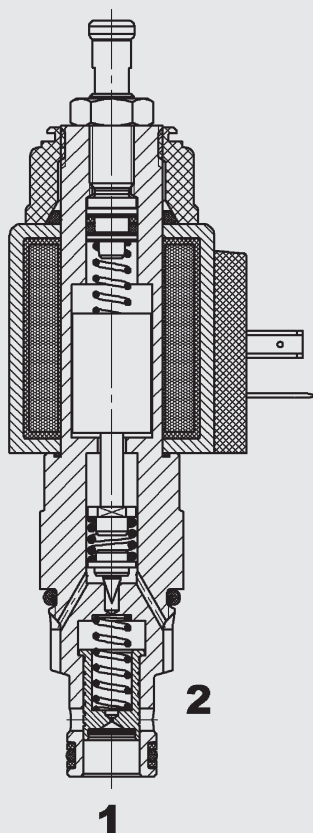


120 l/min
350 bar

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 ² /s to max. 420 mm ² /s	
Filtration:	Class 18/16/13 to class 19/17/14 to ISO 4406 or cleaner	
MTTF _a :	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)
Dither frequency:	200 Hz
Hysteresis with dither:	2-4% of I_{nom}
Repeatability:	≤ 2% of p_{nom}
Reversal error:	≤ 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 Δp 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 mm²
PN = Deutsch connector, 2-pole, axial
PT = AMP Junior Timer, 2-pole, radial

Coil resistance

2.2 = 2.2 Ω (12 V)
8.8 = 8.8 Ω (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

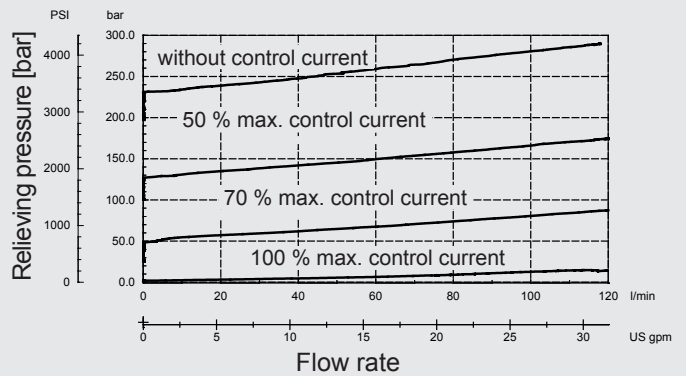
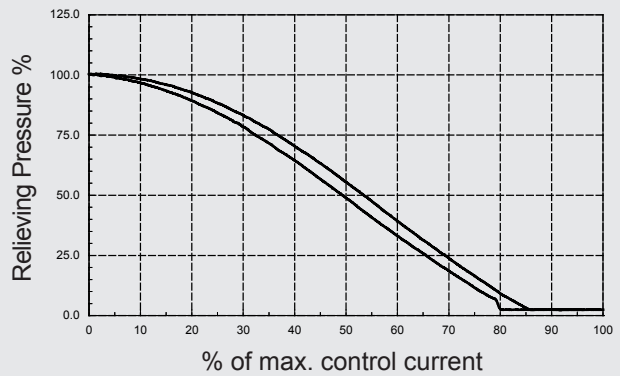
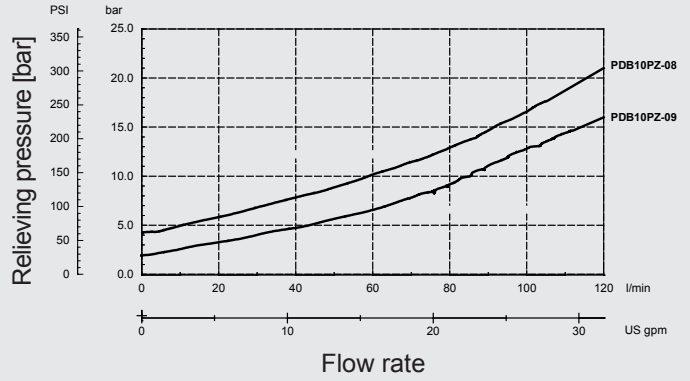
Code	Part No.	Material	Ports	Pressure
FH102-SB4	3037594	Steel, zinc-plated	G1/2	420 bar
FH102-AB4	3037777	Aluminium, anodized	G1/2	210 bar

Seal kits

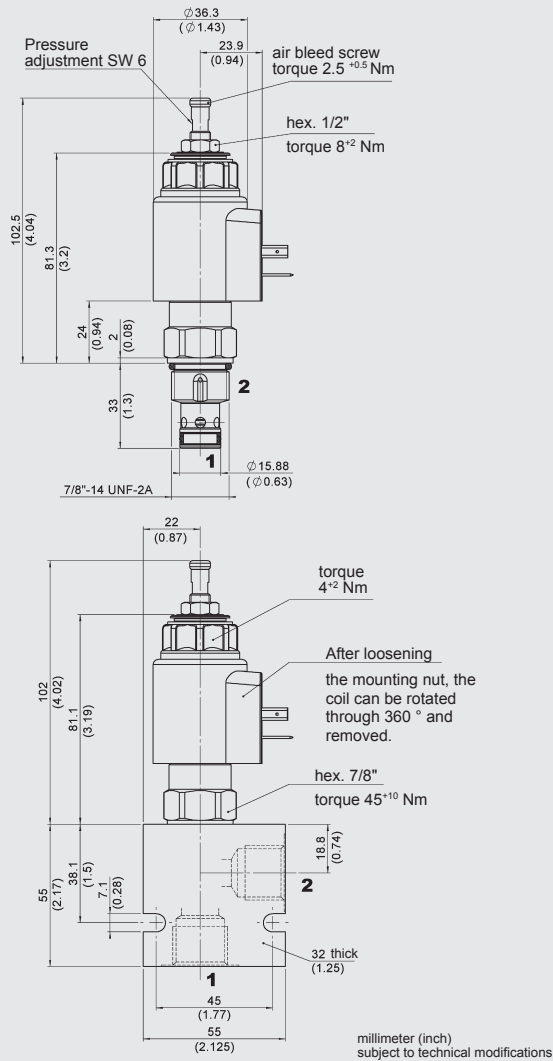
Code	Material	Part No.
FS102-N SEAL KIT	NBR	3033872
FS102-V SEAL KIT	FKM	3051757

PERFORMANCE

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

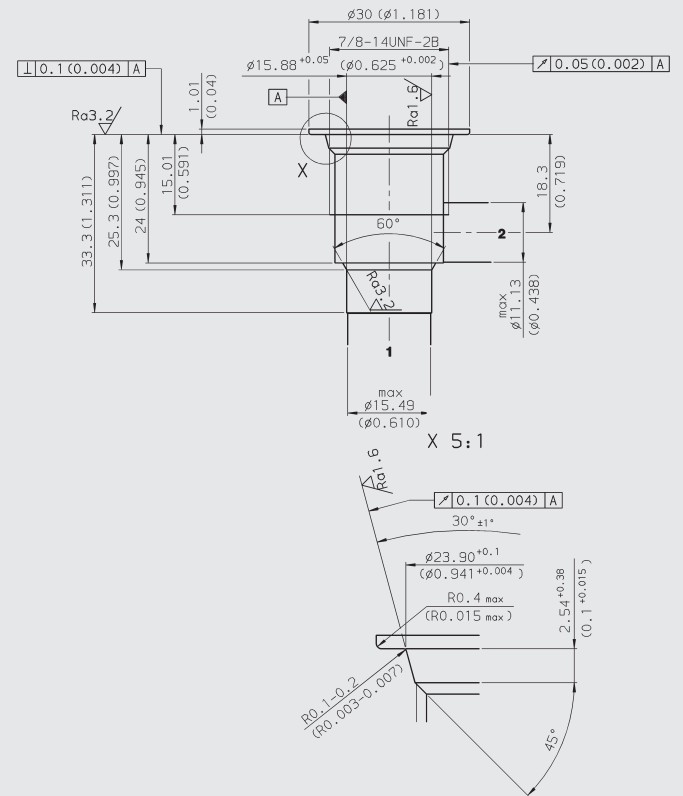


DIMENSIONS



CAVITY

FC10-2



Form tools

Tool	Part No.
Countersink FC10-2	176379
Reamer FC10-2	165706

millimeter (inch) subject to technical modifications

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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