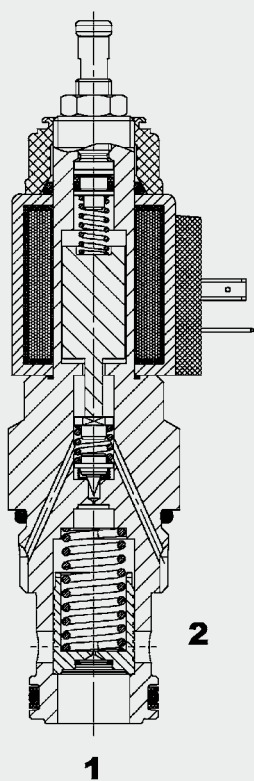


Proportional Pressure Relief Valve Inversely Controlled Spool Type, Pilot-Operated SAE-16 Cartridge – 365 bar

PDB16PZ-08/-09

FUNCTION



The PDB16PZ 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.

The maximum pressure can be pre-set mechanically.

FEATURES

- Reduced cavitation tendency
- 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. 365 bar (port 1) / 50 bar (port 2)
Nominal flow:	max. 300 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 _d :	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	FC16-2
Weight:	Valve complete 0.82 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 I_{nom}
Response sensitivity:	≤ 1 % of I_{nom}
Type of coil:	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 16PZ - 08 - C - N - 330 - V - 330 - 24 PG - 8.8

Basic model

Proportional pressure relief valve

Type

08 = standard
09 = low pressure drop (version 87 and 330 only)

Body and ports*

C = cartridge only

Seals

N = NBR (standard)
V = FKM

Pressure range

087 = 4 - 60 bar (870 PSI)
140 = 4 - 96 bar (1400 PSI)
330 = 4 - 228 bar (3300 PSI)
500 = 4 - 345 bar (5000 PSI)

Type of adjustment

V = adjustable using tool

Pressure setting

Value = factory preset relief pressure (value PSI/10)

Coil voltage

DC voltages:

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

Coil connectors

DC: DG = DIN connector to EN175301-803
DK = Kostal threaded connection M27 x 1
DL = 2 flying leads, 457 mm long, 0.75 mm²
DN = Deutsch connector, 2-pole, axial
DT = 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.
PDB16PZ-08-C-N-530V530-12PG-2.2	3370906
PDB16PZ-08-C-N-530V530-24PG-8.8	3370945
PDB16PZ-09-C-N-330V330-12PG-2.2	3370947
PDB16PZ-09-C-N-330V330-24PG-8.8	3370948
PDB16PZ-09-C-N-087V087-12PG-2.2	3370950
PDB16PZ-09-C-N-087V087-24PG-8.8	3370951

Other models on request

*Standard in-line bodies

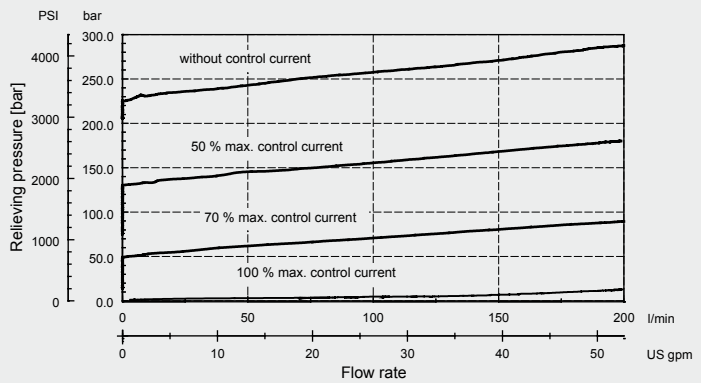
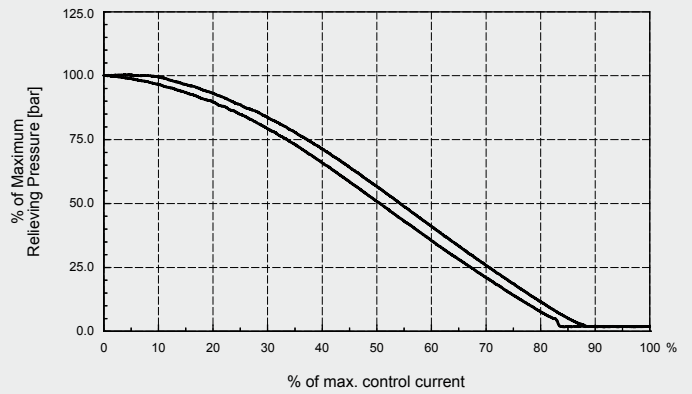
Code	Part No.	Material	Ports	Pressure
FH162-SB8	3032496	Steel, zinc-plated	G1	max. 420 bar
FH162-AB8	3037193	Aluminium, anodized	G1	max. 210 bar

Seal kits

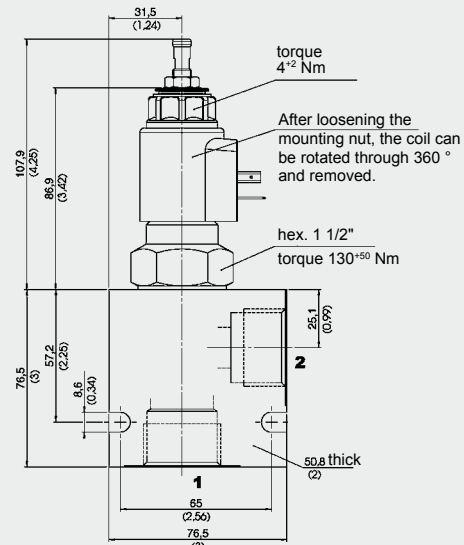
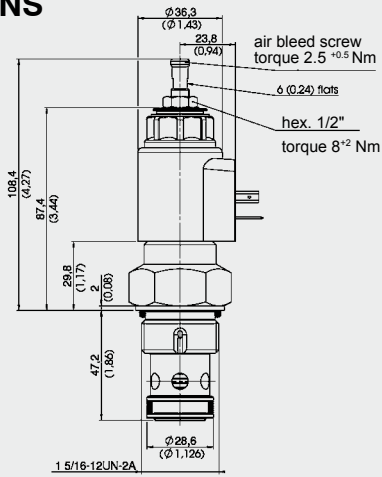
Code	Material	Part No.
FS162-N SEAL KIT	NBR	3052427
FS162-V SEAL KIT	FKM	3051758

PERFORMANCE

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



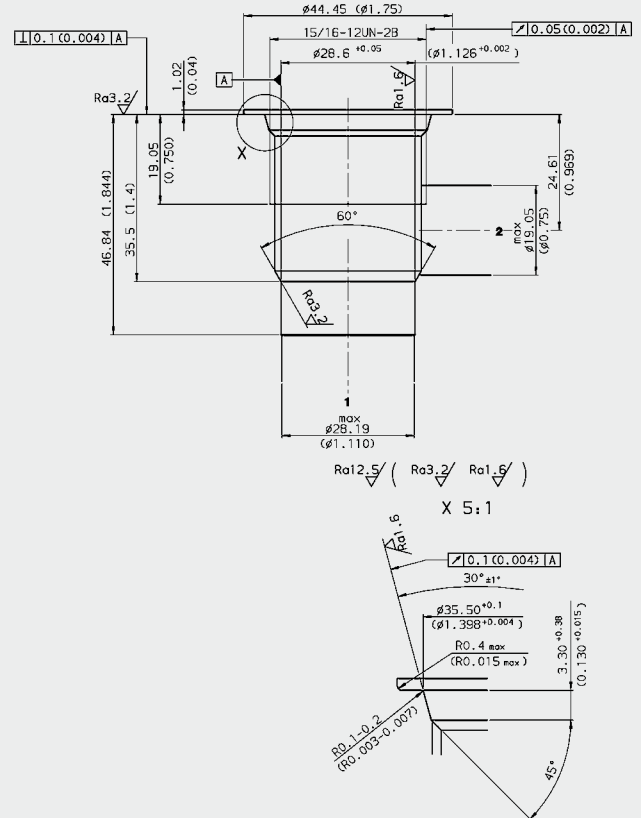
DIMENSIONS



millimeter (inch)
subject to technical modifications

CAVITY

FC16-2



Form tools

Tool	Part No.
Countersink FC16-2	176218
Reamer FC16-2	176219

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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