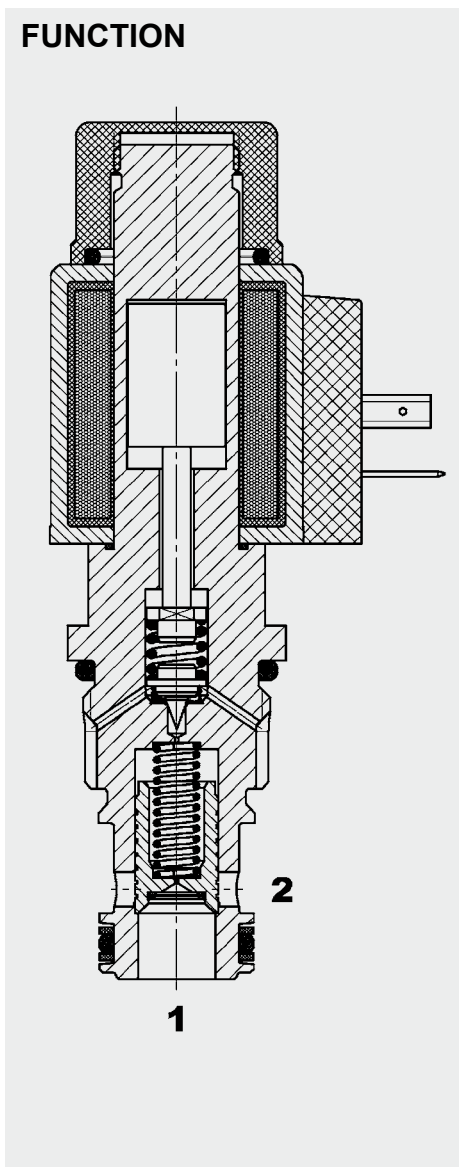


FUNCTION



The PDB12P 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.

Proportional Pressure Relief Valve Spool Type, Pilot-Operated SAE-12 Cartridge – 350 bar PDB12P-01

FEATURES

- External surfaces zinc-plated and corrosion-proof
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Coil seals protect the solenoid system
- Excellent stability throughout the entire flow range
- Excellent dynamic performance
- Low pressure drop due to CFD optimized flow path
- Screen-protected metering orifice enhances safety

SPECIFICATIONS

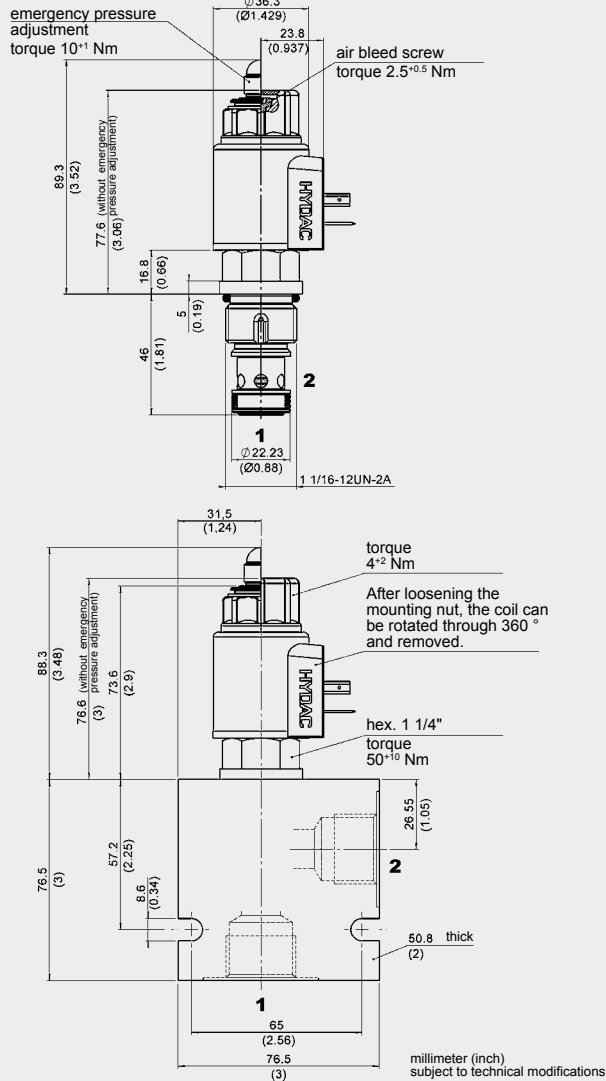
Operating pressure:	max. 350 bar
Nominal flow:	max. 200 l/min
Operating pressure ranges:	up to 60 bar up to 230 bar up to 350 bar
Media operating temperature range:	min. -20 °C to max. +100 °C
Ambient temperature range:	min. -20 °C to max. 60 °C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1 and 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:	FC12-2
Weight:	Valve complete 0.55 kg Coil only 0.23 kg

Electronic data:

Control currents:	1050 mA, 8.8 Ohm (24 Volt) 2100 mA, 2.2 Ohm (12 Volt)
Internal leakage:	< 0.5 l/min at 350 bar
Dither frequency:	approx. 160 Hz - 250 Hz
Response time:	Energized: approx. 50 ms De-energized: approx. 30 ms
Hysteresis with dither:	2 - 4% of I _{nom}
Repeatability:	≤ 1.5 % of I _{nom}
Hysteresis:	≤ 2 % of I _{nom}
Response sensitivity:	≤ 1 % of I _{nom}
Coil type:	Coil...-40-1836

The PDB12P can also be supplied with an emergency pressure adjustment (version -01M). This allows a manual pressure adjustment of the valve if the electrical signal is interrupted. This adjustment should be used only in the case of electrical failure since the manual setting would be additive to the electrical setting and the system could be damaged when power is restored.

DIMENSIONS



MODEL CODE

PDB12P-01 M - C - N - 330 - 24 PG - 8.8

Basic model

Proportional pressure relief valve, UNF

Manual override

no details = without manual override

M = manual override

Body and ports*

C = cartridge only

SB6 = G3/4 ports, steel body

AB6 = G3/4 ports, aluminium body

Seals

N = NBR

V = FKM

Pressure range

87 = up to 60 bar (870 PSI)

330 = up to 230 bar (3300 PSI)

500 = up to 350 bar (5000 PSI)

Coil voltage

12 = 12 V DC (2.2 Ohm)

24 = 24 V DC (8.8 Ohm)

Coil connectors (type 40-1836)

DC: PG = DIN connector to EN175301-803

PU = AMP Junior Timer, 2-pole, axial

PL = 2 flying leads, 457 mm long; 0.75 mm²

PN = Deutsch connector, 2-pole, axial, DT04-22P-EF 04

Other connectors on request

Coil resistance

2.2 = 2.2 Ohm (12V)

8.8 = 8.8 Ohm (24V)

Standard models

Model code	Part No.
PDB12P-01-C-N-87-12PG-2.2	3144462
PDB12P-01-C-N-330-12PG-2.2	3144463
PDB12P-01-C-N-500-12PG-2.2	3144464
PDB12P-01-C-N-87-24PG-8.8	3144465
PDB12P-01-C-N-330-24PG-8.8	3144466
PDB12P-01-C-N-500-24PG-8.8	3144467

*Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
FH122-SB6	3053782	Steel, zinc-plated	G3/4	420 bar
FH122-AB6	3053843	Aluminium, anodized	G3/4	210 bar

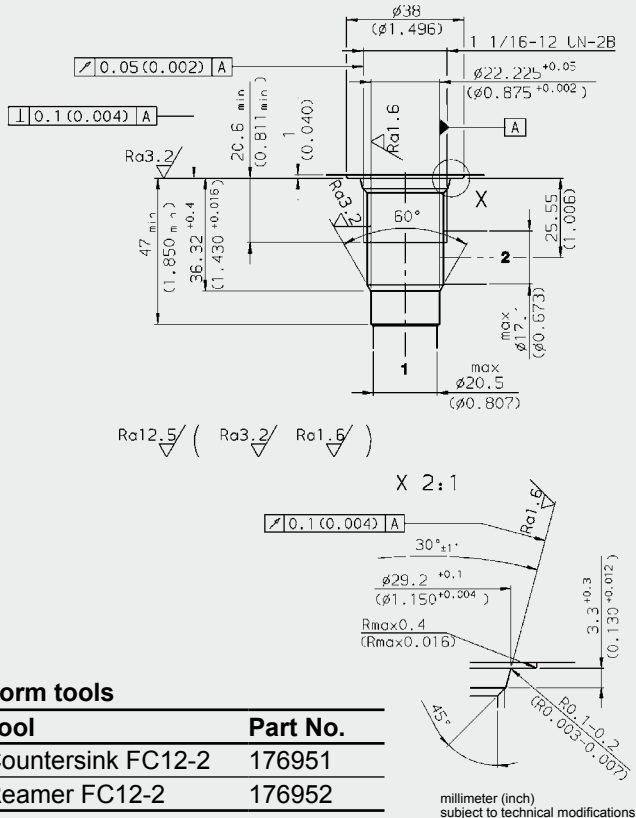
Other bodies on request

Seal kits

Code	Material	Part No.
FS122-N SEAL KIT	NBR	3071298
FS122-V SEAL KIT	FKM	3071299

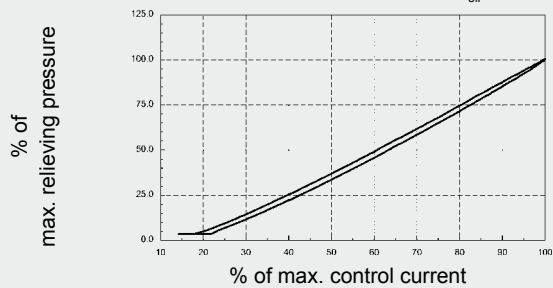
CAVITY

FC12-2

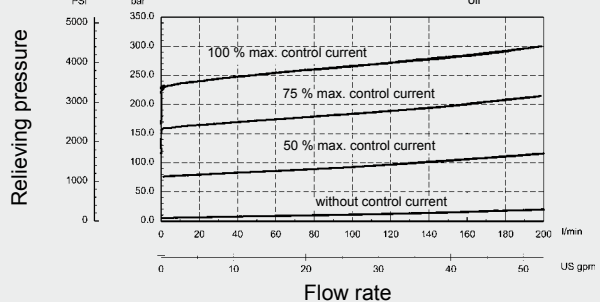


PERFORMANCE

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



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



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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