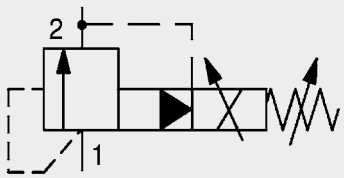


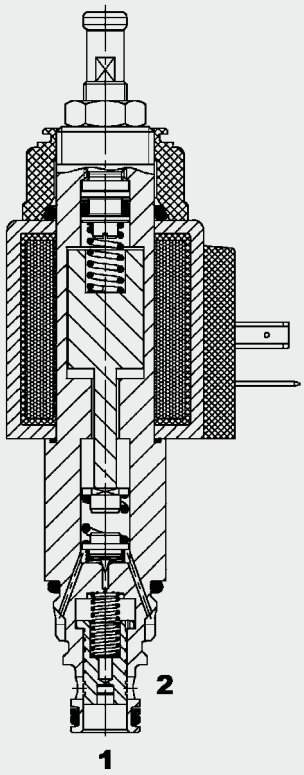
60 l/min
350 bar

Proportional Pressure Relief Valve Inversely Controlled Spool Type, Pilot-Operated SAE-08 Cartridge – 350 bar

UNF

PDB08PZ-08

FUNCTION



The PDB08PZ 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 of the valve closes, the main stage follows the pilot stage and a counter-pressure is created at port 1. When de-energized, the pressure is the highest pressure that has been pre-set (fail-safe function). The maximum pressure can be pre-set mechanically.

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
- Low pressure drop due to CFD optimized flow path
- Adjustable throughout flow range
- Available in different versions with hydropneumatic damping and reduced overlap for the reduction of pressure peaks

SPECIFICATIONS

Operating pressure:	max. 350 bar	
Pressure ranges:	4 to 60, 230, 350 bar	
Nominal flow:	max. 60 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 mm²/s to max. 420 mm²/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:	FC08-2	
Weight:	Valve complete	0.43 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:	160 - 250 Hz	
Hysteresis with dither:	2 - 4% of I_{nom}	
Repeatability:	≤ 2% of I_{nom}	
Hysteresis:	≤ 2% of I_{nom}	
Response sensitivity:	≤ 1% of I_{nom}	
Coil type:	Coil...-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

PDB08PZ -08 -C -N -330 -V -330- 24 PG - 8.8

Basic model
Proportional
pressure relief valve

Type
08 = standard, without damping
18 = as 08, with
hydrodynamic damping

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
330 = 230 bar, specific cracking pressure (3300 PSI) on request

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

Coil connectors (type 40-1836)
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 Ohm (12 V)
8.8 = 8.8 Ohm (24 V)

Standard models

Model code	Part No.
PDB08PZ-08-C-N-087V087-12PG-2.2	3356340
PDB08PZ-08-C-N-087V087-24PG-8.8	3356404
PDB08PZ-08-C-N-330V330-12PG-2.2	3356342
PDB08PZ-08-C-N-330V330-24PG-8.8	3356435
PDB08PZ-08-C-N-500V500-12PG-2.2	3356344
PDB08PZ-08-C-N-500V500-24PG-8.8	3356438

Other models on request

*Standard in-line bodies

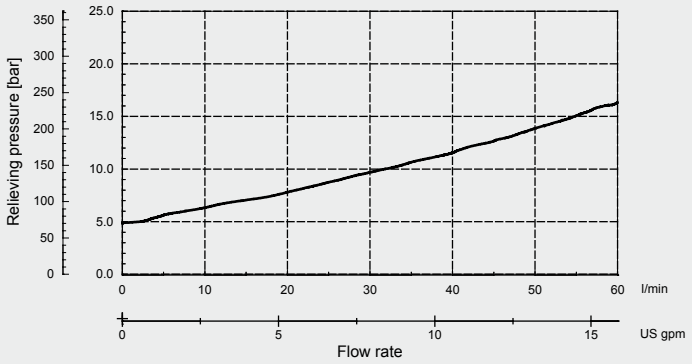
Code	Part No.	Material	Ports	Pressure
FH082-SB3	560919	Steel, zinc-plated	G3/8	max. 420 bar
FH082-AB3	3011423	Aluminium, anodized	G3/8	max. 210 bar

Seal kits

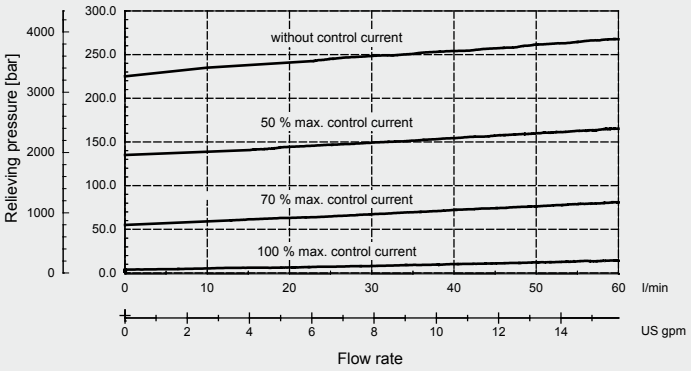
Code	Material	Part No.
FS082-N SEAL KIT	NBR	3033920
FS082-V SEAL KIT	FKM	3051756

PERFORMANCE

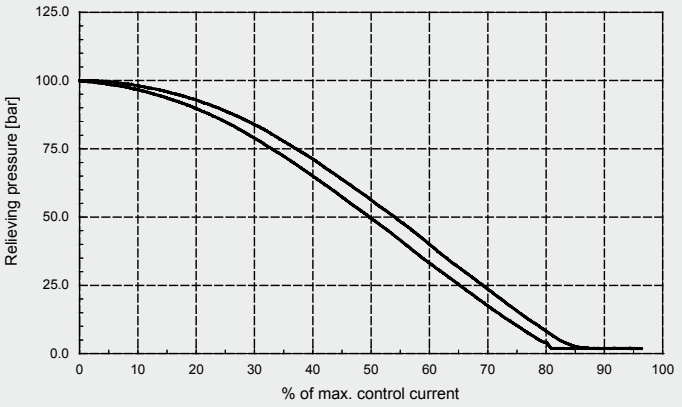
Measured at ν = 34 mm²/s, T_{oil} = 46 °C



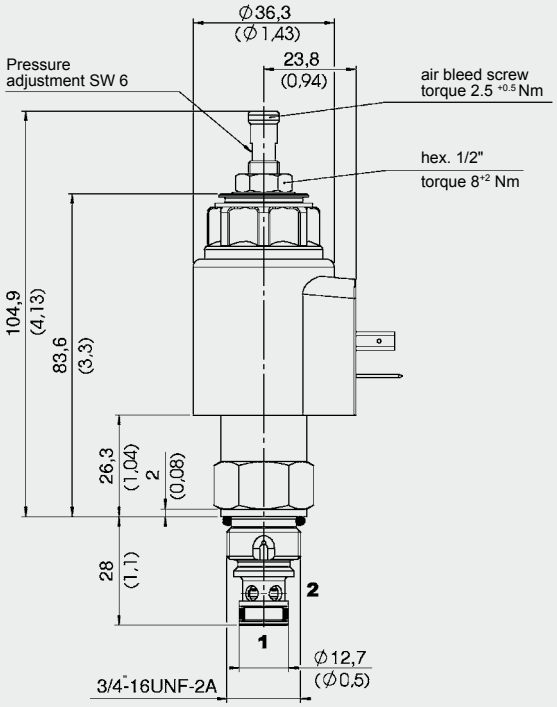
Measured at ν = 34 mm²/s, T_{oil} = 46 °C

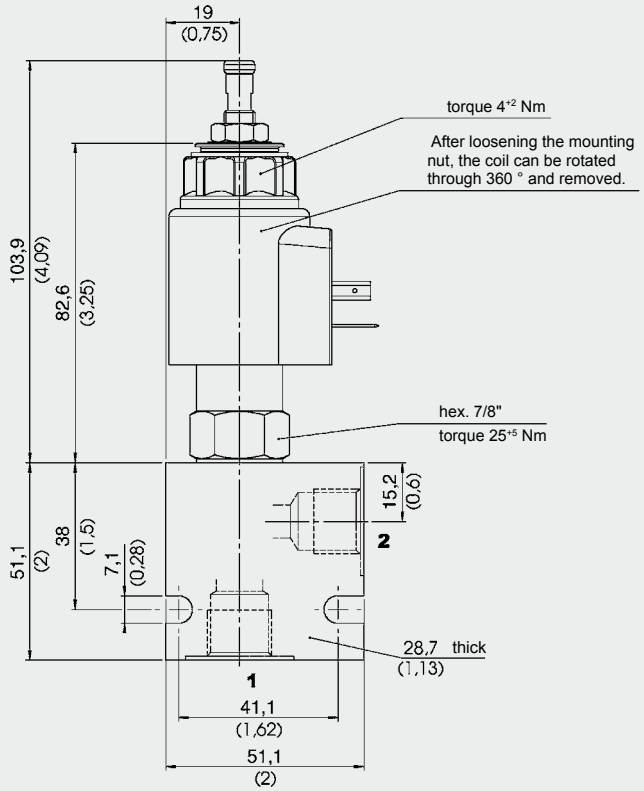


Measured at ν = 34 mm²/s, T_{oil} = 46 °C



DIMENSIONS

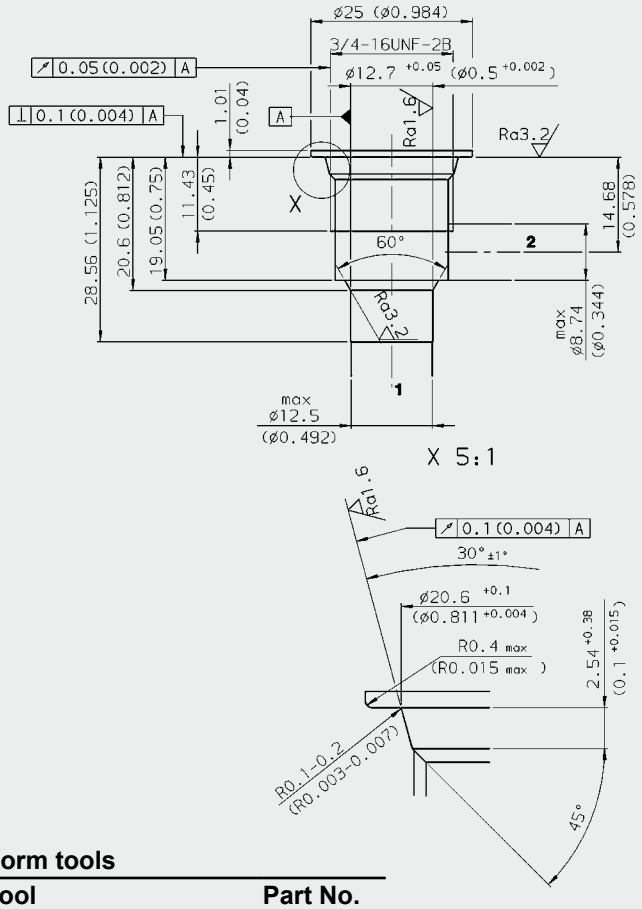




millimeter (inch)
subject to technical modifications

CAVITY

FC08-2



Form tools

Tool	Part No.
Countersink FC08-2	175473
Reamer FC08-2	175474

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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