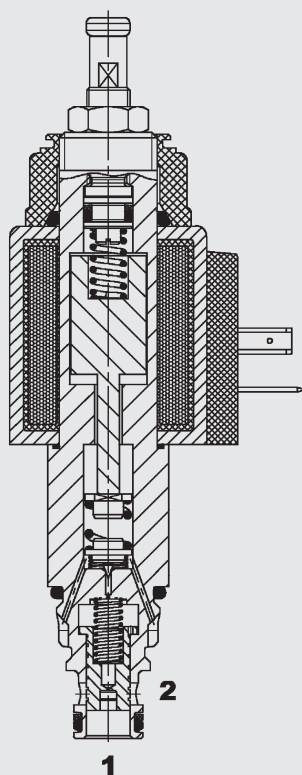


60 l/min  
350 bar

### 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 pressure at port 1 is increasing. When de-energized, the highest pressure is adjusted (fail-safe function). The maximum pressure can be pre-set manually.

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

PDB08PZ-08

### FEATURES

- Reduces cavitation
- Decreasing pressure with increasing current
- 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 entire flow range
- Available in different versions with hydro-dynamic 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 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>d</sub> :	150 years	
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)
Dither frequency:	160 - 250 Hz
Hysteresis with dither:	2 - 4% of $I_{nom}$
Repeatability:	≤ 2% of $I_{nom}$
Reversal error:	≤ 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.

\* see "Conditions and instructions for valves" in brochure 53.000

## 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: PG = DIN connector to EN175301-803  
PK = Kostal threaded connection M27 x 1  
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 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

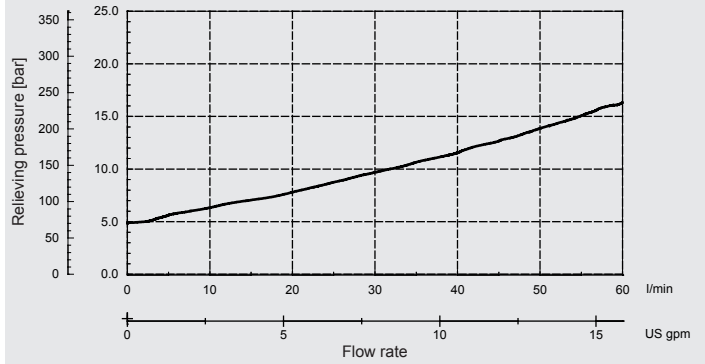
Code	Part No.	Material	Ports	Pressure
FH082-SB3	560919	Steel, zinc-plated	G3/8	max. 420 bar
FH082-AB3	3011423	Aluminium, anodized	G3/8	max. 210 bar

## Seal kits

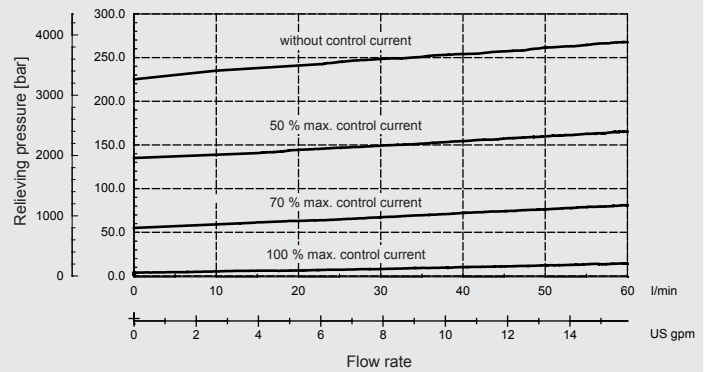
Code	Material	Part No.
FS082-N SEAL KIT	NBR	3033920
FS082-V SEAL KIT	FKM	3051756

## PERFORMANCE

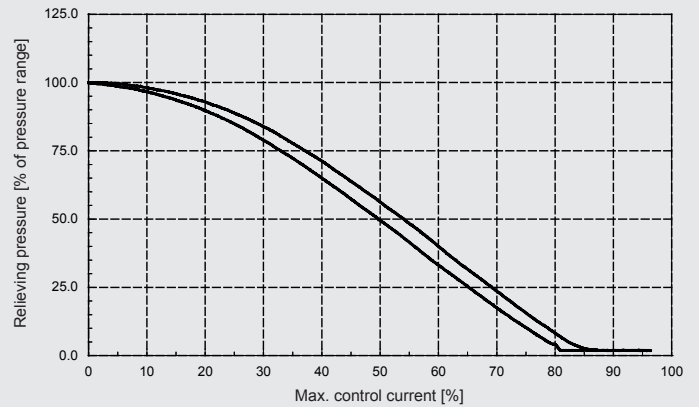
Measured at  $v = 34 \text{ mm}^2/\text{s}$ ,  $T_{\text{oil}} = 46 \text{ }^\circ\text{C}$



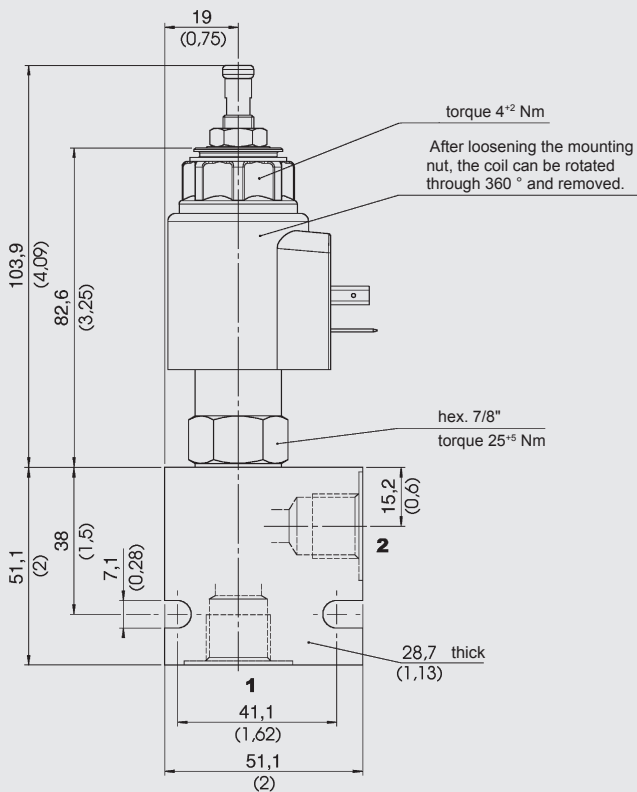
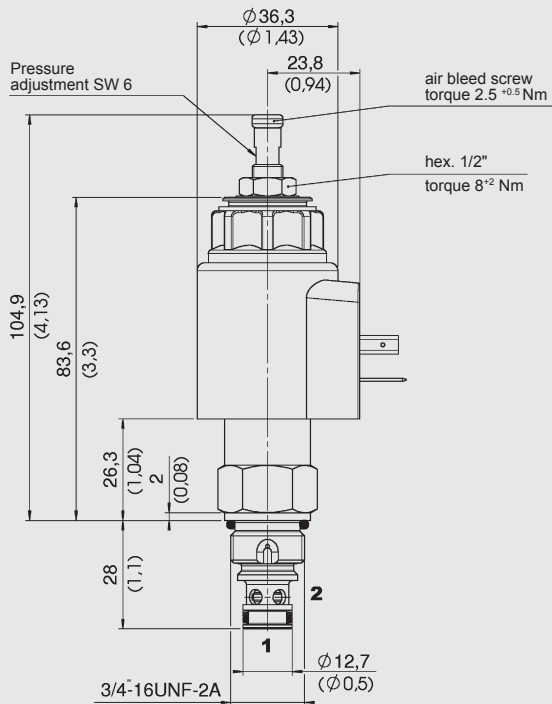
Measured at  $v = 34 \text{ mm}^2/\text{s}$ ,  $T_{\text{oil}} = 46 \text{ }^\circ\text{C}$



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



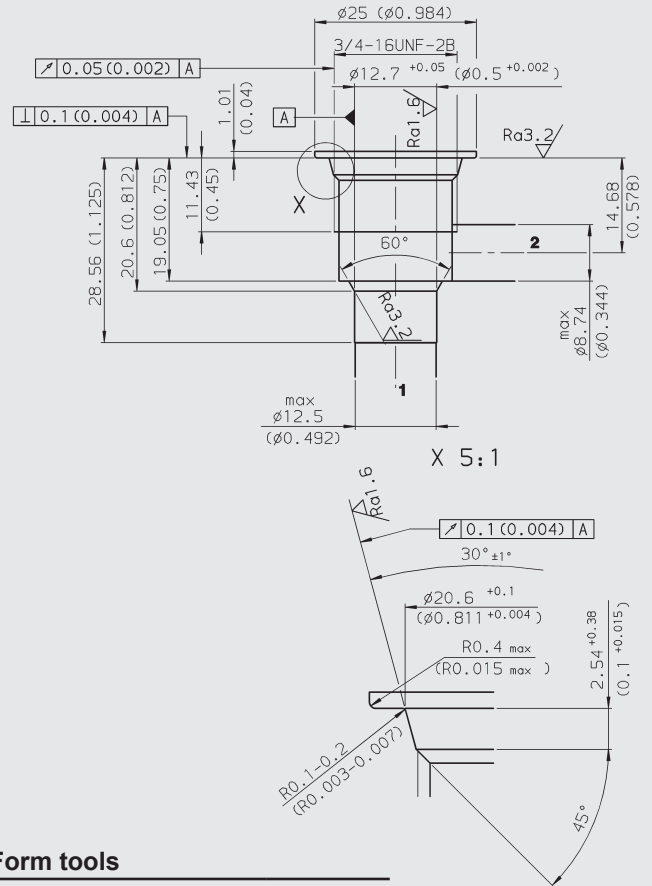
## DIMENSIONS



millimeter (inch)  
subject to technical modifications

## CAVITY

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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