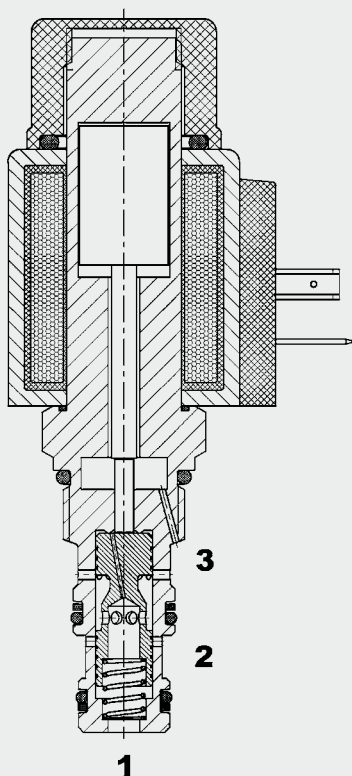


12 l/min
350 bar

FUNCTION



The proportional pressure reducing valve PDR08-01 is a direct-acting 3-way spool-type valve, with relief included. Its function is to maintain a constant pressure at the consumer. When de-energized, port 2 is closed and port 1 (consumer) is connected to port 3 (tank). When the control current increases, the solenoid coil exerts a force on the control spool which is proportional to the control current and thereby defines the regulated pressure at port 2. This setting is proportional to the control current. In addition the valve has a pressure relieving function: If the pressure across consumer port 1 rises above the control pressure due to external force, the control piston is pushed further against the spring and relieves the consumer to tank port 3. Any pressure at port 3 is additive to the pre-set control pressure.

3-Way Proportional Pressure Reducing Valve Spool Type, Direct Acting SAE-08 Cartridge – 350 bar

PDR08-01

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
- Wide variety of connectors available
- Excellent stability throughout the entire flow range
- Excellent dynamic performance
- Low pressure drop due to CFD optimized flow path

SPECIFICATIONS

| | | |
|------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Operating pressure: | max. 350 bar at port 2 | |
| Nominal flow: | 12 l/min | |
| Operating pressure ranges: | up to 14 bar | up to 48 bar |
| | up to 20 bar | up to 75 bar |
| | up to 35 bar | up to 138 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 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: | FC08-3 | |
| Weight: | Valve complete | 0.364 kg |
| | Coil only | 0.19 kg |

Electronic data:

| | |
|-------------------------|---------------------------------------------------------|
| Control current: | 1050 mA, 8.8 Ohm (24 Volt) |
| | 2100 mA, 2.2 Ohm (12 Volt) |
| Internal leakage: | < 50 ml/min at 350 bar |
| Dither frequency: | approx. 140 Hz - 250 Hz |
| Response time: | energized: approx. 40 ms de-energized: approx. 30 ms |
| 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 |

The PDR08 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.

MODEL CODE

PDR08-01 M - C - N - 110 - 24 PG - 8.8

Basic model

Proportional pressure reducing valve, UNF

Manual override

no details = without manual override
M = manual override

Body and ports*

C = cartridge only
SB3 = G3/8 ports, steel body
AB3 = G3/8 ports, aluminium body

Seals

N = NBR (standard)
V = FKM

Pressure range

20 = up to 14 bar (200 PSI)
30 = up to 20 bar (300 PSI)
50 = up to 35 bar (500 PSI)
110 = up to 75 bar (1100 PSI)
200 = up to 138 bar (2000 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 (12 V)
8.8 = 8.8 Ohm (24 V)

Standard models

| Model code | Part No. |
|---------------------------|----------|
| PDR08-01-C-N-20-12PG-2.2 | 3111707 |
| PDR08-01-C-N-110-12PG-2.2 | 3111705 |
| PDR08-01-C-N-200-12PG-2.2 | 3111728 |
| PDR08-01-C-N-20-24PG-2.2 | 3109439 |
| PDR08-01-C-N-110-24PG-2.2 | 3111706 |
| PDR08-01-C-N-200-24PG-2.2 | 3111729 |

*Standard in-line bodies

| Code | Part No. | Material | Ports | Pressure |
|-----------|----------|--------------------------|-------|----------|
| FH083-SB3 | 560922 | Steel, zinc-plated | G3/8 | 420 bar |
| FH083-AB3 | 3011427 | Aluminium, anodized G3/8 | | 210 bar |

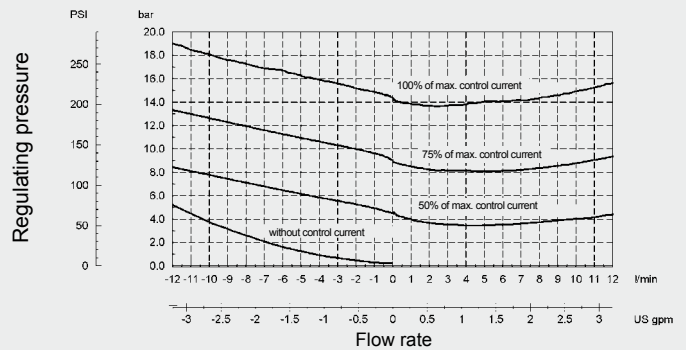
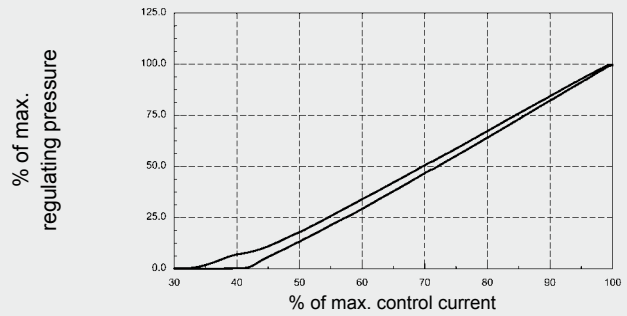
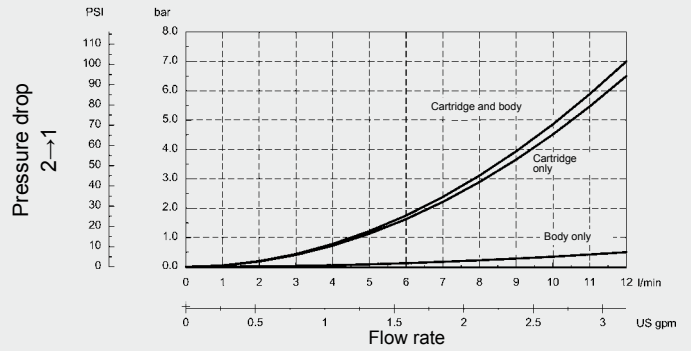
Other bodies on request

Seal kits

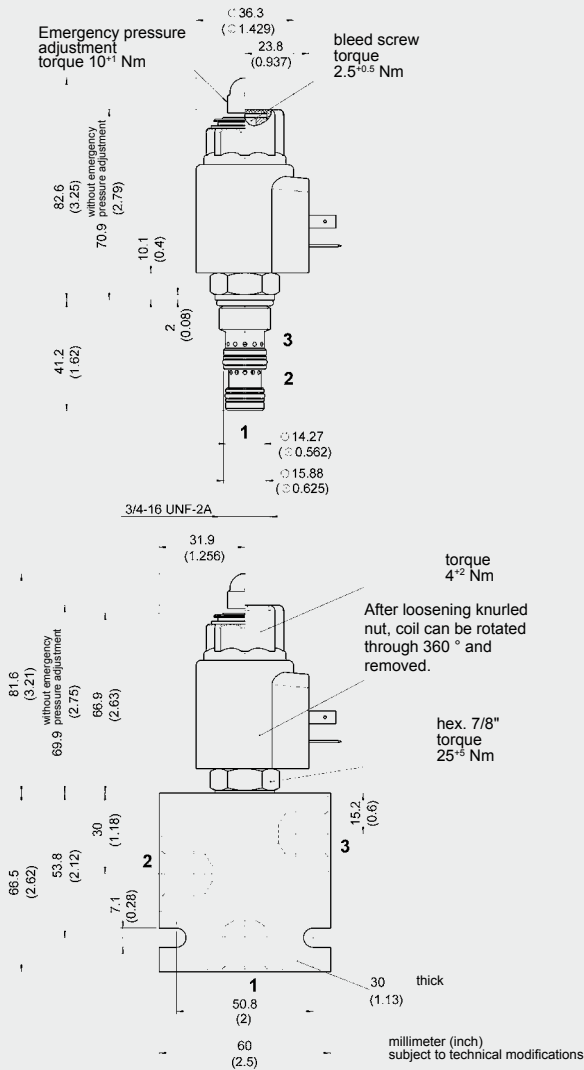
| Code | Material | Part No. |
|------------------|----------|----------|
| FS083-N SEAL KIT | NBR | 3054795 |
| FS083-V SEAL KIT | FKM | 2591059 |

PERFORMANCE

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

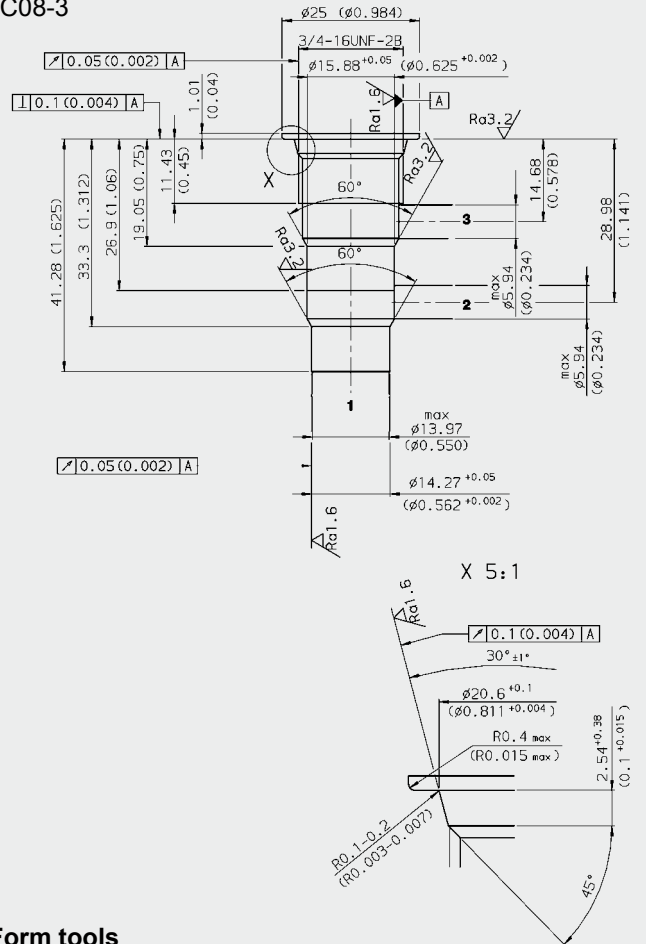


DIMENSIONS



CAVITY:

FC08-3



Form tools

| Tool | Part No. |
|--------------------|----------|
| Countersink FC08-3 | 175644 |
| Reamer FC08-3 | 175645 |

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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