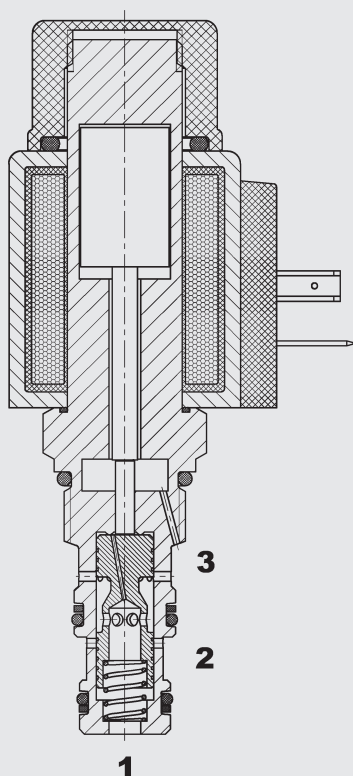


12 l/min
350 bar

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}	
Reversal error:	≤ 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

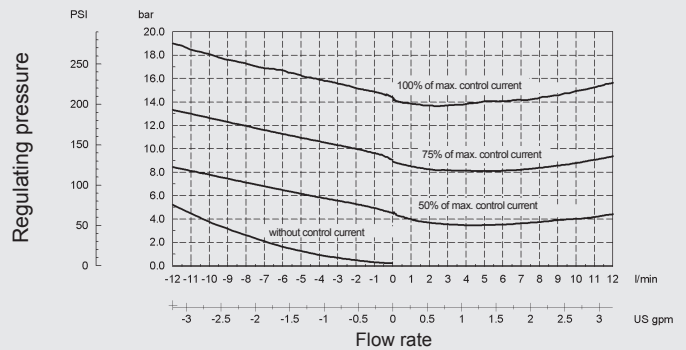
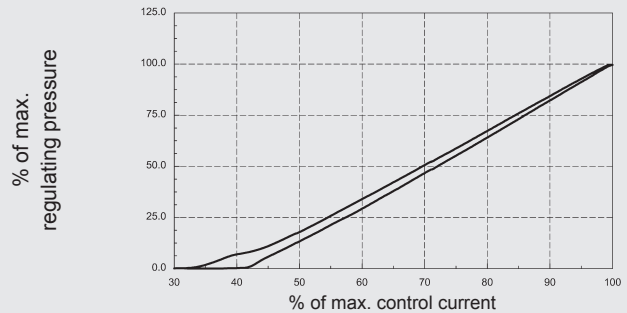
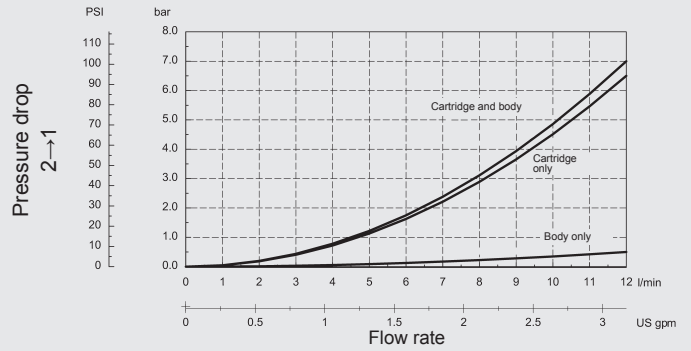
Other bodies on request

Seal kits

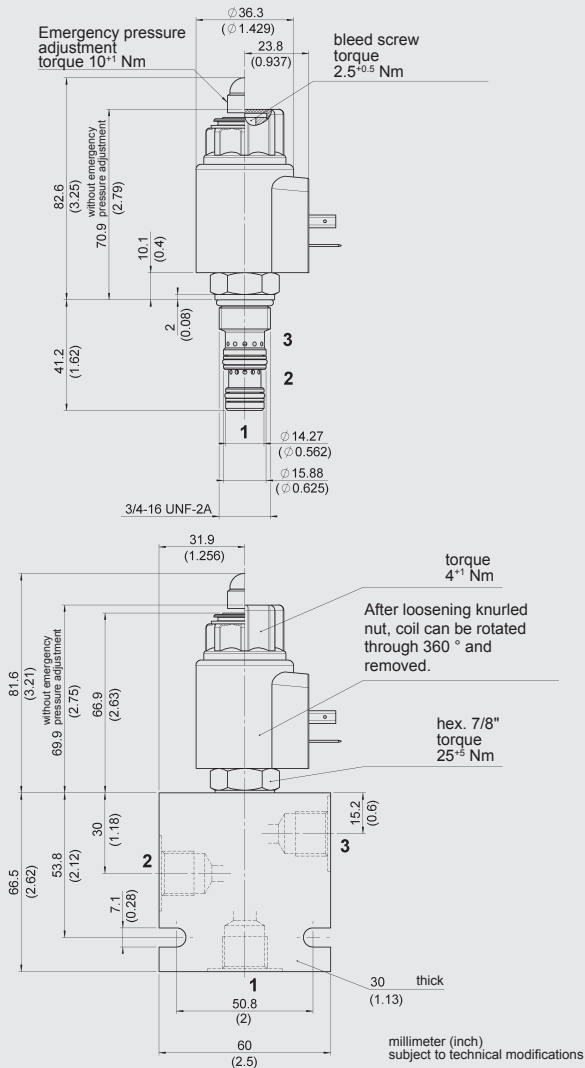
Code	Material	Part No.
FS083-N SEAL KIT	NBR	3054795
FS083-V SEAL KIT	FKM	2591059

PERFORMANCE

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

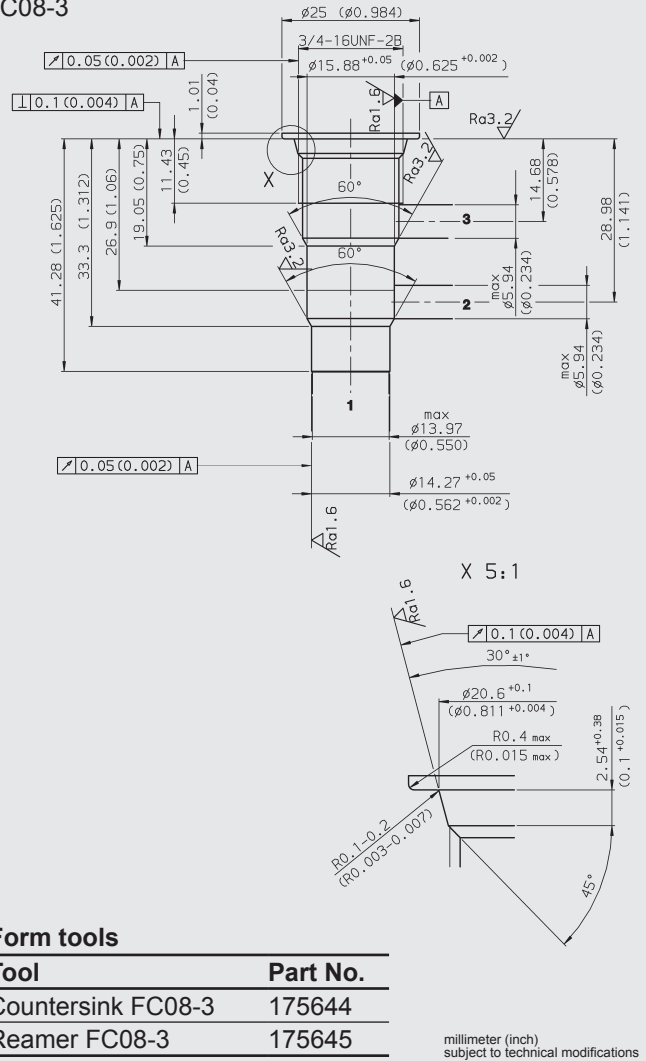


DIMENSIONS



CAVITY:

FC08-3



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.

HYDAC Fluidtechnik GmbH
Justus-von-Liebig-Str.
D-66280 Sulzbach/Saar
Tel: 0 68 97 /509-01
Fax: 0 68 97 /509-598
E-Mail: flutec@hydac.com

