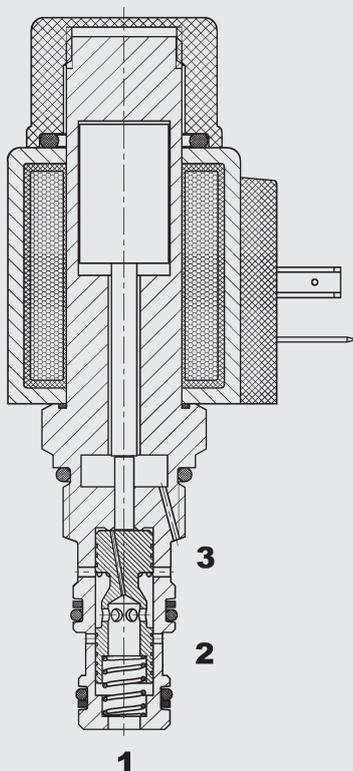


up to 12 l/min
up to 350 bar

FUNCTION



The proportional pressure reducing valve is a direct-acting 3-way spool-type valve.

Its function is to maintain a constant pressure at the consumer. When de-energized, pump port 2 is closed and consumer port 1 is connected to tank port 3. When energized, a force proportional to the control current acts on the valve piston and thereby defines the regulated pressure at consumer port 1.

If the pressure at port 1 rises above the set pressure due to a reaction of the consumer, pressure protection is provided on the outlet side. For this purpose, port 1 is relieved to tank port 3 and the pressure is thus limited.

A pressure at port 3 is added to the pressure preset by the control current.

3-Way Proportional Pressure Reducing Valve spool type, direct-acting UNF Cartridge – 350 bar

PDR08-01

FEATURES

- Excellent dynamic performance
- Wide variety of connectors available
- Excellent stability throughout the entire flow range
- Coil seals protect the solenoid system
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1000 h Salt spray test)

SPECIFICATIONS*

Operating pressure:	max. 350 bar	
Nominal flow:	12 l/min	
Operating pressure ranges:	0 up to 14 bar	0 up to 48 bar
	0 up to 20 bar	0 up to 75 bar
	0 up to 35 bar	0 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, 2 and 3	
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 - 1200 years, according to DIN EN ISO 13849-1	
Installation:	No orientation restrictions	
Materials:	Valve body:	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
(at p _{max} , Q _{max} , v = 34 mm ² /s)	de-energized: approx. 30 ms
	Divergent response times possible at other operating conditions
Hysteresis with dither:	2 - 4 % of p _{max}
Repeatability:	≤ 2 % of p _{max}
Reversal error:	≤ 2 % of p _{max}
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.

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

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 = 0 up to 14 bar (200 PSI)
30 = 0 up to 20 bar (300 PSI)
50 = 0 up to 35 bar (500 PSI)
110 = 0 up to 75 bar (1100 PSI)
200 = 0 up to 138 bar (2000 PSI)

Coil voltage

12 = 12 V DC
24 = 24 V DC

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"	350 bar
FH083-AB3	3011427	Aluminium, anodized G3/8"		210 bar

Other bodies on request

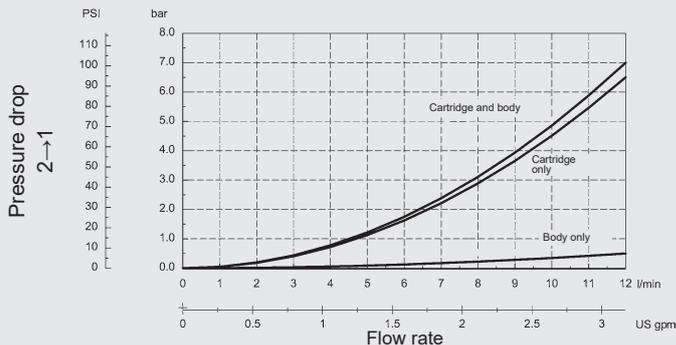
Seal kits

Code	Material	Part No.
FS UNF 08/N	NBR	3651385
FS UNF 08/V	FKM	3651356

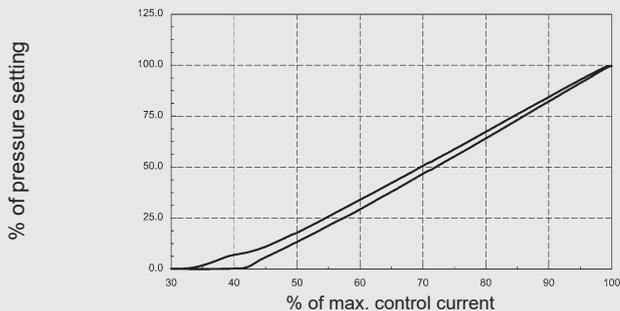
TYPICAL PERFORMANCE

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

$\Delta p/Q$ - Performance at max. control current



p/I - Performance



p/Q - Performance of pressure range 20

