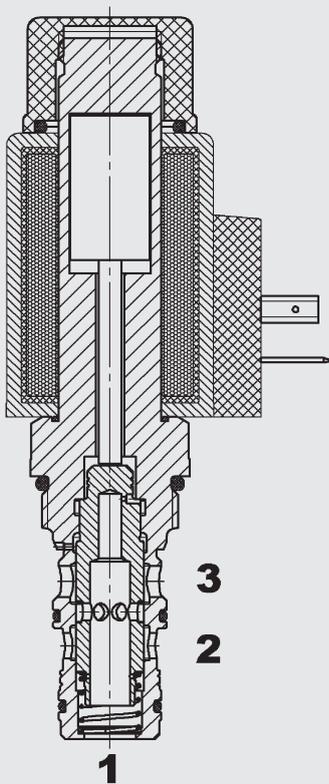


FUNCTION



The proportional pressure control valve is a direct-acting 3-way spool type valve – with pressure protection on outlet side. When de-energized, connection 2 is closed and consumer port 1 is connected to tank port 3. When the inlet pressure fluctuates, it provides an almost constant outlet pressure – depending on the coils' current supply. When the control current increases, the solenoid pushes on the control piston with a force that is proportional to the control current and thus sets the control pressure at port 1. Pressures at tank port 3 increase the control pressure. If, as a result of external influences, the pressure at port 1 rises above the setting pressure, the valve opens from port 1 to tank port 3 (relief function).

GENERAL

- For example for large pilot control units and for non-automated clutch applications
- Excellent stability throughout the entire flow range
- Different pressure ranges up to 32 bar available
- Excellent dynamic performance
- Coil seals protect the solenoid system
- Wide variety of connectors available
- External surfaces with advanced corrosion protection due to ZnNi coating (1 000 h salt spray test)

SPECIFICATIONS*

Operating pressure:	max. 100 bar (at port 2)
Tank pressure:	max. 80 bar (at port 3)
Pressure ranges:	18; 20; 25 or 32 bar
Nominal flow:	max. 40 l/min
Internal leakage:	< 100 cm ³ /min at 18 bar approx. 34 mm ² /s at average current supply
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 ISO 4406 or cleaner
MTTF _d : (see 9. MTTF _d Value in brochure 53.000)	150 – 1200 years, according to DIN EN ISO 13849-1
Installation position:	No orientation restrictions
Materials:	Valve body: Steel Piston: hardened and ground steel Seals: NBR (standard) FKM (optional, media temperature range -20°C to +120°C)
Cavity:	10830 metric threads
Weight:	Complete valve: 0.47 kg Coil only: 0.23 kg

Electronics

Type of voltage:	850 mA, 18 ohm (24 V) 1750 mA, 4.1 ohm (12 V)
Dither frequency:	120 – 150 Hz
Hysteresis with dither:	2 – 4% from I _{nom}
Repeatability:	≤ 1 % of I _{nom}
Reversal error:	≤ 1 % of I _{nom}
Response sensitivity:	≤ 1 % of I _{nom}
Coil type:	Coil...-50-1836

* see "Conditions and Instructions for Valves" in brochure 53.000

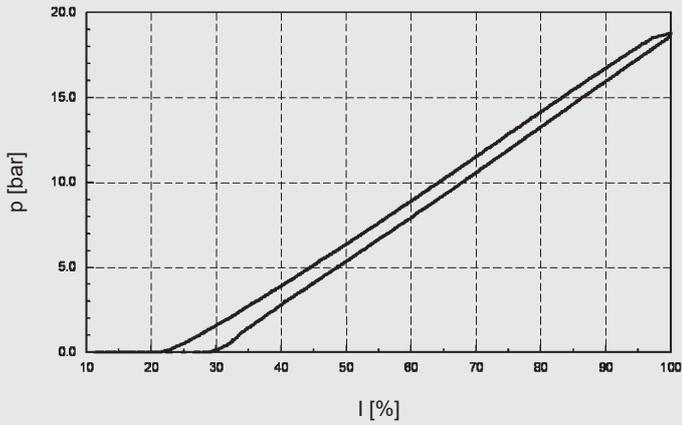
TYPICAL PERFORMANCE

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

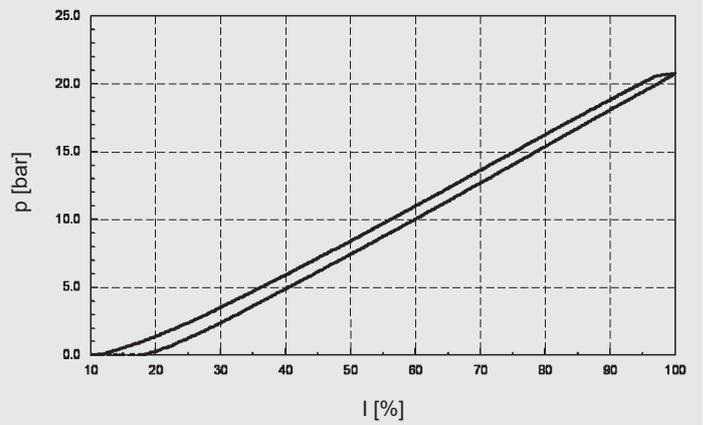
Typical characteristics are subject to specimen variance!

p-I characteristics

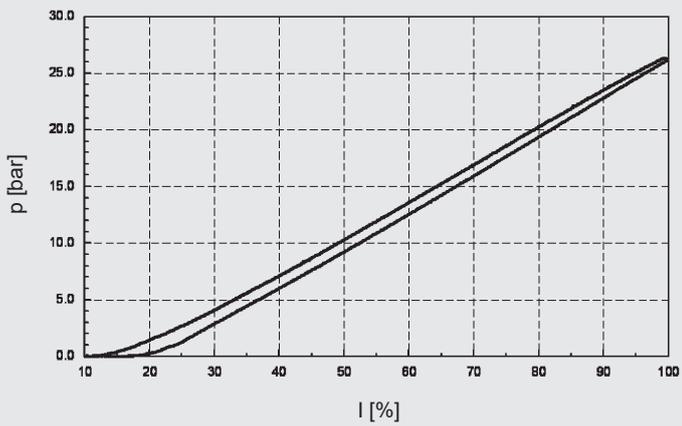
18 bar



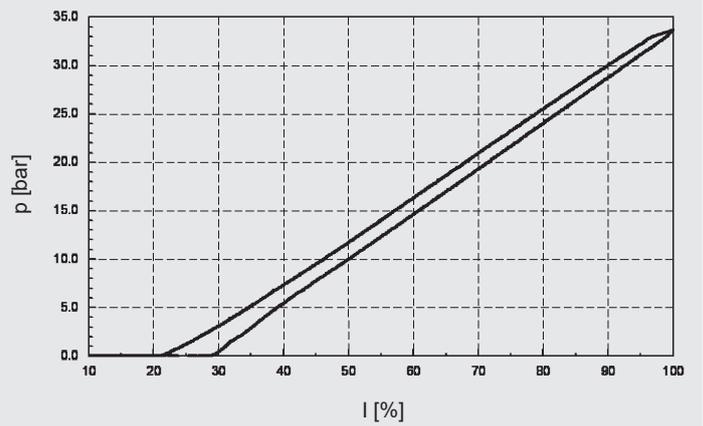
20 bar



25 bar

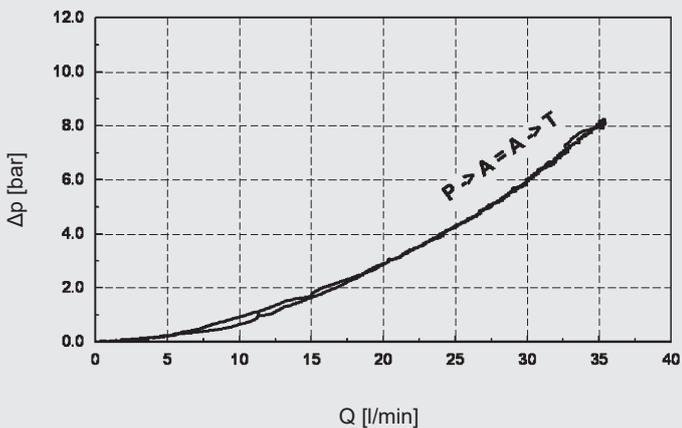


32 bar

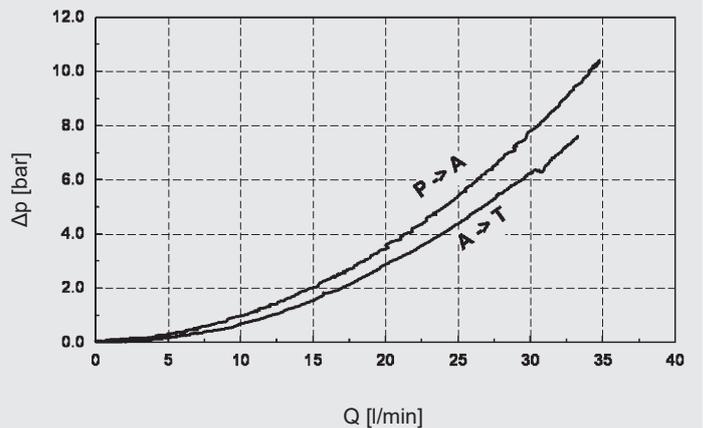


Δp -Q characteristics

18/20/25 bar



32 bar



MODEL CODE

PDR10830-01 - C - N - 25 - 24 PG - 18

Basic model

Proportional pressure control valve,
direct-acting

Type

01 = standard

Body and ports*

C = Cartridge only

*versions with in-line bodies on request

Seals

N = NBR (standard)

V = FKM

Setting pressure range

18 = 18 bar

20 = 20 bar

25 = 25 bar

32 = 32 bar

other pressure ranges on request

Coil voltage

0 = No coil

12 = 12 V DC

24 = 24 V DC

other voltages on request

Coil connectors (type 50-1836)

DC: PG = DIN connector according to EN 175301-803

PL = 2 flying leads, 457 mm long; 0.75 mm²

PN = Deutsch connector, 2-pole, axial,

PU = AMP Junior Timer, 2-pole, axial

other connectors on request

Coil resistance

18 = 18 Ω (850 mA, 24 V)

4.1 = 4.1 Ω (1,750 mA, 12 V)

Standard models

Model code	Part no.
PDR10830-01-C-N-18-0	3720405
PDR10830-01-C-N-18-12PU-4.1	3843400
PDR10830-01-C-N-18-24PG-18.0	4071846
PDR10830-01-C-N-20-0	3720406
PDR10830-01-C-N-25-0	3692632
PDR10830-01-C-N-32-0	3692633

Other models on request

*Standard in-line bodies

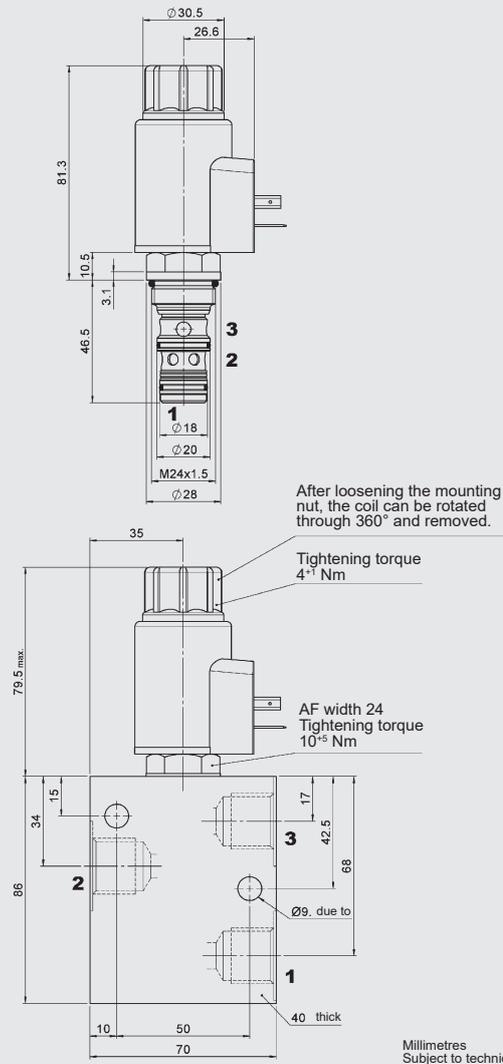
Code	Part no.	Material	Ports	Pressure
Geh (R10830-01X-01)	3583051	Steel	BSP 1/2	100 bar

Other connection housings on request

Seal kits

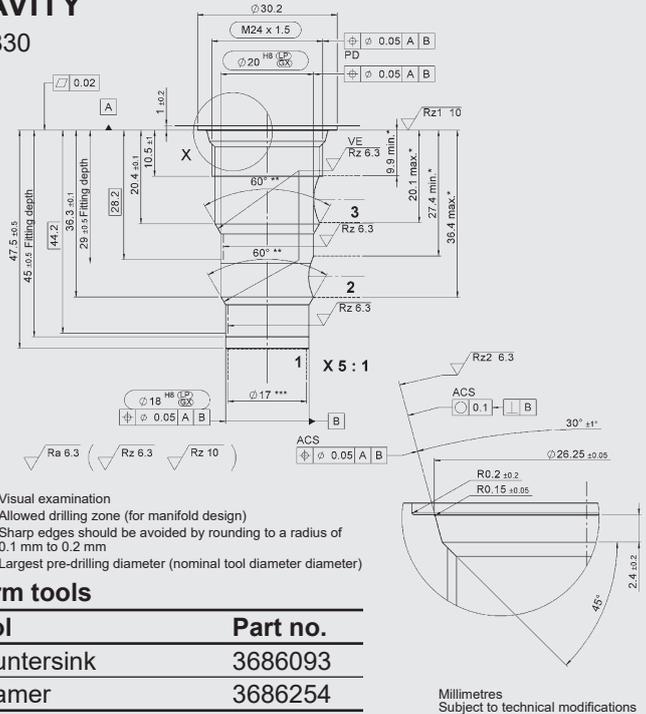
Code	Material	Part no.
Seal kit 10830-NBR	NBR	3722246
Seal kit 10830-FKM	FKM	3726876

DIMENSIONS



CAVITY

10830



Form tools

Tool	Part no.
Countersink	3686093
Reamer	3686254

Note

The information in this brochure relates to the operating conditions and applications described. For applications not described, please contact the relevant technical department.
Subject to technical modifications.

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