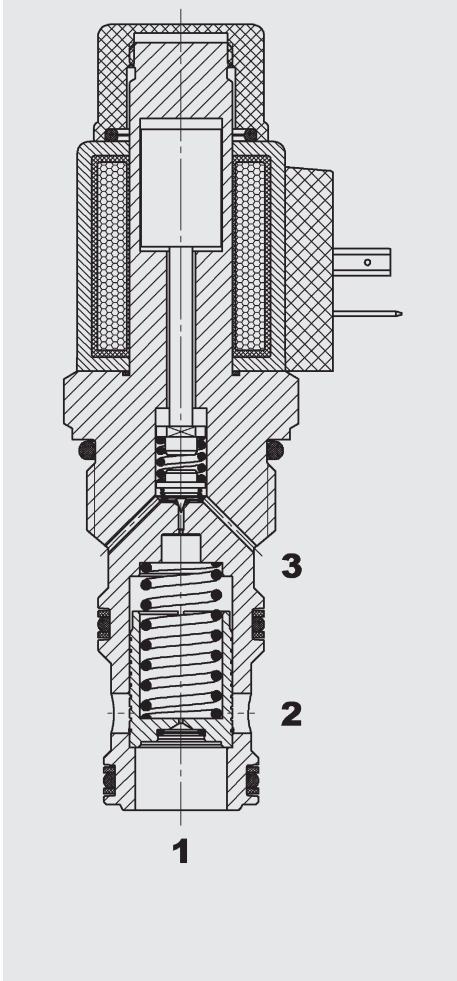


FUNCTION



The proportional pressure relief valve is a pilot-operated spool type valve with additional spring chamber relief at port 3. If pressure at port 1 exceeds the nominal value that has been set electrically, the pilot stage opens, creating a flow of oil from the back of the main spool to port 3. The resulting pressure differential lifts the main spool against the return spring and allows oil to flow from port 1 to port 2. In accordance with the electrical nominal value, the pressure to be limited can be continuously adjusted at port 1. **NOTICE:** Pressures at port 2 have no influence on the nominal value that has been set electrically.

Proportional pressure relief valve spool type, pilot-operated with spring chamber relief Metric Cartridge – 350 bar PDBM16121PE-01

FEATURES

- Very good dynamic performance
- Excellent stability throughout the entire pressure range
- Coil seals protect the solenoid system
- Wide variety of connectors available
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1,000 h salt spray test)

SPECIFICATIONS*

Operating pressure:	max. 350 bar
Flow rate:	max. 300 l/min
Pressure ranges:	10 to 60 bar 15 to 230 bar 20 to 350 bar
Downstream pressure (port 3):	20 bar (max. 350 bar)
Leakage:	< 120 cm ³ /min at 80% nominal pressure
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. 10 mm ² /s to max. 380 mm ² /s
Filtration (according to ISO 4406):	≤ 210 bar: min. 17/15/12 > 210 bar: min. 16/14/11
MTTF _d :	150 – 1200 years, measurement 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 operating temperature range -20°C to +100°C) Back-up rings: PTFE Solenoid coil: Steel / polyamide
Cavity:	16121 metric
Weight:	Complete valve: 0.52 kg Coil only: 0.22 kg

Electronics

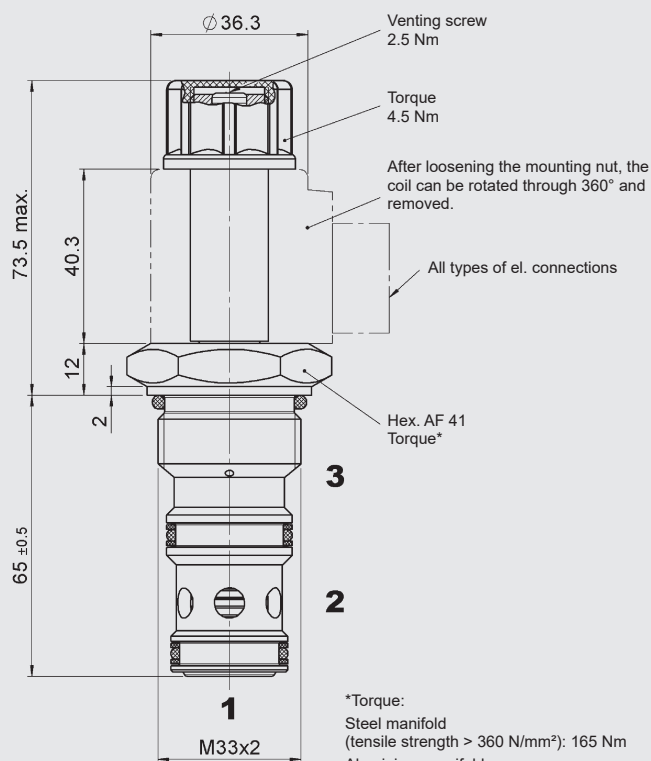
Control current range:	1050 mA; 8.8 Ω (24 V) 2100 mA; 2.2 Ω (12 V)
Dither frequency:	approx. 160 Hz – 250 Hz
Hysteresis with dither:	2–4% of I _{max}
Repeatability:	≤ 1.5% of p _{max}
Reversal error:	≤ 2% of I _{max}
Response sensitivity:	≤ 1% of I _{max}
Coil type:	Coil P...-40-1836

NOTICE

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

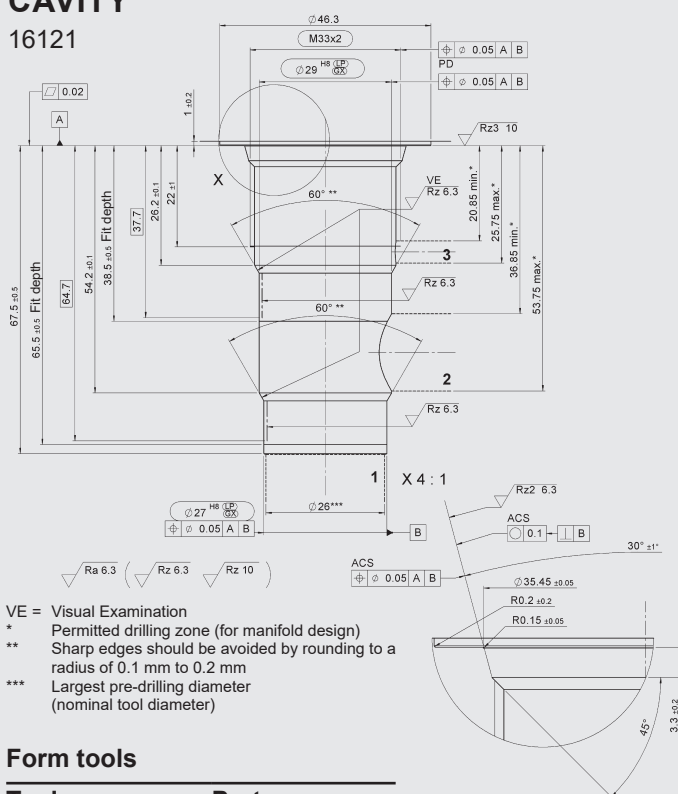


***Torque:**
Steel manifold
(tensile strength > 360 N/mm²): 165 Nm
Aluminium manifold
(tensile strength > 330 N/mm²): 105 Nm
(With torque tool in acc. with
DIN EN ISO 6789, tool type II class A or B)
For more information see "Conditions and
Instructions for Valves" in brochure 53.000

Millimetres
Subject to technical modifications

CAVITY

16121



Form tools

Tool	Part no.
Countersink	on request
Reamer	on request

Millimetres
Subject to technical modifications

PDBM16121PE - 01 M - C - N - 350 - 24 PG - 8.8

Basic model

Proportional pressure relief valve, pilot-operated

Type

01 = standard

Manual override

No details = without manual override
M = manual override

Body and ports*

C = cartridge only

Sealing material

N = NBR (standard)
V = FKM

Pressure setting range

60 = 10 to 60 bar
230 = 15 to 230 bar
350 = 20 to 350 bar
Other pressure ranges on request

Nominal voltage

Nominal Voltage
12 = 12 V DC
24 = 24 V DC
Other voltages on request

Coil connectors (type 40-1836)

DC: PG = DIN connector to EN175301-803
PT = AMP Junior Timer, 2-pole, radial
PL = connector with two flying leads, 457 mm long
PN = Deutsch connector, 2-pole

Other connectors on request

Coil resistance

8.8 = 8.8 Ohm
2.2 = 2.2 Ohm

Standard models

Model code	Part no.
PDBM16121PE-01-C-N-060-12PG-2.2	3436078
PDBM16121PE-01-C-N-230-12PG-2.2	3436081
PDBM16121PE-01-C-N-350-24PG-8.8	3436107

Standard in-line bodies

Code	Material	Ports	Pressure	Part no.
R16121-01X-01	Steel, zinc-plated	G3/4", 1", 3/8"	350 bar	3143530

Other housings on request

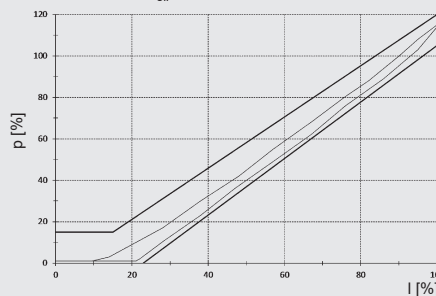
Seal kits

Code	Material	Part no.
Seal kit 16121	NBR	3506002
Seal kit 16121	FKM	3505999

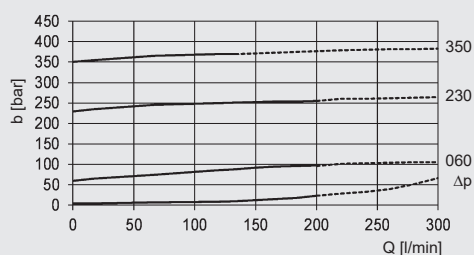
TYPICAL PERFORMANCE

measured at $\nu = 34 \text{ mm}^2/\text{l}$, $T_{\text{oil}} = 46^\circ\text{C}$

p-I



p-Q



NOTE

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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