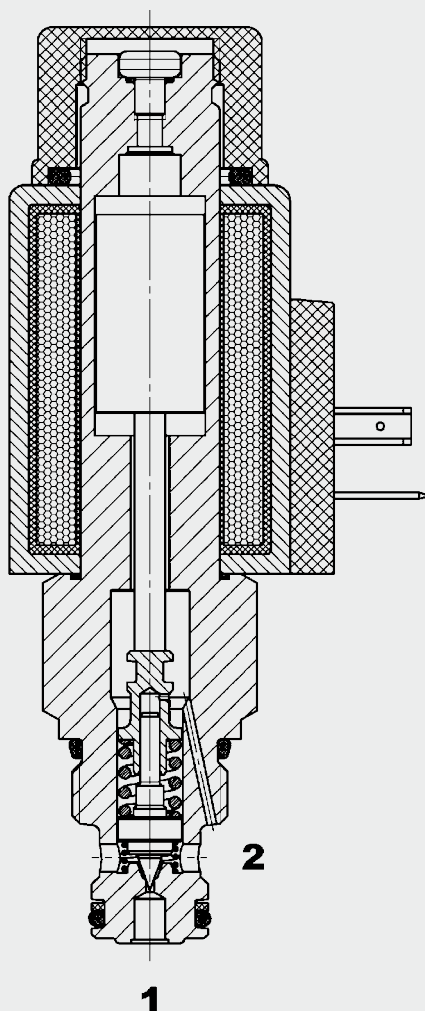


Up to 10 l/min
Up to 350 bar

FUNCTION



The PDBM06020 is a direct-acting, poppet type proportional pressure relief valve.

If the pressure at port 1 exceeds the setting defined by the electrical signal, the valve opens and allows flow from port 1 to tank port 2. As a function of the electrical signal, the relief pressure at port 1 can be changed steplessly.

Proportional Pressure Relief Valve Poppet Type, Direct-Acting, Metric Cartridge – 350 bar

PDBM06020

FEATURES

- Excellent stability throughout the entire flow range
- Excellent dynamic performance
- External surfaces zinc-plated and corrosion-proof
- Hardened and ground valve components to ensure minimal wear and extended service life
- Low pressure drop due to CFD optimized flow path
- Patented design for guided poppet
- Excellent dynamic performance
- Screen-protected metering orifice enhances safety

SPECIFICATIONS

Operating pressure:	max. 350 bar	
Nominal flow:	Pressure range 070 bar...max. 10 l/min Pressure range 210 bar...max. 6 l/min Pressure range 350 bar...max. 4 l/min	
Internal leakage:	< 0.1 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 and 2	
Viscosity range:	min. 7.4 mm ² /s to max. 420 mm ² /s	
Filtration:	Class 19/17/14 according to ISO 4406 or cleaner	
Installation:	No orientation restrictions	
MTTF _d :	150 years (see "Conditions and instructions for valves" in brochure 5.300)	
Material:	Valve body:	free-cutting steel
	Poppet:	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:	06020 metric	
Weight:	Valve complete	0.44 kg
	Coil only:	0.22 kg

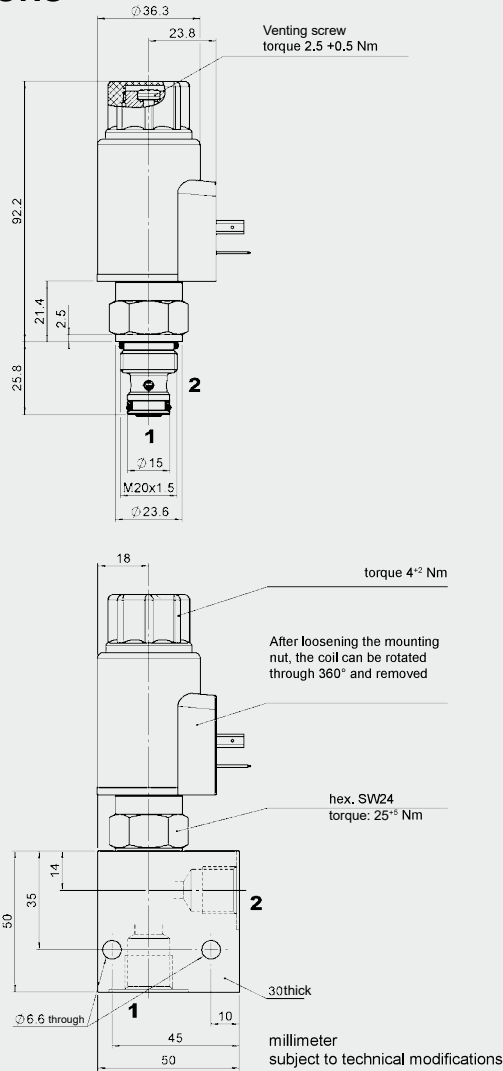
Electronic data:

Control currents:	850 mA; 18 Ohm (24V) 1750 mA; 4.1 Ohm (12V)
PWM frequency:	160 - 250 Hz
Hysteresis with dither:	2-4% of I _{max}
Repeatability:	≤ 1.5% of max. pressure range
Hysteresis:	≤ 2-4 % of I _{max}
Response sensitivity:	≤ 1% of I _{max}
Coil type:	Coil...-50-1836

Note:

The PDBM06020 can also be supplied with an emergency pressure adjustment (version -02M). 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. In order to achieve optimal function, any trapped air should be vented using the venting screw on the face of the pole tube (not fitted to version -02M).

DIMENSIONS



MODEL CODE

PDBM06020 - 01 - C - N - 350 - 24 PG - 18.0

Basic model _____
Proportional
pressure relief valve

Type _____
01 = standard

Body and ports* _____
C = cartridge only

Seals _____
N = NBR (standard)
V = FKM

Pressure range _____
070 = up to 70 bar
210 = up to 210 bar
350 = up to 350 bar

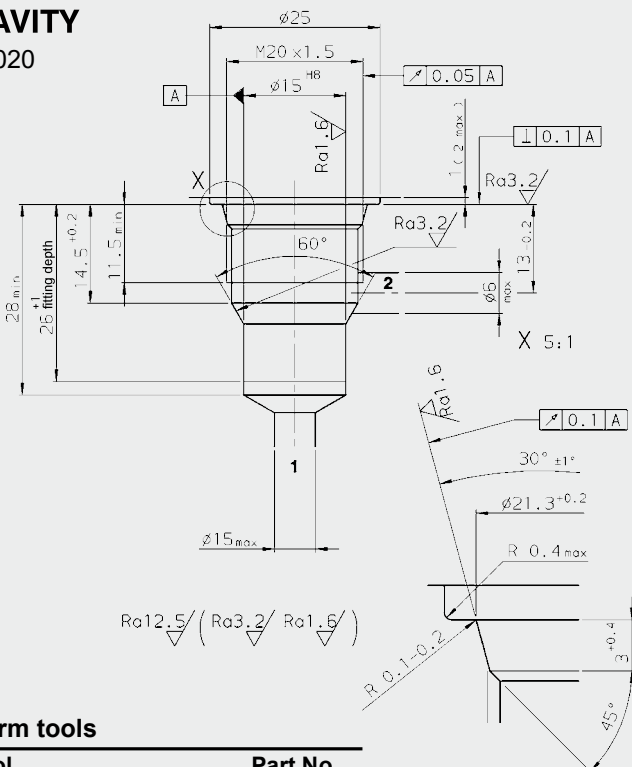
Coil voltage _____
12 = 12 V (4.1 Ohm)
24 = 24 V (18 Ohm)

Coil connectors (type 50-1836) _____
PG = DIN connector to EN175301-803
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 _____
4.1 = 4.1 Ohm (12 V)
18.0 = 18.0 Ohm (24 V)

CAVITY

06020



Form tools

Tool	Part No.	
Countersink (shank MK3)	170033	
Reamer (shank MK2)	1000768	
Tap	1002648	
Plug gauge	168840	millimeter subject to technical modifications

Standard models

Model code	Part No.
PDBM06020-01-C-N-070-12PG-4.1	3362793
PDBM06020-01-C-N-070-24PG-18.0	3362790
PDBM06020-01-C-N-210-12PG-4.1	3362794
PDBM06020-01-C-N-210-24PG-18.0	3362791
PDBM06020-01-C-N-350-12PG-4.1	3362825
PDBM06020-01-C-N-350-24PG-18.0	3258051

*Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
R06020-01X-01	275266	Steel, zinc-plated	G3/8	max. 420 bar

Other bodies on request

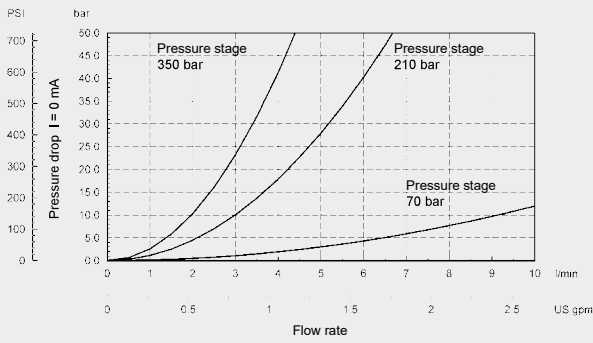
Seal kits

Code	Material	Part No.
SEAL KIT 06020-NBR	NBR	3119017
SEAL KIT 06020-FKM	FKM	3262477

PERFORMANCE

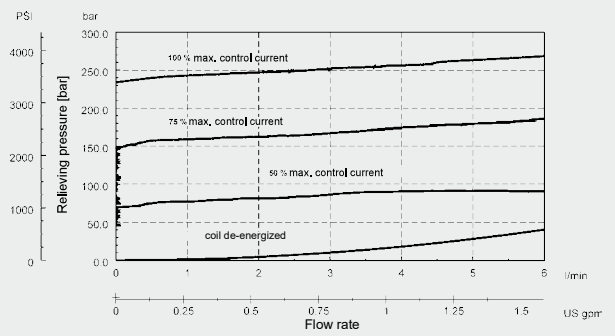
Δp -Q curve

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



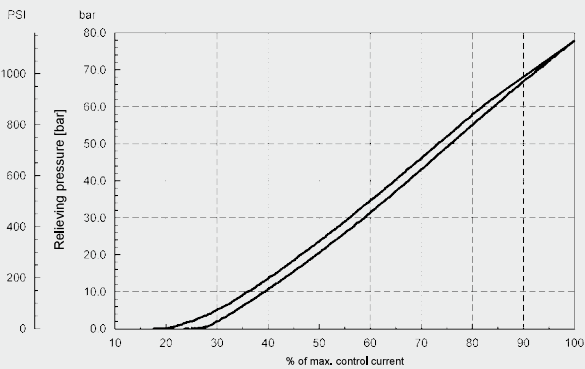
p-Q curve, Pressure range 210 bar

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



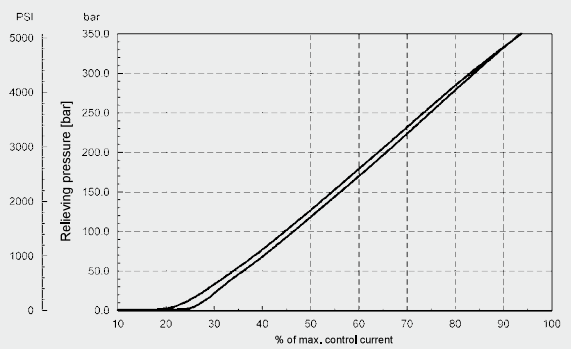
p-I curve, Pressure range 70 bar

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



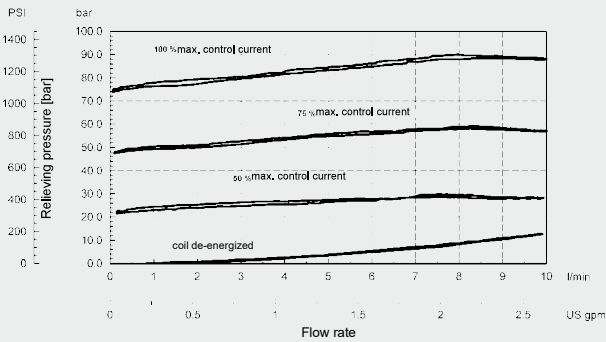
p-I curve, Pressure range 350 bar

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



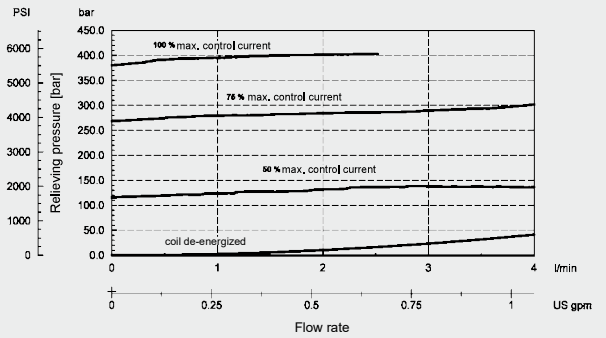
Q curve, Pressure range 70 bar

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



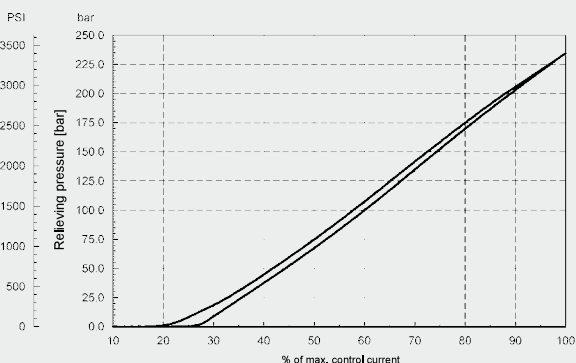
p-Q curve, Pressure range 350 bar

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



p-I curve, Pressure range 210 bar

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



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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