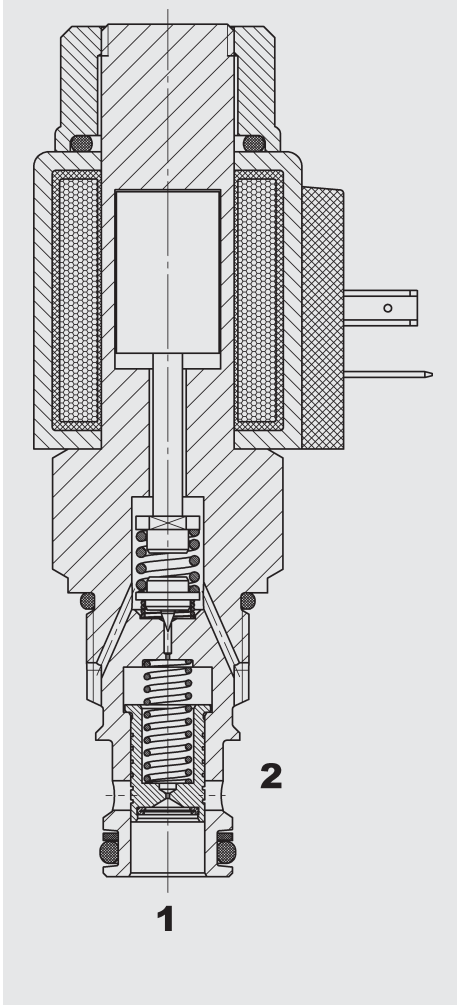


## FUNCTION



The PDBM10120AP is a spool-type pilot-operated proportional pressure relief valve. When the pressure across port 1 rises and exceeds the value defined by the electrical signal, the pilot-stage opens and oil flows from behind the main spool to the tank port 2. The resulting pressure differential causes the main spool to move against the reset-spring and allows oil to flow from port 1 to port 2. The pressure to be set at port 1 is infinitely adjustable in proportion to the electrical signal.

## Proportional Pressure Relief Valve Spool Type, Pilot-Operated Normally Open Cartridge Valve - 350 bar PDBM10120AP-01

### GENERAL

- Long life and low noise level due to oil-immersed solenoid armature
- Electro-magnetic actuation available for many electrical connection types
- Minimal wear and long life due to hardened and polished control spool
- Quick response
- Low hysteresis and excellent stability throughout the flow range
- Increased operating safety due to protective screen
- Solenoid coils can be rotated through 360° and exchanged without opening the hydraulic system
- Surfaces are zinc-plated
- Integral seals protect the solenoid from water penetration
- Compact design allows space-saving installation in connection housings and control blocks

### SPECIFICATIONS

Operating pressure:	max. 350 bar	
Flow rate:	max. 120 l/min	
Pressure setting ranges:	up to 60 bar, up to 230 bar, up to 350 bar	
Control current range (at 20 °C):	1050 mA, 8.8 Ω/ 2100 mA, 2.2 Ω	
Internal leakage:	max. 170 cm <sup>3</sup> /min at 350 bar	
Temperature range of operating fluid:	-20 °C to +120 °C	
Ambient temperature range:	-20 °C to +60 °C	
Dither frequency:	160 Hz - 250 Hz	
Switching time:	On: approx. 50 ms, Off: approx. 30 ms	
Hysteresis with dither:	2 - 4% at I <sub>nom.</sub>	
Repeatability:	1.5% of p <sub>nom.</sub>	
Hysteresis error:	≤ 2 % of I <sub>nom.</sub>	
Sensitivity:	≤ 1 % of I <sub>nom.</sub>	
Operating fluid:	hydraulic oil to DIN 51524 Part 1 and 2	
Viscosity range:	10 mm <sup>2</sup> /s to 420 mm <sup>2</sup> /s is recommended	
Filtration:	max. permissible contamination level of the operating fluid to ISO 4406 Class 18/16/13 to 19/17/14	
Mounting position:	optional	
Materials:	valve body:	high tensile steel
	closing element:	hardened and polished steel
	seals:	NBR (standard) FKM (optional) Back-up rings in PTFE

**Note:**  
The PDBM10120AP-01 can also be supplied with an emergency pressure adjustment. This allows mechanical pressure adjustment of the valve if the electrical signal is interrupted. This adjustment option should be used only in the case of electrical failure since the manual setting would otherwise be additive to the electrical setting and the danger of equipment damage could develop.

Cavity:	10120A	
Weight:	Complete valve:	436 g
	Coil:	190 g

