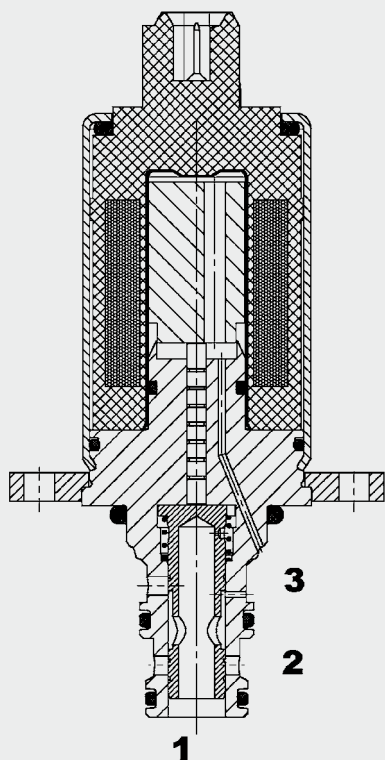


Up to 12 l/min
Up to 60 bar

FUNCTION



The proportional pressure reducing valve PDMC05S30A is a direct-acting spool-type valve. When de-energized, port 2 is closed and port 1 (consumer) is connected to port 3 (tank). When the inlet pressure fluctuates it provides an almost constant outlet pressure - depending on the energization of the coil. When the control current increases, the solenoid coil exerts a force on the control spool which is proportional to the control current and thereby defines the regulated pressure at port 1. This setting is proportional to the control current. Any pressure at tank port 3 is additive to the pre-set control pressure. If, as a result of external factors, the pressure at port 1 rises above the preset pressure, the valve opens from port 1 to tank port 3.

3-Way Proportional Pressure Reducing Valve Spool Type, With Area-Ratio Advantage Slip-In Valve – 60 bar PDMC05S30A-11

FEATURES

- Compact design
- Excellent dynamic performance
- Low pressure drop due to CFD optimized flow path
- Excellent stability throughout the entire flow range
- External surfaces corrosion-proof
- Coil seals protect the solenoid system
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Adjustable throughout flow range
- Excellent small signal characteristics

SPECIFICATIONS

Primary pressure at port 2:	max. 60 bar
Control pressure at port 1:	max. 35 bar
Tank pressure at port 3:	max. 10 bar
(Should be piped separately to tank, i.e not connected to the working hydraulics)	
Nominal flow:	max. 12 l/min
Pressure ranges:	0 – 25 bar, 0 – 35 bar
Leakage:	Energized: <0.1 l/min De-energized: <0.02 l/min (at 60 bar pump pressure, PWM 110 Hz)
Media operating temperature range:	min. -30 °C to max. +100 °C
Ambient temperature range:	min. -30 °C to max. +80 °C *(see note on thermal load capacity of the coil)
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
MTTF _d :	150 years (see "Conditions and instructions for valves" in brochure 5.300)
Installation:	No orientation restrictions
Materials:	Valve body: steel Spool: hardened and ground steel Seals: NBR (standard) FKM (optional, media temperature range -20 °C to +210 °C)
Cavity:	05S30
Weight:	0.27 kg
Electronic data:	
Coil duty rating:	100% duty cycle (continuous)
Control currents:	0 – 950 mA, 10.5 Ω (24 V) 0 – 2000 mA, 5.2 Ω (12 V) *(see note on thermal load capacity of the coil)
Response time:	On: < 40 ms, Off: < 30 ms
Dither frequency:	110 Hz recommended
Hysteresis with dither:	2 – 4 % of the max. control current
Repeatability:	≤ 1 % of the max. pressure range
Hysteresis:	≤ 1 % of the max. control current
Response sensitivity:	≤ 1 % of the max. control current
Insulation material class:	H to VDE0580, 180 °C

MODEL CODE

PDMC 05S30 A - 11 - C - N - 35 - 24 PU01 - 10.5

Basic model

Proportional pressure reducing valve, compact

Cavity

05S30 = slip-in

Design

A = with area-ratio advantage

Type

11 = standard

Body and ports*

C = slip-in only

Seals

N = NBR

Others on request

Pressure range

25 = 0 to 25 bar

35 = 0 to 35 bar

Coil voltage

12 = 12 Volt (2.65 Ω)

24 = 24 Volt (10.5 Ω)

Coil connectors

PN = Deutsch connector DT04, 2-pole, axial

PU = AMP Junior Timer, 2-pole, axial

Coil resistance

5.2 = 5.2 Ω (12 V)

10.5 = 10.5 Ω (24 V)

Standard models

Model code	Part No.
PDMC05S30A-11-C-N-25-12PU-5.2	3497963
PDMC05S30A-11-C-N-25-24PU-10.5	3508509
PDMC05S30A-11-C-N-35-12PU-5.2	3364455
PDMC05S30A-11-C-N-35-24PU-10.5	3270226
PDMC05S30A-11-C-N-35-24PN-10.5	3509704

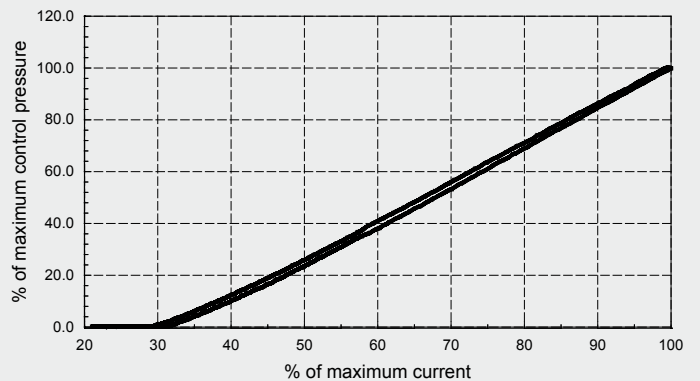
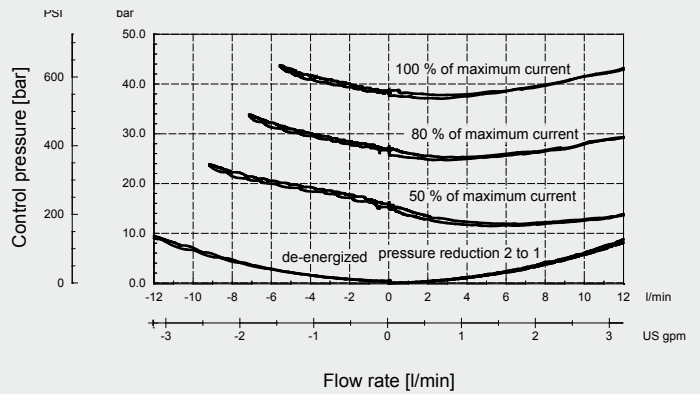
Other models on request

*Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
R05S30-010-01	3364559	Alu	G 3/8	60 bar

PERFORMANCE

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

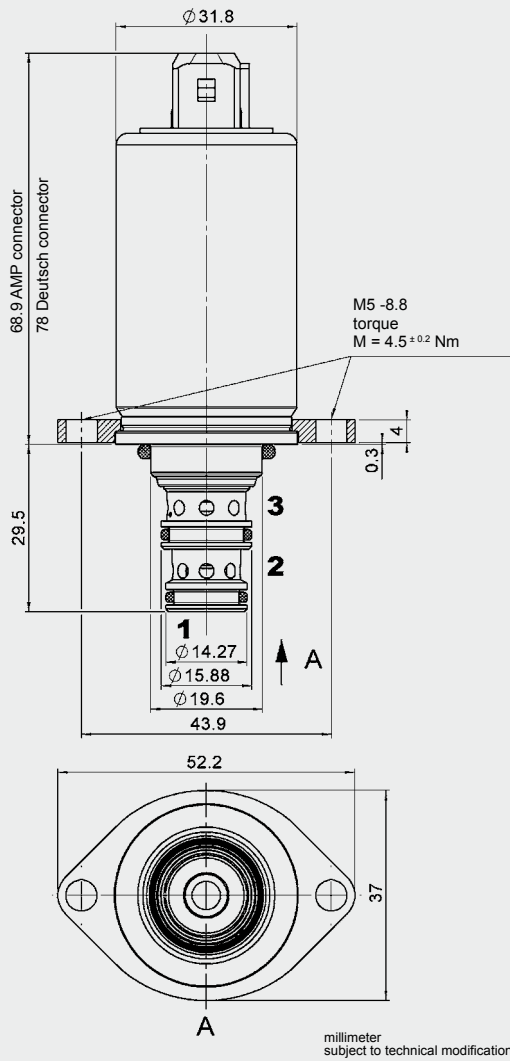


*Thermal load capacity of the coil:

100% duty cycle at $T_{A, \text{max}} = 80 \text{ }^\circ\text{C}$

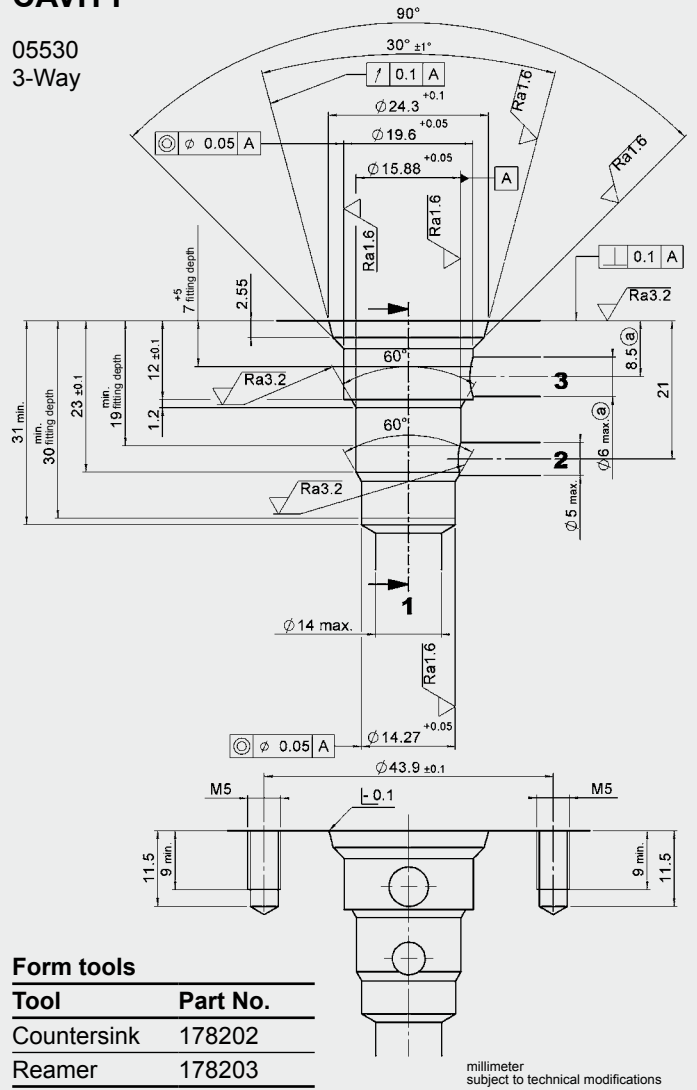
Please note: The data is based on the complete valve, mounted in a line body (block temperature: $105 \text{ }^\circ\text{C}$, aluminium or steel; dimensions $40 \times 60 \times 56 \text{ mm}$), flanged to a base block (block temperature $105 \text{ }^\circ\text{C}$, steel, dimensions $200 \times 150 \times 100 \text{ mm}$). The air in the climatic test cabinet is circulated by the cabinet ventilator.

DIMENSIONS



CAVITY

05530
3-Way



Form tools

Tool	Part No.
Countersink	178202
Reamer	178203

NOTE

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

HYDAC Fluidtechnik GmbH
Justus-von-Liebig-Str.
D-66280 Sulzbach/Saar
Tel: 0 68 97 / 509-01
Fax: 0 68 97 / 509-598
E-Mail: flutec@hydac.com

