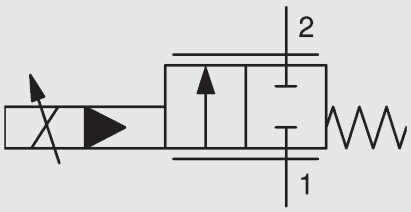
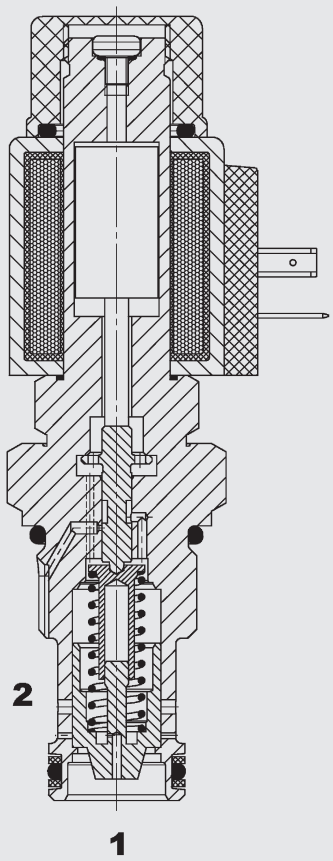


200 l/min
280 bar

Proportional Flow Control Valve Spool Type, Pilot-Operated Normally Closed Metric Cartridge – 280 bar

PWK12120WP

FUNCTION



The PWK12120WP is a normally closed, spool type, pilot-operated proportional flow control valve. Together with a pressure compensator, which maintains a constant differential between the inlet pressure (port 1) and the outlet pressure (port 2), it can be used as a proportional flow regulator.

The energization of the coil reduces or increases an orifice cross-section via the pilot stage and thus controls the effective oil flow.
The spring fitted between the main and pilot spools acts against the solenoid force - this force feedback ensures that the flow control spool always maintains a stable position.

FEATURES

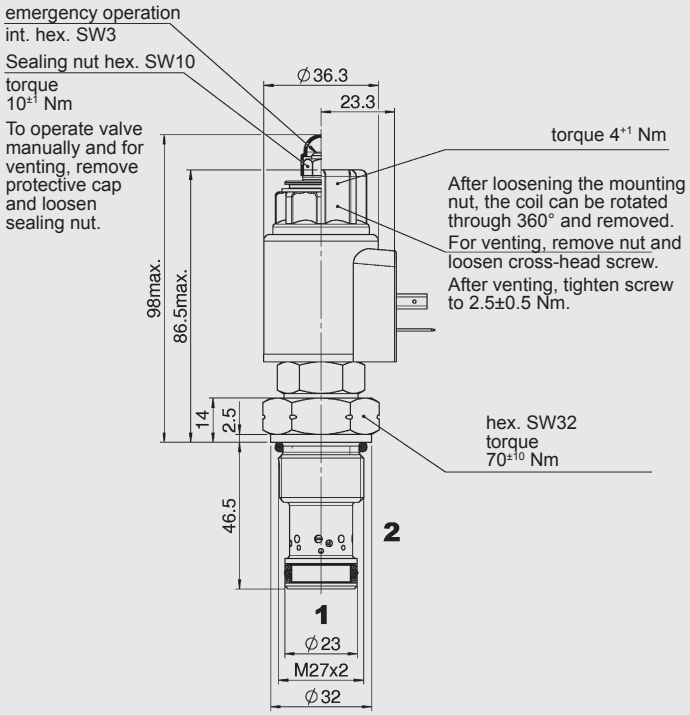
- Reliable and cost-effective proportional control of the flow by controlling the position of the flow control spool using force feedback
- Smooth opening and closing
- Excellent dynamic performance
- Low hysteresis
- Excellent repeatability
- Optional internal damping of the control spool to dampen vibrations in applications prone to vibrations such as lifting equipment
- External surfaces zinc-plated and corrosion-proof
- Coil seals protect the solenoid system
- Wide variety of connectors available
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Different flow rate ranges available

SPECIFICATIONS

Operating pressure:	max. 280 bar	
Nominal flow:	max. 200 l/min	
Permitted pressure differential between ports 1 and 2:	max. 50 bar	
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. 10 mm²/s to max. 420 mm²/s	
Filtration:	Class 19/17/14 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:	FKM (standard) NBR (optional, media temperature range -20 °C to +120 °C)
	Back-up rings:	PTFE
Cavity:	Metric 12120	
Weight:	Valve complete:	0.33 kg
	Coil only:	0.19 kg
Electronic data:		
Control currents:	max. 2.1 A; 2.2 Ohm (12V coil) max. 1.05 A; 8.8 Ohm (24V coil)	
Dither frequency:	approx. 160 Hz	
Coil duty rating:	100 %	
Hysteresis with dither:	≤5 % of max. control current (undampened) ≤8 % of max. control current (dampened)	
Coil type:	Coil P...-40-1836	

NOTE: In order to achieve optimal function, any trapped air should be vented using the air bleed screw on the face of the pole tube.

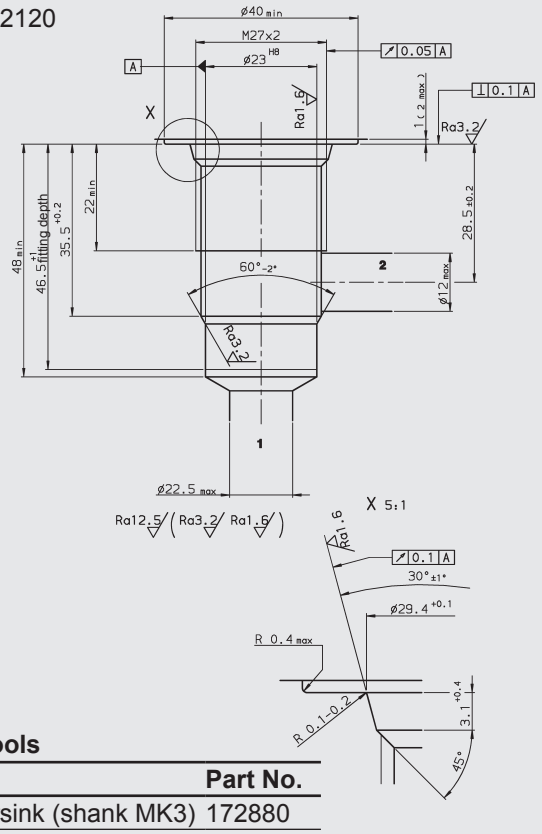
DIMENSIONS



millimeter (inch)
subject to technical modifications

CAVITY

Metric 12120



Form tools

Tool	Part No.
Countersink (shank MK3)	172880
Reamer (shank MK2)	1014207

millimeter (inch)
subject to technical modifications

MODEL CODE

PWK12120 WP - 01 M - C - V - P40 - 24 PG - 8.8

Basic model
Proportional flow control valve

Function symbol
Normally closed, pilot-operated

Type
01 = with damping
02 = without damping

Manual override
No details = without manual override
M = manual override

Body and ports*
C = cartridge only

Seals
V = FKM (standard)
N = NBR (optional)

Flow rate range and control characteristics
Types P40, P80, P100, L30, L45, L65, L100
see Q-I graphs

Coil voltage
12 = 12 Volt DC (2.2 Ohm)
24 = 24 Volt DC (8.8 Ohm)
Other voltages on request

Coil connectors (type 40-1836)
PG = DIN connector to EN175301-803
PL = 2 flying leads, 457 mm long; 0.75 mm²
PN = Deutsch connector, 2-pole, axial
PT = AMP Junior Timer, 2-pole, radial

Coil resistance
2.2 = 2.2 Ω (12 V)
8.8 = 8.8 Ω (24 V)

Standard models

Model code	Part No.
PWK12120WP-01-C-V-P40-24PG-8.8	3398440
PWK12120WP-01-C-V-P80-24PG-8.8	3398441
PWK12120WP-01-C-V-P100-24PG-8.8	3398442
PWK12120WP-02-C-V-L30-24PG-8.8	3653578
PWK12120WP-02-C-V-L45-24PG-8.8	3398444
PWK12120WP-02-C-V-L65-24PG-8.8	3615569
PWK12120WP-02-C-V-L100-24PG-8.8	3398485

Other models on request

Seal kits

Code	Part No.
SEAL KIT 12120-NBR	3454001
SEAL KIT 12120-FKM	3454002

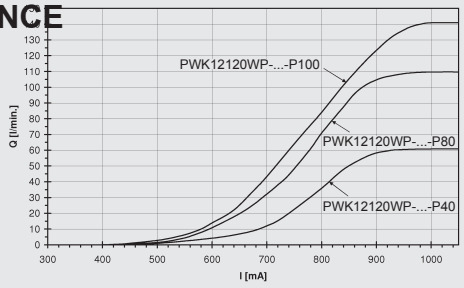
*Standard in-line bodies

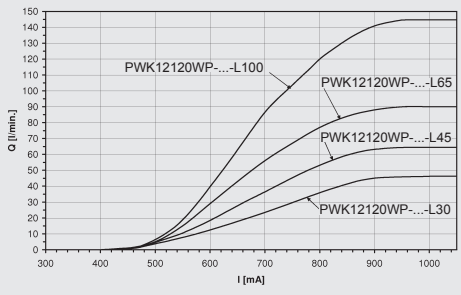
Code	Part No.	Material	Ports	Pressure
R12120-10X-01	396708	Steel, zinc-plated	G3/4	350 bar
R12120-10X-02	396707	Steel, zinc-plated	M 27 x 2	350 bar

Other line bodies on request

PERFORMANCE

Measured at
ν = 34 mm²/s
T_{oil} = 46 °C
and 10 bar
pressure differential
Coil
24P.-8.8,
Control current
Dither 160 Hz





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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