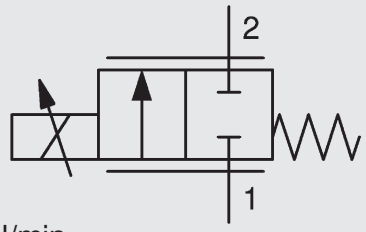
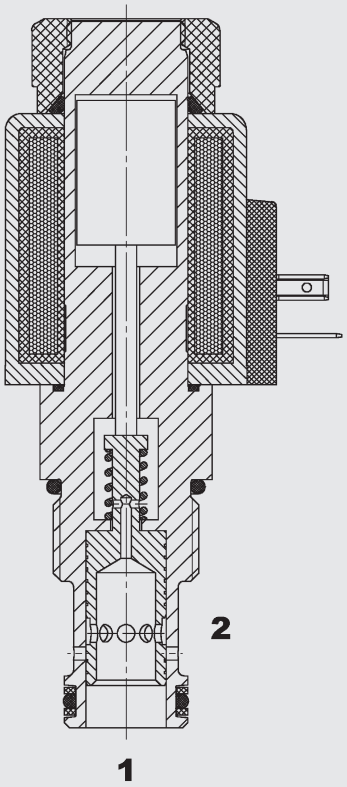


70 l/min
250 bar

Proportional Flow Control Valve Spool Type, Direct Acting, Normally Closed Metric Cartridge – 250 bar

PWK12120W

FUNCTION



The PWK12120W is a normally closed, direct-acting, proportional flow control valve.

It smoothly controls the flow from port 1 to port 2.

The energization of the coil reduces or increases an orifice cross-section and thus controls the flow.

Together with a pressure compensator the proportional flow control valve can be used as a proportional 2-way flow regulator – for example when required to lift/lower variable loads at the same velocity.

FEATURES

- Stepless adjustment of the effective oil flow, depending on the coil current.
- Excellent stability throughout flow range
- Low hysteresis
- Excellent dynamic performance
- All exposed surfaces zinc-plated and corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life
- Solenoid seals protect the solenoid system
- Wide variety of connections available
- Low pressure drop due to CFD optimized flow-path
- Different flow rate ranges available

SPECIFICATIONS

Operating pressure:	max. 250 bar	
Nominal flow:	max. 70 l/min	
Internal leakage:	max. 900 ml/min at 250 bar	
Media operating temperature range:	min. -30 °C to max. +100 °C	
Ambient temperature range:	min. -30 °C to max. +60 °C	
Fluid:	Hydraulic oil to DIN 51524 Part 1 + 2	
Viscosity:	min. 10 mm²/s to max. 420 mm²/s	
Filtration:	Class 19/17/14 to ISO 4406 or cleaner	
$MTTF_d$:	150 years	
Installation:	No orientation restrictions	
Materials:	Valve body:	steel
	Piston:	hardened and ground steel
	Seals:	NBR (standard) FKM (optional, temperature range to -20 °C)
	Back-up rings:	PTFE
Cavity:	Metric 12120	
Weight:	Valve complete	0.75 kg
	Coil only	0.35 kg
Electrical data		
Control currents:	800 mA, 19.2 Ohm (24 Volt)	
	1600 mA, 5.0 Ohm (12 Volt)	
Dither frequency:	approx. 120 Hz	
Coil duty rating:	100 %	
Hysteresis with dither:	≤ 5 % of nominal current	
Repeatability:	≤ 1 % of nominal current	
Reversal error:	≤ 1 % of nominal current	
Response sensitivity:	≤ 1 % of nominal current	
Coil type:	Coil...-50-2345	

MODEL CODE

PWK12120 W - 01 M - C - N - 25 - 24 PG - 19.2

Basic model
Proportional flow control valve
Cavity 12120 = metric

Function symbol
W = normally closed

Type
01 = standard

Manual override
Omission = no option
M = manual override

Body and ports
C = cartridge only

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

Flow rate code
20 = 20 l/min at 5 bar Δp and I_{max}
25 = 25 l/min at 5 bar Δp and I_{max}
45 = 45 l/min at 5 bar Δp and I_{max}

Coil voltage
12 = 12 Volt DC (5.0 Ohm)
24 = 24 Volt DC (19.2 Ohm)
Other voltages on request

Coil connectors 50-2345
PG = DIN connector to EN175301-803
PL = Lead wires (2), 0.75mm², 457 mm long
PN = Deutsch connector, 2 pole, axial
PT = AMP Junior Timer, 2 pole, radial

Coil resistance
5.0 = 5.0 Ohm (12V)
19.2 = 19.2 Ohm (24V)

Standard models

Model code	Part No.
PWK12120W-01-C-V-20-24PG-19.2	3578776
PWK12120W-01-C-V-25-24PG-19.2	3578775
PWK12120W-01-C-V-45-24PG-19.2	3356245
PWK12120W-01M-C-V-20-12PG-5.0	3578798
PWK12120W-01M-C-V-25-12PG-5.0	3578796
PWK12120W-01M-C-V-45-12PG-5.0	3354970

Other models on request

Standard line bodies

Code	Part No.	Material	Ports	Pressure
R12120-10X-01	396708	Steel, zinc-plated	G3/4	420 bar
R12120-10X-02	396707	Steel, zinc-plated	M 27 x 2	420 bar

Other line bodies on request

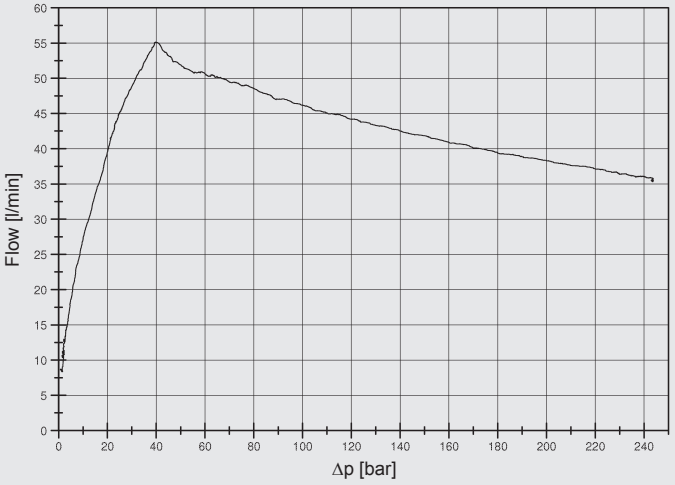
Seal kits

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

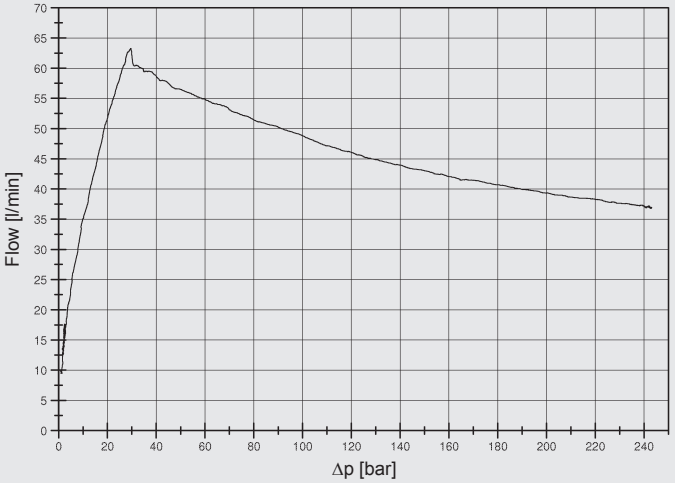
Δp/Q CURVES

Measured at
ν 40 mm²/s
T_{oil} = 42 °C

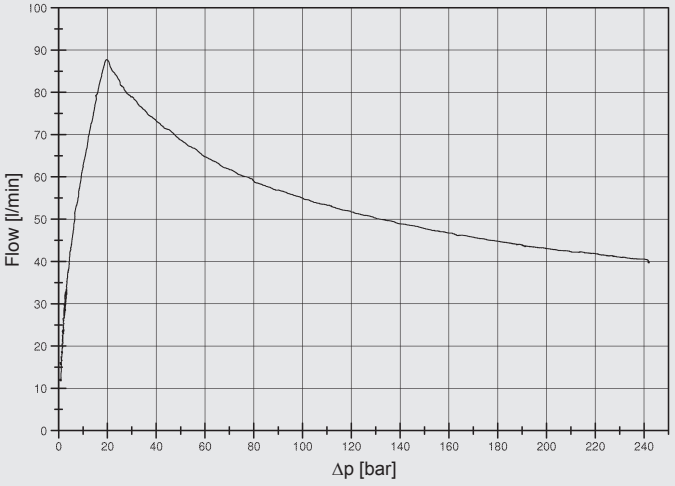
Flow rate: 20 l



Flow rate: 25 l



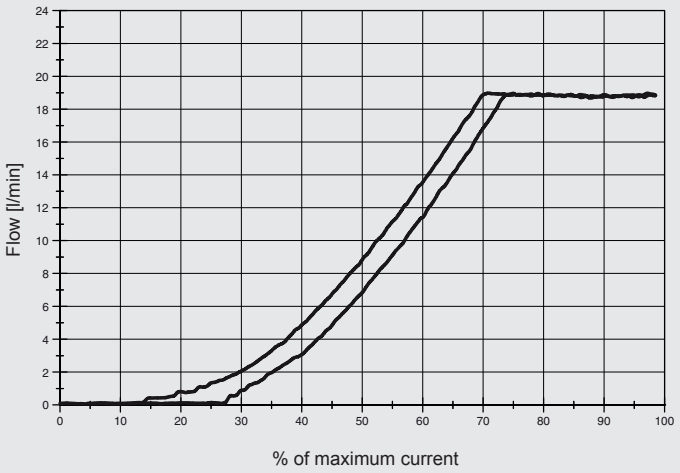
Flow rate: 45 l



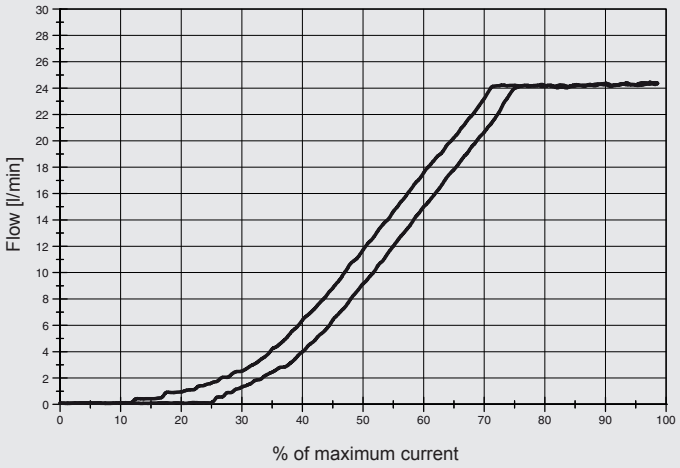
Q/I CURVES

Measured at
ν 40 mm²/s
T_{oil} = 42 °C

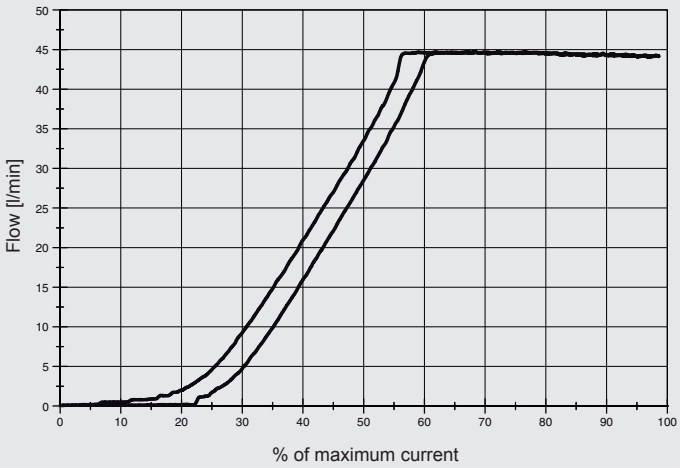
Flow rate: 20 l, Δp: 5 bar



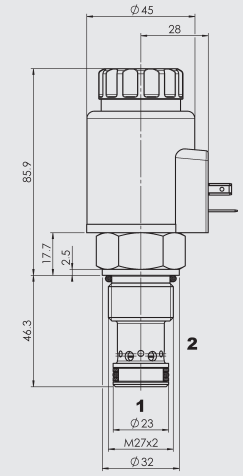
Flow rate: 25 l, Δp: 5 bar

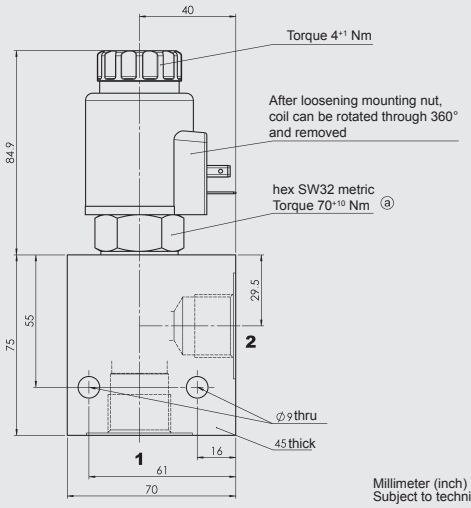


Flow rate: 45 l, Δp: 5 bar



DIMENSIONS

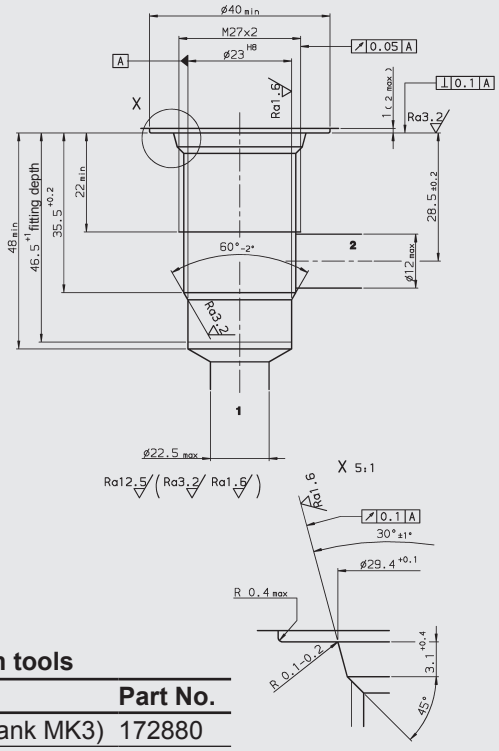




Millimeter (inch)
Subject to technical modifications

CAVITY

Metric 12120



Cartridge form tools

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

Millimeter (inch)
Subject to technical modifications

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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