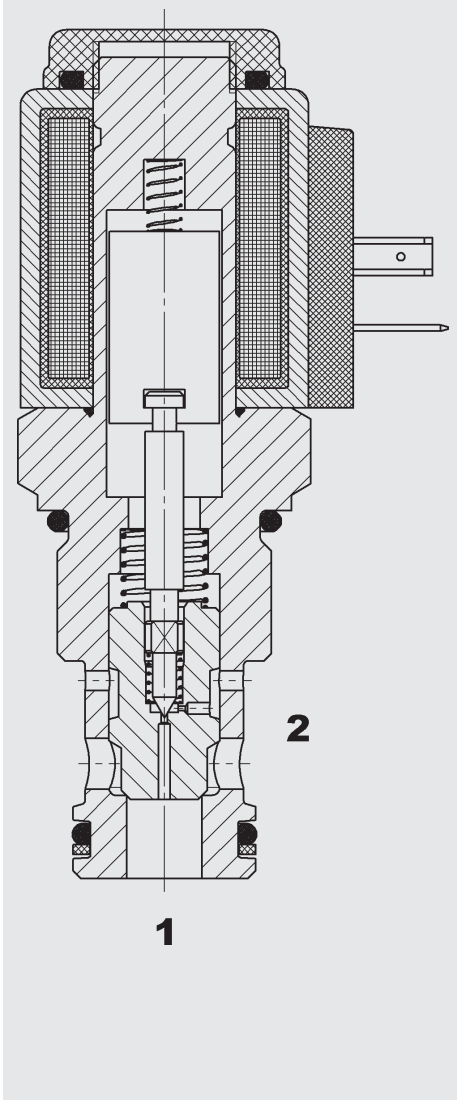


## FUNCTION



In the de-energized mode, the valve is closed from port 2 to port 1.  
In the reverse direction there is free flow through the valve. The valve opens at a differential pressure of approx. 1.5 bar (check function).  
When energized, there is free flow through the valve from port 2 to port 1. Flow in the reverse direction is severely restricted.

## 2/2 Solenoid Directional Valve Poppet Type - Pilot Operated Normally Closed Metric Cartridge Valve - 350 bar WSM12120Z

### GENERAL

- All surfaces zinc-plated and corrosion-proof.
- Minimal wear and long service life due to hardened and ground valve components.
- Coil seals protect the solenoid system
- Wide variety of connectors available
- Rigid design using one-piece body minimises the effect of eccentricities in cavity and maximises reliability.
- Excellent switching performance by high power Hydac solenoid.
- Low pressure drop due to CFD optimised flow-path.

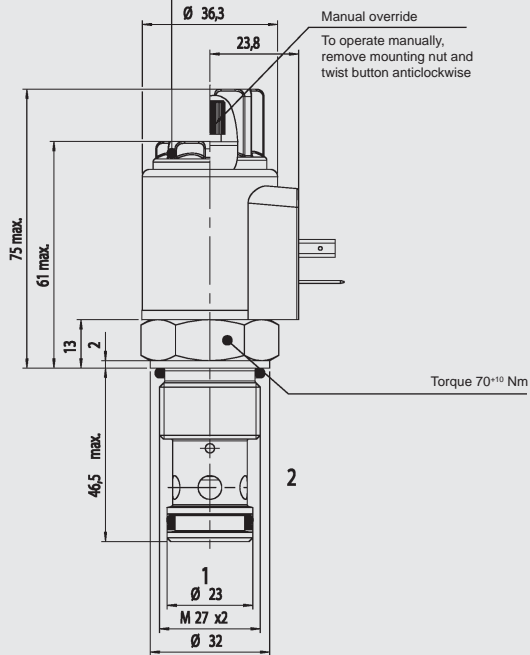
### SPECIFICATIONS

Operating pressure:	max. 350 bar	
Nominal flow:	max. 110 l/min	
Internal leakage:	leakage-free	
Media operating temp. range:	min. -20 °C to max. +120 °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 <sup>2</sup> /s to max. 420 mm <sup>2</sup> /s	
Filtration:	max. permissible contamination level of the operating fluid to ISO 4406 Class 21/19/16 or cleaner	
Installation:	optional	
Materials:	valve body:	high tensile steel
	piston:	hardened and ground steel
	seals:	NBR (standard) FKM (optional)
	back-up rings:	PTFE
Cavity:	12120	
Weight:	Valve complete:	0.46 kg
	Coil only:	0.19 kg
Response time:	on:	approx. 35 ms
	off:	approx. 70 ms
Type of voltage:	DC solenoid, AC voltage is rectified using a bridge rectifier built into the coil	
Current draw at 20 °C:	1.5 A at 12 V DC 0.8 A at 24 V DC	
Voltage tolerance:	±15% of nominal voltage	
Switch-on time:	100% (continuous) up to max. 115% of the nominal voltage at 60°C ambient temperature	

## DIMENSIONS

Torque 4<sup>+2</sup> Nm

After loosening or removing the mounting nut, the coil can be turned through 360° and removed



Millimetre  
Subject to technical modifications

## MODEL CODE

**WSM 12120 Z - 01 M - C - N - 24 DG**

**Designation** \_\_\_\_\_  
Directional poppet valve, metric

**Cavity** \_\_\_\_\_  
12120 = 2-way cavity

**Function code** \_\_\_\_\_

**Type** \_\_\_\_\_  
01 = standard

**Manual override** \_\_\_\_\_  
no details = without manual override  
M = with manual override

**Body and Ports** \_\_\_\_\_  
C = cartridge only

**Seals** \_\_\_\_\_  
N = NBR (standard)  
V = FKM (optional)

**Coil voltage** \_\_\_\_\_  
DC: 12 = 12 Volt DC  
24 = 24 Volt DC  
AC: 115 = 115 Volt AC (bridge rectifier built into the coil)  
230 = 230 Volt AC (bridge rectifier built into the coil)  
other voltages on request

**Coil connectors** \_\_\_\_\_  
DC: DG = DIN connector to EN175301-803  
DK = KOSTAL threaded connection  
DL = connector with 2 flying leads, 0.75 mm<sup>2</sup>  
DN = Deutsch connector  
DT = AMP Junior Timer, 2-pole, radial  
AC: AG = DIN connector to EN175301-803  
other connection types on request

## Standard models

Model code	Part no.
WSM12120Z-01-C-N-12DG	3230865
WSM12120Z-01-C-N-24DG	3230870
WSM12120Z-01-C-N-230AG	3230869

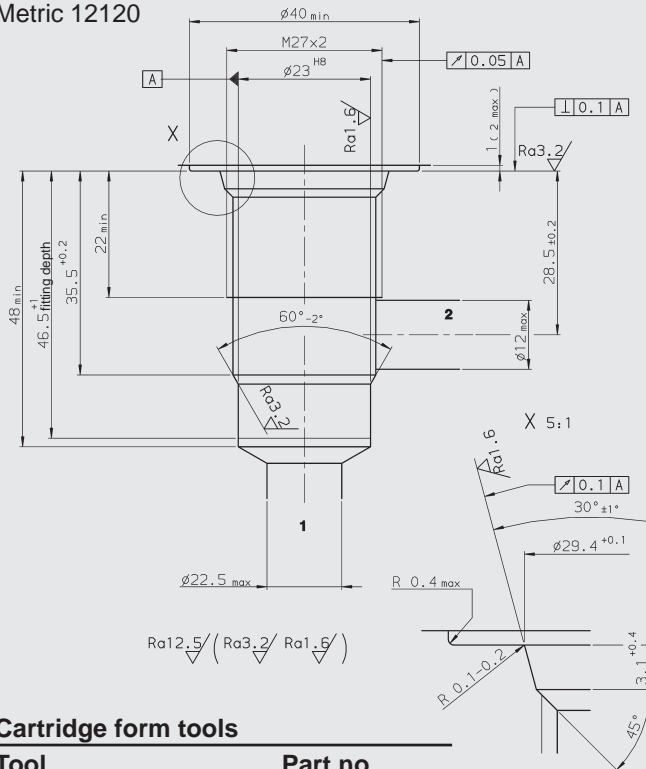
other models on request

## Inline connection housings

Code	Part no.	Material	Ports
R12120-10X-01	396708	Steel, zinc-plated	G 3/4
R12120-10X-02	396707	Steel, zinc-plated	M 27 x 2

## CAVITY

Metric 12120



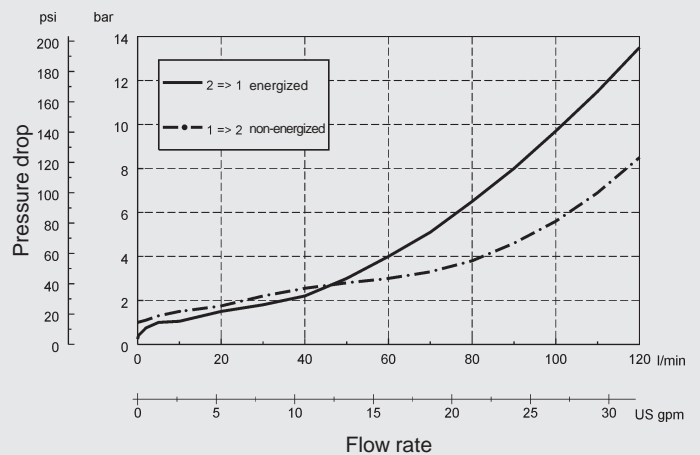
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## Cartridge form tools

Tool	Part no.
Countersink MK3	172880
Reamer	1014207

## PERFORMANCE

measured at 34 mm<sup>2</sup>/s, T<sub>oil</sub> = 46 °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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