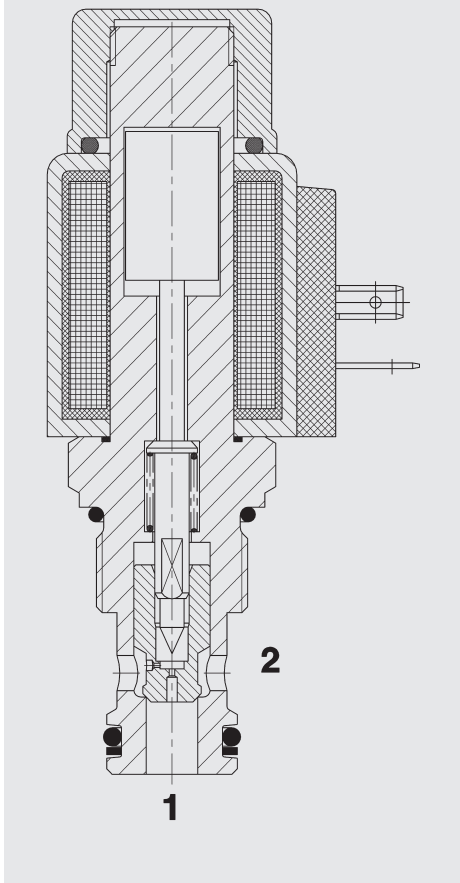


## FUNCTION



The directional valve is a pilot operated valve in poppet style. When de-energized, there is free flow through the valve from port 2 to 1. Flow is not possible in the reverse direction. When the solenoid coil is energized, the valve is closed from port 2 to port 1. In the reverse direction the valve will allow flow from port 1 to 2 when the hydraulic force on the piston overcomes the solenoid force (approx. 2.5 to 10 bar). **Please mind:** In pilot operated solenoid valves, shift performance and response times depend i.a. very much on pressure drop and volume flow during actuation.

## 2/2 Solenoid Directional Valve Poppet Type, Pilot Operated Normally Open Metric Cartridge – 350 bar WSM10120Y-01

### FEATURES

- Coil seals protect the solenoid system
- Wide variety of connectors available
- Excellent switching performance by high power HYDAC solenoid
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1.000 h Salt spray test)

### SPECIFICATIONS\*

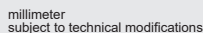
Operating pressure:	max. 350 bar
Nominal flow:	max. 75 l/min
Internal leakage:	Leakage-free max. 5 drops/min (0.25 cm <sup>3</sup> /min) at 350 bar
Media operating temperature range:	min. -20 °C to max. +100 °C
Ambient temperature range:	min. -20 °C to max. + 60 °C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2 and 3
Viscosity range:	min. 10 mm <sup>2</sup> /s to max. 420 mm <sup>2</sup> /s
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
MTTF <sub>d</sub> :	150 – 1200 Jahre, Bewertung nach DIN EN ISO 13849-1
Installation:	No orientation restrictions
Materials:	Valve body: free-cutting steel Poppet: hardened and ground steel Seals: NBR (standard) FKM (optional, media temperature range -20 °C to +120 °C) Back-up rings: PTFE Coil: steel / polyamide
Cavity:	10120
Weight:	Valve complete: 0.37 kg Coil only: 0.19 kg

### Electrical data

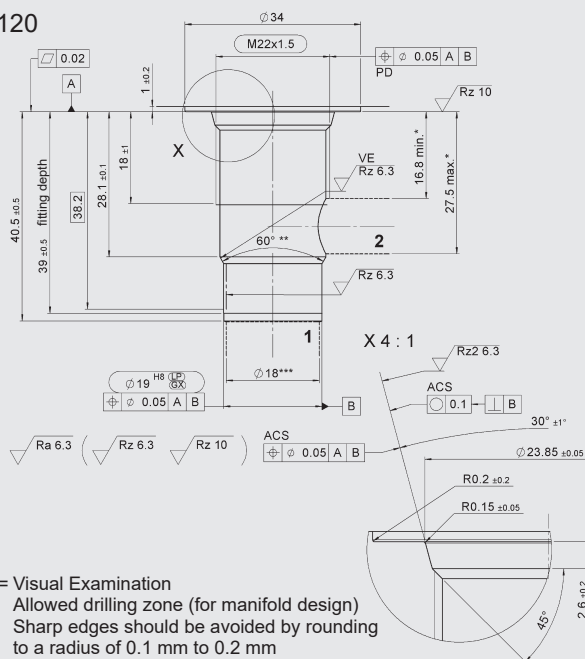
Type of voltage:	DC: direct current solenoid AC: alternating current solenoid with a bridge rectifier built into the coil
Current draw at 20 °C:	1.5 A at 12 V DC 0.8 A at 24 V DC
Voltage tolerance:	± 15 % of the nominal voltage
Coil duty rating:	Continuous up to max. 115 % of the nominal voltage at 60 °C ambient temperature
Response time:	energized: approx. 60 ms de-energized: approx. 20 ms substantially extended response times possible at other operating conditions
Coil type:	Coil...-40-1836

\* see "Conditions and instructions for valves" in brochure 53.000

After loosening knurled nut, coil can be rotated through 360° and removed.



## 10120



VE = Visual Examination

\* Allowed drilling zone (for manifold design)

Sharp edges should be avoided by rounding to a radius of 0.1 mm to 0.2 mm

\*\*\* largest pre-drilling diameter (nominal tool diameter)

Tool	Part No.
Countersink (shank MK3)	170418
Reamer (shank MK2)	1014206

millimeter  
subject to technical modifications

**WSM10120Y - 01 M - C - N - 24 DG**

Directional poppet valve, metric

01 = standard

no details = without manual override

M = manual override

C = cartridge only

$$N = \text{NBR (standard)}$$
$$V = FKM$$

### Coil voltage

DC voltages

$$12 = 12 \text{ V DC}$$

24 = 24 V DC

AC voltages (bridge rectifier built into the coil)

$$115 = 115 \text{ V AC}$$
$$230 = 230 \text{ V AC}$$

Other voltages on request

### Coil connectors (type 40-1836)

DC: DG = DIN connector type A to EN 175301-803

DK = KOSTAL threaded connection M27x1

DL = 2 flying leads, 457 mm long, 0.75 mm<sup>2</sup>

DN = Deutsch connector, 2-pole, axial

DT = AMP Junior Timer, 2-pole, radial

AC: AG = DIN connector type A to EN 175301-803

Other connectors on request

Model code	Part No.
WSM10120Y-01-C-N-24DG	3178525
WSM10120Y-01-C-N-230AG	3178524

Code	Part No.	Material	Ports	Pressure
R10120-01X-01	395234	Steel, zinc-plated	G1/2"	350 bar

For other connection housings, see brochure no. E 5.252.

Code	Material	Part No.
FS METRISCH 1012.N	NBR	3651295
FS METRISCH 1012.V	FKM	3651296

Measured at  $\nu = 33 \text{ mm}^2/\text{s}$ ,  $T_{\text{oil}} = 46 \text{ }^\circ\text{C}$

