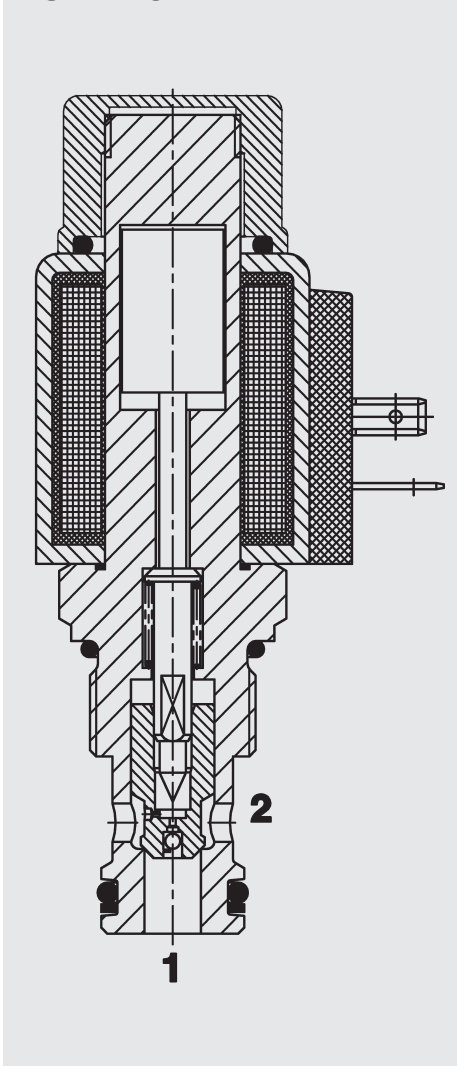


FUNCTION



The directional valve is a pilot operated valve in poppet style.
When the solenoid coil is de-energized, the valve is open in both directions.
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 (Reverse Flow) Metric Cartridge Valve – 350 bar WSM10120YR-01

FEATURES

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

SPECIFICATIONS*

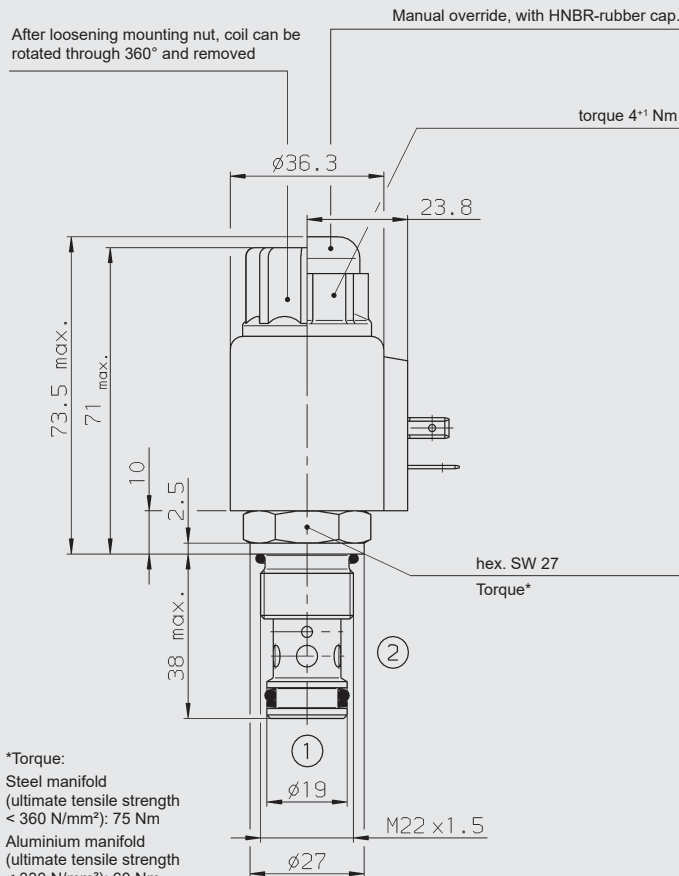
Operating pressure:	max. 350 bar
Nominal flow:	max. 75 l/min
Internal leakage:	Leakage-free max. 5 drops/min (0.25 cm ³ /min) at 350 bar
Media operating temperature range:	min. -20 °C to max. +100 °C
Ambient temperature range:	min. -20 °C to max. + 60 °C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2 and 3
Viscosity range:	min. 10 mm ² /s to max. 420 mm ² /s
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
MTTF _d :	150 - 1200 years, according to 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
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: (at p _{max} , Q _{max} , v = 33 mm ² /s)	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

DIMENSIONS

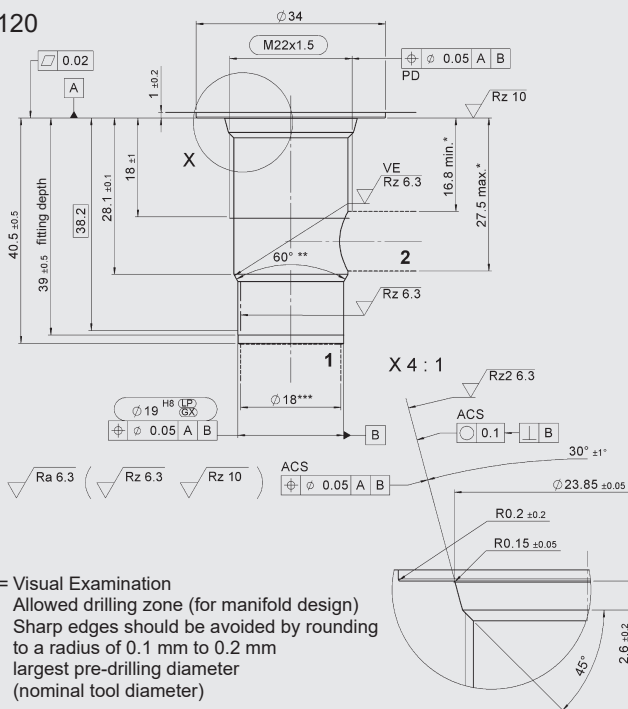


*Torque:
Steel manifold
(ultimate tensile strength
< 360 N/mm²): 75 Nm
Aluminium manifold
(ultimate tensile strength
< 330 N/mm²): 60 Nm
(tool acc. to DIN EN ISO 6789,
tool type II class A or B)
For further informations see brochure
No. 53.000
"Conditions and instructions for valves"

millimeter
subject to technical modifications

CAVITY

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)

Form tools

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

millimeter
subject to technical modifications

MODEL CODE

WSM10120YR - 01 M - C - N - 24 DG

Basic model

Directional poppet valve, metric

Type

01 = standard

Manual override

no details = without manual override

M = manual override

Body and ports*

C = cartridge only

Seals

N = NBR (standard)

V = FKM

Coil voltage

DC voltages

12 = 12 V DC

24 = 24 V DC

AC voltages (bridge rectifier built into the coil)

115 = 115 V AC

230 = 230 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 mm²

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

Standard models

Model code	Part No.
WSM10120YR-01-C-N-24DG	3179040
WSM10120YR-01-C-N-230AG	3576069

*Standard in-line bodies

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

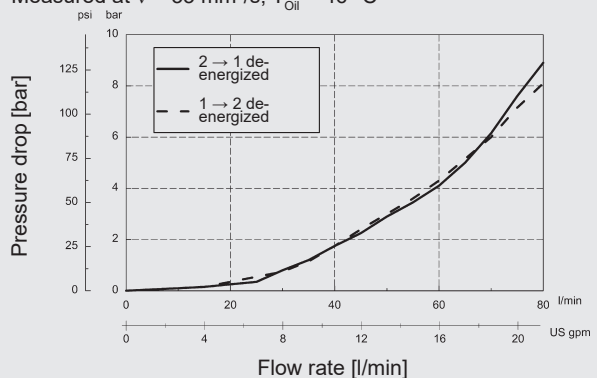
For other connection housings, see brochure no. E 5.252.

Seal kits

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

TYPICAL PERFORMANCE

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



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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