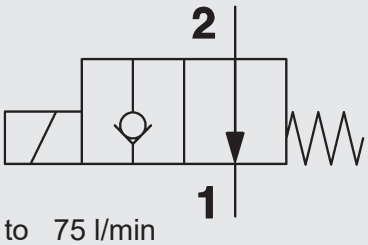
HYDAC INTERNATIONAL

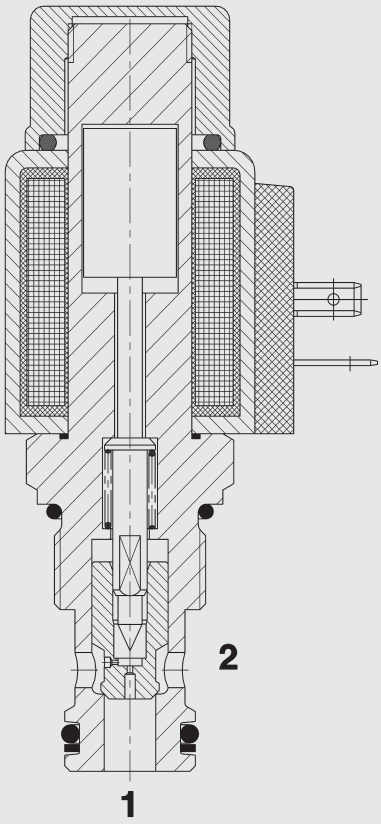
2/2 Solenoid Directional Valve Poppet Type, Pilot Operated Normally Open Metric Cartridge – 350 bar

WSM10120Y-01



up to 75 l/min
up to 350 bar

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.

FEATURES

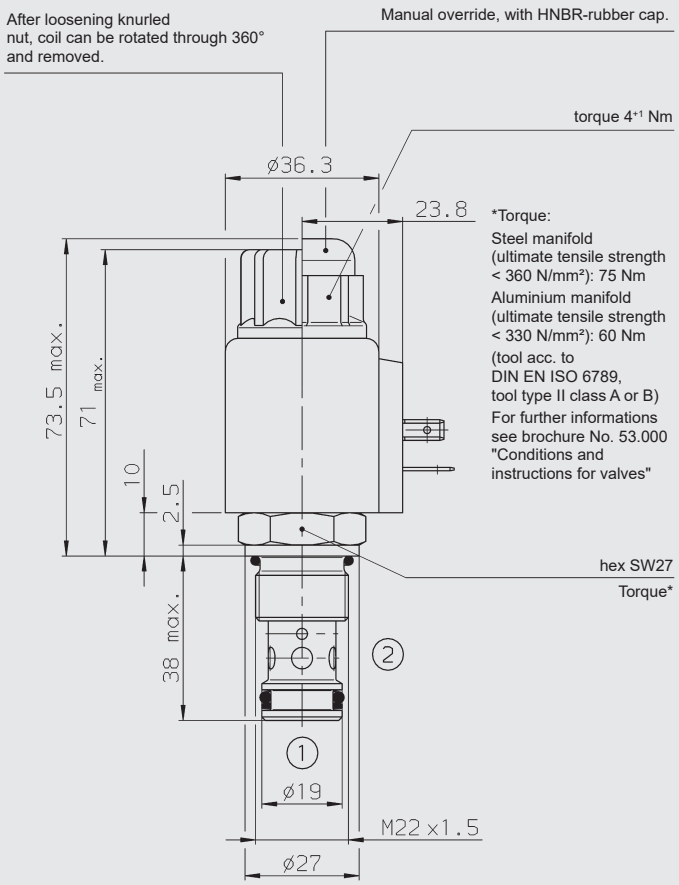
- Coil seals protect the solenoid system
- Wide variety of connectors available
- Excellent switching performance by high power HYDAC solenoid
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1.000 h Salt spray test)

SPECIFICATIONS*

Operating pressure:	max. 350 bar	
Nominal flow:	max. 75 l/min	
Internal leakage:	Leakage-free max. 5 drops/min (0.25 cm³/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 mm²/s to max. 420 mm²/s	
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner	
$MTTF_d$:	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: (at p_{max}, Q_{max}, ν = 33 mm²/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

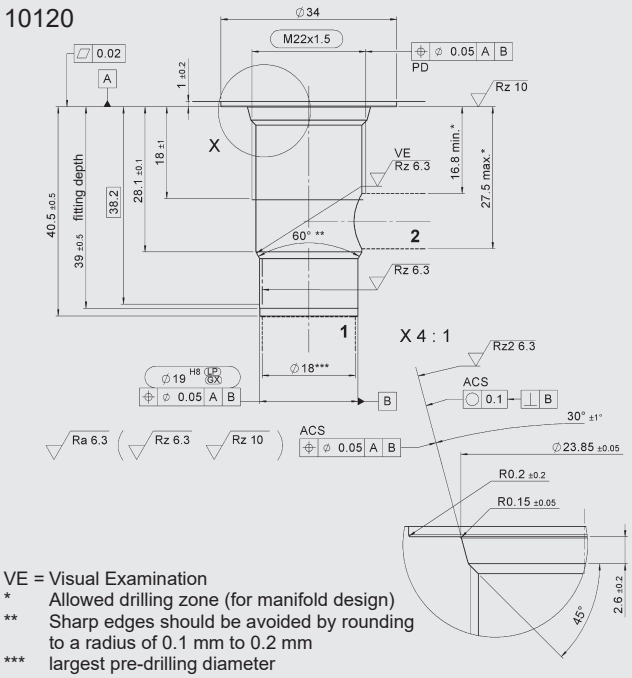
DIMENSIONS



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

WSM10120Y – 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.
WSM10120Y-01-C-N-24DG	3178525
WSM10120Y-01-C-N-230AG	3178524

Standard in-line bodies

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

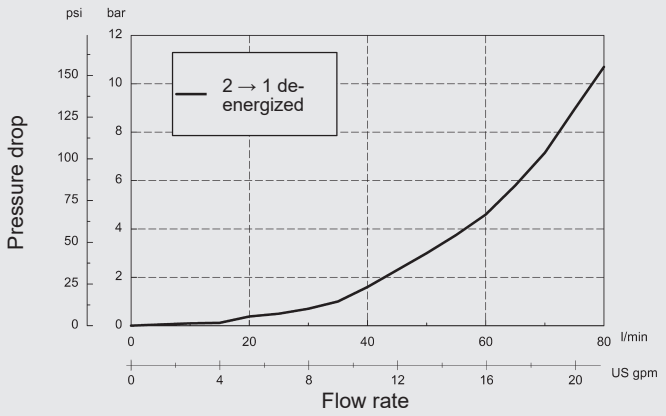
For other connection housings, see brochure no. E 5.252.

Seal kits

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

TYPICAL PERFORMANCE

Measured at ν = 33 mm²/s, T_{oil} = 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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