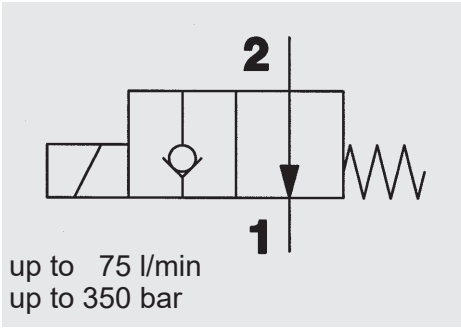
HYDAC INTERNATIONAL

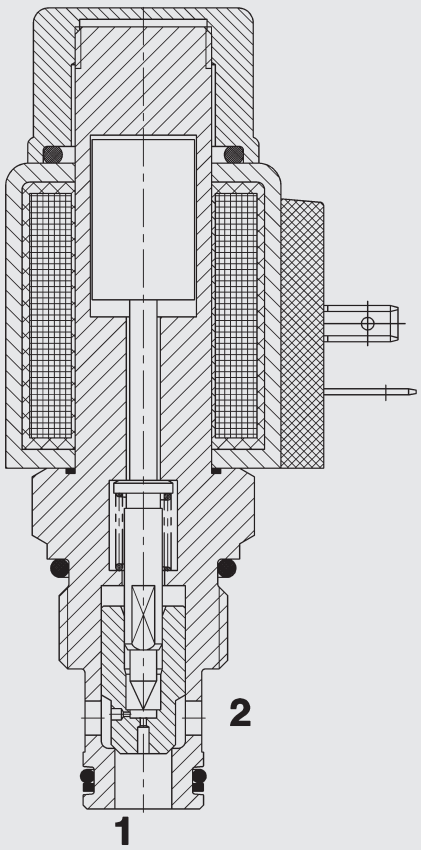


up to 75 l/min
up to 350 bar

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

WS10Y-01

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 port 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

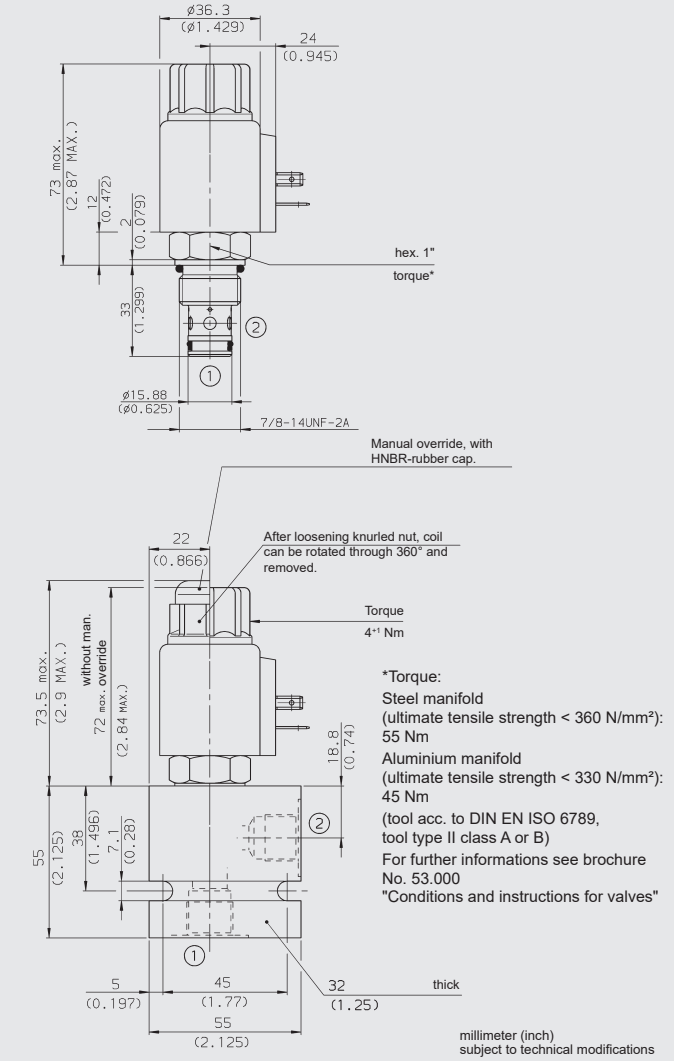
- Coil seals protect the solenoid system
- Wide variety of connectors available
- Excellent switching performance by high power HYDAC solenoid
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1.000 h Salt spray test)

SPECIFICATIONS*

Operating pressure:	max. 350 bar	
Nominal flow:	max. 75 l/min	
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. 7.4 mm²/s to max. 420 mm²/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
	Piston:	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:	FC10-2	
Weight:	Valve complete:	0.37 kg
	Coil only:	0.19 kg
Electrical data		
Response time: (at p_{max}, Q_{max}, ν = 34 mm²/s)	energized:	approx. 35 ms
	de-energized:	approx. 50 ms
	substantially extended response times possible at other operating conditions	
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	
Coil type:	Coil…-40-1836	

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

DIMENSIONS

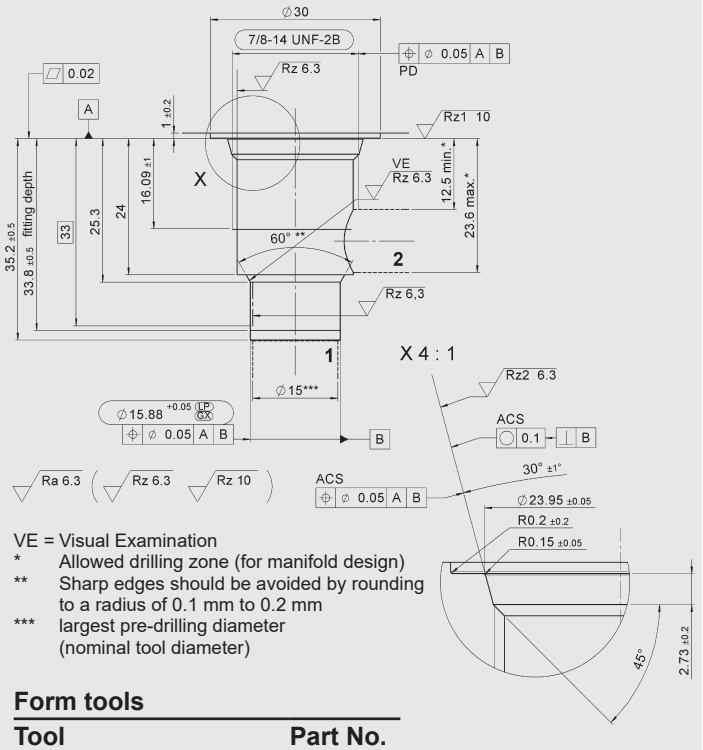


*Torque:
Steel manifold
(ultimate tensile strength < 360 N/mm²):
55 Nm
Aluminium manifold
(ultimate tensile strength < 330 N/mm²):
45 Nm
(tool acc. to DIN EN ISO 6789,
tool type II class A or B)
For further informations see brochure
No. 53.000
"Conditions and instructions for valves"

millimeter (inch)
subject to technical modifications

CAVITY

FC10-2



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	176379
Reamer	165706

millimeter (inch)
subject to technical modifications

MODEL CODE

WS10Y – 01 M – C – N – 24 DG

Basic model
Directional poppet valve, UNF

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.
WS10Y-01-C-N-24DG	3030653
WS10Y-01-C-N-230AG	3043826

Other models on request

* Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
FH102-SB4	3037594	Steel, zinc-plated	G1/2"	350 bar
FH102-AB4	3037777	Aluminium, anodized	G1/2"	210 bar

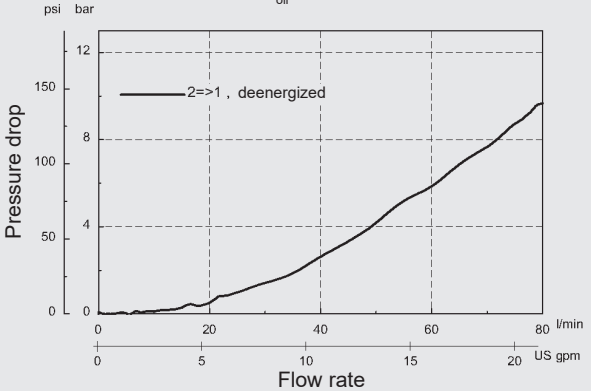
Other housings on request

Seal kits

Code	Material	Part No.
FS UNF 10/N	NBR	3651557
FS UNF 10/V	FKM	3651559

TYPICAL PERFORMANCE

Measured at ν = 34 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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