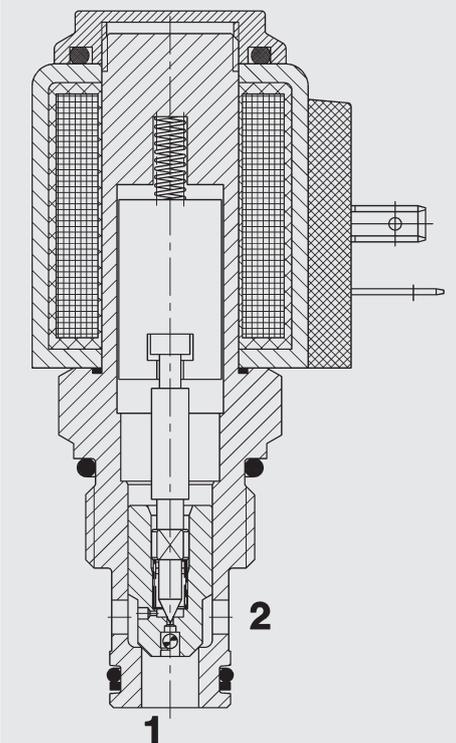


## 2/2 Solenoid Directional Valve Poppet Type, Pilot Operated Normally Closed (Reverse Flow) UNF Cartridge – 350 bar WS10ZR-01

### FUNCTION



The directional valve is a pilot operated valve in poppet style.  
When the solenoid coil is not energized, the valve is closed from port 2 to port 1. There is free flow from port 1 to port 2.  
When energized, the valve allows flow in both directions.  
**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\*

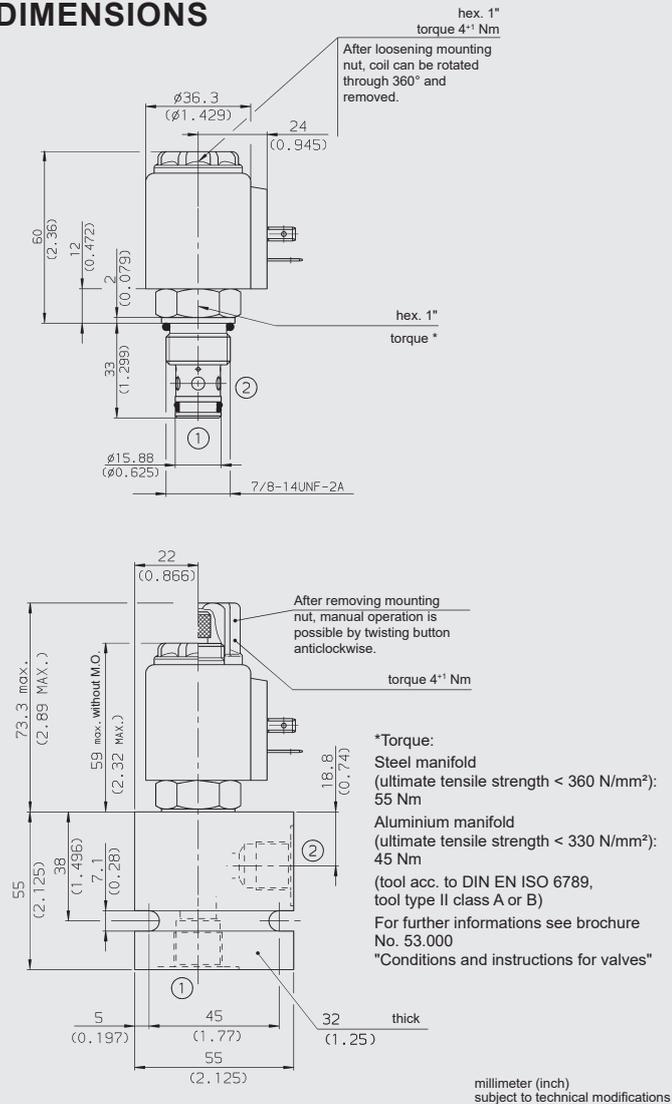
Operating pressure:	max. 350 bar
Nominal flow:	max. 75 l/min
Leakage:	Leakage-free max. 5 drops (0.25 cm <sup>3</sup> /min) at 350 bar
Media operating temperature range:	min. -20 °C to max. +100 °C
Ambient temperature range:	min. -20 °C to max. + 60 °C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2 and 3
Viscosity range:	min. 7.4 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 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:	energized: approx. 30 ms de-energized: approx. 60 ms substantially extended response times possible at other operating conditions
(at p <sub>max</sub> , Q <sub>max</sub> , v = 34 mm <sup>2</sup> /s)	
Type of voltage:	<u>DC</u> : direct current solenoid <u>AC</u> : alternating current solenoid with a bridge rectifier built into the coil
Nominal voltage 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

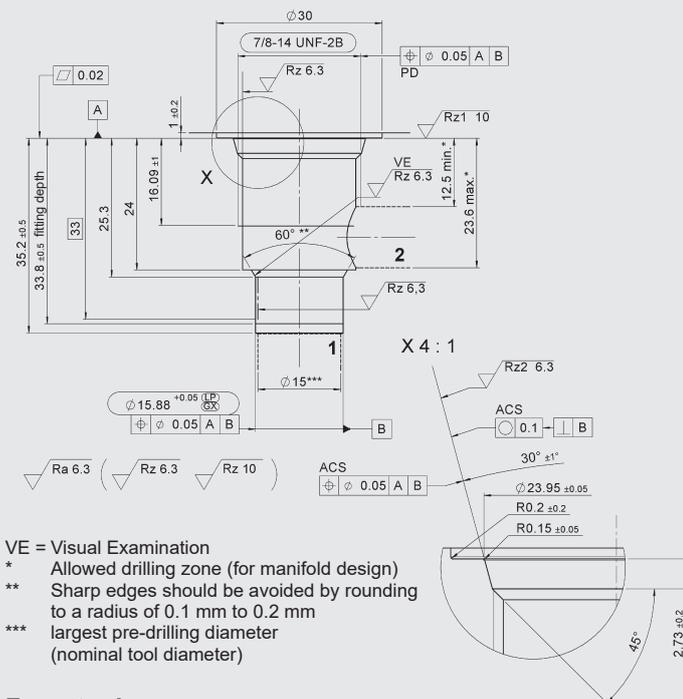
\* see "Conditions and instructions for valves" in brochure 53.000

## DIMENSIONS



## CAVITY

### FC10-2



### Form tools

Tool	Part No.
Countersink	176379
Reamer	165706

millimeter (inch) subject to technical modifications

## MODEL CODE

**WS10ZR - 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 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

## Standard models

Model code	Part No.
WS10ZR-01-C-N-24DG	3030604
WS10ZR-01-C-N-230AG	3043820

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, clear anodized	G1/2"	210 bar

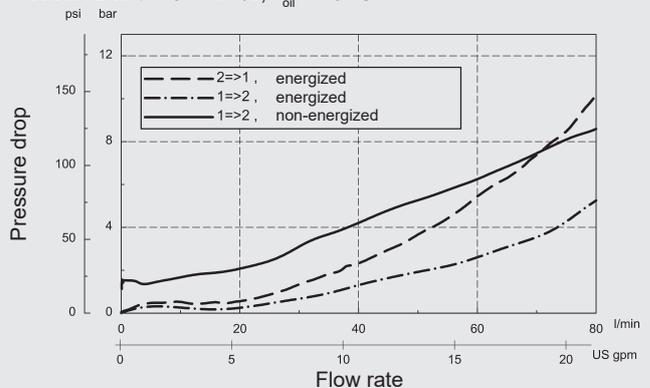
Other housings on request

## Seal kits

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

## TYPICAL PERFORMANCE

Measured at  $v = 34 \text{ mm}^2/\text{s}$ ,  $T_{oil} = 46 \text{ }^\circ\text{C}$



## 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.

## HYDAC Fluidtechnik GmbH

Justus-von-Liebig-Str.

D-66280 Sulzbach/Saar

Tel: 0 68 97 /509-01

Fax: 0 68 97 /509-598

E-Mail: valves@hydac.com