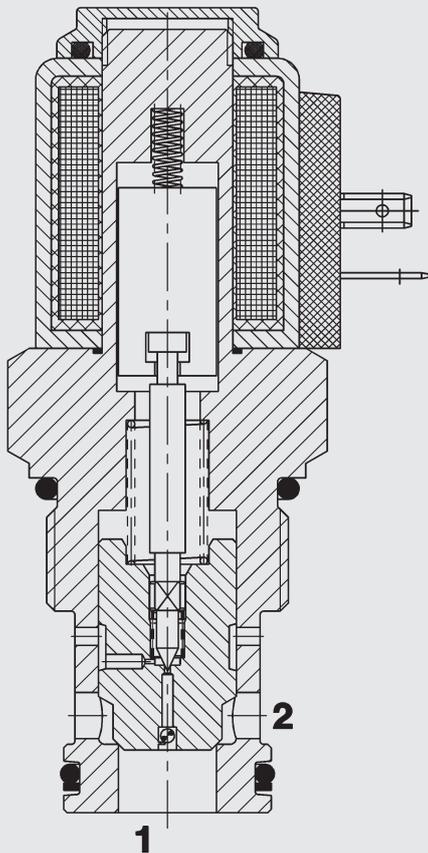


up to 150 l/min
up to 350 bar

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. Flow is permitted 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.

2/2 Solenoid Directional Valve poppet type, pilot operated normally closed (Reverse Flow) UNF Cartridge – 350 bar

WS16ZR-01

FEATURES

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

SPECIFICATIONS*

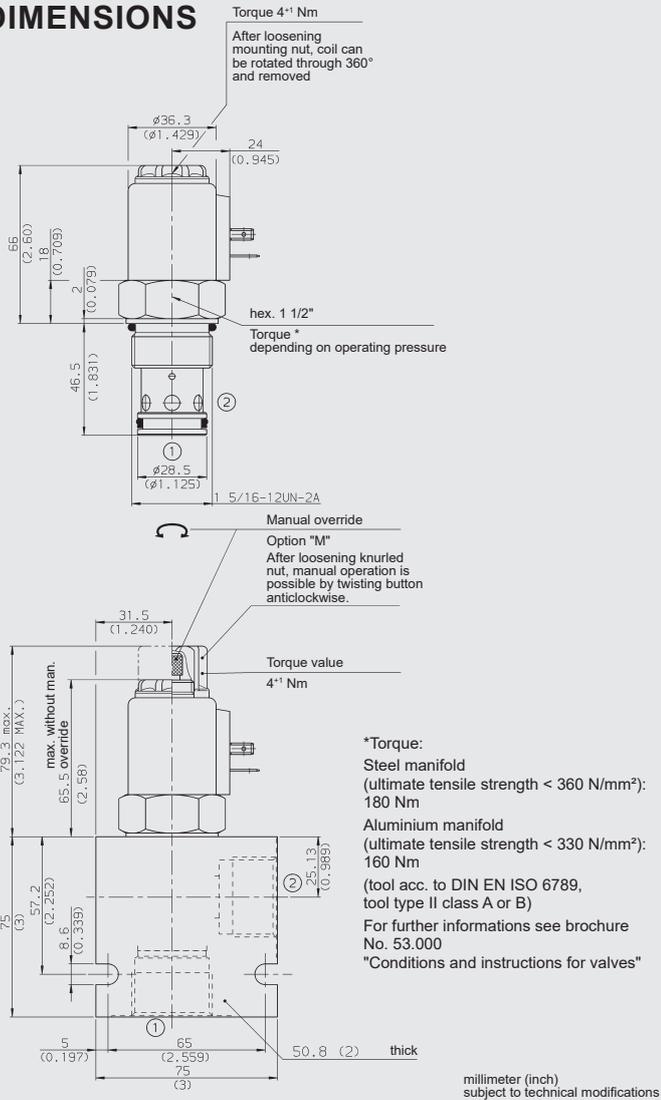
Operating pressure:	max. 350 bar
Nominal flow:	max. 150 l/min up to 280 bar max. 100 l/min, from 280 to 350 bar
Leakage:	max. 5 drops (0.25 cm ³ /min) at 350 bar
Media operating temperature range:	min. -20 °C to max. +100 °C
Ambient temperature range:	min. -20 °C to max. + 60 °C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2 and 3
Viscosity range:	min. 7.4 mm ² /s to max. 420 mm ² /s
Filtration of operating fluid: (acc. to ISO 4406)	p ≤ 210 bar: min. class 20/18/15 p ≥ 210 bar: min. class 18/16/13
MTTF _d :	150 - 1200 years, according to DIN EN ISO 13849-1
Installation:	No orientation restrictions
Materials:	Valve body: 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:	FC16-2
Weight:	Valve complete: 0.62 kg Coil only: 0.19 kg

Electrical data

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 = 34 mm ² /s)	energized: approx. 35 ms de-energized: approx. 70 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



MODEL CODE

WS16ZR - 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.
WS16ZR-01-C-N-24DG	3049536
WS16ZR-01-C-N-230AG	3049568

*Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
FH162-SB8	3032496	Steel, zinc-plated	G1"	350 bar
FH162-AB8	3037193	Aluminium, anodized	G1"	210 bar

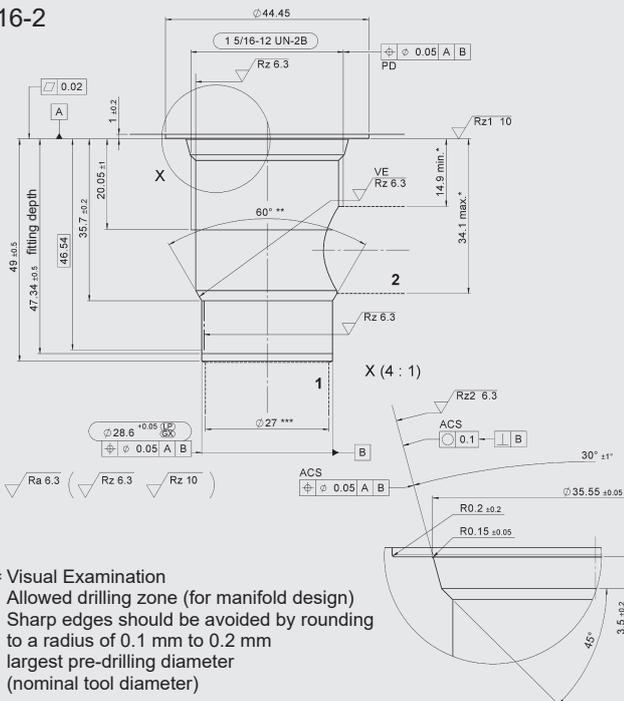
Other housings on request

Seal kits

Code	Material	Part No.
FS UNF 16/N	NBR	3651395
FS UNF 16/V	FKM	3651396

CAVITY

FC16-2



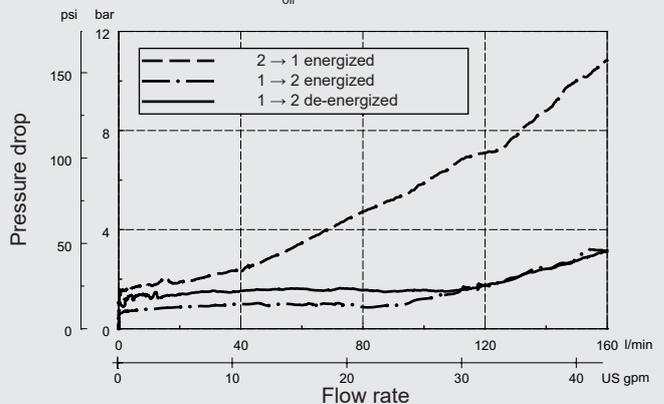
Form tools

Tool	Part No.
Countersink	176218
Reamer	176219

millimeter (inch)
subject to technical modifications

TYPICAL PERFORMANCE

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



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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