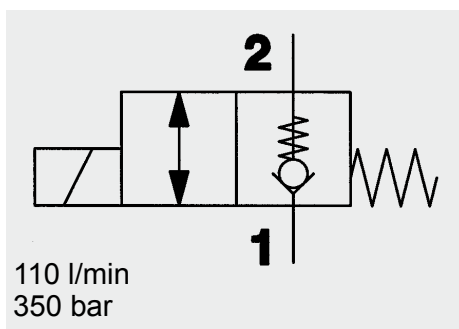
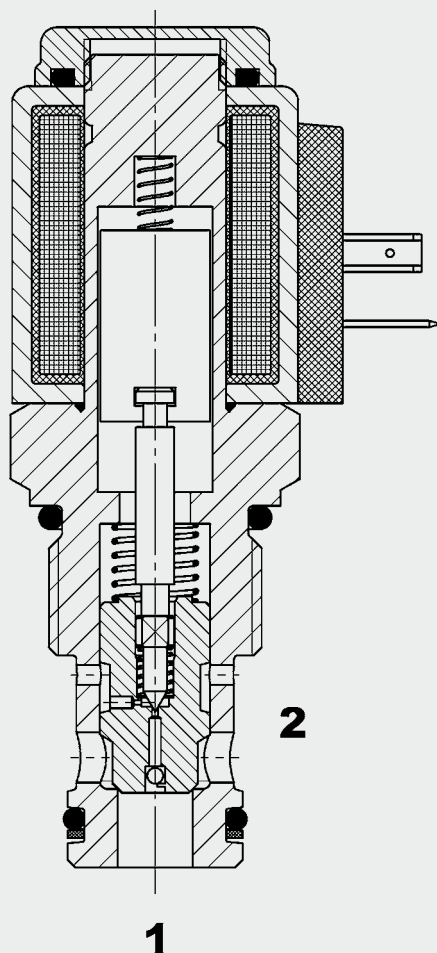


2/2 Solenoid Directional Valve **UNF** **Poppet Type, Pilot-Operated** **Normally Closed (Reverse Flow)** **SAE-12 Cartridge – 350 bar**

WS12ZR-01



FUNCTION



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.

FEATURES

- Excellent switching performance by high power HYDAC solenoid
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Wide variety of connectors available
- External surfaces zinc-plated and corrosion-proof
- Coil seals protect the solenoid system
- Low pressure drop due to CFD optimized flow path

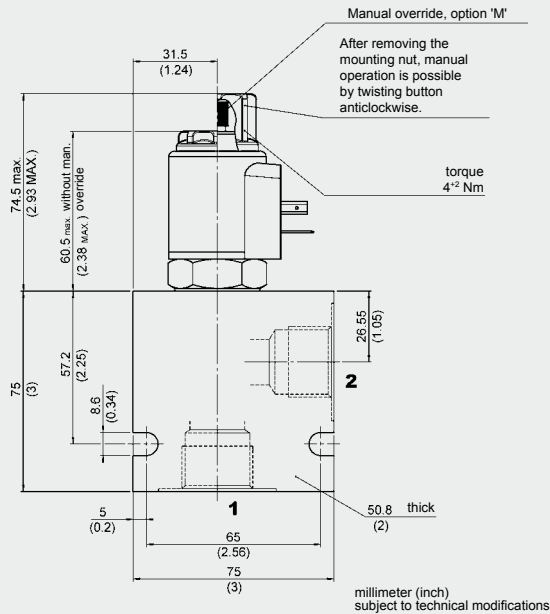
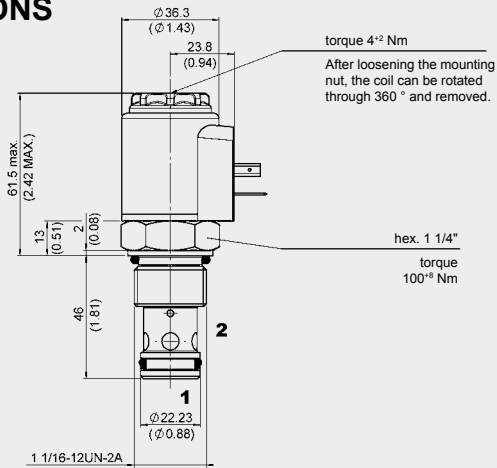
SPECIFICATIONS

Operating pressure:	max. 350 bar	
Nominal flow:	max. 110 l/min	
Leakage:	Leak-free (max. 5 drops \approx 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 and 2	
Viscosity range:	min. 7.4 mm ² /s to max. 420 mm ² /s	
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner	
MTTF _d :	150 years (see "Conditions and instructions for valves" in brochure 5.300)	
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:	FC12-2	
Weight:	Valve complete	0.46 kg
	Coil only	0.19 kg

Electrical data:

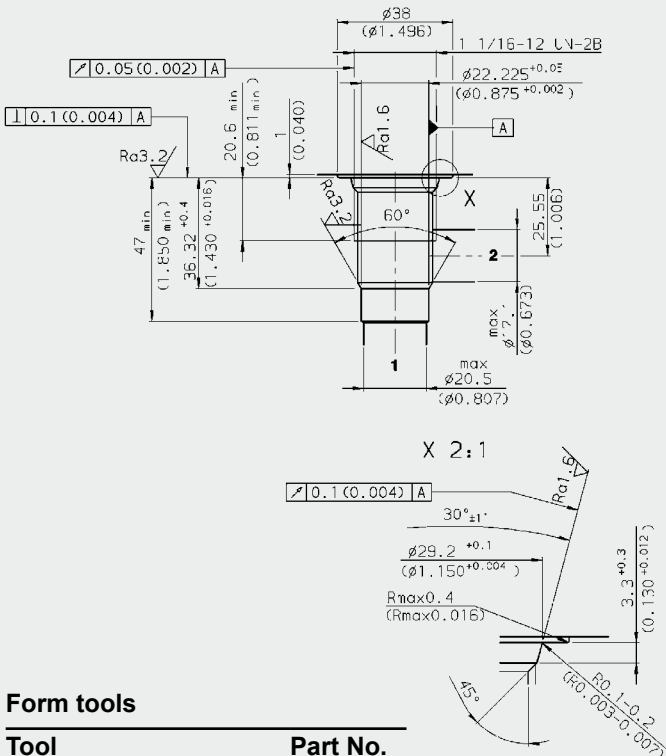
Coil duty rating:	Continuous up to max. 115% of the nominal voltage at 60 °C ambient temperature	
Current draw at 20 °C:	1.5 A at 12 V DC 0.8 A at 24 V DC	
Voltage tolerance:	\pm 15% of the nominal voltage	
Response time:	Energized:	approx. 30 ms
	De-energized:	approx. 70 ms
Coil type:	Coil...-40-1836	

DIMENSIONS



CAVITY

FC12-2



Form tools

Tool	Part No.
Countersink FC12-2	176951
Reamer FC12-2	176952

millimeter (inch) subject to technical modifications

MODEL CODE

WS12ZR-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
SB6 = G3/4 ports, steel body
AB6 = G3/4 ports, aluminium body

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
30 = 230 V AC

Other voltages on request

Coil connectors (type 40-1836)

DC: DG = DIN connector 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 to EN 175301-803
Other connectors on request

Standard models

Model code	Part No.
WS12ZR-01-C-N-24DG	3157869
WS12ZR-01-C-N-230AG	3157867

*Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
FH122-SB6	3053782	Steel, zinc-plated	G3/4	420 bar
FH122-AB6	3053843	Aluminium, anodized	G3/4	210 bar

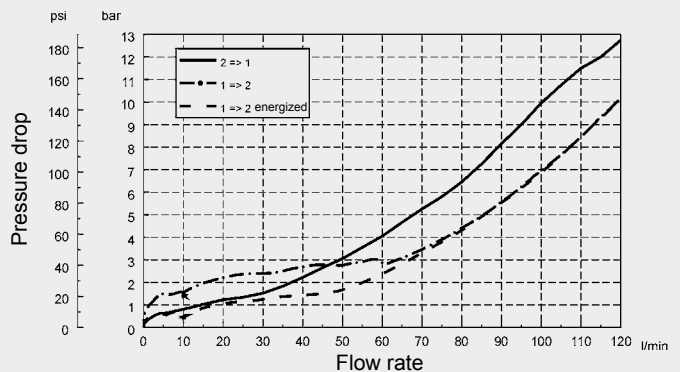
Other line bodies on request

Seal kits

Code	Material	Part No.
FS122-N SEAL KIT	NBR	3071298
FS122-V SEAL KIT	FKM	3071299

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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