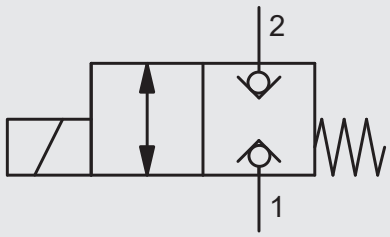
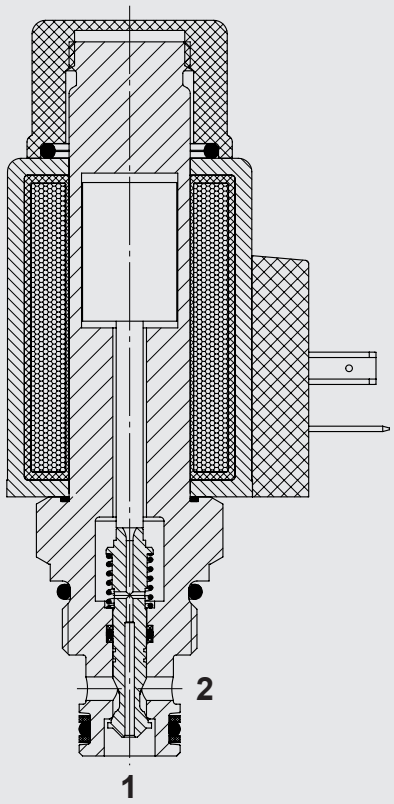


up to 25 l/min
up to 350 bar

2/2 directional poppet valve
WSM06020W-61

Solenoid operated, direct-acting, normally closed, cartridge valve metric – 350 bar

FUNCTION



PRODUCT ADVANTAGE

- High performance version for high pressures and long service life
- Coil seals protect the solenoid system
- Wide variety of connectors available
- Excellent switching performance by high-performance HYDAC solenoid
- External surfaces with advanced corrosion protection thanks to ZnNi coating (1,000 h salt spray test)

DESCRIPTION OF FUNCTION

WSM06020W-61 is the high-performance version of the standard WSM06020W-01. With its larger coil and modified design, it can switch at pressures of up to 350 bar and allows a flow rate of 25 l/min. When the solenoid coil is de-energised, the valve blocks flow in both directions. When the solenoid coil is energised, there is free flow through the valve in both directions.

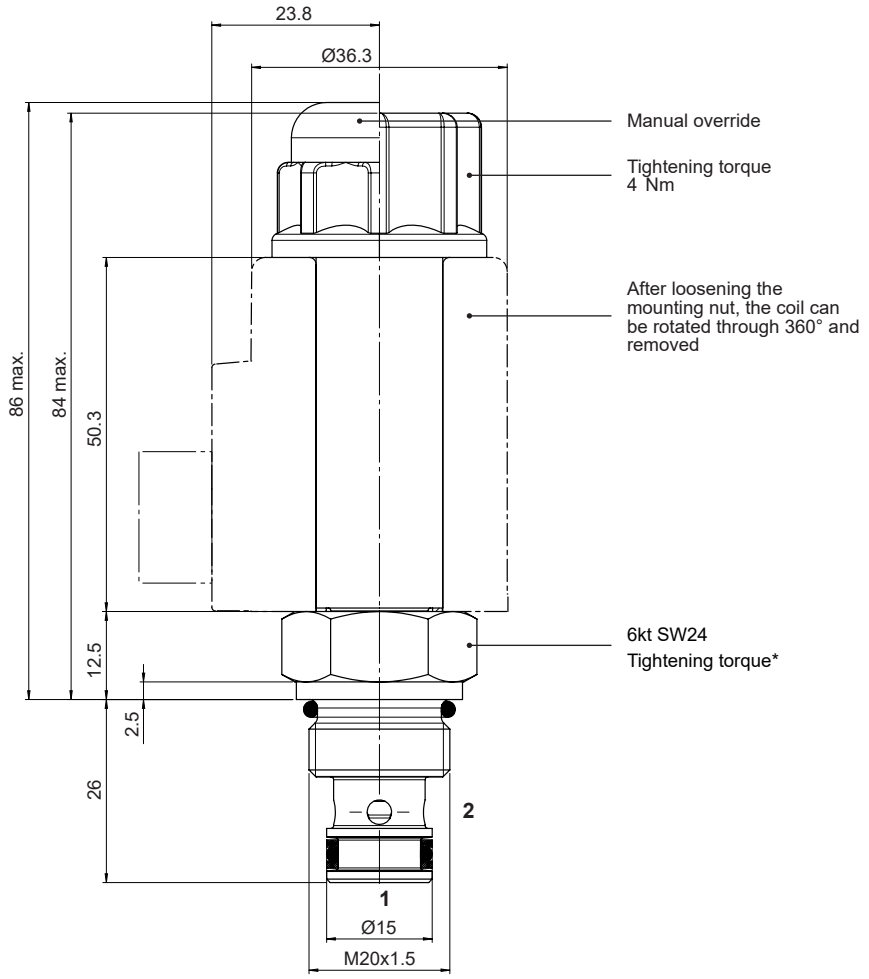
Important note:
No metering orifice is permitted just upstream from port 1.

TECHNICAL CHARACTERISTICS[1)]

Operating pressure	max. 350 bar	
Flow rate	max. 25 l/min	
Internal leakage	Leak-free, max. 5 drops/min (0.25 cm³/min) at nominal pressure, ν = 34 mm²/s	
Pressure fluid	Hydraulic oil to DIN 51524 Part 1, 2 and 3	
Ambient temperature range	min. -40 °C to max. +60 °C	
Temperature range of pressurised operating fluid	NBR: min. -20 °C to max. +100 °C FKM: min. -20 °C to max. +120 °C	
Viscosity range	min. 10 mm²/s to max. 420 mm²/s	
Filtration	Permitted operating fluid contamination level according to ISO 4406 Class 21/19/16 or higher	
$MTTF_D$	150 - 1200 years, assessment according to DIN EN ISO 13849-1:2016; Table C.1, Confirmation of ISO 13849-2:2013; Tables C.1 and C.2	
Installation position	User-definable	
Material	Valve body:	Steel, hardened
	Spools:	Steel, hardened and ground
	Seals:	NBR (standard) FKM (optional)
	Support rings:	PTFE
	Coil:	Steel/polyamide
Cavity	06020	
Weight	0.42 kg (with coil)	
Electric system		
Type of voltage	DC:	DC voltage
	AC:	AC with rectifier integrated in the coil
Nominal current at 20 °C	2.22 A at 12 V DC 1.13 A at 24 V DC	
Voltage tolerance	±15 % of nominal voltage	
Duty cycle	100 % duty cycle (continuous operation) up to max. 115 % of the nominal voltage at 60 °C ambient temperature	
Response time at p_{max}; Q_{max}, ν = 34 mm²/s	Energised:	approx. 30 ms
	De-energised:	approx. 40 ms
	Greatly increased reaction times possible for other operating conditions	
Coil design	Coil …-50-1836	

[1)] see "Conditions and Instructions for Valves" in brochure 53.000.

DIMENSIONS

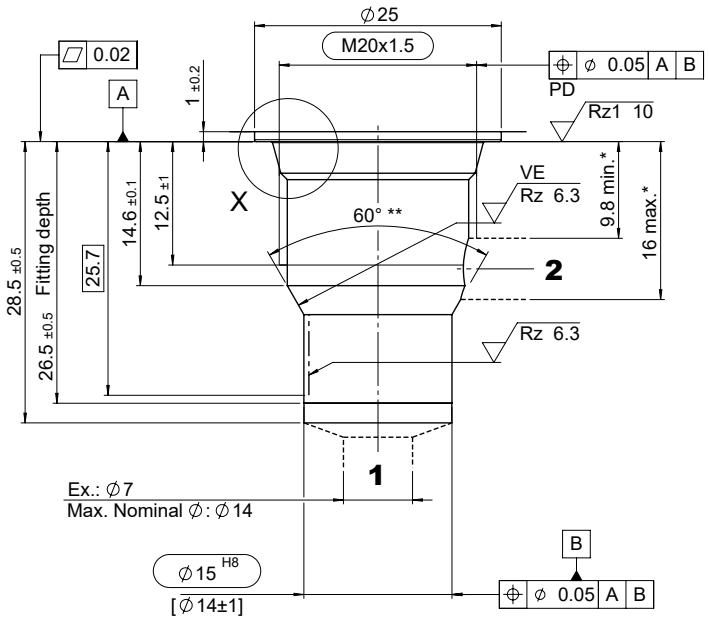


* Tightening torque:
Steel housing (burst strength > 360 N/mm²): 40 Nm
Aluminium housing (burst strength > 330 N/mm²): 35 Nm
(With torque tool according to DIN EN ISO 6789, tool type II class A or B).

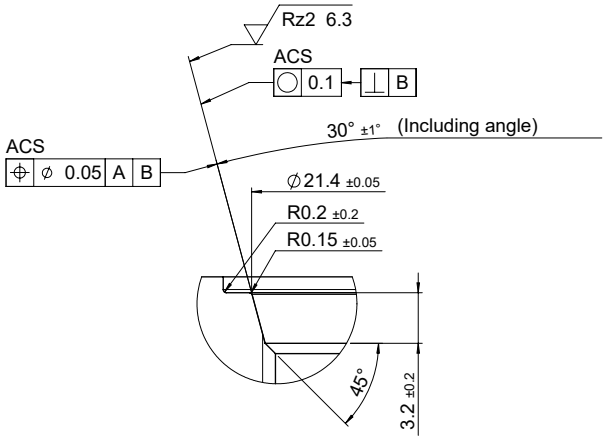
Millimetre
Subject to technical modifications.

CAVITY

06020



X 4 : 1



VE = Visual Examination

Ra 6.3 (Rz 6.3 Rz 10)

* Permitted boring zone (for block design)

** Sharp edges should be avoided by using a radius of 0.1 mm to 0.2 mm

Millimetre

Subject to technical modifications.

MODEL CODE

WSM06020W – 61M – C – N – 24 DG

Designation

2/2 directional poppet valve

Design

61 = Standard

61M = with manual override

Type of connection

C = Cartridge valve

Sealing material

N = NBR (standard)

V = FKM

Nominal voltage

12 = 12 V DC

24 = 24 V DC

115 = 115 V AC

230 = 230 V AC

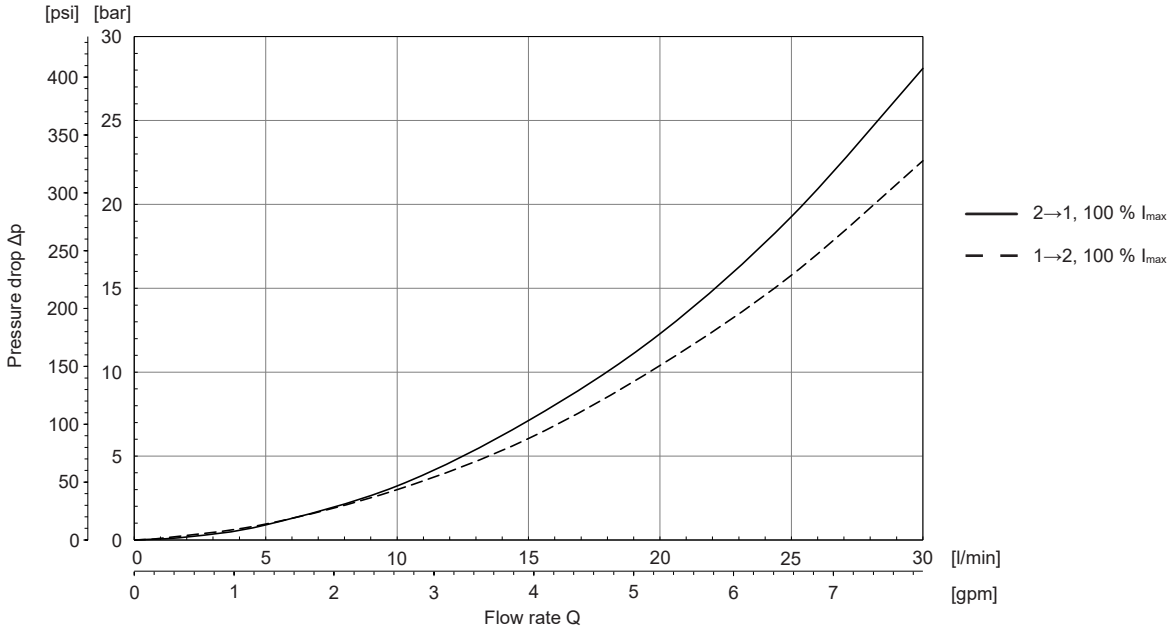
Further versions on request.

Coil design (50-1836)	Number of poles	Port	Protection class
DC			
DG = design A acc. to DIN EN 175301-803	3-pin	radial	IP65
DK = Kostal threaded terminal M27x1	2-pin	radial	IP65 / IP67
DL = 2 free wires 0.75 mm² x 457 mm (18")	2-pin	radial	IP65 / IP67
DN = Deutsch DT04-2P plug	2-pin	axial	IP65 / IP67
DO = M12 plug	4-pin	radial	IP65
DT = AMP Junior Timer	2-pin	radial	IP65 / IP67
DU = AMP Junior Timer	2-pin	axial	IP65 / IP67
AC			
AG = design A acc. to DIN EN 175301-803	3-pin	radial	IP65

Further versions on request.

TYPICAL PERFORMANCE CURVES

Δp/Q performance curve 1→2 measured at ν = 34 mm²/s, T_{Oil} = 46 °C



MATERIAL OVERVIEW

Standard models

Designation	Part no.
WSM06020W-61-C-N-12DG	3707060
WSM06020W-61-C-N-24DG	3531890
WSM06020W-61M-C-N-24DG	3592515
WSM06020W-61-C-V-24DG	3666937
WSM06020W-61-C-N-230AG	3531891

Further versions on request.

Spare parts, seal kits

Designation	Material	Code	Part no.
Seal kit	NBR	06020-NBR	3119017
Seal kit	FKM	06020-FKM	3262477

Housing

Designation	Material	Code	Pressure max.	Connections	Weight	Part no.
Inline connection housing	Steel, zinc-plated	R06020-01X-01	350 bar	G3/8"	0.42 kg	275266

Cavity tools

Designation	Part no.
Countersink (shank MK3)	170033
Reamer (shank MK2)	1000768

NOTE

The information in this brochure relates to the operating conditions and fields of application described. For applications and operating conditions not described: please contact the relevant technical departments.

Subject to technical modifications.

Documents are only valid if they have been obtained via the website and are up-to-date.

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