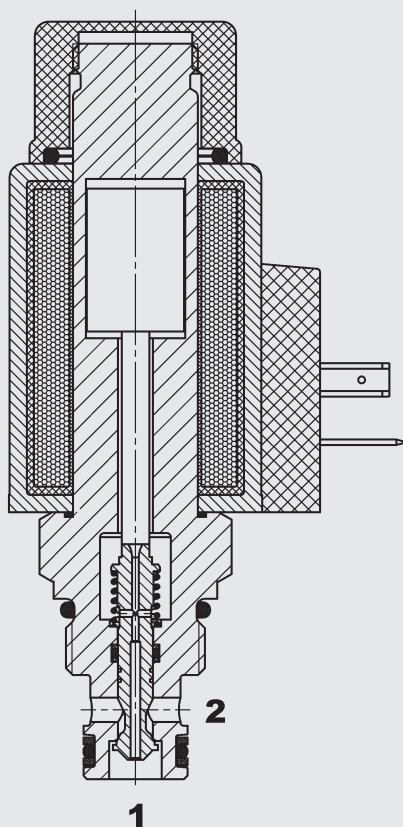


Up to 25 l/min  
Up to 350 bar

## FUNCTION



The WSM06020W-61 is the high performance version of the standard WSM06020W-01. Owing to its larger coil and modified design, the valve switches up to 350 bar and permits a flow rate of 25 l/min.

When the solenoid coil is de-energized, the valve blocks flow in both directions. When energized the valve allows flow in both directions.

Caution: No orifice is permitted just before port 1.

## 2/2 Solenoid Directional Valve Poppet Type, Direct Acting Normally Closed Metric Cartridge – 350 bar WSM06020W-61

### FEATURES

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

### SPECIFICATIONS

Operating pressure:	max. 350 bar
Nominal flow:	max. 25 l/min
Internal leakage:	Leakage-free (max. 5 drops $\approx$ 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 and 2
Viscosity range:	min. 10 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 years (see "Conditions and instructions for valves" in brochure 5.300)
Installation:	No orientation restrictions
Materials:	Valve body: high tensile 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:	06020
Weight:	Complete valve: 0.42 kg Coil: 0.23 kg

### Electrical data:

Type of voltage:	DC solenoid, AC voltage is rectified using a bridge rectifier built into the coil
Current draw (at 20 °C):	2.22 A at 12 V DC 1.13 A at 24 V DC
Voltage tolerance:	$\pm$ 15% of the nominal voltage
Coil duty rating:	Continuous up to max. 115% of the nominal voltage at 60 °C ambient temperature
Response time:	Energized: approx. 30 ms De-energized: approx. 40 ms
Coil type:	Coil ...-50-1836

After loosening knurled nut, coil can be rotated through 360° and removed.

Manual override, with HNBR-rubber cap

Torque 4<sup>+1</sup> Nm

84 max.

23.8

86 max.

12.5

2.5

26

2

1

Ø 15

M20x1.5

Ø 23.6

hex. SW24 torque 25<sup>+5</sup> Nm

HYDAC

millimeter (inch)  
subject to technical modifications

**WSM06020W - 61 M - C - N - 24 DG**

**Basic model** \_\_\_\_\_  
Directional poppet valve, metric

**Type** \_\_\_\_\_  
61 = standard

**Manual override** \_\_\_\_\_  
No details = without manual override  
M = manual override

**Body and ports\*** \_\_\_\_\_  
C = cartridge

**Seals** \_\_\_\_\_  
N = NBR (standard)  
F = FPM (optional)

**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 50-1836)** \_\_\_\_\_  
DC: DG = DIN connector 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 to EN 175301-803  
Other connectors on request

Model code	Part No.
WSM06020W-61-C-N-24DG	3531890
WSM06020W-61-C-N-230AG	3531891
Other models on request	

Code	Part No.	Material	Ports
R06020-01X-01	275266	Steel, zinc-plated	G 3/8
Other line bodies on request			

Code	Part No.
SEAL KIT 06020-NBR	3119017
SEAL KIT 06020-FKM	3262477

Figure 1 is a line graph showing Pressure drop (psi and bar) versus Flow rate (l/min and US gpm). The y-axis has two scales: psi (0 to 360) and bar (0 to 26). The x-axis has two scales: l/min (0 to 28) and US gpm (0 to 7.5). Two curves are plotted: a solid line for Case 1 ( $z=2$ ) and a dashed line for Case 2 ( $z=1$ ). Case 2 shows a higher pressure drop than Case 1 for flow rates above 10 l/min.

Flow rate (l/min)	Flow rate (US gpm)	Pressure drop (psi) - Case 1 ( $z=2$ )	Pressure drop (psi) - Case 2 ( $z=1$ )
0	0	0	0
2	0.5	~5	~5
4	1.0	~10	~10
6	1.5	~15	~15
8	2.0	~20	~20
10	2.5	~25	~25
12	3.0	~35	~40
14	3.5	~50	~60
16	4.0	~70	~85
18	4.5	~95	~115
20	5.0	~125	~150
22	5.5	~160	~190
24	6.0	~200	~235
26	6.5	~245	~285
28	7.0	~295	~340

Form tools	Part No.
Countersink (shank MK3)	170033
Reamer (shank MK2)	1000768

millimeter (inch)  
subject to technical modifications