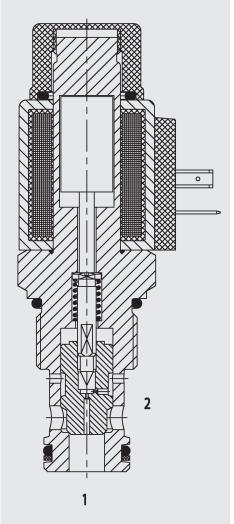


Up to 110 l/min Up to 350 bar

## **FUNCTIONING**



When de-energized, there is free flow through the valve from port 2 to 1. Flow in the opposite direction is not permitted. When energized, the valve is closed from port 2 to port 1. In the reverse direction there is free flow

In the reverse direction there is free flow through the valve when the hydraulic force on the poppet exceeds the solenoid force (approx. 9 to 20 bar). **2/2 Solenoid Directional Valve Poppet Type, Pilot-Operated Normally Open Metric Cartridge – 350 bar** WSM12120Y

## FEATURES

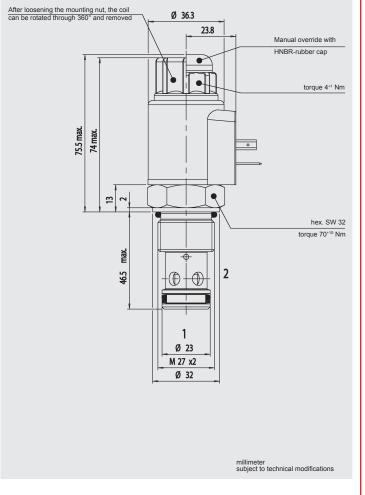
- External surfaces zinc-plated and corrosion-proof
- Hardened and ground control piston to ensure minimal wear and extended service life
- Coil seals protect the solenoid system
- Excellent switching performance by high power HYDAC solenoid
- Low pressure drop due to CFD optimized flow path

# **SPECIFICATIONS**

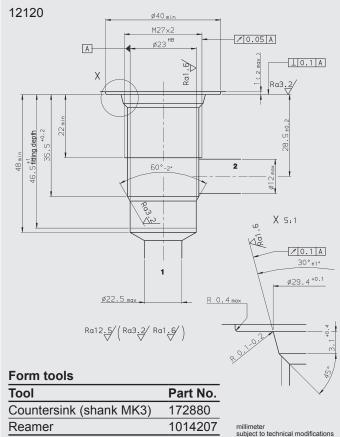
Media operating temperature range:min20 °C to max. +100 °CAmbient temperature range:min20 °C to max. +60 °COperating fluid:Hydraulic oil to DIN 51524 PViscosity range:min. 7.4 mm²/s to max. 420 °CFiltration:Class 21/19/16 according to cleanerMTTF_d:150 years (see "Conditions a instructions for valves" in brownInstallation:No orientation restrictionsMaterials:Valve body:free-cuttir Poppet:hardened steelSeals:NBR (star FKM (opti temperature)Cavity:12120Weight:Valve complete 0.49 kg Coil onlyCavity:Valve complete 0.49 kg Coil onlyType of voltage:DC solenoid, AC voltage is r			
Internal leakage:   Leakage-free (max. 5 drops = 0,25 cm³/min a     Media operating temperature range:   min20 °C to max. +100 °C     Ambient temperature range:   min20 °C to max. +60 °C     Operating fluid:   Hydraulic oil to DIN 51524 P     Viscosity range:   min. 7.4 mm²/s to max. 420     Filtration:   Class 21/19/16 according to cleaner     MTTF <sub>d</sub> :   150 years (see "Conditions a instructions for valves" in bro cleaner     Materials:   Valve body:     Installation:   No orientation restrictions     Materials:   Valve body:     Poppet:   hardened steel     Seals:   NBR (star FKM (opti temperature -20 °C to acvity:     Using a bridge rectifier   0.49 kg Coil only     Weight:   Valve complete   0.49 kg Coil only     Type of voltage:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC 0.8 A at 24 V DC	max. 350 bar		
(max. 5 drops = 0,25 cm³/min aMedia operating temperature range:min20 °C to max. +100 °CAmbient temperature range:min20 °C to max. +60 °COperating fluid:Hydraulic oil to DIN 51524 PViscosity range:min. 7.4 mm²/s to max. 420Filtration:Class 21/19/16 according to cleanerMTTFd:150 years (see "Conditions a instructions for valves" in brownerInstallation:No orientation restrictionsMaterials:Valve body:Poppet:hardened steelSeals:NBR (star FKM (opti temperatu -20 °C toCavity:12120Weight:Valve complete0.49 kg Coil only0.19 kgElectrical data:DC solenoid, AC voltage is r using a bridge rectifier built iType of voltage:DC solenoid, AC voltage is r using a bridge rectifier built i	max. 110 l/min		
Media operating temperature range:min20 °C to max. +100 °CAmbient temperature range:min20 °C to max. +60 °COperating fluid:Hydraulic oil to DIN 51524 PViscosity range:min. 7.4 mm²/s to max. 420Filtration:Class 21/19/16 according to cleanerMTTFd:150 years (see "Conditions a instructions for valves" in brownerInstallation:No orientation restrictionsMaterials:Valve body:Free-cuttir Poppet:hardened steelSeals:NBR (star FKM (opti temperature -20 °C toCavity:12120Weight:Valve complete0.49 kg Coil only0.19 kgElectrical data:DC solenoid, AC voltage is r using a bridge rectifier built iType of voltage:DC solenoid, AC voltage is r using a bridge rectifier built iCurrent draw at 20 °C:1.5 A at 12 V DC 	Leakage-free		
Ambient temperature range:   min20 °C to max. +60 °C     Operating fluid:   Hydraulic oil to DIN 51524 P     Viscosity range:   min. 7.4 mm²/s to max. 420     Filtration:   Class 21/19/16 according to cleaner     MTTF <sub>d</sub> :   150 years (see "Conditions a instructions for valves" in brownest in structions for valves" in brownest in the cleaner     MTTF <sub>d</sub> :   150 years (see "Conditions a instructions for valves" in brownest in brownest in brownest in brownest in the cleaner     Materials:   Valve body:   free-cuttin Poppet:     Materials:   Valve complet:   -20 °C to Back-up rings:     Coil:   steel   Seals:     Veight:   Valve complete   0.49 kg     Coil only   0.19 kg   Electrical data:     Type of voltage:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC     0.8 A at 24 V DC   0.8 A at 24 V DC	(max. 5 drops ≙ 0,25 cm³/min at 350 bar)		
Operating fluid:   Hydraulic oil to DIN 51524 P     Viscosity range:   min. 7.4 mm²/s to max. 420     Filtration:   Class 21/19/16 according to cleaner     MTTF <sub>d</sub> :   150 years (see "Conditions a instructions for valves" in browners     Installation:   No orientation restrictions     Materials:   Valve body:   free-cuttir     Poppet:   hardened     steel   Seals:   NBR (star FKM (optite temperature))     -20 °C to   Back-up rings:   PTFE     Coil:   steel / pol   20 °C to     Back-up rings:   PTFE   Coil:   steel / pol     Cavity:   12120   Valve complete   0.49 kg     Weight:   Valve complete   0.49 kg   Coil only   0.19 kg     Electrical data:   Type of voltage:   DC solenoid, AC voltage is r   using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC   0.8 A at 24 V DC   0.8 A at 24 V DC	min20 °C to max. +100 °C		
Viscosity range:   min. 7.4 mm²/s to max. 420     Filtration:   Class 21/19/16 according to cleaner     MTTF <sub>d</sub> :   150 years (see "Conditions a instructions for valves" in brownown in the properties of the			
Filtration:   Class 21/19/16 according to cleaner     MTTF <sub>d</sub> :   150 years (see "Conditions a instructions for valves" in bro orientation restrictions     Installation:   No orientation restrictions     Materials:   Valve body:   free-cuttin Poppet:     hardened   steel     Seals:   NBR (stau FKM (opti temperatu -20 °C to Back-up rings:     PTFE   Coil:   steel / pol     Cavity:   12120     Weight:   Valve complete 0.49 kg Coil only 0.19 kg     Electrical data:   Type of voltage:     Type of voltage:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC 0.8 A at 24 V DC	Hydraulic oil to DIN 51524 Part 1 and 2		
cleaner     MTTF <sub>d</sub> :   150 years (see "Conditions a instructions for valves" in brown instructions for valves" in brown instructions for valves" in brown instructions for valves in brown instructions     Installation:   No orientation restrictions     Materials:   Valve body:   free-cuttin     Poppet:   hardened     steel   Seals:   NBR (stau     FKM (optitient temperature)   -20 °C to     Back-up rings:   PTFE     Coil:   steel / pol     Cavity:   12120     Weight:   Valve complete   0.49 kg     Coil only   0.19 kg     Electrical data:   Type of voltage:   DC solenoid, AC voltage is rusing a bridge rectifier built it     Current draw at 20 °C:   1.5 A at 12 V DC   0.8 A at 24 V DC	min. 7.4 mm <sup>2</sup> /s to max. 420 mm <sup>2</sup> /s		
instructions for valves" in brown Installation: Materials: Valve body: Free-cuttin Poppet: NBR (star FKM (opting Seals: NBR (star FKM (opting Cavity: Coil: Steel / pol Cavity: 12120 Weight: Valve complete Coil: Steel / pol Cavity: 12120 Valve complete Coil only O.49 kg Coil only O.19 kg Electrical data: Type of voltage: DC solenoid, AC voltage is r using a bridge rectifier built i Current draw at 20 °C: No orientation restrictions No orientations No orientations No orie	Class 21/19/16 according to ISO 4406 or cleaner		
instructions for valves" in brown Installation: Materials: Valve body: Free-cuttin Poppet: NBR (star FKM (opting Seals: NBR (star FKM (opting Cavity: Coil: Steel / pol Cavity: 12120 Weight: Valve complete Coil: Steel / pol Cavity: 12120 Valve complete Coil only O.49 kg Coil only O.19 kg Electrical data: Type of voltage: DC solenoid, AC voltage is r using a bridge rectifier built i Current draw at 20 °C: No orientation restrictions No orientations No orientations No orie	and		
Materials:   Valve body:   free-cuttir     Poppet:   hardened     Seals:   NBR (star     FKM (opti   temperatu     -20 °C to   Back-up rings:     DC avity:   12120     Weight:   Valve complete   0.49 kg     Coil only   0.19 kg     Electrical data:   Type of voltage:   DC solenoid, AC voltage is r     Using a bridge rectifier built i   0.8 A at 12 V DC     0.8 A at 24 V DC   0.8 A at 24 V DC	instructions for valves" in brochure 5.300)		
Poppet:   hardened steel     Seals:   NBR (star FKM (opti temperatu -20 °C to     Back-up rings:   PTFE     Coil:   steel / pol     Cavity:   12120     Weight:   Valve complete 0.49 kg Coil only 0.19 kg     Electrical data:   Type of voltage:     Type of voltage:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC 0.8 A at 24 V DC			
Seals:   NBR (star FKM (opti temperatu -20 °C to     Back-up rings:   PTFE     Coil:   steel / pol     Cavity:   12120     Weight:   Valve complete Coil only   0.49 kg     Coil only   0.19 kg     Electrical data:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC 0.8 A at 24 V DC			
FKM (opting)     FKM (opting)     -20 °C to     Back-up rings:   PTFE     Coil:   steel / pol     Cavity:   12120     Weight:   Valve complete   0.49 kg     Coil only   0.19 kg     Electrical data:   Type of voltage:     DC solenoid, AC voltage is r   using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC     0.8 A at 24 V DC   0.8 A at 24 V DC	and ground		
Coil: steel / pol     Coil:   steel / pol     Cavity:   12120     Weight:   Valve complete 0.49 kg     Coil only   0.19 kg     Electrical data:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC 0.8 A at 24 V DC	tional, media ure range		
Cavity:   12120     Weight:   Valve complete Coil only   0.49 kg     Electrical data:   0.19 kg     Type of voltage:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC 0.8 A at 24 V DC			
Weight:Valve complete Coil only0.49 kg 0.19 kgElectrical data:DC solenoid, AC voltage is r using a bridge rectifier built iCurrent draw at 20 °C:1.5 A at 12 V DC 0.8 A at 24 V DC	lyamide		
Coil only0.19 kgElectrical data:Type of voltage:DC solenoid, AC voltage is r using a bridge rectifier built iCurrent draw at 20 °C:1.5 A at 12 V DC 0.8 A at 24 V DC			
Electrical data:     Type of voltage:   DC solenoid, AC voltage is r using a bridge rectifier built i     Current draw at 20 °C:   1.5 A at 12 V DC 0.8 A at 24 V DC			
Type of voltage:DC solenoid, AC voltage is r using a bridge rectifier built iCurrent draw at 20 °C:1.5 A at 12 V DC 0.8 A at 24 V DC			
using a bridge rectifier built iCurrent draw at 20 °C:1.5 A at 12 V DC0.8 A at 24 V DC			
0.8 A at 24 V DC	DC solenoid, AC voltage is rectified using a bridge rectifier built into the coil		
	energized: approx. 90 ms		
de-energized: approx. 2	25 ms		
Coil duty rating: Continuous up to max. 115% of the nominal voltage at 60 °C ambient temperature			
Coil type: Coil40-1836			

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## DIMENSIONS



# CAVITY



# **MODEL CODE**

<u>WSM12120Y</u> – <u>01</u> M – C – N – <u>24</u> <u>DG</u>
Basic model Directional poppet valve, metric
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 (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 40-1836) 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>

- DL = 2 flying leads, 457 mm long; 0.75 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

code Part	No.
2120Y-01-C-N-12DG 3230	826
2120Y-01-C-N-24DG 3230	834
2120Y-01-C-N-230AG 3230	833
models on request	5230

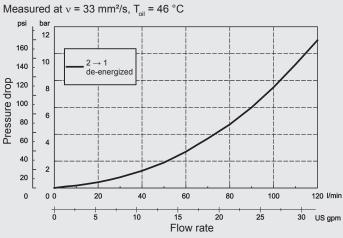
#### Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
R12120-10X-01	396708	Steel, zinc-plated	G 3/4	max. 420 bar
R12120-01X-01	396707	Steel, zinc-plated	M 27 x 2	max. 420 bar

#### Seal kits

Code	Material	Part No.
SEAL KIT 12120-NBR	NBR	3454001
SEAL KIT 12120-FKM	FKM	3454002

### PERFORMANCE



**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.

Tel: 0 68 97 /509-01 Fax: 0 68 97 /509-598 E-Mail: flutec@hydac.com

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HYDAC Fluidtechnik GmbH Justus-von-Liebig-Str.

D-66280 Sulzbach/Saar