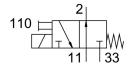
Solenoid valve MHE2-MS1H-3/20-M7 Part number: 196151

FESTO





Data sheet

Type of actuation Electric Construction width 10 mm Standard nominal flow rate 100 l/min pneumatic working port M7 Operating voltage 24V DC Operating pressure 0.09 MPa 0.8 MPa Operating pressure 0.09 bar 8 bar Design Pressure-relieved poppet valve Operating pressure M8 Operating pressure 0.9 bar 8 bar Design Pressure-relieved poppet valve Type of reset M8 Construction Pressure M8 Operating of protection Press Operating Pressure velleved poppet valve Operating of protection Press Operating of protection Operating of press Operating of protection Operating Ope	Feature	Value
Construction width Standard nominal flow rate pneumatic working port Operating yorkage Operating yorkage Operating pressure Operating pressure, reversible	Valve function	3/2 open, single solenoid
Standard nominal flow rate pneumatic working port Operating yoltage 24V DC Operating pressure Design Pressure-relieved poppet valve Type of reset Mechanical spring RCM trademark c UL us - Recognized (OL) CE mark (see declaration of conformity) To EU EMC Directive In accordance with EU RoHS Directive CE marking (see declaration of conformity) To UK instructions for EMC To UK RoHS instructions Nominal size Grid dimension 14 mm Note on grid dimension Minimum distance between the valves is 4 mm Exhaust-air function Sealing principle Mounting position Manual override Non-detenting Direct Flow direction Reversible with restrictions Syarba Arresting Holding current reductions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating frequency 330 Hz	Type of actuation	Electric
pneumatic working port Operating voltage Operating pressure Operating pressure, reversible	Construction width	10 mm
Operating voltage 24V DC Operating pressure -0.09 MPa 0.8 MPa Operating pressure -0.99 bar 8 bar Operating pressure, reversible -0.99 bar 1 bar Operating pressure, reversible -0.99 bar 1 bar Operating pressure, reversible -0.99 bar 14.5 psi Max. switching frequency Operating pressure, reversible -0.99 bar 14.5 psi Max. switching frequency Operating pressure, reversible -0.99 bar 14.5 psi Max. switching frequency Operating pressure, reversible -0.99 bar 14.5 psi Max. switching frequency	Standard nominal flow rate	100 l/min
Operating pressure Operating pressure, reversible Operating pressure, operating pressur	pneumatic working port	M7
Operating pressure Operating pressure, reversible Operating frequency 330 Hz	Operating voltage	24V DC
Design Pressure-relieved poppet valve Type of reset Mechanical spring Degree of protection Pf65 Approval RCM tra-demark CUL us - Recognized (OL) CE mark (see declaration of conformity) To EU EMC Directive In accordance with EU RoHS Directive CE marking (see declaration of conformity) To UK instructions for EMC To UK RoHS instructions Nominal size 2 mm Grid dimension 14 mm Note on grid dimension Minimum distance between the valves is 4 mm Exhaust-air function With flow control option Sealing principle Soft Mounting position optional Manual override Non-detenting Type of piloting Direct Flow direction Reversible with restrictions Symbol 00991322 lap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.09 MPa 0.1 MPa Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Operating pressure	-0.09 MPa 0.8 MPa
Type of reset Degree of protection Degree of protection Approval RCM trademark CUL us - Recognized (OL) CE mark (see declaration of conformity) To EU EMC Directive In accordance with EU ROHS Directive CE marking (see declaration of conformity) To UK instructions for EMC To UK ROHS instructions Nominal size 2 mm Grid dimension 14 mm Note on grid dimension Minimum distance between the valves is 4 mm Exhaust-air function With flow control option Sealing principle Soft Mounting position Optional Manual override Non-detenting Type of piloting Direct Flow direction Reversible with restrictions Symbol Op991322 lap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressure, reversible 1-3.05 psi 14.5 psi Max. switching frequency 330 Hz	Operating pressure	-0.9 bar 8 bar
Degree of protection Approval RCM trademark c UL us - Recognized (OL) CE mark (see declaration of conformity) To UK Conformity To UK instructions for EMC To UK ReHS instructions Nominal size 2 mm Grid dimension Note on grid dimension Note on grid dimension With flow control option Sealing principle Soft Mounting position Manual override Non-detenting Type of piloting Flow direction Reversible with restrictions Symbol Junderlap Reverse polarity protection Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressure, reversible Max. switching frequency Junderlap Reverse Max. switching frequency Junderlap (Junderlap) Operating pressure, reversible Operating pressure, reversible Jayo (Junderlap) Jayo (Junderlap	Design	Pressure-relieved poppet valve
Approval RCM trademark c UL us - Recognized (OU) CE mark (see declaration of conformity) To EU EMC Directive In accordance with EU RoHS Directive CE marking (see declaration of conformity) To UK instructions for EMC To UK ROHS instructions Nominal size 2 mm Grid dimension 14 mm Note on grid dimension With flow control option Exhaust-air function With flow control option Sealing principle Soft Mounting position Monuting position Monuting position Monuting position Non-detenting Type of piloting Flow direction Reversible with restrictions Symbol Joeg1322 Junderlap Reverse polarity protection Reverse polarity protection Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.99 MPa 0.1 MPa Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Type of reset	Mechanical spring
C UL us - Recognized (OL) CE mark (see declaration of conformity) To EU EMC Directive In accordance with EU ROHS Directive CE marking (see declaration of conformity) To UK instructions for EMC To UK ROHS instructions Nominal size 2 mm Grid dimension 14 mm Note on grid dimension Minimum distance between the valves is 4 mm Exhaust-air function With flow control option Sealing principle Soft Mounting position Mounting position Optional Manual override Non-detenting Type of piloting Direct Flow direction Reversible with restrictions Symbol O9991322 Iap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible 1-3.05 psi 14.5 psi Max. switching frequency 330 Hz	Degree of protection	IP65
In accordance with EU ROHS Directive CE marking (see declaration of conformity) To UK instructions for EMC TO UK ROHS instructions Nominal size 2 mm Grid dimension Note on grid dimension Minimum distance between the valves is 4 mm Exhaust-air function Sealing principle Soft Mounting position Manual override Non-detenting Type of piloting Direct Flow direction Reversible with restrictions Symbol 00991322 lap Underlap Reverse polarity protection Additional functions Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.99 MPa 0.1 MPa Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Approval	
To UK RoHS instructions Nominal size 2 mm Grid dimension 14 mm Note on grid dimension Minimum distance between the valves is 4 mm Exhaust-air function With flow control option Sealing principle Soft Mounting position Optional Manual override Non-detenting Type of piloting Direct Flow direction Reversible with restrictions Symbol O9991322 lap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating frequency 330 Hz	CE mark (see declaration of conformity)	
Grid dimension 14 mm Note on grid dimension Minimum distance between the valves is 4 mm Exhaust-air function Sealing principle Soft Mounting position Manual override Non-detenting Type of piloting Flow direction Symbol 100991322 Iap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.09 MPa 0.1 MPa Operating pressure, reversible 13.05 psi 14.5 psi Max. switching frequency 330 Hz	CE marking (see declaration of conformity)	
Note on grid dimension Exhaust-air function Sealing principle Mounting position Mounting position Mounting Principle Mondetenting Type of piloting Flow direction Symbol Iap Reverse polarity protection Additional functions Additional functions Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible Man. switching frequency Minimum distance between the valves is 4 mm Mon. Sealing principle Mon. delenting Direct Reversible with restrictions Operating Prove the valves is 4 mm Non-detenting Non-det	Nominal size	2 mm
Exhaust-air function Sealing principle Soft Mounting position Manual override Mon-detenting Type of piloting Flow direction Symbol lap Reversible with restrictions Symbol longerating protection Reverse polarity protection Additional functions Additional functions Operating pressure, reversible 13.05 psi 14.5 psi Max. switching frequency 330 Hz	Grid dimension	14 mm
Sealing principle Mounting position Mounting position Monual override Type of piloting Flow direction Reversible with restrictions Symbol 00991322 lap Underlap Reverse polarity protection Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible 13.05 psi 14.5 psi Max. switching frequency 330 Hz	Note on grid dimension	Minimum distance between the valves is 4 mm
Mounting position optional Manual override Non-detenting Type of piloting Direct Flow direction Reversible with restrictions Symbol 00991322 lap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.09 MPa 0.1 MPa Operating pressure, reversible -13.05 psi 1 bar Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Exhaust-air function	With flow control option
Manual override Type of piloting Direct Flow direction Reversible with restrictions Symbol O0991322 lap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressur	Sealing principle	Soft
Type of piloting Direct Flow direction Reversible with restrictions Symbol 00991322 lap Underlap Reverse polarity protection Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible -0.9 bar 1 bar Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Mounting position	optional
Flow direction Reversible with restrictions O0991322 lap Underlap Reverse polarity protection Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.9 bar 1 bar Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Manual override	Non-detenting
Symbol 00991322 lap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.09 MPa 0.1 MPa Operating pressure, reversible -0.9 bar 1 bar Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Type of piloting	Direct
lap Underlap Reverse polarity protection Bipolar Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible -0.09 MPa 0.1 MPa Operating pressure, reversible -0.9 bar 1 bar Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Flow direction	Reversible with restrictions
Reverse polarity protection Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible -0.9 bar 1 bar Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Symbol	00991322
Additional functions Spark arresting Holding current reduction Protective circuit Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible Operating pressure, reversible -0.9 bar 1 bar Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	lap	Underlap
Holding current reduction Protective circuit Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Reverse polarity protection	Bipolar
Operating pressure, reversible Operating pressure, reversible -0.9 bar 1 bar -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Additional functions	Holding current reduction
Operating pressure, reversible -13.05 psi 14.5 psi Max. switching frequency 330 Hz	Operating pressure, reversible	-0.09 MPa 0.1 MPa
Max. switching frequency 330 Hz	Operating pressure, reversible	-0.9 bar 1 bar
- ' '	Operating pressure, reversible	-13.05 psi 14.5 psi
Switching time off 2 ms	Max. switching frequency	330 Hz
	Switching time off	2 ms

Feature	Value
Switching time on	1.7 ms
Tolerance switching time off	+10%/-30%
Tolerance switching time on	+10%/-30%
Switching time dispersion from 1 Hz	0.2 ms
Duty cycle	100%
Characteristic coil data	24 V DC: low-current phase 1.25 W, high-current phase 5.0 W
Permissible voltage fluctuations	+/- 10 %
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Vibration resistance	Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6
Restrictions for environmental and media temperature	As a function of switching frequency (see graph)
Shock resistance	Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Corrosion resistance class CRC	2 - Moderate corrosion stress
LABS (PWIS) conformity	VDMA24364-B1/B2-L
Media temperature	-5 °C 60 °C
Ambient temperature	-5 °C 60 °C
Product weight	60 g
Electrical connection	2-pin Plugs
Type of mounting	With through-hole
Pneumatic connection, port 11	M7
Pneumatic connection, port 2	M7
Pneumatic port 33	M7
Note on materials	RoHS-compliant
Material seals	HNBR NBR
Material housing	Die-cast zinc, coated
Material screws	Galvanised steel