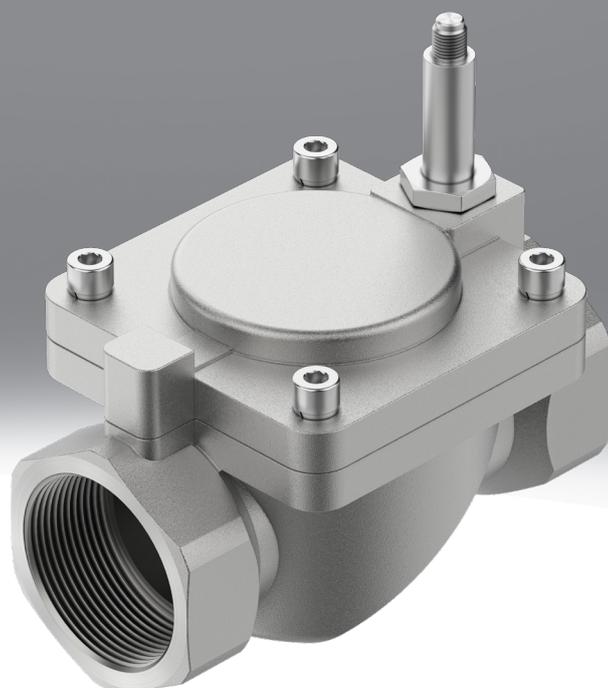


Solenoid valve, metric VZWM

FESTO



Characteristics

At a glance

- Indirectly actuated poppet valve with diaphragm seal
- Valve body connection G14 ... G2
- Flow rate 1400 ... 31000 l/min
- Brass or cast stainless steel version
- Wide range of coils

Type code

001	Series
VZWM	Solenoid valve, process directional control valve VZWM
002	Directional control valve type
L	In-line valve
003	Valve function
M22C	2/2-way valve, normally closed

004	Process valve connection
G14	G1/4
G38	G3/8
G12	G1/2
G34	G3/4
G1	G1
G114	G1 1/4
G112	G1 1/2
G2	G2

005	Electrical connection
F4	Electric with armature tube for solenoid coil 8
F5	Electric with armature tube for solenoid valve 13

006	Corrosion protection
	Standard
R1	Stainless steel

Datasheet

General technical data G thread								
Connection Process valve	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Nominal size	13 ... 13.5 mm			25 ... 27.5 mm		40 mm		50 mm
Valve function	2/2-way, closed, monostable							
Design	Diaphragm valve, servo-controlled							
Sealing principle	Soft							
Type of actuation	Electric							
Type of piloting	Pilot actuated							
Flow direction	Non-reversible							
Type of mounting	In-line installation							
Mounting position	Preferably vertical							
Standard nominal flow rate (standardised to DIN 1343)	1,400 l/min	2,100 l/min	2,400 l/min	10,000 l/min	11,700 l/min	24,000 l/min	26,400 l/min	31,000 l/min
Flow rate Kv	1.6 m³/h	2 m³/h	2.4 m³/h	8.5 m³/h	10.7 m³/h	21.3 m³/h	27.4 m³/h	39 m³/h
C value	6 l/sbar	8.8 l/sbar	9.8 l/sbar	39 l/sbar	41 l/sbar	75 l/sbar	82 l/sbar	110 l/sbar
b value	0.3	0.35	0.37	0.5	0.57	0.6	0.67	0.68
Pressure difference	0.05 MPa					0.07 MPa		
Overload pressure	40 bar			35 bar		40 bar		25 bar
Overload pressure	4 MPa			3.5 MPa		4 MPa		2.5 MPa
Overload pressure	580 psi			507.5 psi		580 psi		362.5 psi
Burst pressure	40 bar							
Burst pressure	580 psi							
Material housing	Stainless steel casting, Brass							
Material number housing	1.4581, 2.0402							
Material seals	NBR							
Material plunger tube	High-alloy steel							
Note on materials	RoHS-compliant							
Max. tightening torque for connecting thread	35 Nm	60 Nm	105 Nm	200 Nm	350 Nm	450 Nm	540 Nm	620 Nm
Max. tightening torque for cover screw	20 Nm			30 Nm				
Max. tightening torque for coil fastening	0.5 ... 2 Nm					2 Nm		
LABS (PWIS) conformity	VDMA24364 zone III							

Datasheet

Operating and environmental conditions G thread

Connection Process valve	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Medium	Compressed air to ISO 8573-1:2010 [7:4:4], Inert gases, Water, Neutral fluids							
Ambient temperature ¹⁾	-10 ... 60°C							
Pressure difference	0.5 bar					0.7 bar		
Pressure difference	0.05 MPa					0.07 MPa		
Pressure difference	7.25 psi					10.15 psi		
Medium pressure, valve for liquid media	0.5 ... 6 bar					0.7 ... 6 bar		
Medium pressure, valve for liquid media	0.05 ... 0.6 MPa					0.07 ... 0.6 MPa		
Medium pressure, valve for liquid media	7.25 ... 87 psi					10.15 ... 87 psi		
Medium pressure, valve for gaseous media	0.5 ... 10 bar					0.7 ... 10 bar		
Medium pressure, valve for gaseous media	7.25 ... 145 psi					10.15 ... 145 psi		
Medium pressure, valve for gaseous media	0.05 ... 1 MPa					0.07 ... 1 MPa		
Media temperature	-10 ... 60°C							
Media temperature for fluids	5 ... 50°C							
Max. viscosity	22 mm ² /s							
CE mark (see declaration of conformity)	–			In accordance with EU Pressure Equipment Directive				
UKCA marking (see declaration of conformity)	–			to UK Pressure Equipment Regulations				
Corrosion resistance class CRC ²⁾	1 - Low corrosion stress, 3 - high corrosion stress							

1) Note the ambient temperature of the solenoid coils.

2) Corrosion resistance class CRC 1 to Festo standard FN 940 070. Parts with low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements e.g. in non-visible interior areas, or parts that are covered.

Corrosion resistance class 3 to Festo standard 940 070. Components subject to high corrosion stress. External visible parts in direct contact with a normal industrial environment or media, such as solvents and cleaners, with primarily functional surface requirements.

Valve switching times G thread

Connection Process valve	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Switching time off	10 ms			12 ms		20 ms		21 ms
Switching time on	8 ms			15 ms		26 ms		62 ms
Switch-off time for fluids	200 ... 210 ms	190 ... 210 ms	200 ... 220 ms	930 ... 950 ms	750 ... 950 ms	1,900 ms	2,000 ms	2,800 ms
Switch-on time for fluids	80 ... 100 ms	110 ms		400 ... 420 ms	300 ... 400 ms	1,400 ms		2,100 ms

Electrical data G thread

Connection Process valve	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Electrical connection	Solenoid coil type MD-..., coil can be ordered as an accessory, Solenoid coil type MH-..., coil can be ordered as an accessory					Solenoid coil type MH-..., coil can be ordered as an accessory		

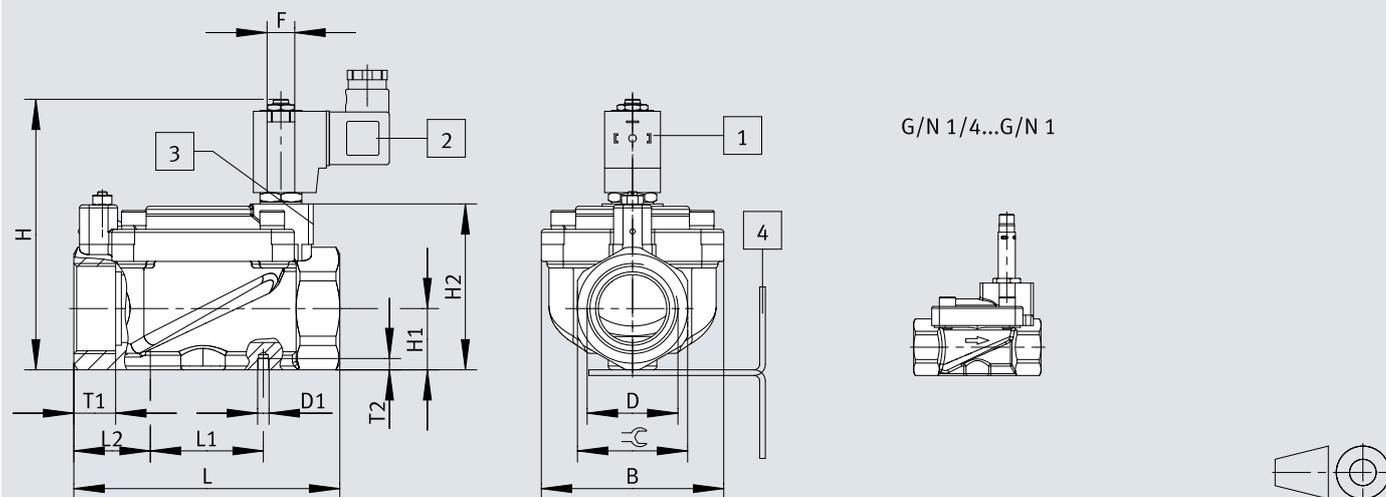
Weight G thread

Connection Process valve	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Product weight	400 ... 500 g	400 ... 480 g	360 ... 450 g	1,200 ... 1,270 g	1,100 ... 1,200 g	2,650 ... 2,850 g	2,400 ... 2,570 g	3,660 ... 3,800 g

Dimensions

Dimensions – 2/2-way valve

Download CAD data www.festo.com

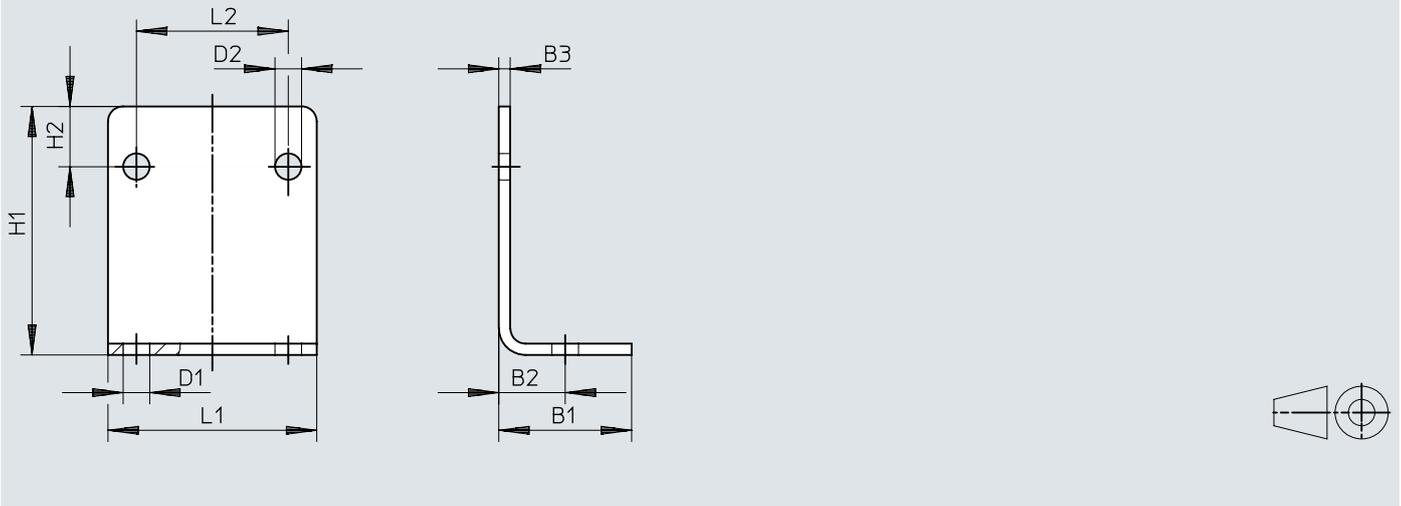


- [1] Connection for plug socket according to DIN EN 17301-803, type A
- [2] Plug socket MSSD-N
- [3] Space for inscription label
- [4] Retaining bracket HRM-...

	B ±1,5	D	D1	H ±2	H1 ±1,5	H2 ±1	L ±2	L1 ±1,5	L2	F	T1	T2 ±0,5	≅
VZWM-...-G14-F4	48	G1/4	M4	85,5	15	49	67	25	21	F4	12	4	27
VZWM-...-G38-F4	48	G3/8	M4	85,5	15	49	67	25	21	F4	12	4	27
VZWM-...-G12-F4	48	G1/2	M4	85	15	49	67	25	21	F4	12	4	27
VZWM-...-G34-F4	70	G3/4	M6	107	24,2	70,5	96	40	28	F4	16	6	41
VZWM-...-G1-F4	70	G1	M6	107	24,2	70,5	96	40	28	F4	16	6	41
VZWM-...-G114-F5	96	G1 1/4	M6	143,5	32,5	88	140	59,5	40,5	F5	22	6	58
VZWM-...-G112-F5	96	G1 1/2	M6	143,5	32,5	88	140	59,5	40,5	F5	22	6	58
VZWM-...-G2-F5	112	G2	M6	159	38,5	103,5	168	59,5	54,5	F5	25	6	70
VZWM-...-G14-F5-R1	44	G1/4	M4	106	15,6	51	67	25	21	F5	–	4	27
VZWM-...-G38-F5-R1	44	G3/8	M4	106	15,6	51	67	25	21	F5	–	4	27
VZWM-...-G12-F5-R1	44	G1/2	M4	106	15,6	51	67	25	21	F5	–	4	27
VZWM-...-G34-F5-R1	70	G3/4	M6	126	24,2	70	96	40	28	F5	–	6	41
VZWM-...-G1-F5-R1	70	G1	M6	126	24,2	70	96	40	28	F5	–	6	41
VZWM-...-G114-F5-R1	96	G1 1/4	M6	145	34	89,5	140	59,5	40,5	F5	–	6	58
VZWM-...-G112-F5-R1	96	G1 1/2	M6	145	34	89,5	140	59,5	40,5	F5	–	6	58
VZWM-...-G2-F5-R1	112	G2	M6	159	38,5	104	168	59,5	54,5	F5	–	6	70

Dimensions

Dimensions – Mounting bracket HRM

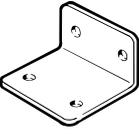
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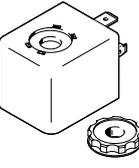
	B1	B2	B3	D1 ∅	D2 ∅	H1	H2	L1	L2 ±0,1
HRM-1	25	12,5	2	6	5	37	10	40	25
HRM-2	35	17,5	3	7	7	66	16	55	40
HRM-3	47	23,5	3	9	7	87	23	75	59,5

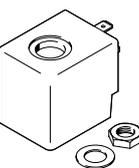
Ordering data

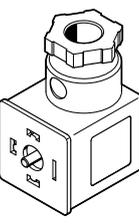
Ordering data					
	Connection Process valve	Nominal size	Electrical connection	Part no.	Type
	G1/4	13 mm	Solenoid coil type MH-... , coil can be ordered as an accessory	546162	VZWM-L-M22C-G14-F5-R1
		13.5 mm	Solenoid coil type MD-... , coil can be ordered as an accessory	546146	VZWM-L-M22C-G14-F4
	G3/8	13 mm	Solenoid coil type MH-... , coil can be ordered as an accessory	546163	VZWM-L-M22C-G38-F5-R1
		13.5 mm	Solenoid coil type MD-... , coil can be ordered as an accessory	546147	VZWM-L-M22C-G38-F4
	G1/2	13 mm	Solenoid coil type MH-... , coil can be ordered as an accessory	546164	VZWM-L-M22C-G12-F5-R1
		13.5 mm	Solenoid coil type MD-... , coil can be ordered as an accessory	546148	VZWM-L-M22C-G12-F4
	G3/4	25 mm	Solenoid coil type MH-... , coil can be ordered as an accessory	546165	VZWM-L-M22C-G34-F5-R1
		27.5 mm	Solenoid coil type MD-... , coil can be ordered as an accessory	546149	VZWM-L-M22C-G34-F4
	G1	25 mm	Solenoid coil type MH-... , coil can be ordered as an accessory	546166	VZWM-L-M22C-G1-F5-R1
		27.5 mm	Solenoid coil type MD-... , coil can be ordered as an accessory	546150	VZWM-L-M22C-G1-F4
	G1 1/4	40 mm	Solenoid coil type MH-... , coil can be ordered as an accessory	546151	VZWM-L-M22C-G114-F5
				546167	VZWM-L-M22C-G114-F5-R1
	G1 1/2			546152	VZWM-L-M22C-G112-F5
				546168	VZWM-L-M22C-G112-F5-R1
	G2	50 mm		546169	VZWM-L-M22C-G2-F5-R1
				546153	VZWM-L-M22C-G2-F5

Accessories

Mounting bracket HRM			
	Product weight	Part no.	Type
	39 g	9769	HRM-1
	130 g	9770	HRM-2
	246 g	9771	HRM-3

Solenoid coil for VZWM- ... -F4- ...				
	Ambient temperature	Product weight	Part no.	Type
	-20 ... 50 °C	110 g	549905	MD-2-230VAC-PA
			549903	MD-2-24VDC-PA
			549904	MD-2-110VAC-PA

Solenoid coil for VZWM- ... -F5- ...				
	Ambient temperature	Product weight	Part no.	Type
	-20 ... 50 °C	150 g	549906	MH-2-24VDC-PA
			549908	MH-2-230VAC-PA
			549907	MH-2-110VAC-PA

Plug socket			
	Description	Part no.	Type
	3-pin, square design, plug pattern according to EN 175301-803 form A	550067	MSSD-N