

Solenoid valves VZWM-L

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Solenoid valves VZWM-L

Key features and type codes

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Brief description

- Indirectly controlled diaphragm valve
- Connection, valve
G $\frac{1}{4}$... G2
- Flow rate
1,400 ... 31,000 l/min
- Available in brass or special steel casting
- Varied range of coils

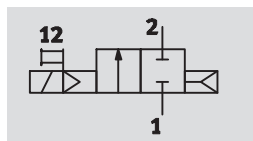
VZWM – L – M22C – G14 – F4 –	
Type	
VZWM	Solenoid valve, process directional control valve
Design	
L	In-line valve
Valve function	
M22C	2/2-way valve, normally closed
Connection, valve	
G14	G $\frac{1}{4}$
G38	G $\frac{3}{8}$
G12	G $\frac{1}{2}$
G34	G $\frac{3}{4}$
G1	G1
G114	G1 $\frac{1}{4}$
G112	G1 $\frac{1}{2}$
G2	G2
Electrical connection	
F4	For solenoid armature tube, system 8
F5	For solenoid armature tube, system 13
Housing material	
R1	Special steel casting
	Brass

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Technical data

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Function



-  - Flow rate
1,400 ... 31,000 l/min

-  - Voltage
24 V DC
110/230 V AC



General technical data									
Connection, valve		G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Nominal size DN		[mm]	13.5	13.5	13.5	27.5	27.5	40	50
Valve function		2/2, single solenoid							
Constructional design		Diaphragm valve							
Sealing principle		Soft							
Actuation type		Electrical							
Reset method		Pneumatic spring							
Control type		Piloted							
Direction of flow		Non-reversible							
Exhaust function		No flow control							
Manual override		None							
Type of mounting		In-line installation							
Mounting position		Preferably vertical							
Standard nominal flow rate		[l/min]	1,400	2,100	2,400	10,000	11,700	24,000	31,000
Flow rate Kv		[m³/h]	1.6	2	2.4	8.5	10.7	21.3	39
C value		[l/sbar]	6	8.8	9.8	39	41	75	110
b value			0.3	0.35	0.37	0.5	0.57	0.6	0.67
Differential pressure		[bar]	0.5	0.5	0.5	0.5	0.7	0.7	0.7
Product weight	Brass housing	[g]	500	480	450	1,270	1,200	2,850	3,800
	Special steel casting housing	[g]	400	400	330	1,200	1,100	2,650	3,660
Materials	Housing	Brass or special steel casting							
	Diaphragm	Nitrile rubber							
	Plunger tube	High-alloy steel							
Note on materials		Contains paint wetting impairment substances							
Max. tightening torque	Connecting thread	[Nm]	35	60	105	200	350	450	620
	Cover screw	[Nm]	20	20	20	30	30	30	30
	Coil mounting	[Nm]	2	2	2	2	2	2	2

Operating and environmental conditions										
Connection, valve			G¼	G⅜	G½	G¾	G1	G1¼	G1½	G2
Operating medium			Filtered compressed air, lubricated, grade of filtration 50 µm, neutral gases, water, neutral fluids							
Operating pressure, valve	Gases	[bar]	0.5 ... 10					0.7 ... 10		
	Fluids	[bar]	0.5 ... 6					0.7 ... 10		
Ambient temperature		[°C]	−10 ... +60							
Temperature of medium	Gases	[°C]	−10 ... +60							
	Fluids	[°C]	5 ... 50							
Max. viscosity		[mm²/s]	22							
Corrosion resistance class CRC ¹⁾	Brass		1							
	Special steel casting		3							

1) Corrosion resistance class 1 to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Corrosion resistance class 3 to Festo standard 940 070

Components with heavy corrosion exposure. Externally visible components in direct contact with normal industrial atmosphere or media such as solvents and cleaning agents, where the surface requirement is predominantly functional.

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Technical data

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Valve response times										
Connection, valve			G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Gases										
Response time	off	[ms]	10	10	10	12	12	20	20	21
	on	[ms]	8	8	8	15	15	26	26	62
Fluids										
Response time	off	[ms]	200	210	220	930	930	1,900	2,000	2,800
	on	[ms]	100	110	110	400	400	1,400	1,400	2,100
Response time, variant R1	off	[ms]	210	190	200	950	950	1,900	2,000	2,800
	on	[ms]	80	110	110	420	300	1,400	1,400	2,100

Electrical data										
			G1/4	G3/8	G1/2	G3/4	G1	G1¼	G1½	G2
Electrical connection			Solenoid armature tube, system 8 (order separately)						Solenoid armature tube, system 13 (order separately)	
Operating voltage	DC voltage	[V DC]	24							
	AC voltage	[V AC]	110/230 (50 ... 60 Hz)							
Coil characteristics	DC voltage	[W]	6.8						7.6	
	AC voltage	[VA]	Pull: 14.5 Hold: 10.5						14	
Protection class to EN 60529			IP65 (with plug socket)							

Weights [g]										
Brass housing					Special steel casting housing					
VZWM-...-G14-F4	500				VZWM-...-G14-F5-R1	400				
VZWM-...-G38-F4	480				VZWM-...-G38-F5-R1	400				
VZWM-...-G12-F4	450				VZWM-...-G12-F5-R1	360				
VZWM-...-G34-F4	1,270				VZWM-...-G34-F5-R1	1,200				
VZWM-...-G1-F4	1,200				VZWM-...-G1-F5-R1	1,100				
VZWM-...-G114-F5	2,850				VZWM-...-G114-F5-R1	2,650				
VZWM-...-G112-F5	2,570				VZWM-...-G112-F5-R1	2,400				
VZWM-...-G2-F5	3,800				VZWM-...-G2-F5-R1	3,660				

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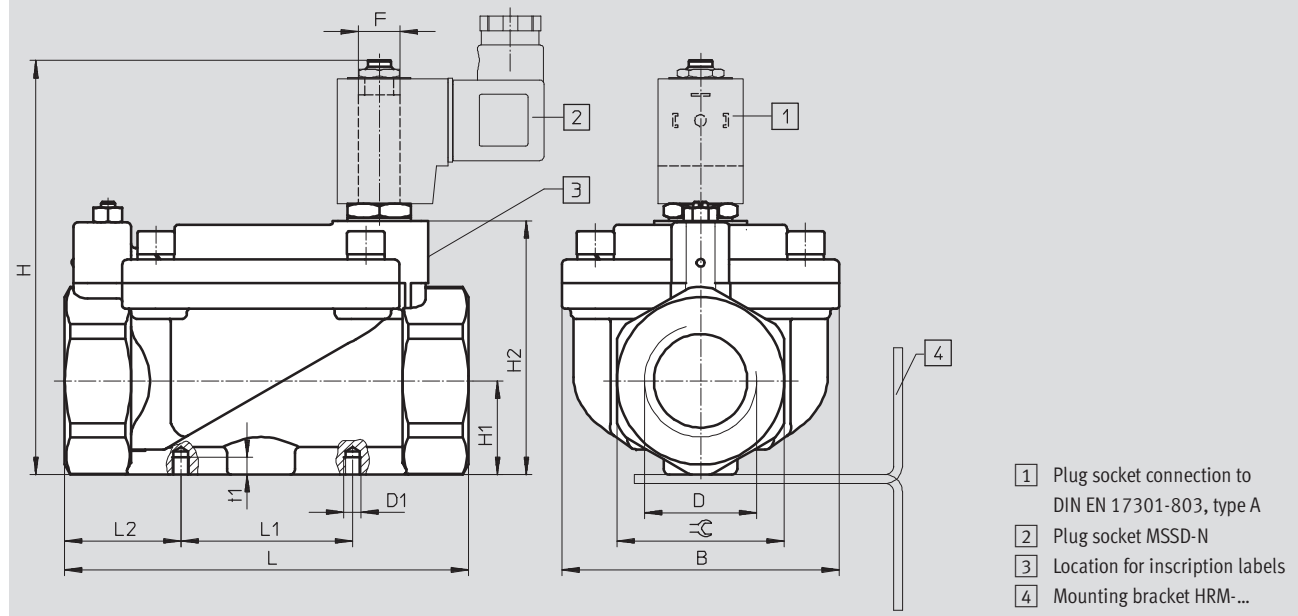
Technical data

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Dimensions

Download CAD data → www.festo.com

2/2-way valve



Type	B ±1.5	D	D1	H ±2	H1 ±1.5	H2 ±1	L ±2	L1 ±1.5	L2	F	t1 ±1.5	∅
VZWM-...-G14-F4	48	G1/4	M4	85.5	15	49	67	25	21	F4	4	27
VZWM-...-G38-F4	48	G3/8	M4	85.5	15	49	67	25	21	F4	4	27
VZWM-...-G12-F4	48	G1/2	M4	85	15	49	67	25	21	F4	4	27
VZWM-...-G34-F4	70	G3/4	M6	107	24.2	70.5	96	40	28	F4	6	41
VZWM-...-G1-F4	70	G1	M6	107	24.2	70.5	96	40	28	F4	6	41
VZWM-...-G114-F5	96	G1 1/4	M6	143.5	32.5	88	140	59.5	40.25	F5	6	58
VZWM-...-G112-F5	96	G1 1/2	M6	143.5	32.5	88	140	59.5	40.25	F5	6	58
VZWM-...-G2-F5	112	G2	M6	159	38.5	103.5	168	59.5	54.25	F5	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	40.25	F5	6	58
VZWM-...-G112-F5-R1	96	G1 1/2	M6	145	34	89.5	140	59.5	40.25	F5	6	58
VZWM-...-G2-F5-R1	112	G2	M6	159	38.5	104	168	59.5	54.25	F5	6	70

Ordering data

Connection, valve	Brass housing		Special steel casting housing	
	Part No.	Type	Part No.	Type
G1/4	546 146	VZWM-L-M22C-G14-F4	546162	VZWM-L-M22C-G14-F5-R1
G3/8	546 147	VZWM-L-M22C-G38-F4	546163	VZWM-L-M22C-G38-F5-R1
G1/2	546 148	VZWM-L-M22C-G12-F4	546164	VZWM-L-M22C-G12-F5-R1
G3/4	546 149	VZWM-L-M22C-G34-F4	546165	VZWM-L-M22C-G34-F5-R1
G1	546 150	VZWM-L-M22C-G1-F4	546166	VZWM-L-M22C-G1-F5-R1
G1 1/4	546 151	VZWM-L-M22C-G114-F5	546167	VZWM-L-M22C-G114-F5-R1
G1 1/2	546 152	VZWM-L-M22C-G112-F5	546168	VZWM-L-M22C-G112-F5-R1
G2	546 153	VZWM-L-M22C-G2-F5	546169	VZWM-L-M22C-G2-F5-R1

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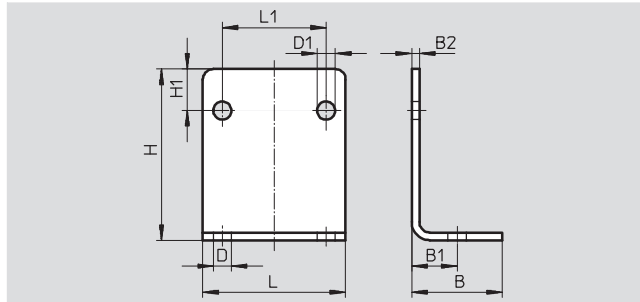
Accessories

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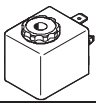
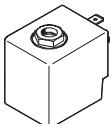
Mounting bracket HRM

Material:

Galvanised steel



Dimensions and ordering data											Part No.	Type
B	B1	B2	D Ø	D1 Ø	H	H1	L	L1	Weight [g]			
25	12.5	2	6	5	37	10	40	25	39		9 769	HRM-1
35	17.5	3	7	7	66	16	55	40	130		9 770	HRM-2
47	23.5	3	9	7	87	23	75	59.5	246		9 771	HRM-3

Ordering data – Solenoid coils				Technical data → Internet: md, mh	
	Voltage	Part No.	Type		
MD					
	24 V DC	549 903	MD-2-24VDC-PA		
	110 V AC, 50 ... 60 Hz	549 904	MD-2-110VAC-PA		
	230 V AC, 50 ... 60 Hz	549 905	MD-2-230VAC-PA		
MH					
	24 V DC	549 906	MH-2-24VDC-PA		
	110 V AC, 50 ... 60 Hz	549 907	MH-2-110VAC-PA		
	230 V AC, 50 ... 60 Hz	549 908	MH-2-230VAC-PA		

Ordering data – Plug socket			Technical data → Internet: mssd	
		Part No.	Type	
	3-pin, square design MSF	550 067	MSSD-N	