

Solenoid valves VZWM-L

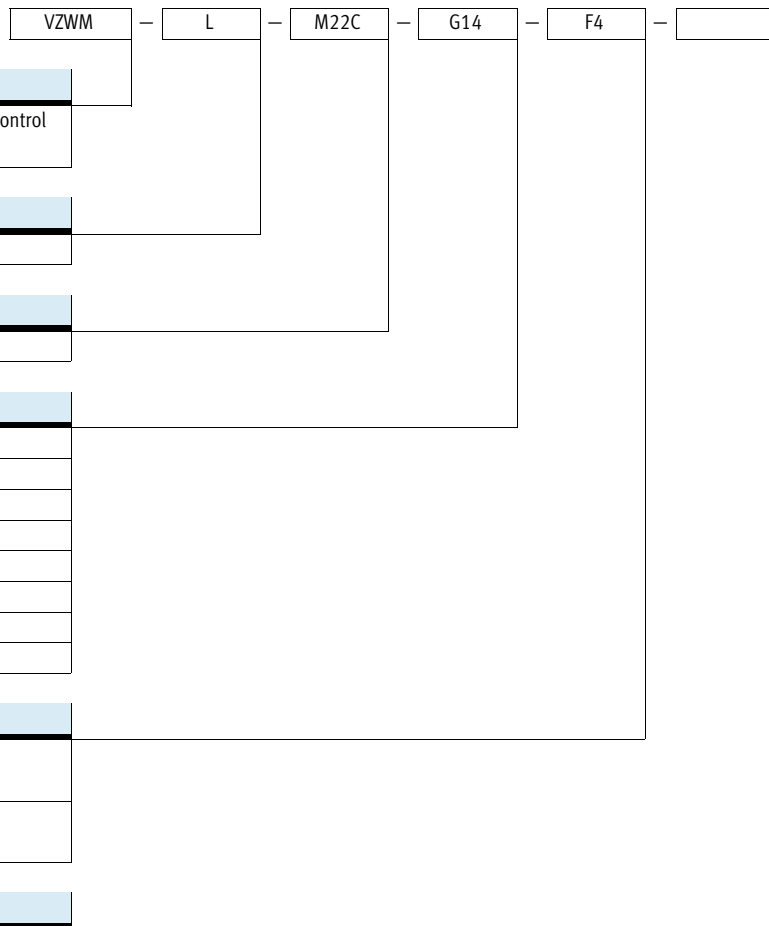


# Solenoid valves VZWM-L

Key features and type codes

## Brief description

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



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	With armature tube for solenoid coil MD-2- ... -PA
F5	With armature tube for solenoid coil MH-2- ... -PA

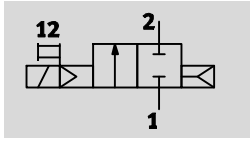
Housing material	
R1	Stainless steel casting
	Brass


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
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Technical data

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 (housing: brass)		[mm]	13.5	13.5	13.5	27.5	27.5	40	40	50	
Nominal size DN (housing: stainless steel casting)		[mm]	13	13	13	25	25	40	40	50	
Valve function			2/2, single solenoid								
Constructional design			Poppet valve with diaphragm control								
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	26,400	31,000	
Flow rate Kv		[m <sup>3</sup> /h]	1.6	2	2.4	8.5	10.7	21.3	27.4	39	
C value		[l/sbar]	6	8.8	9.8	39	41	75	82	110	
b value			0.3	0.35	0.37	0.5	0.57	0.6	0.67	0.68	
Differential pressure		[bar]	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7	
Product weight		Brass housing	[g]	500	480	450	1,270	1,200	2,850	2,570	3,800
		Stainless steel casting housing	[g]	400	400	330	1,200	1,100	2,650	2,400	3,660
Materials		Housing		Brass or stainless steel casting							
		Diaphragm		NBR							
		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	540	620
		Cover screw	[Nm]	20	20	20	30	30	30	30	30
		Coil mounting	[Nm]	2	2	2	2	2	2	2	2

# Solenoid valves VZWM-L



Technical data

Operating and environmental conditions			G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	
Connection, valve											
Operating medium			Compressed air in accordance with ISO 8573-1:2010 [7:4:4]								
			Neutral liquids								
			Inert gases								
			Water								
Ambient temperature <sup>1)</sup>		[°C]	-10 ... +60								
Operating pressure, valve	Gases	[bar]	0.5 ... 10					0.7 ... 10			
	Fluids	[bar]	0.5 ... 6					0.7 ... 6			
Medium pressure	Gases	[bar]	0.5 ... 10					0.7 ... 10			
	Fluids	[bar]	0.5 ... 6					0.7 ... 6			
Temperature of medium	Gases	[°C]	-10 ... +60								
	Fluids	[°C]	5 ... 50								
Max. viscosity		[mm <sup>2</sup> /s]	22								
CE mark (see declaration of conformity)			To EU Pressure Equipment Directive								
Corrosion resistance class CRC <sup>2)</sup>	Brass		1								
	Stainless steel casting		3								

1) Note ambient temperature of solenoid coils

2) 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.

Valve response times			G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Connection, valve										
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	G1 1/4	G1 1/2	G2	
Electrical connection			With armature tube for solenoid coil MD-2- ... -PA, order separately					With armature tube for solenoid coil MH-2- ... -PA, 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						7.9		
	AC voltage	[VA]	Pull: 14.5 Hold: 10.5						14		
Protection class to EN 60529			IP65 (with plug socket)								

# Solenoid valves VZWM-L

Technical data

Weights [g]			
Brass housing		Stainless 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

# Solenoid valves VZWM-L

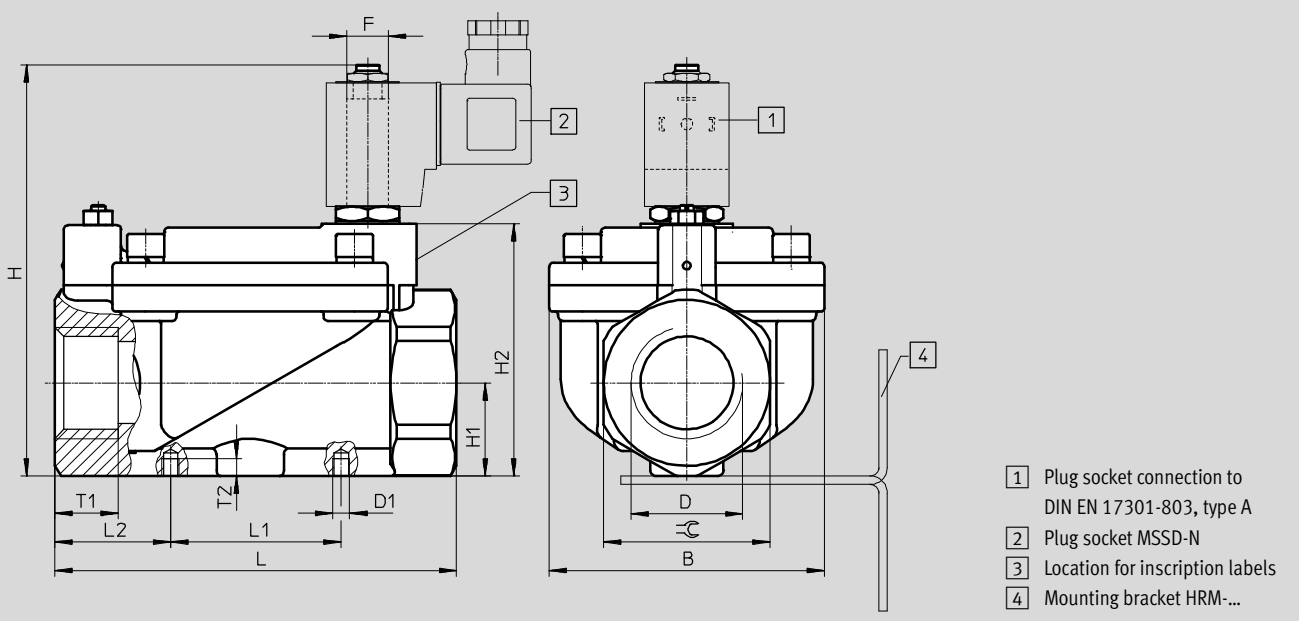
Technical data

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## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

2/2-way valve



- 1 Plug socket connection to DIN EN 17301-803, type A
- 2 Plug socket MSSD-N
- 3 Location for inscription labels
- 4 Mounting bracket HRM-...

Type	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	40.25	F5	22	6	58
VZWM-...-G112-F5	96	G1 1/2	M6	143.5	32.5	88	140	59.5	40.25	F5	22	6	58
VZWM-...-G2-F5	112	G2	M6	159	38.5	103.5	168	59.5	54.25	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	40.25	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

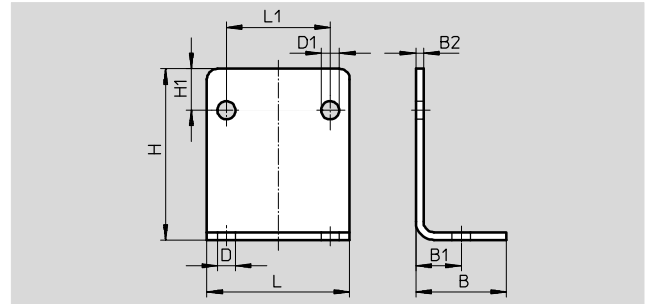
Connection, valve	Brass housing		Stainless steel casting housing	
	Part No.	Type	Part No.	Type
G1/4	546 146	VZWM-L-M22C-G14-F4	546162	VZWM-L-M22C-G14-F5-R1
G3/8	546 147	VZWM-L-M22C-G38-F4	546163	VZWM-L-M22C-G38-F5-R1
G1/2	546 148	VZWM-L-M22C-G12-F4	546164	VZWM-L-M22C-G12-F5-R1
G3/4	546 149	VZWM-L-M22C-G34-F4	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

## Mounting bracket HRM

Material:  
Galvanised steel



Dimensions and ordering data											
B	B1	B2	D	D1	H	H1	L	L1	Weight [g]	Part No.	Type
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		
Solenoid coil for VZWM- ... -F4- ... <sup>1)</sup>					
	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		
Solenoid coil for VZWM- ... -F5- ... <sup>1)</sup>					
	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		

1) Ambient temperature -20 ... +50 °C

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