

Solenoid valves VZWM-L

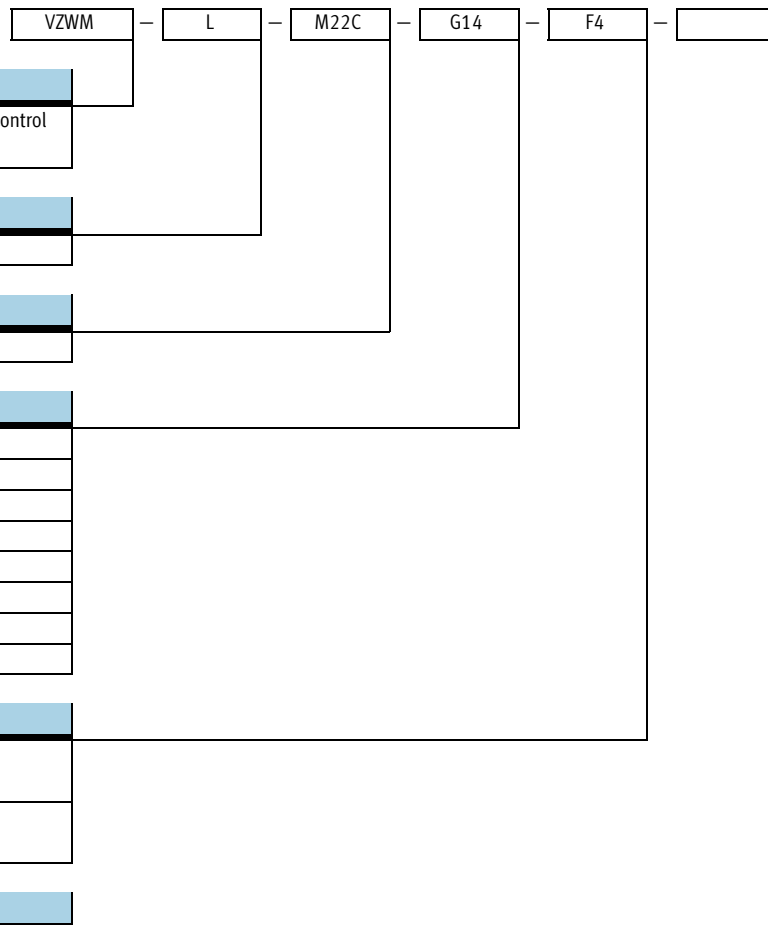


# Solenoid valves VZWM-L

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

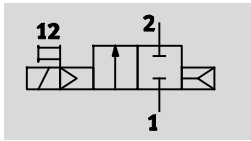
Electrical connection	
F4	With armature tube for solenoid coil MD-2- ... -PA (system 8)
F5	With armature tube for solenoid coil MH-2- ... -PA (system 13)


Housing material	
R1	Stainless steel casting
	Brass


# Solenoid valves VZWM-L

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										
Connection, valve			G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Operating medium			Compressed air in accordance with ISO 8573-1:2010 [7:4:4]							
			Neutral liquids							
			Inert gases							
			Water							
Note on operating/pilot medium			Operation with lubricated medium required							
Operating pressure, valve			Gases [bar]		0.5 ... 10			0.7 ... 10		
			Fluids [bar]		0.5 ... 6			0.7 ... 6		
Ambient temperature <sup>1)</sup>			[°C]		-10 ... +60					
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												
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											
Connection, valve			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 (system 8), order separately					With armature tube for solenoid coil MH-2- ... -PA (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				7.9		
			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

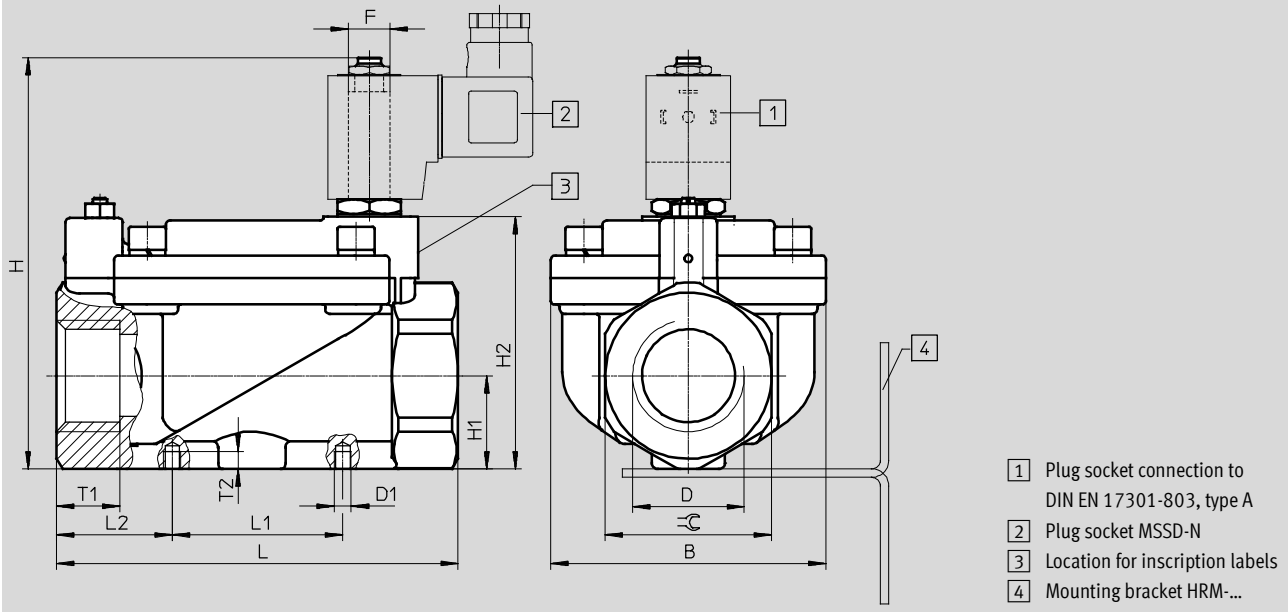
Technical data

FESTO

## 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	∅C
VZWM-...-G14-F4	48	G¼	M4	85.5	15	49	67	25	21	F4	12	4	27
VZWM-...-G38-F4	48	G⅜	M4	85.5	15	49	67	25	21	F4	12	4	27
VZWM-...-G12-F4	48	G½	M4	85	15	49	67	25	21	F4	12	4	27
VZWM-...-G34-F4	70	G¾	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	G1¼	M6	143.5	32.5	88	140	59.5	40.25	F5	22	6	58
VZWM-...-G112-F5	96	G1½	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	G¼	M4	106	15.6	51	67	25	21	F5	-	4	27
VZWM-...-G38-F5-R1	44	G⅜	M4	106	15.6	51	67	25	21	F5	-	4	27
VZWM-...-G12-F5-R1	44	G½	M4	106	15.6	51	67	25	21	F5	-	4	27
VZWM-...-G34-F5-R1	70	G¾	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	G1¼	M6	145	34	89.5	140	59.5	40.25	F5	-	6	58
VZWM-...-G112-F5-R1	96	G1½	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

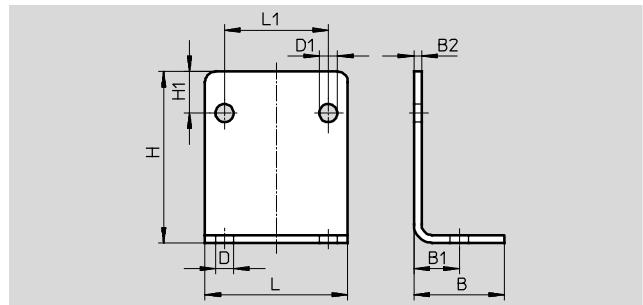
Connection, valve	Brass housing		Stainless steel casting housing	
	Part No.	Type	Part No.	Type
G¼	546 146	VZWM-L-M22C-G14-F4	546162	VZWM-L-M22C-G14-F5-R1
G⅜	546 147	VZWM-L-M22C-G38-F4	546163	VZWM-L-M22C-G38-F5-R1
G½	546 148	VZWM-L-M22C-G12-F4	546164	VZWM-L-M22C-G12-F5-R1
G¾	546 149	VZWM-L-M22C-G34-F4	546165	VZWM-L-M22C-G34-F5-R1
G1	546 150	VZWM-L-M22C-G1-F4	546166	VZWM-L-M22C-G1-F5-R1
G1¼	546 151	VZWM-L-M22C-G114-F5	546167	VZWM-L-M22C-G114-F5-R1
G1½	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

# Solenoid valves VZWM-L

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- ... (system 8) <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- ... (system 13) <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	