

Solenoid valves VZWM-L

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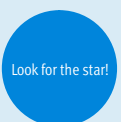


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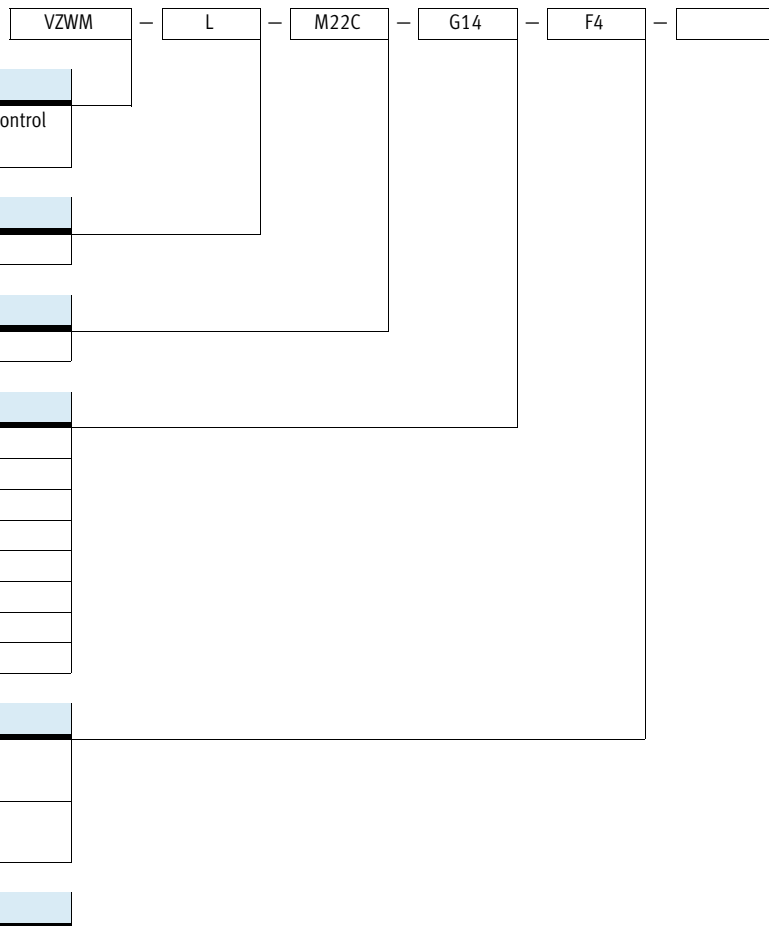


Solenoid valves VZWM-L

Key features and type codes

Brief description

- Indirectly controlled poppet valve with diaphragm control
- Connection, valve G $\frac{1}{4}$... G2
- Flow rate 1400 ... 31000 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

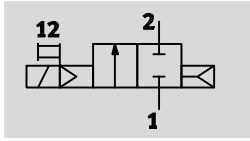
Electrical connection	
F4	With armature tube for solenoid coil MD-2- ... -PA
F5	With armature tube for solenoid coil MH-2- ... -PA


Housing material	
R1	Stainless steel casting
	Brass


Solenoid valves VZWM-L

Technical data

Function



-  - Flow rate
1400 ... 31000 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]	1400	2100	2400	10000	11700	24000	26400	31000	
Flow rate Kv	[m³/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	
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	
Medium			Compressed air in accordance with ISO 8573-1:2010 [7:4:4]								
			Neutral liquids								
			Inert gases								
			Water								
Ambient temperature ¹⁾		[°C]	-10 ... +60								
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 ² /s]	22								
CE mark (see declaration of conformity)			To EU Pressure Equipment Directive								
Corrosion resistance class CRC ²⁾		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	1900	2000	2800
		on	[ms]	100	110	110	400	400	1400	1400	2100
Response time, variant R1		off	[ms]	210	190	200	950	950	1900	2000	2800
		on	[ms]	80	110	110	420	300	1400	1400	2100

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, 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	1270	VZWM-...-G34-F5-R1	1200
VZWM-...-G1-F4	1200	VZWM-...-G1-F5-R1	1100
VZWM-...-G114-F5	2850	VZWM-...-G114-F5-R1	2650
VZWM-...-G112-F5	2570	VZWM-...-G112-F5-R1	2400
VZWM-...-G2-F5	3800	VZWM-...-G2-F5-R1	3660

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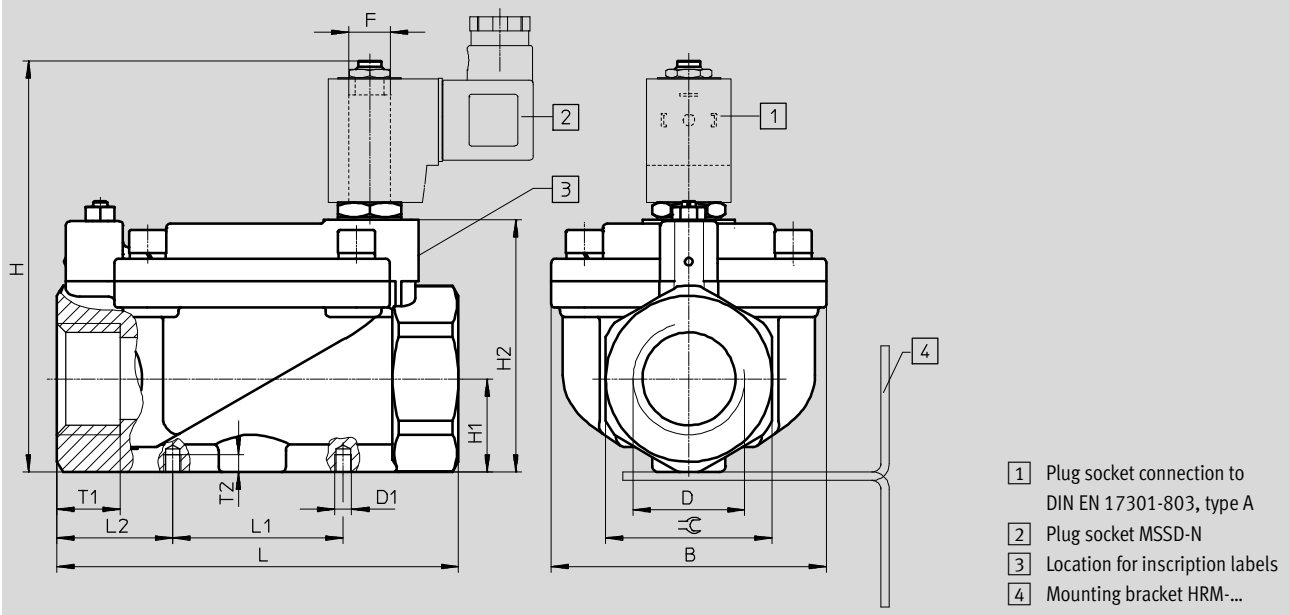
Technical data

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Dimensions

Download CAD data → 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

Solenoid valves VZWM-L

Technical data

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★ Core product range

Ordering data		
Connection, valve	Brass housing	
	Part No.	Type
G $\frac{1}{4}$	★ 546146	VZWM-L-M22C-G14-F4
G $\frac{3}{8}$	★ 546147	VZWM-L-M22C-G38-F4
G $\frac{1}{2}$	★ 546148	VZWM-L-M22C-G12-F4
G $\frac{3}{4}$	★ 546149	VZWM-L-M22C-G34-F4
G1	★ 546150	VZWM-L-M22C-G1-F4

Ordering data		
Connection, valve	Part No.	
	Type	
Brass housing		
G1 $\frac{1}{4}$	546151	VZWM-L-M22C-G114-F5
G1 $\frac{1}{2}$	546152	VZWM-L-M22C-G112-F5
G2	546153	VZWM-L-M22C-G2-F5
Stainless steel casting housing		
G $\frac{1}{4}$	546162	VZWM-L-M22C-G14-F5-R1
G $\frac{3}{8}$	546163	VZWM-L-M22C-G38-F5-R1
G $\frac{1}{2}$	546164	VZWM-L-M22C-G12-F5-R1
G $\frac{3}{4}$	546165	VZWM-L-M22C-G34-F5-R1
G1	546166	VZWM-L-M22C-G1-F5-R1
G1 $\frac{1}{4}$	546167	VZWM-L-M22C-G114-F5-R1
G1 $\frac{1}{2}$	546168	VZWM-L-M22C-G112-F5-R1
G2	546169	VZWM-L-M22C-G2-F5-R1

Festo core product range

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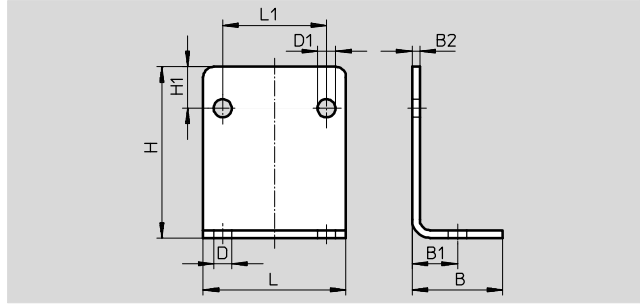
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Accessories

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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	9769	HRM-1
35	17.5	3	7	7	66	16	55	40	130	9770	HRM-2
47	23.5	3	9	7	87	23	75	59.5	246	9771	HRM-3

Ordering data – Solenoid coils		Technical data → Internet: solenoid coil	
Voltage		Part No.	Type
Solenoid coil for VZWM- ... -F4- ... ¹⁾			
	24 V DC	★ 549903	MD-2-24VDC-PA
	110 V AC, 50 ... 60 Hz	549904	MD-2-110VAC-PA
	230 V AC, 50 ... 60 Hz	549905	MD-2-230VAC-PA
Solenoid coil for VZWM- ... -F5- ... ¹⁾			
	24 V DC	549906	MH-2-24VDC-PA
	110 V AC, 50 ... 60 Hz	549907	MH-2-110VAC-PA
	230 V AC, 50 ... 60 Hz	549908	MH-2-230VAC-PA

1) Ambient temperature –20 ... +50 °C

Ordering data – Plug socket		Technical data → Internet: mssd-n	
		Part No.	Type
	3-pin, square design, connection pattern to EN 175301-803, type A	★ 550067	MSSD-N

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