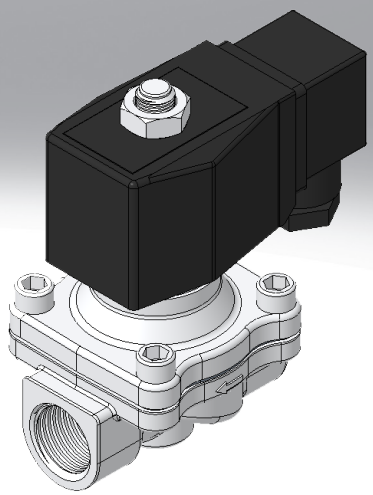
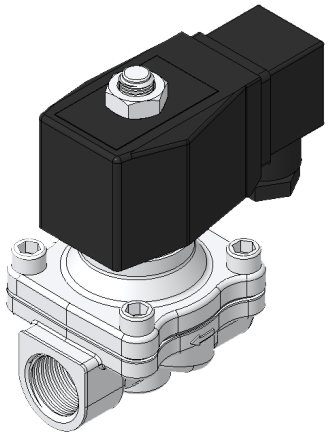
Solenoid valve VZWL-F series



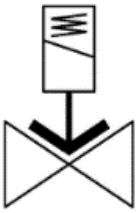
Picture of product

Key features:
- Pipe connection: G1/4, G3/8, G1/2, G1, G1 1/4, G1 1/2, G2
- Sealing material: NBR, EPDM, VITON
- Operating voltage: 24V DC, 220V AC/50Hz



The solenoid valve VZWL-F-M22C-... is a forced 2/2-way valve with solenoid coil. The solenoid valve VZWL-F-M22C-... is closed in the de-energized state (Normally Closed - NC).
The membrane of the valve is coupled with the magnetic core of the coil, this allows the forced solenoid valve to switch between input and output without pressure difference.
When there is no pressure difference between the inlet and outlet, after being energized, the electromagnetic force directly opens the pilot control hole and the main valve diaphragm upwards in sequence; When the inlet and outlet reach the operating pressure difference, after being energized, the electromagnetic force first opens the pilot control hole, causing the pressure in the lower chamber of the main valve to increase and the pressure in the upper chamber to decrease, thereby using the pressure difference to push the main valve diaphragm upwards. When the pressure difference is low, the opening and flow rate of the valve will also decrease accordingly. when the power supply is cut off, the pilot control hole is closed by spring force, the supply pressure affects the membrane and supports the sealing of the membrane on the valve seat.

- Forced lifting of the valve diaphragm
- G¼" to G2" connection thread
- Version in sealing material NBR, EPDM or VITON
- Operating voltage 24V DC, 220V AC/50Hz
- Version in brass or stainless steel
- Incl. magnetic coil and socket according to DIN EN 175301-803 Form A
- Valve symbol 00992976



Type designation and variants

VZWL - F - M22C - G1 - [ ] - 1 - 10 - [ ] - CS

Code designation		
Product family	[VZW]	Solenoid valves
	[L]	L series
Operating principle	F	Force pilot operated
	D	Directly actuated
	P	Servo-controlled
Valve function	M22C	2/2-way valve, normally closed
Valve connection	G14	Thread G 1/4”
	G38	Thread G 3/8”
	G12	Thread G 1/2”
	G34	Thread G 3/4”
	G1	Thread G 1”
	G114	Thread G1 1/4”
	G112	Thread G1 1/2”
	G2	Thread G2”
Sealing material	/	NBR
	E	EPDM
	V	VITON
Nominal operating voltage	1	24 V DC
	3A	220 V AC/50 Hz
Pressure of medium [MPa]	6	0...0,6MPa
	10	0...1,0MPa
Corrosion protection	/	Cast brass
	R1	Cast stainless steel
Customized product	CS	Customized product

Data sheet

General technical data

General technical data								
Valve body connection	**G1/4**	**G3/8**	**G1/2**	**G3/4**	**G1**	**G1 1/4**	**G1 1/2**	**G2**
Pipe connection	G1/4	G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2
Nominal width DN [mm]								
Cast stainless steel	10	13	16	19	25	32	40	50
Cast brass	10	15	16	20	25	32	40	50
Cv foctor								
Cast stainless steel	0.7	3.6	5.8	6.8	12.6	15.2	25.9	37.0
Cast brass	0.7	3.2	4.8	7.7	12.2	14.6	24.1	33.2
Max. viscosity [mm2/s]	20							
Valve function	2/2-way, single solenoid, closed							
Design	Diaphragm valve, force pilot operated							
Type of mounting	In-line installation							
Actuation type	Electrical							
Manual override	None							
Mounting direction[1)]	Valve installed horizontally, with the coil facing vertically upwards[1)]							
Sealing principle	Soft							
Flow direction	Not reversible							
Degree of protection	IP65							
Product weight [kg]								
Cast stainless steel, DC24V	0.48	0.83	0.79	0.86	1.55	2.55	2.67	4.52
Cast stainless steel, AC220V	0.41	0.81	0.77	0.84	1.54	2.61	2.73	4.58
Cast brass, DC24V	0.50	0.86	0.84	0.92	1.65	2.34	2.61	3.76
Cast brass, AC220V	0.43	0.84	0.82	0.90	1.64	2.40	2.67	3.82

1) Incorrect installation orientation can affect valve function and lifetime.

Operating and environmental conditions

Operating and environmental conditions								
Valve body connection	**G1/4**	**G3/8**	**G1/2**	**G3/4**	**G1**	**G1 1/4**	**G1 1/2**	**G2**
Ambient temperature [2)] [°C]	-10 ... +50 [2)]							
Medium temperature [2)] [°C]	-10 ... +70 [2)]							
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]							
	Inert gases							
	Water							
	Neutral liquids							
	Other flow media on request							
Medium pressure [3)] [MPa]								
24V DC	0...0,6 [3)]							
220V AC	0...1,0 [3)]							
Overload pressure [MPa]								
24V DC	0,9							
220V AC	1,5							
Leak rate to JB/T 7352-2010 [4)]	B [4)]							

2) During use, please avoid combinations of 2 or more of the following conditions: exceeding 1% of the rated voltage, high ambient temperature, high medium temperature, and continuous power on.
3) When the pressure difference is low, the opening and flow rate of the valve will also decrease accordingly.
4) The valve may have higher leakage between port1 and port2 at low temperature and high temperature condition.

Materials

Materials		
Housing	Cast brass	HPb 59-1A
	Cast stainless steel	SUS 304
Screws	Stainless steel	-
Seals	NBR	-
	VITON	-
	EPDM	-
Note on materials	VDMA24364-Zone III	
	RoHS-compliant	

Electrical and coil data

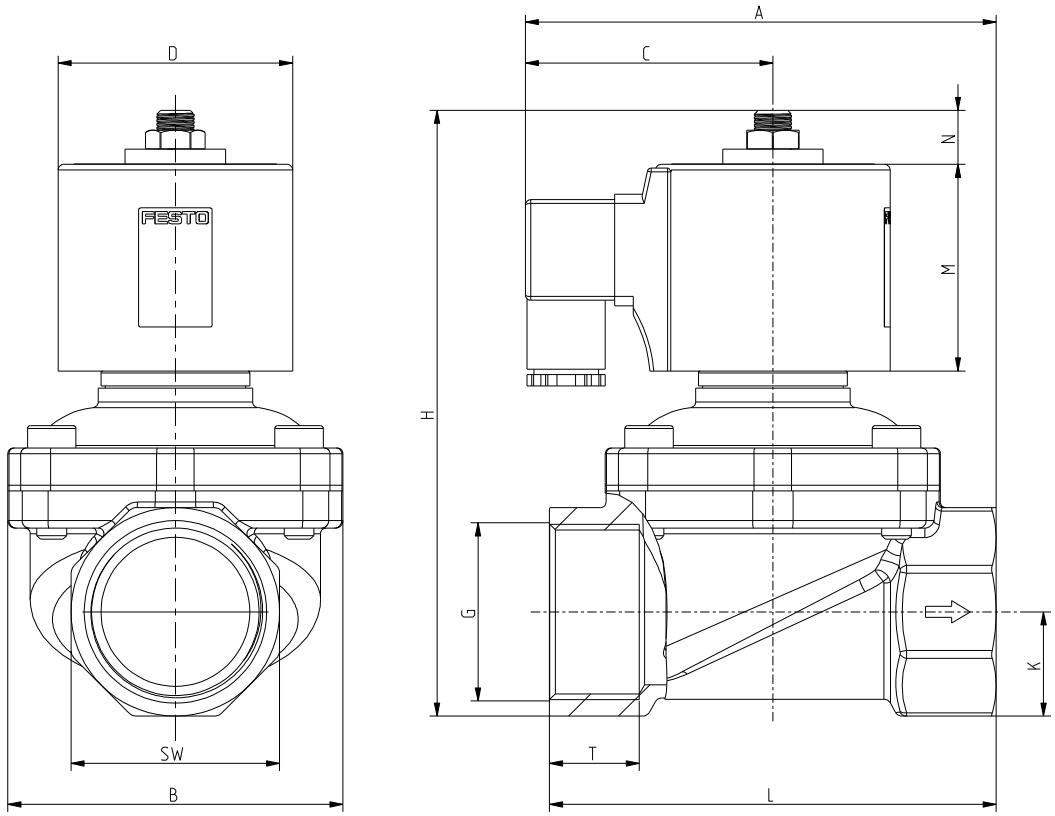
Electrical data VZWL-F-...-1-...								
Valve body connection	**G1/4**	**G3/8**	**G1/2**	**G3/4**	**G1**	**G1 1/4**	**G1 1/2**	**G2**
Electrical connection	Plug to EN 175301-803 type A, square design							
Characteristic coil data								
Direct current DC [V]	24							
Permissible voltage fluctuations [%]	±10							
Power consumption P20 [W]	16		20		32		38	
Insulation class to JB/T 7352-2010 [2]	H [2]							
Duty cycle [2] [6]	100% [2] [6]							

Electrical data VZWL-F-...-3A-...								
Valve body connection	**G1/4**	**G3/8**	**G1/2**	**G3/4**	**G1**	**G1 1/4**	**G1 1/2**	**G2**
Electrical connection	Plug to EN 175301-803 type A, square design							
Characteristic coil data								
Alternating current AC	AC220V/50Hz							
Permissible voltage fluctuations [%]	±10							
Pick-up power [VA]	37		49		99		73	
Holding power [VA]	16		20		22		30	
Insulation class to JB/T 7352-2010 [2]	H [2]							
Duty cycle [2] [6]	100% [2] [6]							

6) The medium must be in a flowing state when the valve is continuously energized.

Data sheet

Dimensions Download CAD data ➔ www.festo.com



Type	A	B	C	D	G	H	K	L	M	N	SW	T
VZW L-F-M22C-G14-...-CS	77.3	39	52.3	29.5	G1/4	96	11	50	42	7.5	22	10
VZW L-F-M22C-G14-...-R1-CS	77.3	39	52.3	29.5	G1/4	96	11	50	42	7.5	22	10
VZW L-F-M22C-G38-...-CS	96.5	56	62.5	42	G3/8	106	13.5	68	39	10.5	27	12
VZW L-F-M22C-G38-...-R1-CS	97.5	56	62.5	42	G3/8	106	13.5	70	39	10.5	27	12
VZW L-F-M22C-G12-...-CS	96.5	56	62.5	42	G1/2	106	13.5	68	39	10.5	27	13
VZW L-F-M22C-G12-...-R1-CS	97.5	56	62.5	42	G1/2	106	13.5	70	39	10.5	27	13
VZW L-F-M22C-G34-...-CS	99	56	62.5	42	G3/4	111	16.5	73	39	10.5	33	14
VZW L-F-M22C-G34-...-R1-CS	98.5	56	62.5	42	G3/4	112	16.5	72	39	10.5	33	14
VZW L-F-M22C-G1-...-CS	114.5	77	64.5	47	G1	123	20.7	100	40.5	9	41.5	18
VZW L-F-M22C-G1-...-R1-CS	114.5	77	64.5	47	G1	123	21	100	40.5	9	42	18
VZW L-F-M22C-G114-...-CS	121.5	85	66.5	63	G1 1/4	155	25	110	55.5	10.5	50	18
VZW L-F-M22C-G114-...-R1-CS	121.5	85	66.5	63	G1 1/4	158	27	110	55.5	10.5	54	18
VZW L-F-M22C-G112-...-CS	126.5	90	66.5	63	G1 1/2	163	28	120	55.5	10.5	56	20
VZW L-F-M22C-G112-...-R1-CS	122.5	89	66.5	63	G1 1/2	163	29	112	55.5	10.5	58	20
VZW L-F-M22C-G2-...-CS	143.5	112	66.5	63	G2	185	35	154	55.5	10.5	70	24
VZW L-F-M22C-G2-...-R1-CS	150	118	66.5	63	G2	184	35	167	55.5	10.5	70	24

Type	Operate	Connect	Seal	Voltage	Part No.
VZWL-F-M22C-G12-1-6-CS	Normal Close	G1/2	NBR	DC24V	8199759
VZWL-F-M22C-G12-1-6-R1-CS	Normal Close	G1/2	NBR	DC24V	8199760
VZWL-F-M22C-G12-3A-10-CS	Normal Close	G1/2	NBR	AC220V	8199761
VZWL-F-M22C-G12-3A-10-R1-CS	Normal Close	G1/2	NBR	AC220V	8199762
VZWL-F-M22C-G12-E-1-6-CS	Normal Close	G1/2	EPDM	DC24V	8199763
VZWL-F-M22C-G12-E-1-6-R1-CS	Normal Close	G1/2	EPDM	DC24V	8199764
VZWL-F-M22C-G12-E-3A-10-CS	Normal Close	G1/2	EPDM	AC220V	8199765
VZWL-F-M22C-G12-E-3A-10-R1-CS	Normal Close	G1/2	EPDM	AC220V	8199766
VZWL-F-M22C-G12-V-1-6-CS	Normal Close	G1/2	FKM	DC24V	8199767
VZWL-F-M22C-G12-V-1-6-R1-CS	Normal Close	G1/2	FKM	DC24V	8199768
VZWL-F-M22C-G12-V-3A-10-CS	Normal Close	G1/2	FKM	AC220V	8199769
VZWL-F-M22C-G12-V-3A-10-R1-CS	Normal Close	G1/2	FKM	AC220V	8199770
VZWL-F-M22C-G1-1-6-CS	Normal Close	G1	NBR	DC24V	8199771
VZWL-F-M22C-G1-1-6-R1-CS	Normal Close	G1	NBR	DC24V	8199772
VZWL-F-M22C-G1-3A-10-CS	Normal Close	G1	NBR	AC220V	8199773
VZWL-F-M22C-G1-3A-10-R1-CS	Normal Close	G1	NBR	AC220V	8199774
VZWL-F-M22C-G1-E-1-6-CS	Normal Close	G1	EPDM	DC24V	8199775
VZWL-F-M22C-G1-E-1-6-R1-CS	Normal Close	G1	EPDM	DC24V	8199776
VZWL-F-M22C-G1-E-3A-10-CS	Normal Close	G1	EPDM	AC220V	8199777
VZWL-F-M22C-G1-E-3A-10-R1-CS	Normal Close	G1	EPDM	AC220V	8199778
VZWL-F-M22C-G1-V-1-6-CS	Normal Close	G1	FKM	DC24V	8199779
VZWL-F-M22C-G1-V-1-6-R1-CS	Normal Close	G1	FKM	DC24V	8199780
VZWL-F-M22C-G1-V-3A-10-CS	Normal Close	G1	FKM	AC220V	8199781
VZWL-F-M22C-G1-V-3A-10-R1-CS	Normal Close	G1	FKM	AC220V	8199782
VZWL-F-M22C-G14-1-6-CS	Normal Close	G1/4	NBR	DC24V	8199783
VZWL-F-M22C-G14-1-6-R1-CS	Normal Close	G1/4	NBR	DC24V	8199784
VZWL-F-M22C-G14-3A-10-CS	Normal Close	G1/4	NBR	AC220V	8199785
VZWL-F-M22C-G14-3A-10-R1-CS	Normal Close	G1/4	NBR	AC220V	8199786
VZWL-F-M22C-G14-E-1-6-CS	Normal Close	G1/4	EPDM	DC24V	8199787
VZWL-F-M22C-G14-E-1-6-R1-CS	Normal Close	G1/4	EPDM	DC24V	8199788
VZWL-F-M22C-G14-E-3A-10-CS	Normal Close	G1/4	EPDM	AC220V	8199789
VZWL-F-M22C-G14-E-3A-10-R1-CS	Normal Close	G1/4	EPDM	AC220V	8199790
VZWL-F-M22C-G14-V-1-6-CS	Normal Close	G1/4	FKM	DC24V	8199791
VZWL-F-M22C-G14-V-1-6-R1-CS	Normal Close	G1/4	FKM	DC24V	8199792
VZWL-F-M22C-G14-V-3A-10-CS	Normal Close	G1/4	FKM	AC220V	8199793
VZWL-F-M22C-G14-V-3A-10-R1-CS	Normal Close	G1/4	FKM	AC220V	8199794
VZWL-F-M22C-G34-1-6-CS	Normal Close	G3/4	NBR	DC24V	8199795
VZWL-F-M22C-G34-1-6-R1-CS	Normal Close	G3/4	NBR	DC24V	8199796
VZWL-F-M22C-G34-3A-10-CS	Normal Close	G3/4	NBR	AC220V	8199797
VZWL-F-M22C-G34-3A-10-R1-CS	Normal Close	G3/4	NBR	AC220V	8199798
VZWL-F-M22C-G34-E-1-6-CS	Normal Close	G3/4	EPDM	DC24V	8199799
VZWL-F-M22C-G34-E-1-6-R1-CS	Normal Close	G3/4	EPDM	DC24V	8199800
VZWL-F-M22C-G34-E-3A-10-CS	Normal Close	G3/4	EPDM	AC220V	8199801
VZWL-F-M22C-G34-E-3A-10-R1-CS	Normal Close	G3/4	EPDM	AC220V	8199802
VZWL-F-M22C-G34-V-1-6-CS	Normal Close	G3/4	FKM	DC24V	8199803
VZWL-F-M22C-G34-V-1-6-R1-CS	Normal Close	G3/4	FKM	DC24V	8199804
VZWL-F-M22C-G34-V-3A-10-CS	Normal Close	G3/4	FKM	AC220V	8199805
VZWL-F-M22C-G34-V-3A-10-R1-CS	Normal Close	G3/4	FKM	AC220V	8199806
VZWL-F-M22C-G38-1-6-CS	Normal Close	G3/8	NBR	DC24V	8199807
VZWL-F-M22C-G38-1-6-R1-CS	Normal Close	G3/8	NBR	DC24V	8199808
VZWL-F-M22C-G38-3A-10-CS	Normal Close	G3/8	NBR	AC220V	8199809
VZWL-F-M22C-G38-3A-10-R1-CS	Normal Close	G3/8	NBR	AC220V	8199810
VZWL-F-M22C-G38-E-1-6-CS	Normal Close	G3/8	EPDM	DC24V	8199811
VZWL-F-M22C-G38-E-1-6-R1-CS	Normal Close	G3/8	EPDM	DC24V	8199812
VZWL-F-M22C-G38-E-3A-10-CS	Normal Close	G3/8	EPDM	AC220V	8199813
VZWL-F-M22C-G38-E-3A-10-R1-CS	Normal Close	G3/8	EPDM	AC220V	8199814
VZWL-F-M22C-G38-V-1-6-CS	Normal Close	G3/8	FKM	DC24V	8199815
VZWL-F-M22C-G38-V-1-6-R1-CS	Normal Close	G3/8	FKM	DC24V	8199816
VZWL-F-M22C-G38-V-3A-10-CS	Normal Close	G3/8	FKM	AC220V	8199817
VZWL-F-M22C-G38-V-3A-10-R1-CS	Normal Close	G3/8	FKM	AC220V	8199818
VZWL-F-M22C-G112-1-6-CS	Normal Close	G1 1/2	NBR	DC24V	8199819
VZWL-F-M22C-G112-1-6-R1-CS	Normal Close	G1 1/2	NBR	DC24V	8199820
VZWL-F-M22C-G112-3A-10-CS	Normal Close	G1 1/2	NBR	AC220V	8199821
VZWL-F-M22C-G112-3A-10-R1-CS	Normal Close	G1 1/2	NBR	AC220V	8199822

Type	Operate	Connect	Seal	Voltage	Part No.
VZWL-F-M22C-G112-E-1-6-CS	Normal Close	G1 1/2	EPDM	DC24V	8199823
VZWL-F-M22C-G112-E-1-6-R1-CS	Normal Close	G1 1/2	EPDM	DC24V	8199824
VZWL-F-M22C-G112-E-3A-10-CS	Normal Close	G1 1/2	EPDM	AC220V	8199825
VZWL-F-M22C-G112-E-3A-10-R1-CS	Normal Close	G1 1/2	EPDM	AC220V	8199826
VZWL-F-M22C-G112-V-1-6-CS	Normal Close	G1 1/2	FKM	DC24V	8199827
VZWL-F-M22C-G112-V-1-6-R1-CS	Normal Close	G1 1/2	FKM	DC24V	8199828
VZWL-F-M22C-G112-V-3A-10-CS	Normal Close	G1 1/2	FKM	AC220V	8199829
VZWL-F-M22C-G112-V-3A-10-R1-CS	Normal Close	G1 1/2	FKM	AC220V	8199830
VZWL-F-M22C-G114-1-6-CS	Normal Close	G1 1/4	NBR	DC24V	8199831
VZWL-F-M22C-G114-1-6-R1-CS	Normal Close	G1 1/4	NBR	DC24V	8199832
VZWL-F-M22C-G114-3A-10-CS	Normal Close	G1 1/4	NBR	AC220V	8199833
VZWL-F-M22C-G114-3A-10-R1-CS	Normal Close	G1 1/4	NBR	AC220V	8199834
VZWL-F-M22C-G114-E-1-6-CS	Normal Close	G1 1/4	EPDM	DC24V	8199835
VZWL-F-M22C-G114-E-1-6-R1-CS	Normal Close	G1 1/4	EPDM	DC24V	8199836
VZWL-F-M22C-G114-E-3A-10-CS	Normal Close	G1 1/4	EPDM	AC220V	8199837
VZWL-F-M22C-G114-E-3A-10-R1-CS	Normal Close	G1 1/4	EPDM	AC220V	8199838
VZWL-F-M22C-G114-V-1-6-CS	Normal Close	G1 1/4	FKM	DC24V	8199839
VZWL-F-M22C-G114-V-1-6-R1-CS	Normal Close	G1 1/4	FKM	DC24V	8199840
VZWL-F-M22C-G114-V-3A-10-CS	Normal Close	G1 1/4	FKM	AC220V	8199841
VZWL-F-M22C-G114-V-3A-10-R1-CS	Normal Close	G1 1/4	FKM	AC220V	8199842
VZWL-F-M22C-G2-1-6-CS	Normal Close	G2	NBR	DC24V	8199843
VZWL-F-M22C-G2-1-6-R1-CS	Normal Close	G2	NBR	DC24V	8199844
VZWL-F-M22C-G2-3A-10-CS	Normal Close	G2	NBR	AC220V	8199845
VZWL-F-M22C-G2-3A-10-R1-CS	Normal Close	G2	NBR	AC220V	8199846
VZWL-F-M22C-G2-E-1-6-CS	Normal Close	G2	EPDM	DC24V	8199847
VZWL-F-M22C-G2-E-1-6-R1-CS	Normal Close	G2	EPDM	DC24V	8199848
VZWL-F-M22C-G2-E-3A-10-CS	Normal Close	G2	EPDM	AC220V	8199849
VZWL-F-M22C-G2-E-3A-10-R1-CS	Normal Close	G2	EPDM	AC220V	8199850
VZWL-F-M22C-G2-V-1-6-CS	Normal Close	G2	FKM	DC24V	8199851
VZWL-F-M22C-G2-V-1-6-R1-CS	Normal Close	G2	FKM	DC24V	8199852
VZWL-F-M22C-G2-V-3A-10-CS	Normal Close	G2	FKM	AC220V	8199853
VZWL-F-M22C-G2-V-3A-10-R1-CS	Normal Close	G2	FKM	AC220V	8199854