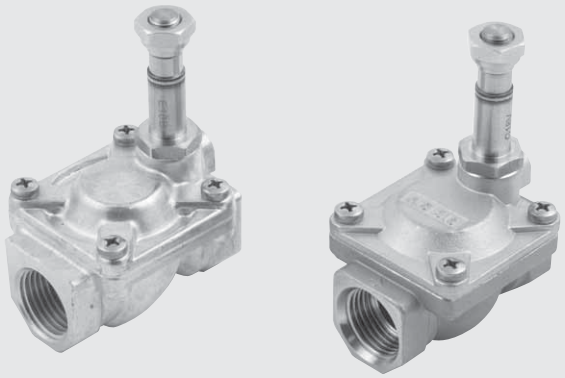
SOLENOID VALVES, SERIES EV-FLUID, SERVO-ASSISTED ACTION

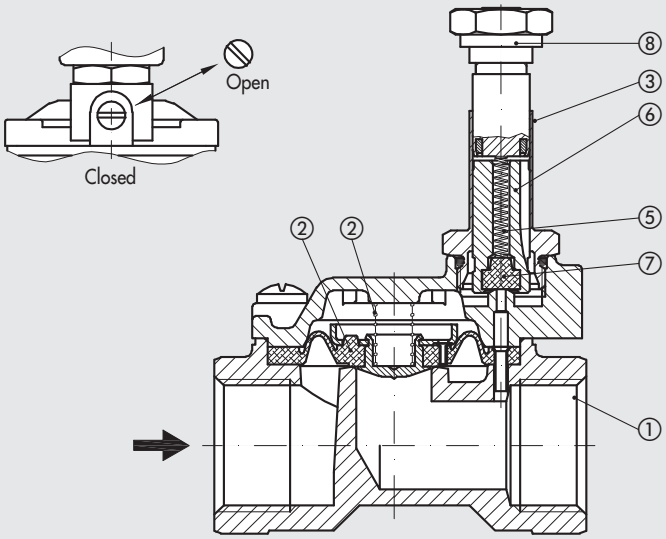
Le valvole ad azionamento assistito serie EV-FLUID vengono utilizzate quando si necessita un'apertura di passaggio di grandi dimensioni, senza comunque rinunciare alla pressione. Anzi, in questo tipo di valvole la pressione del fluido aiuta a mantenere chiusa la guarnizione.
Nella versione 2/2 NC, quando la bobina è diseccitata, la guarnizione collegata alla membrana mantiene chiuso il passaggio del fluido tra l'ingresso e l'uscita. La chiusura della membrana è assistita dalla pressione del fluido che, attraverso un piccolo foro, riempie la camera posta sopra la membrana.
Quando la bobina viene eccitata, l'elettropilota mette in scarico la camera superiore e la membrana si apre, consentendo il passaggio del fluido attraverso l'orifizio superiore.
Nella versione 2/2 NO, quando la bobina è diseccitata, il passaggio del fluido tra l'ingresso e l'uscita è aperto e la camera posta al di spora della membrana è vuota. Eccitando la bobina, l'elettropilota consente al fluido di fluire nella camera superiore alla membrana, permettendo in tal modo la chiusura dell'orifizio per mezzo della guarnizione collegata alla membrana.
Sono disponibili le funzioni 2/2 NC e 2/2 NO, corpo in ottone con guarnizioni in NBR; FKM/FPM o EPDM, oppure corpo inox con guarnizioni in FKM/FPM. In generale, queste elettrovalvole hanno una pressione minima di funzionamento superiore a 0 bar.



TECHNICAL DATA		NBR	FPM/FKM	EPDM
Max operating frequency (with air)	Hz	2		
Power consumption		DC: 6.5 -10 W / AC: 8 - 15 VA		
Voltage available		12 - 24VDC / 24 - 110 - 220 VAC 50/60 Hz		
Voltage tolerance	%	DC: ±10 / AC: –10 ÷ +15		
Type of protection		IP 65 with connector		
Fluid temperature	°C	-10 ÷ +90	-10 ÷ +140	-10 ÷ +140
Ambient temperature	°C	with coil C.I F: -10 ÷ +55; con with coil C.I H: -10 ÷ +80		
Maximum fluid viscosity		25 cSt (mm^2/s)		
Pressure range, flow rate, weight		See dimensions and ordering codes		
Maximum coil nut torque	Nm	1.5		
Usable fluids / Materials compatibility		Valves that can be used with neutral or slightly aggressive liquid and gas fluids. (Refer to the tables of chemical compatibility of materials in contact with the fluid on on www.metalwork.it or contact Metal Work technical service)		

COMPONENTS

① BODY: brass or stainless steel
② SPRING: stainless steel
③ SLEEVE
④ DIAPHRAGM
⑤ SPRING: stainless steel
⑥ MOBILE CORE
⑦ GASKET
⑧ RING NUT FOR COIL FIXING



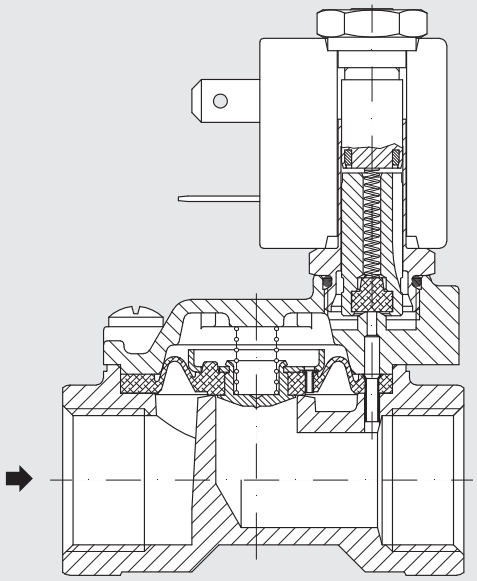
SERVO-ASSISTED ACTION DESIGN

With larger orifices, the static pressure to be controlled with the magnetic field produced by the coil increases: for this reason these models, in which the fluid helps the main poppet to open or close, are used.

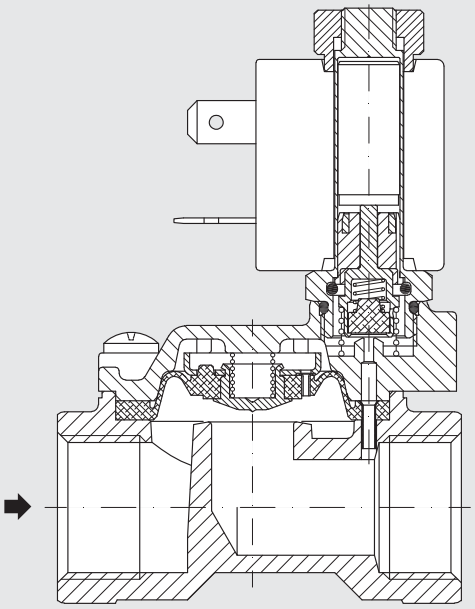
Normally closed (2/2 NC) version: with an inlet and outlet port in the valve body; when the coil is not energized, the fluid is intercepted by the main poppet that can be either a diaphragm or a piston.
In this mode, the fluid flows through a small hole in the diaphragm and acts on the two sides of the main poppet and helps to close it.
When connected to an electrical supply, the secondary, or piloting, orifice opens, thus allowing the fluid to exhaust, which closes the main poppet.
This generates increased force in the lower part of the main actuator, which acts on the opening, the poppet is raised from the orifice and the air supply is entirely connected to the user port.
Operation in these versions does not depend only on the magnetic field produced by the coil, it only needs a minimum input pressure that moves the diaphragm or piston, controlling its rigidity and keeping it raised from the main orifice (minimum working Δp).

Normally open version (2/2 NO): with an inlet port and a user port in the valve body; when the secondary poppet is not energized, it communicates with the user port; a minimum pressure difference between the air supply and the user port allows the main poppet to open. When connected to an electric supply, the secondary orifice closes and the balance between the pressures on the two sides of the main poppet closing on the main orifice is restored.
A minimum operating pressure is required in this version as well.

NORMALLY CLOSED (NC)

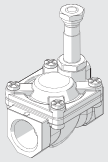


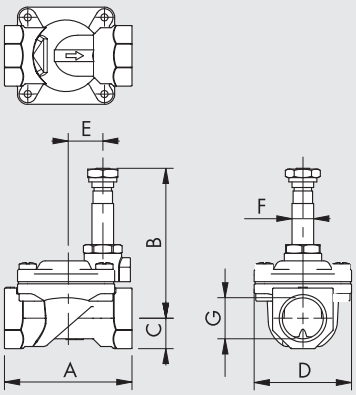
NORMALLY OPEN (NO)

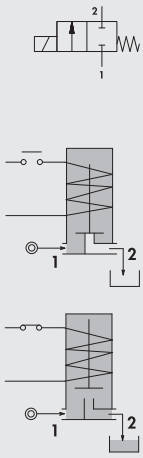


DIMENSIONS AND ORDERING CODES

VERSION 2/2 NC, BRASS VALVE BODY







Code	G	A	B	C	D	E	F	Air hole Ø [mm]	Kv factor [m³/h]	Type of coil	Operating pressure [bar] *		Weight [g]
											AC	DC	
W_910200001	1/4"	49	65	11	32	16	10	10	1.5	3	0.15 ÷ 15	0.15 ÷ 15	180
W_910200002	3/8"	49	65	11	32	16	10	10	1.7	3	0.15 ÷ 15	0.15 ÷ 15	190
W_910200003	3/8"	59	70	14	45	16	10	12	2.2	3	0.15 ÷ 15	0.15 ÷ 15	370
W_910200004	1/2"	59	70	14	45	16	10	12	2.5	3	0.15 ÷ 15	0.15 ÷ 15	340
W_910200005	3/4"	79	76	18	55	16	10	18	5.5	3	0.15 ÷ 13	0.15 ÷ 13	600
W_910200006	1"	96	85	20	72	16	10	25	10.2	3	0.15 ÷ 10	0.15 ÷ 10	1000
W_910200007	1-1/4"	142	105	28	102	21	13	37	18	2	0.15 ÷ 10	0.15 ÷ 10	2880
W_910200008	1-1/2"	142	105	28	102	21	13	37	21	2	0.15 ÷ 10	0.15 ÷ 10	2730
W_910200009	2"	158	115	35	119	21	13	50	36	2	0.15 ÷ 10	0.15 ÷ 10	4180

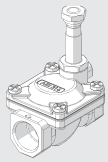
To complete the code enter:

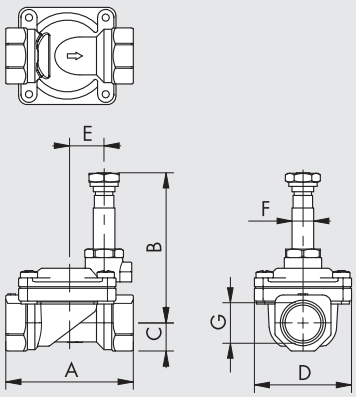
0 for NBR gaskets
E for EPDM gaskets

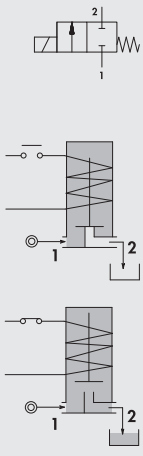
V for FKM/FPM gaskets

* The maximum allowable pressure for steam is 2.5 bar with EPDM gaskets

VERSION 2/2 NC, STAINLESS STEEL VALVE BODY, FKM/FPM GASKETS

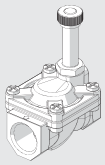


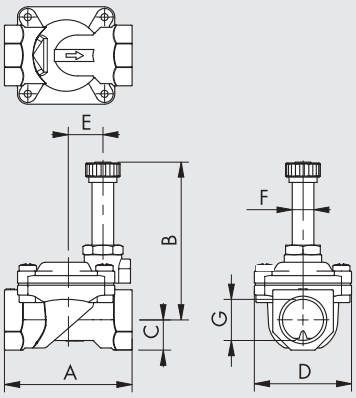


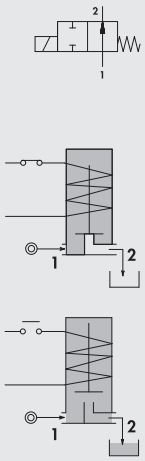


Code	G	A	B	C	D	E	F	Air hole Ø [mm]	Kv factor [m³/h]	Type of coil	Operating pressure [bar]		Weight [g]
											AC	DC	
WV910400001	3/8"	59	70	11	45	16	10	12	2.2	3	0.15 ÷ 15	0.15 ÷ 15	250
WV910400002	1/2"	59	70	13	45	16	10	12	2.5	3	0.15 ÷ 15	0.15 ÷ 15	270
WV910400003	3/4"	79	76	18	55	16	10	18	5.5	3	0.15 ÷ 13	0.15 ÷ 13	500
WV910400004	1"	96	85	20	72	16	10	25	10.2	3	0.15 ÷ 10	0.15 ÷ 10	900

VERSION 2/2 NO, BRASS VALVE BODY







Code	G	A	B	C	D	E	F	Air hole Ø [mm]	Kv factor [m³/h]	Type of coil	Operating pressure [bar] * AC	Operating pressure [bar] * DC	Weight [g]
W_910900001	1/4"	49	65	11	32	16	10	10	1.5	3	0.15 ÷ 15	0.15 ÷ 15	180
W_910900003	3/8"	59	73	14	45	16	10	12	1.7	3	0.15 ÷ 15	0.15 ÷ 15	370
W_910900004	1/2"	59	73	14	45	16	10	12	2.5	3	0.15 ÷ 15	0.15 ÷ 15	340
W_910900005	3/4"	79	76	18	55	16	10	18	5.5	3	0.15 ÷ 13	0.15 ÷ 13	600
W_910900006	1"	96	85	20	72	16	10	25	10.2	3	0.15 ÷ 10	0.15 ÷ 10	1000

To complete the code enter:

0 for NBR gaskets
E for EPDM gaskets
V for FKM/FPM gaskets

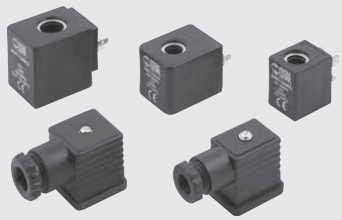
* The maximum allowable pressure for steam is 2.5 bar with EPDM gaskets

NOTES

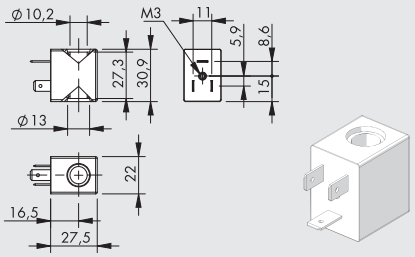
COILS AND CONNECTORS FOR EV-FLUID SERIES SOLENOID VALVES

METAL WORK PNEUMATIC

These coils have been optimized specifically for use with EV-Fluid series solenoid valves. They come in different voltage ratings and powers, depending on power supply needs and level of performance requested of the valve on which they are installed. They come into 4 types (type 2, type 3, type 4 and type 5). The types differ one from the other in terms of size, type of electrical connection, orifice and output power.
ATEX and UL versions are available on request



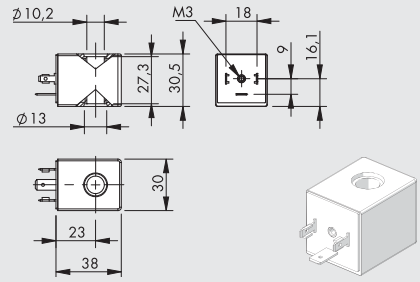
COILS SIDE 22 mm TYPE 3



- Voltage tolerance: –10% ÷ + 15% AC version / ± 10% DC version
- Degree of protection: IP65 EN60529 with connector
- Duty Cycle: 100%
- Connector: **DIN 43650 B**

Code	Abbrev.	Nominal voltage	Absorption	Index of protection
W0911100001	Coil 22 Ø10 Type 3, 6.5W 12VDC	12VDC	6.5W	F
W0911100002	Coil 22 Ø10 Type 3, 6.5W 24VDC	24VDC	6.5W	F
W0911100003	Coil 22 Ø10 Type 3, 8VA 24V 50/60Hz	24V 50/60Hz	8VA	F
W0911100004	Coil 22 Ø10 Type 3, 8VA 110V 50/60Hz	110V 50/60Hz	8VA	F
W0911100005	Coil 22 Ø10 Type 3, 8VA 220V 50/60Hz	220V 50/60Hz	8VA	F

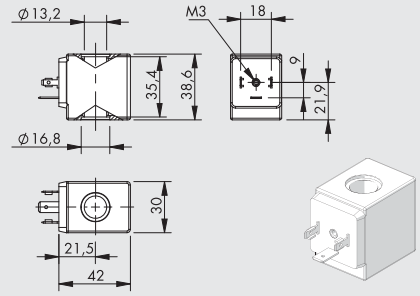
COILS SIDE 30 mm TYPE 4



- Voltage tolerance: –10% ÷ + 15% AC version / ± 10% DC version
- Degree of protection: IP65 EN60529 with connector
- Duty Cycle: 100%
- Connector: **DIN 43650 B**

Code	Abbrev.	Nominal voltage	Absorption	Index of protection
W0911100006	Coil 30 Ø10 Type 4, 5W 12VDC	12VDC	5W	F
W0911100007	Coil 30 Ø10 Type 4, 5W 24VDC	24VDC	5W	F
W0911100008	Coil 30 Ø10 Type 4, 11VA 24V 50/60Hz	24V 50/60Hz	11VA	F
W0911100009	Coil 30 Ø10 Type 4, 11VA 110V 50/60Hz	110V 50/60Hz	11VA	F
W0911100010	Coil 30 Ø10 Type 4, 11VA 220V 50/60Hz	220V 50/60Hz	11VA	F

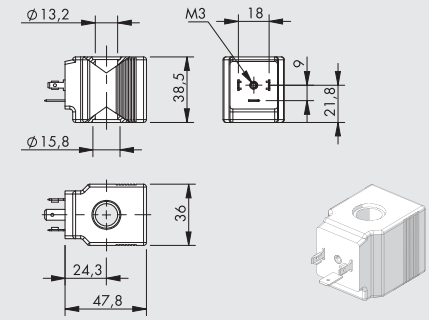
COILS SIDE 30 mm TYPE 2



- Voltage tolerance: –10% ÷ + 15% AC version / ± 10% DC version
- Degree of protection: IP65 EN60529 with connector
- Duty Cycle: 100%
- Connector: **DIN 43650 B**

Code	Abbrev.	Nominal voltage	Absorption	Classe isolamento
W0911100011	Coil 30 Ø13 Type 2, 10W 12VDC	12VDC	10W	F
W0911100012	Coil 30 Ø13 Type 2, 10W 24VDC	24VDC	10W	F
W0911100013	Coil 30 Ø13 Type 2, 15VA 24V 50/60Hz	24V 50/60Hz	15VA	F
W0911100014	Coil 30 Ø13 Type 2, 15VA 110V 50/60Hz	110V 50/60Hz	15VA	F
W0911100015	Coil 30 Ø13 Type 2, 15VA 220V 50/60Hz	220V 50/60Hz	15VA	F

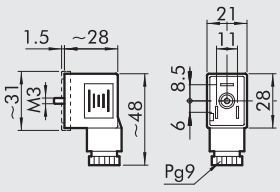
COILS SIDE 36 mm TYPE 5



- Voltage tolerance: –10% ÷ + 15% AC version / ± 10% DC version
- Degree of protection: IP65 EN60529 with connector
- Duty Cycle: 100%
- Connector: **DIN 43650 B**

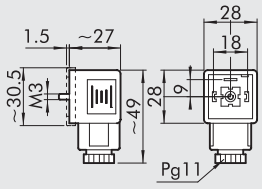
Code	Abbrev.	Nominal voltage	Absorption	Index of protection
W0911100016	Coil 36 Ø13 Type 5, 27W 12VDC	12VDC	27W	H
W0911100017	Coil 36 Ø13 Type 5, 27W 24VDC	24VDC	27W	H
W0911100018	Coil 36 Ø13 Type 5, 30VA 24V 50/60Hz	24V 50/60Hz	30VA	H
W0911100019	Coil 36 Ø13 Type 5, 30VA 110V 50/60Hz	110V 50/60Hz	30VA	H
W0911100020	Coil 36 Ø13 Type 5, 30VA 220V 50/60Hz	220V 50/60Hz	30VA	H

CONNECTOR FOR COILS SIDE 22 mm FOR COIL TYPE 3



Code	Type	Colour	Ø Cable
W0970510011	Standard	Black	PG9
W0970510012	LED 24V	Transparent	PG9
W0970510013	LED 110V	Transparent	PG9
W0970510014	LED 220V	Transparent	PG9
W0970510015	LED + VDR 24V	Transparent	PG9
W0970510016	LED + VDR 110V	Transparent	PG9
W0970510017	LED + VDR 220V	Transparent	PG9

CONNECTOR ON SIDE 30 mm PFOR COILS TYPE 2, 4, 5



Code	Type	Colour	Ø Cable
W0970520033	Standard	Black	PG11
W0970520034	LED 24V	Transparent	PG11
W0970520035	LED 110V	Transparent	PG11
W0970520036	LED 220V	Transparent	PG11
W0970520037	LED + VDR 24V	Transparent	PG11
W0970520038	LED + VDR 110V	Transparent	PG11
W0970520039	LED + VDR 220V	Transparent	PG11

NOTES