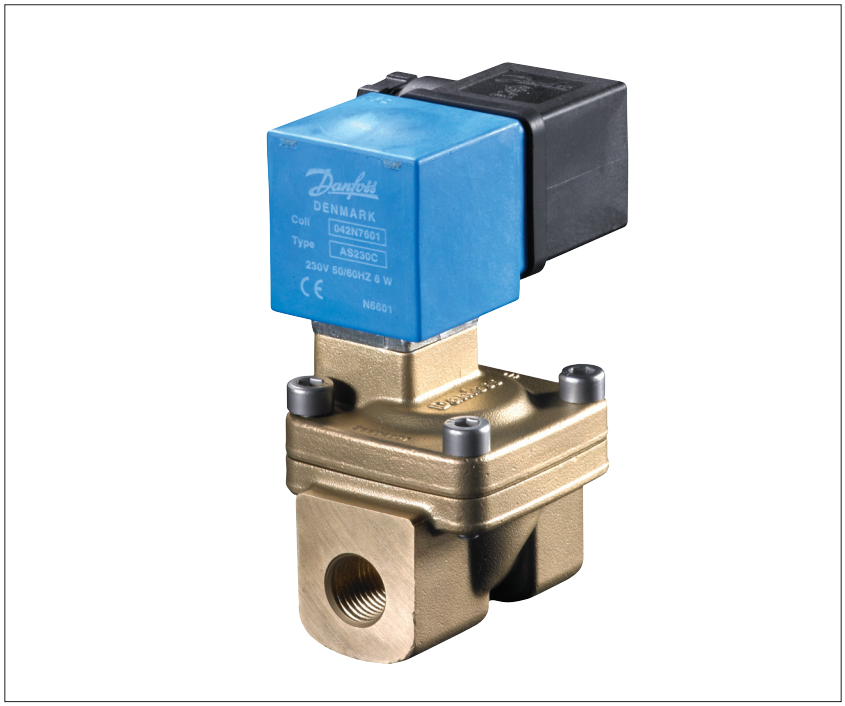
ENGINEERING TOMORROW

Data sheet

Indirect servo-operated 2/2-way solenoid valves
Type EV220W 10 - EV220W 50



EV220W is a range of compact indirect servo-operated 2/2 way solenoid valves with connections from 3/8" to 2", especially designed for industrial use within a limited space.
This range has been designed specially for the maintenance, repair and operations markets, which demand an easy and reliable valve that is easy to setup and use.

Features and versions

- For water, oil, compressed air and similar neutral media
- DN 10 – 50
- Differential pressure: From 0.3 – 16 bar
- Media temperatures: From -10 – 80 °C
- Viscosity: Up to 50 cSt
- Ambient temperatures: From -40 – 50 °C
- Clip-on coil
- Enclosure: IP65
- NO version, standard for 3/8" – 2" valve sizes
- NC version, standard for 3/8" – 2" valve sizes
- Complete coil voltage: 230 V AC, 24V AC, 24 V DC

Brass valve body, NC and AS clip on coil

Connection ISO228/1	Seal material	Orifice size	K_V - value [m^3/h]	Differential pressure min. to max. [bar]	Coil voltage/power consumption AS coil	Code number
G 3/8	NBR	10	1.6	0.2 – 16	230V 50/60Hz 8W	**042U426132**
					24V 50/60Hz 9.5W	**042U426119**
					24V DC 6.5W	**042U426102**
G 1/2		14	4	0.3 – 16	230V 50/60Hz 8W	**042U426432**
					24V 50/60Hz 9.5W	**042U426419**
					24V DC 6.5W	**042U426402**
G 3/4		18	7	0.3 – 16	230V 50/60Hz 8W	**042U426532**
					24V 50/60Hz 9.5W	**042U426519**
					24V DC 6.5W	**042U426502**
G 1		22	7	0.3 – 16	230V 50/60Hz 8W	**042U426632**
					24V 50/60Hz 9.5W	**042U426619**
					24V DC 6.5W	**042U426602**
G 1 1/4		32	15	0.3 – 16	230V 50/60Hz 8W	**042U426732**
					24V 50/60Hz 9.5W	**042U426719**
					24V DC 6.5W	**042U426702**
G 1 1/2		40	18	0.3 – 16	230V 50/60Hz 8W	**042U426832**
					24V 50/60Hz 9.5W	**042U426819**
					24V DC 6.5W	**042U426802**
G 2		50	32	0.3 – 16	230V 50/60Hz 8W	**042U426932**
					24V 50/60Hz 9.5W	**042U426919**
					24V DC 6.5W	**042U426902**

[1] In water applications, exercise the valves at least once every 24 hours, meaning change the state of the valve.
The valve exercise will minimize the risk of the valve sticking due to calcium carbonate, zinc or iron oxide build-up.

Brass valve body, NO and AS clip on coil

Connection ISO228/1	Seal material	Orifice size	K_V - value [m^3/h]	Differential pressure min. to max. [bar]	Coil voltage/power consumption AS coil	Code number
G 3/8	NBR	10	1.6	0.2 – 16	230V 50/60Hz 8W	**042U436132**
					24V 50/60Hz 9.5W	**042U436119**
					24V DC 6.5W	**042U436102**
G 1/2		14	4	0.3 – 16	230V 50/60Hz 8W	**042U436432**
					24V 50/60Hz 9.5W	**042U436419**
					24V DC 6.5W	**042U436402**
G 3/4		18	7	0.3 – 16	230V 50/60Hz 8W	**042U436532**
					24V 50/60Hz 9.5W	**042U436519**
					24V DC 6.5W	**042U436502**
G 1		22	7	0.3 – 16	230V 50/60Hz 8W	**042U436632**
					24V 50/60Hz 9.5W	**042U436619**
					24V DC 6.5W	**042U436602**
G 1 1/4		32	15	0.3 – 16	230V 50/60Hz 8W	**042U436732**
					24V 50/60Hz 9.5W	**042U436719**
					24V DC 6.5W	**042U436702**
G 1 1/2		40	18	0.3 – 16	230V 50/60Hz 8W	**042U436832**
					24V 50/60Hz 9.5W	**042U436819**
					24V DC 6.5W	**042U436802**
G 2		50	32	0.3 – 16	230V 50/60Hz 8W	**042U436932**
					24V 50/60Hz 9.5W	**042U436919**
					24V DC 6.5W	**042U436902**

[1] In water applications, exercise the valves at least once every 24 hours, meaning change the state of the valve.
The valve exercise will minimize the risk of the valve sticking due to calcium carbonate, zinc or iron oxide build-up.

Technical data, NC and NO

Type	EV220W 10	EV220W 14	EV220W 18	EV220W 22	EV220W 32	EV220W 40	EV220W 50
Time to open [ms] [1]	50	100	200	200	2500	4000	5000
Time to close [ms] [1]	300	400	500	500	4000	6000	10000
Capacity, K_V [m^3/h]	1.6	4	7	7	15	18	32
Max.test pressure	50 bar	25 bar					

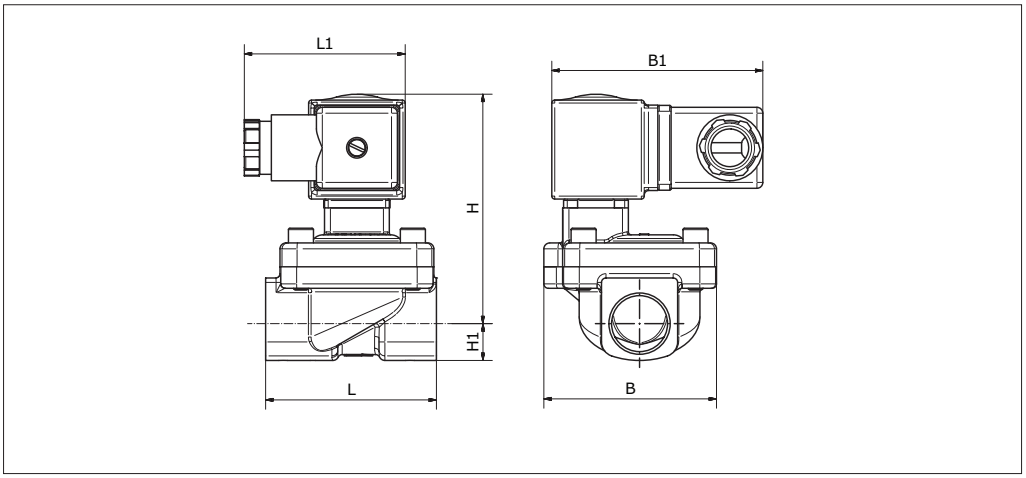
[1] Times are indicative and apply to water. Exact times will depend on pressure conditions.

Ambient temperature	-40 – 50 °C		
Medium temperature	-10 – 80 °C		
Medium viscosity	Max. 50cSt		
Materials	Valve body	Brass	W. no. 2.0401
	Armature	Stainless steel	W. no. 1.4105 / AISI 430FR
	Armature stop	Stainless steel	W. no. 1.4105 / AISI 430FR
	Armature tube	Stainless steel	W. no. 1.4303 / AISI 305
	Spring	Stainless steel	W. no. 14310 / AISI 301
	O-ring	NBR	
	Valve plate	NBR	
	Diaphragm	NBR	

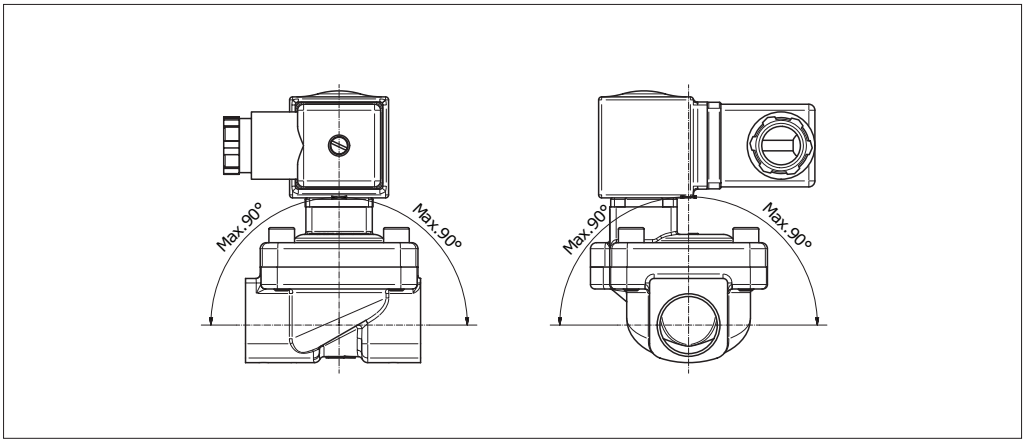
Dimensions and weight:

Type	Weight with AS coil [kg]	L [mm]	L_1 [mm]	B [mm]	B_1 [mm] Coil AS	H_1 [mm]	H [mm] NC	H [mm] NO
EV220W 10	0.56	51	50	50	70	13	77	81
EV220W 14	0.62	58	50	58	70	13	78	82
EV220W 18	0.84	90	50	58	70	18	79	83
EV220W 22	1.12	90	50	58	70	22	84	84
EV220W 32	2.12	120	50	82	70	27	96	96
EV220W 40	3.32	130	50	95	70	32	106	106
EV220W 50	4.42	162	50	113	70	37	112	112

Dimensions



Mounting angle



Coil type AC / AZ

Type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption [W]	Power consumption [VA]	Approval	Code no.
AS024CS	-40T50	24	-10%, +6%	60	7.0	14	c UL us	042N7608
		24	-10%, +6%	50	9.5	18		
AS230CS	-40T50	208 - 240	±6%	60	7.0	14	c UL us	042N7601
		230	-10%, +6%	50	8.0	16		
AZ012DS	-40T50	12	-10%, +6%	DC	6.0	–	c UL us	042N7616
AZ024DS	-40T50	24	-10%, +6%	DC	6.5	–	c UL us	042N7617

Technical data

Design	In accordance with UL 429
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with DIN spade connector, IP65 with cable plug
Plug type	Cable plug (042N0156)

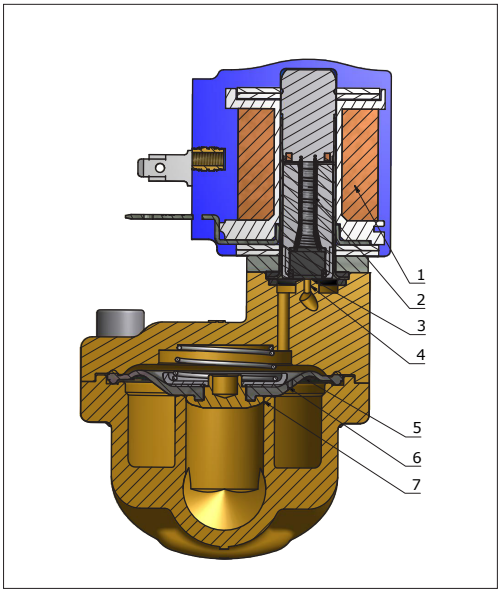
Coil type AU

Type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption [W]	Power consumption [VA]	Code no.
AU115C	-40T60	115	-10%, +6%	60	7.0	14	042N7662
		115	-10%, +6%	50	5.0	10	

Technical data

Design	In accordance with UL 429
Insulation of coil windings	Class H according to IEC 85
Connection	1 m 3-core flying lead
Enclosure, IEC 529	IP67
Duty rating	Continuous

Function, NC

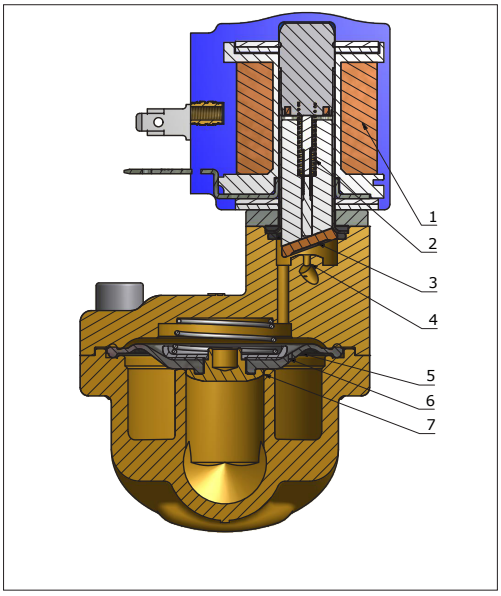


1. Coil
2. Armature spring
3. Armature
4. Pilot orifice
5. Diaphragm
6. Equalizing orifice
7. Main orifice

Coil voltage disconnected
When voltage is disconnected, the armature spring (2) presses the armature (3) down against the pilot orifice (4). Pressure builds up over the diaphragm (5) via the equalizing orifice (6). The diaphragm closes the main orifice (7) as soon as the pressure over the diaphragm equals the inlet pressure. The valve stays closed for as long as voltage remains disconnected.

Coil voltage connected (open)
When voltage is applied to the coil (1), the pilot orifice (4) is opened. Since the pilot orifice is larger than the equalizing orifice (6), pressure over the diaphragm (5) falls and the diaphragm is lifted clear of the main orifice (7). The valve stays open for as long as the required minimum differential pressure is present and voltage is applied to the coil.

Function, NO



1. Coil
2. Armature spring
3. Armature
4. Pilot orifice
5. Diaphragm
6. Equalizing orifice
7. Main orifice

In principle the function involves the opposite valve positions to those above for applied and disconnected voltage respectively.

Capacity diagram

Example for water:
Capacity for EV220W at a differential pressure of 3 bar: Approx. 7 m³h