

Data sheet

Servo-operated 2/2-way solenoid valves

Type EV220B 65 - EV220B 100



EV220B 65 - EV220B 100 is a 2/2-way solenoid valve program for use in robust industrial applications, demanding high flow rates. The valve is designed with cast iron valve body and flanged connection. Water-hammer damped design and built-in pilot filter ensures a reliable operation.

Features

- For water and similar neutral media
- Flow range for water: 25 – 400 m³/h
- Ambient temperature: Up to 80 °C
- Differential pressure: Up to 10 bar
- Viscosity: Up to 50 cSt
- Coil enclosure: Up to IP67
- Flange connections: 2 ½, 3 and 4"
- Water hammer damped
- Built-in filter for protection of pilot system
- Seal material: EPDM and NBR

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Valve body with flange connection

Connection ISO 228/1	Seal material	Orifice size [mm]	kv - value [m ³ /h]	Differential pressure, min. to max. [bar]	Media temperature min. to max. [°C]	Code number
2 ½	EPDM	65	50	0.25 – 10	-25 – 90	016D6065
2 ½	NBR	65	50	0.25 – 10	-25 – 90	016D3330
3	EPDM	80	75	0.25 – 10	-25 – 90	016D6080
3	NBR	80	75	0.25 – 10	-25 – 90	016D3331
4	EPDM	100	130	0.25 – 10	-25 – 90	016D6100

Technical data

Main type	EV220B 65	EV220B 80	EV220B 100
Time to open [s] ¹⁾	5	5	5
Time to close [s] ¹⁾	7	15	29

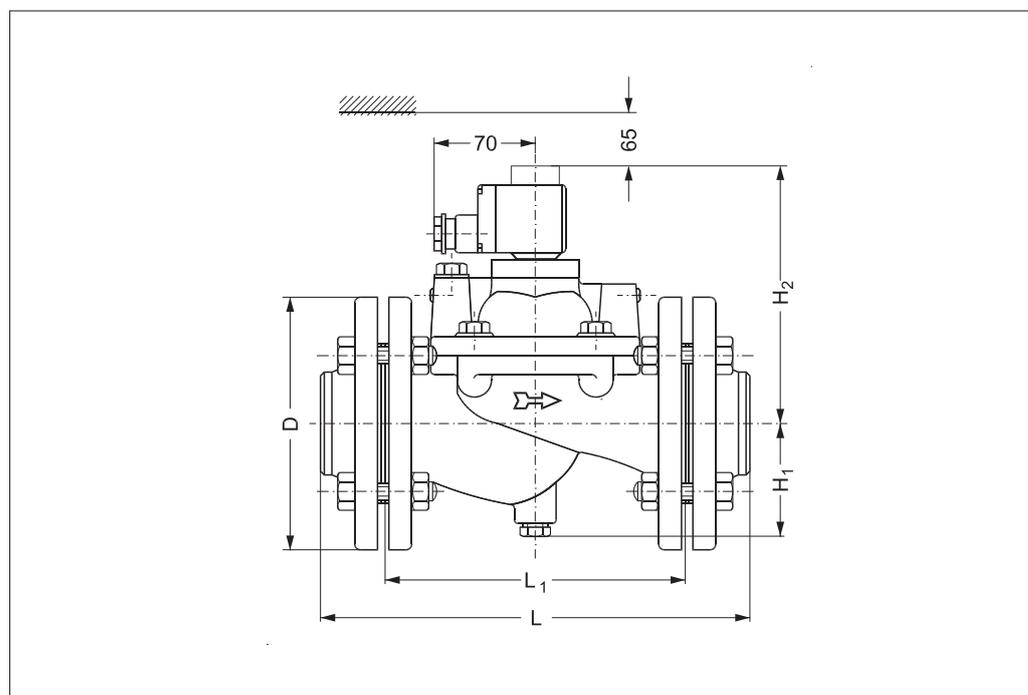
¹⁾ The times are indicative and apply to water.

Type	EV220B 65 - EV220B 100		
Installation	Vertical solenoid system is required		
Max. test pressure	15 bar		
Ambient temperature	Up to 80 °C		
Viscosity	Max. 50 cSt		
Materials	Valve body:	Cast iron	W.no. 0.6020
	Armature tube:	Stainless steel	W.no. 1.4105/AISI 430L
	Armature tube:	Stainless steel	W.no. 1.4306/AISI 304L
	Springs:	Stainless steel	W.no. 1.4310/AISI 301
	Pilot body:	Brass	–
	Ring:	Copper	–
	Seal water version:	NBR, Cetellen WS3820, PTFE, EPDM, CR	–
	Air / oil version:	NBR, centellen WS 3820, PTFE	–

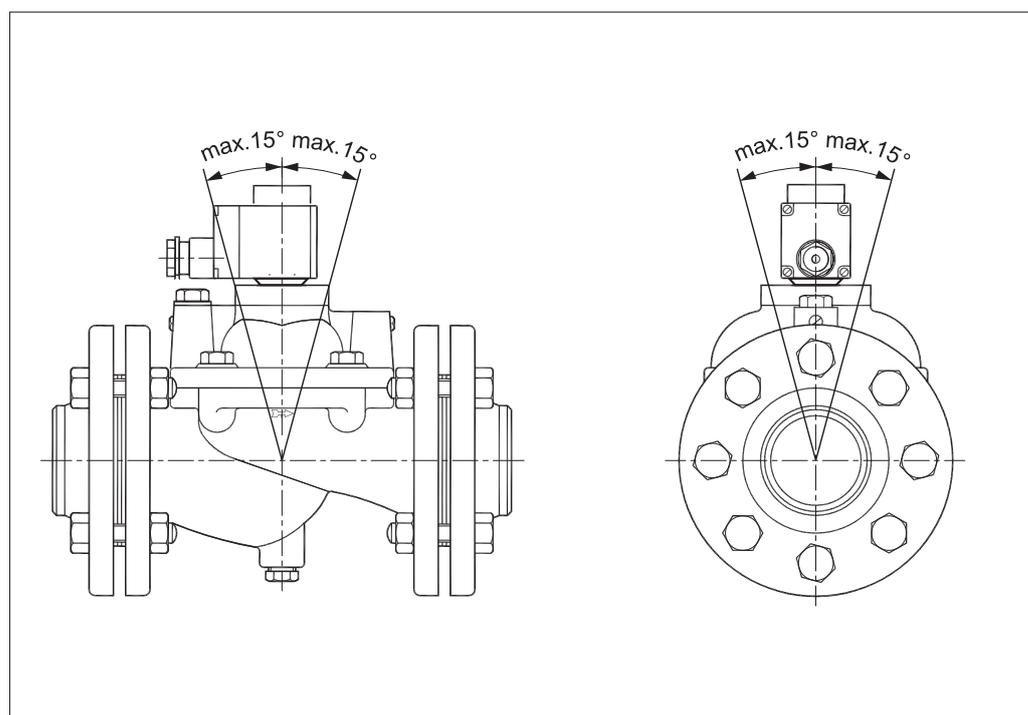
Dimensions and weight

Type	L [mm]	L ₁ [mm]	B ₁ [mm] Coil type		øD [mm]	H ₁ [mm]	H ₂ [mm]	Weight without coil [kg]
			BB/BE	BG				
EV220B 65	320	224	46	66	185	85	185	24
EV220B 80	370	265	46	66	200	93	215	34
EV220B 100	430	315	46	66	220	103	240	44

Dimensions



Mounting angle



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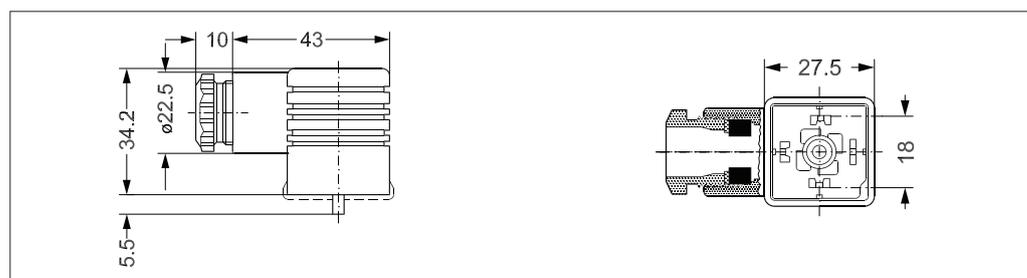
Below coils can be used with EV220B

Coil	Type	Power consumption	Enclosure	Features
	BB, clip on	10 W AC 18 W DC	IP00 with spade connector	IP20 with protective cap, IP65 with cable plug
	BE, clip on	10 W AC 18 W DC	IP67	With terminal box
	BG, clip-on	12 W AC 20 W DC	IP67	With terminal box

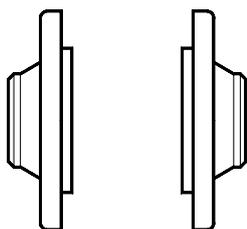
Accessories: Cable plug



Application	Code number
GDM 2011 (grey) cable plug according to DIN 43650-A PG11	042N0156

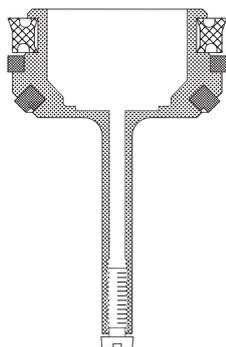


Ordering of flange set



Connection	Type	Code number
2 ½ weld type 11 according to DIN EN 1092-1	EV220B 65	027N3065
3 weld type 11 according to DIN EN 1092-1	EV220B 80	027N3080
4 weld type 11 according to DIN EN 1092-1	EV220B 100	027N3100

Spare parts kit



Type	Seal material	Code number
EV220B 65	EPDM	016D0078
EV220B 65	NBR	016D0095
EV220B 80	EPDM	016D0079
EV220B 80	NBR	016D0096
EV220B 100	EPDM	016D0080

The kit contains:

- Assembled servo piston
- Assembled armature
- Various seals

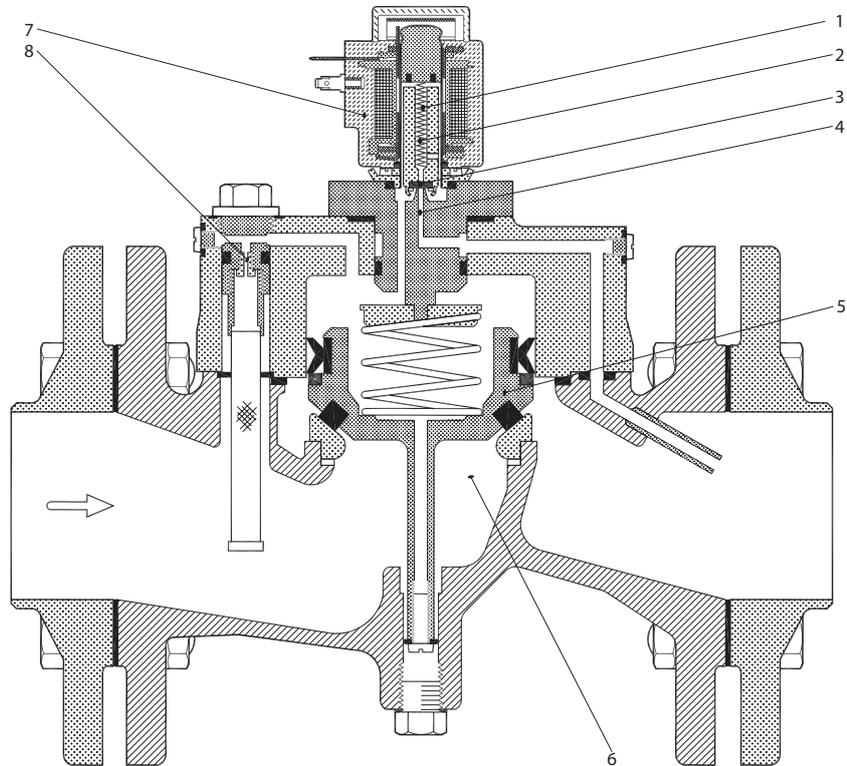
Seal kit

Type	Seal material	Code number
EV220B 65	EPDM	016D0075
EV220B 65	NBR	016D0084 *)
EV220B 80	EPDM	016D0076
EV220B 80	NBR	016D0085 *)
EV220B 100	EPDM	016D0077
EV220B 100	NBR	016D0086 *)

The kit contains:

All relevant seals

*) Filter included.

Function

1. Armature
2. Closing spring in pilot system
3. Valve plate
4. Pilot orifice
5. Servo piston
6. Main orifice
7. Coil
8. Equalizing orifice

Coil voltage disconnected (closed):

When the voltage is disconnected, the valve plate (3) is pressed down against the pilot orifice (4) by the pilot system's closing spring (2).

The pressure across the servo piston (5) is built up via the equalizing orifice (8). The servo piston closes the main orifice (6) as soon as the pressure across the piston is equivalent to the inlet pressure.

The valve will be closed for as long as the voltage to the coil is disconnected.

Coil voltage connected (open):

When voltage is applied to the coil (7), the armature (1) and the valve plate (3) are lifted clear of the pilot orifice (4). As the pilot orifice is larger than the equalizing orifice (8), the pressure across the servo piston (5) drops and therefore it is lifted clear of the main orifice (6).

The valve will be open for as long as the minimum differential pressure across the valve is maintained, and for as long as there is voltage to the coil.