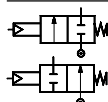


Solenoid valves  
2/2-way servo-operated  
Type EV220A  
DN 6-22

## 2/2-way servo-operated solenoid valves



De-energized closed  
De-energized open

**Type EV220A**  
**for neutral liquids and gases**  
**DN 6 - 22 B**

G 1/4 - G 1

### Features



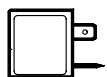
- Compact solenoid valve for robust industrial applications
- Liquid hammer damped
- Low power consumption
- NO version, standard for all valve sizes
- For water, oil, compressed air and similar neutral media
- Differential pressure: Up to 16 bar
- Viscosity: Up to 50 cSt
- Ambient temperatures: Up to +50°C
- Enclosure: Up to IP 65

### Technical data

Type	EV220A 6 B	EV220A 10 B	EV220A 12 B	EV220A 14 14 B	EV220A 18 B	EV220A 22 B
Capacity, $k_v$ (m <sup>3</sup> /h)	1	1.6	2.5	4	7	7
Differential pressure range	0.2 - 16 bar			0.3 - 16 bar		
Max. test pressure	50 bar			25 bar		
Opening times <sup>1)</sup> ms	40	50	60	100	200	200
Closing times <sup>1)</sup> ms	250	300	300	400	500	500
Ambient temperature	Max. +50 °C					
Media temperature	NBR: -10 → +90°C / EPDM: -30 → +100°C FKM: 0 → +100°C / FKM for water max. +60°C With AR coil (Ex m II T4) max. +90°C					
Media viscosity	+50 cSt.					
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. 1.4310 / AISI 301			
	O-ring:		NBR, EPDM or FKM			
	Valve plate:		NBR, EPDM or FKM For NO: NBR			
	Diaphragm:		NBR, EPDM or FKM			

<sup>1)</sup> Times are indicative and apply to water. Exact times will depend on pressure conditions.

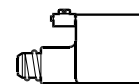
### Coil options



Type AB:  
4.5 W ac / 5 W dc  
See DKACV.PD.600.A

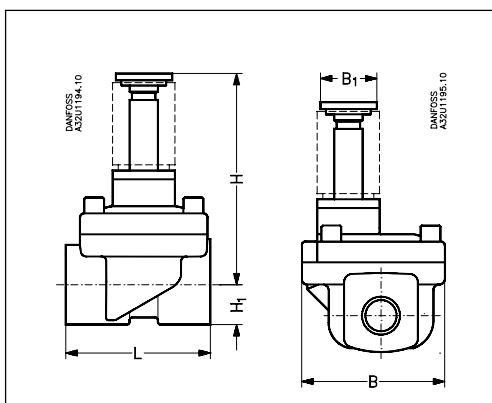


Type AM:  
7.5 W ac / 9.5 W dc  
Type AK: 3W dc  
See DKACV.PD.600.A



Ex mII T4  
Type AR: 6 W ac / 4.8/7 W dc  
See DKACV. 600.A

### Dimensions and weight



Type	L [mm]	B [mm]	H <sub>1</sub> [mm]	H [mm] NC/NO	Weight* [kg]
EV220A 6 B	51	50	13	76/80	0.46
EV220A 10 B	51	50	13	76/80	0.44
EV220A 12 B	58	58	13	77/81	0.52
EV220A 14 B	58	58	13	77/81	0.50
EV220A 18 B	90	58	18	78/82	0.72
EV220A 22 B	90	58	22	83/87	1.00

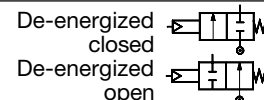
\*) Exclusive of coil

B <sub>1</sub> [mm]	
Type AB	Type AM/AK/AR
22	33

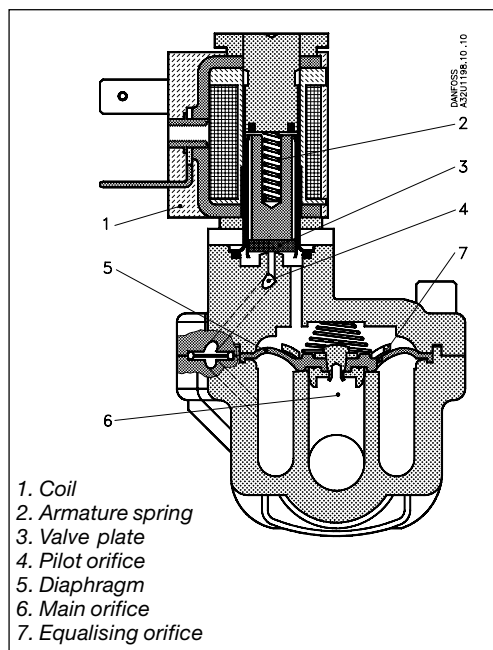
## 2/2-way servo-operated solenoid valves

G 1/4 - G 1

**Type EV220A**  
for neutral liquids and gases  
**DN 6 - 22 B**



### Function



### De-energized closed version

#### Coil voltage disconnected

When voltage is disconnected, the armature spring (2) presses the armature block (3) down against the pilot orifice (4). Pressure builds up over the diaphragm (5) via the equalising orifice (7). The diaphragm closes the main orifice (6) 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 equalising orifice (7), pressure over the diaphragm (5) falls and the diaphragm is lifted clear of the main orifice (6). The valve stays open for as long as the required least differential pressure is present and voltage is applied to the coil.

### De-energized open version

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

### Ordering

EV220A 6 - 22 NC De-energized closed

Con- nection ISO 228/1	Seal material	k <sub>v</sub> - value [m <sup>3</sup> /h]	Media temp.		Type designation		Code no. without coil	Permissible differential pressure(bar)/Coil type							
			Min.	Max.	Main type	Specification		Min.	Max. <sup>3)</sup>						
			[°C]	[°C]					4.5 W ac	5.0 W dc	7.5 W ac	9.5 W dc	AR (EEx) 6.0 W ac	7.0 W dc	AK 3.0 W dc
G 1/4	EPDM <sup>1)</sup>	1	-30	+100	EV220A 6B	G 14E NC000	<b>042U4001</b>	0.2	10	10	16	16	16	16	10
G 1/4	NBR	1	-10	+90	EV220A 6B	G 14N NC000	<b>042U4003</b>		10	10	16	16	16	16	10
G 1/4	FKM <sup>2)</sup>	1	0	+100	EV220A 6B	G 14F NC000	<b>Option</b>		10	10	16	16	16	16	10
G 3/8	EPDM <sup>1)</sup>	1	-30	+100	EV220A 6B	G 38E NC000	<b>042U4002</b>	0.2	10	10	16	16	16	16	10
G 3/8	NBR	1	-10	+90	EV220A 6B	G 38N NC000	<b>042U4004</b>		10	10	16	16	16	16	10
G 3/8	FKM <sup>2)</sup>	1	0	+100	EV220A 6B	G 38F NC000	<b>Option</b>		10	10	16	16	16	16	10
G 3/8	EPDM <sup>1)</sup>	1.6	-30	+100	EV220A 10B	G 38E NC000	<b>042U4011</b>	0.2	10	10	16	16	16	16	10
G 3/8	NBR	1.6	-10	+90	EV220A 10B	G 38N NC000	<b>042U4013</b>		10	10	16	16	16	16	10
G 3/8	FKM <sup>2)</sup>	1.6	0	+100	EV220A 10B	G 38F NC000	<b>Option</b>		10	10	16	16	16	16	10
G 1/2	EPDM <sup>1)</sup>	1.6	-30	+100	EV220A 10B	G 12E NC000	<b>042U4012</b>	0.2	10	10	16	16	16	16	10
G 1/2	NBR	1.6	-10	+90	EV220A 10B	G 12N NC000	<b>042U4014</b>		10	10	16	16	16	16	10
G 1/2	FKM <sup>2)</sup>	1.6	0	+100	EV220A 10B	G 12F NC000	<b>Option</b>		10	10	16	16	16	16	10
G 1/2	EPDM <sup>1)</sup>	2.5	-30	+100	EV220A 12B	G 12E NC000	<b>042U4021</b>	0.3	10	10	16	16	16	16	10
G 1/2	NBR	2.5	-10	+90	EV220A 12B	G 12N NC000	<b>042U4023</b>		10	10	16	16	16	16	10
G 1/2	FKM <sup>2)</sup>	2.5	0	+100	EV220A 12B	G 12F NC000	<b>Option</b>		10	10	16	16	16	16	10
G 1/2	EPDM <sup>1)</sup>	4	-30	+100	EV220A 14B	G 12E NC000	<b>042U4022</b>	0.3	10	10	16	16	16	16	10
G 1/2	NBR	4	-10	+90	EV220A 14B	G 12N NC000	<b>042U4024</b>		10	10	16	16	16	16	10
G 1/2	FKM <sup>2)</sup>	4	0	+100	EV220A 14B	G 12F NC000	<b>Option</b>		10	10	16	16	16	16	10
G 3/4	EPDM <sup>1)</sup>	7	-30	+100	EV220A 18B	G 34E NC000	<b>042U4031</b>	0.3	10	10	16	16	16	16	10
G 3/4	NBR	7	-10	+90	EV220A 18B	G 34N NC000	<b>042U4032</b>		10	10	16	16	16	16	10
G 3/4	FKM <sup>2)</sup>	7	0	+100	EV220A 18B	G 34F NC000	<b>Option</b>		10	10	16	16	16	16	10
G 1	EPDM <sup>1)</sup>	7	-30	+100	EV220A 22B	G 1E NC000	<b>042U4041</b>	0.3	10	10	16	16	16	16	10
G 1	NBR	7	-10	+90	EV220A 22B	G 1N NC000	<b>042U4042</b>		10	10	16	16	16	16	10
G 1	FKM <sup>2)</sup>	7	0	+100	EV220A 22B	G 1F NC000	<b>Option</b>		10	10	16	16	16	16	10

EV220A 6 - 22 NO De-energized open

G 1/4	NBR	1	-10	+90	EV220A 6B	G 14N NO000	<b>042U4053</b>	0.2	-	-	16	16	-	-	-
G 3/8	NBR	1	-10	+90	EV220A 6B	G 38N NO000	<b>042U4054</b>	0.2	-	-	16	16	-	-	-
G 3/8	NBR	1.6	-10	+90	EV220A 10B	G 38N NO000	<b>042U4063</b>	0.2	-	-	16	16	-	-	-
G 1/2	NBR	1.6	-10	+90	EV220A 10B	G 12N NO000	<b>042U4064</b>	0.2	-	-	16	16	-	-	-
G 1/2	NBR	2.5	-10	+90	EV220A 12B	G 12N NO000	<b>042U4073</b>	0.3	-	-	16	16	-	-	-
G 1/2	NBR	4	-10	+90	EV220A 14B	G 12N NO000	<b>042U4074</b>	0.3	-	-	16	16	-	-	-
G 3/4	NBR	7	-10	+90	EV220A 18B	G 34N NO000	<b>042U4082</b>	0.3	-	-	16	16	-	-	-
G 1	NBR	7	-10	+90	EV220A 22B	G 1N NO000	<b>042U4092</b>	0.3	-	-	16	16	-	-	-

<sup>1)</sup> Suitable only for water. -  
WRC approved.

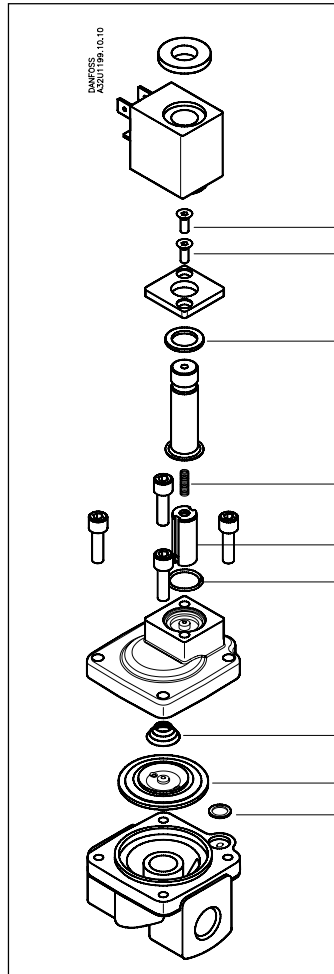
<sup>3)</sup> For higher differential pressure than stated,  
please contact Danfoss.

<sup>2)</sup> **Option - Ordering:** Please  
contact Danfoss.

**Spare parts**

**for solenoid valves  
2/2-way servo-operated  
Type EV220A**

**Spare parts kit for  
NC version**



Spare parts kit comprising armature assembly, diaphragm assembly, armature spring, diaphragm spring and two O-rings

Type	Seal material	Code no.
EV220A 6 - 10 B	EPDM <sup>1)</sup>	<b>042U1000</b>
EV220A 6 - 10 B	NBR <sup>2)</sup>	<b>042U1001</b>
EV220A 6 - 10 B	FKM <sup>3)</sup>	<b>042U1002</b>
EV220A 12 - 14 B	EPDM <sup>1)</sup>	<b>042U1003</b>
EV220A 12 - 14 B	NBR <sup>2)</sup>	<b>042U1004</b>
EV220A 12 - 14 B	FKM <sup>3)</sup>	<b>042U1005</b>
EV220A 18 - 22 B	EPDM <sup>1)</sup>	<b>042U1006</b>
EV220A 18 - 22 B	NBR <sup>2)</sup>	<b>042U1007</b>
EV220A 18 - 22 B	FKM <sup>3)</sup>	<b>042U1008</b>

<sup>1)</sup> Suitable for water.

<sup>2)</sup> Suitable for water, oil, and air.

<sup>3)</sup> Suitable for oil and air. Water max. +60° C.

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.