

Solenoid valves 2/2-way direct-operated Type EV210A

Features



EV210A NC and NO

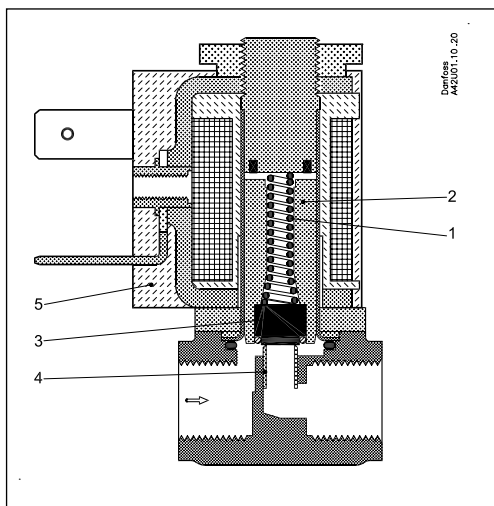
- Very compact valves for industrial application, such as control and dosage
- For water, oil, compressed air and similar neutral media
- K_v value up to 0.26 m³/h
- Differential pressure: Up to 30 bar
- Viscosity: Up to 20 cSt
- Ambient temperature: Up to +50°C
- Coil enclosure: Up to IP 65
- Thread connections: G 1/8 and G 1/4
- The valves can be used for rough vacuum

Technical data for NC and NO

Installation	Optional, but vertical solenoid system is recommended
Pressure range	0 to 30 bar
Max. test pressure	50 bar
Tightness	Internally: Better than 8.3×10^{-2} mbar l/sec (5 ccm air per min) Externally: Better than 1×10^{-3} mbar l/sec (100% He)
Time to open and close	7 - 10 ms (depending on pressure, coil and viscosity)
Ambient temperature	Max. +50°C
Medium temperature	EPDM: -30 to +120°C FKM: -10 to +100°C
Viscosity	Max. 20 cSt
Materials	Valve body: Brass,..... W.no. 2.0401 Armature: Stainless Steel, W. no. 1.4016/AISI 430 Armature tube: Stainless Steel, W. no. 1.4303/AISI 305 Armature stop: Stainless Steel, W. no. 1.4016/AISI 430 Spring: Stainless Steel, W. no. 1.4310/AISI 301 Valve orifice: Stainless Steel, W. no. 1.4305/AISI 303 O-rings/valve plate: EPDM or FKM

Function NC

- 1. Closing spring
- 2. Armature
- 3. Valve plate
- 4. Valve orifice
- 5. Coil



Coil voltage disconnected (closed):

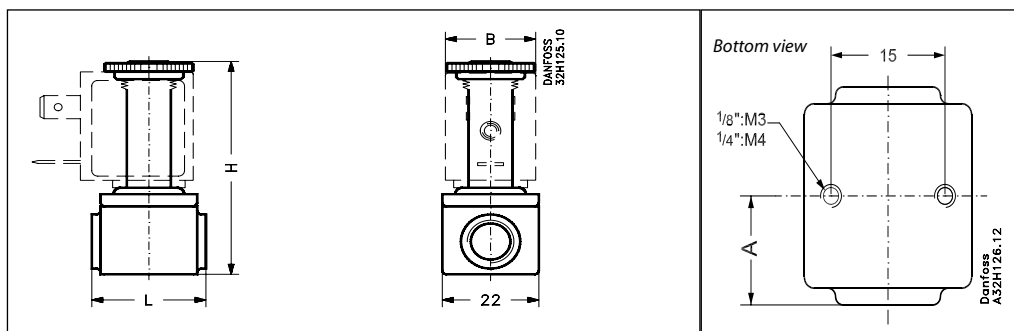
When the voltage is disconnected, the armature (2) with the valve plate (3) is pressed down against the valve orifice (4) by the closing spring (1) and the medium's pressure. The valve will be closed for as long as the voltage to the coil is disconnected.

Coil voltage connected (open):

When voltage is applied to the coil (5), the armature (2) with the valve plate (3) is lifted clear of the valve orifice (4).

The valve is now open for unimpeded flow and will be open for as long as there is voltage to the coil.

Dimensions and weight



Thread ISO 228/1	L [mm]	B [mm]		H [mm]	A [mm]	Weight with- out coil [kg]
		Coil type AB/ AC	Coil type AM/AK			
G 1/8	26	22	33	54	13	0.085
G 1/4	35	22	33	59	17.5	0.110

Ordering NC

valve body

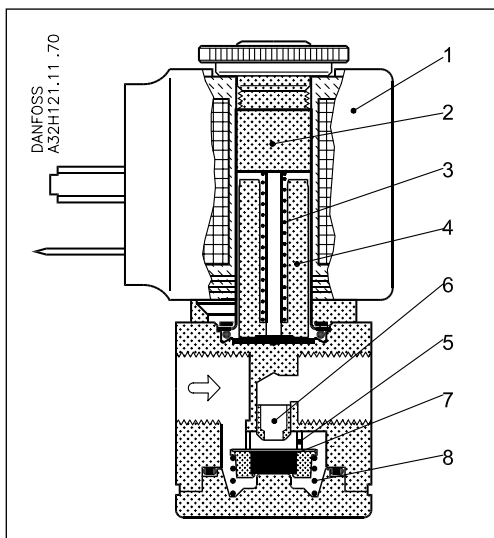
Con- nec- tion ISO 228/1	Seal mate- rial	k _v - Value [m ³ /h]	Ori- fice [mm]	Media temp.		Type designation		Permissible differential pressure [bar] ²⁾								Suit- able coil type	Code no. without coil
				Min. [°C]	Max. [°C]	Main type	Specification	Min.	Max.								
									Water		Oil		Air				
									ac	dc	ac	dc	ac	dc			
G 1/8	EPDM FKM	0.04	1.2	-30+120 -10+100	EV210A 1.2B EV210A 1.2B	G 18E NC000 G 18F NC000	0	30	17.5	28	16	30	19	AB	032H8000¹⁾ 032H8001		
								30	24	30	24	30	24	AC			
								30	24	30	24	30	24	AM			
								-	24	-	24	-	24	AK			
G 1/8	EPDM FKM	0.08	1.5	-30+120 -10+100	EV210A 1.5B EV210A 1.5B	G 18E NC000 G 18F NC000	0	18	9.5	15	8	22	10.5	AB	032H8002¹⁾ 032H8003		
								26	17.5	24	16	30	18.5	AC			
								28	22.5	26	19	30	24	AM			
								-	17.5	-	17.5	-	19	AK			
G 1/8	EPDM FKM	0.11	2.0	-30+120 -10+100	EV210A 2.0B EV210A 2.0B	G 18E NC000 G 18F NC000	0	11	5.5	9	5	14	6	AB	032H8004¹⁾ 032H8005		
								18	10.5	16	9.5	22	11	AC			
								23	18.5	22	17	30	24	AM			
								-	9	-	9	-	9	AK			
G 1/8	EPDM FKM	0.17	2.5	-30+120 -10+100	EV210A 2.5B EV210A 2.5B	G 18E NC000 G 18F NC000	0	6	3	5	2.5	8	3	AB	032H8006¹⁾ 032H8007		
								11	5.5	9	5	12	6	AC			
								17	13	16	12	20	14.5	AM			
								-	5	-	5	-	5	AK			
G 1/8	EPDM FKM	0.22	3.0	-30+120 -10+100	EV210A 3.0B EV210A 3.0B	G 18E NC000 G 18F NC000	0	4	1.5	3	1.5	5	2	AB	032H8008¹⁾ 032H8009		
								7	3.5	6	3	8	3.5	AC			
								13	9	12	8	14	9	AM			
								-	3	-	3	-	3	AK			
G 1/4	EPDM FKM	0.17	2.5	-30+120 -10+100	EV210A 2.5B EV210A 2.5B	G 14E NC000 G 14F NC000	0	6	3	5	2.5	8	3	AB	032H8014¹⁾ 032H8015		
								11	5.5	9	5	12	6	AC			
								17	13	16	12	20	14.5	AM			
								-	5	-	5	-	5	AK			
G1/4	EPDM FKM	0.22	3.0	-30+120 -10+100	EV210A 3.0B EV210A 3.0B	G 14E NC000 G 14F NC000	0	4	1.5	3	1.5	5	2	AB	032H8016¹⁾ 032H8017		
								7	3.5	6	3	8	3.5	AC			
								13	9	12	8	14	9	AM			
								3	-	3	-	3	-	AK			
G 1/4	EPDM FKM	0.26	3.5	-30+120 -10+100	EV210A 3.5B EV210A 3.5B	G 14E NC000 G 14F NC000	0	2.8	1.2	2	0.8	3.5	1.2	AB	032H8018¹⁾ 032H8019		
								5	2.5	4	2.5	5.5	2.5	AC			
								11	6	10	5.5	11	6	AM			
								-	1.5	-	1.5	-	1.5	AK			

1) WRAS approved

2) Pressure range can be extended for use in rough vacuum, typically up to 99% vacuum (10 mbar), depending on the application

Function NO

- 1.Coil
- 2.Fixed top
- 3.Opening spring
- 4.Armature
- 5.Pins
- 6.Valve orifice
- 7.Valve plate
- 8.Closing spring



Coil voltage disconnected (open):

When the voltage to the coil is disconnected, the valve orifice (6) is open, the opening spring (3) pressing the valve plate (7) clear of the orifice (6) via the armature (4) and the pins (5). The valve will be open for as long as the supply voltage is disconnected.

Coil voltage connected (closed):

When voltage is applied to the coil, the armature (4) is drawn up to touch the fixed top (2). The valve plate (7) is pressed against the valve orifice (6) by the closing spring (8). The valve will be closed for as long as there is voltage to the coil.



Ordering NO

valve body

Con- nec- tion ISO 228/1	Seal mate- rial ¹⁾	k _V - Value [m ³ /h]	Ori- fice [mm]	Media temp.		Type designation		Permissible differential pressure [bar] ²⁾								Suit- able coil type	Code no. without coil
				Min. [°C]	Max. [°C]	Main type	Specification	Min.	Max.								
									Water		Oil		Air				
									ac	dc	ac	dc	ac	dc			
G 1/8	FKM	0.06	1.5	-10	+100	EV210A 1.5B	G 18F NO000	0	30	16	24	13	30	16	AM	032H8049	
	FKM	0.12	2.0	-10	+100	EV210A 2.0B	G 18F NO000		14	10	11	8	14	10	AM	032H8051	
	FKM	0.15	2.5	-10	+100	EV210A 2.5B	G 18F NO000		10	6	8	4.5	10	6	AM	032H8053	
	FKM	0.18	3.0	-10	+100	EV210A 3.0B	G 18F NO000		6	4	5	3	6	4	AM	032H8055	
	FKM	0.20	3.5	-10	+100	EV210A 3.5B	G 18F NO000		4	3	4	2	4	3	AM	032H8057	

1)For WRAS approved seal material in EPDM, please contact Danfoss.

2) Pressure range can be extended for use in rough vacuum, typically up to 99% vacuum (10 mbar), depending on the application

Dimensions and weight

The drawings show the valve from the side and front. Dimensions are indicated: L (length), B (width), and H (height). The front view shows a circular port with a diameter of 22 mm. The side view shows the valve body and coil assembly.					
Thread ISO 228/1	L [mm]	B [mm]		H [mm]	Weight without coil [kg]
		Coil type AM			
G 1/8	26	33		63	0.125

Features



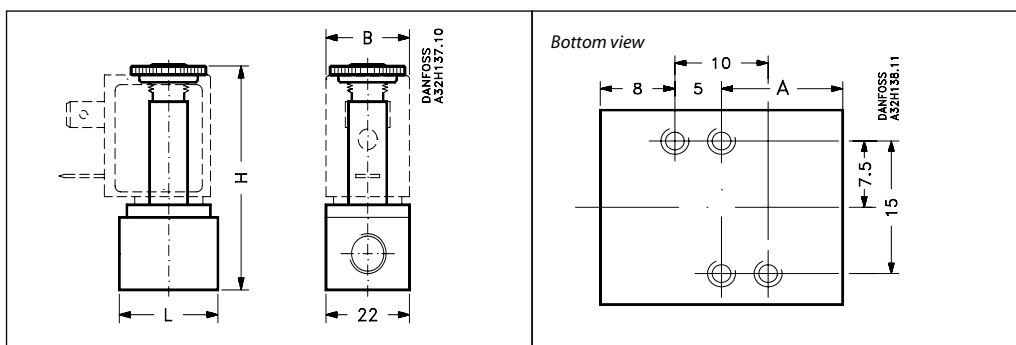
EV210A SS

- Very compact valves for industrial application, such as control
- For neutral and aggressive liquids and gases. Contact Danfoss if you are in doubt about the valve's suitability for the medium in question.
- Differential pressure: Up to 30 bar
- Viscosity: Up to 20 cSt
- Ambient temperature: Up to +50°C
- Coil enclosure: Up to IP 65
- Thread connections: G 1/8 and G 1/4
- The valves can be used for rough vacuum

Technical data

Installation	Optional, but vertical solenoid system is recommended	
Pressure range	0 to 30 bar	
Max. test pressure	50 bar	
Tightness	Internally: Better than 8.3×10^{-2} mbar l/sec (5 ccm air per min) Externally: Better than 1×10^{-3} mbar l/sec (100% He)	
Time to open and close	7 - 10 ms (depending on pressure, coil and viscosity)	
Ambient temperature	Max. +50°C	
Medium temperature	FKM: -10 to +100°C	
Viscosity	Max. 20 cSt	
Materials	Valve body: Stainless Steel, W.no. 1.4305/AISI 303 Armature: Stainless Steel, W. no. 1.4016/AISI 430 Armature tube: Stainless Steel, W. no. 1.4303/AISI 305 Armature stop: Stainless Steel, W. no. 1.4016/AISI 430 Spring: Stainless Steel, W. no. 1.4310/AISI 301 Valve orifice: Stainless Steel, W. no. 1.4305/AISI 303 O-rings/valve plate:FKM	

Dimensions and weight



Thread ISO 228/1	L [mm]	B [mm]		H [mm]	A [mm]	Weight with- out coil [kg]
		Coil type AB/ AC	Coil type AM/AK			
G 1/8	26	22	33	54	13	0.085
G 1/4	35	22	33	59	17.5	0.110

Ordering

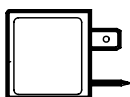
valve body

Con- nec- tion ISO 228/1	Seal mate- rial ¹⁾	k _v - Value [m ³ /h]	Ori- fice [mm]	Media temp.		Type designation		Min.	Permissible differential pressure [bar] ²⁾						Sui- table coil type	Code no. without coil	
				Min. [°C]	Max. [°C]	Main type	Specification			Máx.							
										Water		Oil		Air			
										ac	dc	ac	dc	ac			dc
G 1/8	FKM	0.04	1.2	-10	+100	EV210A 1.2SS	G 18F NC000	0	30	17.5	28	16	30	19	AB	032H8025	
									30	24	30	24	30	24	AC		
									30	24	30	24	30	24	AM		032H8027
									-	24	-	24	-	24	AK		
	FKM	0.08	1.5	-10	+100	EV210A 1.2SS	G 18F NC000		18	9.5	15	8	22	10.5	AB	032H8029	
									26	17.5	24	16	30	18.5	AC		
									28	22.5	26	19	30	24	AM		
									-	17.5	-	17.5	-	19	AK		
	FKM	0.11	2.0	-10	+100	EV210A 2.0SS	G 18F NC000		11	5.5	9	5	14	6	AB	032H8031	
									18	10.5	16	9.5	22	11	AC		
									23	18.5	22	17	30	24	AM		
									-	9	-	9	-	9	AK		
	FKM	0.17	2.5	-10	+100	EV210A 2.5SS	G 18F NC000		6	3	5	2.5	8	3	AB	032H8033	
									11	5.5	9	5	12	6	AC		
									17	13	16	12	20	14.5	AM		
									-	5	-	5	-	5	AK		
	FKM	0.22	3.0	-10	+100	EV210A 3.0SS	G 18F NC000		4	1.5	3	1.5	5	2	AB	032H8039	
									7	3.5	6	3	8	3.5	AC		
									13	9	12	8	14	9	AM		
									-	3	-	3	-	3	AK		
G 1/4	FKM	0.17	2.5	-10	+100	EV210A 2.5SS	G 14F NC000	6	3	5	2.5	8	3	AB	032H8041		
								11	5.5	9	5	12	6	AC			
								17	13	16	12	20	14.5	AM			
								-	5	-	5	-	5	AK			
	FKM	0.22	3.0	-10	+100	EV210A 3.0SS	G 14F NC000	4	1.5	3	1.5	5	2	AB	032H8043		
								7	3.5	6	3	8	3.5	AC			
								13	9	12	8	14	9	AM			
									3	-	3	-	3	AK			
	FKM	0.26	3.5	-10	+100	EV210A 3.5SS	G 14F NC000	2.8	1.2	2	0.8	3.5	1.2	AB	032H8043		
								5	2.5	4	2.5	5.5	2.5	AC			
								11	6	10	5.5	11	6	AM			
								-	1.5	-	1.5	-	1.5	AK			

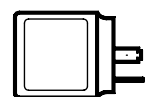
1) For WRAS approved seal material in EPDM, please contact Danfoss

2) Pressure range can be extended for use in rough vacuum, typically up to 99% vacuum (10 mbar), depending on the application

Coil options



Type AB: 4.5W ac / 5 W dc
Type AC: 7.0 W ac/ 10W dc



Type AM: 7.5W ac / 9.5 W dc
Type AK: 3.0 W dc

Ordering coils

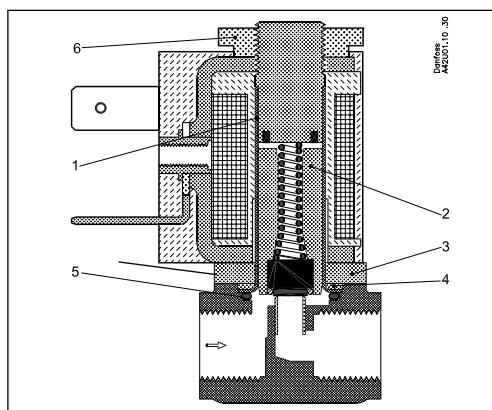
See separate data sheet for coils DKACV.PD.600.A

Media resistance

Please contact Danfoss

Spare parts

EV210A NC



The spare parts set comprises the following parts:

- 1) Armature tube
- 2) Armature with valve plate and spring
- 3) Flange
- 4) Disk
- 5) O-ring
- 6) Nut
- 7) 2 screws for connecting tube to valve body

Seal material	Code No.
EPDM	042U0067
FKM	042U0068