

# Solenoid valves 3/2-way direct-operated

## Type EV310A

### Features



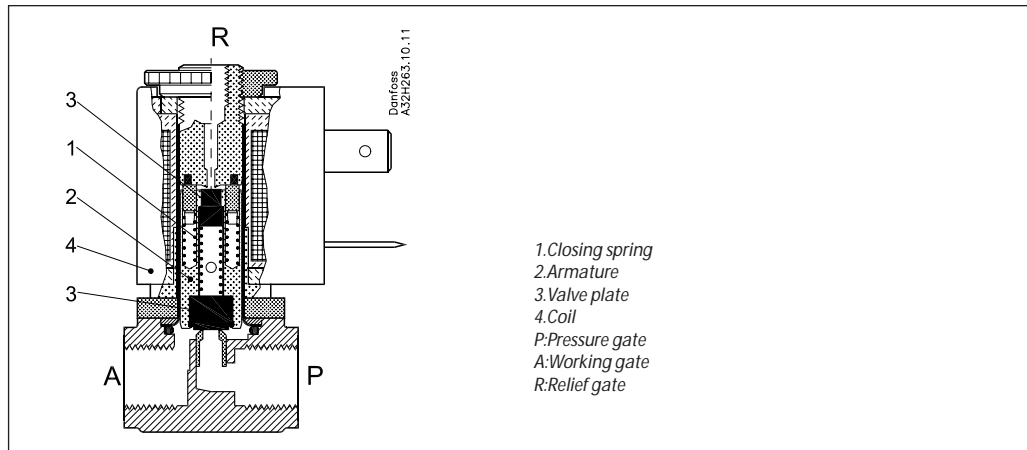
### EV310A NC and NO

- Very compact valves for industrial application, such as control.
- For water, oil, compressed air and similar neutral media.
- Ambient temperature: Up to +50 °C
- Coil enclosure: Up to IP 65
- Thread connections: G $\frac{1}{8}$  and G $\frac{1}{4}$
- Viscosity: Up to 20 cSt
- $k_v$  values up to 0.08 m<sup>3</sup>/h

### Technical data

Installation	Optional, but vertical solenoid system is recommended	
Pressure range	NC	0 to 20 bar
	NO	0 to 13 bar
Max. test pressure	50 bar	
Time to open and to close	7 - 10 ms (depending on the pressure)	
Ambient temperature	max. +50°C	
Medium temperature	FKM: -10° to +100°C	
Viscosity	max. 20 cSt	
Materials	Valve body:	Brass, W.no.2.0401
	Valve orifice:	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
	O-rings/valve plate: FKM	

Function NC



**Coil voltage disconnected (closed):**  
 When the voltage to the coil (4) is disconnected, the armature (2) with the valve plates (3) is pressed down by the closing spring (1) and closes the connection between P and A. At the same time, the connection between gates A and R is opened. The connection between P and A will be closed for as long as the voltage to the coil is disconnected.

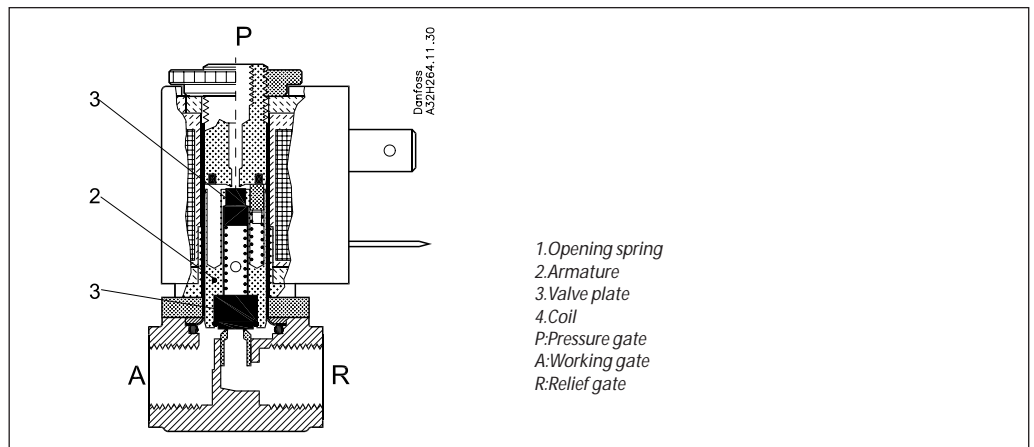
**Coil voltage connected (open):**  
 When voltage is applied, the armature (2) with the valve plates (3) is lifted and closes the connection between A and R. At the same time, the connection between P and A is opened. The connection between P and A will be open for as long as there is voltage to the coil.

Ordering NC Valve body

Conn. ISO 228/1	Seal material <sup>1)</sup>	k <sub>v</sub> value [m <sup>3</sup> /h]	DN mm	Media temp.		Type designation		Code no. without coil	Permissible differential pressure (bar) <sup>2)</sup>						Suitable coil types	
				Min °C	Max. °C	Main type	Specification		Min.	Max.						
										Water a.c./d.c.	Oil a.c./d.c.	Air a.c./d.c.				
G $\frac{1}{2}$	FKM	0.04	1.2	-10	+100	EV310A 1.2B	G 18F NC000	032H8085	0	18	18	9	9	20	20	AC, AM
	FKM	0.07	1.5	-10	+100	EV310A 1.5B	G 18F NC000	032H8087	0	10	10	5	5	12	12	AC, AM
	FKM	0.08	2.0	-10	+100	EV310A 1.8B	G 18F NC000	032H8089	0	6.5	6.5	4	4	8	8	AC, AM
G $\frac{1}{4}$	FKM	0.04	1.2	-10	+100	EV310A 1.2B	G 14F NC000	032H8095	0	18	18	9	9	20	20	AC, AM
	FKM	0.07	1.5	-10	+100	EV310A 1.5B	G 14F NC000	032H8097	0	10	10	5	5	12	12	AC, AM
	FKM	0.08	2.0	-10	+100	EV310A 1.8B	G 14F NC000	032H8099	0	6.5	6.5	4	4	8	8	AC, AM

1) For WRAS approved seal material in EPDM, please contact Danfoss  
 2) The EV310A valve in de-energized closed version, is also available for higher differential pressure up to 28 bar. Please contact Danfoss.

Function NO



*Coil voltage disconnected (open):*

When the voltage is disconnected, the armature (2) with the valve plates (3) is pressed down by the opening spring (1) and closes the connection between A and R.

At the same time, the connection between P and A is open.

The connection between P and A will be open for as long as the voltage to the coil is disconnected.

*Coil voltage connected (closed):*

When voltage is applied to the coil (4), the armature (2) with the valve plates (3) is lifted and closes the connection between P and A.

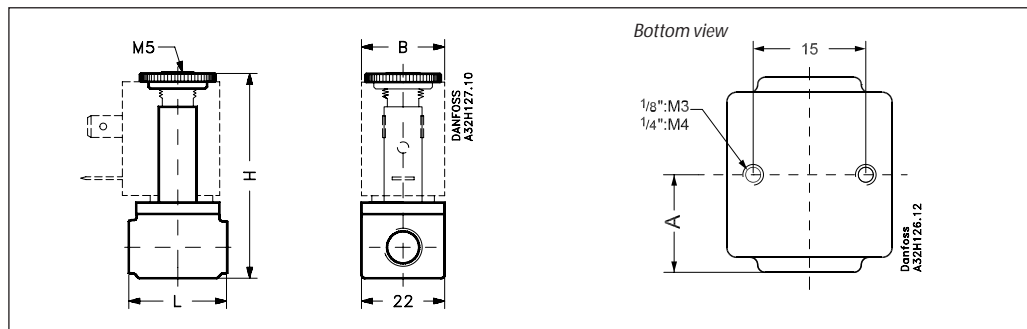
At the same time, the connection between gates A and R is opened.

The connection between P and A will be closed for as long as there is voltage to the coil.

Ordering NO Valve body

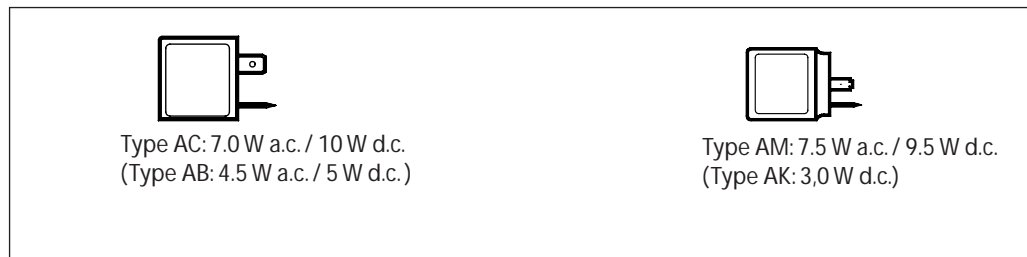
Conn. ISO 228/1	Seal material	k <sub>v</sub> value [m <sup>3</sup> /h]	DN mm	Media temp.		Type designation		Code no. without coil	Permissible differential pressure (bar)						Suitable coil types				
				Min °C	Max. °C	Main type	Specification		Min.	Max.									
										Water a.c. / d.c.		Oil a.c. / d.c.		Air a.c. / d.c.					
G ½	FKM	0.04	1.2	-10	+100	EV310A 1.2B	G 18F NO000	032H8125	0	6	4	6	4	6	4	AB			
										9	7	9	7	9	7	AC			
G ¼	FKM	0.07	1.5	-10	+100	EV310A 1.5B	G 18F NO000	032H8127	0	3	2	3	2	3	2	AB			
										5	3.5	5	3.5	5	3.5	AC			
G ¼	FKM	0.04	1.2	-10	+100	EV310A 1.2B	G 14F NO000	032H8133	0	6	4	6	4	6	4	AB			
										9	7	9	7	9	7	AC			
G ¼	FKM	0.07	1.5	-10	+100	EV310A 1.5B	G 14F NO000	032H8135	0	3	2	3	2	3	2	AB			
										5	3.5	5	3.5	5	3.5	AC			

Dimensions and weight



Thread ISO 228/1	L [mm]	B [mm]		H [mm]	A [mm]	Weight without 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

Coil options



Ordering - coils

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

Features



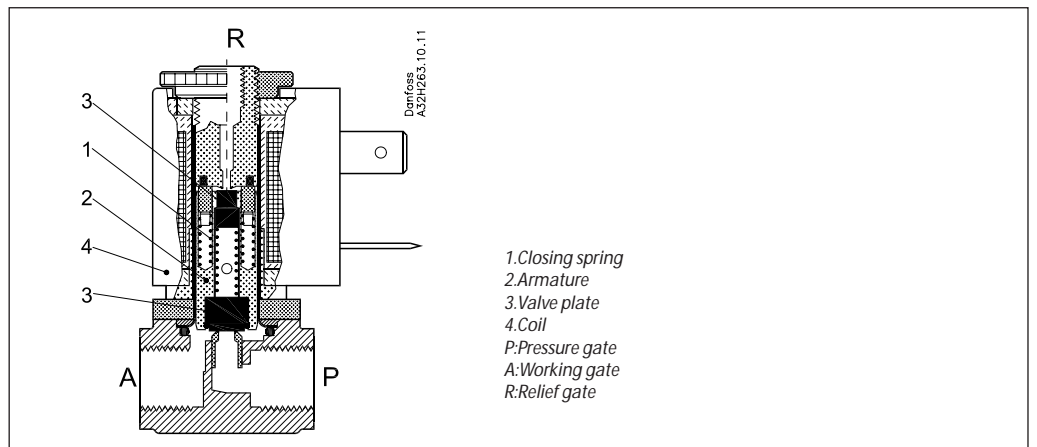
EV310A NC Man

- Very compact valves for industrial application, such as control.
- For water, oil, compressed air and similar neutral media.
- Ambient temperature: Up to +50°C
- Coil enclosure: Up to IP 65
- Thread connections: G $\frac{1}{8}$  and G $\frac{1}{4}$
- Viscosity: Up to 20 cSt
- $k_v$  values up to 0.07 m $^3$ /h
- Differential pressure: Up to 20 bar

Technical data

Installation	Optional, but vertical solenoid system is recommended
Pressure range	0 to 20 bar
Max. test pressure	50 bar
Time to open and to close	7 - 10 ms (depending on the pressure)
Ambient temperature	max. +50°C
Medium temperature	FKM: -10° to +100°C
Viscosity	max. 20 cSt
Materials	Valve body: Brass, W.no.2.0401 Valve orifice: 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.1.4305 / AISI 303 Other parts: Stainless steel, W.no.1.4016 / AISI 430F O-rings/valve plate: FKM

Function



**Coil voltage disconnected (closed):**  
 When the voltage to the coil (4) is disconnected, the armature (2) with the valve plates (3) is pressed down by the closing spring (1) and closes the connection between P and A. At the same time, the connection between gates A and R is opened. The connection between P and A will be closed for as long as the voltage to the coil is disconnected.

**Coil voltage connected (open):**  
 When voltage is applied, the armature (2) with the valve plates (3) is lifted and closes the connection between A and R. At the same time, the connection between P and A is opened. The connection between P and A will be open for as long as there is voltage to the coil.

Ordering

Conn. ISO 228/1	Seal material	k <sub>v</sub> value [m <sup>3</sup> /h]	DN [mm]	Media temp.		Type designation		Code no. without coil	Permissible differential pressure (bar)						Suitable coil types	
				Min. °C	Max. °C	Main type	Specification		Min.	Max						
										Water a.c./d.c.	Oil a.c./d.c.	Air a.c./d.c.				
G <sup>1</sup> / <sub>8</sub>	FKM	0.04	1.2	-10	+100	EV310A 1.2B	G 18F NC040	032H8141	0	18	18	9	9	20	20	AC, AM
	FKM	0.07	1.5	-10	+100	EV310A 1.5B	G 18F NC040	032H8143	0	10	10	5	5	12	12	AC, AM
G <sup>1</sup> / <sub>4</sub>	FKM	0.04	1.2	-10	+100	EV310A 1.2B	G 14F NC040	032H8151	0	18	18	9	9	20	20	AC, AM
	FKM	0.07	1.5	-10	+100	EV310A 1.5B	G 14F NC040	032H8153	0	10	10	5	5	12	12	AC, AM

Coil options



Type AC:  
7.0 W ac / 10 W dc

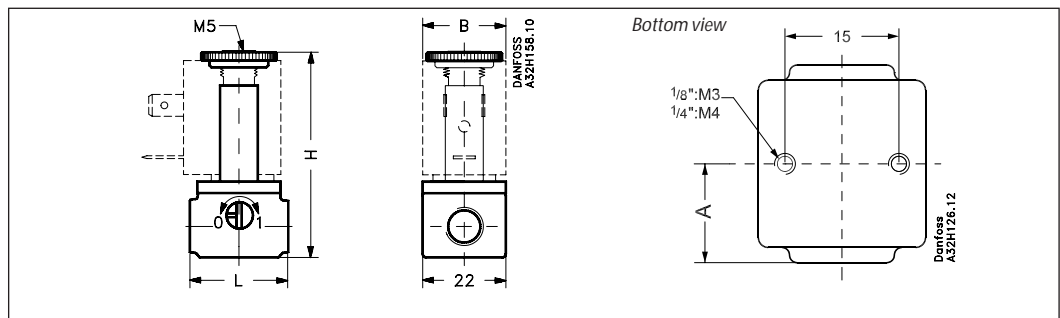


Type AM:  
7.5 W ac / 9.5 W dc

Ordering - coils

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

Dimensions and weight



Thread ISO 228/1	L [mm]	B [mm]		H [mm]	A [mm]	Weight without coil [kg]
		Coil type AC	Coil type AM			
G <sup>1</sup> / <sub>8</sub>	26	22	33	54	13	0.085
G <sup>1</sup> / <sub>4</sub>	35	22	33	59	17.5	0.110

Features



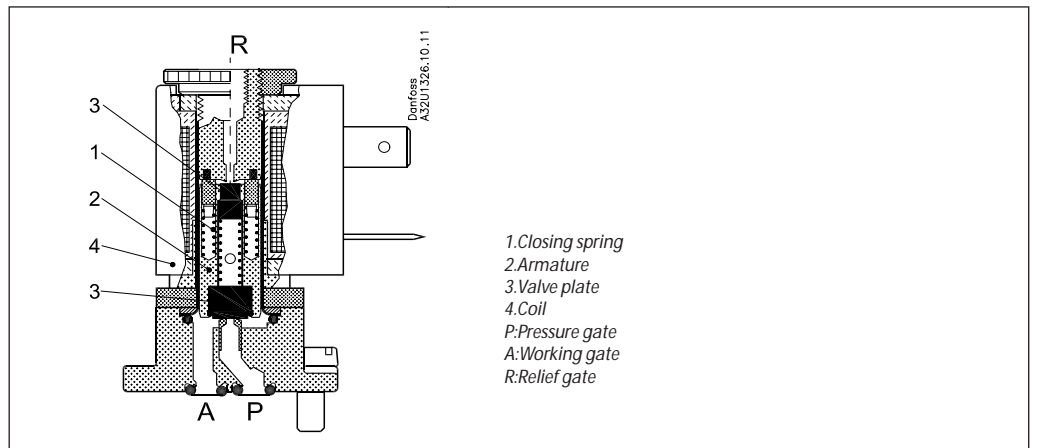
EV310A NC FL 32

- Very compact valves for industrial application, such as control.
- For water, oil, compressed air and similar neutral media.
- Ambient temperature: Up to +50°C
- Coil enclosure: Up to IP 65
- Viscosity: Up to 20 cSt
- Flange connection: 32x32 mm
- Differential pressure: Up to 20 bar

Technical data

Installation	Optional, but vertical solenoid system is recommended
Pressure range	0 to 20 bar
Max. test pressure	50 bar
Time to open and to close	7 - 10 ms (depending on the pressure)
Ambient temperature	max. +50°C
Medium temperature	FKM: -10° to +100°C
Viscosity	max. 20 cSt
Materials	Valve body: Brass, W.no.2.0401 Valve orifice: 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 Spring extensions: Stainless steel, W.no.1.4104 / AISI 430F O-rings/valve plate: FKM

Function



**Coil voltage disconnected (closed):**  
 When the voltage to the coil (4) is disconnected, the armature (2) with the valve plates (3) is pressed down by the closing spring (1) and closes the connection between P and A.  
 At the same time, the connection between gates A and R is opened.  
 The connection between P and A will be closed for as long as the voltage to the coil is disconnected.

**Coil voltage connected (open):**  
 When voltage is applied, the armature (2) with the valve plates (3) is lifted and closes the connection between A and R.  
 At the same time, the connection between P and A is opened.  
 The connection between P and A will be open for as long as there is voltage to the coil.

Ordering

Conn. ISO 228/1	Seal material	k <sub>v</sub> value [m <sup>3</sup> /h]	DN [mm]	Media temp.		Type designation		Code no. without coil	Permissible differential pressure (bar)						Suitable coil types	
				Min. °C	Max. °C	Main type	Specification		Min.	Max.						
										Water a.c./d.c.	Oil a.c./d.c.	Air a.c./d.c.				
32x32	FKM	0.05	1.2	-10	+100	EV310A 1.2B	FL32F NC000	032H8181	0	18	18	9	9	20	20	AC, AM
	FKM	0.08	1.5	-10	+100	EV310A 1.5B	FL32F NC000	032H8183	0	10	10	5	5	12	12	AC, AM

Coil options



Type AC:  
7.0 W ac / 10 W dc

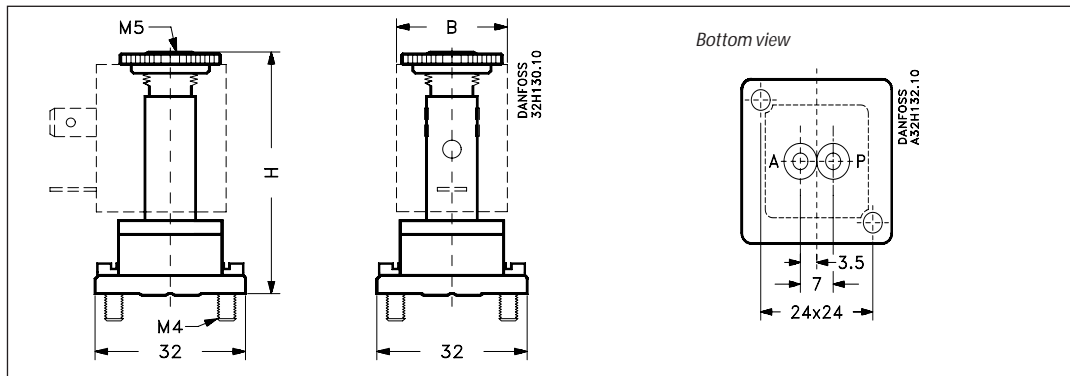


Type AM:  
7.5 W ac / 9.5 W dc

Ordering - coils

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

Dimensions and weight



Flange [mm]	B [mm]		H [mm]	Weight without coil [kg]
	Coil type AC	Coil type AM		
32x32	22	33	50.5	0.085

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