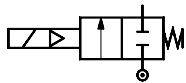


Solenoid valves
2/2-way assisted lift operated
Type EV250B



De-energized closed

Type EV250B NC
for neutral liquids and gases
DN 10 - 22 BD

G 3/8 - G 1

Features



- For heating systems and other systems with low and strongly fluctuating pressure conditions
- For water, oil, compressed air and similar neutral media
- K_v value: Up to 7 m³/h
- Differential pressure: Up to 16 bar
- Viscosity: Up to 50 cSt
- Ambient temperature: Up to +80°C
- Media temperature from -30 to +140°C
- Coil enclosure: Up to IP 67
- Thread connections: From G 3/8 to G 1
- Also available with NPT thread. Please contact Danfoss.

Technical data

Main type	EV250B 10BD	EV250B 12BD	EV250B 18BD	EV250B 22BD
Installation	Vertical solenoid system is recommended (see DKACV.PT.600.A)			
Pressure range	See Ordering (page 3)			
Max. test pressure	25 bar			
Time to open ¹⁾	100 ms	100 ms	150 ms	150 ms
Time to close ¹⁾	100 ms	100 ms	100 ms	100 ms
Ambient temperature	Max. +80°C (depending on coil type, see data for the coil selected)			
Media temperature	EPDM: -30 - +100°C: 0 - 16 bar +100 - +120°C: 0 - 10 bar +120 - +140°C: 0 - 4 bar FKM: 0 - +100°C (water: Max. +60°C)			
Viscosity	max. 50 cSt			
Materials	Valve body: DZR brass ²⁾ , CuCn36Pb2As/CZ132 Cover: Brass W.no. 2.0402 Armature: Stainless steel, W.no. 1.4105/AISI 430 FR Armature tube: Stainless steel, W.no. 1.4306/AISI 304 L Armature stop: Stainless steel, W.no. 1.4105/AISI 430 FR Springs: Stainless steel, W.no. 1.4310/AISI 301 O-rings: EPDM or FKM Valve plate: EPDM or FKM Diaphragm: EPDM or FKM			

¹⁾ The times are indicative and apply to water. The exact times will depend on the pressure conditions.

²⁾ Dezincification resistant brass

Coil options

Danfoss also offers EEx m II T4 coils for use in explosion risk areas - please see coil data sheet DKACV.PD.600.A

Type BB 10 W ac / 18 W dc	Type BD 15 W ac	Type BE 10 W ac / 18 W dc	Type BG: 12 W ac / 20 W dc Type BN: 20 W ac hum-free
See DKACV.PD.600.A			

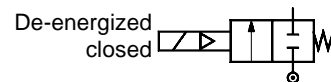
Dimensions and weight

Type	L [mm]	B [mm]	B ₁ [mm]			H ₁ [mm]	H [mm]	Weight without coil [kg]
			Coil type					
			BB/BE	BD	BG/BN			
G 3/8	58	52.5	46	32	68	13	93.5	0.6
G 1/2	58	52.5	46	32	68	13	93.5	0.6
G 3/4	90	58	46	32	68	18	93	0.8
G 1	90	58	46	32	68	23	100	1.1

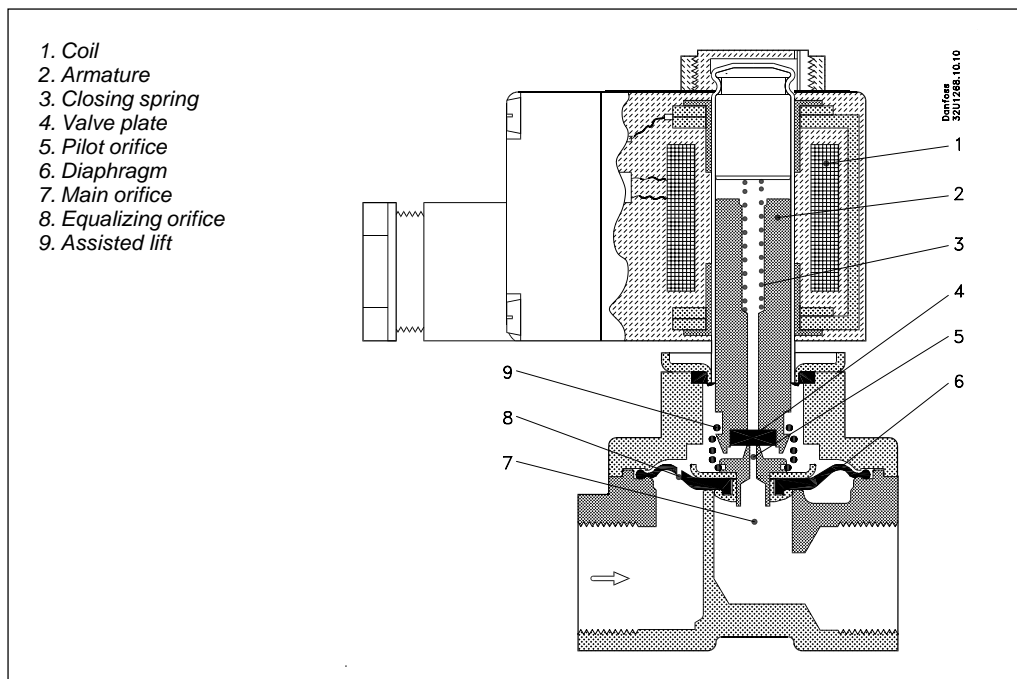
2/2-way assisted lift operated solenoid valves

G 3/8 - G 1

Type EV250B NC
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DN 10 - 22 BD



Function



Coil voltage disconnected (closed):
When the supply voltage to the coil (1) is disconnected, the valve plate (4) is pressed down against the pilot orifice (5) by the closing spring (3). The pressure across the diaphragm (6) is built up via the equalizing orifice (8). The diaphragm closes the main orifice (7) as soon as the pressure across the diaphragm is equivalent to the inlet pressure below, due to the larger diameter of the upper side and/or the tension of the closing spring (3). The valve will be closed as long as the voltage to the coil is disconnected.

Coil voltage connected (open):
When voltage is applied to the coil, the armature (2) and the valve plate (4) are lifted clear of the pilot orifice (5). If there is a differential pressure across the valve, the pressure above the diaphragm (6) drops as the pilot orifice is larger than the equalizing orifice. Therefore the diaphragm is lifted clear of the main orifice (7). If there is no differential pressure across the valve, the armature (2) draws the diaphragm (6) clear of the main orifice (7) using the assisted lift (9). The valve will be open for as long as there is voltage to the coil.

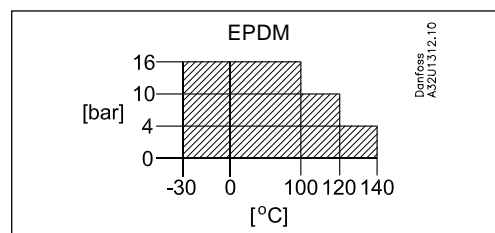
Ordering - valve body

Con- nection ISO 228/1	Seal material	k _v value [m³/h]	Media temp. ¹)		Type designation		Code no. without coil		Permissible differential pressure (bar) / coil type						
			Min.	Max.					Min.	Max.					
			[°C]	[°C]	Main type	Specification	WRAS	BB 10 W ac		BE 18 W dc	BD 15 W ac	BG 12 W ac	20 W dc	BN 20 W ac	
G 3/8	EPDM ²) FKM ³)	2,5	-30 0	+140 ²) +100 ³)	EV250B 10BD	G 38E NC000	032U5250	Pending	0	16	10	16	16	16	16
					EV250B 10BD	G 38F NC000				032U5251	16	10	16	16	16
G 1/2	EPDM ²) FKM ³)	4	-30 0	+140 ²) +100 ³)	EV250B 12BD	G 12E NC000	032U5252	Pending	0	16	10	16	16	16	16
					EV250B 12BD	G 12F NC000				032U5253	16	10	16	16	16
G 3/4	EPDM ²) FKM ³)	6	-30 0	+140 ²) +100 ³)	EV250B 18BD	G 34E NC000	032U5254	Pending	0	10	6	10	10	10	10
					EV250B 18BD	G 34F NC000				032U5255	10	6	10	10	10
G 1	EPDM ²) FKM ³)	7	-30 0	+140 ²) +100 ³)	EV250B 22BD	G 1E NC000	032U5256	Pending	0	10	6	10	10	10	10
					EV250B 22BD	G 1F NC000				032U5257	10	6	10	10	10

¹) 18 W dc coil: Max. +90°C

²) EPDM is suitable for water and steam (see illustration to the right):
 -30 - +100°C: 0 - 16 bar
 +100 - +120°C: 0 - 10 bar
 +120 - +140°C: 0 - 4 bar

³) FKM is suitable for oil, water and air (water: Max. +60°C)



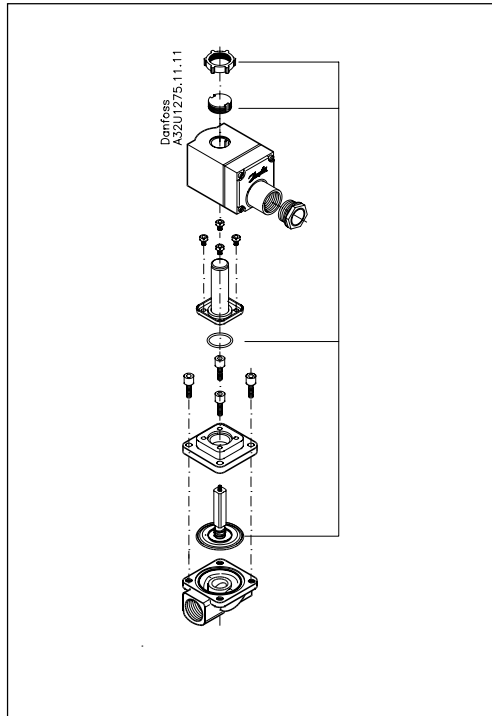
Ordering - coils

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

2/2-way assisted lift operated solenoid valves

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Spare parts kit for EV250B



The spare parts kit comprises a locking button and nut for the coil, and a service element consisting of an armature with valve plate and spring fitted on the diaphragm.

For valve type	Seal material	Code no.
EV250B 10-12BD	EPDM ¹⁾	032U5270
EV250B 10-12BD	FKM ²⁾	032U5271
EV250B 18-22BD	EPDM ¹⁾	032U5272
EV250B 18-22BD	FKM ²⁾	032U5273

- ¹⁾ EPDM is suitable for water and steam:
 -30 - +100°C: 0 - 16 bar
 +100 - +120°C: 0 - 10 bar
 +120 - +140°C: 0 - 4 bar
- ²⁾ FKM is suitable for oil, water and air
 (water: Max. +60°C)

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