



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 ²⁾	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 ³⁾ , Cover: Brass, Armature: Stainless steel, Armature tube: Stainless steel, Armature stop: Stainless steel, Springs: Stainless steel, O-rings: EPDM or FKM, Valve plate: EPDM or FKM, Diaphragm: EPDM or FKM	DZR brass ³⁾ , Brass, Stainless steel, Stainless steel, Stainless steel, Stainless steel, EPDM or FKM, EPDM or FKM	CuCr36Pb2As/CZ132 W.no. 2.0402 W.no. 1.4106/AISI 430 FR W.no. 1.4306/AISI 304 L W.no. 1.4106/AISI 430 FR W.no. 1.4310/AISI 301	

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

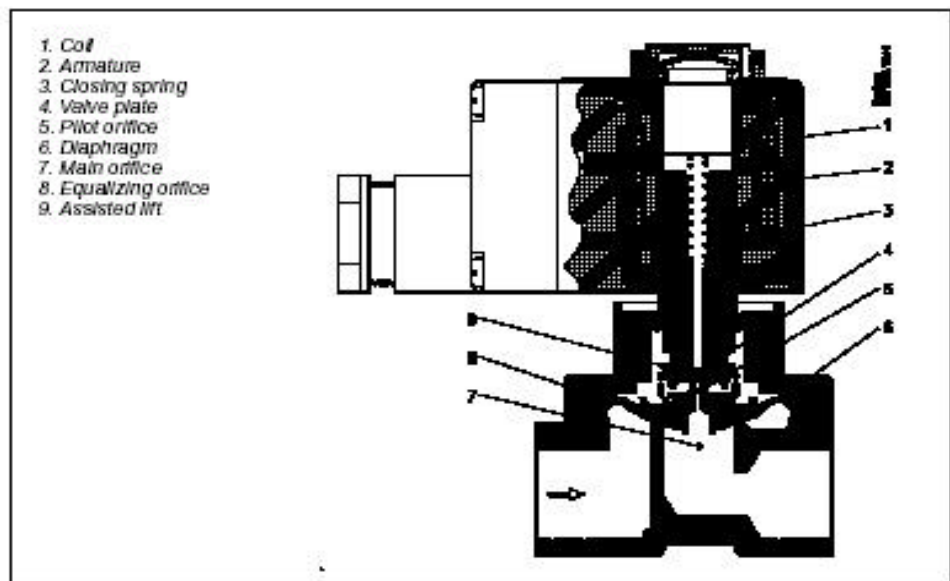
Type	L [mm]	B [mm]	B ₁ [mm]			H ₁ [mm]	H [mm]	Weight without coil [kg]
			Coil type					
			BB/BE	BD	BG/BN			
G 3/8	58	52.5	46	32	68	13	93.5	0.6
G 1/2	58	52.5	46	32	68	13	93.5	0.6
G 3/4	90	58	46	32	68	18	93	0.8
G 1	90	58	46	32	68	23	100	1.1

G 3/8 - G 1

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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.

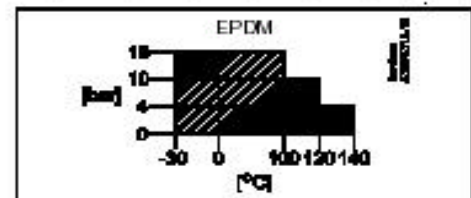
Ordering - valve body

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