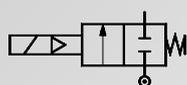


Solenoid valves
2/2-way servo-operated
Type EV220B
DN 15-50

2/2-way servo-operated solenoid valve



De-energized
closed

Type EV220B
for neutral liquids and gases
DN 15 - 40 B and 50 G

G 1/2 - G 2

Features



- For robust industrial application
- For water, steam, oil, compressed air and similar neutral media
- Flow range for water: 2.2 to 160 m³/h
- Differential pressure: Up to 16 bar
- Viscosity: Up to 50 cSt
- Ambient temperature: Up to +80°C
- Media temperature from -30°C to +140°C
- Coil enclosure: Up to IP 67
- Thread connections: From G 1/2 to G 2
- Water hammer damped
- Built in filter for protection of pilot system
- Adjustable closing time available (see page 11)
- Also available with NPT thread. Please contact Danfoss.

Technical data

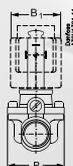
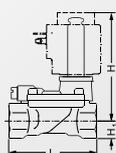
Main type	EV220B 15B	EV220B 20B	EV220B 25B	EV220B 32B	EV220B 40B	EV220B 50G
Installation	Optional, but vertical solenoid system is recommended (see DKACV.PT.600.A)					
Pressure range	EPDM/NBR: 0.3 - 16 bar FKM: 0.3 - 10 bar					
Max. test pressure	25 bar					
Time to open ¹⁾	40 ms	40 ms	300 ms	1000 ms	1500 ms	5000 ms
Time to close ¹⁾	350 ms	1000 ms	1000 ms	2500 ms	4000 ms	10000 ms
Ambient temperature	Type: BA 9 W ac/15 W dc Type: BB 10 W ac/18 W dc Type: BE 10 W ac/18 W dc (IP67) Type: BG 12 W ac/20 W dc Type: BO 10 W ac/10 W dc Type: BP 16 W dc			Up to +40°C Up to +80°C Up to +80°C Up to +80°C Up to +40°C Up to +55°C		
Medium temperature	EPDM: -30 - +120°C and +140°C/4 bar (low pressure steam) FKM: 0 - +100°C and +60°C for water NBR: -10 - +90°C					
Viscosity	max. 50 cSt					
Materials	Valve body: EV220B 50G: Bronze, W.no. 2.1096.01 Others: Brass, W.no. 2.0402 Armature: Stainless steel, W.no. 1.4105 / AISI 430FR Armature tube: Stainless steel, W.no. 1.4306 / AISI 304L Armature stop: Stainless steel, W.no. 1.4105 / AISI 430FR Springs: Stainless steel, W.no. 1.4310 / AISI 301 O-rings: EPDM, FKM or NBR Valve plate: EPDM, FKM or NBR Diaphragm: EPDM, FKM or NBR					

¹⁾ The times are indicative and apply to water. The exact times will depend on the pressure conditions. Closing times can be changed by replacement of the equalising orifice.

Coil options

				Danfoss also offers hum-free coils for noise sensitive applications and EEx m II T4 coils for use in explosion risk areas - please see coil data sheet DKACV.PD.600.A
Type: BA 9 W ac 15 W dc	Type: BB 10 W ac 18 W dc	Type: BE (IP67) 10 W ac 18 W dc	Type: BG 12 W ac 20 W dc	
See DKACV.PD.600.A				

Dimensions and weight



Type	L [mm]	B [mm]	B ₁ [mm] Coil type				H ₁ [mm]	H [mm]	Weight without coil [kg]
			BA	BP	BB/BE	BG/BO			
EV220B 15 B	80.0	52.0	32	45	46	68	15.0	99.0	0.8
EV220B 20 B	90.0	58.0	32	45	46	68	18.0	103.0	1.0
EV220B 25 B	109.0	70.0	32	45	46	68	22.0	113.0	1.4
EV220B 32 B	120.0	82.0	32	45	46	68	27.0	120.0	2.0
EV220B 40 B	130.0	95.0	32	45	46	68	32.0	129.0	3.2
EV220B 50 G	162.0	113.0	32	45	46	68	37.0	135.0	4.3

2/2-way servo-operated solenoid valves

G 1/2 - G 2

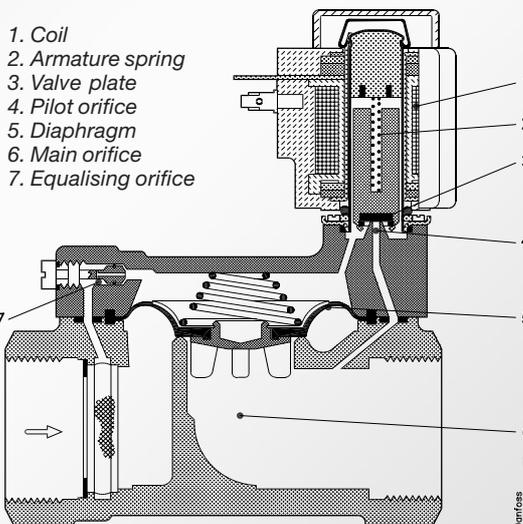
Type EV220B
for neutral liquids and gases
DN 15 - 40 B and 50 G



Function

Coil voltage disconnected (closed):

When the voltage is disconnected, the valve plate (3) is pressed down against the pilot orifice (4) by the armature spring (2). The pressure across the diaphragm (5) is built up via the equalising orifice (7). The diaphragm closes the main orifice (6) as soon as the pressure across the diaphragm is equivalent to the inlet 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 (1), the pilot orifice (4) is opened. As the pilot orifice is larger than the equalising orifice (7), the pressure across the diaphragm (5) drops and therefore it is lifted clear of the main orifice (6). The valve is now open for unimpeded flow and will be open for as long as the minimum differential pressure across the valve is maintained, and for as long as there is voltage to the coil.

Ordering

Valve body

Conne- ction ISO 228/1	Seal material	k _v - value [m ³ /h]	Media temp. Min. Max. [°C] [°C]		Type designation		Code no. without coil		Pressure range all coil types	
			Min.	Max.	Main type	Specification	WRAS ⁷⁾	Min. [bar]	Max. ⁶⁾ [bar]	
G 1/2	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	4	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 15 B	G 12E NC000	032U7115	Yes	0.3	16
					EV220B 15 B	G 12N NC000	032U7170			16
					EV220B 15 B	G 12F NC000	032U7116			10
G 3/4	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	8	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 20 B	G 34E NC000	032U7120	Yes	0.3	16
					EV220B 20 B	G 34N NC000	032U7171			16
					EV220B 20 B	G 34F NC000	032U7121			10
G 1	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	11	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 25 B	G 1E NC000	032U7125	Yes	0.3	16
					EV220B 25 B	G 1N NC000	032U7172			16
					EV220B 25 B	G 1F NC000	032U7126			10
G 1 1/4	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	18	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 32 B	G 114E NC000	032U7132	Yes	0.3	16
					EV220B 32 B	G 114N NC000	032U7173			16
					EV220B 32 B	G 114F NC000	032U7133			10
G 1 1/2	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	24	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 40 B	G 112E NC000	032U7140	Yes	0.3	16
					EV220B 40 B	G 112N NC000	032U7174			16
					EV220B 40 B	G 112F NC000	032U7141			10
G 2	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	40	-30 -10 0	+120 ¹⁾ +90 +100 ⁵⁾	EV220B 50 G	G 2E NC000	032U7150	Yes	0.3	16
					EV220B 50 G	G 2N NC000	032U7175			16
					EV220B 50 G	G 2F NC000	032U7151			10

1) EPDM is suitable for water and steam (steam max. +140° C / 4 bar).

2) NBR is suitable for oil, water and air

3) FKM is suitable for oil and air. For water at max. +60 °C

4) Low pressure steam, 4 bar: Max. +140°C

BA ac/dc and BB/BE dc coils: Max. +100°C

BO and BP coils: Max. +90°C

5) For water: Max. +60°C

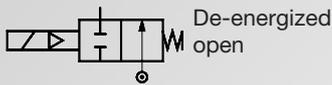
BO and BP coils: Max. +90°C

6) For higher differential pressure than stated, please contact Danfoss.

7) Approved by WRAS

Coils

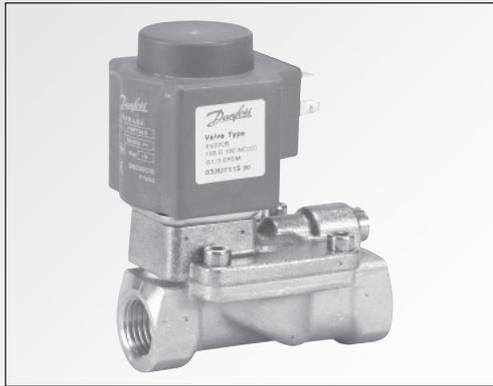
See separate data sheet for coils DKACV.PD.600.A



Type EV220B NO
for neutral liquids and gases
DN 15 - 40 B and 50 G

G 1/2 - G 2

Features



- For robust industrial application
- For water, steam, oil, compressed air and similar neutral media
- Flow range for water: 2.2 to 160 m³/h
- Differential pressure: Up to 16 bar
- Viscosity: Up to 50 cSt
- Ambient temperature: Up to +80°C
- Media temperature from -30°C to +140°C
- Coil enclosure: Up to IP 67
- Thread connections: From G 1/2 to G 2
- Water hammer damped
- Built in filter for protection of pilot system
- Adjustable closing time available (see page 11)
- Also available with NPT thread. Please contact Danfoss.

Technical data

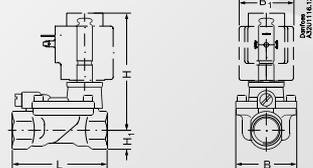
Main type	EV220B 15B	EV220B 20B	EV220B 25B	EV220B 32B	EV220B 40B	EV220B 50G
Installation	Optional, but vertical solenoid system is recommended (see DKACV.PT.600.A)					
Pressure range	EPDM/NBR: 0.3 - 16 bar for gases			0.3 - 10 bar for liquids		
	FKM: 0.3 - 10 bar					
Max. test pressure	25 bar					
Time to open ¹⁾	40 ms	40 ms	300 ms	1000 ms	1500 ms	5000 ms
Time to close ¹⁾	350 ms	1000 ms	1000 ms	2500 ms	4000 ms	10000 ms
Ambient temperature	Type: BA 9 W ac/15W dc			Up to +40°C		
	Type: BB 10 W ac/18 W dc			Up to +80°C		
	Type: BE 10 W ac/18 W dc (IP67)			Up to +80°C		
	Type: BG 12 W ac/20 W dc			Up to +80°C		
	Type: BO 10 W ac/10 W dc			Up to +40°C		
	Type: BP 16 W dc			Up to +55°C		
Medium temperature	EPDM: -30 - +120°C and +140°C/4 bar (low pressure steam)					
	FKM: 0 - +100°C and +60°C for water					
	NBR: -10 - +90°C					
Viscosity	max. 50 cSt					
Materials	Valve body:			EV220B 50 G: Bronze, W.no. 2.1096.01		
	Armature:			Others: Brass, W.no. 2.0402		
	Armature tube:			Stainless steel, W.no. 1.4105/AISI 430 FR		
	Armature stop:			Stainless steel, W.no. 1.4306/AISI 304L		
	Springs:			Stainless steel, W.no. 1.4105/AISI 430FR		
	O-rings:			Stainless steel, W.no. 1.4310/AISI 301		
	Valve plate:			EPDM, FKM or NBR		
	Diaphragm:			EPDM, FKM or NBR		

¹⁾ The times are indicative and apply to water. The exact times will depend on the pressure conditions. Closing times can be changed by replacement of the equalising orifice.

Coil options

				Danfoss also offers hum-free coils for noise sensitive applications and EEx m II T4 coils for use in explosion risk areas - please see coil data sheet DKACV.PD.600.A
Type: BA 9 W ac 15 W dc	Type: BB 10 W ac 18 W dc	Type: BE (IP67) 10 W ac 18 W dc	Type: BG 12 W ac 20 W dc	
See DKACV.PD.600.A				

Dimensions and weight



Type	L [mm]	B [mm]	B ₁ [mm] Coil type				H ₁ [mm]	H [mm]	Weight without coil [kg]
			BA	BP	BB/BE	BG/BO			
EV220B 15 B	80.0	52.0	32	45	46	68	15.0	99.0	0.8
EV220B 20 B	90.0	58.0	32	45	46	68	18.0	103.0	1.0
EV220B 25 B	109.0	70.0	32	45	46	68	22.0	113.0	1.4
EV220B 32 B	120.0	82.0	32	45	46	68	27.0	120.0	2.0
EV220B 40 B	130.0	95.0	32	45	46	68	32.0	129.0	3.2
EV220B 50 G	162.0	113.0	32	45	46	68	37.0	135.0	4.3

2/2-way servo-operated solenoid valves

G 1/2 - G 2

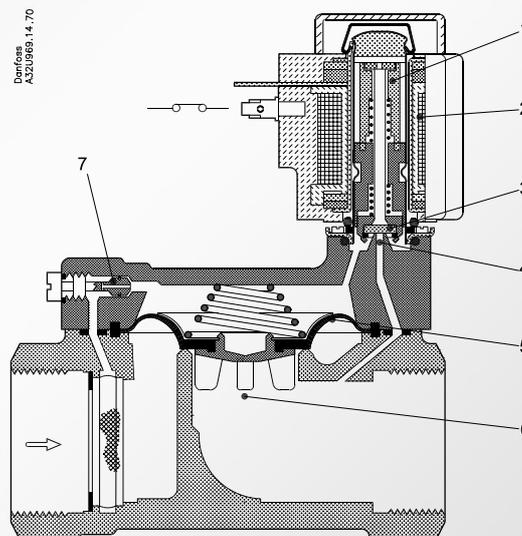
Type EV220B NO
for neutral liquids and gases
DN 15 - 40 B and 50 G



Function

Coil voltage disconnected (open):
 When the voltage to the coil (2) is disconnected, the pilot orifice (4) is open. As the pilot orifice is larger than the equalising orifice (7), the pressure across the diaphragm (5) drops and therefore it is lifted clear of the main orifice (6). The valve will be open for as long as the minimum differential pressure across the valve is maintained, and for as long as the voltage to the coil is disconnected.

Coil voltage connected (closed):
 When voltage is applied to the coil, the valve plate (3) is pressed down against the pilot orifice (4). The pressure across the diaphragm (5) is built up via the equalising orifice (7). The diaphragm closes the main orifice (6) as soon as the pressure across the diaphragm is equivalent to the inlet pressure. The valve will be closed for as long as there is voltage to the coil.



1. Armature 5. Diaphragm
 2. Coil 6. Main orifice
 3. Valve plate 7. Equalising orifice
 4. Pilot orifice

Ordering

Valve body

Con- nec- tion	Seal material	k _v - value	Media temp.		Type designation		Code no. without coil	Pressure range all coil types	
			Min.	Max.	Main type	Specification		Min.	Max. ⁶⁾
ISO 228/1		[m ³ /h]	[°C]	[°C]				[bar]	[bar]
G 1/2	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	4	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 15 B	G 12E NO000	032U7117	0.3	16
					EV220B 15 B	G 12N NO000			16
					EV220B 15 B	G 12F NO000			10
G 3/4	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	8	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 20 B	G 34E NO000	032U7122	0.3	16
					EV220B 20 B	G 34N NO000			16
					EV220B 20 B	G 34F NO000			10
G 1	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	11	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 25 B	G 1E NO000	032U7127	0.3	16
					EV220B 25 B	G 1N NO000			16
					EV220B 25 B	G 1F NO000			10
G 1 1/4	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	18	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 32 B	G114E NO000	032U7134	0.3	16
					EV220B 32 B	G114N NO000			16
					EV220B 32 B	G114F NO000			10
G 1 1/2	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	24	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 40 B	G112E NO000	032U7142	0.3	16
					EV220B 40 B	G112N NO000			16
					EV220B 40 B	G112F NO000			10
G 2	EPDM ¹⁾ NBR ²⁾ FKM ³⁾	40	-30 -10 0	+120 ⁴⁾ +90 +100 ⁵⁾	EV220B 50 G	G 2E NO000	032U7152	0.3	16
					EV220B 50 G	G 2N NO000			16
					EV220B 50 G	G 2F NO000			10

1) EPDM is suitable for water and steam (steam max. +140° C / 4 bar).

2) NBR is suitable for oil, water and air

3) FKM is suitable for oil and air. For water at max. +60 °C

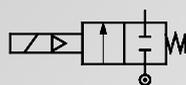
4) Low pressure steam, 4 bar: Max. +140°C
 BA ac/dc and BB/BE dc coils: Max. +100°C
 BO and BP coils: Max. +90°C

5) For water: Max. +60°C
 BO and BP coils: Max. +90°C

6) For higher differential pressure than stated, please contact Danfoss.

Coils

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


 De-energized
closed

Type EV220B
for slightly aggressive liquids and gases
DN 15 - 40 BD and 50G

G 1/2 - G 2

Features


- For robust industrial application
- For neutral and slightly 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 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 1/2 to G 2
- Water hammer damped
- Built in filter for protection of pilot system

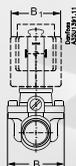
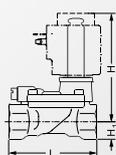
Technical data

Main type	EV220B 15BD	EV220B 20BD	EV220B 25BD	EV220B 32BD	EV220B 40BD	EV220B 50G
Installation	Optional, but vertical solenoid system is recommended (see DKACV.PT.600.A)					
Pressure range	EPDM: 0.3 - 16 bar					
Max. test pressure	25 bar					
Time to open ¹⁾	40 ms	40 ms	300 ms	1000 ms	1500 ms	5000 ms
Time to close ¹⁾	350 ms	1000 ms	1000 ms	2500 ms	4000 ms	10000 ms
Ambient temperature	Type: BA	9 W ac/15 W dc:	Up to +40°C			
	Type: BB	10 W ac/18 W dc:	Up to +80°C			
	Type: BE	10 W ac/18 W dc (IP67):	Up to +80°C			
	Type: BG	12 W ac/20 W dc	Up to +80°C			
	Type: BO	10 W ac/10 W dc	Up to +40°C			
	Type: BP	16 W dc	Up to +55°C			
Medium temp.	EPDM: -30 - +120°C and +140°C/4 bar (low pressure steam)					
Viscosity	max. 50 cSt					
Materials	Valve body:	EV220B 50 G: Bronze, W.no. 2.1096.01 Others: Dezincification resistant brass: CuZn36Pb2As/CZ132				
	Armature:	Stainless steel, W.no. 1.4105/AISI 430FR				
	Armature tube:	Stainless steel, W.no. 1.4306/AISI 304L				
	Armature stop:	Stainless steel, W.no. 1.4105/AISI 430FR				
	Springs:	Stainless steel W.no. 1.4310/AISI 301				
	Orifices:	Stainless steel, W.no. 1.4404/AISI 316L				
	Valve seat:	Stainless steel, W.no. 1.4404/AISI 316L				
	O-rings:	EPDM				
	Valve plate:	EPDM				
	Diaphragm:	EPDM				

¹⁾ The times are indicative and apply to water. The exact times will depend on the pressure conditions. Closing times can be changed by replacement of the equalising orifice.

Coil options

				Danfoss also offers hum-free coils for noise sensitive applications and EEx m II T4 coils for use in explosion risk areas - please see coil data sheet DKACV.PD.600.A
Type: BA 9 W ac 15 W dc	Type: BB 10 W ac 18 W dc	Type: BE (IP67) 10 W ac 18 W dc	Type: BG 12 W ac 20 W dc	
See DKACV.PD.600.A				

Dimensions and weight


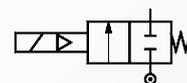
Type	L [mm]	B [mm]	B ₁ [mm] Coil type				H ₁ [mm]	H [mm]	Weight without coil [kg]
			BA	BP	BB/BE	BG/BO			
EV220B 15 BD	80.0	52.0	32	45	46	68	15.0	99.0	0.8
EV220B 20 BD	90.0	58.0	32	45	46	68	18.0	103.0	1.0
EV220B 25 BD	109.0	70.0	32	45	46	68	22.0	113.0	1.4
EV220B 32 BD	120.0	82.0	32	45	46	68	27.0	120.0	2.0
EV220B 40 BD	130.0	95.0	32	45	46	68	32.0	129.0	3.2
EV220B 50 G	162.0	113.0	32	45	46	68	37.0	135.0	4.3

2/2-way servo-operated solenoid valves

G 1/2 - G 2

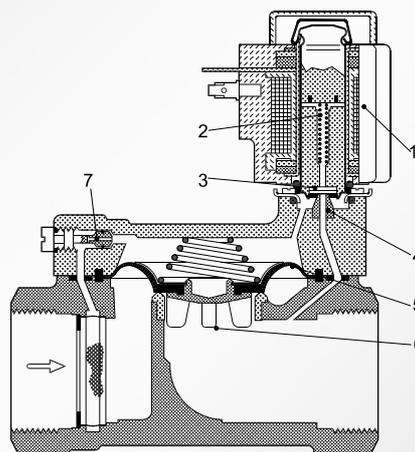
Type EV220B
for slightly aggressive liquids and gases
DN 15 - 40 BD and 50G

De-energized
 closed



Function

1. Coil
2. Armature spring
3. Valve plate
4. Pilot orifice
5. Diaphragm
6. Main orifice
7. Equalising orifice



Coil voltage disconnected (closed):
 When the voltage is disconnected, the valve plate (3) is pressed down against the pilot orifice (4) by the armature spring (2). The pressure across the diaphragm (5) is built up via the equalising orifice (7). The diaphragm closes the main orifice (6) as soon as the pressure across the diaphragm is equivalent to the inlet 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 (1), the pilot orifice (4) is opened. As the pilot orifice is larger than the equalising orifice (7), the pressure across the diaphragm (5) drops and therefore it is lifted clear of the main orifice (6). The valve is now open for unimpeded flow and will be open for as long as the minimum differential pressure across the valve is maintained, and for as long as there is voltage to the coil.

Ordering

Valve body

Conne- ction ISO 228/1	Seal material	k _v - value [m ³ /h]	Media temp.		Type designation		Code no. without coil Approved by WRAS	Pressure range all coil types	
			Min. [°C]	Max. [°C]	Main type	Specification		Min. [bar]	Max. ³⁾ [bar]
G 1/2	EPDM ¹⁾	4	-30	+120 ²⁾	EV220B 15 BD	G 12ENC000	032U5815	0.3	16
G 3/4	EPDM ¹⁾	8	-30	+120 ²⁾	EV220B 20 BD	G 34ENC000	032U5820		
G 1	EPDM ¹⁾	11	-30	+120 ²⁾	EV220B 25 BD	G 1E NC000	032U5825		
G 1 1/4	EPDM ¹⁾	18	-30	+120 ²⁾	EV220B 32 BD	G114ENC000	032U5832		
G 1 1/2	EPDM ¹⁾	24	-30	+120 ²⁾	EV220B 40 BD	G112ENC000	032U5840		
G 2	EPDM ¹⁾	40	-30	+120 ²⁾	EV220B 50 G	G 2E NC000	032U5850		

¹⁾ EPDM is suitable for water and steam (steam max. +140° C / 4 bar).

³⁾ For higher differential pressure than stated, please contact Danfoss.

²⁾ Low pressure steam, 4 bar: Max. +140°C
 BA ac/dc and BB/BE dc coils: Max. +100°C
 BO and BP coils: Max. +90°C

Coils

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



Type EV220B
for neutral and aggressive liquids and gases
DN 15 - 50 SS (Stainless steel)

G 1/2 - G 2

Features



- For robust industrial application
- 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 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 1/2 to G 2
- Water hammer damped

Technical data

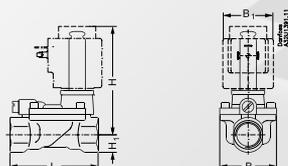
Main type	EV220B 15SS	EV220B 20SS	EV220B 25SS	EV220B 32SS	EV220B 40SS	EV220B 50SS
Installation	Optional, but vertical solenoid system is recommended (see DKACV.PT.600.A)					
Pressure range	EPDM:	0.3 - 16 bar				
	FKM:	0.3 - 10 bar				
Max. test pressure	25 bar					
Time to open ¹⁾	40 ms	40 ms	300 ms	1000 ms	1500 ms	5000 ms
Time to close ¹⁾	350 ms	1000 ms	1000 ms	2500 ms	4000 ms	10000 ms
Ambient temperature	Type: BA	9 W ac/15 W dc:		Up to +40°C		
	Type: BB	10 W ac/18 W dc:		Up to +80°C		
	Type: BE	10 W ac/18 W dc (IP67):		Up to +80°C		
	Type: BG	12 W ac/20 W dc		Up to +80°C		
	Type: BO	10 W ac/10 W dc		Up to +40°C		
	Type: BP	16 W dc		Up to +55°C		
Medium temperature	EPDM:	-30 - +120°C and 140°C/4 bar (low pressure steam)				
	FKM:	0 - +100°C and 60°C for water				
Viscosity	max. 50 cSt					
Materials	Valve body:	Stainless steel, W.no. 1.4581/AISI 318				
	Armature:	Stainless steel, W.no. 1.4105/AISI 430FR				
	Armature tube:	Stainless steel, W.no. 1.4306/AISI 304L				
	Armature stop:	Stainless steel, W.no. 1.4105/AISI 430FR				
	Springs:	Stainless steel, W.no. 1.4310/AISI 301				
	Orifices:	Stainless steel, W.no. 1.4404/AISI 316L				
	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. Closing times can be changed by replacement of the equalising orifice.

Coil options

				<i>Danfoss also offers hum-free coils for noise sensitive applications and EEx m II T4 coils for use in explosion risk areas - please see coil data sheet DKACV.PD.600.A</i>
Type: BA	Type: BB	Type: BE (IP67)	Type: BG	
9 W ac	10 W ac	10 W ac	12 W ac	
15 W dc	18 W dc	18 W dc	20 W dc	
See DKACV.PD.600.A				

Dimensions and weight



Type	L [mm]	B [mm]	B ₁ [mm] Coil type				H ₁ [mm]	H [mm]	Weight without coil [kg]
			BA	BP	BB/BE	BG/BO			
EV220B 15 SS	80.0	52.0	32	45	46	68	15.0	99.0	0.8
EV220B 20 SS	90.0	58.0	32	45	46	68	18.0	103.0	1.0
EV220B 25 SS	109.0	70.0	32	45	46	68	22.0	113.0	1.4
EV220B 32 SS	120.0	82.0	32	45	46	68	27.0	120.0	2.0
EV220B 40 SS	130.0	95.0	32	45	46	68	32.0	129.0	3.2
EV220B 50 SS	162.0	113.0	32	45	46	68	37.0	135.0	4.3

2/2-way servo-operated solenoid valves

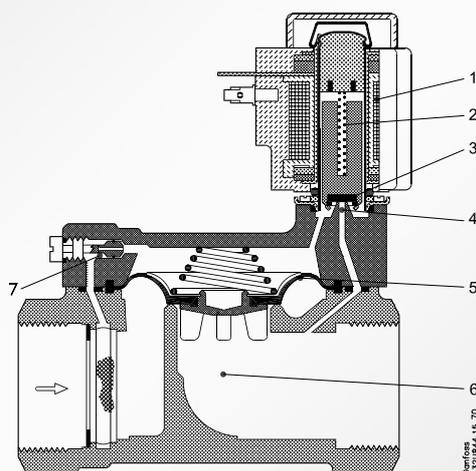
G 1/2 - G 2

Type **EV220B**
for neutral and aggressive liquids and gases
DN 15 - 50 SS (Stainless steel)



Function

1. Coil
2. Armature spring
3. Valve plate
4. Pilot orifice
5. Diaphragm
6. Main orifice
7. Equalising orifice



Coil voltage disconnected (closed):
When the voltage is disconnected, the valve plate (3) is pressed down against the pilot orifice (4) by the armature spring (2). The pressure across the diaphragm (5) is built up via the equalising orifice (7). The diaphragm closes the main orifice (6) as soon as the pressure across the diaphragm is equivalent to the inlet 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 (1), the pilot orifice (4) is opened. As the pilot orifice is larger than the equalising orifice (7), the pressure across the diaphragm (5) drops and therefore it is lifted clear of the main orifice (6). The valve is now open for unimpeded flow and will be open for as long as the minimum differential pressure across the valve is maintained, and for as long as there is voltage to the coil.

Ordering

Valve body

Conne- ction ISO 228/1	Seal material	k _v - value [m ³ /h]	Media temp.		Type designation		Code no. without coil		Pressure range all coil types	
			Min. [°C]	Max. [°C]	Main type	Specification	WRAS ⁶⁾	Min. [bar]	Max. ⁵⁾ [bar]	
G 1/2	EPDM ¹⁾	4	-30 0	+120 ³⁾ +100 ⁴⁾	EV220B 15 SS	G 12E NC000	032U8500	yes	0.3	16
	FKM ²⁾				EV220B 15 SS	G 12F NC000				032U8506
G 3/4	EPDM ¹⁾	8	-30 0	+120 ³⁾ +100 ⁴⁾	EV220B 20 SS	G 34E NC000	032U8501	yes	0.3	16
	FKM ²⁾				EV220B 20 SS	G 34F NC000				032U8507
G 1	EPDM ¹⁾	11	-30 0	+120 ³⁾ +100 ⁴⁾	EV220B 25 SS	G 1E NC000	032U8502	yes	0.3	16
	FKM ²⁾				EV220B 25 SS	G 1F NC000				032U8508
G 1 1/4	EPDM ¹⁾	18	-30 0	+120 ³⁾ +100 ⁴⁾	EV220B 32 SS	G114E NC000	032U8503	yes	0.3	16
	FKM ²⁾				EV220B 32 SS	G114F NC000				032U8509
G 1 1/2	EPDM ¹⁾	24	-30 0	+120 ³⁾ +100 ⁴⁾	EV220B 40 SS	G112E NC000	032U8504	yes	0.3	16
	FKM ²⁾				EV220B 40 SS	G112F NC000				032U8510
G 2	EPDM ¹⁾	40	-30 0	+120 ³⁾ +100 ⁴⁾	EV220B 50 SS	G 2E NC000	032U8505	yes	0.3	16
	FKM ²⁾				EV220B 50 SS	G 2F NC000				032U8511

¹⁾ EPDM is suitable for water and steam (steam max. +140° C / 4 bar).

²⁾ FKM is suitable for oil and air. For water at max. +60 °C

³⁾ Low pressure steam, 4 bar: Max. +140°C
BA ac/dc and BB/BE dc coils: Max. +100°C
BO and BP coils: Max. +90°C

⁴⁾ For water: BO and BP coils: Max. +60°C
Max. +90°C

⁵⁾ For higher differential pressure than stated, please contact Danfoss.

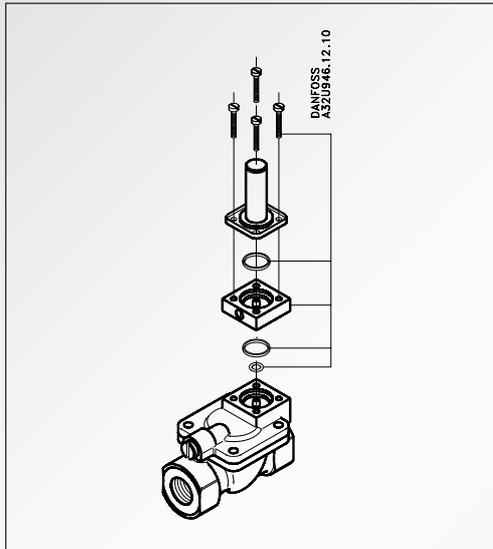
⁶⁾ Approved by WRAS

Coils

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

for solenoid valves
2/2-way servo-operated
Type EV220B

Manual override unit



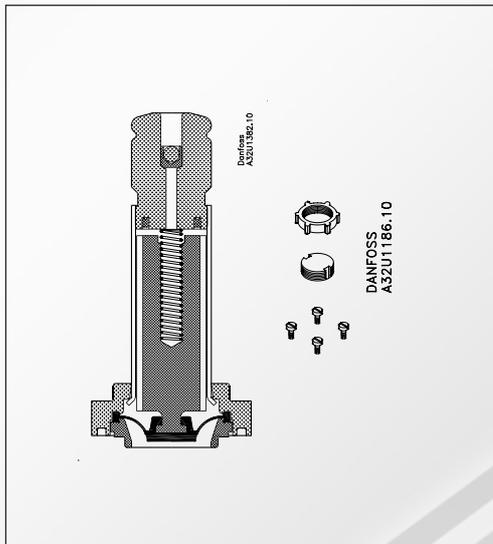
Used for manual override in the event of power failure.

Note: Valve height is increased by 16 mm.

Valve body	Code no.
Brass / Bronze	032U0150
DZR brass ¹⁾ / stainless steel	032U0149

¹⁾ Dezincification resistant brass

Isolating diaphragm kit



The isolating diaphragm design ensures that no fluid enters the armature area, which gives the following advantages:

The valve is resistant to aggressive fluids, impurities in the fluid and to calcarous and scale deposits.

The kit consists of assembled isolating unit, O-ring, 4 screws, locking button and nut for the coil.

The kit can be used on all EV220B DN 15-50 and EV210B DN 1.5-3 valves.

Seal material	Code no.
EPDM ¹⁾	042U1009
FKM ²⁾	042U1010

¹⁾ EPDM is suitable for water and steam (steam max. +140° C / 4 bar).

²⁾ FKM is suitable for oil and air. For water at max. +60 °C

Accessories and spare parts

**for solenoid valves
2/2-way servo-operated
Type EV220B**

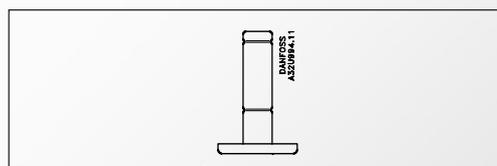
Equalizing orifice

The kit comprises an equalizing orifice including O-ring and gasket. The valve's closing time can be changed by installing an equalizing orifice of a size which deviates from the standard valve:

- A shorter closing time is obtained with a larger orifice (the shorter the time closed, the greater the risk of water hammering)
- A longer closing time is obtained with a smaller orifice

Orifice	Seal material	Standard in	Code no.	
			Brass / Bronze	DZR brass ⁴⁾ / Stainless steel
ø 0.5	EPDM ¹⁾	EV220B 15 EV220B 20	032U0082	032U6310
ø 0.5	FKM ²⁾	EV220B 15 EV220B 20	032U0083	032U6313
ø 0.8	EPDM ¹⁾	EV220B 25 EV220B 32 EV220B 40	032U0084	032U6311
ø 1.2	FKM ²⁾	EV220B 25 EV220B 32	032U0085	032U6314
ø 1.2	EPDM ¹⁾	EV220B 50	032U0086	032U6312
ø 1.4	FKM ²⁾	EV220B 40 EV220B 50	032U0087	032U6315
Adjustable	NBR ³⁾	-	032U0681	-
Adjustable	EPDM ¹⁾	-	032U0682	-
Adjustable	FKM ²⁾	-	032U0683	-

Assembled normally open (NO) unit



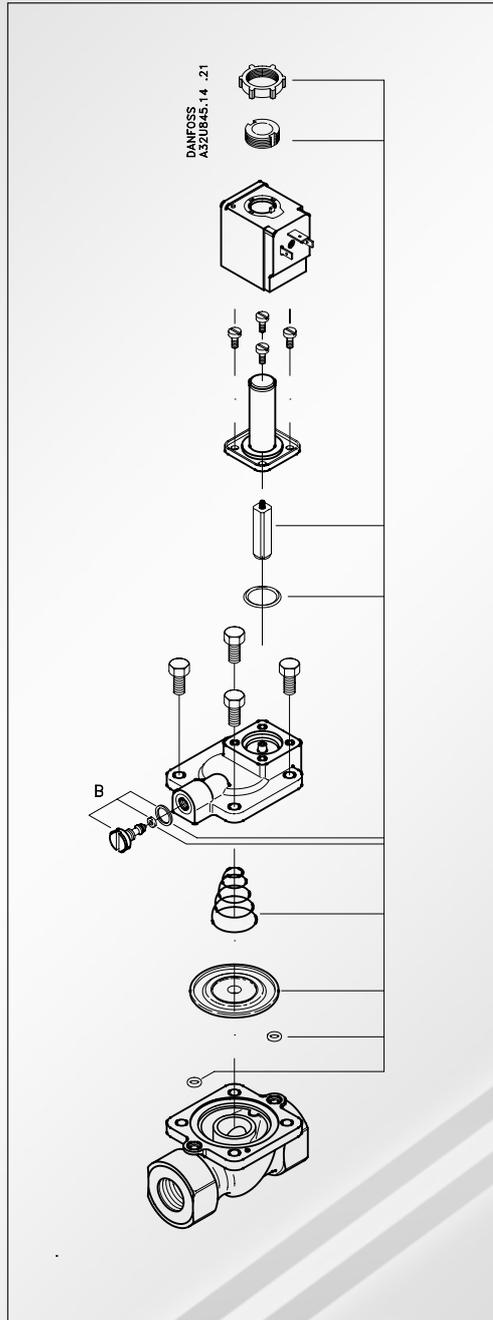
EV220B 15 - 40 B and 50 G NO	
Seal material	Code no.
EPDM ¹⁾ FKM ²⁾	032U0296 032U0295

¹⁾ Approved by WRAS. EPDM is suitable for water and steam (steam max. +140° C / 4 bar).
²⁾ FKM is suitable for oil and air. For water at max. +60 °C
³⁾ NBR is suitable for oil, water and air
⁴⁾ Dezincification resistant brass



for solenoid valves
2/2-way servo-operated
Type EV220B

Spare parts kit



The kit comprises a locking button and nut for the coil, armature with valve plate and spring, O-ring for the armature tube, spring and diaphragm, two O-rings for the pilot system, and an O-ring and gasket for the equalising orifice.

Brass and Bronze versions (NC only)		
Type	Seal material	Code no.
DN15	EPDM ¹⁾	032U1071
	FKM ²⁾	032U1072
	NBR ³⁾	032U6013
DN20	EPDM ¹⁾	032U1073
	FKM ²⁾	032U1074
	NBR ³⁾	032U6014
DN25	EPDM ¹⁾	032U1075
	FKM ²⁾	032U1076
	NBR ³⁾	032U6015
DN32	EPDM ¹⁾	032U1077
	FKM ²⁾	032U1078
	NBR ³⁾	032U6016
DN40	EPDM ¹⁾	032U1079
	FKM ²⁾	032U1080
	NBR ³⁾	032U6017
DN50	EPDM ¹⁾	032U1081
	FKM ²⁾	032U1082
	NBR ³⁾	032U6018

DZR brass ⁴⁾ and stainless steel versions		
Type	Seal material	Code no.
DN15	EPDM ¹⁾	032U6320
	FKM ²⁾	032U6326
DN20	EPDM ¹⁾	032U6321
	FKM ²⁾	032U6327
DN25	EPDM ¹⁾	032U6322
	FKM ²⁾	032U6328
DN32	EPDM ¹⁾	032U6323
	FKM ²⁾	032U6329
DN40	EPDM ¹⁾	032U6324
	FKM ²⁾	032U6330
DN50	EPDM ¹⁾	032U6325
	FKM ²⁾	032U6331

- 1) Approved by WRAS. EPDM is suitable for water and steam (steam max. +140° C / 4 bar).
- 2) FKM is suitable for oil and air. For water at max. +60 °C
- 3) NBR is suitable for oil, water and air
- 4) Dezincification resistant brass

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