Data sheet



Solenoid valve

EV215B

Direct - operated 2/2 - way solenoid valves for steam

Description

EV215B is a direct-operated 2/2-way solenoid valve for use in steam applications.
The design is based on a PTFE valve plate, ensuring high reliable function even in connection with contaminated steam.
Valve body in stainless steel for ensuring a long - life even in connection with aggressive steam media.

Features & benefits

- 2/2-way and specifically designed for steam applications, 160 °C or 185 °C
- Direct operated and ambient temperature: up to 40 °C
- Thread connections: G ¼"
- Stainless steel valve body
- DN 3
- NC (normally closed)
- EV215B used with BQ coil, AC voltage up to 185 °C
- EV215B used with BN coil, DC voltage up to 160 °C
- EV215B used with BB coil, AC voltage up to 160 °C, DC voltage up to 140 °C
- Connection: ISO 228/1

Ordering

Product code numbers

Figure: Stainless steel valve body, NC



Table: Ordering table

Connection ISO228/1	Seal material	Orifice size [mm]	K_v-value [m^3/h]	Differential pressure min. to max. [bar]				Media temperature min. to max. [°C]			Code no.
				Coil type BQ AC	Coil type BN DC	Coil type BB AC	Coil type BB DC	BQ	BN DC BB AC	BB DC	
G¼	PTFE	3	0.3	0 – 10	0 – 5	0 – 5	0 – 3.6	0 –185	0 – 160	0 –140	032U3801

Accessories code numbers

Figure: Coil type BQ AC



Table: Coil type BQ AC Steam coil to 185 °C

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Approval	Code no.
					[W]	[VA]		
BQ024CS	-40 – 40	24	-15%, 10%	50	10	17	c UL us	018F4517
		24	-15%, 10%	60	9.0	16		
BQ120BS	-40 – 40	110 / 120	-15%, 6%	60	13.5	19	c UL us	018F4519
BQ240CS	-40 – 40	230	-15%, 6%	50	10	17	c UL us	018F4511
		208 / 240	-6%, 6%	60	9.5	16		

Figure: Coil type BN DC



Table: Coil type BN DC Steam coils to 160 °C

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Approval	Code no.
					[W]	[VA]		
BN024DS	-40 – 50	24	±10%	DC	20	–	c UL us	018F6968

Figure: Coil type BB AC



Table: Coil type BB AC Steam coils to 160 °C

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BB024AS	-40 – 80	24	-15%, 10%	50	11	19	018F7358
BB115AS	-40 – 50	115	-15%, 10%	50	11	19	018F7361
BB230AS	-40 – 80	220 / 230	-15%, 10%	50	11	19	018F7351
BB240AS	-40 – 80	240	-15%, 10%	50	11	19	018F7352
BB440CS	-40 – 80	400	±10%	50	14	24	018F7353
		440	±10%	60	15	24	
BB024BS	-40 – 80	24	-15%, 10%	60	14	23	018F7365
BB110CS	-40 – 50	110	±10%	50	15	28	018F7360
		110	±10%	60	13	22	
BB230CS	-40 – 50	220 / 230	±10%	60	13	24	018F7363
		220 / 230	±10%	50	16	31	

Table: Type BB DC Steam coils to 140 °C

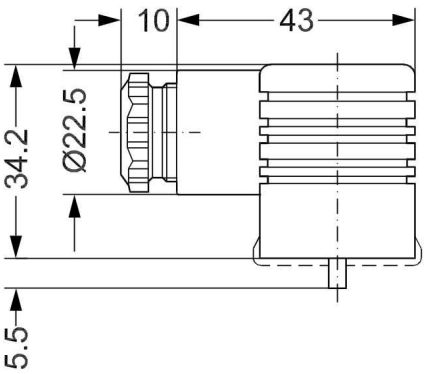
BB012DS	-40 – 50	12	±10%	DC	14	–	018F7396
BB024DS	-40 – 50	24	±10%	DC	16	–	018F7397

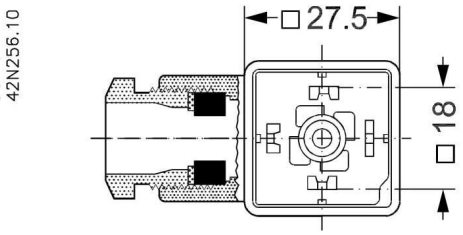
Technical data	Type BQ, BN, BB
Insulation of coil windings	Class H according to IEC 85
Connection	GDM 2011 (grey) Cable plug according to DIN 43650-A PG11
Coil enclosure, IEC 529	IP65
Ambient temperature	Max. 40 °C
Duty rating	Continuous

Accessories: Cable plug

Type	Code no.
GDM 2011 (grey), cable plug according to DIN 43650-A PG11	042N0156







Spare parts code numbers

Type	Code number
EV215B	032U3170



Spare parts kit comprises:

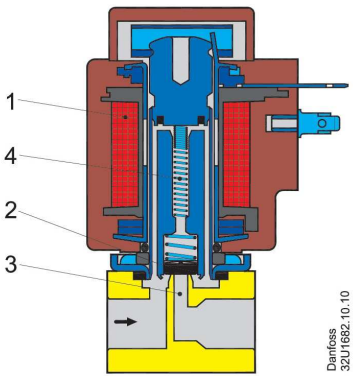
Armature with valve plate
Spring
O-ring

Functions

Coil voltage disconnected (closed):
When the voltage is disconnected, the closing spring (4) with the valve plate (2) is pressed down against the pilot orifice (3) by the closing spring (4) 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 (1), the closing spring (4) with the valve plate (2) is lifted clear of the orifice (3). The valve is now open for flow and will be open for as long as there is voltage to the coil.

Figure: EV215B NC



1	Coil
2	Valve plate
3	Orifice
4	Closing spring

Product details

General data

Table: Technical data, NC

Main type	EV215B
Time to open [ms][1]	20
Time to close [ms][1]	20

[1] The times are indicative. The exact times will depend on the pressure conditions.

Installation	Vertical solenoid system is recommended
Max. Working pressure (MWP)	10 bar
Max. test Pressure	25 bar (UL 429: 24.1 bar)
Ambient temperature	Max. 40 °C at a medium temperature of 185 °C
Viscosity	Max. 50 cSt

Materials

Table: Material

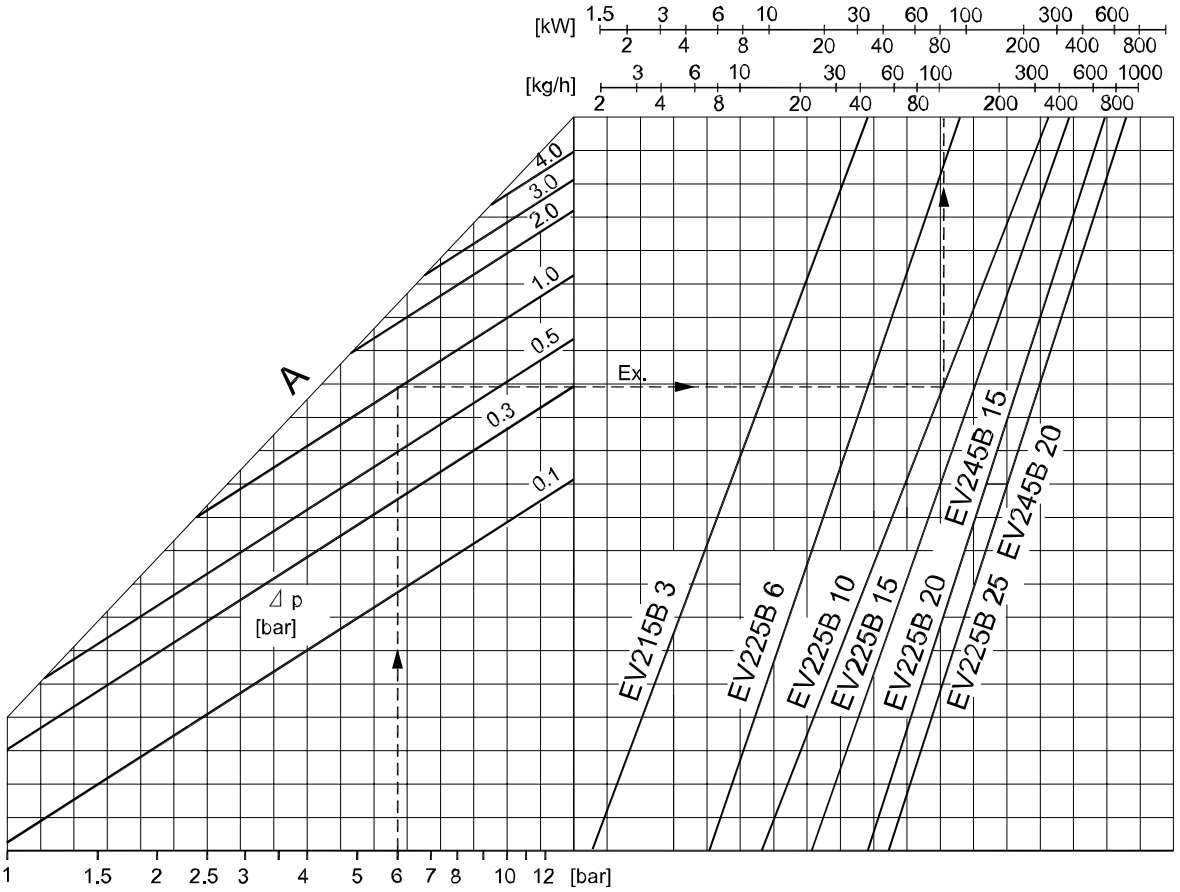
Valve body	Stainless steel	W. no. 1.4404
Armature / armature stop	Stainless steel	W. no. 1.4105 / AISI 430FR
Spring	Stainless steel	W. no. 1.4306 / AISI 304L
Armature tube	Stainless steel	W. no. 1.4310 / AISI 301
Valve plate	PTFE	
External gasket	O-ring: AFLAS	

Capacity

Example

Capacity for EV225 10 BD;
inlet pressure (p_1) of 6 bar absolute;
differential pressure at 1 bar:
Approx. 100 kg / h / 80 kw

Figure: Steam capacity diagrams



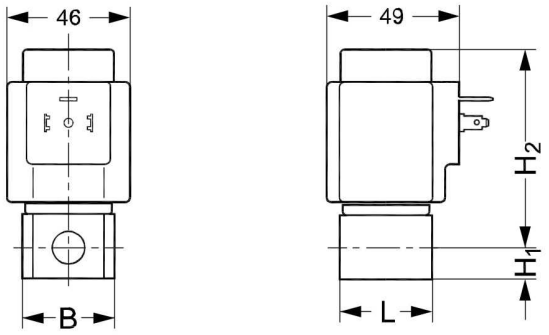
Dimensions

Table: Dimensions and weight

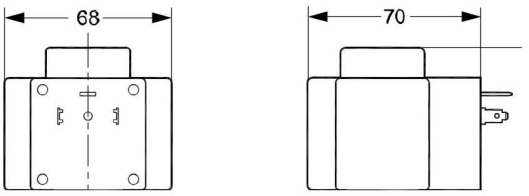
Type	L [mm]	B [mm]	H [mm]	H_1 [mm]	H_2 [mm]	Weight with coil BQ, BB [kg]	Weight with coil BN [kg]
EV215B 3	35	35	87	12.5	74.5	0.51	0.79

Figure: Dimensions and weight

Coil type BQ, BB

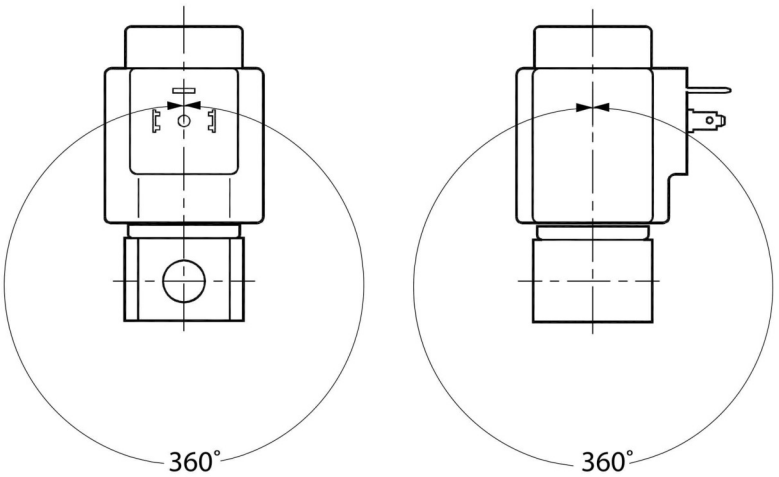


Coil type BN



Installation

Figure: Mounting angle



Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
Manufacturer's Declaration	Danfoss MD 033F0232.AA	Danfoss	PED, Pressure
Export Control Declaration	Solenoid valves - Stainless steel	Danfoss	
Manufacturer's Declaration	Danfoss MD 033F0699.00	Danfoss	China RoHS
EU Declaration	Danfoss EU 033F0683.05	Danfoss	LVD, EU RoHS
UA Declaration	Danfoss UA 8481	Danfoss	UA RoHS
Mechanical Safety Certificate	UL MH7648	UL - Underwriters Laboratories inc.	
Pressure Safety Certificate	LLC CDC EURO-TYSK UA.TR.089.1015.02-22	LLC CDC EURO TYSK - Ukraine	PED, Pressure

Contact details

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