ENGINEERING TOMORROW

Data sheet

Assisted lift operated 2/2-way solenoid valves
Type EV251B

EV251B with assisted lift is especially suitable for applications such as closed systems with low and fluctuating pressure conditions or open systems with differential pressure down to 0 bar.

EV251B valves are supplied complete, including coil and plug.

Features and versions:

- For water, oil, compressed air and similar neutral media
- Flow range: 1.5 – 3.5 m^3/h
- Differential pressure: 0 – 10 bar
- Media temperature from -10 – 90 °C
- Ambient temperature: Up to 80 °C
- Coil enclosure: IP65
- Thread connections: From G ⅜ – G 1
- DN 10 - 22
- Viscosity: Up to 50 cst
- Brass NBR version, NC

Brass valve body, NC and BB clip on coil

Connection ISO228/1	Seal material	Orifice size	k_v - value [m^3/h]	Differential pressure min. to max. [bar]	Coil voltage / power consumption BB coil	Media temperature min. to max. [°C]	Code number
G 3/8	NBR	10	1.5	0 – 10	24V DC 18W	-10 – 90	**032U538002**
					24V 50Hz 10W		**032U538016**
					230V 50Hz 10W		**032U538031**
G 1/2		12	2.5		24V DC 18W		**032U538102**
					24V 50Hz 10W		**032U538116**
					230V 50Hz 10W		**032U538131**
G 3/4		18	3.5		24V DC 18W		**032U538202**
					24V 50Hz 10W		**032U538216**
					230V 50Hz 10W		**032U538231**
G 1		22	3.5		24V DC 18W		**032U538302**
					24V 50Hz 10W		**032U538316**
					230V 50Hz 10W		**032U538331**

[1] In water applications, exercise the valves at least once every 24 hours, meaning change the state of the valve. The valve exercise will minimize the risk of the valve sticking due to calcium carbonate, zinc or iron oxide build-up.

Technical data, NC

Main type	EV251B 10B	EV251B 12B	EV251B 18B	EV251B 22B
Time to open [ms] [1]	50	60	200	200
Time to close [ms] [1]	300	300	500	500

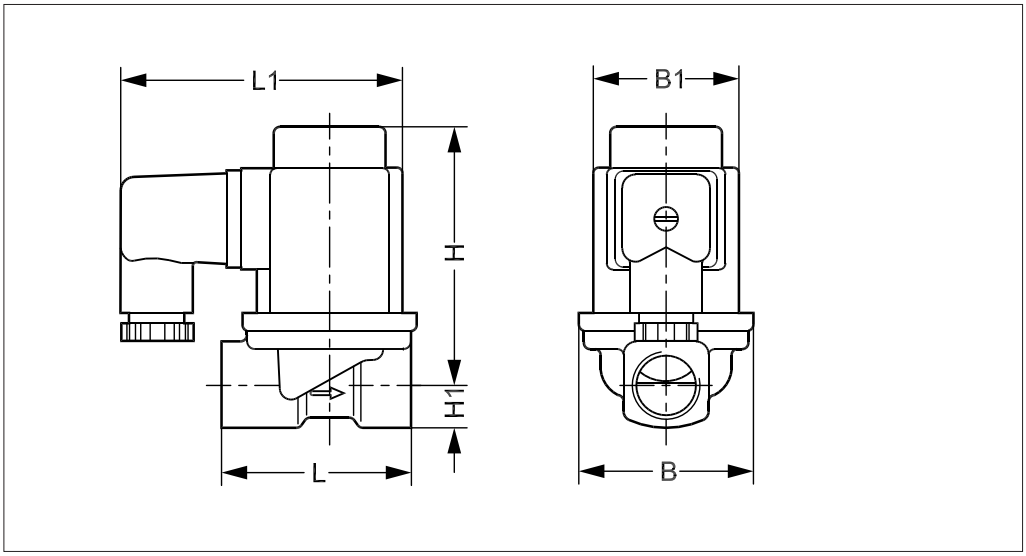
[1] The times are indicative and apply to water. The exact times will depend on the pressure conditions.

Installation	Vertical system is recommended		
Max. test pressure	50 Bar	16 Bar	
Ambient temperature	24 V DC. coil: Max 50 °C 24 V / 230 V AC. coil: Max 80 °C		
Viscosity	Max. 50 cSt		
Materials	Valve body	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	NBR (only EV251B 10 - other versions are without O-ring	
	Valve plate	NBR	
	Diaphragm	NBR	

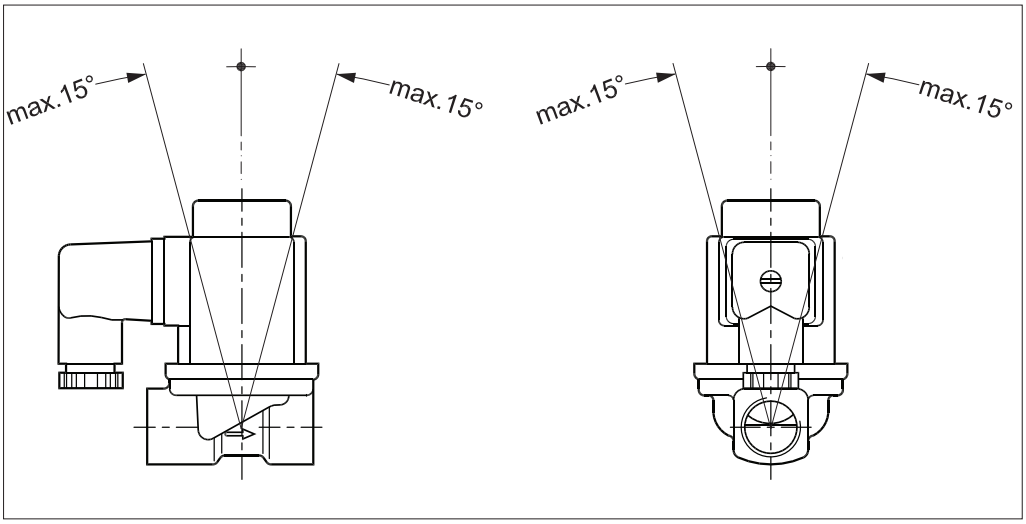
Dimensions and weight, brass NC

Type	Weight gross valve body with BB coil [kg]	L [mm]	L_1 [mm]	B [mm]	B_1 [mm]	H_1 [mm]	H [mm]
EV251B 10	0.58	51.5	84	48	46	13	81
EV251B 12	0.64	58.0	84	54	46	13	81
EV251B 18	0.94	90.0	84	62	46	18	87
EV251B 22	0.94	90.0	84	62	46	18	91

Dimensions



Mounting angle



Below coils can be used with EV250B:

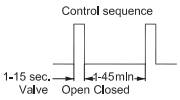
Coil	Type	Power consumption	Enclosure	Features
	BB, clip on	10 W AC. 18 W DC.	IP00 with spade connector	IP20 with protective cap IP65 with cable plug

Universal electronic multi-timer, type ETM

Application	Voltage	To use with coil:	Ambient temperature [°C]	Code number
External adjustable timing from 1 to 45 minutes with 1 to 15 seconds drain open. With manual override (test button). Electrical connection DIN 43650 A / EN 175 301-803-A	24 – 240 V AC.	BB	-10 – 50	**042N0185**

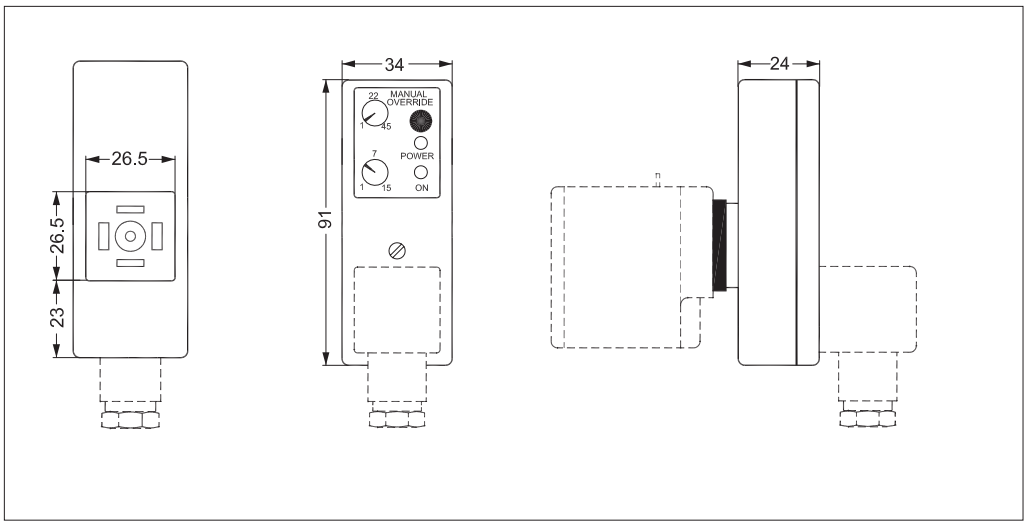
- Outside adjustments.
- Light weight and small size.
- External adjustable timing from 1 minute to 45 minutes with 1 to 15 seconds drain open.
- One solid state timer fits all coil voltages from 24 – 240 V AC.
- Light diodes for indication.
- All in one unit.
- Manual override (test button).

Technical data

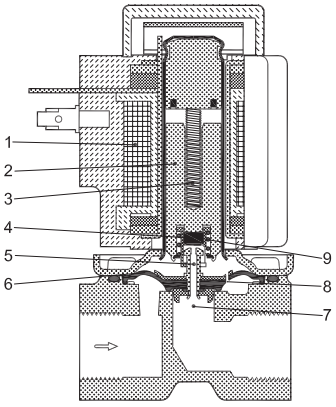


Type	ET 20 M
Voltage	24 – 240 V AC / 50-60 Hz.
Power rating	Max. 20 Watt
Enclosure	IP 00, IP 65 with cable plug
Electrical connection	DIN connector (DIN 43650-A)
Ambient operating temperature range	-10 °C – 50 °C
Function	Start with pulse
Interval timer	1 – 45 min.
"On" timer	1 – 15 sec.
Weight	0.084 kg

Dimensions, ETM timer



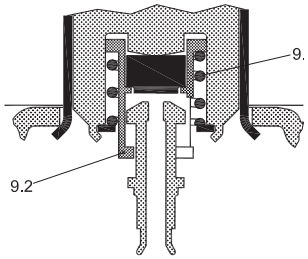
Function NC



1. *Coil*
2. *Armature*
3. *Closing spring*
4. *Valve plate*
5. *Pilot orifice*
6. *Diaphragm*
7. *Main orifice*
8. *Equalizing orifice*
9. *Assist*

9.1 *Assist spring*

9.2 *Assist connector*



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) when the pressure above the diaphragm exceeds the inlet pressure below due to the larger diameter of the upper side and the compression of the closing spring (3). The valve will be closed for as long as the voltage to the coil is disconnected.

Coil voltage connected (open):
When the 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 across the diaphragm (6) drops because the pilot orifice is larger than the equalizing orifice. This causes the diaphragm to be 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 assist spring (9.1) and assist connector (9.2). The valve will be open for as long as there is voltage to the coil.

Capacity diagram 10-22:

Example, water:
Capacity for EV251B 10 at differential pressure of 4 bar. Approx. 3 m^3/h