

# VB-E



The double-conical flange VB-E vibrators have been designed for use in industrial processes in environments with a potentially explosive atmosphere, caused by gas and dusts, in compliance with ATEX Directive (94/9/CE).

They are supplied without eccentric weights, which must be realised and mounted by the Manufacturer of the vibrating machine. In particular, these vibrators can be used in areas 1 and 2 (gas) and in areas 21 and 22 (dusts) according to the layout and following features:

**Category:** II 2 G, D

**Level of protection:** Ex e II, tD A21 IP66

**Temperature class:**  
Gas: T3 (200°C) o T4 (135°C)  
Dusts: 150°C

**EC certificate:** LCIE 06 ATEX

**Areas of use:** 1, 2, 21, 22



## Technical features

### Power supply

Three-phase voltage from 220V to 690V, 50Hz or 60Hz; suitable for use with an inverter from 20Hz to the base frequency with constant torque load profile.

### Polarity

4 poles.

### Conformity with European Directives

ATEX 94/9/CE; Electromagnetic Compatibility 89/336/CE

### Reference Regulations

IEC/EN 60079-0, IEC/EN 60079-7, IEC/EN 61241-0, IEC/EN 61241-1, EN 60034-1, EN 50081-1, EN 50081-2, EN 50082-1, EN 50082-2.

### Controls

The components that affect protection are 100% accurately controlled and recorded. The vibrators undergo 100% dynamic tests on the bench.

### Functioning

Continual service (S1) at maximum declared centrifugal force and electric power.

### Centrifugal force

Proportioned for a centrifugal force equal to 2500 Kgf. (24.5 KN), with eccentric weights not included, to be made by the user.

### Mechanical protection

IP 66 according to IEC 529, EN 60529.

### Shock-proof protection

IK 08 according to IEC 68, EN 50102.

### Insulation class

Class F (155°C).

### Tropicalization

Standard with "drop by drop" trickle system.

### Environmental temperature

From -10°C to +40°C, on request it is possible to have vibrators for maximum environmental temperatures of 55°C in temperature class T3.

### Vibrator heat protection

On request with PTC rated thermistor heat detectors 130°C (DIN 44081-44082). Also on request thermistors with different temperatures and anti-condensation heaters.

### Fixing of the vibrator

In all positions and therefore without restriction.

### Lubrication

All vibrators are lubricated in the factory and do not require further lubrication if used in normal operating conditions. In heavy duty operating conditions periodical re-lubrication may be applied.

### Electrical connection box

The size guarantees passage of tools used for fixing the vibrator to the vibrating machine. The electrical connection must be carried out using the relative connectors inserted inside the connection box. Special shaped terminals allow to fix the power supply cable, protecting it from loosening.

### Electric motor

Three-phase asynchronous type. Designed for maximum starting torques and torque curves specific to requirements of vibrating machines. Insulated windings using "drop by drop" system with class H resin. The rotor is die cast aluminium.

### Casing

In ductile cast iron to have high strength and optimal elasticity. An external earthing screw is located

on the casing as prescribed by Regulation IEC/EN 60079-0.

### Bearing flange

Constructed in ductile cast iron. The geometry of the flange transmits the load to the casing uniformly.

### Bearings

Custom made with particular geometry, especially designed for Italvibras, suitable to support both high radial and axial loads.

### Motor shaft

In treated steel alloy (Isothermic hardening) resistant to stress.

### Eccentric weights

Not envisioned, to be made and mounted by the user.

### Weight covers

Not envisioned.

### Painting

Electrostatic surface treatment based on polymerised epoxy polyester powder in oven at 200°C. Tested in salt spray for 500 hours.

### Other features

The VB-E vibrators are equipped with special cable-holders in compliance with ATEX Ex e II and are characterized by two plates.

## Certifications



II 2 G, D – Class Ex e II T4/ T3 tD A21 IP 66. IEC/EN 60079-0, IEC/EN 60079-7, IEC/EN 61241-0, IEC/EN 61241-1. Certificate n° LCIE 06 ATEX



GGTN Permit and Gost-R certificate for increased safety EEx e: GOST R 51330.0-99, GOST R 51330.8-99, GOST R IEC 61241-1-1-99.



Comply with the applicable European Union directives

## 4 poles - 1500/1800 rpm

	Description			Mechanical specifications						Electrical specifications						Type	Dimensional specifications (mm)																
	Code	Type	Poles	rpm		Centrifugal force				Weight kg	Temp. class (G)	Temp. class (D)	Max input power W		Power rating W		Max. current A		t <sub>E</sub> (s)	I <sub>a</sub> /I <sub>n</sub>	Fig.	A	øB	C	D	E	F°	G	H	I	L	Cable entry thread	
				50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				50 Hz	60 Hz	400 V		460 V	50 Hz															60 Hz
three-phase	6E1223	VB 15/2510-D-E	4	1500	1800	2500	2500	24.5	24.5	68	T3	150°C	1700	1800	1390	1480	2.85	2.80	7	6.70	VB 15/2510-D-E	H	517.5	281	152.5	30	26	14	85.3	136.6	35	108	M32x1.5
											T4		1220	1350	1030	1100	2.38	2.30	6	7.76													

t<sub>E</sub> (s) = set time t<sub>E</sub> from IEC/EN 60079-7. I<sub>a</sub>/I<sub>n</sub> = ratio between start-up current and maximum current.