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/EC).
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 GD

Level of protection: Ex e IIC T3/T4 Gb,
Ex tb IIIC T...°C Db

Temperature class: See table

EC certificate: LCIE 06 ATEX 6092 X

Zones 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
Low Voltage 2006/95/EC,
ATEX 94/9/EC.

Reference Regulations
IEC/EN 60079-0, IEC/EN 60079-7,
IEC/EN 60079-31, EN 60034-1.

Controls
The components that affect protection are 100% accurately controlled and recorded.

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

Centrifugal force
Proportioned for a centrifugal force equal to 5000 Kgf. (49 KN), with eccentric weights not included, to be made by the user.

Mechanical protection
IP 66 according to IEC 529, EN 60529.

Protection against mechanical impacts
IK 08 according to IEC 68, EN 50102.

Insulation class
Class F (155°C).

Tropicalization
Standard with “drop by drop” trickle system.

Ambient temperature
From -20°C to +40°C, on request it is possible to have vibrators for maximum ambient temperatures of +55°C in temperature class T3.

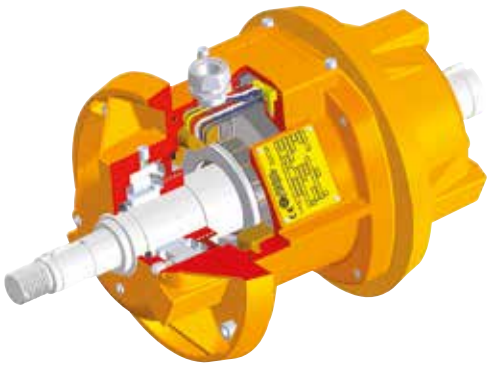
Vibrator thermal protection
On request with PTC rated thermistor heat detectors 130°C (DIN 44081-44082). Also on request thermistors with different temperatures and anti-condensation heaters.

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 (”FOR LIFE” lubrication). In heavy duty operating conditions periodical re-lubrication may be applied.

4 poles - 1500/1800 rpm

	Description			Mechanical specifications							Electrical specifications					
				rpm		Centrifugal force kg		Centrifugal force kN		Weight kg	Temp. class (G)	Temp. class (D)	Max input power W		Power rating W	
	Code	Type	Poles	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				50 Hz	60 Hz	50 Hz	60 Hz
three-phase	6E1223	**VB 15/2510-D-E**	4	1500	1800	**2500**	**2500**	**24.5**	**24.5**	68	T3 T4	150°C	1700 1220	1800 1350	1390 1030	1480 1100
	6E1378	**VB 15/5000E-LM**	4	1500	1800	**5000**	**5000**	**49.0**	**49.0**	101	T3	135°C	3200	3700	2560	2800



Certifications

II 2 GD - Class Ex e IIC T3/T4 Gb,
Ex tb IIIC T...°C Db
IEC/EN 60079-0, IEC/EN 60079-7, IEC/EN 60079-31
Certificate n° LCIE 06 ATEX 6092 X

Comply with the applicable European Union directives: ATEX (94/9/EC), Low Voltage (2006/95/EC).

GGTN Permit and Gost-R certificate:
Ex e II T3/T4 - DIP A21 IP66
standards GOST R 51330.0-99,
GOST R 51330.8-99, GOST R IEC 61241-1-1-99.

KOSHA Korea
Certificate n° 11-AV4 BO-0346/7/8/9/50/51
Ex e II T3/T4 - Ex td A21 IP66

Certificate of Conformity
n° IECEx LCI 10.0003X
following standards IEC 61241-0, IEC 61241-1,
IEC 60079-0, IEC 60079-7

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 spheroidal cast iron to have high strength and optimal elasticity. An external earthing screw is located on the casing as prescribed by standard IEC/EN 60079-0.

Bearing flange
Constructed in spheroidal 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.

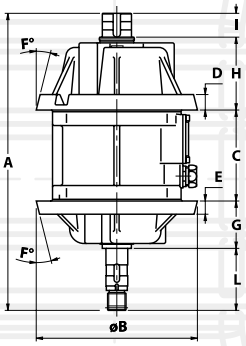
Eccentric weights
Not envisioned, to be made and mounted by the user.

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.

Stainless steel protection
On request, corrosion high grade protection (stainless steel micro suspensions in a polyurethanic paint) is available.

Fig. H



Dimensional specifications (mm)

Max. current A 400 V 50 Hz	Max. current A 460 V 60 Hz	t_E (s)	I_A/I_N	Type	Fig.	A	øB	C	D	E	F°	G	H	I	L	Cable entry thread
2.85 2.38	2.80 2.30	7 6	6.70 7.76	**VB 15/2510-D-E**	**H**	517.5	281	158.5	**30**	**26**	**14**	85.3	136.6	35	108	M32x1.5
5.70	5.45	6	7.00	**VB 15/5000E-LM**	**H**	555	342	208	**48**	**48**	**25**	106.5	110	60.5	70	M32x1,5

t_E (s) = set time t_E from IEC/EN 60079-7. I_A/I_N = ratio between start-up current and maximum current.