



The CDX explosion-proof vibrators have been designed for use in industrial processes in a potentially explosive atmosphere.

The enclosure of the CDX vibrators is equipped with increased thickness and joints to prevent the transmission of an internal explosion to the surrounding area.

The CDX series is characterized and enhanced by many different certifications, depending on the vibrator model.

## Technical features

### Power supply

Three-phase voltage from 24V to 690V (limit at 600V for UL and CSA certifications), 50Hz or 60Hz, or single-phase 100-130V 60Hz and 200-240V 50Hz; suitable for use with a PWM inverter from 20Hz to the base frequency with constant torque load profile.

### Polarity

2, 4, 6 and 8 poles.

### Reference Regulations and Directives

See table below.

### Controls

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

### Functioning

Continual service (S1) at maximum declared centrifugal force and electric power. Intermittent services are also possible depending on the type of vibrator and the operating conditions. For detailed information, contact our technical assistance office.

### Centrifugal force

Range extended to 22400 Kgf. (220 KN), with centrifugal force adjustable from 0 to 100%.

### Mechanical protection

Mechanical protection IP66 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 on all vibrators, with vacuum encapsulation up to size 35, with "drop by drop" trickle system for larger sizes.

### Ambient temperature

From -20°C to +40°C.

### Vibrator thermal protection

With thermal protector at 130°C for the entire CDX range, or on request with PTC thermistors rated heat detectors 130°C (DIN 44081-44082).

### 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 to size 40 and larger.

### Terminal box

Large fixed electrical connections. The terminal cover, with increased thickness,

is constructed to contain internal explosions. Special shaped terminals allow to fix the power supply cable, protecting it from loosening.

### Electric motor

Three-phase and single-phase asynchronous type. Designed for maximum starting torques and torque curves specific to requirements of the vibrating machines. Insulated windings using vacuum encapsulating up to size 35; using the "drop by drop" trickle system with Class H resin for the larger sizes. The rotor is die cast aluminium.

### Casing

In high-tensile aluminium alloy up to size 30, in spheroidal cast iron for larger sizes. Patented shape that improves heat dispersion and lowers normal running temperature with full load. An external earthing screw is located on the casing as prescribed by Regulation IEC/EN 60079-0.

### Bearing flange

Constructed in spheroidal or grey 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.



The CDX-G series, obtained by the CDX series, is specifically designed for use in industrial processes in a potentially explosive gas atmosphere, they are commonly used on oil and gas drilling rigs. The CDX-G line has weight covers and terminal box covers with special protection coatings; upon request, weight covers can be supplied in stainless steel.



series CDX



series CDX-G

Approvals



Class I, Groups CD  
Class II, Groups EFG  
Oper. Temp. T4 (135°C)  
(Amb. Temp. -20°C ÷ +40°C)

ATEX II 2 GD  
Ex d IIB 120°C Gb  
Ex tb IIIC T120°C Db  
(Amb. Temp. -20°C ÷ +40°C)

Ex d IIB T120°C Gb  
Ex tb IIIC T120°C Db  
(Amb. Temp. -20°C ÷ +40°C)

Class I, Groups CD  
Oper. Temp. T2C (230°C)  
(Amb. Temp. -20°C ÷ +60°C)

ATEX II 2 G  
Ex d IIB 160°C Gb  
(Amb. Temp. -20°C ÷ +60°C)

Ex d IIB T160°C Gb  
(Amb. Temp. -20°C ÷ +60°C)

#### Motor shaft

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

#### Eccentric weights

Allow continual adjustment of the centrifugal force. This adjustment is realized by a graduated scale, which expresses the centrifugal force as a percentage of the maximum centrifugal force.

A patented system (patent N° MO98A000194), called ARS, prevents adjustment errors.

#### Weight covers

In aluminium alloy.

Special coatings provided on CDX-G types. On request available also in stainless steel for CDX-G types.

#### 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 CDX series is supplied without cable gland and with NPT threaded conduit opening.

Several sizes are available with different mounting bolt patterns. Please contact sales office at Italtibras.

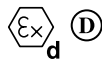
#### Certifications



Certificate: LR 100948. Category: Class I, Groups C,D; Class II, Groups E, F, G. Temperature Class: T4 (135°C). Standards: CAN/CSA C22.2. Zones of use: 1,2\*



Certificate: E129825. Category: Class I, Groups C and D; Class II, Groups E, F and G. Temperature class: T4 (135°C). Regulations: UL N° 674-886. Areas of use: 1, 2\*



Certificate: DEMKO 07 ATEX 0612032X. Category: II 2 GD - Ex d IIB 120°C Gb Ex tb IIIC T120°C Db. Directive: ATEX 94/9/EC, CENELEC EN 60079-0, EN 60079-1, EN 60079-31. Zones of use: 1, 2, 21, 22



GGTN Permit and Gost-R certificate for explosion-proof Ex d: GOST R 51330.0-99, GOST R 51330.1-99, GOST R IEC 61241-1-1-99.



Certificate: SIRA 00 ATEX 1026 Category: II 2 G, Ex d IIB. Temperature class: T4 (135°C) Directives: ATEX 94/9/EC, CENELEC EN 60079-0, EN 60079-1. Areas of use: 1,2



Certification: CIMFR and DGMS for Indian. Category: Ex d IIB 120°C, IP 66 Regulations: IS/IEC 60079-0, IS/IEC 60079-1, IS4691-1985. Areas of use: 1, 2



Certificate of Conformity n° IECEx UL 09.0034X following standards IEC 60079-0, IEC 60079-1, IEC 60079-31



Comply with the applicable European Union directives

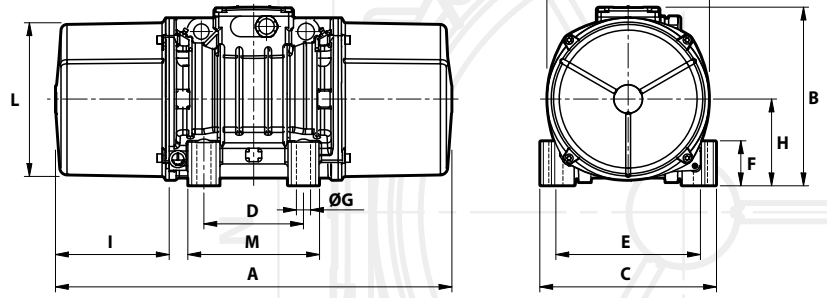


KOSHA Korea Certificate n° 11-AV4BO-0353/4/5/6/7/8/60 Ex d IIB 120°C - Ex td A21 IP66 T120°C

\* Areas 1, 2 indicated with this symbol are areas according to classification in force in USA and Canada. They cannot be referred to the ATEX Directive.



Fig. A



Dimensional specifications (mm)

Max. current A		I <sub>a</sub> /I <sub>n</sub>		Type	Fig.	A	B	C	D	E	Holes		F	H	I	L	M	N	Capacitor (µF)		Cable entry
400 V 50 Hz	460 V 60 Hz	50 Hz	60 Hz								øG	N°							220 V 50 Hz	115 V 60 Hz	
0.60	0.50	3.47	4.20	CDX 3/300-G/D	A	255	191	152	90	125	13	4	28	77.5	54	130	128	150	-	-	NPT 1/2"
0.80	0.75	4.21	4.80	CDX 3/500-G/D	A	288	218	167	105	140	13	4	30	90	65	150	140	175	-	-	NPT 1/2"
1.10	1.00	3.83	6.00	CDX 3/800-G/D	A	314	230.5	205	120	170	17	4	45	102	66	177	162	200	-	-	NPT 1/2"
0.90	0.93	4.78	4.96	CDX 3/1100-G/D	A	446	248.5	210	120	170	17	4	52	112	118	192	160	218	-	-	NPT 3/4"
1.62	1.72	6.00	6.32	CDX 3/1500-G/D	A	468	278.5	235	140	190	17	4	65	116	108	210	185	225	-	-	NPT 3/4"
1.71	1.85	6.95	7.19	CDX 3/2100-G/D	A	520	278.5	235	140	190	22	4	65	116	134	210	185	225	-	-	NPT 3/4"
3.23	3.20	7.47	8.60	CDX 3/2300-G/D	A	572	312	270	155	225	22	4	52	135	146	238.5	200	253	-	-	NPT 3/4"
5.23	5.00	6.37	8.00	CDX 3/3200-G/D	A	594	342.5	310	155	255	23.5	4	65	155	137	279	210	295	-	-	NPT 3/4"
7.13	6.60	6.53	7.00	CDX 3/4700-G/D	A	638	367	335	180	280	26	4	70	175	154	303	235	320	-	-	NPT 3/4"

220 V 50 Hz 115 V 60 Hz

1.25	2.40	2.48	3.52	CDX 3/300-G/D	A	255	191	152	90	125	13	4	28	77.5	54	130	128	150	16	25	NPT 1/2"
2.30	4.50	3.35	4.22	CDX 3/500-G/D	A	288	218	167	105	140	13	4	30	90	65	150	140	175	12.5	50	NPT 1/2"
3.25	7.00	4.00	4.14	CDX 3/800-G/D	A	314	230.5	205	120	170	17	4	45	102	66	177	162	200	25	90	NPT 1/2"

Dimensional specifications (mm)

Max. current A		I <sub>a</sub> /I <sub>n</sub>		Type	Fig.	A	B	C	D	E	Holes		F	H	I	L	M	N	Capacitor (µF)		Cable entry
400 V 50 Hz	460 V 60 Hz	50 Hz	60 Hz								øG	N°							220 V 50 Hz	115 V 60 Hz	
0.41	0.40	2.34	2.75	CDX 15/200-G/D	A	301	191	152	90	125	13	4	28	77.5	77	130	128	150	-	-	NPT 1/2"
0.60	0.60	3.33	3.50	CDX 15/400-G/D	A	350	218	167	105	140	13	4	30	90	96	150	140	175	-	-	NPT 1/2"
0.60	0.60	3.33	3.50	CDX 15/550-G/D	A	392	218	167	105	140	13	4	30	90	117	150	140	175	-	-	NPT 1/2"
0.92	0.98	3.48	3.43	CDX 15/700-G/D	A	394	230.5	205	120	170	17	4	45	102	106	177	162	200	-	-	NPT 1/2"
0.81	0.88	4.65	4.84	CDX 15/1100-G/D	A	446	248.5	210	120	170	17	4	52	112	118	192	160	218	-	-	NPT 3/4"
1.35	1.50	5.59	5.60	CDX 15/1410-G/D	A	468	278.5	235	140	190	17	4	65	116	108	210	185	225	-	-	NPT 3/4"
1.81	1.90	5.09	5.46	CDX 15/1710-G/D	A	520	278.5	235	140	190	22	4	65	116	134	210	185	225	-	-	NPT 3/4"
1.81	1.90	5.09	5.46	CDX 15/2000-G/D	A	594 (50Hz) 520 (60Hz)	278.5	235	140	190	22	4	65	116	171 (50Hz) 134 (60Hz)	210	185	225	-	-	NPT 3/4"
2.95	2.90	7.80	7.76	CDX 15/2410-G/D	A	572	312	270	155	225	22	4	52	135	146	238.5	200	253	-	-	NPT 3/4"
3.80	3.50	6.84	8.09	CDX 15/3810-G/D	A	594	342.5	310	155	255	23.5	4	65	155	137	279	210	295	-	-	NPT 3/4"
5.40	4.85	7.82	9.90	CDX 15/5010-G/D	A	638	367	335	180	280	26	4	70	175	154	303	235	320	-	-	NPT 3/4"

220 V 50 Hz 115 V 60 Hz

1.00	2.00	1.50	1.85	CDX 15/200-G/D	A	301	191	152	90	125	13	4	28	77.5	77	130	128	150	5	25	NPT 1/2"
1.20	2.80	2.50	2.50	CDX 15/400-G/D	A	350	218	167	105	140	13	4	30	90	96	150	140	175	32/12	35	NPT 1/2"
1.20	2.80	2.50	2.50	CDX 15/550-G/D	A	392	218	167	105	140	13	4	30	90	117	150	140	175	32/12	40/35	NPT 1/2"
2.15	5.15	5.44	3.63	CDX 15/700-G/D	A	394	230.5	205	120	170	17	4	45	102	106	177	162	200	96/16	160/40	NPT 1/2"

I<sub>a</sub>/I<sub>n</sub> = ratio between start-up current and maximum current. ◐ Start-up capacitor / Running capacitor.  
Several sizes are available with different mounting bolt patterns. Please contact sales office at Italvibras.



Fig. A

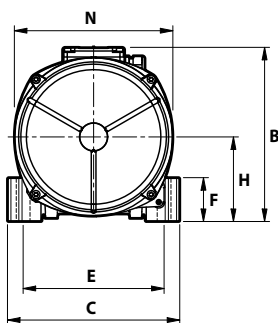
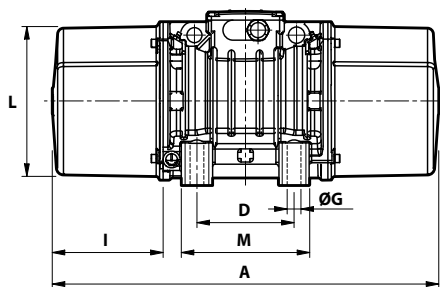
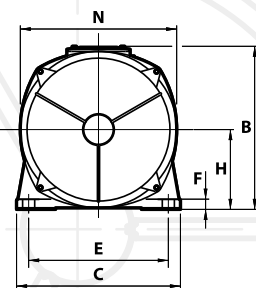
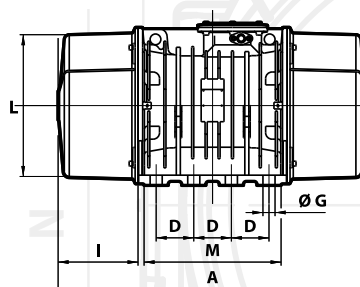


Fig. F



Dimensional specifications (mm)

Max. current				Type	Fig.	Holes																Cable entry
A		I <sub>A</sub> /I <sub>N</sub>				A	B	C	D	E	øG	N°	F	H	I	L	M	N				
400 V 50 Hz	460 V 60 Hz	50 Hz	60 Hz																			
0.30	0.30	1.90	2.07	CDX 10/40-G/D	A	255	191	152	90	125	13	4	28	77.5	54	130	128	150	NPT 1/2"			
0.30	0.30	1.90	2.07	CDX 10/100-G/D	A	301	191	152	90	125	13	4	28	77.5	77	130	128	150	NPT 1/2"			
0.50	0.50	2.72	3.10	CDX 10/200-G/D	A	350	218	167	105	140	13	4	30	90	96	150	140	175	NPT 1/2"			
0.72	0.68	2.63	2.79	CDX 10/310-G/D	A	394	230.5	205	120	170	17	4	45	102	106	177	162	200	NPT 1/2"			
0.57	0.61	3.89	3.77	CDX 10/550-G/D	A	446	248.5	210	120	170	17	4	52	112	118	192	160	218	NPT 3/4"			
1.24	1.30	4.00	3.69	CDX 10/810-G/D	A	520 (50Hz) 468 (60Hz)	278.5	235	140	190	17	4	65	116	134 (50Hz) 108 (60Hz)	210	185	225	NPT 3/4"			
1.52	1.65	4.15	4.24	CDX 10/1110-G/D	A	594 (50Hz) 520 (60Hz)	278.5	235	140	190	22	4	65	116	171 (50Hz) 134 (60Hz)	210	185	225	NPT 3/4"			
2.09	2.10	4.93	5.24	CDX 10/1610-G/D	A	634 (50Hz) 572 (60Hz)	312	270	155	225	22	4	52	135	177 (50Hz) 146 (60Hz)	238.5	200	253	NPT 3/4"			
3.80	3.70	5.40	6.03	CDX 10/2610-G/D	A	676	342.5	310	155	255	23.5	4	65	155	178	279	210	295	NPT 3/4"			
4.75	4.75	4.19	4.67	CDX 10/3810-G/D	A	734	367	335	180	280	26	4	70	175	202	303	235	320	NPT 3/4"			
25.2	25.5	5.70	5.88	CDX 10/22000-G	F	1150	607	610	140	520	45	8	38	297	297.5	542	510	582	NPT 1"			

Dimensional specifications (mm)

Max. current				Type	Fig.	Holes																Cable entry
A		I <sub>A</sub> /I <sub>N</sub>				A	B	C	D	E	øG	N°	F	H	I	L	M	N				
400 V 50 Hz	460 V 60 Hz	50 Hz	60 Hz																			
0.85	0.76	2.13	2.11	CDX 075/150-G/D	A	350	218	167	105	140	13	4	30	90	96	150	140	175	NPT 1/2"			
1.10	1.05	2.03	2.29	CDX 075/250-G/D	A	394	230.5	205	120	170	17	4	45	102	106	177	162	200	NPT 1/2"			
0.57	0.58	2.47	2.50	CDX 075/400-G/D	A	446	248.5	210	120	170	17	4	52	112	118	192	160	218	NPT 3/4"			
0.87	0.90	2.87	3.11	CDX 075/660-G/D	A	520	278.5	235	140	190	17	4	65	116	134	210	185	225	NPT 3/4"			
1.00	1.10	2.91	2.91	CDX 075/910-G/D	A	594	278.5	235	140	190	22	4	65	116	171	210	185	225	NPT 3/4"			
1.52	1.90	3.68	3.05	CDX 075/1310-G/D	A	634	312	270	155	225	22	4	52	135	177	238.5	200	253	NPT 3/4"			
3.52	3.45	3.58	3.91	CDX 075/2110-G/D	A	676	342.5	310	155	255	23.5	4	65	155	178	279	210	295	NPT 3/4"			
4.85	5.00	4.21	4.70	CDX 075/3110-G/D	A	734	367	335	180	280	26	4	70	175	202	303	235	320	NPT 3/4"			
21.4	22.0	6.97	5.50	CDX 075/22000-G	F	1150	607	610	140	520	45	8	38	297	297.5	542	510	582	NPT 1"			

I<sub>A</sub>/I<sub>N</sub> = ratio between start-up current and maximum current.  
 Several sizes are available with different mounting bolt patterns. Please contact sales office at Italvibras.