CONCRETE CONSOLIDATION

VIBRATORS FOR CONCRETE COMPACTION

Intro

Company profile 4
The vibration of concrete 5

Internal vibrators

VH - Electric vibrators 6
CM - Frequency and voltage converters 8
EWO - Electric vibrators with built-in converter 10
VHPG - Electric vibrator with pistol grip 12
VHA - Pneumatic vibrators 14

External vibrators

Electric vibrators 16
- Foot mounted 17
- Foot mounted + built-in converter 18
- Cradle mounted 19

Pneumatic vibrators 20
Fastening systems 22
Multiple sockets panel 23

Systems design

OLI's experts consultancy 24
Electric system 25
Pneumatic system 25

Extra

Tips and recommendations for use extra page
Technical drawings extra page

Worldwide leader in vibration technology

OLI is **the world's top selling manufacturer of Electric and Pneumatic Vibrators**.
A high level of customer service is guaranteed through 20 OLI Trading Subsidiaries, 70+ local warehouses and 4 manufacturing plants worldwide.

OUR 3 DIVISIONS

PROVIDE CUSTOMERS WITH OPTIMAL SOLUTIONS FOR ALL REQUIREMENTS

INDUSTRIAL VIBRATORS	FLOW AIDS	CONCRETE CONSOLIDATION
Electric motovibrators for vibrating equipment.	Comprehensive range of electric and pneumatic vibrators to solve any problem of flowability.	Internal and external vibrators, converters and accessories for reliable and efficient concrete compaction.

Originally specialising in immersion vibrators for concrete consolidation, OLI is now the worldwide leader in vibration technology, with a **complete range of electric and pneumatic internal and external vibrators**.

By supplying **competitive, high quality products for wide-ranging applications,** OLI combines **performance** and **reliability** by adapting to the ever-changing market. A strong believer in innovation, OLI is constantly striving to be ahead of the opposition.

As a global player in industrial vibration technology, the key focus of OLI's business strategy is **rapid stock delivery, any time, anywhere in the world**.

Excellent customer service is of pivotal importance: the company guarantees **quick order processing** and customers worldwide can enjoy access to the same high quality product and services.

OLI has access to credible expertise when it comes to finding suitable solutions to customers' requests. A team of engineers specialised in designing efficient, reliable, and safe solutions backed by **globally certified management**.

OLI provides their customers with state-of-the-art equipment and the blueprint for the next generation of products is already in progress.

The vibration of concrete

The freshly mixed concrete does not compact by itself because the poor fluidity is not able to overcome the internal friction; only by using the vibration it's possible to overcame such resistance and get the concrete compacted.

THE VIBRATION CONTRIBUTES TO:

- The **surfacing of the air** trapped in the concrete;
- The **displacement of aggregates**, aligning them with one each other, with consequent reduction of cavities, conferring them high density and perfect homogeneity;
- The **adhesion** of the concrete to the bars of the reinforcement armatures or to any internal structural inserts, as well as to the basic anchorages.

BENEFITS:

- High **mechanical resistance**.
- Low porosity and thus **low permeability** to water and to aggressive substances contained therein.
- **Absence of cracks** within the concrete in the proximity of the reinforcement armatures' bars.
- **Complete filling** of the formwork.
- **Increase in the life cycle** of the concrete.
- High **aesthetic result**.

TYPES OF VIBRATION	EQUIPMENT TO USE
Direct The vibration is transmitted directly from within the concrete	INTERNAL VIBRATORS
Indirect The vibration is transmitted from the outside of the concrete	EXTERNAL VIBRATORS

NO VOIDS

REDUCED WORKING TIME

MAXIMUM DENSITY

MAXIMUM CONCRETE STRENGTH WITH OLI VIBRATORS

INTERNAL ELECTRIC VIBRATORS

Flexible and easy-to-use vibrating systems are required whenever there is the construction of industrial floors, walls, columns, slabs, etc.
In such cases high-frequency immersion vibrators are generally used, known as "poker" or simply "vibrating needles". They come into **direct contact with the concrete**; for this reason, we speak of internal direct vibration.

HOW THE VH VIBRATORS WORK
An eccentric mass is housed inside the vibrating head (or needle) which is fixed to a rotating shaft powered by a three-phase asynchronous AC motor.
During rotation, the eccentricity of the mass generates rotational movements to the vibrating head.

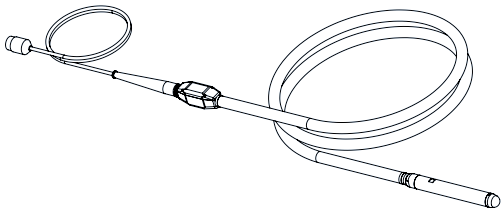
The **robustness** and the **constant rotation speed** are essential factors in the compaction of the concrete: drop in the speed and centrifugal force heavily reduce the quality of the manufactured article.

The VH is a robust and reliable product, which is suitable for compacting the concrete and it is appropriate for continuous operation.

Important:
The VH has to be operated by electric or electronic converters that convert the 50/60 Hz main frequencies to 200 Hz. This is necessary for the vibrating head in order to reach a vibration speed of 12,000 vpm, as it is ideal for the proper compaction.

Benefits

- No overheating
- Easy maintenance
- Long life of the vibrator head
- 100% Water Proof



MAXIMUM DURABILITY
HIGH PERFORMANCE

VH

Internal electric high frequency vibrators

VHN
VHP-R

VHP

Model	CF	Rated current *	Rated power (42V)	Action diameter *	Amplitude	Noise level	Compaction power *	DIMENSIONAL SPECIFICATIONS			
								Head Diameter	Head Length	Head Weight	Total Weight
	N	A	kW	cm	mm	dB A	m3/h	mm	mm	kg	kg
VHN 38	1,700	8	0.5	45	1.8	70	20	38	404	2.4	10.6
VHN 50	3,080	11	0.6	60	2.0	76	25	50	403	4.4	14.8
VHN 59	4,560	12	0.9	80	2.3	76	35	59	420	6.8	17.4
VHP 50	3,760	15	0.9	70	2.1	76	40	50	468	5.4	16.4
VHP 59	5,640	17	1.1	90	2.4	79	45	59	498	8.2	19.6
VHP 65	7,330	24	1.3	110	2.6	79	50	65	484	9.4	22.4
VHP-R 59 **	4,800	12	1.0	90	2.3	78	45	59	430	6.0	16.5
VHP-R 65 **	6,500	14	1.1	100	2.4	78	50	65	440	8.0	19.5

* Measurements vary according to the quality and thickness of the concrete ** Equipped with roller bearings

VH - INTERNAL ELECTRIC HIGH FREQUENCY VIBRATORS

APPLICATION	Concrete compaction
DESCRIPTION	Internal high frequency electric vibrators for concrete consolidation characterised by high performance, consistent speeds, and remarkable resistance to abrasion

FEATURES

DUTY CYCLE	Continuous S1
INPUT	42V - 3ph - 200Hz
NOMINAL FREQUENCY	12,000 vpm
INSULATION CLASS	F (T° max = 155 °C)
THERMAL SWITCHES	Inside the stator. Max T °C = 150 °C
WORKING TEMPERATURE	From -20 °C to +40 °C
HEAD	Ball bearing: n.2 VHN 50 / VHN 59 - n.4 VHN 38 and complete VHP range Roller bearing: VHP-R 59 / VHP-R65 Protection class IP68 Hardening treatment for VHN / VHP-R and chrome plating for VHP
SWITCH BOX	Polyamide (nylon +30% fiber glass) with gasket, cable protection, yellow colour IP66 protection Designed for continuous use and resistant to wear and tear
OPERATING HOSE	5 m SBR rubber hose with inner textile reinforcement
SUPPLY CABLE	10 m neoprene electric cable HO7RN-F with 3 pin plug (42V – 3 phase, IP44)
FINISHING	VIBRATING HEAD: painted yellow Ral 1007 (VHN / VHP-R), chromate (VHP) SWITCH BOX: colour yellow Ral 1007
CERTIFICATIONS	CE Community Directives and subsequent modifications: 2006/42/EC - 2006/95/EC Conformity verified according to the standard documents: IEC60745-1, IEC 60745-2-12, IEC 60034-1
OPTIONS	Rubber cap

Rubber cap

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

FREQUENCY AND VOLTAGE CONVERTERS

The internal vibrating needles need to be powered via a three-phase electric line at low voltage and high frequency, therefore it is necessary to use a voltage and frequency converter.

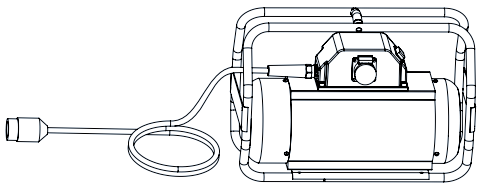
The electromechanical rotary converters consist of a motor and a generator, which are coupled together. The motor converts the electrical energy into mechanical energy; the generator converts the mechanical energy into electrical energy, thus generating the required voltage and frequency (42 Volt - 200 Hz).

The converters of the CM range are designed to supply simultaneously and in a continuous cycle one or more high-frequency internal vibrators; they are reliable, durable and do not require maintenance.

The minimal design and the materials used **facilitate the external cleaning**, while the special internal air ducting system **avoids overheating**.
The range comprises several models, which are **capable of supplying from 1 to 4 immersion vibrators**.

Benefits

- No overheating
- No maintenance
- Optimal cooling
- Easy cleaning



LONG LIFE

OPTIMUM COOLING

CM

Frequency and voltage converters

CMM 11

CMM 15

CMM 25, CMT 25

CMT 35

CMT 55, CMT 85

Model	Frame	Outlets	Supply Electric Cable	Weight	INPUT			OUTPUT		
					Input Voltage and Frequency	Current	Power	Output Voltage and Frequency	Current	Power
	Type	N°	m	kg	V / f	A	kW	V / f	A	kVA
CMM 11	Handle	1	3.5	17	230V, 1ph, 50Hz	2.5	0.5	42V ± 10% 3ph 200Hz	11	0.8
CMM 15	Handle	1	3.5	25		6	1.1		14	1.0
CMM 25	Frame	2	3.5	34		10	1.8		25	1.8
CMT 25	Frame	2	3.5	33	400V 3ph 50Hz	5	2.8		25	1.8
CMT 35	Wheeled	3	5.0	41		6	3.3		36	2.6
CMT 55	Wheeled	3	5.0	50		9	5.0		55	4.0
CMT 85	Wheeled	4	5.0	56		12	6.6		85	6.2

COMPATIBILITY TABLE						
Maximum number of vibrators that can be connected						
CMM 11	1x VHN 38	1x VHN 50	-	-	-	-
CMM 15	1x VHN 38	1x VHN 50	1x VHN 59	-	-	-
CMM 25	2x VHN 38	2x VHN 50	2x VHN 59	1x VHP 50	1x VHP 59	1x VHP 65
CMT 25	2x VHN 38	2x VHN 50	2x VHN 59	1x VHP 50	1x VHP 59	1x VHP 65
CMT 35	3x VHN 38	3x VHN 50	3x VHN 59	2x VHP 50	2x VHP 59	1x VHP 65
CMT 55	3x VHN 38	3x VHN 50	3x VHN 59	3x VHP 50	3x VHP 59	2x VHP 65
CMT 85	4x VHN 38	4x VHN 50	4x VHN 59	4x VHP 50	4x VHP 59	3x VHP 65

CM - FREQUENCY AND VOLTAGE CONVERTERS

APPLICATION	Concrete compaction
DESCRIPTION	Frequency and voltage converters equipped with permanent magnets, specifically designed to power high frequency concrete vibrators continuously

FEATURES

DUTY CYCLE	Continuous S1
INSULATION CLASS	F (T° Max = 155 °C)
PROTECTION	Overload protection
WORKING TEMPERATURE	From -20 °C to +40 °C
CONNECTION BOX	Polyamide (nylon + 30% fibre glass), complete with switch and sockets (42V three phase, IP44 protection)
SUPPLY CABLE	Neoprene electric cable HO7RN-F with plug
FINISHING	Powder coating (body yellow Ral 1007; fan covers, wheels and frame black Ral 9007)
CERTIFICATIONS	CE Community Directives and subsequent modifications: 2006/42/EC - 2006/95/EC Conformity verified according to the standard documents: EN 12100-1, EN 12100-2, CEI EN 60745-1
DESIGN	Smooth and robust cast aluminium body Forced ventilation

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

INTERNAL VIBRATORS WITH BUILT-IN CONVERTER

On construction sites, during the consolidation of the concrete, a light, flexible and easy-to-use tool is often required, which **can be connected directly to the common single-phase power lines** (230 or 110 Volt, 50/60 Hz).

The solution to fulfil this need is the **EWO** range: **high-frequency immersion vibrators equipped with an integrated electronic frequency converter** capable of transforming the single-phase input voltage (230V or 110V, 50/60 Hz) into the three-phase voltage (230 V, 200 Hz) necessary to obtain 12,000 vpm.

Compared to the common vibrating needles powered by electromechanical converters, the EWO vibrators have several advantages:

- they are **light and flexible**;
- the constant output frequency maintains the maximum centrifugal force and thus a **high and consistent performance**;
- there is a **protection** against short circuits, excessive temperature, overvoltage and overcurrent above or below the nominal values.

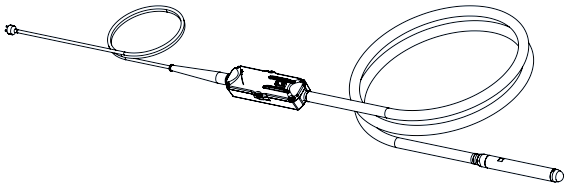
Benefits

» Reliable

» Safe & easy to handle

» No overheating

» Easy maintenance



COMPACT SOLUTION

EWO

Internal high frequency vibrators with built-in converter

EWO 50C
EWO 59C
EWO 65C

EWO 38C

Model	CF	Rated Current*	Rated power (230V)	Action Diameter **	Amplitude	Noise Level ***	Compaction Power **	DIMENSIONAL SPECIFICATIONS			
								Head Diameter	Head Length	Head Weight	Total Weight****
	N	A	kW	cm	mm	DB A	m3/h	mm	mm	kg	kg
EWO 38C	1,700	1.5	0.5	45	1.8	70	20	38	404	2.4	14.5
EWO 50C	3,760	2.7	0.9	70	2.1	76	40	50	468	5.2	20.0
EWO 59C	5,640	3.0	1.1	90	2.4	79	45	59	499	8.2	22.8
EWO 65C	7,330	4.5	1.3	110	2.6	79	50	65	484	9.4	24.8

* Refer to centrifugal force for amperage assessment
** Measurements vary according to concrete quality and thickness
*** Measured at 1 m distance
**** Packaging included.

Model	Input Voltage	Input Frequency	Input Amperage
Converter 230	230V ±10% 1ph	50/60Hz	5.5 A
Converter 115	115V ±10% 1ph	50/60Hz	11.0 A

EWO - INTERNAL HIGH FREQUENCY VIBRATORS WITH BUILT-IN CONVERTER

APPLICATION	Concrete compaction
DESCRIPTION	Equipped with compact electronic frequency converters integrated into the supply cable, characterised by high centrifugal forces, constant speeds and high wear resistance

FEATURES

DUTY CYCLE	Continuous S1
INPUT	230V or 115V ± 10% 50/60 Hz -1 ph
NOMINAL FREQUENCY	12.000 vpm
INSULATION CLASS	F (T° max = 155 °C)
PROTECTION CLASS	Head protection IP68 Converter protection IP66 The inverter is protected against overcurrent, overvoltage, excess temperature and short circuit. A LED light shows the presence of a fault
WORKING TEMPERATURE	From -20 °C to +40 °C
HEAD	Equipped with 4 ball bearings greased for life Hardening treatment (EWO 38C), chrome plating (EWO 50C, EWO 59C, EWO 65C)
SWITCH BUILT-IN	Complete with reinforced gasket
PROTECTION HOSE	5 m SBR rubber hose with textile reinforcement
SUPPLY CABLE	10 m neoprene electric cable HO7RN-F with SCHUKO 220V 2P+1T 16A plug
CONVERTER	Sturdy cast aluminium box Ergonomic and lightweight (3 Kg)
INVERTER	Tropicalised and protected against vibration, moisture and shocks with a special resin
FINISHING	Painted yellow RAL 1007 (EWO 38C) and chrome plating (EWO 50C - EWO 59C - EWO 65C)
CERTIFICATIONS	CE Community Directives and subsequent modifications: 2006/42/EC, 2014/30/EU, 2014/35/EU Conformity verified according to the standard documents: CEI EN 60745-1, CEI EN 60745-2-12
OPTIONS	Rubber cap

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

INTERNAL VIBRATORS WITH PISTOL GRIP

For Thin layers of concrete, such as floors or slabs, a short, light and manoeuvrable vibrator is needed. For all these cases, the ideal solution is to use a pistol grip poker.

Through a switch located in the pistol, the operator is able to activate and deactivate the vibrator as needed and move easily on the construction site.

The highest level of safety is ensured through a low voltage needle (42V) as well as perfect compaction and aesthetic results are obtained thanks to the high speed (12,000 vpm).

Important:
The VHPG has to be operated by electric and electronic converters that convert the 50/60 Hz mains frequency to 200 Hz, which is necessary in order for the vibrating head to reach a vibration speed of 12,000 vpm, as it is ideal for the proper compaction.

Benefits

- Compact solution
- Lightweight
- Long life of the vibrator head

EASY TO HANDLE

VHPG

Internal high frequency vibrators with pistol grip

Model	CF	Rated current *	Rated power (42V)	Action diameter *	Amplitude	Noise level	Compaction power *	DIMENSIONAL SPECIFICATIONS			
								Head Diameter	Head Length	Head Weight	Total Weight
	N	A	kW	cm	mm	dB A	m3/h	mm	mm	kg	kg
VHPG 38	1,700	8	0.5	45	1.8	70	20	38	404	2.4	7.4
VHPG 50	3,080	11	0.6	60	2.0	76	25	50	403	4.4	9.4
VHPG 59	4,560	12	0.9	80	2.3	76	35	59	420	6.8	11.8

* Measurements vary according to the quality and thickness of the concrete.

** Equipped with roller bearings

VHPG - INTERNAL ELECTRIC HIGH FREQUENCY VIBRATORS WITH PISTOL GRIP

APPLICATION	Concrete compaction
DESCRIPTION	High frequency internal electric vibrators for concrete consolidation characterised by high performance, consistent speeds, and remarkable resistance to abrasion.

FEATURES

DUTY CYCLE	Continuous S1
INPUT	42V - 3ph - 200Hz
NOMINAL FREQUENCY	12,000 vpm
INSULATION CLASS	F (T° max = 155 °C)
THERMAL SWITCHES	Inside the stator. Max T °C = 150 °C
WORKING TEMPERATURE	From -20 °C to +40 °C
HEAD	Ball bearing: n.2 VHPG 50 / VHPG 59 - n.4 VHPG 38
PLASTIC PISTOL	Grip with cable protection, green colour IP54 protection
OPERATING HOSE	0.8 m SBR rubber hose with inner textile reinforcement
SUPPLY CABLE	10 m neoprene electric cable HO7RN-F with 3 pin plug (42V – 3 phase, IP44)
FINISHING	VIBRATING HEAD: painted yellow Ral 1007
CERTIFICATIONS	CE Community Directives and subsequent modifications: 2006/42/EC - 2006/95/EC Conformity verified according to the standard documents: IEC60745-1, IEC 60745-2-12, IEC 60034-1
OPTIONS	Rubber cap

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

INTERNAL PNEUMATIC VIBRATORS

VHA is a reliable vibration system designed to provide high operating frequency with high working efficiency under safe conditions. For this reason it is ideal for every type of compaction: from lab tests to heavy infrastructure projects.

There are no moving parts inside the hose, this means less vibration on the hands and arms of the operator and an extended service life.

As a pneumatic vibrator, VHA doesn't need electricity and can even work out of concrete without overheating. This means no work interruptions even in severe conditions.

Ease-of-use and maintenance-free make the VHA the perfect solution for compacting concrete when electricity is not available.

Benefits

- High working efficiency
- No work interruptions
- Maintenance free
- Safe

NO ELECTRICITY

VHA

High frequency pneumatic immersion vibrators

Model	CF	Vibration	Working Pressure	Air Consumption	DIMENSIONAL SPECIFICATIONS		
					Head Diameter	Head Length	Total Weight
	N	vpm	bar	l/min	mm	mm	kg
VHA 40	2,712	22,000	6	500	40	230	4.0
VHA 50	5,627	17,000	6	800	50	250	5.8
VHA 60	9,321	12,000	6	900	60	290	7.6
VHA 80	15,829	11,000	6	1,300	80	330	14.2
VHA 100	22,304	10,500	6	2,100	100	395	23.0
VHA 150	32,460	10,000	6	2,880	150	508	38.0

VHA - HIGH FREQUENCY PNEUMATIC IMMERSION VIBRATORS

APPLICATION	Concrete compaction
DESCRIPTION	High frequency internal pneumatic vibrators for concrete consolidation

FEATURES

DUTY CYCLE	Continuous
WORKING PRESSURE	6 Bar
AIR SUPPLY QUALITY	5.4.4
WORKING TEMPERATURE	-10°C / +60°C
MAX NOISE LEVEL	99 dB (A)
TECHNOLOGY	Eccentric rotor
HEAD MATERIAL	Steel
FINISHING	Painted yellow RAL 1007
OPERATING HOSE	2 m SBR rubber hose with inner textile reinforcement
CERTIFICATIONS	CE Community Directives and subsequent modifications: 2006/42/EC - 2006/95/EC
OPTIONS	Different length of the hose (up to 6 m) Quick connect fittings with filter included

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

EXTERNAL ELECTRIC VIBRATORS

High frequency electric vibrators are used in construction sites and in precast manufacturing plants to obtain high-quality products (exposed concrete), with **excellent aesthetic results and weather resistance**. The vibration is transmitted to the concrete **indirectly** through formworks or mould.

Just like the internal vibrators, the external ones are also based on the principle of the vibration produced by the rotation of an eccentric mass powered by a three phase electric motor.

Low speed vibration (3,000 rpm) is used on high-density and unreactive concretes mostly, as they allow a fast displacement of the aggregates.
High speed vibration (6,000 or 9,000 rpm) is recommended with low-density concretes and in applications where high surface quality is required.

The possibility to adjust both the frequency and the speed (from 0 up to 9,000 rpm) guarantees the achievement of the perfect operational frequency. It depends on the type of concrete to vibrate as well as the natural resonant frequency of the mould.

The OLI external electric vibrators are characterised by **high operating efficiency** and **ease of installation**. Specially designed attachment devices (quick-coupling clamps) reduce the time required for installing and repositioning.

This vibration system is recommended when:

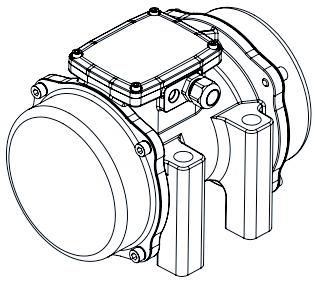
- High construction elements and narrow walls (partitions, columns, beams) have to be compacted, which are difficult to vibrate with other systems.
- The reinforcement density inside the housing is high.

Benefits

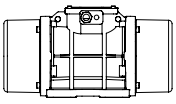
» Sturdy design, made to last

» High operating efficiency

» Easy to install



RELIABLE



Technical drawings in the last page

FOOT MOUNTED

External high frequency vibrators

Class II Div.2: Temp. Class **T4**
ExII 3D Temp. Class: 135 °C

Wm	Model	Weight	Centrifugal Force	rpm	ELECTRICAL SPECIFICATIONS					
					Input Power	Frequency	Nominal Current A Max.		COS Φ	Cable Gland
kgcm		kg	kg		kW	Hz	42V	220-240V/400-460V		Metric
1.47	MVE 290/6N-HF-10A0	5	297	0-6,000	0.27	0-200	5	0.92/0.53	0.75	M20
6.82	MVE 1530/6N-HF-38E0	12	1,384	0-6,000	1.00	0-200	15	2.80/1.62	0.89	M25
7.32	MVE 1300/6N-HF-50A0	22	1,474	0-6,000	1.30	0-100	23	4.22/2.44	0.77	M25
7.32	MVE 1300/6N-HF-53A0	30	1,474	0-6,000	1.30	0-100	23	4.22/2.44	0.77	M25
7.32	MVE 2000/6N-HF-53A0	30	2,030	0-6,000	1.30	0-100	23	4.22/2.44	0.77	M25
11.85	MVE 2400/6N-HF-53A0	30	2,383	0-6,000	1.60	0-200	24	4.38/2.53	0.91	M25
4.70	MVE 2000/9N-HF-53A0	30	2,156	0-9,000	1.50	0-150	28	5.02/2.90	0.75	M25

NOTE: All the vibrators can be used in variable frequency if connected to the electronic control panel of OLI.

Model	Drawing	Size	DIMENSIONAL SPECIFICATIONS (mm)												
			C	M	A	B	Ø G	Holes	D	E	F	H	I	L	N
MVE 290/6N-HF-10A0	A	10A0	211	45	62-74 / 33	106 / 83-105	9-7	4	130	135	11	50	96	107	85
MVE 1530/6N-HF-38E0	B	38E0	255	43	90	154	18	4	187	195	121	89	174	169	156
MVE 1300/6N-HF-50A0	C	50A0	321	62	120	170	17	4	208	210	22	96	185	192	170
MVE 1300/6N-HF-53A0	C	53A0	391	97	100	180	17	4	235	210	24	96	185	187	169
MVE 2000/6N-HF-53A0	C	53A0	391	62	100	180	17	4	235	210	24	96	185	187	169
MVE 2400/6N-HF-53A0	C	53A0	391	97	100	180	17	4	235	210	24	96	185	187	169
MVE 2000/9N-HF-53A0	C	53A0	391	97	100	180	17	4	235	210	24	96	185	187	169

FOOT MOUNTED ELECTRIC VIBRATORS

APPLICATION	Concrete compaction
DESCRIPTION	High frequency electric vibrator, foot mounted, external application

FEATURES

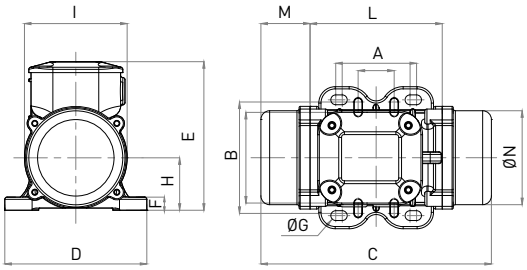
DUTY CYCLE	Continuous S1
MULTIVOLTAGE	3ph 42V - 3ph 230/400V (* voltage tolerance ± 10%)
FREQUENCY	0-100Hz - 0-150Hz - 0-200Hz
WORKING TEMPERATURE	-10 °C / +40 °C
MAX NOISE LEVEL	85 dB(A) at 1 meter distance
MATERIAL	Cast aluminium or iron
FINISHING	Painted: orange RAL 2009
CERTIFICATIONS	II3D Ex tc IIIC Tx IP66 Equipment and protective system intended for use in potentially explosive atmospheres (Zone 22) - Directive 2014/34/UE Compliance with Essential Health and Safety Requirements EN 60079-0, EN 60079-31 Declaration of conformity "type B" according to: 2014/35/UE - 2006/42/EC - EN 60034-1 Conform to UL1446 and CSA 22.2 No 0-10
OPTIONS	Power cable and plug terminal box fulfil of resin
ACCESSORIES	Fixing brackets: CLW (Clamp for Wooden formworks); CLS (Clamp for Steel formworks) only for MVE 290/6N-HF-10A0

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

FOOT MOUNTED ELECTRIC VIBRATORS + BUILT-IN CONVERTER

External high frequency vibrators

A



Class II Div.2: Temp. Class **T4**
ExII 3D Temp. Class: 100 °C

Wm	Model	Weight	Centrifugal Force	rpm	ELECTRICAL SPECIFICATIONS					
					Input Power	Frequency	Nominal Current A Max.	COS Φ	Ia / In	Cable Gland
kgcm		kg	kg		kW	Hz	230V			Metric
1.47	MVE 290/6N-HF-10A0	4.6	297	6,000	0.27	200	0.91	0.75	2.00	M20

Model	Drawing	Size	DIMENSIONAL SPECIFICATIONS (mm)												
			C	M	A	B	Ø G	Holes	D	E	F	H	I	L	N
MVE 290/6N-HF-10A0	A	10A0	211	45	62-74 / 33	106 / 83-105	9-7	4	130	135	11	50	96	107	85

Model	Input Voltage	Input Frequency	Input Amperage
Converter 230	230V +10% -15% 1ph	50/60Hz ± 5%	5.5 A
Converter 115	115V +10% -15% 1ph	50/60Hz ± 5%	11.0 A

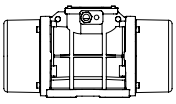
FOOT MOUNTED ELECTRIC VIBRATORS WITH BUILT-IN CONVERTER

APPLICATION	Concrete formworks
DESCRIPTION	High frequency electric vibrator, foot mounted, with built-in converter, external application

FEATURES

DUTY CYCLE	Continuous S1
MULTIVOLTAGE	1ph 230V - 1ph 115V (* voltage tolerance ± 10%)
INPUT FREQUENCY	50/60 Hz
WORKING TEMPERATURE	-10 °C / +40 °C
MAX NOISE LEVEL	85 dB(A) at 1 meter distance
MATERIAL	Cast aluminium
FINISHING	Painted: orange RAL 2009
CERTIFICATIONS	II3D Ex tc IIIC Tx IP66 Equipment and protective system intended for use in potentially explosive atmospheres (Zone 22) - Directive 2014/34/UE Compliance with Essential Health and Safety Requirements EN 60079-0, EN 60079-31 Declaration of conformity "type B" according to: 2014/35/UE - 2006/42/EC - EN 60034-1 Conform to UL1446 and CSA 22.2 No 0-10
SUPPLY CABLE	10 m neoprene electric cable HO7RN-F with SCHUKO 220V 2P+1T 16A plug
CONVERTER	Sturdy cast aluminium box Ergonomic and lightweight (3 Kg)
INVERTER	Tropicalised and protected against vibration, moisture and shocks with a special resin
PROTECTION CLASS	Vibrator protection IP66 Converter protection IP66 The inverter is protected against overload, overvoltage, excess temperature and short circuit. A LED light shows the presence of a fault
ACCESSORIES	Fixing brackets: CLW (Clamp for Wooden formworks); CLS (Clamp for Steel formworks)

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.



Technical drawings in the last page

CRADLE MOUNTED

External high frequency vibrators

MVE size 38

MVE size 50

Class II Div.2: Temp. Class **T4**
ExII 3D Temp. Class: 135 °C

Wm	Model	Weight	Centrifugal Force	rpm	ELECTRICAL SPECIFICATIONS					
					Input Power	Frequency	Nominal Current A Max.		COS Φ	Cable Gland
kgcm		kg	kg		kW	Hz	42V	230/400V		Metric
6.82	MVE 1530/6N-HC-38A0	12	1,384	0-6,000	1.0	0-200	15	2.80/1.62	0.89	M25
7.32	MVE 1300/6N-HC-50A0	28	1,474	0-6,000	1.3	0-100	23	4.22/2.44	0.77	M25
9.48	MVE 2000/6N-HC-50A0	28	1,907	0-6,000	1.3	0-100	23	4.22/2.44	0.77	M25
9.48	MVE 2000/6N-HC-50A0	28	1,907	0-6,000	1.6	0-200	24	4.38/2.53	0.91	M25
4.70	MVE 2000/9N-HC-50A0	28	2,156	0-9,000	1.5	0-150	28	5.02/2.90	0.75	M25

* MVE 1300/6N-HC-50A0 comes with eccentric weights set at 50%. Wm and centrifugal force refer to 6,000 rpm.

Model	Drawing	Size	DIMENSIONAL SPECIFICATIONS (mm)												
			C	M	A	B	Ø G	Holes	D	E	F	H	I	L	N
MVE 1530/6N-HC-38A0	E	38A0	276	43	68	/	22	1	190	172	198	94.5	174	190	156
MVE 1300/6N-HC-50A0	E	50A0	321	62	136	/	25	1	240	184	218	102	185	86	169
MVE 2000/6N-HC-50A0	E	50A0	321	62	136	/	25	1	240	184	218	102	185	86	169
MVE 2000/6N-HC-50A0	E	50A0	321	62	136	/	25	1	240	184	218	102	185	86	169
MVE 2000/9N-HC-50A0	E	50A0	321	62	136	/	25	1	240	184	218	102	185	86	169

CRADLE MOUNTED ELECTRIC VIBRATORS

APPLICATION	Concrete formworks
DESCRIPTION	High frequency electric vibrator, cradle mounted, external application

FEATURES

DUTY CYCLE	Continuous S1
MULTIVOLTAGE	3ph 42V - 3ph 230/400V (voltage tolerance ± 10%)
FREQUENCY	0-100Hz - 0-150Hz - 0-200Hz
VARIABLE FREQUENCY	0÷100Hz
WORKING TEMPERATURE	-10 °C / +40 °C
MAX NOISE LEVEL	85 dB(A) at 1 meter distance
MATERIAL	Cast aluminium or iron
FINISHING	Painted: orange RAL 2009
CERTIFICATIONS	II3D Ex tc IIIC Tx IP66 Equipment and protective system intended for use in potentially explosive atmospheres (Zone 22) - Directive 2014/34/UE Compliance with Essential Health and Safety Requirements EN 60079-0, EN 60079-31 Declaration of conformity "type B" according to: 2014/35/UE - 2006/42/EC - EN 60034-1 Conform to UL1446 and CSA 22.2 No 0-10
OPTIONS	Power cable and plug terminal box fulfill of resin
ACCESSORIES	Fixing bracket: CRS (Cradle for Steel concrete moulds)

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

EXTERNAL PNEUMATIC VIBRATORS

The external pneumatic vibrators have **no electrical components**.
They are powered via **air compressor** that spins the rotors inside the vibrator at a very high speed (generally between 10,000 and 17,000 vpm). This generates a circular vibration that spreads in all directions.

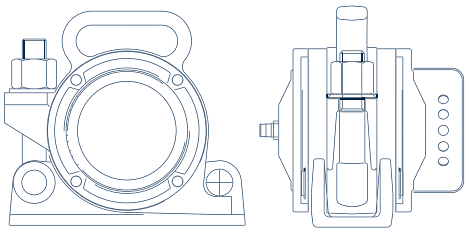
The optimum frequency varies depending on the dimensions of the aggregates: a low frequency (approximately 10,000 vpm) favours the vibration of large granules (pebbles and gravel), while a high frequency (approximately 20,000 vpm) favours the vibration of fine granules (sand, cement and others).
They are used especially in the construction of concrete segments for tunnels, viaducts and bridges.

The OLI pneumatic vibrators have a **solid and durable body** made of ductile cast iron.
They are characterised by **high reliability and efficiency** as well as **compact size**.

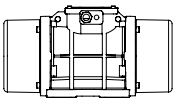
Just like the electric vibrators, they may also be bolted or attached via quick-coupling clamps to formworks or moulds for the purpose of easy movement.

Benefits

- Easy handle
- No electric component
- No maintenance



EFFICIENT AND RELIABLE



Technical drawings in the last page

HFP

External high frequency pneumatic vibrators

G

H

I

J

MODEL	Drawing	Working Pressure	Vibration	Centr. Force	Air Consump.	Noise Level	DIMENSIONAL SPECIFICATIONS (mm)									
							A	B	C	D	E	F	G	H	IN	Weight
		bar	vpm	kg	l/min	dB (A)	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
HFP 600P	G	6	17,000	720	1,000	100	111	220	180	20	164	20	-	60	15	6.3
HFP 1000P		6	16,500	1,122	1,100	100	111	220	180	20	164	20	-	60	15	7.2
HFP 1400P		6	16,000	1,453	1,200	100	111	220	180	20	164	20	-	60	15	7.3
HFP 600C	H	6	17,000	720	1,000	100	120	180	-	-	164	-	18	94	15	6.3
HFP 1000C		6	16,500	1,122	1,100	100	120	180	-	-	164	-	18	94	15	7.2
HFP 1400C		6	16,000	1,453	1,200	100	120	180	-	-	164	-	18	94	15	7.3
HFP 2700C	I	6	16,000	2,753	1,600	103	224	235	-	-	160	-	24	84	15	14.0
HFP 4000C		6	15,200	4,079	1,800	103	224	235	-	-	160	-	24	84	15	14.5
HFP 4500C		6	8,500	4,587	1,800	103	224	238	-	-	160	-	24	84	15	17.6
HFP 6000C		6	14,500	6,118	1,800	103	224	235	-	-	160	-	24	84	15	16.3
HFP 4001C*	J	6	10,200	4,079	1,800	90	215	235	-	-	180	-	24	84	15	18.0

* Silent model; measured at 1 mt distance

HFP - PNEUMATIC VIBRATORS

APPLICATION	Concrete formworks on site Concrete moulds in precast industry

FEATURES

WORKING PRESSURE	6 bar
AIR SUPPLY QUALITY	Class 5.4.4
WORKING TEMPERATURE	-10 °C / +60 °C
MAX NOISE LEVEL	103 dB(A) Silent version HFC 4001C: 90 dB(A) at 1 meter distance
TECHNOLOGY	Eccentric rotor
MATERIALS	Steel and cast iron
FINISHING	Painted yellow RAL 1007
CERTIFICATIONS	CE Community Directive ATEX 2014/34/EU Conformity verified according to the standard documents: EN 12100-1, ISO 14121
ACCESSORIES	Fastening systems: CLW (Clamp for Wooden formworks); CLS (Clamp for Steel formworks); CRS (Cradle for Steel concrete moulds).

HFP model G on CLW

HFP model I on CRS

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

FASTENING SYSTEMS FOR EXTERNAL VIBRATORS

CLW

CLAMP FOR WOODEN FORMWORKS

APPLICATION	Quick mounting of vibrators on wooden formworks
SAFETY BELT	Included
FINISHING	Galvanized

SUITABLE FOR (most common)

DOKA	H20, Top50, FF20
PERI	VT20K, GT24, VARIO GT24
MEVA	H20
PASCHAL	H20
NOE	H20
HÜNNEBECK	H20, R24, GF24, ES24

Model	DIMENSIONAL SPECIFICATIONS							
	Length	Width	Height	Weight	Multiple Footprint (mm)			
	mm	mm	mm	kg	Electric			Pneumatic
CLW 001	389	291	122	6.0	65x106	135x115	90x125	180

CLS

CLAMP FOR STEEL FORMWORKS

APPLICATION	Quick mounting of vibrators on steel formworks
SAFETY CABLE	Included
FINISHING	Galvanized

SUITABLE FOR (most common)

DOKA	Framax XLife, Alu Framax XLife
PERI	Trio
MEVA	StarTec, Mammut
NOE	NOEtop

Model	DIMENSIONAL SPECIFICATIONS							
	Length	Width	Height	Weight	Multiple Footprint (mm)			
	mm	mm	mm	kg	Electric			Pneumatic
CLS 001	389	291	122	6.5	68x106	135x115	90x125	180

CRS

CRADLE FOR STEEL CONCRETE MOULDS

APPLICATION	Quick mounting of vibrators on steel concrete moulds

SUITABLE FOR

STEEL CONCRETE MOULDS
All OLI fastening systems are designed to be used with electric and pneumatic vibrators

Model	DIMENSIONAL SPECIFICATIONS				
	Length	Width	Height	Weight	Radius
	mm	mm	mm	kg	mm
CRS 055	180	105	140	3.5	55
CRS 059	200	160	174	5.5	59
CRS 080	230	85	184	5.0	80

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

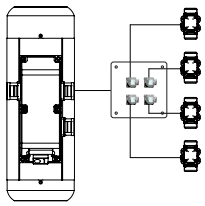
MSP-4 MULTIPLE SOCKETS PANEL

For simultaneously connection of formwork's vibrators

MSP-4 - CONNECTED TO THE OLI CONVERTER CMT35

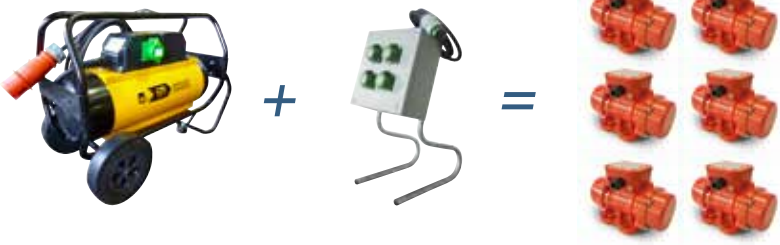
Suitable to power up to 4 electric vibrators MVE 290/6

MOUNTING SCHEME

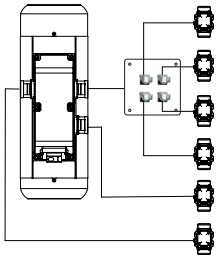


MSP-4 - CONNECTED TO THE OLI CONVERTER CMT55

Suitable to power up to 6 electric vibrators MVE 290/6

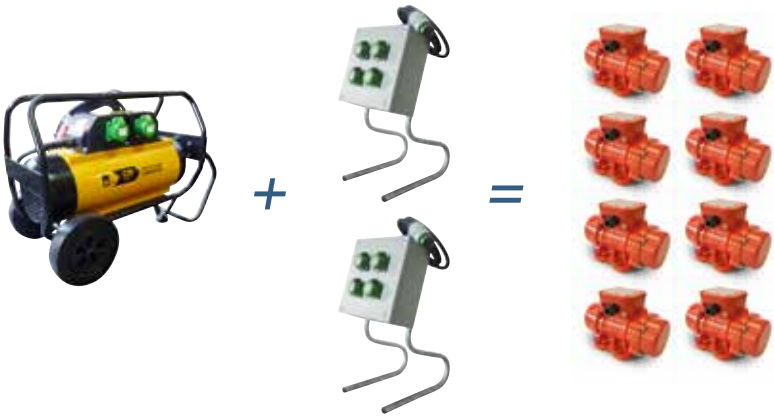


MOUNTING SCHEME

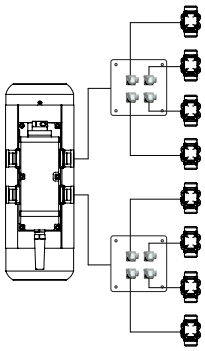


MSP-4 - CONNECTED TO THE OLI CONVERTER CMT85

Suitable to power up to 8 electric vibrators MVE 290/6



MOUNTING SCHEME



IMPORTANT
Never connect more vibrators than what suggested in the mounting schemes, even if there are unused output sockets.

SWITCH BOX
For a better functioning of the vibrator it is advisable to use the special push-button panel (to use the switch box), which can be purchased separately.

This information is furnished without warranty, representation, inducement or license of any kind. It is accurate to the best OLI knowledge or is obtained from sources believed to be accurate. OLI therefore assumes no legal responsibility.

SYSTEM DESIGN CONSULTANCY

Choosing OLI for the construction of concrete consolidation plants means being able to count on a dedicated technical office, with a long and extensive specific experience.

From the very first stages of design, OLI supports the customer by providing indications on how to fix and position the vibrators to obtain the best results in terms of duration and aesthetics of the finished product.

OLI is able to supply custom-designed systems (both electrical and pneumatic), which guarantee maximum operational efficiency.

Stages of realization of a plant

1. Customer request analysis
2. Project development
3. Sizing
   - Supply of electrical system
   - Supply of pneumatic system

Benefits

- A single interface for consulting and product supply
- Improved management and operational efficiency

TURNKEY PROJECT

ELECTRIC SYSTEM

Supply of complete system

Each construction site or precast plant have their own specificities and needs. After a detailed analysis of the production process, OLI supports the customer providing tailor-made solutions that optimize the productivity of the site.

Systems offered by OLI:

- Mobile control panel with various output voltage and frequency, from 2 to 10 output
- Fix control panel with distribution boxes for a better cables distribution
- Fix control panel with remote control
- Fix control panel with PLC and software specifically designed for the application

In addition, OLI designs and supplies fully automated solutions for precast plant, complying with the "Industry 4.0" legislation.

MOBILE
Control Panel

FIX
Control Panel + software

PNEUMATIC SYSTEM

Supply of complete system

OLI is able to study and supply air distribution systems (except the compressor) that guarantee the optimal air flow rate necessary to maximize the efficiency, both for construction sites and for precast plants that use pneumatic vibrators.

Few examples of the possible solutions offered by OLI:

- Main distribution line
- Flexible pipes for connecting the vibrators
- Ball valves and fittings
- Fully automated Electro-pneumatic control panels with solenoid valves and PLC with dedicated control software specifically designed for the application.

Solenoid valve

Main distribution line with ball valves and fittings

Tips and recommendations for use

TIPS FOR CHOOSING THE INTERNAL VIBRATOR

Selection of the vibrating head length
It must never exceed the thickness of the concrete layer.

Selection of the needle diameter
Factors to be taken into consideration:

- composition of the concrete
- quantity of reinforcements (percentage of reinforcement inside the concrete element)
- size of the spaces between the various reinforcements (mesh sizes)
- thickness of the concrete layer

The diameter to be used must allow the maneuver of the vibrator inside the reinforcement, without getting stuck in the mesh.

Definition of the operating tube length
It must be longer than the depth of the manufactured article in order to allow the vibration of the deeper layers.

TIPS FOR CHOOSING THE EXTERNAL VIBRATOR

Pneumatic or electric?
The choice depends on the type of power available (electricity or compressed air).

What type of fastening?
It depends on the construction material and on the shape of the profiles to which the vibrators have to be fastened.

Definition of the positioning
It depends on the size and the shape of the formwork or mold.*

Definition of the operating cycle
The number of vibrators to run simultaneously depends on the size of the formwork or mold and on the pour rate of the plant.

It is important to run the vibrators only when the concrete is inside the formwork or mold in order to avoid resonance or vibration out of control.*

Definition of the power supply
Standard frequency electric vibrators (3000RPM) can be connected DOL (Direct On Line).
High frequency electric vibrators (6000RPM) is recommended to connect to control panels according to the input voltage and frequency of the chosen vibrators.
Pneumatic vibrators for concrete consolidation must be connected to air supply as indicated in the catalogue.

* For the right positioning and operating cycle please refer to OLI Technical support.

MAIN RECOMMENDATIONS FOR USE

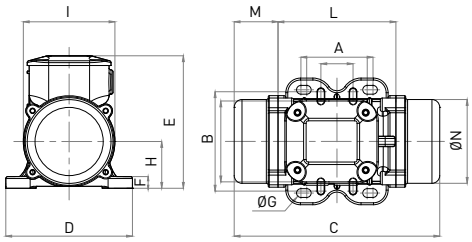
Repeated vibration
It means vibrating the already compacted concrete again. This technique is used to mix successive layers of concrete in order to improve the surface finish quality of columns and walls and to increase their strength and wear resistance.

Vibration inside the formwork
Make sure that the vibrating head does not touch the interior walls because, besides damaging them, it could generate depressions in the manufactured article, thus deteriorating the quality of the surfaces.
Vibrators with rubber tips may be used to reduce this problem.

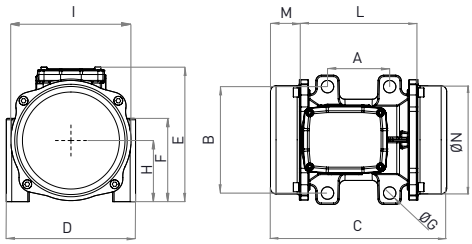
Insufficient vibration
It is the most common problem. Insufficient vibration can alter the structural properties, causing problems such as: lower resistance, higher abrasion, higher permeability, and consequently shorter duration and poor surface quality.

Excessive vibration
The use of oversized equipment generates the segregation of the aggregates, in addition to the damage incurred to the formwork and moulds.

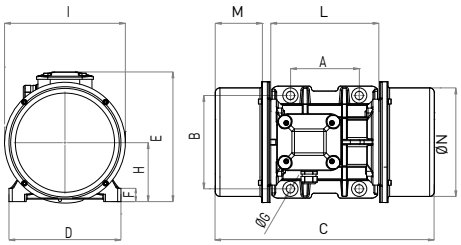
A


I
M
L
A
E
H
F
B
ØN
ØG
D
C

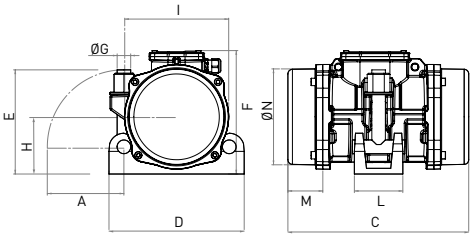
B


I
M
L
A
B
H
F
E
ØN
ØG
D
C

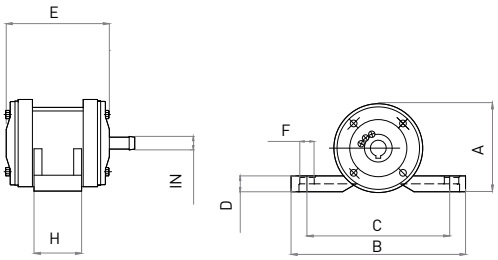
C


I
M
L
A
E
H
F
B
ØN
ØG
D
C

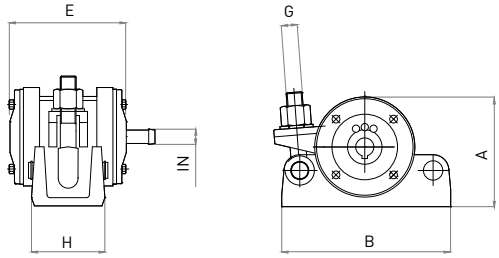
E


I
ØG
E
H
A
D
F
ØN
M
L
C

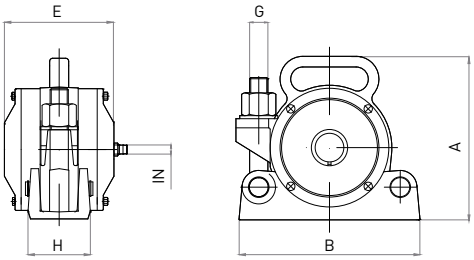
G


E
IN
H
F
A
D
C
B

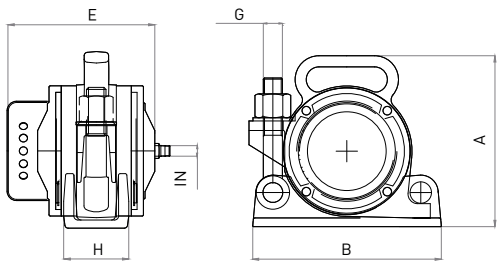
H


E
IN
H
G
A
B

I


E
IN
H
G
A
B

J


E
IN
H
G
A
B

WHEN YOU NEED IT, WHERE YOU NEED IT.

THE WORLDWIDE LEADER IN VIBRATION TECHNOLOGY

www.olivibra.com

OLI Headquarters

Via Sparato, 14
41036 Medolla (MO) - Italy

+39 0535 41 06 11

info@olivibra.com

OLI worldwide

OLI Australia
OLI Benelux
OLI Brazil
OLI China
OLI France
OLI Germany
OLI India
OLI Indonesia
OLI Italy
OLI Korea
OLI Malaysia
OLI Malta
OLI Mexico
OLI Middle East
OLI Nordic
OLI Poland
OLI Russia
OLI South Africa
OLI Spain
OLI Thailand
OLI Turkey
OLI UK
OLI USA
OLI Vietnam

OLI®

CCCEN 01/22 REV13.2