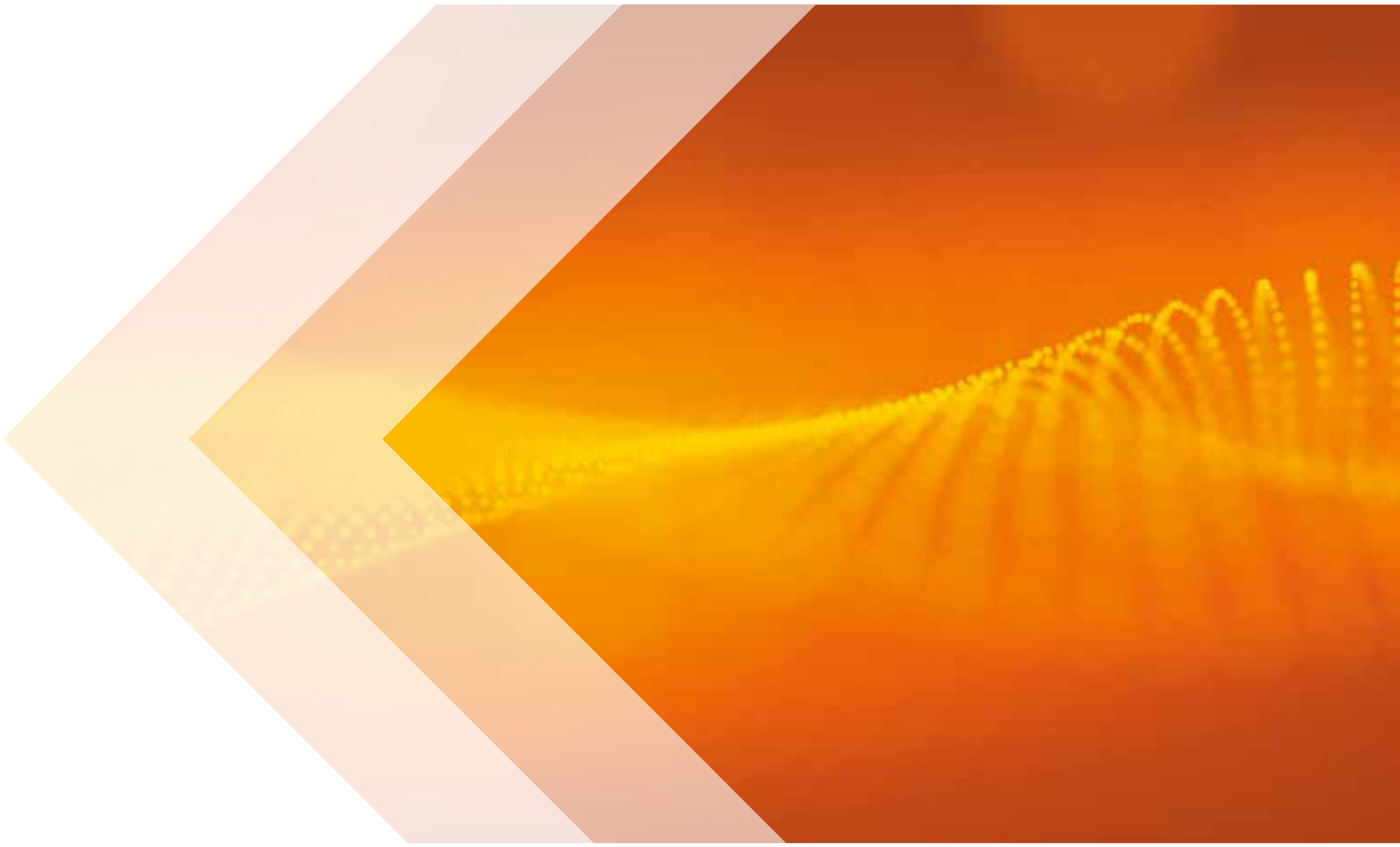
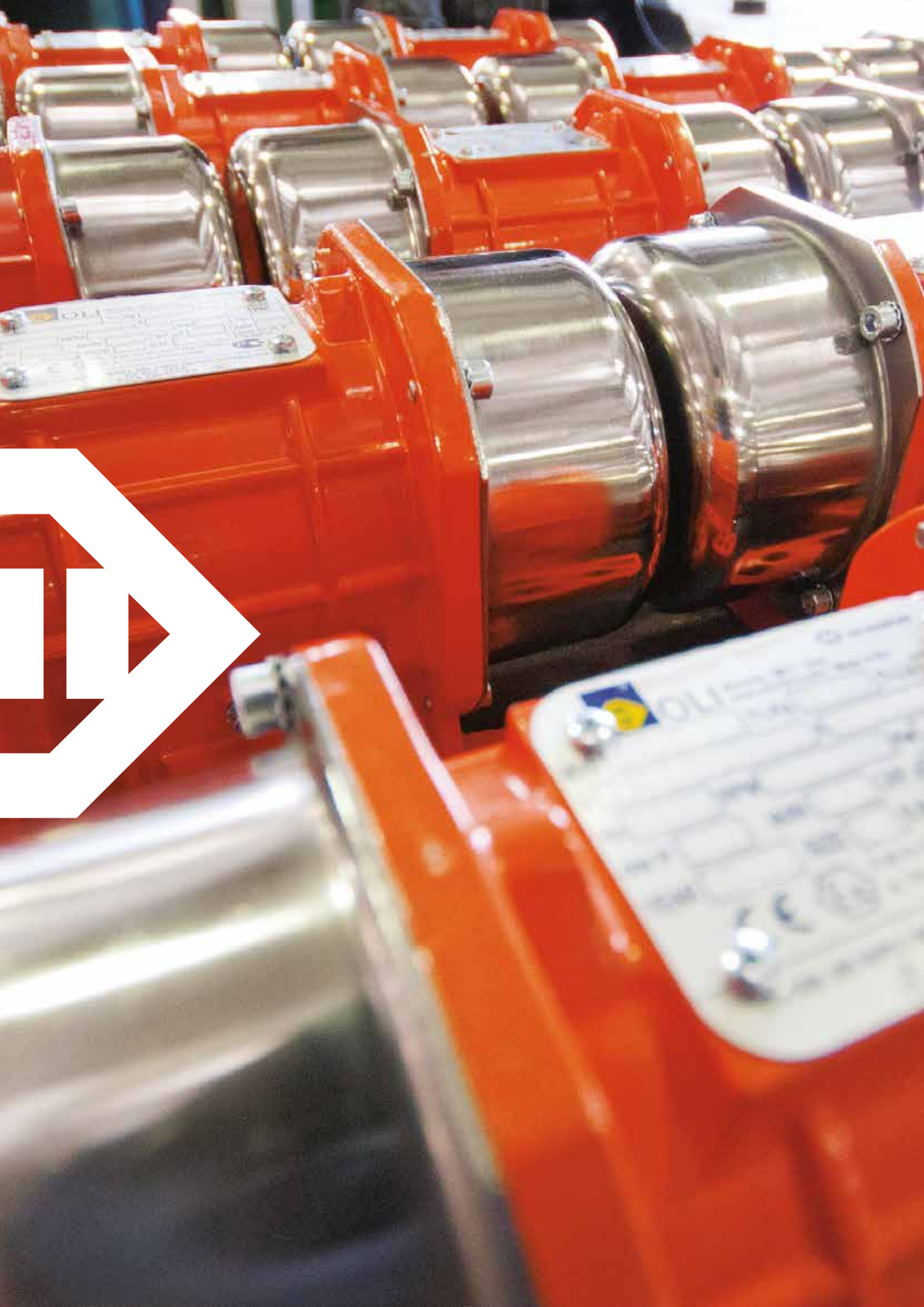
OLI

INDUSTRIAL VIBRATORS

ELECTRIC VIBRATORS FOR INDUSTRIAL APPLICATIONS







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.



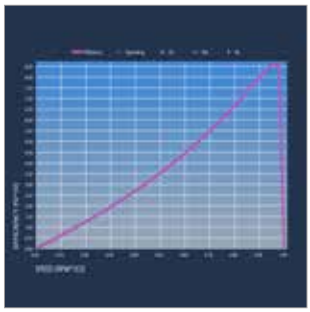
TECHNICAL FEATURES

QUALITY



World class materials
Class F insulation
Durable sealing
Premium bearings
Strong body design - FEM designed
Vacuum insulation
FMEA analysis
3D quality check

EFFICIENCY



Optimised power/weight ratio
S1 continuous duty service
Optimized electric design

RELIABILITY



PTC thermistor 130 °C
Specific grease retaining device
Tropicalised standard
IP66 protection
Class F insulation

FLEXIBILITY



Easy mass adjustment
Various voltages and frequencies available
Easy access to the terminal box
Multiple eye-bolts

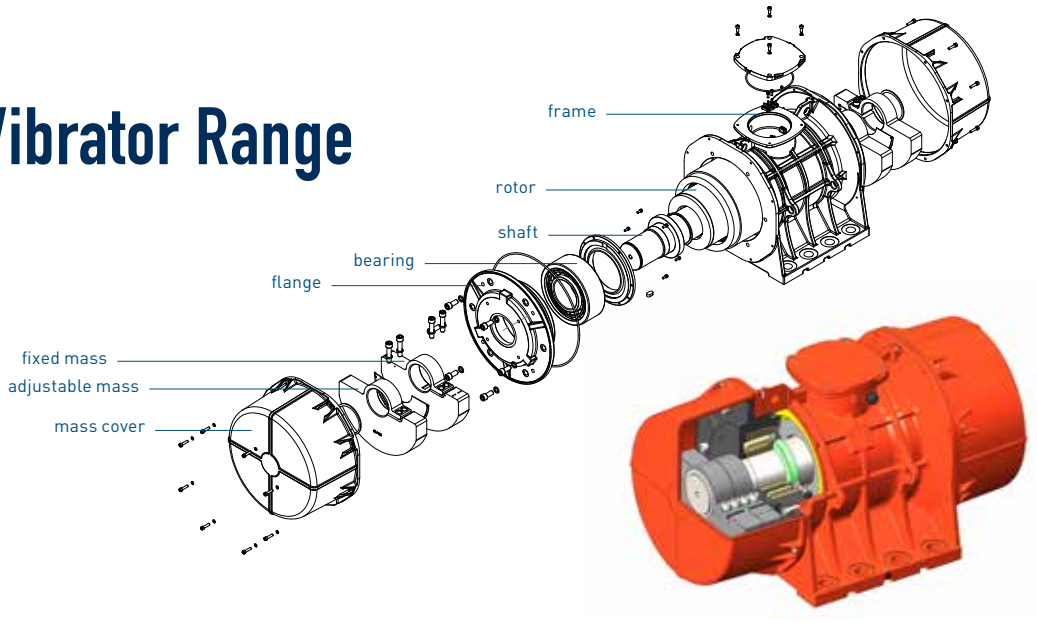


Standard specifications

	PRODUCT RANGE					
Specification	Standard	Increased Safety	Explosion-Proof	Milling Grain Processing	Screen Vibrator	Stainless Steel
Power supply	Three-phase from 24V to 690V. 50Hz or 60Hz. Single phase 110V 60Hz and 220V 50Hz. Three-phase motors are designed for inverter application.	Three-phase from 230V to 500V. 50Hz or 60Hz. All motors are designed for inverter application from 20Hz to rated frequency.	Three-phase from 220V to 575V. 50Hz or 60Hz. All motors are designed for inverter application from 20Hz to rated frequency.		Three-phase from 220V to 575V. 50Hz or 60Hz. All motors are designed for inverter application from 20Hz to rated frequency.	
Time rating	Continuous duty (S1).					
Protection structure	Mechanical protection IP66 according to IEC 60529.					
Bearings	Ball bearings from size MICRO to 50. Roller bearings from size 60 to 110.	Ball bearings from size 10 to 50. Roller bearings from size 60 to 90.	Roller bearings.			Ball bearings from size 10 to 50* Roller bearing for size 60.
Coating colour	Polyester powder coating. Standard colour RAL 2009. Special corrosion resistant painting available on request on Standard range only.					AISI 316 frame not painted.
Footprint	Compatibility with the main competitor's footprint on request.					/
Installation and operating environment	For indoor and outdoor use.					
	Ambient temperature: from -20 °C to +40 °C. Up to +55 °C available on request.	Ambient temperature: from -20 °C to +40 °C.	Ambient temperature: from -20 °C to +60 °C.	Ambient temperature: from -20 °C to +40 °C.	Ambient temperature: from -20 °C to +40 °C.	Ambient temperature: from -20 °C to +40 °C.
Standards supported	Conformity with European Directive. Low voltage 2014/35/UE. Machine directive 2006/42/EC. ATEX 2014/34/UE.					
Mass covers	Aluminium, for vibrators from size 10 to size 50 and size 100, 105, 110. Mild steel, for size 60 to size 91. Stainless steel AISI 304, for direct current motovibrators.	Aluminium, for vibrators from size 10 to size 50. Mild Steel, for size 60 to size 91.	AISI 304 Stainless Steel.	Mild Steel.	Aluminium.	AISI 304 Stainless Steel.
Windings	2, 4, 6 and 8 poles three-phase asynchronous motor from size 10 to 110. 2 poles single phase from size 10 to 30.	2, 4, 6 and 8 poles three-phase asynchronous motor.		6, 8, 10 and 12 poles three-phase asynchronous motor.	4 poles.	2, 4, 6 and 8 poles three-phase asynchronous motor.
	Class F insulating materials (155 °C). Vacuum impregnated windings. PTC thermistor 130 °C standard from size 60.		Thermal switch 130 °C standard from size 60.	Class F insulating materials (155 °C). Vacuum impregnated windings. PTC thermistor 130 °C standard from size 60.	Thermal switch 130 °C.	Class F insulating materials (155 °C). Vacuum impregnated windings.
Flanges	Grey cast iron up to size 80. Ductile cast iron from size 100.				Ductile cast iron.	Grey cast iron.
Frame	Aluminium up to size 50. Ductile cast iron from size 60.				Aluminium.	AISI 316.
Shaft	Steel alloy highly resistant.					
Eccentric masses	Completely adjustable.					

* Except for MVE 710/15N-50A0 and MVE 510/1N-50A0

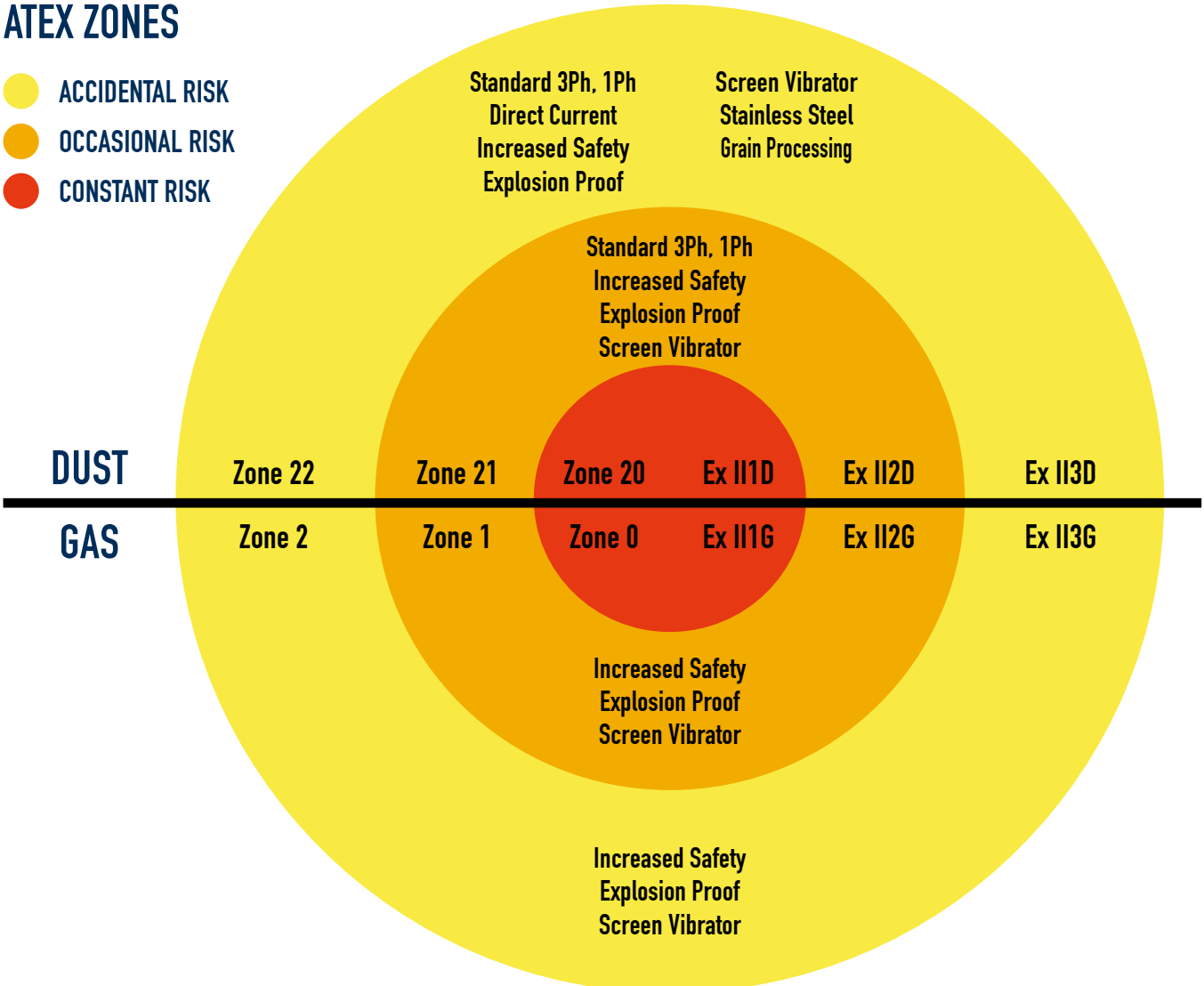
The OLI Vibrator Range



Providing centrifugal force up to 26,000 kgs and with multiple voltage options OLI's range of electric motovibrators covers several fields of application in every country as well as many different industrial sectors: from food to mining, from foundry to recycling and more.
OLI's electric motovibrators are designed and manufactured using the latest technologies and premium quality materials and components.
Vibrator bodies, bearing flanges and shafts are FMEA designed and manufactured using first grade Aluminium alloy, cast iron and steel alloy to withstand heavy duty applications and guarantee safe operation in any condition.
Vacuum impregnated windings and class F insulating materials enhance reliability and durability.
Top quality bearings and an efficient grease retaining system assure long lasting performance and low noise generation.
Adjustable eccentric masses allow easy fine tuning of the Max centrifugal force provided by the vibrator.
Several certifications for use in hazardous environments are available in the OLI range to match the most demanding specification worldwide.

ATEX ZONES

- ACCIDENTAL RISK
- OCCASIONAL RISK
- CONSTANT RISK



Certifications

Standard

Conformity with European Directive - Low voltage 2014/35/UE; Machine Directive 2006/42/EC; ATEX 2014/34/UE - UL 1836. UL 1004-1 - SAC22.2 NO 25. 100. 145

CATEGORY	CERTIFICATIONS	INTERNATIONAL STANDARD	GAS	DUST
ATEX zone 21 Class II Div.2 Temperature range -20/+40 °C *		EN 60079-0, EN 60079-31	n/a	II2D Ex tb IIIC Tx Db IP66
		IEC 60079-0, IEC 60079-31	n/a	Ex tb IIIC Tx Db IP66
		UL 1004-1, UL 60079-0, UL 60079-31 CSA 22.2 100, CSA 22.2 60079-0, CSA 22.2 60079-31	n/a	Class II Div.2 Groups F, G T4

* Extended temperature range up to 55 °C available on request.

MVE DC Range: II3D Ex tc IIIC T100 IP66

Tx = T100 °C up to size 30 included;
T135 °C from size 40 up.

Grain Processing, Stainless Steel and Screen Vibrator

Conformity with European Directive - Low voltage 2014/35/UE; Machine Directive 2006/42/EC; ATEX 2014/34/UE

CATEGORY	CERTIFICATIONS	INTERNATIONAL STANDARD	GAS	DUST
ATEX zone 22 Temperature range -20/+40 °C		EN 60079-0, EN 60079-31	n/a	II3D Ex tc IIIC T100 IP66
		UL 1446, CSA C22.2 NO 0-10	n/a	n/a

Increased Safety

Conformity with European Directive - Low voltage 2014/35/UE; Machine Directive 2006/42/EC; ATEX 2014/34/UE - UL 1836. UL 1004-1 - SAC22.2 NO 25. 100. 145

CATEGORY	CERTIFICATIONS	INTERNATIONAL STANDARD	GAS	DUST
ATEX zone 1-21 Class II Div.2 (dust) Class I Div.2 (gas) Temperature range -20/+40 °C		EN 60079-0, EN 60079-7	II 2G Ex eb IIC T3 Gb	II2D Ex tb IIIC Tx Db IP66
		IEC 60079-0, IEC 60079-7	Ex eb IIC T3 Gb	Ex tb IIIC Tx Db IP66
		UL 1004-1, UL 60079-0, UL 60079-7 CSA 22.2 100, CSA 22.2 60079-0, CSA 22.2 60079-7	Class I Div.2 Group A, B, C, D T3	Class II Div.2 Groups F, G T4

Tx = T100 °C up to size 30 included;
T135 °C from size 40 up.

Explosion Proof and Screen Vibrator

Conformity with European Directive - Low voltage 2014/35/UE; Machine Directive 2006/42/EC - ATEX 2014/34/UE - UL 1836. UL 1004-1. UL 674 - CSAC22.2 NO 25. 100. 145

CATEGORY	CERTIFICATIONS	INTERNATIONAL STANDARD	GAS	DUST
ATEX zone 1-21 Class I Div.1 Class II Div.1 ** Temperature range -20/+60 °C		EN 60079-0, EN 60079-31, EN 60079-1	ATEX II 2G Ex db IIB T4 Gb	ATEX II 2D Ex tb IIIC T135°C Db
		IEC 60079-0, IEC 60079-31, IEC 60079-1	IECEx Ex db IIB T4 Gb	IECEX Ex tb IIIC T135°C Db
	E488916 CLASS I DIV.1 GROUP C,D T4	UL 1004-1, UL 1004-3,UL1203;UL674, CSA C22.2 No.145, CSA C22.2 No.30-M1986.	CLASS I Div.1 Group C, D T4 IP66	CLASS II Div.1 GROUP E,F,G**

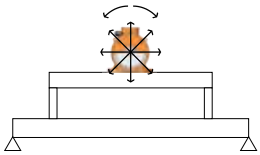
* Screen vibrator is also available with the same certifications as the standard, not explosion proof range, mentioned in the first chart of this page.
** Soon available.

How to choose a motovibrator

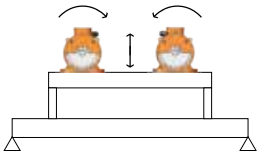
1.

Choose rpm and the amplitude "e" (0 - peak) suitable for your application:

Circular vibration



Linear vibration



Application processes	Vibration		Revolutions Per Minute					
			50Hz	750	1000	1500	3000	6000
	Circular	Linear	60Hz	900	1200	1800	3600	-
Conveying		✓			✓	✓		
Separation / Screening / Sizing		✓		✓	✓	✓		
Positioning / Feeding		✓		✓	✓	✓		
Filter cleaning	✓						✓	
Silo/hopper emptying	✓						✓	
Fluid beds		✓		✓	✓			
Bin activators	✓					✓	✓	
Compacting		✓					✓	✓
Concrete consolidation	✓						✓	✓

rpm	e (mm)	
	Min.	Max.
3,600	0.3	0.6
3,000	0.3	0.8
1,800	1.2	2.2
1,500	1.4	2.6
1,200	2.5	4.0
1,000	3.0	5.2
900	3.5	5.5
750	3.5	6.0

2.

Choose an MVE from the tables of the following pages and use its Wm into this formula:

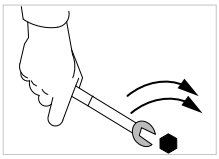
$$e = 5 \times \frac{n \times Wm}{n \times M_{mot} + M_{vm}}$$

e = amplitude of vibration 0-peak (mm)
n = number of vibrators
Wm = working moment (kgcm)
M_{mot} = vibrator weight (kg)
M_{vm} = vibrating machine weight (without material and vibrators)

3.

Check the obtained value "e":

- If it is similar to the required one (step 1) ➡ the MVE model is correct.
- If it is not similar to the required one (step 1) ➡ repeat the process (step 2) with a different MVE model.



For tips on installation see page 44

Standard Rated Voltages

Several voltages are available to match local electric specifications worldwide both at 50Hz and 60Hz.

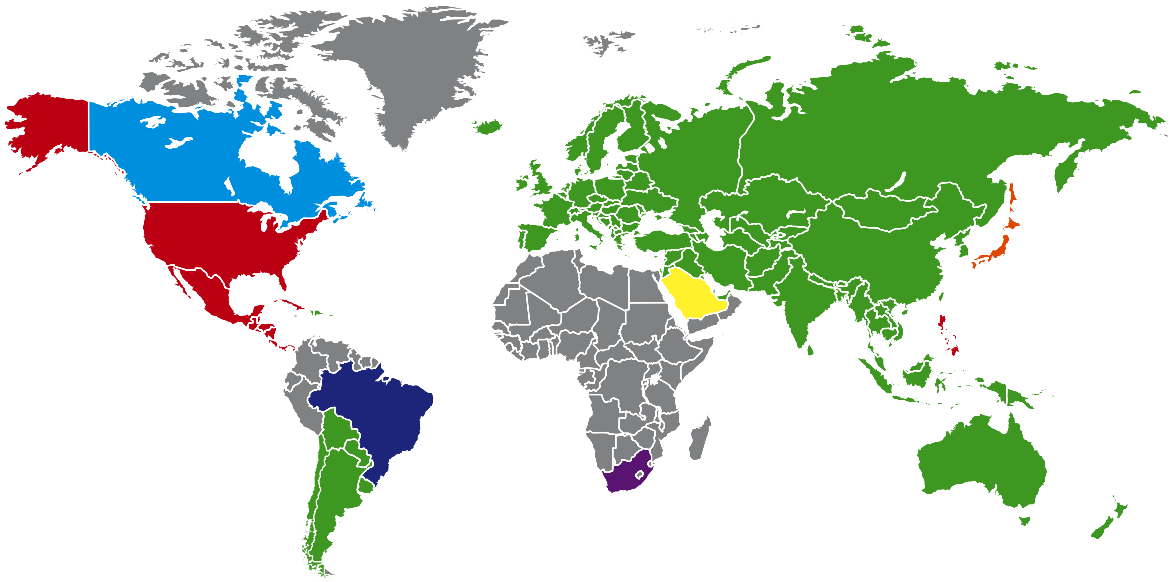
All OLI vibrators can be operated with double voltage by simply changing the connections inside the terminal box from **Star** to **Delta** or vice-versa.

As a general rule MVEs with rated power >4,3kW have standard Delta terminal box connection, with the only exception of MVE 5000/3E-75A1. **Smaller MVEs have standard Star terminal box connection.** Refer to the product specification charts to see the factory setting for each model.

For details about "Star" and "Delta" connections see page 45.

Voltages	Hz
200-230/345-400 V	50/60
220-240/380-415 V	50
380-415 V (Delta) *	50
230/460 V *	60
460 V (Delta)	60
330/575 V	60
575 V (Delta) *	60
460 V (Delta)	60
290-300/500-525 V	50
500-525 V (Delta)	50
207-253/414-480 V	60
220-240/380-415 V	50
220-277/380-480 V	60
380/415 V (Delta)	50
460 V (Delta)	60

*** Voltage Tolerance: ± 10%**



Optionals



STEEL-IT
Specifically developed for food applications featuring a special coating containing AiSi 316L stainless steel.



STAINLESS STEEL COVERS
Available with clean finishing. AiSi 304 stainless steel mass covers (on request) for the most demanding applications. Available of to size 91.



SPLIT COVERS
Developed for space saving applications. Available from size 60 and above.



EXTENDED SHAFTS
Designed for multiple vibrator application.
Available on request.



HEATERS
To be used in severe cold environment.



FOOTPRINT
Competitor's footprint available on request.

IMPORTANT:
Rated voltage might change according to the certification level permitted when some optionals are chosen.



INSTALLATION

Mounting

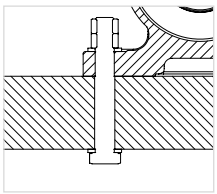
The base plate surface where the vibrator is mounted has an allowable tolerance of 0.25mm (0.01in), so that the surfaces rest uniformly against each other to avoid internal tension that may cause breakage of the foot of the vibrator.
Use 8.8 type bolts, 8.0 type nuts and flat washers belonging to category A EN ISO 7089 / 7092.

The graph below shows the correct torque settings for the different bolt sizes used on the vibrators.

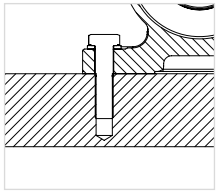
Vibrator / Machine interface

Screw		Washer		Clamping torque	
Metric	Imperial	Metric UNI 6592	Imperial Flat washer	(Nm)	(ftlb)
M6	1/4"	6.4 x 12	1/4"	9	6.5
M8	5/16"	8.4 x 16	5/16"	23	16.5
M10	3/8"	10.5 x 20	3/8"	45	33
M12	1/2"	13 x 24	1/2"	80	58
M16	5/8"	17 x 30	5/8"	185	137
M20	13/16"	21 x 37	13/16"	373	275
M22	7/8"	23 x 39	7/8"	550	411
M24	15/16"	25 x 44	15/16"	696	513
M27	1"	28 x 50	1"	873	645
M36	1-3/8"	37 x 66	1-3/8"	1,864	1,370
M42	1 5/8"	37 x 66	1 5/8"	2,850	2,102

FIXING

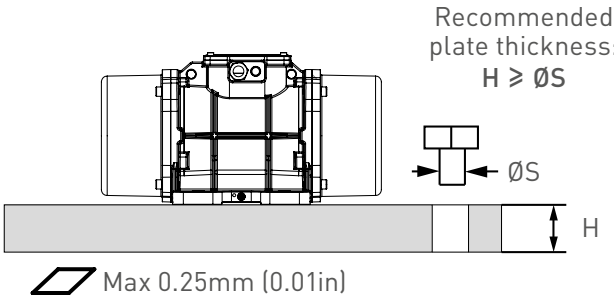


Smooth through borehole
+ screw
+ flat washer
+ nut and counternut



Tapped threaded borehole
+ screw
+ flat washer

SURFACE FLATNESS TOLERANCE





MACHINED & NOT PAINTED SUPPORT PLATE



Electrical connection

Verify that the voltage and frequency supply match the ones indicated on the rating plate of the electric vibrator.
If the vibrator is operated via a variable frequency drive do not run it under 20 Hz and not over the rated frequency.
Insert the power cable through the cable gland. The lead-in wires have to be of the eyelet-type, pre-insulated, with a bore that suits the terminals of the junction box in order to prevent overheating of the wire. Use only conductors that have a suitable cross-section.

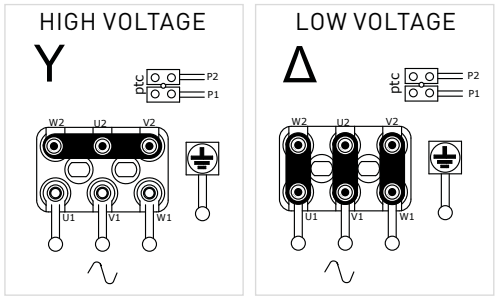
Connect the lead wires to the pins (as shown in the diagram below) and tighten them with the specified torque.

Do not forget to fix the earthing cable to the provided studs → Compulsory connection!

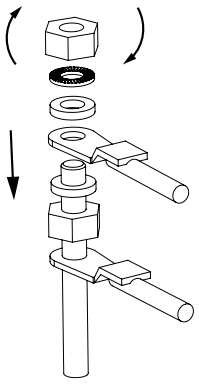
Before closing the junction box make sure that the cover gasket is properly fitted in order to keep the specified IP protection.
For more details on vibrator installation refer to product manuals.

Junction box nuts tightening torque		
Screw	Nm	ftlb
M4	2.5	1.84
M5	4	2.95
M6	5	3.69
M8	6	4.43
M10	8	5.90

TERMINAL CONNECTIONS



Check "Terminal Connection" column label to know the factory preset connection of each vibrator.

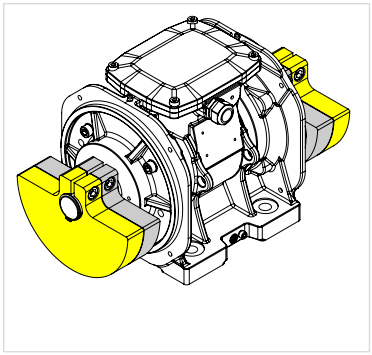


Overload protection

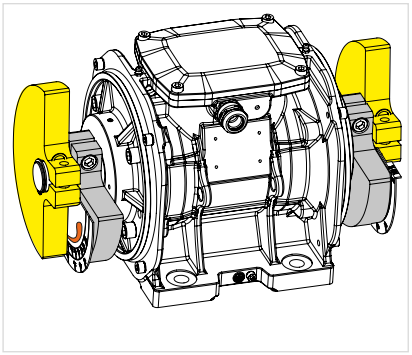
All electric vibrators MUST be connected to a suitable external overload protection.
When using two electric vibrators in sync, each of them has to be connected to an external overload protection that must be interlocked to make sure both vibrators are stopped if one fails.
Always use a thermal-magnetic type vibrator protection, with delayed cut-off, to avoid stopping the vibrator during start-up when the current draw is higher than the rated running current for a few seconds.
Cut-off of the overload protection should be set at a maximum of +10% of the rated current.

HOW TO CHANGE THE VIBRATION INTENSITY

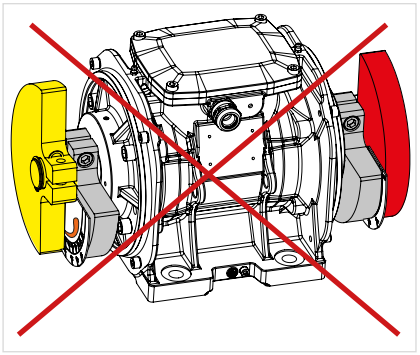
Adjustable masses – Type A



MASSES AT 100%



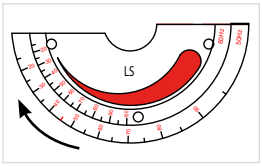
ADJUSTED MASSES



INCORRECTLY ADJUSTED MASSES

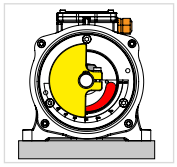
2 TIPS TO CORRECTLY ADJUST MASSES:

Rotate the mass following the design on the plate: from the thicker tip towards the thin tip.

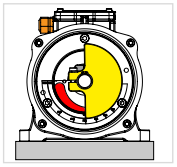


left side of the vibrator. for sizes up to 60

Rotate the masses in the opposite direction to the cable gland.

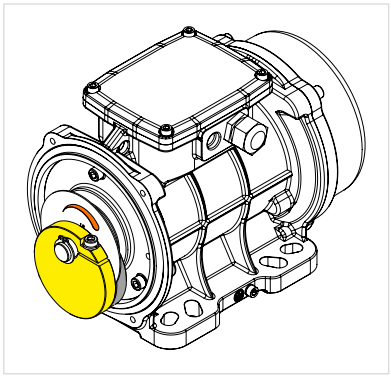


left side

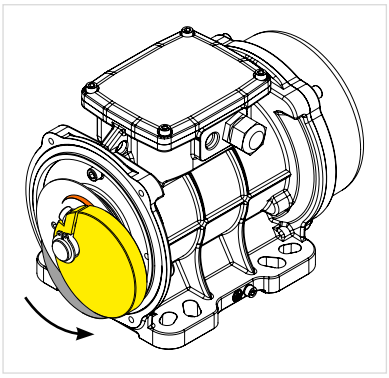


right side

Adjustable masses – Type B



MASSES AT 100%

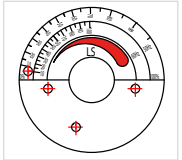


ADJUSTED MASSES

The fissure in the mass indicates the degree of adjustment.

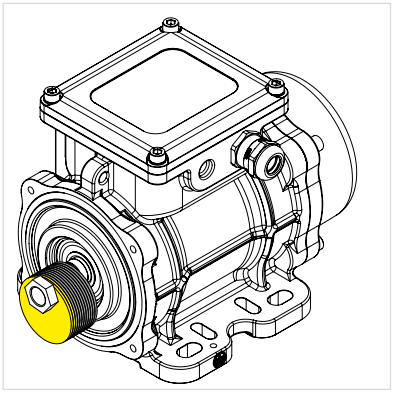


Rotate the mass following the design on the plate: from the thicker tip towards the thin tip.

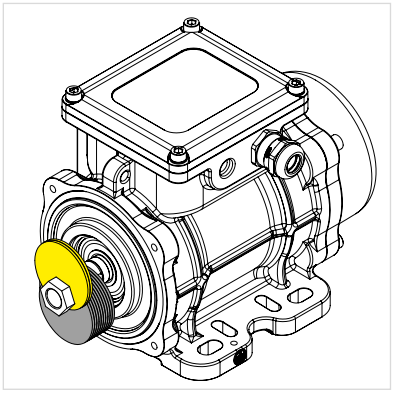




Adjustable masses – Type C (blade masses)



MASSES AT 100%

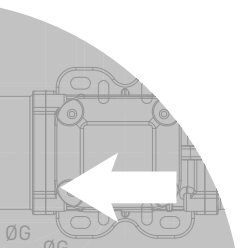


ADJUSTED MASSES

For technical information on the regulation of blade masses refer to the Use and Maintenance Manual.

Warning:
DO NOT grease new motors before installation.

OLI motors with roller bearings leave the factory filled with the right quantity of grease while those with ball bearing do not need any lubrication.



TECHNICAL DRAWINGS