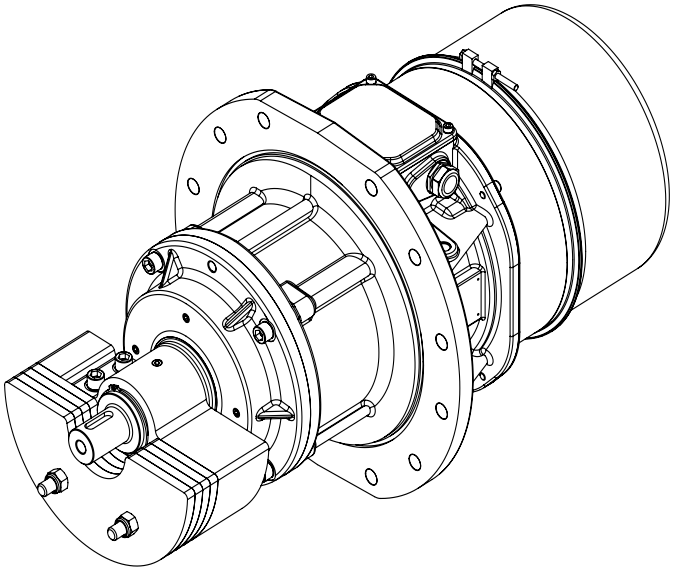
a WOLONG company



- **MVE-FD侧板振动电机** CN
- **ELECTRIC FLANGED MOTOVIBRATORS** EN

MVE-FD

CODE: **886060135700** | REV:**00** | DATE:**10/2023**

目　　录

尊敬的用户：

感谢您选用我公司的产品。您在使用本产品以前，请详细阅读本使用说明书，并严格按照说明书进行操作。

如有不明之处，需及时与我公司联系，谨防操作中出现意外事故。

ISO 9001 质量体系认证

本手册所涉及的所有产品均按照欧力-卧龙质量体系定义的操作程序制造。

本公司的质量体系是通过了 ISO9001 标准认证，确保了整个生产过程，从订单到交付后的技术支持，都是以适当的方式进行，保证产品质量。

总述

MVE-FD 系列侧板振动电机是振动技术在建筑行业，以及全球工业领域超过 40 年的经验的积累。在制造过程中，对零件选择和高精度加工，保证侧板振动电机的长期耐用性和易维护性。

符号

该符号表明存在严重危险情况，如果忽视这些情况，可能会严重危害人身健康和安全。

技术目录

1.1 手册范围和重要性

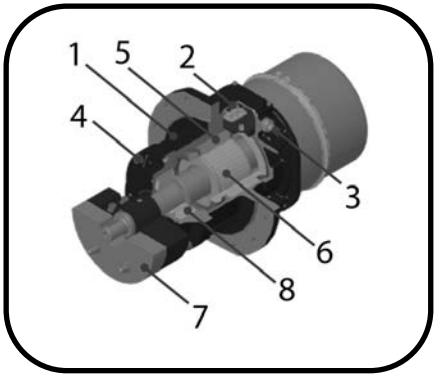
本手册由欧力-卧龙编写，是侧板振动电机的组成部分，必须在设备的整个使用周期内，把它放在一个易于寻找的地方，需要时可进行咨询。如果相关设备变更了所有权，则必须将手册移交给新的所有者。如果手册丢失、损坏或者难以辨认，可以在欧力-卧龙官网下载最新的副本，并核对最新的数据。本手册提供有关工作事故、预防安全的警告和标识。但是，操作人员必须遵循现行法规规定的安全标准。

在此期间，安全标准可能发生改变，必须实施新的安全标准。

该手册的版本在不断更新，可在以下网站获得最新版本。

www.oli-wolong.com

1.2 产品描述



图号	描述
1	机座
2	接线盒
3	电缆接头
4	端盖
5	定子
6	转子
7	偏心块
8	轴承

图 1 产品描述

MVE-FD 系列侧板振动电机的设计和制造符合以下规定：
EN 60034-1 EN 60079-0 EN60079-31
MVE-FD 系列侧板振动电机的一般使用条件如下：
-环境温度随季节而变化，但一般不应超过-20℃~+40℃
-海拔不超过 1000 米
-最湿月月平均最高相对湿度为 90%
-额定电压：220/380V 或 380/660V，即“△”/“Y”接法，出厂时按 380V，“Y”或“△”接法；（也可按照用户特殊要求设计制造，注意电源电压应和铭牌或接线图中的接线方法相对应）
-频率：50Hz（也可按用户特殊要求设计制造，注意铭牌标称数据应和电源对应）
-绝缘等级 ：F 级
-防护等级 IP66
-工作方式：S1（连续）

1.3 使用说明

请勿擅自改装侧板振动电机，以获得超出侧板振动电机本身的振动效果。

任何未经授权而对侧板振动电机修改都可能危及人身健康和损坏设备。

操作人员必须穿戴合适的防护服和防护装置，这些防护设备必须被现有的安全和事故预防标准认可。

在操作之前，确保所有安全设备都已安装并正常工作。

运行时，禁止无授权人员进入。

清除工作区域内所有障碍物和可能的危险源。

使用工作温度与侧板振动电机铭牌上相匹配的电缆（135°C）连接振动电机。

在计算本手册和侧板振动电机铭牌上的最高温度时，未考虑表面可能存在的粉尘。

在安装侧板振动电机时，请留出足够的空间用于正常的装配、拆卸、清洁和维护。

使用禁忌

如果遵循此类产品的常规预防措施，以及本手册中的说明，则没有使用禁忌。

工厂的安装人员、工程师需要设置和安装所有的保护装置，以避免财产损失，或者在发生故障和零件掉落的情况下对人造成伤害。

1.4 警告

在安装侧板振动电机前，现场的装配、安装人员必须检查订购的型号是否与现场的型号及铭牌上的参数匹配，是否在运输过程中有所损坏或故障。

侧板振动电机的安装必须由现场装配、安装人员根据本手册中的说明进行操作，他们应检查侧板振动电机是否正常运行，调整并检查其偏心块振动力情况。

可拆卸和组装的侧板振动电机部件仅用于维护或清洁目的，仅能由专业人员操作。

侧板振动电机某些部件的装配和拆卸说明包含在用户手册中。

在对侧板振动电机进行任何操作前，请确保已将其设置在安全条件下。

重要提示：此后本手册中将通过警告“在安全条件下使用侧板振动电机”进行以下操作：
-在进行任何维护操作之前，必须将设备设置在安全条件下；
-断开电源，因为侧板振动电机的接线盒在通电时很危险。

请注意：在安装有侧板振动电机的电气设备（如振动台、振动筛等）操作期间，不要干预侧板振动电机工作。如果设备由电气控制箱控制，则必须为后者提供防止意外启动的安全钥匙，并且该钥匙必须由执行维护操作的人员存放。

确保侧板振动电机周围的区域充分照亮（如果有必要，请为操作人员提供合适的电灯）在侧板振动电机运行前，请用湿布将电机上的粉尘小心翼翼地擦掉。操作人员在进行任何操作（维护和清洗）时需穿戴个人防护装备（PPD）：

-抗静电的安全鞋（认证的）
-抗静电的防护服（认证的）
-防静电防割手套
-防护面具
-防护手套

铭牌上指示的最高温度值是在正常环境条件下测量得到的数值。如果将侧板振动电机固定在封闭或通风不良的地方，可能会引起温度增高。

如果需要更换部件，请使用原装备件。如果使用任何非原装部件而导致电机损坏，欧力-卧龙不承担任何责任。

避免掉落的物体碰到侧板振动电机并将其损坏。

侧板振动电机通过变频器使用时，允许频率变化的范围是从 20Hz 到额定频率。

侧板振动电机配备 130° C PTC 热敏电阻，如果达到极限值，必须由控制装置确保侧板振动电机的关闭，且保证控制装置有一定程度的冗余。

在订购时需注明需要安装热敏开关。如果客户自行安装热敏开关，且生产该热敏开关的公司没有通过欧力-卧龙质量认证，欧力-卧龙公司不承担任何责任。

1.5 质保

绍兴欧力-卧龙振动机械有限公司生产的产品提供 12 个月的保修，时间从铭牌上的生产日期开始。

保修不适用于安装、使用不当， 或未经制造允许而对产品进行错误的维护、修改而导致故障、损坏。

即，发生下列情况时，侧板振动电机的保修将失效：

- 产品被篡改或修改；
- 产品不正确地使用；

- 产品超过说明书中规定的极限值使用或者产品受到过度的机械挤压；
- 产品没有进行必要的维护或者由未经培训的人员进行不正确的维护；
- 由于不小心，在运输、安装或使用时损坏；
- 使用了非原装零部件；

客户在收到产品是需检查是否有缺陷，是否在运输中损坏，产品是否完整。如果有损坏或零部件缺失，请马上以书面形式告知本公司并附上运输方的签字。

质保期内产品退回维修需支付运费。

1.6 存放

1） 安装前的存放

- 尽量避免潮湿，含盐的环境；
- 将侧板振动电机放置在木托盘上，不可倒置；
- 禁止将侧板振动电机放在室外或含有与侧板电机材料能反应（即使是轻微腐蚀）的物质的环境下；
- 禁止将侧板振动电机存放在-20℃的环境下；

2） 安装后设备长期不使用

设备开启前：

- 确保侧板振动电机安全；
- 检查可能受到长期不用影响的部件；

3） 长期不用后的再次使用

- 设备不用时避免潮湿和含盐的环境；
- 将侧板振动电机放置在木托盘上，避免恶劣环境（不要堆放）；

设备开启前：

- 确保侧板振动电机安全；
- 检查可能受到长期不用影响的部件；
- 进行全面清洗并确保按照安全指示执行；

安装、操作和维护

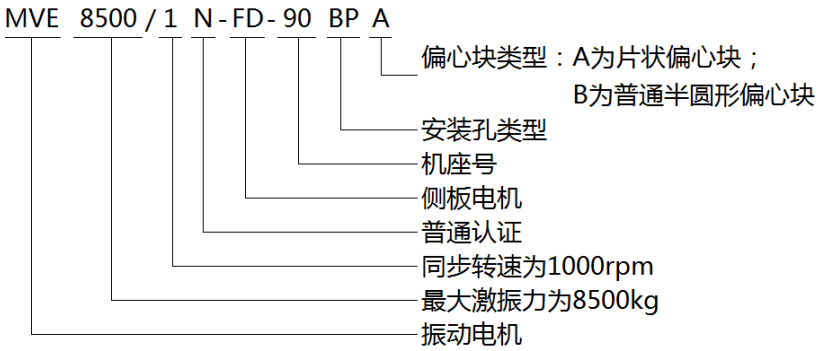
2.1 识别

产品识别

为确保正确识别侧板振动电机，请参考订单、发票和侧板振动电机铭牌上的数据。侧板振动电机的数据印在指定的标识牌上。在采购零部件和需要技术支持时请提供这些数据。

图 2 电机铭牌

例如:



2.2 运输和包装

运输和搬运的安全指示

请按照下图执行所有处理和运输操作。

所有操作必须由专业人员进行。

操作人员要有正确的技能和经验，确保自身和其他人员人身安全。

在选择提升和搬运工具（如鹤式起重机、叉车等）时，需考虑产品重量是否超过工具负载，产品的尺寸和搬运的位置。

移动时，请保持产品水平，尽可能降低高度并缓慢移动。

避免突然移动，振动和旋转，如果有必要，请在移动时用手辅助并小心地放置在地面上。

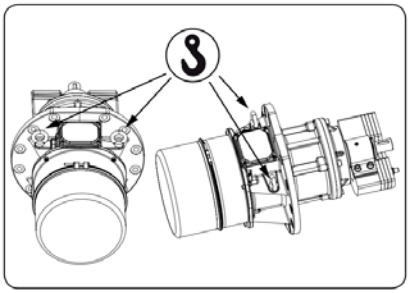


图 3　侧板振动电机的搬运

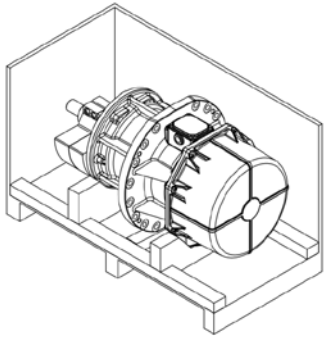


图 4 侧板振动电机的包装

运输前检查

在装卸和搬运过程中避免损坏产品。提升时按照说明书指示(图 3)。不要推或拖拽侧板振动电机！请记住，必须小心处理。

作为运输过程中的固定模式，必须将侧板振动电机的包装牢固地固定在车辆的装载平台上，以防止运输过程中的碰撞使某些零部件损坏。此外，请勿放置松动的物体，以免撞击损坏产品。

收到产品时，请检查型号数量是否与订单一致。

重要说明：侧板振动电机在运输过程中造成的损坏应及时与运输公司确认，并将信息反馈至我公司，以便我公司与运输公司交涉。

2.3 安装

侧板振动电机必须由专业人员安装！

在安装之前，特别是如果侧板振动电机存放超过 24 个月，建议拆下一侧端罩并检查轴是否可以自由旋转。

检测定子绕组与机座间绝缘电阻：额定电压为 380V 时，不低于 0.38MΩ（经长途运输或长期搁置未用的电动机安装前必须用兆欧表测量此绝缘电阻）。（图 5）

如果发生任何故障，请与欧力-卧龙联系。

MVE-FD 系列侧板振动电机可以安装在任何地方。我们建议将侧板振动电机固定在刚性区域，以防止引起的振动而导致故障或开裂；如果无法做到这一点，则必须使用加强筋。应避免在安装表面区域进行焊接，否则会影响侧板电机安装表面的平整度。

连接表面必须是平的（最大 0.25 毫米，0.01 英寸），这样侧板振动电机的支脚可以完全贴合表面，以避免内部应力，从而导致支脚断裂。(图 6)

要固定侧板振动电机，请使用不低于 8.8 级的螺栓、螺母和平垫圈。

使用扭矩扳手，并根据表 I 设置扭矩的大小。

表 I　紧固螺栓和拧紧力矩要求

公制	
螺栓规格	拧紧力矩（Nm）
M20	373
M24	696

请记住，大多数故障是由于未正确紧固和拧紧而造成的。

用一根钢索固定侧板振动电机，其长度和截面可以支撑侧板振动电机，使其最大下降 15 厘米（6 英寸），防止发生意外脱离事件(图 7)。

在设备启动之前和运行的前 24 小时内检查：

- 侧板振动电机的固定螺栓和安装底板；
- 保护用的线缆或链条；
- 电源线；

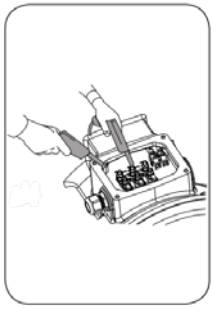


图 5

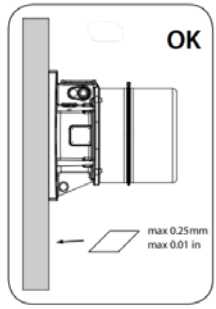


图 6

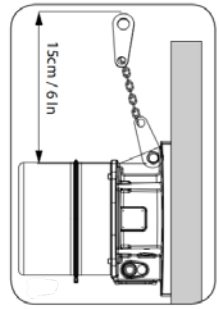


图 7

2.4 电气连接

必须由专业人员进行电气连接。
内、外接地螺栓必须可靠接地！
侧板振动电机的电源和电气连接必须符合当地设定的安全标准。
确认电源的电压与振动电机铭牌一致。
在进行任何维护或调整偏心块之前，请断开线路。
使用带 4 根导线的柔性电缆线（表 II），其中一根黄绿色导线用于接地。
当侧板振动电机连接到电源时，黄绿色地线必须始终更长，以确保在发生故障时该线最后断开(图 7)。 SIZE80 至 110 的侧板振动电机默认使用 130℃的热敏电阻。
关于连接，请参考图表 11 页和 12 页。侧板振动电机出厂默认安装热敏电阻，客户可根据自己需要，在下订单时要求安装热敏开关。
如果更换了电缆接头，使用新的电缆接头必须遵循在侧板振动电机铭牌上的数据。
侧板振动电机的相序 U、V、W 须与接入的外电源相序 A、B、C 相对应。

表 II 电缆线外径

电缆接头型号	电缆线外径 (mm)	电缆线导体标称截面	接线端子	备注
M25x1.5	Φ9~16	4-2.5	2.5-5	SIZE 80、85
M32x1.5	Φ16~22	4-4.0	4-6	SIZE 90、91
		4-6.0	6-8	SIZE 105、110

将电缆线连接到接线盒
-将电缆线穿过电缆接头（图 9），剥线后将线头绞紧穿入接线端子，并用冷压钳压紧，不得有散铜丝外露、突出。
-根据图示与接线盒连接。（图 12）
-放置锯齿垫片，以防止螺母松动。（图 10）
-必须按照拧紧扭矩表上的说明拧紧螺母（表 III）。
-不要忘记连接地线（必须连接）。⚠
-拧紧电缆接头，以便完全保护电缆线。

表 III 拧紧扭矩

接线盒内螺纹拧紧扭矩		
螺纹	N*m	Ft*lb
M6	5	3.69
M8	6	4.43
M10	8	5.90

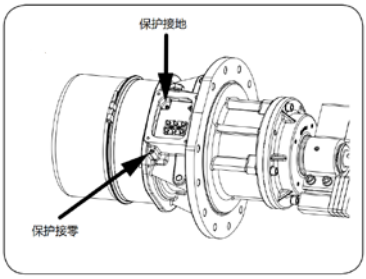


图 8

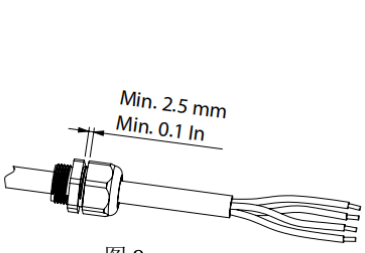


图 9

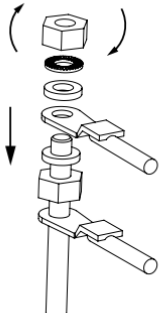


图 10

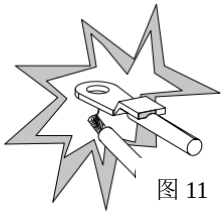


图 11

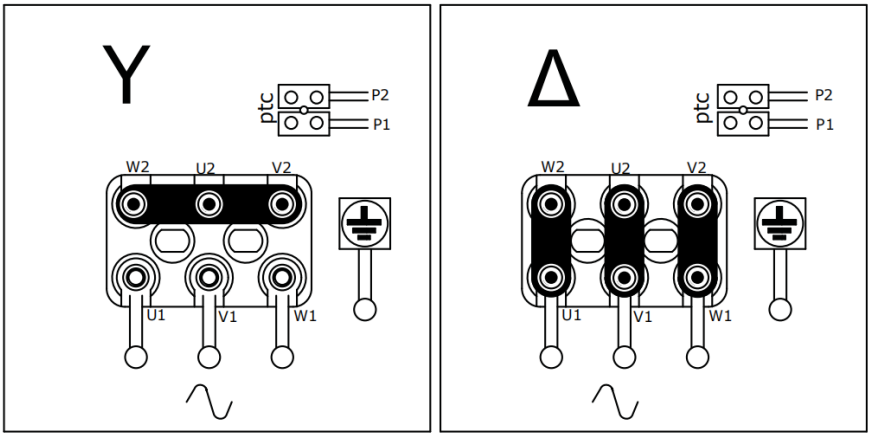
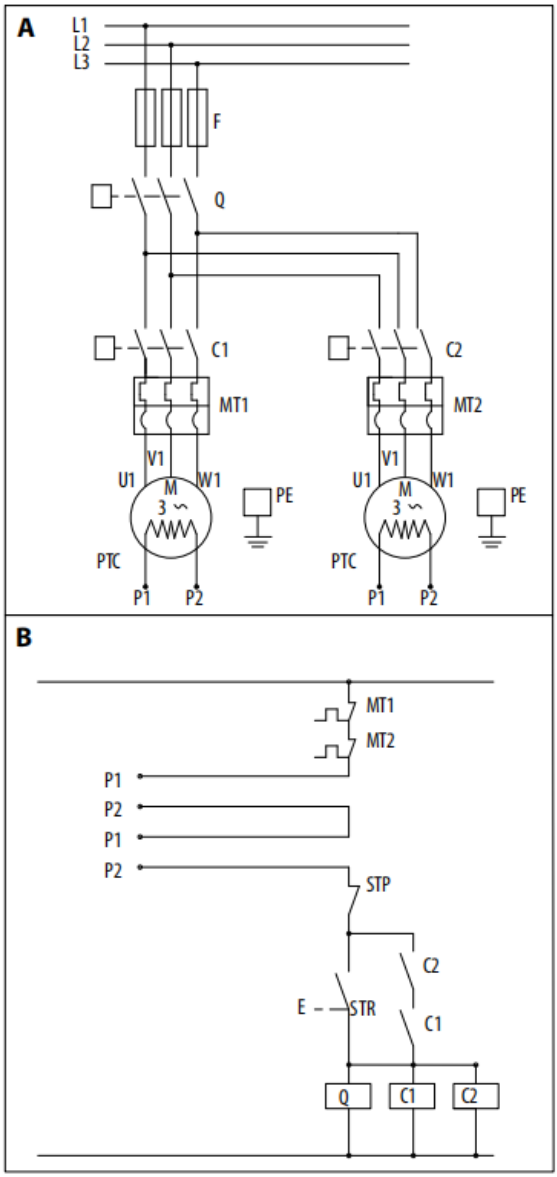


图 12 接线盒接线图

带热敏开关的电气连接



按键

MT1=电机 1 的保护开关

MT2=电机 2 的保护开关

C1=电机 1 的接触器

C2=电机 2 的接触器

PE=接地

Q=主开关

F=保险丝

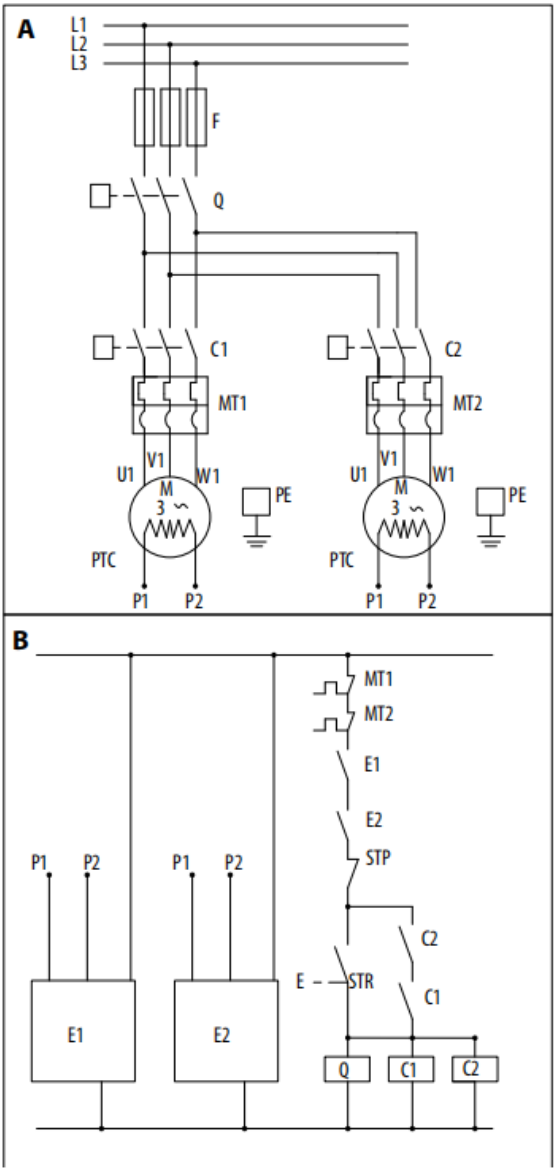
PTC=热敏电阻

E1-E2=电机 1/电机 2 热敏电阻控制设备

STP=停止按钮

STR=启动按钮

带热敏电阻的电气连接



按键

MT1=电机 1 的保护开关

MT2=电机 2 的保护开关

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E1-E2=电机 1/电机 2 热敏电阻控制设备

STP=停止按钮

STR=启动按钮

电气连接只能由专业人员进行，且主电源必须断开！

确保电源电压和频率与振动电机铭牌一致。

所有侧板振动电机都需要连接一个合适的外部过载保护装置。

当安装了两台侧板振动电机时，每一台电机必须连接各自的外部过载保护装置， 而外部过载装置必须互锁，以此保证一台侧板振动电机在发生意外停止时，另一台侧板振动电机也能停止运行。请使用具有延时作用的保护器以防止在电机启动时触发跳闸。

只有正确选择和设置好保护设备，才能保证在任何情况下都能达到温度等级限制。安装人员在侧板振动电机控制器中使用的所有电子元器件（例如过载保护器，各种传感器），必须符合相关标准。

使用机座上指定的螺纹孔进行保护接地(图 8)。

注意：确保接线盒盖的 O 型圈放置正确，不正确的位置会影响 IP 防护等级。

2.5 调整激振力大小

对于 A 型偏心块，即片状偏心块：

-停止侧板振动电机

-关闭主电源

-避免其他人操作侧板振动电机

-取下端罩

-拧下偏心块的螺母

-根据您想减小的振动力大小，取下对应数量的偏心块，注意两侧取下的偏心块要相同

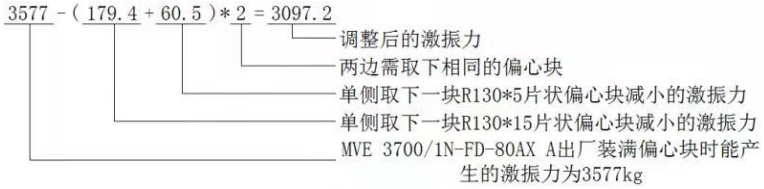
-拧紧偏心块的螺母（表Ⅴ）

-安装端罩

-重复上述步骤，直到获得所需的振动力

-使用表Ⅴ中规定的扭矩大小拧紧螺栓

例如：MVE 3700/1N-FD-80AX A 出厂装满偏心块时能产生的激振力为 3577kg，两边各取下一块 R130*15 偏心块和 R130*5 偏心块后的激振力为



注意：带*的偏心块不能取下，两侧仅装该偏心块即为此电机能提供的最小激振力。

例如：MVE 3700/1N-FD-80AX A 能提供的最小激振力为

1011.3*2=2022.6 kg

表IV　激振力大小

型号	偏心块	单侧数量	单块激振力 kg	总激振力 kg
MVE 3700/1N-FD-80AX A	*R130*85	1	1011.3	3577
	R130*15	4	179.4	
	R130*5	1	60.5	
MVE 4500/1N-FD-80AX A	*R130*85	1	1011.3	4500
	R130*15	6	179.4	
	R130*5	2	60.5	
MVE 5000/1N-FD-80AX A	*R130*85	1	1011.3	4893
	R130*15	8	179.4	
MVE 5500/1N-FD-80AX A	*R130*85	1	1011.3	5360
	R130*15	8	179.4	
	R130*5	1	60.5	
MVE 8500/1N-FD-90BP A	*R180*80	1	2579.9	8480
	R180*15	2	485.5	
	R180*10	2	323.6	
MVE 10500/1N-FD-91 BP A	*R180*100	1	3226.8	10446
	R180*15	4	485.5	
MVE 12500/1N-FD-91BP A	*R180*100	1	3226.8	12391
	R180*15	6	485.5	
MVE 2600/075N-FD-80AX A	*R130*85	1	568.3	2531
	R130*15	6	100.8	
	R130*5	2	34.0	
MVE 3000/075N-FD-80AX A	*R130*85	1	568.3	3015
	R130*15	9	100.8	
MVE 6000/075N-FD-90BP A	*R180*80	1	1449.8	6071
	R180*15	5	272.8	
	R180*10	1	181.9	
MVE 7000/075N-FD-91BP A	*R180*100	1	1813.4	6900
	R180*15	6	272.8	

对于 B 型偏心块，即半圆形偏心块：

-停止侧板振动电机

-关闭主电源

-避免其他人操作侧板振动电机

-取下端罩

-拧松偏心块的螺栓

-调整主动偏心块和从动偏心块之间的角度

-拧紧偏心块的螺栓（表Ⅴ）

-安装端罩

-重复上述步骤，直到获得所需的振动力

表Ⅴ 偏心块紧固螺钉与拧紧力矩要求

螺钉规格	M14	M16	M18	M20
拧紧力矩 Nm	160	175	259	350

注意：偏心块拧紧后，为避免转子转动不灵活，烧坏电机，建议用铜棒（即较软的金属棒）或木锤轻轻敲转子轴端，使其灵活转动。

注意：激振力调整时应保证侧板振动电机两端偏心块的调整角度相同，即两边偏心块应调整在相同的设定值位置（镜像），如图 13，否则激振力将会不均匀，将大大影响侧板振动电机的使用寿命和振动效果，并导致侧板振动电机损坏！

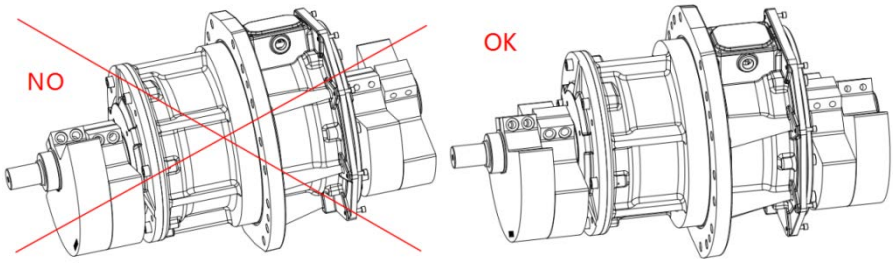


图 13 两边偏心块设定值位置应呈镜像

2.6 启动程序

确保侧板振动电机和它连接的设备是安全的。

此操作必须由专业人员完成。

1、启动侧板振动电机 1 秒钟，然后停止。

2、注意观察侧板振动电机转动方向。如果转动方向不对，应先关闭电源并给出警告标志，再改变侧板振动电机转动方向。

3、启动侧板振动电机，并使用钳形表测量每相电流，确保电流不超过铭牌上的额定值。否则，请确认是否使用了正确的结构或弹性系统。

注意：

- 在操作过程中请勿触碰侧板振动电机。
- 如果没有端罩和接线盒盖，请勿启动侧板振动电机。
- 经过首次 8 个小时的使用后，请再次确认侧板振动电机是否牢固地固定在设备上。

2.7 噪音

侧板振动电机的连续加权噪音不会超过 76 dB(A)*。

*根据 ISO 6081/86 在正常操作条件下进行测量，模拟负载由安装弹簧的测试台组成。

我公司负责在工厂进行噪音检测。而客户需要负责侧板振动电机安装场所的噪音检测。

按照侧板振动电机指示牌上的指示。

在侧板振动电机使用时，除了前面提到的建议，也应遵循现行的所有标准。

侧板振动电机运行的环境温度为-20℃到+40℃。

2.8 维修

在进行任何维修操作之前，请确保侧板振动电机和其连接的设备是安全的。

维护必须由专业人员在关闭电源的情况下进行。

在进行任何维修之前，请确保侧板振动电机的温度不超过 55° C。

特别说明

设备必须先做好保护接地和保护接零。

润滑

所有欧力-卧龙的侧板振动电机都根据其尺寸大小，安装圆柱滚柱轴承。

欧力-卧龙使用特殊润滑脂对圆柱滚柱轴承进行预润滑，保证足够的润滑时间，至少包括轴承本身的使用寿命。这就是侧板振动电机不需要定期润滑的原因。

在欧力-卧龙的轴承使用寿命结束时，建议更换轴承和润滑脂。

只能使用这种润滑脂:MOBIL SHC Polyrex 102EM。

表VI 轴承使用寿命

型号	激振力：100%		激振力：85%		激振力：70%		激振力：50%	
	激振力 kg	理论寿命 小时	激振力 kg	理论寿命 小时	激振力 kg	理论寿命 小时	激振力 kg	理论寿命 小时
MVE3700/1N-FD-80AX A	3577	71128	3040	>100000	2504	>100000	1789	>100000
MVE4400/1N-FD-80AX A	4296	>100000	3652	>100000	3007	>100000	2148	>100000
MVE4500/1N-FD-80AX A	4500	91582	3825	>100000	3150	>100000	2250	>100000
MVE5000/1N-FD-80AX A	4893	69279	4159	>100000	3425	>100000	2447	>100000
MVE5500/1N-FD-80AX A	5360	51125	4556	87883	3752	>100000	2680	>100000
MVE8500/1N-FD-90BP A	8480	20197	7208	34719	5936	66318	4240	>100000
MVE10500/1N-FD-91BP A	10446	36615	8879	62940	7312	>100000	5223	>100000
MVE12500/1N-FD-91BP A	12391	20724	10532	35624	8674	68047	6196	>100000
MVE10000/1N-FD-91BP B	10170	40033	8645	68816	7119	>100000	5085	>100000
MVE13000/1N-FD-91BP B	12700	19090	10795	32816	8890	62683	6350	>100000
MVE15000/1N-FD-105 B	14706	19435	12500	33408	10294	63814	7353	>100000
MVE17500/1N-FD-105 B	17980	9945	15283	17095	12586	32654	8990	>100000
MVE19500/1N-FD-105 B	20285	6652	17242	11435	14200	21843	10143	67051
MVE22000/1N-FD-110 B	22730	7750	19321	13322	15911	25448	11365	78117
MVE25000/1N-FD-110 B	25532	12989	21702	22327	17872	42648	12766	>100000
MVE2600/075N-FD-80AX A	2531	>100000	2151	>100000	1772	>100000	1266	>100000
MVE3000/075N-FD-80AX A	3015	>100000	2563	>100000	2111	>100000	1508	>100000
MVE6000/075N-FD-90BP A	6071	82038	5160	>100000	4250	>100000	3036	>100000
MVE7000/075N-FD-91BP A	6970	>100000	5925	>100000	4879	>100000	3485	>100000
MVE10001/075N-FD-91BP A	10524	47624	8945	81865	7367	>100000	5262	>100000
MVE14000/075N-FD-105 B	11661	56153	9912	96526	8163	>100000	5831	>100000
MVE13501/075N-FD-105 B	13822	31861	11749	54768	9675	>100000	6911	>100000
MVE16001/075N-FD-105 A	16382	18083	13925	31084	11467	59376	8191	>100000
MVE18001/075N-FD-105 A	18527	11999	15748	20626	12969	39399	9264	>100000
MVE22000/075N-FD-110 B	18935	18998	16095	32656	13255	62379	9468	>100000
MVE20001/075N-FD-110 B	20824	13837	17700	23785	14577	45433	10412	>100000

所有侧板振动电机出厂时均使用 SKF、FAG 轴承，并填充足量润滑脂。

若侧板振动电机在运行过程中轴承出现异响，请持续观察一段时间，如果侧板振动电机电流和温度正常，且轴承出现异响消失，可继续使用；如果轴承异响仍存在，建议客户停止使用并退回检查。

更换轴承

在保修期内，建议将侧板振动电机发回绍兴欧力-卧龙振动机械有限公司更换轴承，自行更换轴承会引起质保失效。

保修期外更换轴承，请按如下方法进行：

- 关闭侧板振动电机的电源。
- 拆下侧板振动电机并放在工作台上。
- 拆下端罩。
- 拆下偏心块。
- 通过端盖顶出孔拆下端盖。
- 用专用设备拆下轴承。
- 从轴上取下内圈。
- 替换轴承。擦去端盖上旧的润滑脂。安装新轴承，并加注一定量的新润滑脂。具体油脂用量请咨询欧力-卧龙。让油脂渗入滚动部件，注意确保不要引入杂质。杂质的存在会损坏轴承，同时缩短其使用寿命。
- 重装振动电机。

在重新组装阶段，保证各零件通过合适的角度安装，避免对轴、轴承、端盖造成不可恢复的损伤。**如果造成了损伤，请替换它们。**

定期检查

至少每个季度对侧板振动电机、电缆和连接装置进行一次检查。检查方法如下：

警告！在检查之前，应切断和锁定振动电机的电源，并给出警告标志。

1、应切断和锁定侧板振动电机电源，并给出警告标志。

2、检查端盖有无裂纹，端盖螺钉是否拧紧。

3、检查电缆有无损坏，包括割痕和磨损。如有损坏应及时更换。

4、检查接地情况。一定要确保侧板振动电机机座接地电阻不超过 0.1 欧姆。确保接地端子上的螺钉拧紧力矩符合要求。确保接线板上所有的联结螺母拧紧力矩符合要求。但不可拧得过紧。

2.9 剩余风险

根据侧板振动电机的使用情况，客户必须根据指定的标识告诉操作人员以下剩余风险：

1. 机械危害

对于维护操作，操作员必须始终使用个人防护设备。 侧板振动电机附近的指定警告标志表明必须使用哪种个人防护装备。

1.1 坠落物体的风险

在没有端罩的情况下检查旋转方向。

1.2 不受控制的运动的风险

当设备正在关闭时。

2. **存在有害气体或粉尘**

在常规和非常规操作期间内，进行某些涉及有害物质存在的粉尘处理时，操作人员必须穿戴由使用侧板振动电机的设备制造商编写的安全数据表中规定的合适的防护设备。

3. **高温表面**

侧板振动电机的表面温度高于烧伤温度时，存在烧伤风险。在正常保养和维护时，不能接触侧板振动电机外表面，直到温度降低到不超过 55° C（130° F）。


2.10 拆卸电机

在继续拆卸侧板振动电机之前，请按照说明彻底清洁表面的灰尘。
必须在安全区域拆卸侧板振动电机。
操作人员必须穿戴合适的个人防护装备。

2.11 退回电机

当侧板振动电机被退回时，若原包装仍保留，则放在原包装内寄回，否则，请尽可能保护好放在包装盒内，避免运输过程中发生损坏。

2.12 一致性声明

如果没有按照本手册中的说明正确地使用侧板振动电机，那么欧力-卧龙不承担任何责任。由于技术和标准在不断发展和改进，绍兴欧力-卧龙振动机械有限公司保留更新其产品的权利，包括所有的技术知识和官方标准（EN, UNI）。
请注意参考“机械指令 2006/42/EC”。

2.13 备件

请注明以下有关 备件的要求：
- 侧板振动电机的型号
- 电源电压
- 备件的名称和图号 *

* 联系绍兴欧力-卧龙振动机械有限公司确认它是否可用
侧板振动电机的任何操作必须由专业人员进行，并穿戴专门设计的防护装备。确保侧板振动电机工作之前，设备是安全的。

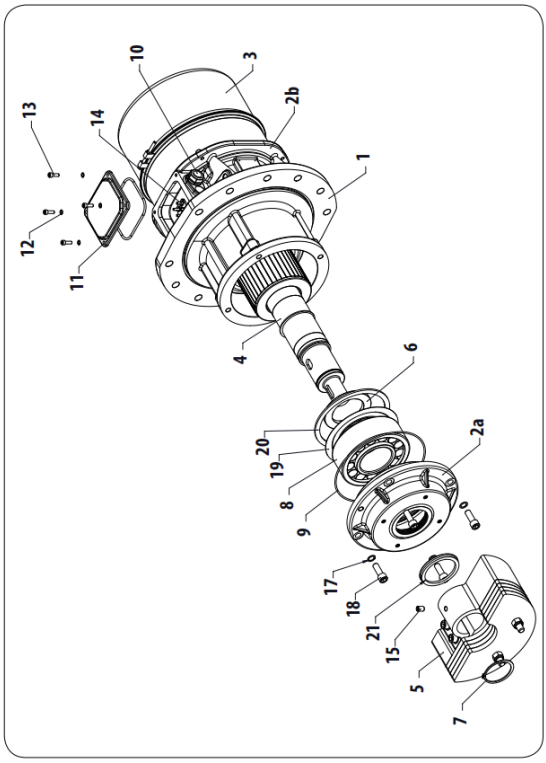


图 14 爆炸图

表 IV 物料明细

序号	描述
1	机座
2	端盖
2a	法兰侧端盖
2b	端罩侧端盖
3	端罩
4	转子
5	偏心块
6	油封内圈
7	轴用挡圈
8	轴承
9	法兰面 0 型圈
10	电缆接头
11	接线盒盖
12	接线盒盖垫片
13	接线盒盖螺钉
14	六柱接线板
15	平头螺钉
16	铭牌
17	端盖垫圈
18	端盖螺栓
19	轴承盖
20	孔用挡圈
21	V 型圈

2.14 故障分析

现象	可能的原因	解决办法
振动电机不工作	1）错误的电气连接	1） -检查电源电压 -保证电源电压与频率与铭牌上的参数相符 -根据接线图接线 -使用 OT 接头接线 -使用延时过载保护装置防止启动时跳闸 -按照手册中的说明必须连接地线 -通过变频器连接，频率从 20Hz 到额定频率
	2）不正确的电缆	2） -检查电缆的长度和粗细是否合适 -不要使用延长线 -检查电缆线外径，确保电缆接头能固定电缆线 -根据接线图接线
	3）机械锁死	3） -检查转轴是否能自由转动
温度过高	1）过载	1） -检查振动电机的选择标准，并减少偏心块 -在空载条件下测试振动电机时，确保设备不会发生共振：这种情况会导致电流增加并烧毁电机
	2）不正确的工作电压	2） -检查工作电压是否与铭牌相符
	3）环境温度过高	3） -将室温恢复到极限范围内
噪音过大	1）螺栓未拧紧	1） -按照使用和维护手册中的说明书使用螺栓和垫片 -按照手册中的说明将螺栓拧紧到正确的扭矩
	2）轴承噪音	2） -再次润滑轴承，如果有必要，更换轴承 -按照手册中的指示使用润滑脂

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INDEX

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1 TECHNICAL CATALOGUE

2 INSTALLATION OPERATION AND MAINTENANCE

3 DRAWING AND TABLES

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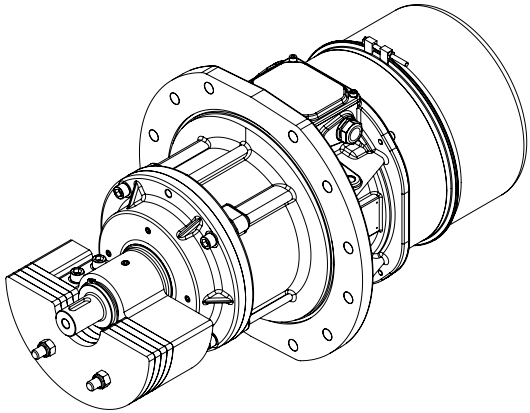
EN

TECHNICAL CATALOGUE

1



MVE-FD

CODE: **886060135700** | REV:**00** | DATE:**10/2023**

UNI EN ISO 9001Quality System Certification

All the products described in this catalogue are manufactured according to OLI S.p.A. Quality System procedures.
The Company's Quality System, certified according to International Standards UNI EN ISO 9001ensures that the entire production process, starting from the processing of the order to the technical service after delivery, is carried out in a controlled manner that guarantees the quality standard of the product.

General Information

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The range of MVE-FD-type External Electric Vibrators is the result of more than forty years of experience in vibrating technology for the building industry as well as for other industrial applications worldwide. The care taken over selection of components and the high level of precision adopted in manufacture afford a guarantee of long term durability of the electric vibrators and an easy maintenance.

SYMBOLS

It indicates situations of serious danger which, if ignored, can seriously put to a risk the health and safety of persons.

1.1 SCOPE AND IMPORTANCE OF THE MANUAL

The Manual, which has been prepared by the Manufacturer, is an integral part of the electric vibrator and it must be preserved throughout the life of the machine in a known easily accessible place, available for consultation whenever required. If the equipment concerned changes ownership, the Manual has to be handed over to the new owner. Before carrying out any operations on the electrical vibrator, the personnel in charge with these operations must have read very carefully this Manual. If the Manual is lost, damaged or becomes illegible it has to be downloaded from the OLI® website a new copy and check the last update available. This Manual supplies warning and indications that regards the safety standards for work accident prevention. However, the operators must follow the safety standards imposed by the regulations in force.
Possible modifications of the safety standards that may occur shall be transposed and implemented.

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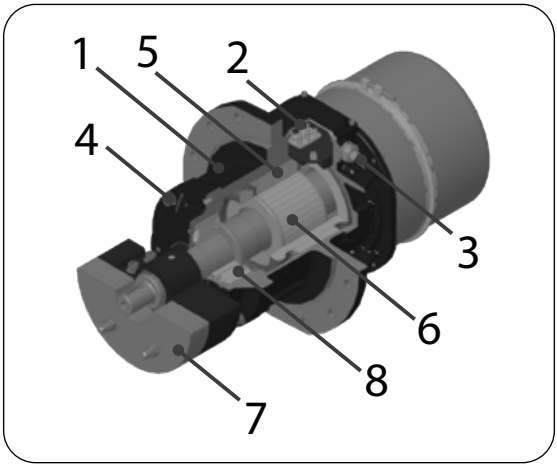
1.2 - DESCRIPTION



Pos.	Description
1	Vibrator frame
2	Junction box
3	Cable gland
4	Bearing flange
5	Stator
6	Rotor shaft
7	Masses
8	Bearing

The MVE electric vibrators are designed and constructed according to the following applicable standards:
EN 60034-1 EN 60079-0 EN60079-31
Compliant to the Directive 2014/34/UE according to category 3D
The general features of the MVE-FD series of electric flanged vibrators are listed below

- Insulation class F
- Standard tropicalization
- IP 66
- Operating temperature from –20°C to + 40°C

⚠ 1.3 - INDICATIONS FOR USE ⚠

Do not tamper the machine with using any device in order to obtain performances that differ from the envisaged ones.
Each unauthorized modification can endanger the health of persons and damage the machine itself.
The operators must wear only protective clothing and personal protection devices suitable to the operations to be carried out required by the safety and work accidents prevention standards.
Before operation make sure all safety devices are installed and working properly. During operation block the access of unauthorized personnel.
Remove all obstacles or possible danger sources from the working area.
Connect the electric vibrator using cables having an operating temperature that matches the indications on the electric vibrator plate (135°).
The MVE electric vibrators are provided with cable glands compliant to Directive 2014/34/UE according to category 3D with IP66 Protection degree.
In case they have to be replaced, use cable glands that have the same features.
The electric vibrator described in this manual was designed and tested for being used in potentially explosive zone classified as follows:

- Zone 22 according to CEI 60079-10-2 Standard and according to the Directive ATEX 2014/34/UE.

The user shall make sure that the working place inside of which the electric vibrator is to be installed was properly set in safety conditions from an explosion risk point of view.
It is important that the client specifies the features of the powder to be handled and the processing temperature in ordering phase.

IMPORTANT: the ATEX version of the electric vibrator was designed to operate with powders that during processing do not release explosive gas.
FOLLOW THE INDICATIONS ON THE PLATE D = dust
To operate in safety conditions ensure that:
- **The powder handled has an ignition temperature over 75K of the surface temperature indicated on the electric vibrator plate (EN 60079-10-2).**

(The maximum temperatures indicated on the present Manual and on the plates of the electric vibrators were calculated without taken into consideration the possible presence of dust layers on the surfaces).
The electric vibrator shall be installed leaving enough space to carry out the normal assembly/disassembly cleaning and maintenance operations.

CONTRAINDICATIONS
The use of the electric vibrators implies no contraindications if there are followed the normal precautions for this type of materials and the indications given in this Manual.
Furthermore, it is forbidden to start-up the electric vibrator before the machine/plant in which it was installed is declared compliant to the Directive 2006/42/CE.
The plant fitter/installer is in charge with providing and installing the devices/protections necessary to avoid damage to persons and things in case of brake-downs and ensuing falling off pieces.

⚠ 1.4 - WARNINGS ⚠

Before installing the electric vibrator, the plant fitter/installer shall check if the version ordered matches the one supplied (the values indicated on the plate), that it was not damaged during shipping or has faults.
The installation of the electric vibrator has to be carried out by the plant fitter/installer on the basis of the indications given in this Manual; they shall provide to checking the proper working of the machine, adjusting it and checking its correct positioning. Possible disassembly and assembly of electric vibrator parts operations are carried out only for maintenance or cleaning purposes and they shall be carried out only by qualified personnel. The necessary assembly and disassembly indications of some parts of the electric vibrator are enclosed to the User's Manual.
Before carrying out any intervention on the electric vibrator make sure it has been set in safety conditions.

IMPORTANT: hereafter in this Manual there will be indicated by means of the warning "set the electric vibrator in safety conditions" the following operations:
- **Before any maintenance operation the machine has to be set in safety conditions ; disconnect from the mains as it is risky working on the junction box of the electric vibrator.**

N.B. During operation of the equipment on which the electric vibrator is installed (i.e. bin activator, screen screw etc...) it is forbidden working on the electric vibrator. If the equipment is controlled by a general control panel, the latter has to be provided with a safety key that prevents an accidental start-up and this key has to be kept by the person that carries out the maintenance operation.

Light the area that surrounds the electric vibrator by supplying, for instance, the operators with electric torches suitable for:
- Zone 22 cat. II 3 D for ATEX environments.

Before operating on the electric vibrator, remove carefully with a moist cloth the dust layers on it without generating airborne clouds.
For every operation to be carried out on the electric vibrator (maintenance and cleaning), the operators shall be provided with suitable personal protection devices (PPD):

- Antistatic safety shoes (certified)
- Antistatic protective clothing (certified)
- Cut-proof antistatic gloves
- Protective masks
- Protective goggles

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All electrical devices possibly used for maintenance or cleaning interventions carried out outside the electric vibrator have to be provided with the following certification:

- Zone 22 cat. II 3 D for ATEX environments.

The maximum temperature value indicated on the plate refers to measurements made under normal environmental conditions.
A heat increase can occur, for instance, because of the temperature variation caused by having positioned the electric vibrator in a closed or poorly ventilated place. In case of parts replacement, use only original spares. Avoid falling objects that might hit against the electric vibrator and damage it.

THE USE OF THE ELECTRIC VIBRATOR IN POTENTIALLY EXPLOSIVE ZONE BY MEANS OF AN INVERTER IS ALLOWED IN A FREQUENCY FIELD HAVING A MINIMUM VALUE FROM 20Hz TO THE ONE INDICATED ON THE RATING PLATE.

**MOTORVIBRATORS FROM SIZE 80 TO 110 ARE EQUIPPED WITH PTC THERMISTOR 130°C
IN CASE THERE ARE REACHED LIMIT VALUES, THE SHUTTING DOWN OF THE ELECTRIC VIBRATOR HAS TO BE ENSURED BY SPECIAL CONTROL DEVICES AND THE INTERVENTION HAS TO BE OF "FAIL SAFE"-TYPE (REDUNDANT).
TO THIS PURPOSE THE FITTING OF THERMISTORS MUST BE REQUIRED IN ORDERING PHASE. THE FITTING OF THERMISTORS CARRIED OUT BY COMPANIES WHICH WERE NOT QUALIFIED BY OLI S.p.A. SHALL INVALIDATE ALL MANUFACTURER LIABILITIES.**

1.5 - WARRANTY

OLI® S.p.A. offers a 24 month warranty on the products it manufactures starting from the date of the shipping document. The warranty will be invalidated, thus freeing the Manufacturer of any direct or indirect responsibility in the following cases: if the product is mishandled or used improperly, if repairs or modifications are made by unauthorised personnel, or if non-original spare parts are used.
The warranty as well as the compliance to the standards will decay if the electric vibrator:

- Has been tampered or modified.
- Has been improperly used.
- Has been used without following the limits indicated in this Manual and/or it has been subjected to excessive mechanical stress.
- It has not been subjected to the necessary maintenance operations or these were carried only partially and/or improperly by personnel not suitably trained.
- Was damaged because of carelessness during shipping, installation or use.
- There were used spare parts which were not original.

On receiving the product the client shall check that it has no faults, that it has suffered no damages during shipping and that the supply is complete. Possible damages or missing items has to be immediately communicated in writing to the Manufacturer, countersigned by the carrier.
The products under warranty to be returned for repairs has to be shipped in FREE DESTINATION at our location.

1.6 - STORAGE

1) STORAGE PRIOR TO INSTALLATION

- Avoid as much as possible salty and moist environments.
- Place the electric vibrator on wooden platforms and protected from inclement weather conditions (do not stack).
- It is forbidden storing the machine outdoors or in areas that contains steam or substances which are not compatible with the materials the electric vibrator was designed for (even if slightly corrosive).
- The storage conditions below -20°C must be avoided.

2) LONG SHUT-DOWNS OF THE MACHINE AFTER ASSEMBLY

Before starting-up the machine:

- Set the electric vibrator in safety conditions.
- Check all parts whose proper working could have been affected by long shut-downs.

3) POSSIBLE REUSE AFTER LONG SHUT-DOWNS

- During machine downtime avoid salty and moist environments.
- Place the electric vibrator on wooden platforms and protected from inclement weather conditions (do not stack).
- It is forbidden storing the machine outdoors or in areas that contains steam or substances which are not compatible with the materials the electric vibrator was designed for (even if slightly corrosive).

Before starting-up the machine:

- set the electric vibrator in safety conditions.
- check all parts whose proper working could be affected by long shut-downs.
- carry out a complete cleaning cycle ensuring that all indications on the safety chart of the powder handled by the plant were followed.

If the electric vibrator operates in different conditions with materials different from the previous ones check the compatibility of such use on the basis of the indications given at Chapter 1.3 - INDICATIONS FOR USE.

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INSTALLATION OPERATION AND MAINTENANCE

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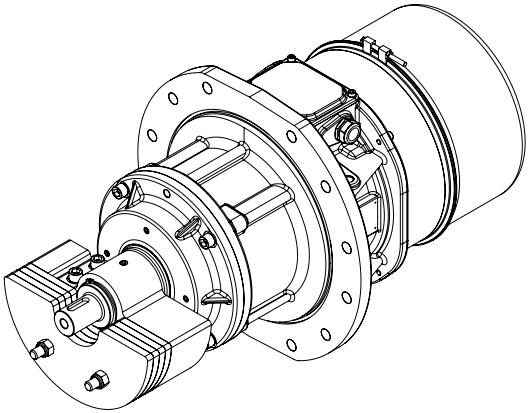


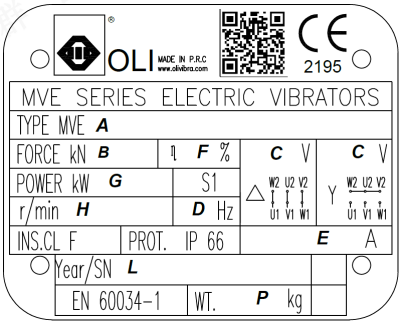
MVE-FD

CODE: **886060135700** | REV:**00** | DATE:**10/2023**

2.1 - IDENTIFICATION

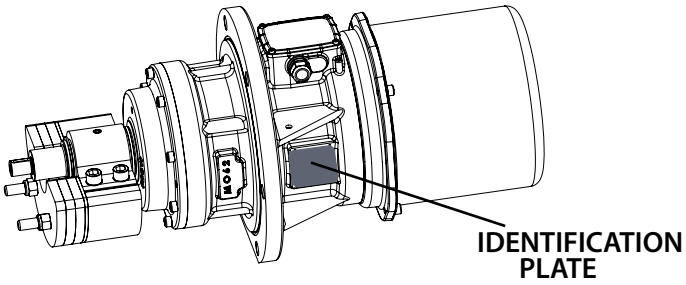
MACHINE IDENTIFICATION

For a proper identification of the electric vibrator refer to the serial number on the order confirmation, on the bill and on the plate placed on the machine. The electric vibrator versions as well as other data are marked on the identification plate. (Fig.2) These data shall always be used when requiring spare parts and assistance.



A	Type
B	Centrifugal Force in Kg
C	Voltage
D	Frequency
E	Electric current
F	Efficiency
G	Drive Power Out
H	Rotation no.
L	Year/ Serial number
P	Weight

Fig.2



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⚠ 2.2 - SHIPPING AND PACKAGING ⚠

SAFETY PRESCRIPTIONS FOR TRANSPORT AND HANDLING

Carry out all handling and shipping operations as indicated on the procedures and the instructions given on the packaging and on the Manual supplied (pag.3.23).
All operations have to be carried out by qualified and authorized personnel.
The personnel authorized to handle the machine have to possess the right skills and experience to put into effect all measures necessary to ensure his safety and the safety of the persons involved.
On choosing the features of the lifting and handling means (bridge crane, mobile crane or forklift) take into consideration the load to be handled, the overall dimensions and the lifting points.
During lifting use only certified accessories such as eyebolts, hooks, shackles, spring catch, clamps, slings, chains, ropes etc. suitable to the load to be lifted.
During handling phases follow the prescriptions applicable to handling of loads.
Maintain the machine or the sections of the bulk components in horizontal position, keep the load low and carry out slowly all necessary movements.
Avoid sudden movements, dangerous oscillations and rotations; if necessary accompany manually the movements and lay the load on the ground carefully.

CHEKING PRIOR TO SHIPPING

Avoid damaging the machine during unloading and handling operations; lift the packaging as indicated in the following Manual (page 3.23). DO NOT PUSH NOR DRAG the electric vibrator! Consider that this is mechanical/electric material that has to be handled carefully. For a proper anchoring during shipping, the packaging of the electric vibrator has to be sturdily fixed to the flatcar of the vehicle to avoid movements or shocks that could damage parts of the machine; besides, there shouldn't be any loose objects as they could hit against the machine and damage it.
On receiving the goods, check if type and quantity match the data on the acknowledgement of order.
Possible damage has to be immediately communicated in writing in the space provided to this purpose in the waybill. The carrier has to accept the complaint and leave the Customer a copy of the waybill. If the supply is "free destination" a copy of the waybill and of the complaint shall be sent to the Manufacturer or to the forwarder.
If the damages are not claimed immediately on receipt of the goods, your request for compensation may not be accepted. The installer is liable for the proper disposal of the packaging according to the legislation in force.

2.3 - INSTALLATION

The user shall make sure that the plant in which the electric vibrator is to be installed was properly set in safety conditions from an explosion risk point of view before starting it up and that the "Explosion protection document" was written according to the Directive 2014/34/UE.

-The machine doesn't require particular lighting; the installer of the machine must ensure a proper lightening of the area on the basis of the indications contained in the relevant legislation.

THE INSTALLATION OF THE ELECTRIC VIBRATOR HAS TO BE CARRIED OUT ONLY BY SPECIALIZED PERSONNEL.

Prior to installation, especially if the machine was stored for over 24 months, it is recommended to remove one of the lateral protection covers of the masses and check that the shaft rotates freely.

Check the motor insulation using a "Dielectric Strength Test" with voltage having a value of approximately 2 KV for not more than 5 seconds between phases and 10 seconds between phases and masses. (Fig.3)

If there are found abnormalities, refer to the Manufacturer.

The MVE-FD electric vibrator can be installed in any position. It is recommended to fit the electric vibrator in a sturdy area in order to avoid that the vibrations might cause breakage or cracks; in case this is not possible, use reinforcement beadings or plates.

The cutting and welding procedures has to be carried out by qualified personnel. For the installation of the electric vibrator in safety conditions there have to be applied the suitable Thermal Works (such as cutting and welding...) and LOTO lockout/tagout (electrical and mechanical segregation of the machine) procedures. The authorization for Thermal Works has to be given by the specialized technicians trained for explosion risks derived from handling of powders (they have to be able to check the residual risks, the suitability of tools and they have to have the proper knowledge of the procedures).

The coupling surface has to be flat (max 0.25 mm/max 0.01 in.)so that coupling flange of the vibrator rests uniformly in order to avoid internal stresses able to lead to breakage of the coupling flange (Fig.4).

To fit the electric vibrator, use 8.8 type bolts, 8.8 type nuts and flat washers that belongs to category A EN ISO 7089 / 7092

Please be reminded that most of faults are caused by wrong fittings and tightening.

Anchor the electric vibrator using a chain having the length and section suitable to support the electric vibrator with a 15 cm (6 in) fall distance in case of accidental detachment. (Fig.6)

Check prior to the start up and after the first 24 working hours:

-The fixing bolts of the electric vibrator and the weldings of the reinforcement beadings or plates.

-The anchoring cable or chain.

-The electric supply cables.

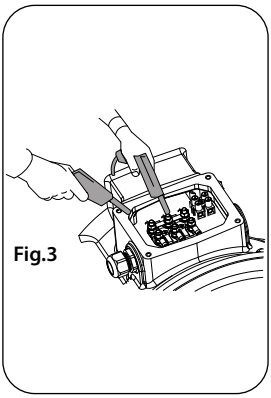
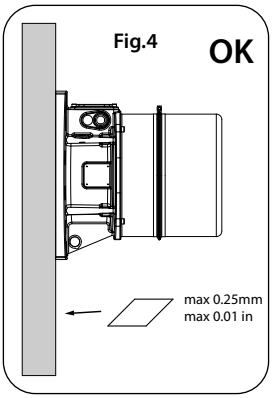


Fig.3



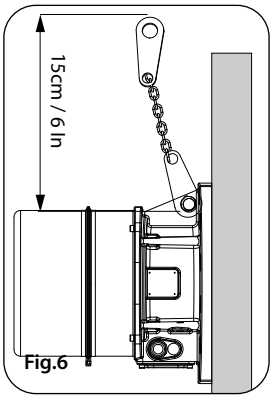


Fig.6

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2.4 - ELECTRICAL CONNECTIONS

THE ELECTRICAL CONNECTIONS HAVE TO BE CARRIED OUT EXCLUSIVELY BY QUALIFIED PERSONEL WHEN THE MAIN SUPPLY IS DISCONNECTED.
THE EARTHING CONNECTION IS COMPULSORY.

The electric supply and the connections of the electric vibrators have to comply the safety standards establish by the local competent authority.
Make sure the voltage supply matches the one indicated on the rating plate of the electric vibrator. Disconnect from the main before carrying out maintenance operations or masses adjustments.
In case of single phase electric vibrators wait for at least 1 minute before opening the junction box to allow the discharging of the capacitor. Each component repair or replacement has to be carried out only by specialized personnel.
For the single phase electric vibrators ensure that the capacitor used matches the indications on the rating plate; the capacitor should always be connected in a safe unclassified zone; otherwise check if the capacitor complies to:
- For the ATEX II 3D certification: ATEX II 3D (Directive 2014/34/UE)

Use flexible 4 conductors power cables; the yellow-green coloured one (green only in U.S.A) is used for the earthing connection.
On connecting the electric vibrator to the power supply, the yellow-green coloured cable of the earthing (green only in U.S.A) has to be longer than the others to avoid it brakes in case of crush.
The elements used for the earthing and for the equipotential connection (Fig.7) have to allow an effective connection of at least one conductor having the section indicated in the following table. Motorvibrators star from size 80 are equipped with PTC thermistor 130°C.
For the connection refer to the diagrams pages (M10 - M12).

In case the cable gland has to be replaced, the new cable gland MUST comply to:
- For the ATEX II 3D certification: ATEX II 3D IP66

Besides following these prescriptions, the connecting elements of the earthing and the equipotential connection placed outside the electrical assembly have to allow the effective connection of at least one conductor of 4 mm^2.

Cross-section area of the installation phase conductors S mm^2	Cross-section area of the protective conductor that correspond to S mm^2
$S \leq 16$	S
$16 < S \leq 35$	16
$S > 35$	0.5S

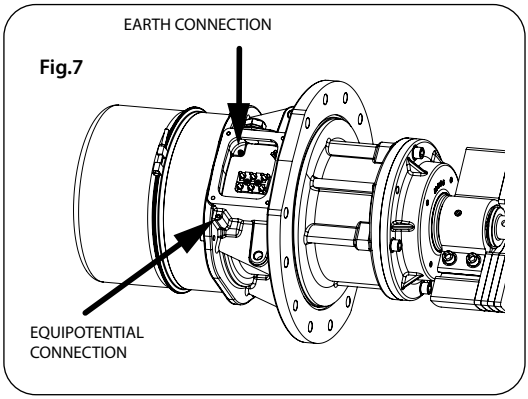
FITTING OF THE POWER CABLE TO THE JUNCTION BOX

- Insert the power cable through the cable gland (Fig.8). The lead-in wire has to be of eyelet-type, pre-insulated, with the bore that suits the pins of the junction box. In order to avoid overheatings, use only conductors having a suitable cross-section. Ensure the cables are not frayed as this could cause a short circuit. (Fig.9)
- The connection to the junction box has to be carried out on the basis of the indications on the special drawings (page from M.11).
- Place the washers before the nuts to avoid their future slackening. (Fig.10)
- The nuts have to be tighten as indicated on the tightening torque table (Fig.7 page M.10).
- Do not forget to fix the earthing cable (compulsory connection) 

- Close de cover by applying the gasket and tighten the cable gland so as the power cable is perfectly blocked. (Fig.8)

Junction box nuts tightening torque		
screw	Nm	ft*lb
M4	2.5	1.84
M5	4	2.95
M6	5	3.69
M8	6	4.43
M10	8	5.90

Fig.7



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Equipotential connection/Ground connection
Screw - ISO4762 - DIN912
M5 - GALVANIZED
M6 - GALVANIZED

Cable gland clamping	
Cable gland	Cable Clamping Ø (mm)
M16	5-10
M20	7-13
M25	9-16
M32	16-22

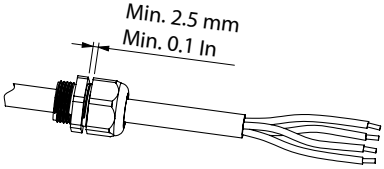

Fig.8

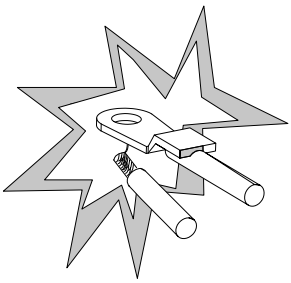

Fig.9

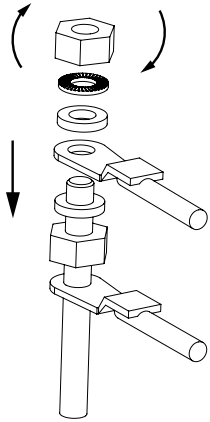

Fig.10

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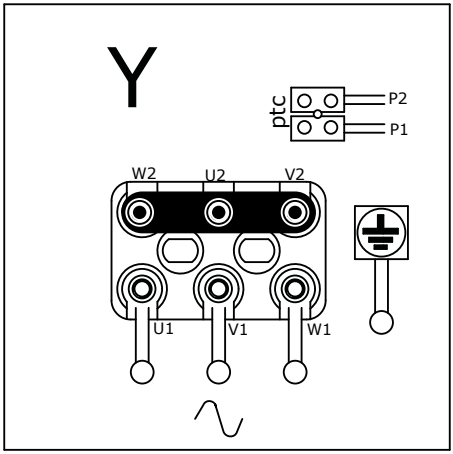
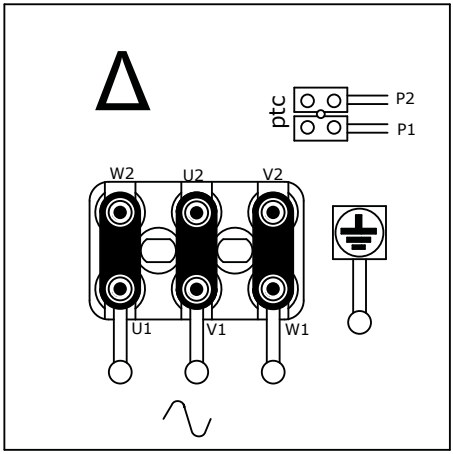
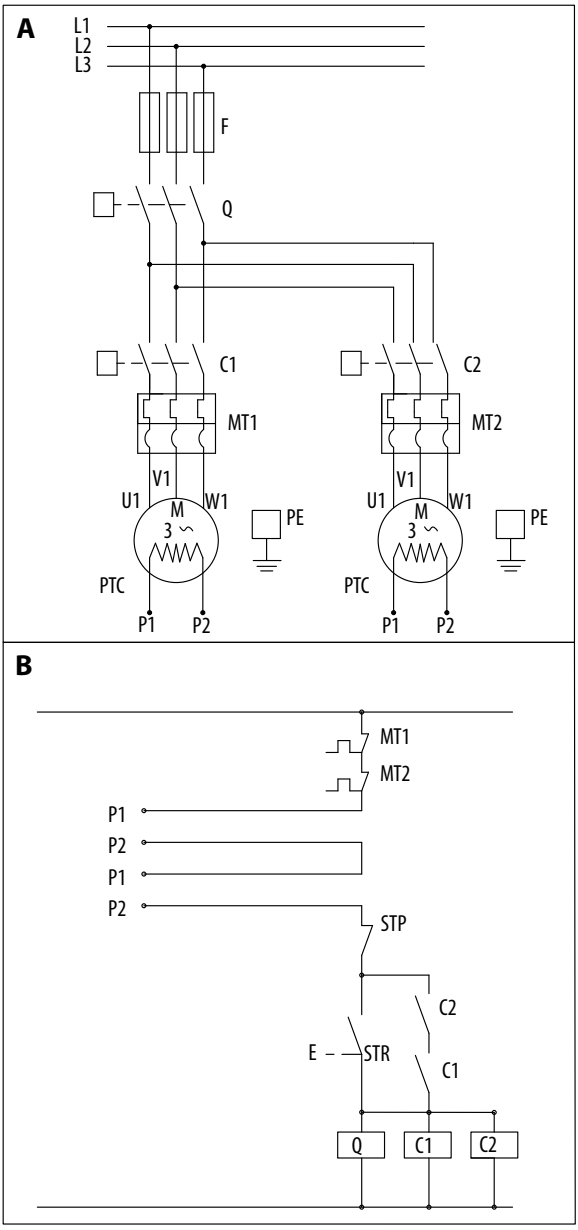
3 PH



3 PH



ELECTRICAL CONNECTION WITH THERMAL PROTECTION



KEY
MT1 = Switch protection for the motor 1
MT2 = Switch protection for the motor 2
C1 = Motor counter 1
C2 = Motor counter 2
P E= Earthing connection
Q = General switch
F = Fuses
PTC = PTC
E1-E2 = Thermistor control devices
motor 1 / motor 2
STP = Shut- down button
STR = Start- up button

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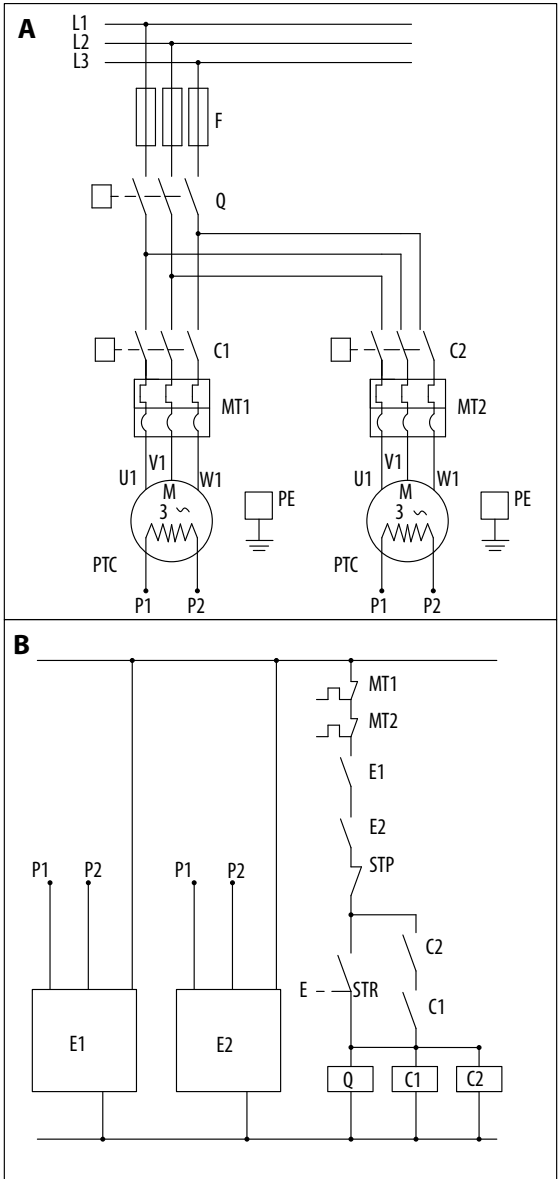
ELECTRICAL CONNECTION WITH PTC THERMISTORS



KEY
MT1 = Switch protection for the motor 1
MT2 = Switch protection for the motor 2
C1 = Motor counter 1
C2 = Motor counter 2
PE = Earthing connection
Q = General switch
F = Fuses
PTC = PTC
E1-E2 = Thermistor control devices motor 1 / motor 2
STP = Shut- down button
STR = Start- up button

THE ELECTRICAL CONNECTIONS HAVE TO BE CARRIED OUT EXCLUSIVELY BY QUALIFIED PERSONEL WHEN THE MAIN SUPPLY IS DISCONNECTED.

Ensure the voltage and the frequency match the ones indicated on the identification plate of the electric vibrator.
All electric vibrators have to be connected to a suitable external overload protection.
When there are installed two electric vibrators, each of these has to be provided with external overload protection interlocked to each other to avoid the working of one motor only in case of accidental stop of the other.
Use always thermal-magnetic motor protector with delayed action to avoid that it intervenes during start-up because the current consumption could reach high levels (especially under low temperature conditions).
Overload protection BELOW 10% of the data indicated on the rating plate, under penalty of warranty decay!
All electrical components that the installer will fit on the electric vibrator (i.e. overload protections, sensors...) shall comply to:
- For the ATEX II 3D Certification : to the Directive ATEX 2014/34/UE, II 3D or more

For the equipotential connection of the electric vibrator earth the machine using the proper terminal in the box.
(Fig.7).
NOTE: Ensure the junction box cover gasket is properly positioned otherwise the IP protection degree could get affected.

2.5 - ADJUSTING THE VIBRATION INTENSITY

- Stop the motorvibrator.
- Switch off the power to the main line.
- Avoid other people from operating the vibrator.
- Remove the side cover (pos.a Fig. 1).
- Unscrew the nuts securing the masses (pos.b Fig. 1).
- Depending on whether you want to increase or decrease the intensity of the vibration, add or remove the masses (pos.c Fig. 1).
- Screw the nuts securing the masses.
- Tighten the locking nuts.
- Replace the side cover.
- Repeat the steps above until you get the desired vibrating force.
- Check the tightening torques to be used in section 3 page R.22

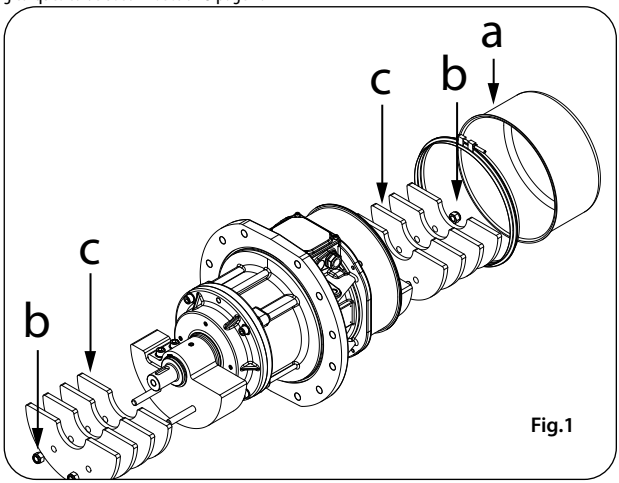


Fig.1

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2.6 - START-UP PROCEDURE

Set the electric vibrator and the devices it is connected to in safety conditions.
The operation has to be carried out exclusively by qualified personnel.
During disassembly and re-assembly operations of the guards (such as masses, covers and junction box cover), disconnect the electric vibrator form mains.

Checking of the power absorption:

- Power the electric vibrator and check using a current clamp on all phases that the power absorption doesn't exceed the value indicated on the rating plate. Otherwise check that the structure or the elastic support on which the electric vibrator was fitted complies to a proper application rules.
- Do not touch the electric vibrator during operation.
- Never start the electric vibrator up if the masses protection and junction box covers were removed.
- Check again the tightening of the fixing elements of the electric vibrator to the structure after a short working time.

2.7 - LIMITS OF USE

FOLLOW THE INDICATIONS ON THE ELECTRIC VIBRATOR PLATE.
The weighted sound pressure level of the electric vibrators doesn't NEVER exceed 76 dB(A)*.
*The measurement was carried out under normal operation conditions according to ISO 6081/86, with simulated load that consisted of an iron bench fitted on springs.
** Motovibrators equipped with bearings from NJ2320 to NJ2330 with a brass cage can be noisier.
However, the manufacturer of the machine in which the electric vibrator is to be installed is in charge with carrying out the final sound level checking on the final plant or on the equipment while the employer is in charge with measuring the sound level on the working place where the plant or equipment in which the electric vibrator was fitted. These measurements shall be carried out prior to starting-up the plant. Moreover, suitable personal protection devices and training has to be used according to legislative Decree of April 9th 2008.

BESIDES THE PREVIOUSLY INDICATED RECCOMANDATIONS, THERE HAVE TO BE FOLLOWED ALL STANDARDS IN FORCE IN THE STATE THE MACHINE IS BEING USED.
The temperature of the environment in which the machine is operating ranges between –20°C and +40°C.
The user is liable of following the standards related to working places that implies the explosion risks due to combustible dust.

- EN 60079-10-2

⚠ 2.8 - MAINTENANCE ⚠

Follow all standards regarding connections and employment of electric devices in potentially explosive atmosphere. The electric vibrators have to be handled, installed, commissioned, tested, maintained, repaired and possibly dismantled by qualified personnel only properly trained as regards the aforementioned standards. These operations shall always be carried out in atmospheres which doesn't imply an explosion risk.
Set the electric vibrator and the equipment to which it is connected in safety conditions.
THE MAINTENANCE OPERATIONS HAS TO BE CARRIED OUT EXCLUSIVELY BY QUALIFIED PERSONNEL WHEN THE MAIN SUPPLY IS DISCONNECTED.
Before any intervention ensure the temperature of the electric vibrator before doesn't exceed 55 °C.

SPECIFIC FEATURES
The machine is prearranged for equipotential connection to the earthing system.

LUBRICATION
All OLI motovibrators can be fitted with ball or roller bearings, depending on their size.
The ball bearings are shielded and pre-lubricated by the manufacturer of the bearings themselves.
The roller bearings are instead pre-lubricated by OLI with specific grease, suitable to guarantee adequate lubrication for a number of hours

that at least covers the service life of the bearing itself (specified for each model in the TAB section from page TAB.105 to TAB.110).
This is why no motovibrator requires periodic lubrication.
Vibrators with roller bearings can be recognised by the sticker placed on the exposed conductive part covers reading "DO NOT GREASE LIFETIME LUBRICATION".

Motovibrators with roller bearings are delivered with lubrication channels that can be accessed from the outside, but closed by threaded screws.
If using the "periodic relubrication" method, this must be carried out every 3000 hours of operation by inserting special M6 lubricators into the above channels instead of the screws. The amount of grease required is specified in the TAB section from page TAB.105 to TAB.110
Only use this kind of grease: ....(Please refer to the label on the motorvibrator).
Do not mix different types of grease, even if they have similar characteristics.

At the end of the service life of the OLI bearing, it is advisable to replace both the bearing and the grease.
To remove the bearings, refer to the "REPLACING THE BEARINGS" paragraph.
Only use this kind of grease: ....(Please refer to the label on the motorvibrator).
Remove spent grease from the flanges. Install the new bearing and apply the new grease in the amounts specified.
Let the grease penetrate into rolling parts, paying great attention to ensure no impurities are introduced. The presence of residues or impurities can damage the bearing while reducing its service life.

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REPLACEMENT OF THE BEARINGS

Clean the old grease on the bearings. Apply a new layer of grease as indicated on the table, try to have the grease entered the rolling parts. On re-lubricating, make sure no impurities are inserted in the bearing; the grease has to be protected.
Do not mix greases even if they have similar features. An exceeding grease quantity could overheat the bearings, thus damaging them.

THE REPLACEMENT OPERATIONS HAS TO BE CARRIED OUT ON A BENCH EXCLUSIVELY BY QUALIFIED PERSONNEL WHEN THE MAIN SUPPLY IS DISCONNECTED.

- Disconnect the electric vibrator from mains.
- Disassembly the electric vibrator and place it on a bench.
- Remove the lateral covers.
- Remove the eccentric masses.
- Remove the bearings flange support through the threaded extraction bores.
- Remove the bearing using the special extractor.
- Replace the bearing.
- Re-fit the electric vibrator.

During re-assembly, maintain the parts in orthogonal position to each other avoiding misalignments that may definitively damage the bearings and the support flanges. Check that screws, washers and gaskets are not damaged.
Otherwise replace them.

PERIODIC CHECKINGS

Set the electric vibrator and the devices to which it was connected in safety conditions before carrying out any intervention.

Before each working shift:

- On the basis of the working conditions, remove the dust layers without generating airborne clouds. The dust layer must not exceed 5 mm thickness!
- Ensure there is no abnormal noise caused by friction or breakage of the electric vibrator.

Monthly:

- Check the plate integrity, if damaged, require a new one to the Manufacturer.
- Check the pictograms integrity; if damaged, replace them.
- Check the tightening of the fixing screws of the electric vibrator.
- Check the safety chain or cable integrity.
- Have the continuity towards the earthing checked by qualified personnel.

EN

CLEANING

Ensure the machine is set in safety conditions before carrying out any maintenance or cleaning operation on it.

On removing the dust possibly present on the electric vibrator ensure no dust is dispersed in the working environment.

The dust layer must not exceed 5 mm thickness!

Clean only with a moist cloth. The frequency of the cleaning operations is directly related to the nature of the product handled and to the equipment in which the electric vibrator is installed. Do not use high pressure water jet to clean the electric vibrator.

2.9 - RESIDUAL RISKS

Depending on the electric vibrator use , the installer shall inform the operators on the residual risks by means of the following warnings:

1.Mechanical hazards

For maintenance operations, the operator must always use personal protection devices. Special warning notices near the machine indicate the personal protection devices that must be used compulsorily:

1.1 Falling or ejected objects hazards

In case the covers are opened to check the rotation direction.

1.2 Uncontrolled movement hazard

In shutting down phase.

2.Presence of potentially hazardous powders

For carrying out routine and extraordinary maintenance operations, the operators must use special personal protection devices and a mask, in particular to protect the respiratory tract belonging to a Class suitable to the type of powder handled, as well as protective gloves or clothing. For further information details, refer to the safety chart of the powder handled by the equipment in which the electric vibrator is fitted.

3. Presence of harmful dust

If the operator is required to work in the presence of harmful substances while handling the powders he must use suitable protective equipment for carrying out routine and special operations, as indicated in the safety chart of the product handled by the equipment in which the electric vibrator is fitted.

4.Hot surface

The surface temperature of the electric vibrator exceeds the burn threshold. There is a burning hazard. The external surface of the electric vibrator can't be touched during normal operation; in case of maintenance, it is necessary to wait for the temperature to lower under 55°C (130°F).

2.10 - SCRAPPING THE MACHINE

Before scrapping the electric vibrator, clean it thoroughly and dispose off the residual dust in accordance with the indications given in the material safety chart.
Dismantling operations must be carried out in an area that was classified as safe.
The operators involved in the scrapping operations must use suitable personal protection devices.
The electric vibrator must be dismantled so that it cannot be used as a complete unit, or have one or more parts reused. To dispose off the used grease from the electric vibrator, it is compulsory to follow the legislation applicable in the country of use. For scrapping the machine at the end of its life, separate the parts made of plastic (gaskets) and send these to special collection centres. The remaining parts must be sent to the scrap yard.
As regards the WEEE Directive, the electric and electronic components marked with the special symbol have to be disposed off in authorized collection centres.
The illegal disposal of "Waste Electrical and Electronic Equipment" (WEEE) shall be punished with sanctions governed by the applicable laws.

2.11 - RETURNING THE MACHINE

If the machine is to be returned, replace it in the original packing if it has been retained, or pack it in a box, protecting it as far as possible from impact during transport. However, make sure there is no material residue inside the machine.

2.12 - DECLARATION OF CONFORMITY

The machine is accompanied by a declaration of conformity to applicable directives, but, if integrated in a more complex plant, then the installer is liable for following all the applicable directives. All improper use of the electric vibrator without following the indications in this Manual will free Oli® of all responsibility concerning poor working of the electric vibrator.
Since this is a constantly evolving matter as regards technology and standards, Oli® reserves the right to update its products whenever possible with all the technological know-how and official standards applicable (EN, UNI) available.

N.B. With reference to the "MACHINE DIRECTIVE 2006/42/CE" the declaration given below is to be understood as: "declaration of incorporation" in accordance with art 4.2 para. 1 and Attachment II.B.

EN

WOLONG 卧龙 **OLI WOLONG**

Shangyu City, Zhejiang Province, PRC

Declares that

the range of external electric motovibrators:

MVE	_ _ _ _ _	_ _ _	_	_ _ _	_ _ _ _ _

- **-80ZZ**= Size and fixing holes
- **FD** = Serie motorvibrator
- **N** = Certification
- **1** =1 000 rpm max
  075 =7 50 rpm max
- For the U.S. market
  - **6** = 6 poles (1200 rpm)
  - **8** = 8 poles (900 rpm)
- FC max from 2531 to 25879 kg. For the U.S. market from 5581 to 57065 Lb (Three phase motors)
- Internal code: Electric vibrator

Serial Number:

YY	X	.....

- Progressive n° (1...999999).
- Inspection line (A...Z)
- Year (2012, ...)

Serial Number: Refer to the last page of this manual

Complies to the following directive listed on the following declaration.

DECLARATION OF INCORPORATION

In accordance with machinery directive 2006/42/EC, the above-mentioned range of external motovibrators are identified as 'PARTLY-COMPLETED MACHINERY'.

"B" Type:

- **These products are built in accordance with directive 2006/42/EC and SUBSEQUENT AMENDMENTS.**
- **These products must not be put into service until the final machine in which they are to be incorporated has been declared compliant with the provisions of this Directive as required.**
- **The protection requirements of directive 2014/35/ EU have been met with reference to appendix I No 1.5.1 of machinery directive 2006/42/EC**

In accordance with annex IIB of machinery directive 2006/42/EC, the following essential safety and health requirements are applied and complied with:

1.1.1. - 1.1.2. - 1.1.3. - 1.1.5. - 1.3.1. - 1.3.2. - 1.3.3. - 1.3.4. - 1.3.7. - 1.3.8. - 1.3.9. - 1.4.1. - 1.5.1. - 1.5.2. - 1.5.4. - 1.5.5. - 1.5.6. - 1.5.7 - 1.5.8. - 1.6.1. - 1.6.4. - 1.7.1. - 1.7.2. - 1.7.3. - 1.7.4. - 1.7.4.1. - 1.7.4.2. - 1.7.4.3.

The relevant technical documentation has been filled out in accordance with annex VII B. OLI Wolong undertakes to send by mail or e-mail, in response to a reasoned request by the national authorities, relevant information on the products covered by this declaration, without prejudice to the intellectual property rights of the manufacturer. The information will be transmitted directly to the national authority that requested it. The technical documentation is held by OLI Wolong Shangyu City, Zhejiang Province, PRC

Shangyu City 04/03/2020

Jiang Jianhua
(the Legal Reppresentative)

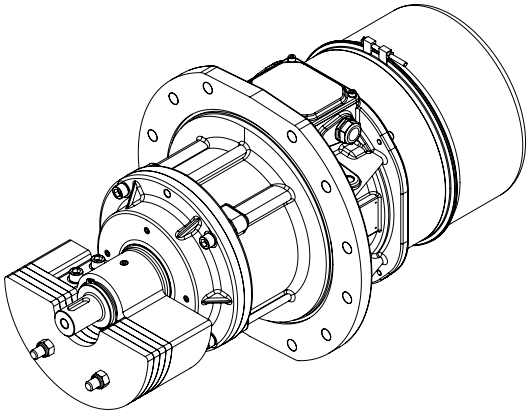
Jiang Jianhua

a WOLONG company

DRAWING AND TABLES

3

EN



MVE-FD

CODE: **886060135700** | REV:**00** | DATE:**10/2023**

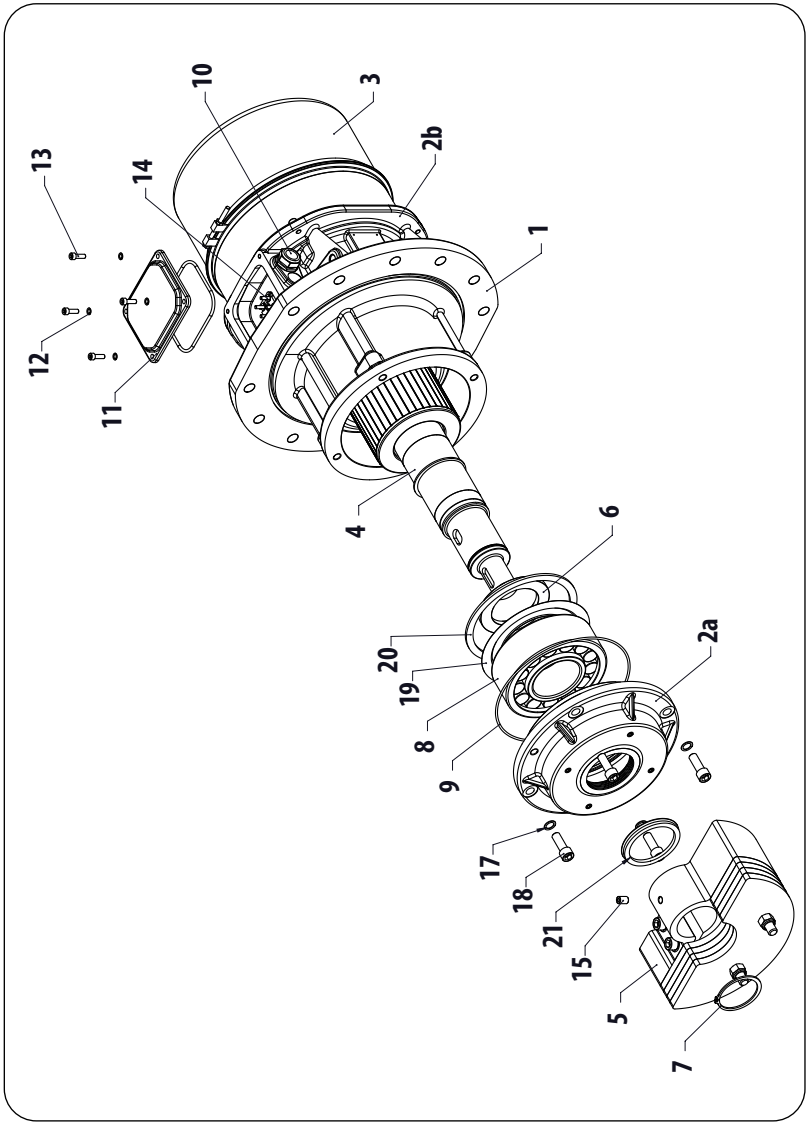
MVE-FD

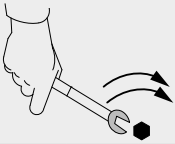
On requiring the spare parts, please indicate:
- Type of electric vibrator
- Electric vibrator serial number
- Supply voltage
- Description of the spare part and its item number in the drawing.

All operations on the electric vibrator must be carried out by specialized personnel equipped with special PPD, after setting the machine in safety condition.

Item	DESCRIPTION
1	Motor frame
2	Bearing holder flange
2a	Bearing holder flange RH
2b	Bearing holder flange LH
3	Masses cover
4	Rotor-shaft
5	Mass
6	Bearing spacer
7	Seeger
8	Bearing
9	O-ring flange
10	Cable gland
11	Junction box cover
12	Screw washer for cover
13	Cover screw
14	Terminal plate
15	Grub screw
16	Identification plate
17	Whasher screw flange
18	Screw Flange
19	Sealing ring
20	Seeger sealing ring
21	V ring

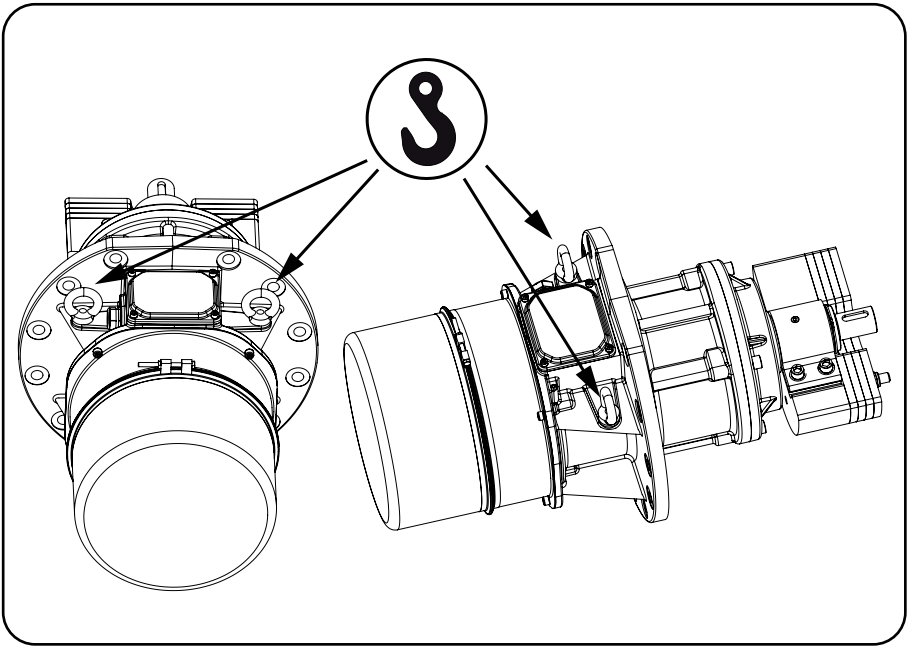
MVE-FD

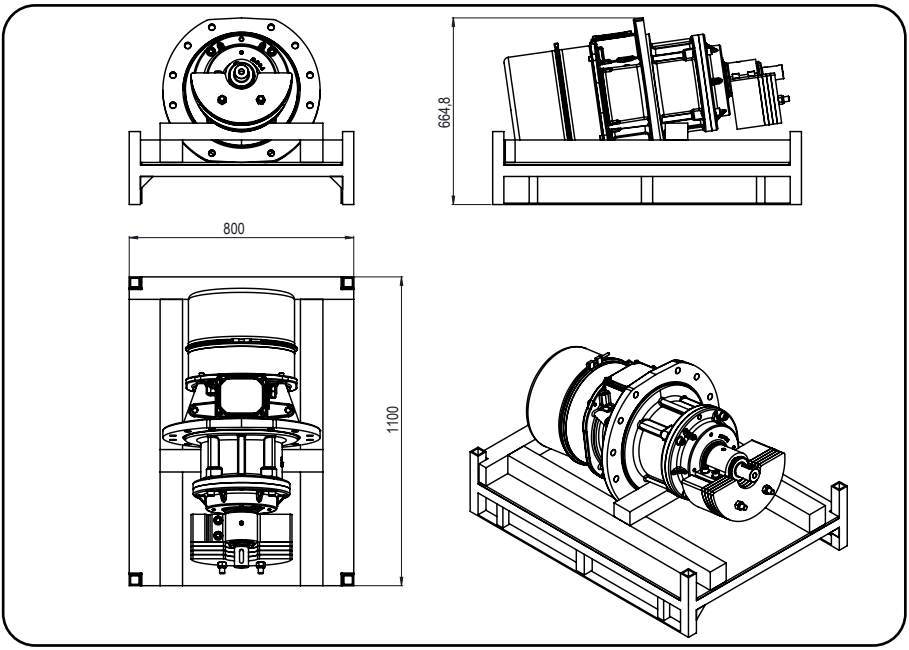




	Size 80-110				MASS MASSE MASEN MASSES	
	COVER - FLANGE COP.-FLANGIA FLAN.-ABDECKUNG FLANSHE - COP.		FLANGE -FRAME FLANGIA-CORPO FLANSCHE-RAHMEN CADRE - FLANCHE			
	Nm	Ft -Lb	Nm	Ft -Lb	Nm	Ft -Lb
M3						
M5						
M6	10	7.4				
M8	25	18.4				
M10						
M12			89	66	89	66
M16			215	159	215	159
M20			415	306	415	306

Type	Force: 100%		Force: 95%		Force: 85%		Force: 70%		Force: 50%	
	Force kg	Theory lifetime /h	Force kg	Theory lifetime /h	Force kg	Theory lifetime /h	Force kg	Theory lifetime /h	Force kg	Theory lifetime /h
MVE3700/1N-FD-80AX A	3577	71128	3398	>30000	3040	>100000	2504	>100000	1789	>100000
MVE4400/1N-FD-80AX A	4296	38627	4081	>30000	3652	66398	3007	>100000	2148	>100000
MVE4400/1N-FD-80AX A	4296	>100000	4081	>30000	3652	>100000	3007	>100000	2148	>100000
MVE4500/1N-FD-80AX A	4500	33092	4275	>30000	3825	56885	3150	>100000	2250	>100000
MVE4500/1N-FD-80AX A	4500	91582	4275	>30000	3825	>100000	3150	>100000	2250	>100000
MVE5000/1N-FD-80AX A	4893	69279	4648	>30000	4159	>100000	3425	>100000	2447	>100000
MVE5500/1N-FD-80AX A	5360	51125	5092	>30000	4556	87883	3752	>100000	2680	>100000
MVE7500/1N-FD-80AX A	7692	15336	7307	18196	6538	26363	5384	50357	3846	>100000
MVE8500/1N-FD-90BP A	8480	20197	8056	23963	7208	34719	5936	66318	4240	>100000
MVE10500/1N-FD-91BP A	10446	36615	9924	>30000	8879	62940	7312	>100000	5223	>100000
MVE12500/1N-FD-91BP A	12391	20724	11771	24588	10532	35624	8674	68047	6196	>100000
MVE10000/1N-FD-91BP B	9986	42545	9487	>30000	8488	73134	6990	>100000	4993	>100000
MVE13000/1N-FD-91BP B	13009	17620	12359	20906	11058	30289	9106	57856	6505	>100000
MVE15000/1N-FD-105 B	14706	19435	13971	23058	12500	33408	10294	63814	7353	>100000
MVE17500/1N-FD-105 B	17980	9945	17081	11799	15283	17095	12586	32654	8990	>100000
MVE19500/1N-FD-105 B	20285	6652	19271	7893	17242	11435	14200	21843	10143	67051
MVE22000/1N-FD-110 B	22711	7772	21575	9221	19304	13360	15898	25519	11356	78335
MVE25000/1N-FD-110 B	25532	12989	24255	15411	21702	22327	17872	42648	12766	>100000
MVE2600/075N-FD-80AX A	2531	>100000	2404	>30000	2151	>100000	1772	>100000	1266	>100000
MVE3000/075N-FD-80AX A	3015	>100000	2864	>30000	2563	>100000	2111	>100000	1508	>100000
MVE6000/075N-FD-90BP A	6071	82038	5767	>30000	5160	>100000	4250	>100000	3036	>100000
MVE7000/075N-FD-91BP A	6970	>100000	6622	>30000	5925	>100000	4879	>100000	3485	>100000
MVE10001/075N-FD-91BP A	10524	47624	9998	>30000	8945	81865	7367	>100000	5262	>100000
MVE14000/075N-FD-105 B	11661	56153	11078	>30000	9912	96526	8163	>100000	5831	>100000
MVE13501/075N-FD-105 B	13822	31861	13131	>30000	11749	54768	9675	>100000	6911	>100000
MVE16001/075N-FD-105 A	16382	18083	15563	21455	13925	31084	11467	59376	8191	>100000
MVE18001/075N-FD-105 A	18527	11999	17601	14236	15748	20626	12969	39399	9264	>100000
MVE22000/075N-FD-110 B	18395	18998	17475	22540	15636	35963	12877	68695	9198	>100000
MVE20001/075N-FD-110 B	20824	13837	19783	16417	17700	23785	14577	45433	10412	>100000

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800
1100

PROBLEM	PROBABLE CAUSE	REMEDY
The vibrator does not function	1) No connection	1) - Check mains supply - Ensure the voltage supply matches the one indicated on the rating plate - Follow the connection drawings. - Always use the ring terminals. - Always use overload protections of delay action-type to avoid it enables during start-up. - The overload protection cannot exceed the 10% of the power maximum value indicated on the plate. - Always connect the earthing as indicated on the Manual. - It is allowed using an inverter; the frequency adjustment of 20Hz is the one indicated on the plate.
	2) Wrong cable connections	2) - Check that the cross-section of the cables is suitable on the basis of its length. - Do not use extensions. - Check the external ø of the power supply cable to ensure a perfect retaining of the cable gland. - Follow the connection drawings.
	3) Mechanical block	3) - Check the shaft movement.
Temperature increase (overheating)	1) Vibrating structure oversized	1) - Check selection criteria of the electric vibrator and reduce masses adjustment - During empty run testing of the vibrating machines, check that the structure doesn't resonate: this phenomenon could increase the power absorption and lead to the burning of the motor.
	2) Incorrect supply voltage	2) - Compare voltage and rating plate data.
	3) Operating at room temp.	3) - Restore the room temperature under limits.
Noise increase	1) The fixing screws are slacken	1) - Use screws and washers as indicated on the Use and Mainetance Manual. - Tighten the screw with the proper tightening torque using a torque wrench as indicated in the Manual.
	2) Bearing noise	2) - Lubricated again and possibly replace the bearing. - Use only the lubricant indicated on the Manual.

序列号

Serial Number

a WOLONG company

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