

Installation and Operating Instructions

Magnetic Vibrator MR 1

(Translation of the Original Instruction Manual)



würges		Germany
Typ	MR-1	0 1111111111
Vorr	250-400 Ampere	0 54 0 3 P
min	8000	1 14 Hz 30
max	100 KVA	1 20 1 2 P 20 1 2 P
CE	100 KVA	1 20 1 2 P 20 1 2 P
10	1000000	Made in Germany 2013

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1. General Information

Würges magnetic vibrators are designed and built to state-of-the-art standards and operate safely if used as intended.

They conform to the EC Machinery Directive 2006/42/EC, the Electromagnetic Compatibility Directive 2004/108/EC and the Low-Voltage Directive 2006/95/EC.

The Operating Instructions have to be read and understood by every person at the user's company who is assigned with assembly, setting up, start up, the maintenance and repair of vibration motors. This also applies for additional instructions in case of modified devices.



The instruction manual must be read carefully and in full before using the vibrator motors.

2. Symbols Used

The following information and hazard symbols are used in these installation and operating instructions:



ATTENTION

Important information regarding operations or procedures to which particular attention is to be paid.



EXPLOSION HAZARD

Refers to the possibility of fatal, severe or irreversible injuries caused by use of the product in an explosive atmosphere.



HAZARD

Refers to the possibility of fatal, severe or irreversible injuries caused by live parts.



WARNING

Refers to the possibility of fatal, severe or irreversible injuries caused by general hazards.



HOT SURFACE

Refers to the possibility of severe or irreversible injuries caused by touching hot surfaces.



DISCONNECT
MOTOR FROM MAINS

Refers to the fact that the motor must be disconnected from the electricity mains and secured against being switched back on again before any work is carried out on the motor.



ENVIRONMENTALLY
COMPATIBLE DISPOSAL

Refers to the obligation to ensure environmentally compatible disposal.

3. Safety

3.1. Intended use

Electric vibrators are not independently functioning machines. They are used as the drives of vibrating machines such as vibratory conveyor troughs, conveyor pipes, screening machines, grading/sorting machines and knock-out grids.

These machines use vibrations to screen, convey, remove, compact and sort or grade. Any other use is deemed to be not as intended or misuse.

Electric vibrators are designed to generate forces that can be destructive.

The vibrating machine must be designed for the forces generated by the electric vibrators.

The operator shall bear responsibility for the operation of vibration motors in explosion hazardous areas.

3.2. Skilled personnel qualifications

The installation/assembly, startup and maintenance may only be carried out by authorised and qualified skilled personnel.

3.3. General safety instructions



Magnetic vibrators generate vibrations. The owner of vibration machines must protect their employees against actual or possible risks to their health and safety caused by the effect of vibrations.



Würges Vibrationstechnik GmbH refuses to accept the responsibility for any damage to property or personal injuries if technical changes have been made to the product or the instructions and regulations in this instruction manual have not been noted and followed.



Live parts can cause severe or fatal injuries.



Electric vibrators must be safely disconnected from the electricity mains before any work is carried out on them. The required procedure is as follows:



1. Switch off vibrator motor
2. Secure against being switched back on again
3. Test for safe disconnection from the power supply



4. Allow the vibrator motor to cool

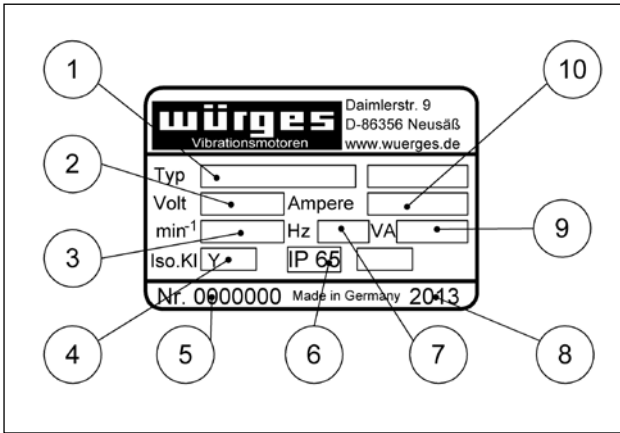


Do not touch the vibrator motors while they are running or soon after switching them off. The surface temperature of the vibrator motors can reach such high values during operation that there is a risk of burns.



MR 1 series magnetic vibrator motors may not be used in hazardous areas (potentially explosive atmospheres).

4. Technical Data



1. Type designation
2. Mains voltage
3. Speed
4. Thermal insulation class Y (80°C)
5. Serial number
6. IP protection
7. Mains frequency
8. Year built
9. Power input
10. Nominal current

Please see our catalogue for additional technical data.

5. Transport and Storage

When they are delivered the vibrators must be checked for visible transport damage!



If the vibrator is visibly damaged it must not be started up. The vibrator must be examined and if necessary returned to the manufacturer for repair.

Until they are installed the magnetic vibrators should be stored in enclosed, dry rooms at a max. ambient temperature of 40° C.

Vibrators must always be stood on their bases or footings! Do not stack vibrator motors!



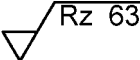
Do not lift up the vibrator by its installed connection cable.

Note and follow the local accident prevention regulations.

6. Installation and Startup

6.1. Assembly/Installation

Magnetic vibrators can be installed in any installation position. Vibrators may only be built on to machines with flat, oil, grease and paint-free and flexurally rigid mounting surfaces.

Surface quality: 

Only bolts in quality class 8.8 > EN ISO 4014 (DIN 931); EN ISO 4017 (DIN 933) and nuts in quality class 6 > 8.8 EN ISO 4032 (DIN934) may be used.

The bolts must be secured against mechanical loosening by means of spring lock washers DIN 127 Form A, DIN 7980 or Schnorr washers



The fixing bolts must be checked for secure fit after approx. two operating hours and if necessary retightened. Other checks should be carried out daily!

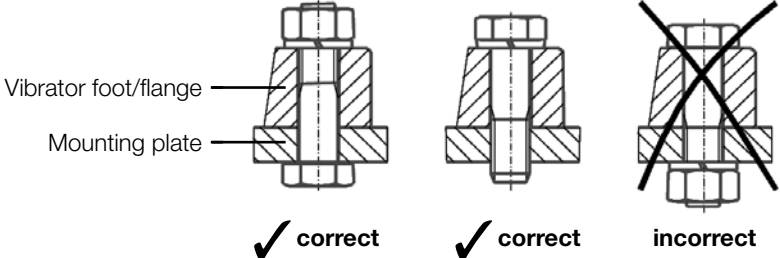


Improper fixing results in the breakage of the feet of the magnetic vibrator.

Minimum tightening torque

M 8

 30 Nm



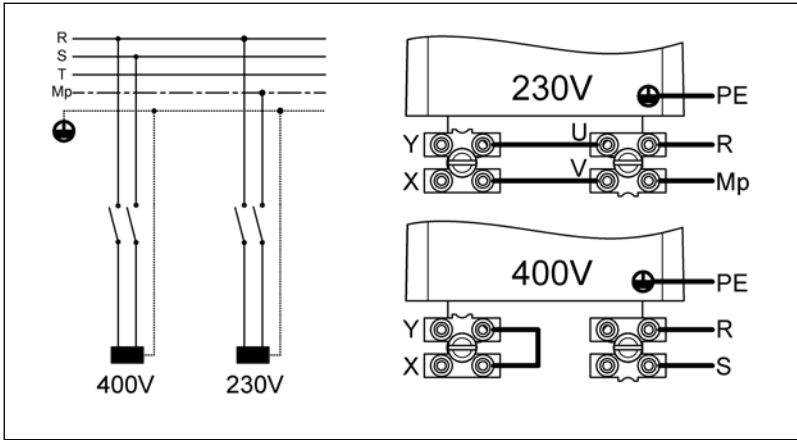
6.2. Electrical connection/Cable connection



Electric vibrators must be safely disconnected from the electricity mains before work is carried out on them. The required procedure is as follows:



1. Switch off vibrator motor and secure against being switched back on again
2. Check for safe isolation from supply
3. Allow the motor to cool



The electrical connection may only be made by a qualified electrician or person who has received the necessary electrical instruction in accordance with EN-60204-1.

The mains voltage and frequency must correspond to the nameplate data. The motor must

only be connected to an electricity system that conforms to the VDE provisions.

Each motor must have its own upstream motor protection device as protection against possible overload; the nominal current of this protective device must be set according to the nameplate data.

Use only a flexible cable for connection.
We recommend the following cable type:

H 07 RN-F 3G1,5

Plastic cable is unsuitable.

Fit cable end sleeves onto cable ends. In no case solder on since the stranded wires might break near the solder joint.

Insert cable into the vibrator and connect it acc. to the circuit diagram above. (See page 10).

When tightening the union nut screw connection make sure that the cable sheath still is fully covered by the seal. If this is not followed, the cable is not clamped in place, not strain relieved and not waterproof.

Carefully close the vibrator with seal and screw lock.

The motor connection line has to be securely fastened approx. 0.5m after leaving the motor. The first line attachment point and the motor shall not be moveable against each other. The connecting cable has to be laid in such a way that natural vibrations are being avoided and there will be no tensile load.

Check the current input when the motor is operated for the first time. It should be greater than the value stated on the type plate, remedy the situation by decreasing the centrifugal force (see Chapter 7).

Check the line for chafe marks from time to time and eliminate the cause for this where applicable.

6.3. Intensity setting

The vibration effect with magnetic vibrators depends on the payload and the adjusted air gap between magnet (Pos. 10) and rotor (Pos. 3).

Stronger effect calls for a smaller air gap and vice versa. With the protective hood removed, the air gap is adjusted using pluggable brass spacer plates (Pos. 14 and 15). With both nuts (Pos. 7) unscrewed, the air gap can be change can be changed by removing or adding spacer plates between rubber pad (Pos. 13) and rotor (Pos. 3). Both sides need to be adjusted equally.

The required spacer plates are stocked between the ballast discs (Pos. 11).



Noise generated by wrong adjustment.

The rotor thuds onto the magnet with too small air gap causing a loud rattling noise. This is impermissible and has to be stopped by widening the air gap.

7. Maintenance and Repair

Maintenance is not necessary since there are no wear parts.

8. Spare Parts

State the following when ordering spare parts:

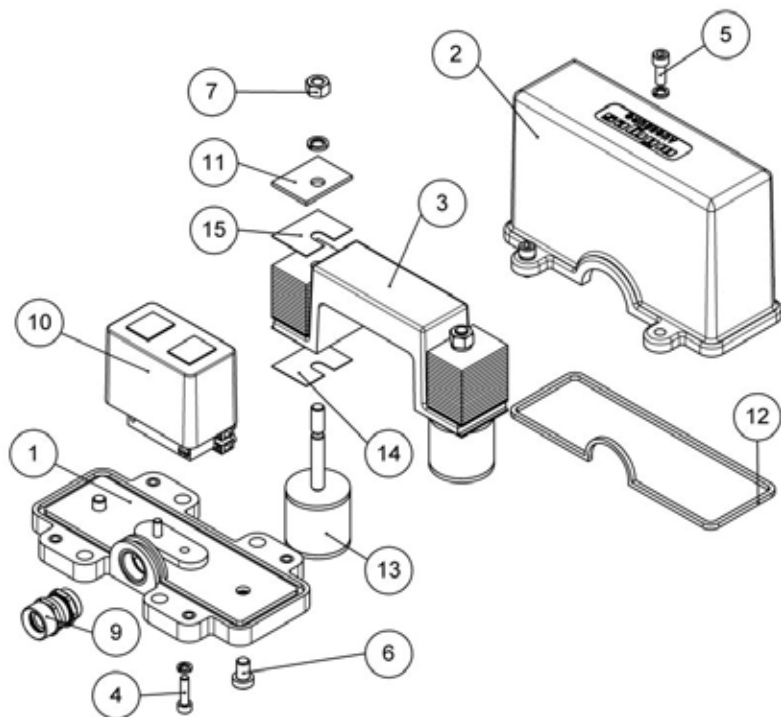
- Motor number
- Device type
- Description, position and part order number
- Required quantity

See exploded drawing on page 15 for further information.

We only assume warranty for original spare parts supplied by us.

We expressly point out that original spare parts and accessories that were not supplied by us have not been tested and released by us. Therefore, installation and/or deployment of such products may possibly change given design characteristics to produce negative effects thus posing an active and/or passive risk to safety.

Würges excludes any liability and warranty in cases where damage arises by using non-original spare parts and accessories.



Spare parts list MR 1

No.	Order No.	Pieces
1	05501	1
2	05601	1
3	05701	1
4	21601	2
5	22301	4
6	22501	2
7	28201	2
9	29491	1

No.	Order No.	Pieces
10	62101	1
11	75351	32
12	75831	1
13	76201	2
14	76501	0,5 mm ~ 8
15	76511	0,2 mm ~ 8

9. Disposal/Recycling

Packaging material and motor parts have to be disposed of in an environmentally compatible manner.

Steel:

Weights, screws, nuts

Aluminium:

Base plate, protective hood, rotor

PE:

Seals

Copper and synthetic resin:

Magnet



**We take back equipment for professional disposal!
Delivery must be carriage free.**

10. Warranty

Würges provides warranty for 1 year, beginning with delivery, for all new vibrating motors.

Warranty expires when:

- the motor is connected wrong, or connected with wrong voltage,
- the motor fails because of missing or wrong electric protection,
- there were changes made to the motor,
- the motor was damaged during transport,
- the motor was not installed as shown in chapter 6,
- the motor was connected with wrong cable,
- there is misuse/not intended use,
- the instructions of the manual are not followed.

Declaration of Incorporation

for partly completed machines

EC Directive 2006/42/EC, Annex II 1 B

Würges Vibrationstechnik GmbH hereby declares

that the

magnetic vibrators of the **MR 1** series

meet the following basic requirements of the a/m Directive:

- EG Directive 2006/42/EG, Annex I, Section 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.4, 1.3.7 und 1.5.1.
- Name of the authorised documentation representative: Philipp Würges
Address of the authorized documentation representative: See manufacturer's address
- The technical documentation acc. to Annex VII B have been prepared.
- Conformity to the provisions of following further Directives is given:
Directive 2014/35/EU (low voltage)
Directive 2014/30/EU (EMC)
- Following harmonised standards were applied:
EN ISO 12100 / 2011
EN 60034-1 / 2015
EN 61000-6-2 / 2011
EN 61000-6-4 / 2011
- The manufacturer is obliged to providing the special documentation for partly completed machines to the competent national authority concerned on request.
- Commissioning is prohibited until it has been determined that the machine(s) stated overleaf into which the incomplete machine(s) will be installed conform to the provisions of the Machine Directive.

Neusäß, den 20/04/2016



Dipl.-Ing.(FH)
Philipp Würges
General Manager

Notes

Notes

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