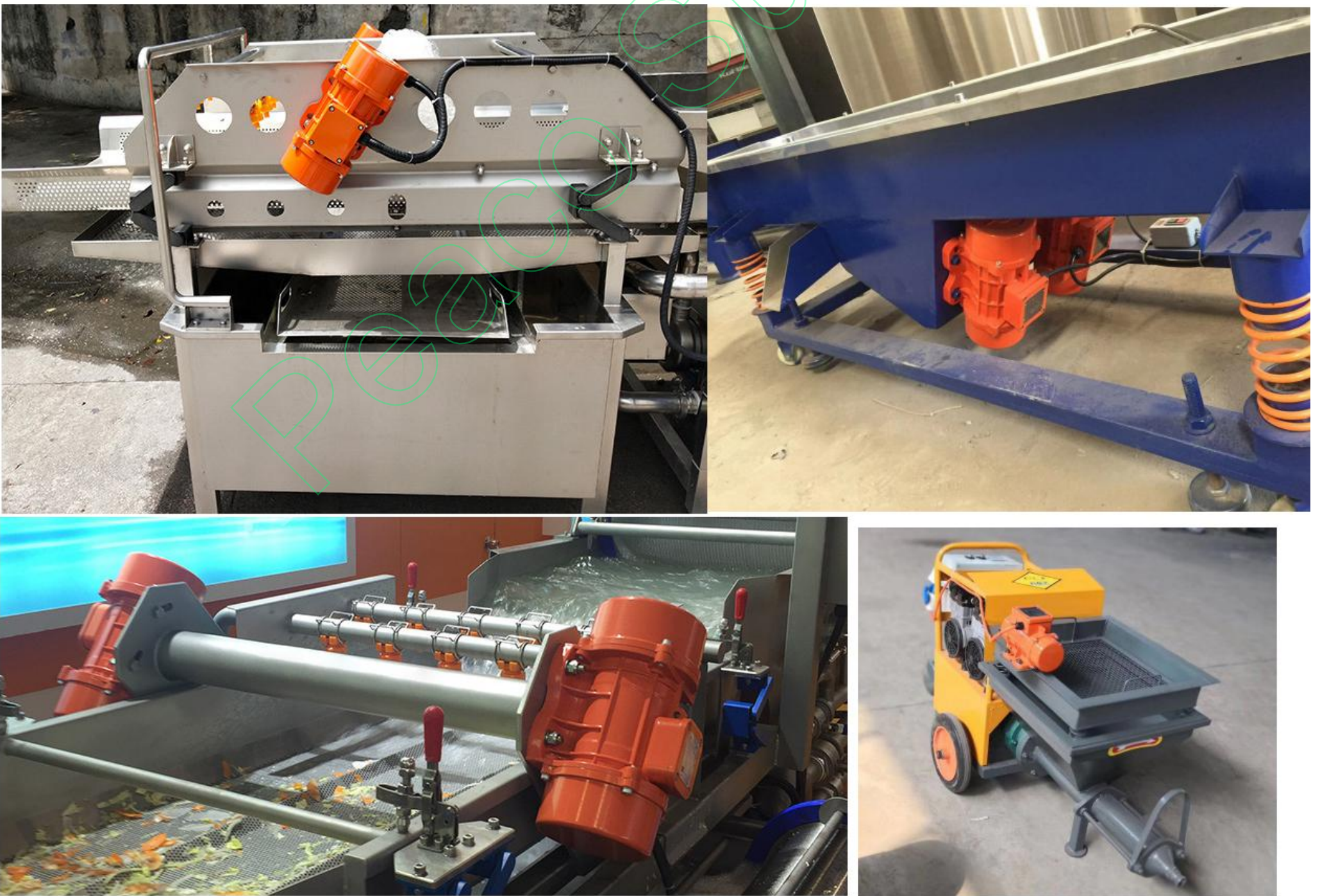


# Vibration Motors User Manual



## Vibration Motors Applications



## ◆ For Customers

Respected users,

Thank you for choosing our products. Before you use this product, please read the instructions carefully and operate strictly according to the instructions.

If there are any other questions or special requirements, please feel free to contact Peaco Support in time and we will reply you as soon as possible.

## ◆ Model Description

\* Peaco Support AC vibration motor products are indicated by the following symbols:

$$\frac{\text{PUTA}}{1} \quad \frac{50}{2} \quad / \quad \frac{3}{3}$$

1---indicates the motor type 2---indicates motor power 3---indicates the number of motor phases: number 3 indicates that the motor is a 3-phase motor and number 1 indicates that the motor is a single-phase motor.

\* Peaco Support low-voltage DC vibration motors are indicated by the following symbols:

$$\frac{\text{PUTA}}{1} \quad \frac{40}{2} \quad \frac{\text{DCB}}{3} \quad / \quad \frac{24}{4} \quad - \quad \frac{12}{5} \quad \frac{(\text{A})}{6}$$

1---indicates the motor type 2---indicates motor power 3---DCB is represented by the brushless DC motor. 4---indicates the input voltage 5---indicates the motor base number 6---indicates that the motor side cover is a short side cover and the conventional side cover is not marked.

## ◆ Operating Conditions of Vibratory Motors

1. The ambient temperature varies with the seasons, but generally it should not exceed -20°C to 40°C.
2. Elevation: not more than 1,000 m.
3. Frequency: 50Hz/60Hz (Note that the data of the nameplate should correspond to the power supply).
4. Insulation grade: Main body F grade.
5. Protection level: IP65.
6. Operation method: S1 connection.

## ◆ Storage and Transportation

1. The vibration motors produced by Peaco Support are packed in plastic bags and cartons. It is suggested that users should not open the packaging during storage to ensure dry and ventilated storage environment and avoid rapid changes in environmental temperature.
2. During storage and transportation, the vibration motor cannot be inverted.
3. It is not allowed to move and carry the vibration motor by means of power cord, which will damage the internal structure of the motor and cause short circuit or open circuit of the vibration motor.

**Notes:** The damage caused by vibration motor in the transportation process should be confirmed with the transportation company in time and the information will be returned to our company, so that our company can negotiate with the transportation company.

## ◆ Installation of Vibration Motor

**Warning!** Before installing the vibration motor, cut off and lock all energy supply to the equipment and give warning signs.

1. Before installation, check whether there is any damage or moisture in transportation and whether there is any loosening of fasteners.
2. Check whether the nameplate data meets the requirements, in the absence of special requirements from users, the eccentric block position of the vibration motor produced by Peaco Support is at the maximum exciting force position indicated by the nameplate.
3. The installation surface of the vibration motor must be firm and flat. The flatness of the installation surface should be less than 0.08 mm (so that the internal stress of the vibration motor shell can be minimized when tightening the installation bolts) and the flat plate should not have pores or cracks. The installation surface should not be less than the foot surface of the vibration motor. Welding in the installation surface area should be avoided, otherwise the flatness of the vibration installation surface will be affected.
4. Be sure that the installation surface is free of paint and debris and that the bottom foot of the vibration motor is clean.

**Be careful!** When the vibrating motor has been installed and wired, do not weld on the mounting plate. Welding may cause damage to the vibrating motor winding and bearings.

5. The four base bolts of the vibration motor shall be selected according to the corresponding high strength bolts of not less than Grade 8.8 according to the aperture and shall be reliable and strong with a wrench and adopt anti-loosing measures and shall not be loosened in any way. They shall be tightened with a flat pad and double nuts and anti-loosing. If not tightened as required, the vibration motor may be damaged. Before installing the vibration motor on the mounting plate, all bolts shall be coated with thread glue.

## ◆ Wiring of Vibrating Motor

### Be careful!

Before connecting the power cord to the vibrating motor, make sure that the voltage rating of the power cord is equal to or greater than the voltage of the vibrating motor you are operating. The minimum temperature rating is 105°C. If the diameter of the power cord is not selected properly, the cable connector will not be clamped in place, the vibrating motor will be damaged due to moisture or due to accumulation of material in the junction box and if the power cord is damaged, it will cause a short circuit to the power or ground, which will cause damage to the vibrating motor.

1. Please connect the wire strictly according to the drawing, pay attention to the yellow and green double color wire in the power cord should be reliably grounded, in order to prevent the wiring error from causing personal safety and motor damage and the grounding wire should always be longer than the other three wires, so as to ensure that the line finally breaks when the lead wire breaks.

2. Check whether the voltage is correct and stable, whether the power cord is properly fixed and the wire cannot be cut without authorization.

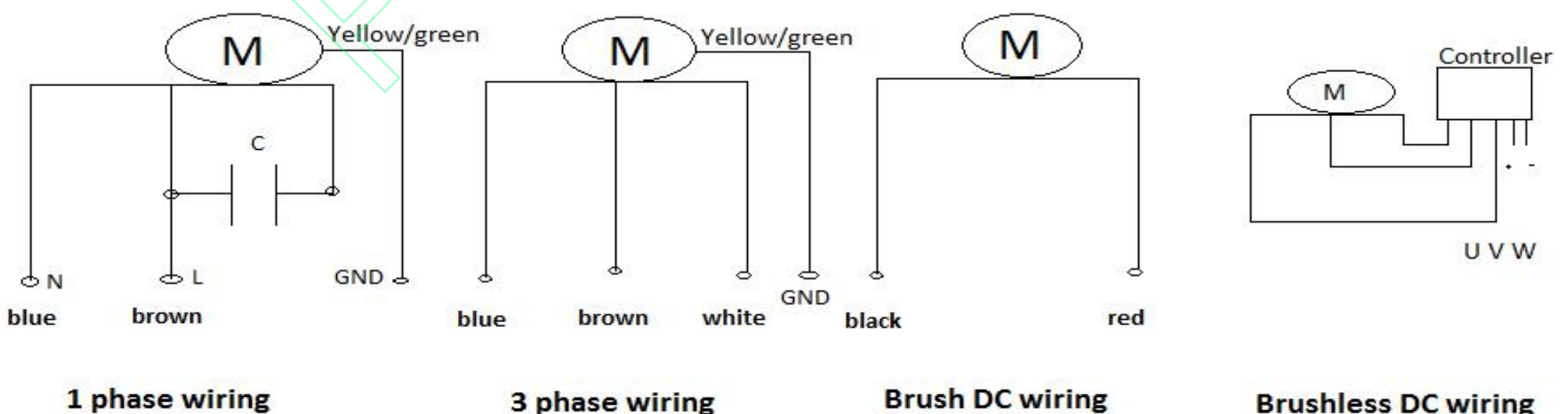
3. Check whether the screw is locked correctly. When using the motor, connect the circuit correctly according to the instructions, and do not soak in water (liquid medicine) to avoid leakage or burning of the motor, and the actual use voltage should not exceed 10% of the rated voltage, so as to avoid excessive current and burning.

4. Single-phase motor wiring mode: brown, blue, white, yellow and green dual. Brown, blue for the power cord, yellow and green dual ground wire. It is recommended to use brown wire, blue to zero line can reduce the vibration of the motor induced voltage, white line is brown running capacitor combination line (If users want to change the motor steering, just put the motor installation direction opposite).

5. Three-phase motor wiring mode: brown, blue, white, yellow and green. Brown, blue, white are for the power cord, yellow and green are for the ground wire. (If users want to change the motor steering, brown, blue, white wiring can be done for arbitrary exchange.)

6. DC brushless motor wiring: black, red power cord. (If users want to change the motor steering, black, red wiring can just be done for arbitrary exchange.)

7. DC brushless motor wiring mode: brown, blue, white for the motor power line are connected to the controller U, V, W ports, the controller positive and negative electrodes and DC power supply positive and negative electrodes connect correspondingly. Note: positive and negative electrodes connection cannot be reversed, otherwise it may burn the controller.



**Notes:** In the vibration motor wiring, the power cord should maintain a certain state of relaxation. In this way, in the vibration process of vibration motor, the power cord will not be too tense, resulting in wiring internal stress. When used in a humid environment, users should make the power cord to maintain a sufficient state of relaxation to prevent condensate following along the power line to vibration motor.

## ◆ Inspection of Shaft Rotation

1. Open the end cover of the vibration motor and pay attention to the protection of the O-shaped sealing ring. Be careful! Try not to remove the eccentric block. If necessary, when the eccentric block is removed, do not to make the vibration motor operate. The vibration motor operation may cause bearing damage when users operate the motor after eccentric block is removed.

### Warning!

Do not touch the rotary part with your hand when checking the rotation of the shaft under the condition of removing the end cover, otherwise you may cause finger injury.

2. Start the vibration motor for 1 second and then stop.

3. Observe the direction of the vibration motor rotation. If the direction is not correct, users should cut off and lock the power supply or give a warning sign and then change the motor direction.

## ◆ Adjustment of the Eccentric Block of the Vibration Motor (the eccentric block is set to 100% when manufacturing.)

1. Open the side covers on both sides of the motor with a hexagonal wrench.

2. Loosen the eccentric block fixing nuts on both sides of the motor by using an open wrench or a movable wrench.

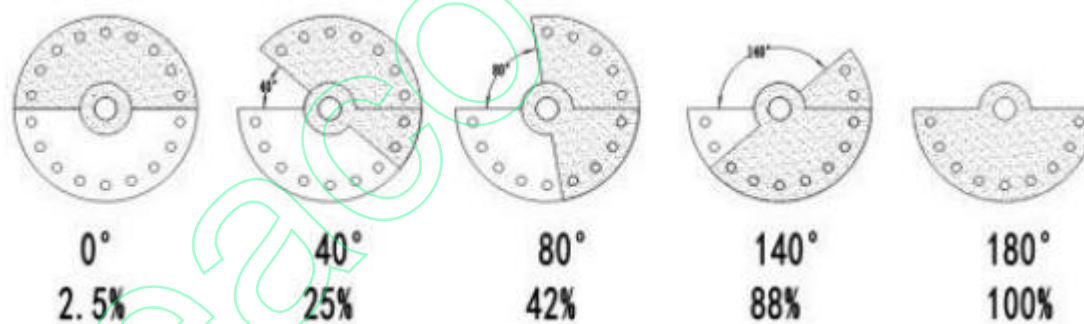
3. Adjust angle according to actual demands.

4. The greater the opening angle of the eccentric block is, the greater the vibration force is. (The vibration force reaches maximum value when the eccentric block overlaps, while the minimum vibration force comes when the eccentric block is in a circle.)

### Notes:

\*The angle and angle position of the eccentric blocks on both sides need to be consistent, otherwise it will cause vibration imbalance and damage the motor bearings.

\*After the adjustment is completed, be sure to install the protective cover on both sides back to the original position and lock the screws tightly to for safety.



Angle and Centrifugal Force & Eccentric Block Angle

### Notes:

After the eccentric block is tightened, in order to avoid the rotor not rotating flexibly and burning the motor, it is recommended to use copper bars (that is, soft metal bars) or wooden hammers to gently knock the rotor shaft end to make it rotate flexibly.

### Notes:

When adjusting the exciting force, users should ensure that the adjustment angle and direction of the eccentric blocks on both sides of the vibration motor are the same, that is, the eccentric blocks on both sides should be adjusted at the same set value, otherwise the exciting force will be uneven, which will greatly affect the service life and vibration effect of the vibration motor and cause damage to the vibration motor. Inspect the line current for the first start of the motor.

1. Turn on the power switch and make the motor run for 10 to 20 minutes.

2. If the vibration motor has abnormal sound or excessive noise, make sure that the installation bolts have been tightened with the installation parts. There is no damage to the welding.

Warning! The vibration motor installed on the structure will produce loud noise during operation.

3. Check the vibration and noise level of the motor in the course of operation.

### Be careful!

The operating current of the vibrating motor shall not exceed 10% of the rated value indicated on the nameplate. If the line current of the vibrating motor exceeds 10% of the rated value indicated on the nameplate during continuous operation, it may cause damage to the vibrating motor.

4. After several hours of operation, check the line current for each wire connection. If the reading exceeds 10% of the rating given on the nameplate, reduce the offset weight setting, tighten the mounting further or move the vibrating motor to a more rigid position. After adjustment, check the line current again to ensure that it does not exceed 10% of the rating given on the nameplate.

**Be careful!**

Do not use the vibrating motor beyond the frequency range specified on the nameplate, otherwise it may cause damage to the vibrating motor. Make sure that the line current does not exceed 10% of the rated value specified on the nameplate throughout the frequency range.

5. After the first 8 hours of use, check the tightening torque of the installation bolts regularly and tighten them if necessary.

**◆ Vibration Motor Maintenance**

1. The small power vibration motors adopt the special bearings of international well-known brand vibration sources, which have been injected with special lubricating grease and work normally for 5000 hours without maintenance.

**Be careful!**

Do not attempt to repair the vibrating motor or replace the bearings without authorization. If you do so within the warranty period, the warranty conditions will be invalid.

2. The protection grade of PUTA series motor shell is IP65, as long as the user does not destroy the sealing device when wiring or adjusting the eccentric block, no impurities will enter. The dust on the surface of the vibration motor should be cleaned in time to facilitate the heat dissipation of the vibration motor surface.

3. In the first month of installation and operation of vibration motor, the user shall tighten the bottom foot installation bolts with arm lengthening wrench at least twice and inspect them at least once a month thereafter.

4. The outer shell color of the vibration motor is an international safety warning color. Users are advised not to use other colors to cover it. If customers need, it can be modified separately.

**◆ Inspection of Vibrating Motor**

Vibration motors, cables and connections shall be inspected at least quarterly. The inspection methods are as follows:

**Warning!**

Before checking, power off and lock the vibrator and give warning signs.

1. The power supply of the vibrator should be cut off and locked and warning signs should be given.

2. Check whether the end cover has cracks and whether the end cover screw is tightened or not.

3. Check whether the cable is damaged, including cut marks and wear. If it is damaged, replace it in time.

4. Check the earthing condition. Users should always ensure that the ground resistance of the vibrating motor housing does not exceed 0.1 ohm and that the tightening torque of the screws on the earthing terminal meets the requirements. Ensure that the tightening torque of all connection nuts on the wiring board meets the specified requirements. Do not tighten too tightly.

