

# **VS 2014 VIBRO SHAKER OPERATING AND SERVICE MANUAL**



## **Operating Manual**

Multi Paint Can Shaker:

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**WARNING: DO NOT OPERATE THIS EQUIPMENT WITHOUT READING AND UNDERSTANDING ALL SAFETY AND OPERATING INSTRUCTIONS.**

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## INDEX

1.	<b>Precaution &amp; General Information .....</b>	<b>4</b>
2.	<b>Shaker Overview .....</b>	<b>5</b>
3.	<b>Technical Specification .....</b>	<b>7</b>
4.	<b>Set-up Instructions .....</b>	<b>8</b>
4.1.	Electrical Connections	
5.	<b>Operation .....</b>	<b>10</b>
5.1.	Switching ON the shaker	
5.2.	Loading the Can for shaking	
5.3.	Starting the mixing cycle	
5.4.	Ending the mixing cycle	
6.	<b>Maintenance &amp; Trouble-shooting .....</b>	<b>14</b>
6.1.	Do's & Don'ts	
6.2.	Logic Board Errors	
7.	<b>Annexure.....</b>	<b>19</b>
7.1.	Electrical Connection diagram	
7.2.	Warranty Terms	



## 1. SAFETY INSTRUCTIONS

- **Read safety instruction carefully and follow them for your own protection.**

This Product is use on a nominal 115 or 230 Volt circuit, as shown on the Name plate.

Connect the Product to an outlet having the same configuration as the Plug.

Wear safety Shoes when installing or relocating the machine.

Make sure the machine stands securely.

Keep your place clean & tidy. There is risk of accidents at untidy work place.

- **Close the Machine when it is not being used.**

Machine shall be connected to dedicated electrical circuit- No other device shall be connected to this circuit.

This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

This product shall be connected to a dedicated electrical circuit – no other devices shall be connected to this circuit.

Removal of the plug from the outlet is the means for isolating the mixer from the power supply. Ensure that the mixer is installed with the plug easily accessible to the operator.

This product is designed to operate only when the door is closed. DO NOT ATTEMPT TO ALTER ELECTRICAL INTERLOCK MECHANISM

In case of emergency, press the Red Emergency Stop button.

- **Do not overload the machine. Check that the weight and dimension of the mixing can are suitable**

Use only undamaged and sturdy Mixing Can, If you don't, the container may burst.

Never lift large and heavy can into the machine.

The mixing Can has to be closed completely.

- **Make sure that the mixing Can sits in central position on mixing table. Secure the container handle with rubber bands or adhesive tape.**

Take good care of the machine. Make sure that the moving parts move smoothly and without restriction. Follow the maintenance instruction.

- **Do not use high pressure equipment to clean the machine.**

Make sure that the safety devices work properly and are clean.

- **Do not use the machine if the door or the plastic shutter is damaged. if the shutter strip is broken, do not reach into the in interior. There is risk of injury from rotating components.**

- **Do not start the machine with shutter open. Pull out power plug! There is high risk of accidents!**

Before switching on the machine after maintenance work, check that no spanners or setting tools are left inside the machine.

Examine the machine for signs of damage. Check regularly that all parts are in good working condition.

Have repairs carried out only by the manufacturer or an approved specialist.

**Trained and authorized personnel shall use this product.**

## **2. INTRODUCTION**

---

MELANGE is a revolutionary mixer, which is ideal for all your mixing requirements. MELANGE Mixer performs gyroscopic action, which enables in effective mixing, uniform blending and making homogeneous mixer.

The MELANGE mixer is specifically designed for point-of-sale color mixing applications as well as for semi-industrial applications.

This mixer is ideal for mixing small, medium, large cans up to 35kgs.

MELANGE is user friendly.

The MELANGE has been designed to meet the demands of the retail market

The dimension of the machine makes it versatile and suitable for use in all environments.

The unique design results in reduced maintenance and in color mixing at the lowest cost per liter produced.

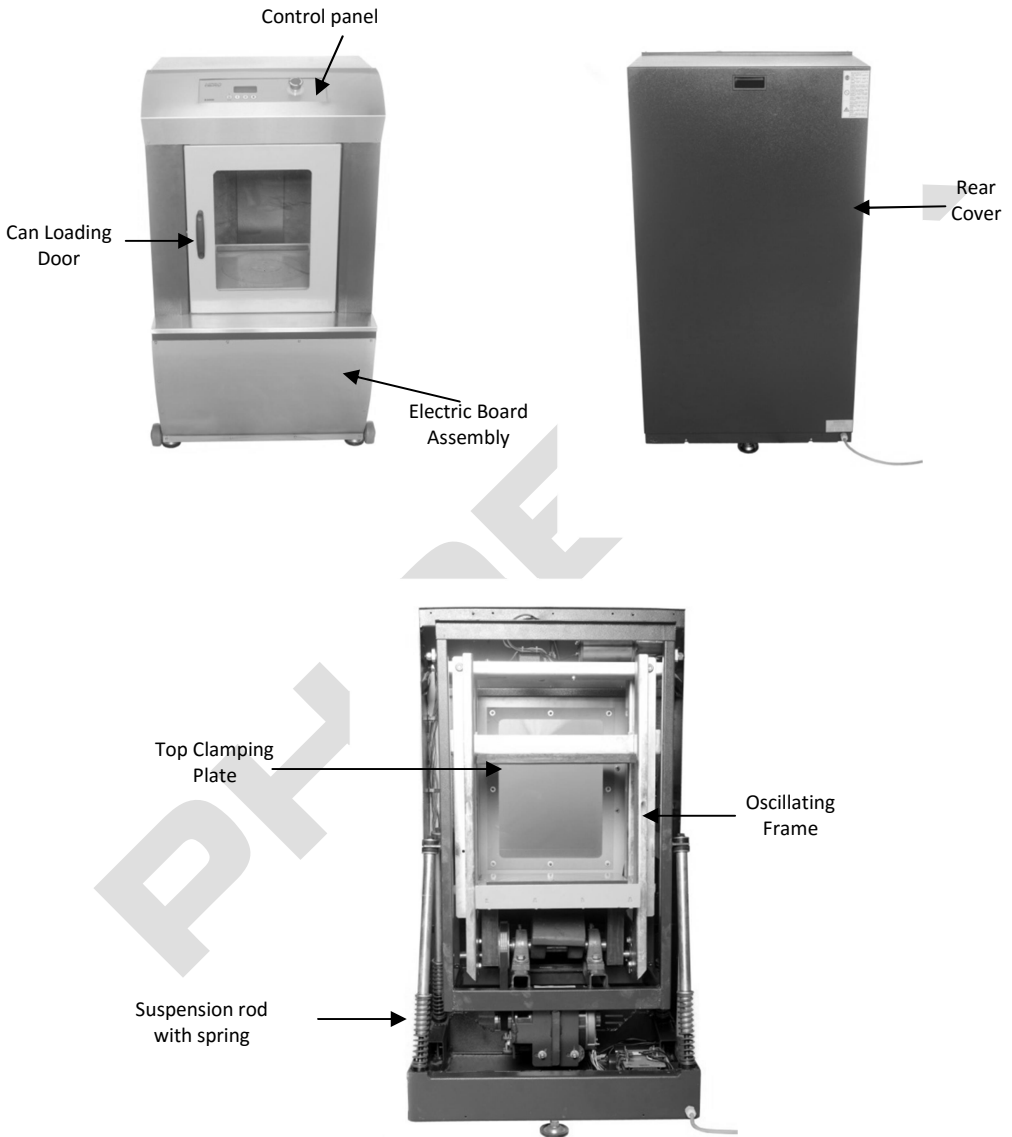
MELANGE is a rugged and reliable mixer which performance and design exhibits the qualities of a strong and sturdy engineering product and low maintenance.

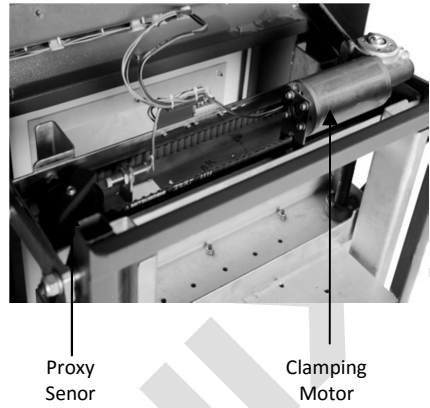
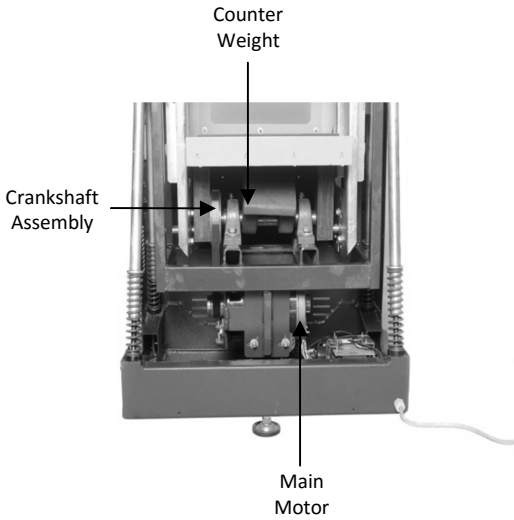
## 1. Precautions & General Information:



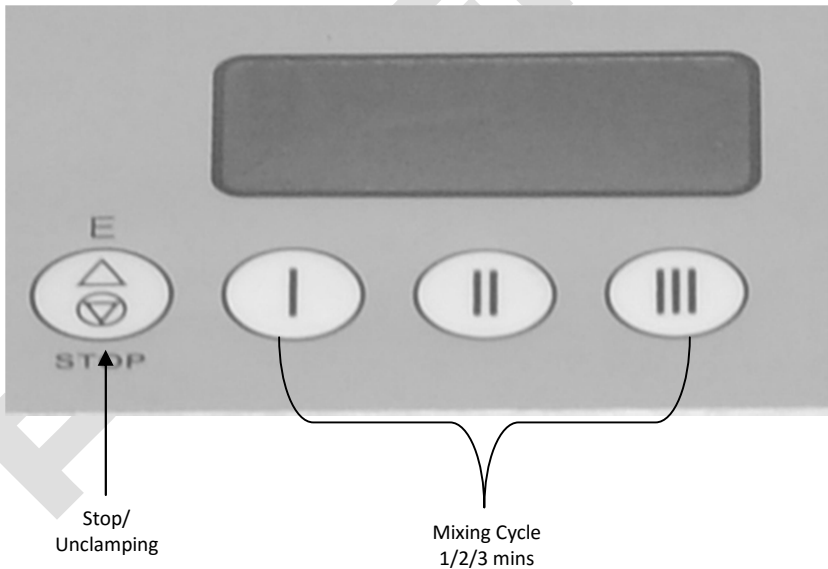
- This machine is **NOT EXPLOSION PROOF**.
- Shaking or cleaning with a **FLAMMABLE SUBSTANCE** can cause an **EXPLOSION**.
- **BE SURE TO REMOVE SHIPPING BOLTS/BRACKETS BEFORE OPERATING THE SHAKER.**
- **ALWAYS** make sure the lids of any Can or Pail being mixed is tight before placing them into the Shaker.
- When mixing multiple cans at the same time, verify that all cans are of the same height. Small variances in height may cause damage to Cans and/or the shaker due to incomplete clamping action.
- **ALWAYS** be sure to use the bail hold down strap provided.
- The Shaker is designed to operate only when the door is closed. **DO NOT ATTEMPT TO ALTER ELECTRICAL INTERLOCK MECHANISM.**
- Repair **IMMEDIATELY** a faulty door interlock systems to avoid injury from improper operation. Contact the Manufacturer or Certified Service Personnel.
- Connect main power cord protected by a **15A circuit breaker**.
- **THIS EQUIPMENT MUST BE GROUNDED.** DO NOT USE AN EXTENSION CORD TO RUN THE SHAKER. POSSIBLE FAILURE AND/OR DAMAGE COULD RESULT.
- When not in use for extended period of time, ensure that the machine, including the power cord, is properly stored in a way that is protected from damage.
- It is ideal for mixing small, medium, large Cans up to 35 kg.
- **DO NOT USE THIS MACHINE IF THE BACK PANEL IS NOT IN PLACE.**

## 2. Shaker Overview:





#### Control Panel display



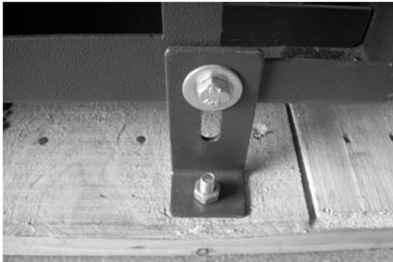


### 3. Technical Specification

WIDTH	660 mm
DEPTH	620 mm
HEIGHT	1220 mm
MACHINE NET WEIGHT	160 kg
MAXIMUM CAN WEIGHT	35 Kg
MAXIMUM CAN BOTTOM DIAMETER	300 mm
MINIMUM CAN BOTTOM DIAMETER	60 mm
MAXIMUM CAN HEIGHT	390 mm
MINIMUM CAN HEIGHT	70 mm
CAN CLAMPING	AUTOMATIC WITH GEAR MOTOR
CAN LOADING	PULL OUT FRONT DOOR
MAIN MOTOR	0.5 HP, SINGLE PHASE AC MOTOR
	220/230 VAC, 50 Hz, 1425 RPM
NOISE LEVEL	60 -65 DB
TRANSFORMER	INPUT 230 VAC, OUTPUT 22VAC.
MIXING TIMER	DIGITAL
EMERGENCY SWITCH	AVAILABLE
LOCKING DOOR DEVICE	AVAILABLE
DISPLAY	AVAILABLE ON CONTROL PANEL
ERROR MESSAGE	AVAILABLE ON CONTROL PANEL

#### 4. Set-up Instructions:

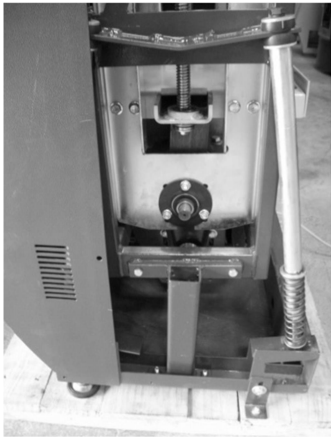
➤ Take out plastic wrapping done on the carton box & remove it by lifted upwards. Now remove the hex bolts which are used to fix the machine on wooden pallet. Keep the shaker on ground & level it on the foot rest. Two side caster wheels are provided for easy movement of shaker on the ground. You need to tilt the machine so that wheels will touch the ground & then pull/push to the desired location.



➤ Remove all the screws/bolts fitted to the rear panel.



- Remove Clamping plates fitted to the table assly



Use Spanner no. 13 to remove the Hex bolts (4 bolts each side).

- **Keep these bolts with the bracket in secure place in case the shaker is to be shipped to another place.**
- Every machine is having a tool kit which contains No. 13 spanner, 2.5/3 mm Allen Key, Philips head screw driver, 12A fuse, Lever for operating solenoid manually.
- A drop of paint or a removable thread lock on the threads will help in preventing the screws from loosening.

#### **4.1 Electrical Connection**

- Plug the power cord into properly grounded receptacle. Ensure cord is routed in a way that it is protected from damage.

**Grounding Instructions:**

**This machine should be grounded.** In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current & also it provides safeguard to the logic board against malfunctioning. This machine is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**WARNING** – Improper installation of the grounding plug can result in a risk of electric shock. When repair or replacement of the cord or plug is necessary, do not connect the grounding wire to either flat blade terminal. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the product is properly grounded.

**WE RECOMMEND A 15 AMP DEDICATED CIRCUIT FOR THE SHAKER.**

## 5. Operation:

### 5.1 Switching “ON” the Shaker



- Switch ON the MCB.
- The Shaker will not operate in open door condition.
- Ensure the Emergency switch is not pressed.
- Door will be opened once you have “Ready” screen on the Control Panel.
- General danger situations

There are no specially identified hazard related to the operation and maintenance of this shaker. (E.g. fire risk, issue or dispersion of dangerous products). However, it is recommended that a powder type fire extinguisher, suitable for electrical fires, be readily accessible.

**Safety devices:**

- The Shaker is equipped with the following safety devices:

- i) Emergency Stop Button.
- ii) Door Lock Solenoid / Microswitch

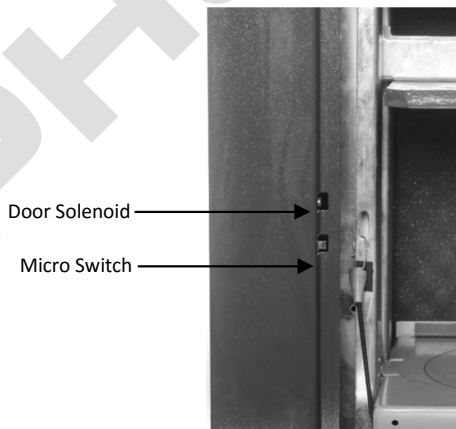
**i) Emergency Stop Button**

- You can press the Emergency Stop button to switch off the machine if the paint Can develops a leak or becomes loose or some dangerous situation arises while the mixing cycle is in progress.
- The **RED** Emergency Stop push button is located on the right hand side of control panel on the top front of the Shaker. Pushing the button will immediately cut power to the motor control relay, thus stopping the motor. To reset the button and restore the Shaker to normal operation mode, rotate the button clockwise and press E on control panel.

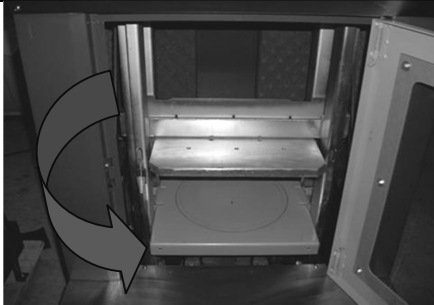
**The EMERGENCY STOP button does not disconnect the machine from the mains power supply. Therefore, before performing any maintenance work OR repairs always be sure to disconnect the machine from the mains by pulling out the power plug.**

**ii) Door Lock Solenoid / Micro Switch**

This Shaker is equipped with double safety device which prevents start up of the mixing cycle when the door is in the open position. It also locks the door in the closed position during the mixing cycle.



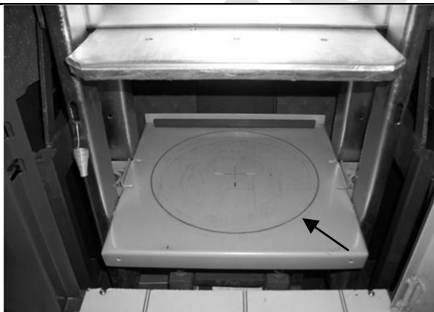
## 5.2 Loading the Can for Shaking



- Open the Shaker door to its fully open position.



- Unclamp the top plate to the fullest as per Can size by keep pressing button "E"



- Place the Can which is to be mixed on the bottom plate. A circular locator is marked for 20 LT Can.
- **Can mixing capacity –**  
 1 x 6 nos.  
 4 LT x 3 nos.  
 10/ 20 LT x 1 no.  
 Close the door.



- (he door has to be closed in order to start the mixing cycle

### 5.3 Starting the mixing cycle



Assign the timing for mixing operation.

- For 1 minute of mixing.
- For 2 minutes of mixing.
- For 3 minutes of mixing.

The Can will get clamped automatically and mixing cycle will start.



- Wait for the completion of mixing operation cycle.



#### 5.4 Ending the Mixing cycle



- Once the cycle completes, the shaker will stop automatically & door unclamp will happen. The screen will be again in Ready mode.
- Open the door & remove the Can from bottom plate.



- If while mixing cycle is ON, the power goes off then use the tool to open the door solenoid and open the door.

➤ You can end the mixing cycle prematurely **before the mixing time is over** by pressing button “E”. The mixing cycle will immediately stop.

## 6. Maintenance and Trouble-shooting:

Regular maintenance is necessary to ensure that the Shaker remains in good working condition at all the time.

PROBLEM	TROUBLE SHOOTING
<b>Shaker is not turning ON.</b>	<ul style="list-style-type: none"> <li>• Check the Mains supply/power cord.</li> <li>• Check MCB Position, it should be ON.</li> <li>• Check the 24V DC motor fuse.</li> </ul>
<b>Main Motor not working.</b>	<ul style="list-style-type: none"> <li>• Check the door micro switch.</li> <li>• Check Emergency switch.</li> <li>• Check table assly mechanism, Motor capacitor, Pulley belt.</li> <li>• Check incoming supply, Logic error if any.</li> </ul>
<b>Shaker vibrates during operation.</b>	<ul style="list-style-type: none"> <li>• Check the floor flatness.</li> <li>• Greasing of screw shaft, Can clamping mechanism, motor mounting.</li> </ul>
<b>Shaker makes a loud noise after every stroke.</b>	<ul style="list-style-type: none"> <li>• Check the foundation of the Motor, Foot resting on ground.</li> <li>• Check the tension of the timing belt fixed motor pulley.</li> <li>• Check if the belt has worn out.</li> <li>• Check greasing of screw shafts.</li> <li>• Check if any assembly part becomes loose.</li> </ul>
<b>Can become loose.</b>	<ul style="list-style-type: none"> <li>• Check clamping motor working properly.</li> <li>• Check whether Silicone pad worn out/loose.</li> <li>• Check whether guide shaft and screw shafts are clean and the clamping table assly are working properly up &amp; down.</li> </ul>
<b>Clamping bracket does not slide smoothly.</b>	<ul style="list-style-type: none"> <li>• Clean the screw shafts and apply the general purpose grease.</li> </ul>
<b>Shaker is giving shock while in operation.</b>	<ul style="list-style-type: none"> <li>• Check for proper earthing/grounding of the machine.</li> </ul>

## 6.1 Do's & Don'ts

Do's	Don'ts
Refer User Manual for operating Shaker in a correct way.	DO NOT operate with dented or tampered Can.
Machine servicing work must be done strictly by authorised person.	DO NOT use Can weighing more than 35 kgs.
Daily machine check-up.	DO NOT use flammable liquid for mixing.
Weekly oiling/greasing to the screw shafts of the shaker.	DO NOT carry out Maintenance work without disconnecting power plug.
Close Can lid properly before shaking.	DO NOT keep any tools OR any loose items inside the shaker.
Make proper <b>Earthing</b> before shaker installation/use.	DO NOT operate the shaker without proper placement on the floor.

### General Maintenance

**Note: Unplug the power cord before attempting to clean or service the shaker. When cleaning, only use non-flammable solvents, soap & water or any non-flammable cleaner.**

#### ➤ DAILY:

1. Check can shelf and silicone pad on top pressure plate for paint residue. Clean if necessary with a damp cloth.
2. Wipe down the outside of the shaker with a damp cloth. This will clean most paint marks and drips.

#### ➤ WEEKLY:

1. Make a visual inspection of the Shaker. Check & clean if any foreign objects stuck in the screw shaft, on the Can and inside the machine.
2. Check door assembly and clean. Remove door for detailed cleaning if necessary by pressing down side locks at both sides.
3. Ensure the power cord is routed in a way that it is protected from damage.

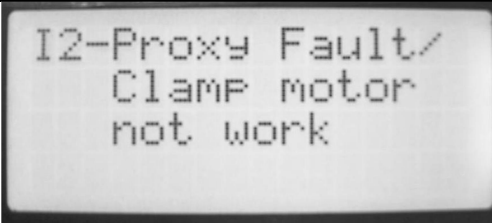
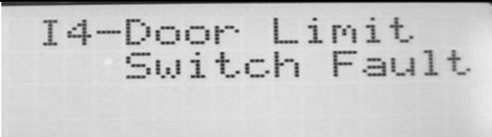
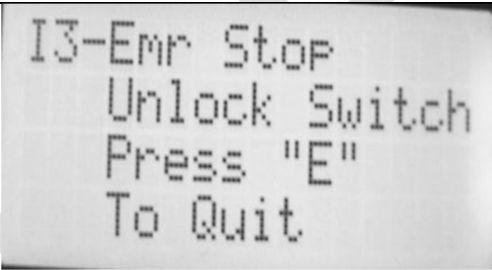
➤ Half yearly:

## TO BE PERFORMED BY AN AUTHORIZED SERVICE REPRESENTATIVE

1. Make a general inspection, including checking for loose screws, nuts, and bolts.
2. Remove panel and check Timing Belt adjustment, Counter weight position etc.
3. Grease the two pedestal flange bearings. Care should be taken not to overfill the grease because it will overload the bearing & increase the load.

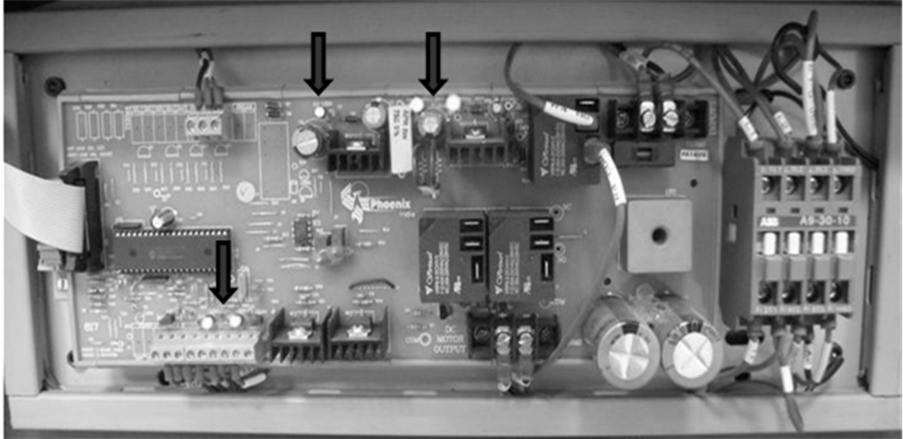
## 6.2 Logic Board – Errors

Following table provides an overview of possible errors and their remedies:

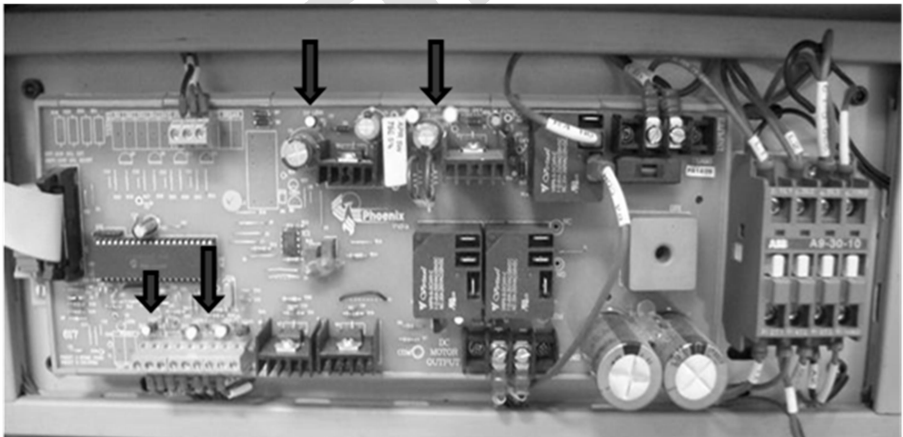
Error Display	Actions to take
	<p><b>Display shows "I2-Proxy Fault/Clamp motor not work".</b></p> <p>Check Proxy sensor connection to Logic input.  Check DC motor connection to the supply.  Check if any mechanical blockage in motor pulley/timing belt.  Not to frequent pull/push the door while Can clamping. Reset MCB to resume for "Ready" Mode.</p>
	<p><b>Display shows "I4-Door Limit Switch Fault".</b></p> <p>Check door micro switch connection to Logic input pin.  Check if Cycle button is pressed without closing the door. To rest, close the door.</p>
	<p><b>Display shows "I3-Emr Stop Unlock Switch".</b></p> <p>Check whether Emergency switch is pressed. Verify Logic input connection.</p> <p>Check main supply fluctuation due to main cord loose connection.</p> <p>Release it &amp; press "E" to quit &amp; resume on "Ready" Mode.</p>

Logic Board LED's switching:

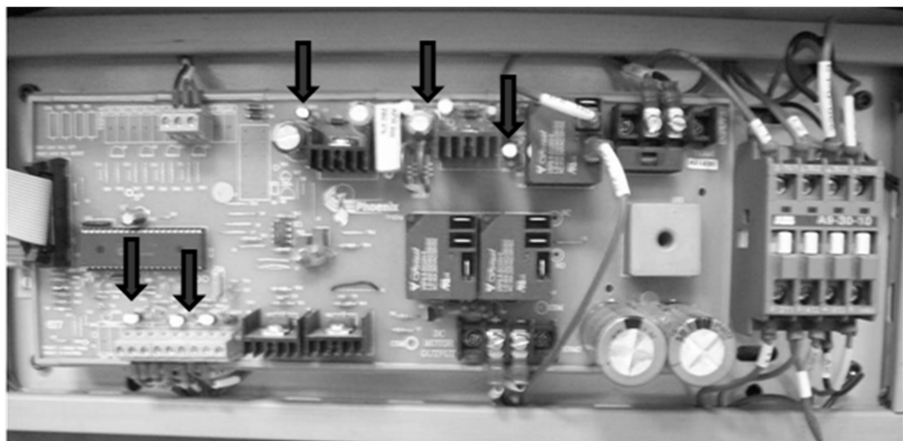
(VIEWABLE ONLY WITH OPERATING PANEL IS OPENED)



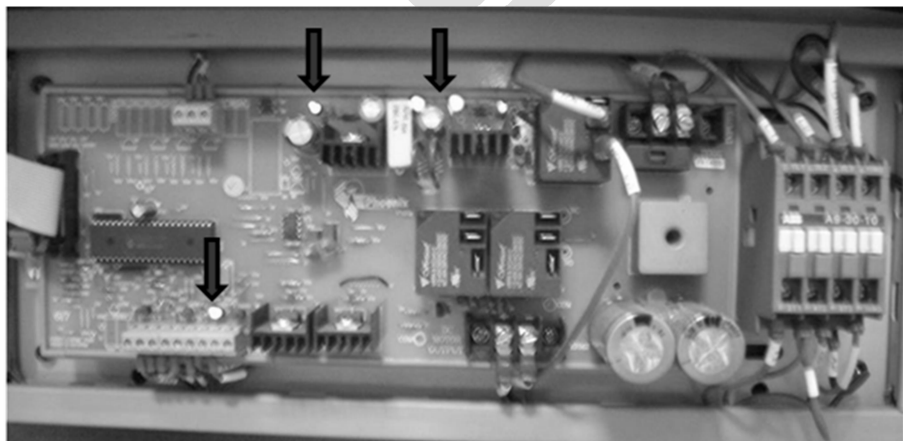
1) LED's position when Power ON.



2) LED's position while clamping/unclamping.

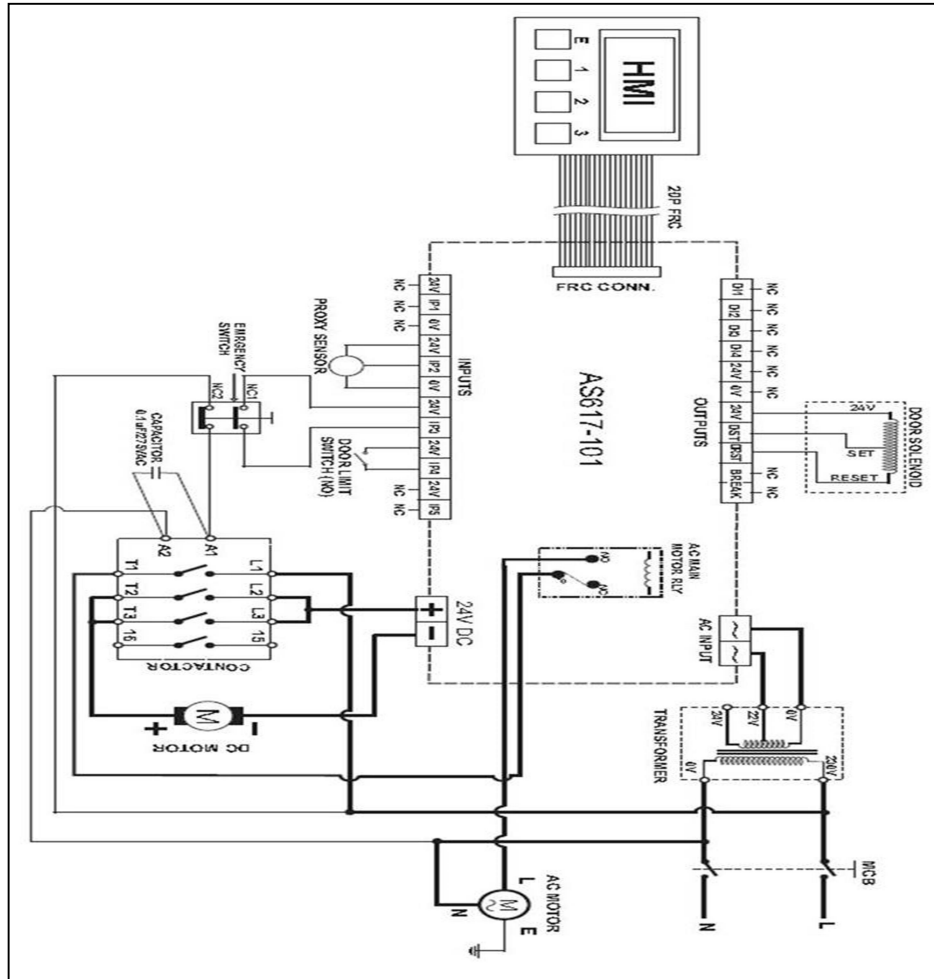


3) LED's position while machine in operation.



## 7. Annexure:

### 7.1 Electrical Connection Diagram



## 7.2 Warranty Terms

PHOENIX warrants each unit manufactured to be free of defects in material and workmanship for a period of twelve months. The part unit shall be returned with transportation charges prepaid. If the fault has been caused by misuse or abnormal conditions of operation, repairs will be billed at a normal cost. In this case, an estimate will be submitted before works is started, if requested. Always include serial number in any correspondence concerning the part unit.

The warranty expires: Twelve month after date of invoicing

- In case of improper use.
- In case of non original spare parts are used.
- In case of repair / adaptation of mixer without written approval and/or by unauthorized personnel.
- In case of non fulfilment of the maintenance, operation, or other instruction, like e.g. reflected in this manual.

This mixer is specifically designed for point-of-sale colour mixing applications as well as for semi-industrial applications. The unique design results in reduced maintenance and in colour mixing at the lowest cost per litre produced.



THANK YOU

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