



3" Tri-Clamp Mixing Motor Manual

Model:

MM-3TC



Safety Precautions and Explanations

At USA Lab, safety is our number one priority. The following information provides guidelines for safety when using USA Lab equipment. Any piece of machinery can become dangerous to personnel when improperly operated or poorly maintained. ALL employees operating and maintaining USA Lab equipment should be familiar with its operation, thoroughly trained, and Instructed on the best safety practices.

Most industry accidents are preventable through safety awareness.

Training

It is the responsibility of the customer to ensure that all personnel who will be expected to operate or maintain the equipment. Participate in training and instruction sessions to become trained operators. All personnel operating, inspecting, servicing, or cleaning this equipment must be properly trained in the operation and machine safety. **BEFORE** operating this equipment, read the operating instructions in this equipment manual. Become thoroughly familiar with the machinery and its controls.

Safety

- Never leave the equipment running unattended and use this equipment only for its intended purpose.
- Ensure that all power sources are turned off when the machine is not in use. This encompasses electrical and pneumatic power.
- Read the manual for any special operational instructions for each piece of equipment. All USA Lab authored manuals are typically included with each device as well as posted online.
- Know how the equipment functions and understand the operating and halting processes.
- Wear the appropriate personal protective equipment for the task.
- When working on or around all equipment, avoid wearing loose clothing, jewelry, unrestrained long hair, loose ties, belts, scarves, or articles that may be caught in moving parts. Keep all extremities away from moving parts. Entanglement can cause death or severe injury.
- For new equipment, check input voltage and compare with the equipment voltage rating. DO NOT supply the incorrect power to any equipment for any reason whatsoever. Electrical specifications for your machine are printed on the machine tag. A properly grounded receptacle is required for safe operation regardless of voltage requirements.
- Keep the equipment operating zone free of obstacles that could cause a person to trip or fall toward an operating machine. Keep fingers, hands, or any part of the body out of the machine and away from moving parts when the machine is operating.
- Any machine with moving parts and/or electrical components can be potentially dangerous no matter how many safety features it contains. Stay alert and think clearly while operating or servicing the equipment. Be aware of operations and personnel in your surroundings. Be attentive to indicator lights, warning lights, and/or operator interface screens displayed on the machine and know how to respond.
- Do not operate machinery if you are fatigued, emotionally distressed, or under the influence of drugs or alcohol.
- Know where the FIRST AID SAFETY STATION is located.
- Know where the FIRE EXTINGUISHING EQUIPMENT is located.
- Never sit or stand on the machine or on anything that might cause you to fall against the machine.
- Rotating and moving parts are dangerous. Keep clear of the operating area. Never put any foreign object into the operating area.
- Use proper lifting and transporting devices for heavy equipment. Some types of equipment can be extremely heavy. An appropriate lifting device should be used.
- Use caution when moving portable equipment. In some cases, the machinery can be heavy and/or may be top heavy. Portable equipment can gain momentum during transporting and must always be controlled.

Symbols and Warnings

Below are examples of commonly used symbols and what they mean.

Understand them and their potential consequences.



High Voltage or Electrical Hazard



Explosive Hazard



Not User Serviceable



Flammable Hazard



Hot Surface or Steam Hazard

Operating Principals

The USA Lab 3" Tri-Clamp mixer is intended to provide a quick and simple way of mixing fluids in a pressurized vessel (positive or negative pressure). Using high quality seals the ¼ HP motor churns through most moderate to low viscosity fluids.

Notes / Warnings



WARNING: The unit gets hot at the neck of the mixer where the tri-clamp connection is secured. Do not touch the collar during or after the unit has been running. Personal injury may occur.



WARNING: Do not exceed rated pressure. Damage to persons, or property may occur.



WARNING: Do not remove the stirring rod. The seals are set from the factory.



WARNING: Do not use this mixer with high viscosity fluids. Damage to the unit, persons, or property may occur.



WARNING: Do not touch rotating parts. Personal injury will occur.



WARNING: If rotation becomes unstable, stop use immediately. Damage to the unit, persons, or property may occur.

Index

Safety Precautions and Explanations

1. Important Information

1.1 Safety Notices

1.2 Technical Parameters

2. Diagrams

3. Control Panel Operation

3.1 Control Panel Operation

4. Installation

4.1 Included Items

4.2 Electrical Connection

4.3 Operating Area and Warnings

4.4 Initial Assembly and Connection

4.5 Operating Instructions and Notes

5. Maintenance

5.1 Periodic Maintenance

5.2 Long Term Storage

6. Troubleshooting Table

7. Warranty Information and Coverages

7.1 Warranty

7.2 Return Policy

7.3 Notes

Section 1 | Important Information

1.1 Safety Notices

- All electrical work must be executed by suitably qualified persons. When using any electrical appliance, safety precautions must always be observed.
- Do not use this appliance for other than its intended use. This product is intended for use as a mixer for liquids. Consult your supplier for alternatives.
- Do not cover the side grille or block air entry by placing object up against the grille.
- Pay close attention, when used by or near children.
- Ensure adequate ventilation.
- Do not cut any openings into the cabinet.
- Do not touch any internal electrical parts or hot surfaces.
- Do not overload the power supply.
- If have any problems, please contact us immediately.
- Caution: Never use extension cords, power strips, or plug adapters other than what is supplied.
- If the mains supply cord is damaged, it must be replaced by the manufacturer, USA Lab, or a similarly qualified and skilled persons to avoid hazard or injury.
- Disconnect the mains power supply before attempting any cleaning, removal of any covers, or maintenance work.

1.2 Technical Parameters

MM-3TC	
Power Requirements (Phase / V / A)	Single / 110V / 2-10.0A
Wattage	200W
Material	Painted Steel
Positive Pressure Max.	90 PSI
Negative Pressure Max.	Ultimate Vacuum
RPM	50 – 1000
Shaft Material	316SS
Impeller Diameter	4" Tri blade
Shaft Diameter	0.625"
Shaft Length	32"

Section 2 | Diagrams

Shaft and seal assembly:



Motor to shaft coupler bolts:



Section 3 | Control Panel Operation

3.1 LCD Operation



Circle Button: Rotation ON or OFF | **Silver Knob:** [SP – N/A] [SU – Set Speed] [ST – Set Timer]

Section 4 | Installation

4.1 Included Items

PACKING LIST	
Model	Quantity
MM-3TC Mixing Motor w/ Shaft and 4" Propeller	1
3" Tri-Clamp Gasket	1
3" Standard Pressure Clamp	1
Manual	1

4.2 Electrical Connection

Ensure that the outlet is well grounded and installed by a licensed electrician.

Receptacle: NEMA 5-15R

Plug: NEMA 5-15P

Voltage: 110-120VAC

Frequency: 50/60Hz

Maximum Nominal Amperage: 15A

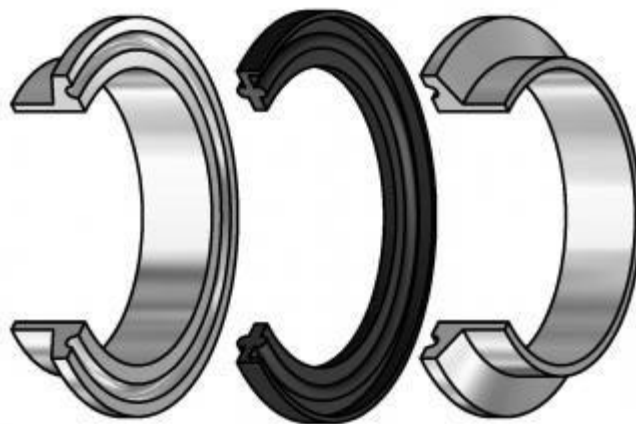
4.3 Operating Area and Warnings

- The power supply cord exits the product at the top left-hand side (as viewed from the front). For ease of access, the cord should be retrieved prior to positioning the product in its final location.
- Avoid positioning the appliance in direct sunlight or damp areas.
- Ensure that this product is positioned on a level surface.

4.4 Initial Assembly and Connecting the Vessel

The mixer and shaft come pre-assembled. Read below **before** installing the propeller.

1. Slide the 3" gasket up the shaft.
2. Install the propeller on the end of the shaft.
3. Slide the propeller down into the vessel.
4. Align the gasket and flanges like the image below.
5. Place clamp around the flanges and tighten.



4.5 Operating Instructions and Notes

Plug unit in and switch the power to on.

Press the silver knob twice. (“**SP**” Should be ignored)

“**SU**” Should be displayed.

Set the desired RPM.

Press the silver knob again.

“**ST**” Should be displayed.

Set the desired time. 0 = No timer

Press the silver knob again to return to the main menu.

Press the circle button to turn the rotation ON.

If no timer is set press the circle button again to turn the rotation OFF.

Section 5 | Maintenance

5.1 Periodic Maintenance



WARNING: You must disconnect the plug before cleaning or maintenance.

Do not use abrasive cleaning agents or tools to clean the delicate coating of your unit.

Always wipe dry after cleaning.

USA Lab or a qualified technician must carry out any repair if required.

5.2 Long Term Storage

Inspect the unit for damages or concerns.

Clean the outside of the unit.

Coil the cord into a circle and zip tie it to the back vent.

Place the unit in a level, low humidity environment.

Section 6 | Troubleshooting Table

Problem	Cause	Solution
The unit is not powering ON	<ul style="list-style-type: none"> A. The unit is not plugged in B. Plug is damaged C. Power supply D. Internal wiring fault 	<ul style="list-style-type: none"> A. Plug the unit in B. Repair the damaged plug C. Verify power at receptacle D. Contact us for help
The LCD display is not working properly	<ul style="list-style-type: none"> A. Display board is damaged 	<ul style="list-style-type: none"> A. Contact us for replacement
The unit is excessively loud	<ul style="list-style-type: none"> A. The unit is touching a nearby object B. Verify the unit is on a level surface 	<ul style="list-style-type: none"> A. Move the unit away from the object B. Move to a level location

Section 7 | Warranty Information and Coverages

7.1 Warranty

Continental United States

USA Lab products are warrantied to be free of workmanship, mechanical, and material defects for **one to two years** from date of purchase depending on product. Within this warranty period USA Lab will replace or repair components that fail due to manufacturer defect. For such repairs or parts, shipping charges will be covered in full or in part by USA Lab.

This warranty **does not cover any failures** due to alteration, repairs, misuse, accident, or abuse. This warranty also **does not cover wear items** such as glassware, heating elements, thermocouples, oil seal sets, switches, and sensors. The warranty does also not cover wrongful input voltage. The customer needs to be responsible in monitoring power rating and routine checking. If using water in a heater or chiller, the customer must only use **distilled water**. Other forms of water will **void the warranty**.

Non-continental United States

USA Lab products are warrantied to be free of workmanship, mechanical, and material defects for **one to two years** from date of purchase depending on product. Within this warranty period USA Lab will replace or repair components that fail during normal daily use. Such repairs or parts will be covered in full by USA Lab and **the customer will be responsible for shipping, labor, and custom duties**.

This warranty **does not cover any failures** due to alteration, repairs, misuse, accident, or abuse. This warranty also **does not cover wear items** such as glassware, heating elements, thermocouples, oil seal sets, switches, and sensors. The warranty does also not cover wrongful input voltage. The customer needs to be responsible in monitoring power rating and routine checking. If using water in a heater or chiller, the customer must only use **distilled water**. Other forms of water will **void the warranty**.

7.2 Return Policy

We offer a 30-day return policy from when your package is delivered to your shipping address. By placing an order with USA Lab, you express that you have read and agreed to the following return policies.

- **We do not accept returns for customized items.** When purchasing a customized item, you agree that there are no returns due to the nature of the item(s) being specific to your needs. **We do not accept returns on any solvents or consumables.**
- **Pre-orders:** There will be a **10% non-refundable fee** associated with pre-orders that are canceled. This covers the banking fees and the hold fee.
- By default, a **15% restocking fee** is applied on all items that are in original packaging and unused with no damage. This applies to all items returned within 30 days. **No exceptions.** You will be responsible for the return shipment unless deemed defective by USA Lab. In that case, we will pay for return shipment and replacement shipment costs.
- The item(s) must be returned in original packaging and in undamaged condition. The item(s) must have no signs of usage or wear including stickers, scratches, dents, resins, non-standard fluids, plant matter, or any other wear not representing a new, unused item.

Unused and undamaged products not in original packaging will be subject to a restocking fee equal to 25% of the purchase price.

Products deemed defective with any signs of usage or wear whatsoever of damage or usage (including but not limited to the presence of botanical material, resins, cleaning agents, stickers or decals, or any damage, wear, or tear) will not be accepted for return.

- Once the returned item is received, tested, inspected, and processed, a refund will be issued. If your item(s) are in original packaging and unused, **you will be refunded the initial purchase price with the 15% restocking fee deducted.**

If your item(s) are deemed damaged or used, **you will not be refunded.**

7.3 Notes

Keep all original packaging in the event you need to return the unit or to send it in for to us for repair.

We are not responsible for providing packaging material.

This manual and its contents are subject to change without notice.

USA Lab reserves the right of ultimate interpretation of the instruction manual. Additionally, USA Lab is not responsible for damages or injuries caused by improper use; knowingly or unknowingly.

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