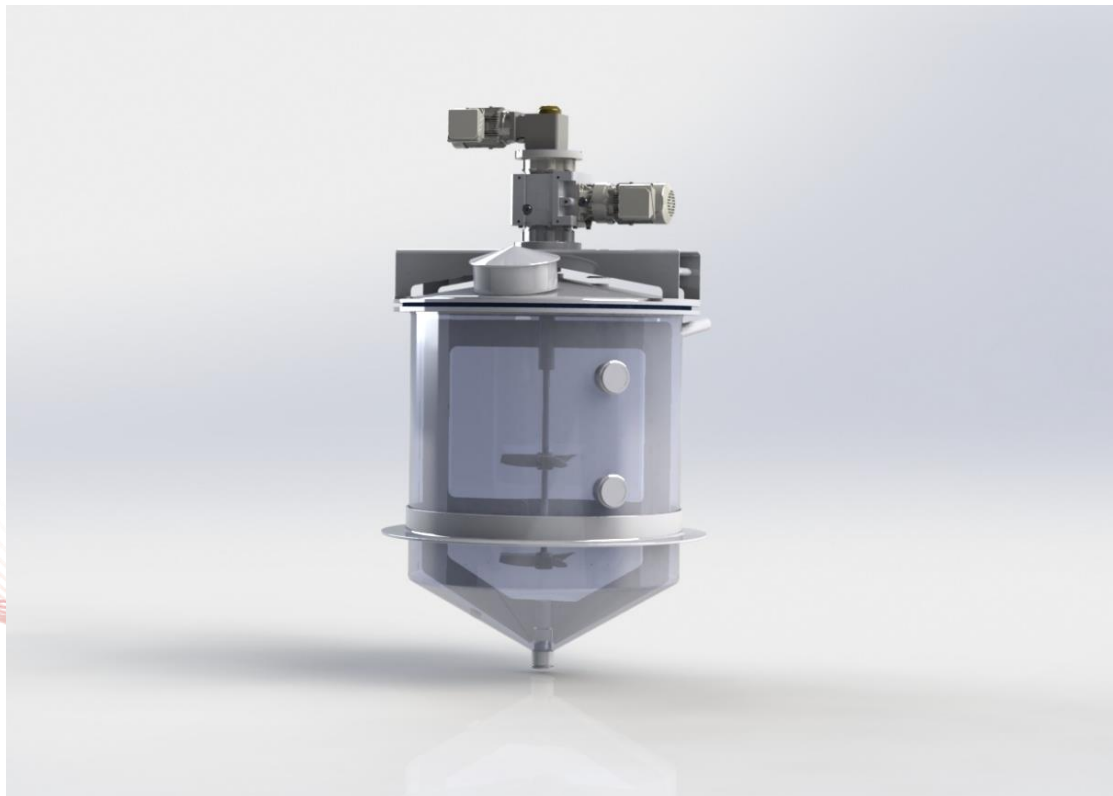




Series 700 Counter-Rotating Mixing Vessel Operation Manual

OPERATION MANUAL



SERIES 700 COUNTER ROTATING MIXING VESSEL

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25/11/2016

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fluid mixing equipment



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The information herein is correct at the time of issue but may be subject to change without prior notice.

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Operation Manual

1. Safety

All warnings in the manual are summarized in this section.

Pay special attention to the instructions below so that severe personal injury and/or damage to the mixer are avoided.

1.1. Important Information:

Warning

Indicates that special procedures must be followed to avoid serious personal injury.

Caution

Indicates that special procedures must be followed to avoid damage to the mixer.

Note

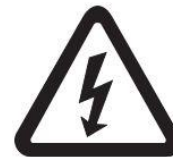
Indicates important information to simplify or clarify procedures.

1.2. Warning Symbols:

Hazard to people in general.



Electrical Hazard.



Risk of Injury Caused by the Agitator.



Danger from Suspended Loads.



Risk to the Agitator and its Operation.



General Obligation.



All warnings in the manual are summarized in this section.

Pay special attention to the instructions below so that severe personal injury and/or damage to the mixer are avoided.

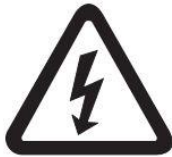
1.3. General Safety Instructions



Read the instructions in this manual before installing the agitator and putting it into service.

Installation and use of the agitator must always comply with applicable occupational health and safety legislation.

Before starting the agitator, check that it is properly anchored and the shaft in perfect alignment. Poor alignment and/or excessive stress on the coupling may result in serious mechanical problems to the agitator.



Any electrical work must be carried out by qualified personnel and conform to relevant standards.

Control the characteristics of the motor and its control panel, especially in fire-risk or explosion risk zones. The user company's safety manager should define risk zones (zone 1-2-3).

During cleaning, do not wet the motor directly.

Do not dismantle the agitator without first isolating the electric control panel or air supply.

Remove fuses and disconnect the motor's power supply cable.

Tag off the unit in accordance with O.H.& S. requirements.

Unit may generate static electricity. Use grounding/earthing strap to eliminate sparking.



The agitator has rotating parts. Do not put your hands or fingers into a working Agitator or rotating shaft ends.

Do not touch the parts of the agitator in contact with the liquid while it is working.

If the agitator is working with hot products (temperature over 50°C), there is a risk of burns. In this case, in order of priority, use collective protection measures (distancing, protective screen, heat-proofing) or, if this is not possible, individual protection (gloves) should be provided.



Use slings/lifting gear for repetitive installation to avoid strain injury.



Remove all tools used in the installation before starting the agitator.

The agitator cannot work without liquid. Standard agitators are not designed to work during tank filling or emptying.



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1. Safety

All warnings in the manual are summarized in this section.

Pay special attention to the instructions below so that severe personal injury and/or damage to the mixer are avoided.

1.3. General Safety Instructions:



Do not exceed the mixers operating limits. Do not change the operating parameters for which the mixer has been designed without the prior written authorization of TERALBA INDUSTRIES.

Mixers and their installations may cause a noise level of more than 85 dB (A) in unfavourable working conditions. In this case, operators should wear noise protection devices.

1.4. Operation Manual:

The information published in the Operation manual is based on up-to-date information. We reserve the right to alter the design and/or manufacturing process for our products as we think fit, without this implying any obligation to adapt any previously supplied product. The technical and technological information provided in this operation manual, together with the graphics and technical specifications we provide, remain our property and must not be used (except in order to put this installation into service), copied, photocopied, delivered or communicated to third parties without our prior written authorization. TERALBA INDUSTRIES reserves the right to modify this operation manual without prior notification and such modifications as issued will be having application from date of issue.



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2. Receipt & Storage

The operation manual is part of receiving the mixer, always read instructions before use.

2.1. On Receipt:

When you receive the agitator, check the packing and contents to ensure that it agrees with the delivery note. TERALBA INDUSTRIES package its agitators fully assembled. Make sure the agitator has not suffered any damage; if it is not in good condition or any parts are missing, the recipient should submit a report as soon as possible.

2.2. Storage:

If the agitator is not installed immediately, it must be stored in a suitable place away from extremes in temperature or moisture. Teralba Industries does not accept responsibility for condition of motor bearings if storage time is excessive (more than 12 months). The shaft must not bear any weight at all as this can damage/alter balance & alignment. Please see the storage section further discussed in this manual.

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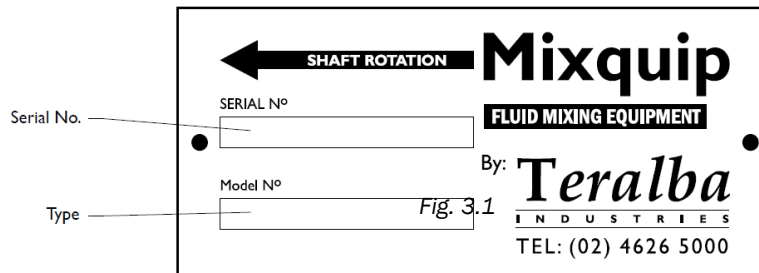
Operation Manual

3. Identification, Description and Use:

Identification shows proof of authenticity, serial number, mixer model, and company information.

3.1. Identification:

The agitator has an identification plate fastened to the RHS of the Geared Motor. This plate shows the type of agitator and its serial number. See figure 3.1



3.2. Description:

Mixquip Series 700 Mixer is a mixing vessel designed to mix viscous liquids combining a gate mixer with centre mounted axial impellers to generate radial and axial fluid currents distributing liquids throughout resulting in even turn-over of the tank contents.

3.3. Use:

The Mixquip Series 700 Mixer can be used with any water based or water-like liquids.

3.4. Field of Application:



Mixquip Series 700 Mixer can be used for hygienic mixing processes, solvent blending, water based product mixing and many other applications. The product can be mixed and sediment can be brought into suspension.



Using the agitator in a system or environment other than that for which it was designed, may represent a hazard to the operator and material. In case of doubt, consult TERALBA INDUSTRIES before use.



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4. Installation and Assembly:

Correct installation of Rummager Series 205 Mixer is crucial to both user safety and Mixer operation.

4.1. Unpacking:

TERALBA INDUSTRIES packages its agitators fully assembled. Make sure the agitator has not suffered any damage; if it is not in good condition or any parts are missing, the recipient should submit a report as soon as possible.

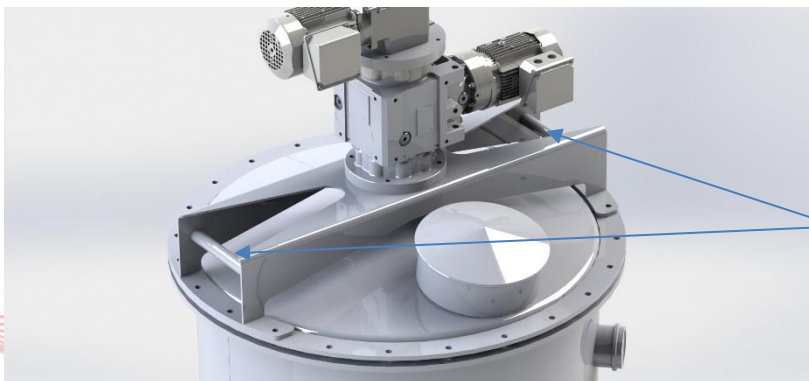
When the mixer is removed from its carton ensure no load is placed onto the shaft, this could cause misalignment and balance issues.

4.2. Installation:

After having received and unpacked the mixer:

- Use designed lifting arms to lift Vessel
- Carefully lower the Mixquip Series 700 Mixing vessel into platform ensuring ring is sufficiently supported by platform.

Note: Mixquip does not accept responsibility for the structural integrity of supplier platform.



Lifting Arms

Lifting Arms 1



Mounting Rail

Mounting Rail 1



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4.3. Electrical installation:



All electric work should be as per Australian Standard AS/NZS 3000 or other relevant country Standards/Codes. Before connecting the electric motor to the power supply, check local regulations and the corresponding codes and standards on electrical safety. This is especially important with regard to the mixer's control device. Consult the manufacturer's instructions before connecting it to the power supply.

Electrical connection of the motors must be carried out by qualified personnel. The motor must be protected against overloads and short circuits by protective devices. The mixer cannot be used in fire or explosion hazard zones, unless this has been specified in the order.

Unless otherwise specified in the order, the Mixquip mixer will be ready to operate with a 415V 50Hz power supply.



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5. Starting-up and Operation:

*The Series 700 Mixer should only be operated when mounted and secured in designated platform
Never place objects or tools inside the tank when operating the mixer.*

5.1. Before Operation:

Check that all fitting/bolts are tight and, if applicable, the electricity supply (voltage and direction of rotation) agrees with the specifications on the motor's identification plate.

Liquid:

- Check the level of liquid in the tank.
- Lubrication.
- Consult motor special instruction booklet.

5.2. Special Note:



Mixing flammable liquids may generate static electricity in some circumstances. As with any air operated equipment, ensure that earthing straps are utilised to prevent static electricity accumulating to a point where it may generate a spark. If in doubt, obtain specific advice for your application from a specialist.

5.3. Operation:



Once motors are wired up by a licenced electrician, unit will rotate at speeds per geared ratio supplied. It is recommended to start gate mixer first and secondly starting internal mixer. Slow start is recommended using a Variable speed drive.



Vary the motor speed so that adequate mixing is attained, by the use of a variable speed drive. It is not recommended for continuous operation of less than 1/5th the speed of output with out the addition of a powered fan on motor to avoid burning out.



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5. Starting-up and Operation:

*The Rummager Series 205 Mixer should only be operated when mounted in a 205L Drum.
Never place objects or tools inside the tank when operating the mixer.*

5.4. Special Precaution:



Do not operate agitator unless fitted secured.



Failure to comply to this requirement may cause serious bodily harm to user or bystanders due to accidental contact with rotating impellor blades.



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6. Maintenance & Storage:

It is critical that the drive unit is correctly isolated and dismantled before performing any maintenance.



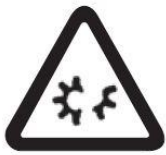
Maintenance work can only be carried out by qualified, trained personnel, equipped with the necessary means to carry out such work.
Before beginning maintenance work, make sure the motors are disconnected from power supply.

6.1. Maintenance:

In general, the Mixquip Series 700 Agitator requires minimal maintenance, but the following points must be taken into account:

- Check fasteners including mounting bolts regularly.
- Inspect the agitator regularly.
- Keep the agitator clean.
- Check the condition of the motor.
- Check for any excessive vibration which may indicate mechanical problems.
- **Do not operate units which vibrate excessively as this vibration may lead to other consequential damage.**
- Keep records of maintenance activity.

Maintenance of the motor should be carried out following the manufacturer's instructions included with these important instructions.



6.2. Spare Parts:

To order spare parts, you need to specify the type and serial number given on the agitator's identification plate, as well as the position and description of the part given in the Nomenclature in Chapter 9 - Technical Specifications.



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6. Maintenance & Storage:

It is critical that the drive unit is correctly isolated and dismantled before performing any maintenance.

6.3. Storage:

If the agitator needs to be taken out of service for a long time, clean and treat its parts with mineral water. When stored, the agitator must be upright, supported in such a way to avoid damage to shaft/impellor.

7. Troubleshooting:

If a fault occurs, please begin by reviewing this operation manual from the beginning to ensure something has not been missed. If a fault remains, do not hesitate to contact Teralba Industries for further support.

7.1. Fault, Cause and Remedy Table:

Fault	Possible Cause	Remedy
Motor Not operating	Faulty Connection	Have certified electrician inspect connection.
Motor Over drawing	A. Viscous/Different Product. B. Fouled Impellor.	A. Refer to design parameters. B. Electrically Isolate Unit. Remove debris – observe confined entry precautions.
Unit Vibrating Excessively	A. Bolts & Fasteners not Tight. B. Damaged shaft/impellor. C. Damaged Bearing	A. Tighten Bolts/Fasteners. B. Remove unit fom Tank. Asses shaft alignment – contact Teralba Industries for service/parts. C. Inspect foot bearing for damage



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8. Disassembly & Assembly:

Both assembly and disassembly of agitators must be carried out by qualified personnel, using only suitable tools and adequate working methods.

8.1. Electrical Safety:



All electric work should be as per Australian Standard AS/NZS 3000 or other relevant country Standards/Codes. Before connecting the electric motor to the power supply, check local regulations and the corresponding codes and standards on electrical safety. This is especially important with regard to the mixer's control device. Consult the manufacturer's instructions before connecting it to the power supply.

Electrical connection of the motors must be carried out by qualified personnel. The motor must be protected against overloads and short circuits by protective devices. The mixer cannot be used in fire or explosion hazard zones, unless this has been specified in the order.

Unless otherwise specified in the order, the Mixquip mixer will be ready to operate with a 415V 50Hz power supply.

8.2. Disassembly of Lid:

When the power supply has been disconnected, work to dismantle the agitator can begin:

- Remove Bolts holding lid to tank
- Lift lid assembly up – this contains both agitators
- Gate mixer will slide out of bottom foot bearing

8.1. Foot Bearing

- Remove bottom triclover outlets
- Special Peak foot bearing will now be visible, bearing most then be removed.
- Replacement bearing be order through teralba industries.
- Reverse process to install new bearing.

8.3. Lip seal Replacement:

- Follow steps to remove lid
- Remove propellers by removing hygenic bolt
- Shaft will then need to be removed from motor – refer to motor manual in appendix.
- Existing seals and bearings will then slide off, they will be quiet tight.
- It is recommended to change bearing at time of seals.
- Reverse steps to re-install shaft and propellers

8.4. Inner Shaft bearing Replacement:

- Follow steps to replace lip seal.



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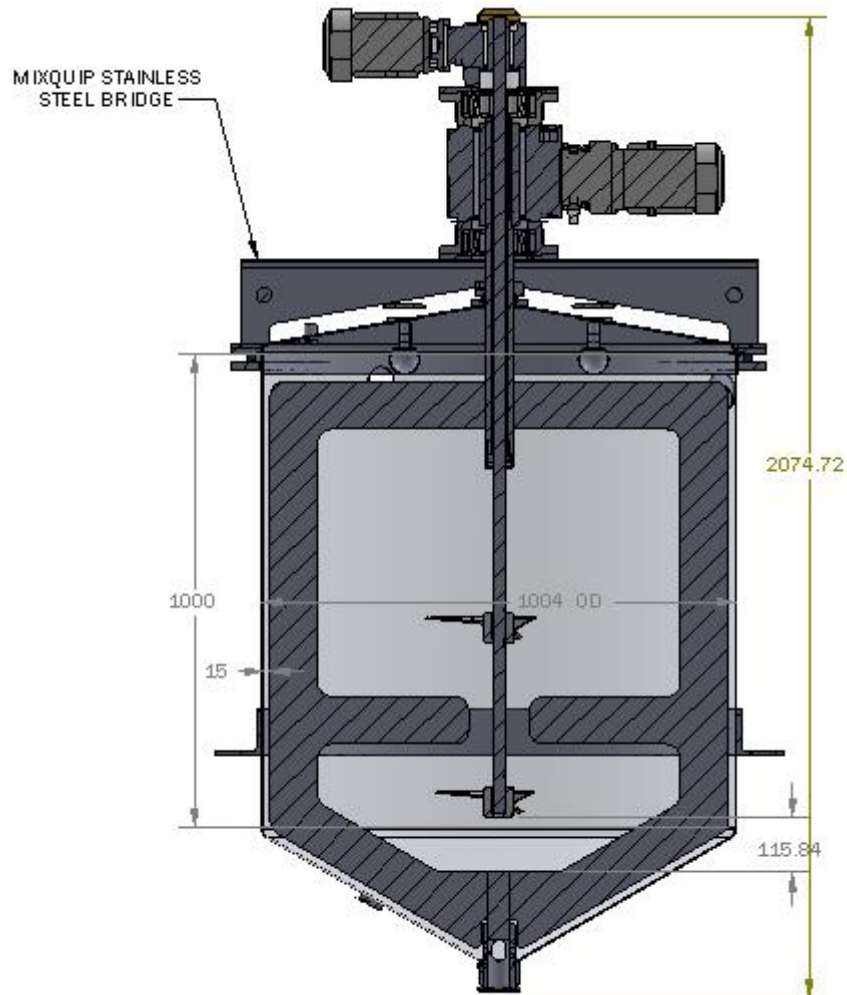
8. Technical Specifications:

Teralba Industries Mixers are both Specialised and Practical Industrial Products, Technical Specifications provide additional information on our Products.

9.1. Technical Data:

Weight:	460kg
RPM:	280/15
Power(kW):	0.75/0.55
Sound Level:	87 dB(A) Max.
Wetted Surface:	316SS

9.2. Dimensions:





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9.1. Spare Parts

- AP3001 - Hygenic Double Lip seal
 - AP4001 - Shaft Bearing
 - AP4002 - Peak Foot bearing
 - 56mm x 3mm O-Ring for outlet connection.
-
- For motor replacement parts please see attached manuals.

It is recommended to contact teralba industries for replacements parts



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10. Appendix:

See attached documents for reference to OEM components.