

User Manual

KARYU turbo mixer

KTM__N Series

KTM15N. KTM20N. KTM25N. KTM32N. KTM40N

Thank you for purchasing the KARYU turbo mixer. Please read the user manual completely before using the KARYU turbo mixer and use KARYU turbo mixer correctly and safely. After reading the manual, please store in the place so that it is accessible easily. Please ensure that the person using this can access this manual easily.

In order for you to use this KARYU turbo mixer safely,

The usage method and the points to take care are described in this user manual. Since it may result in unexpected problems if used in a wrong manner, please read the manual carefully before installation, wiring, operation, maintenance and inspection of the KARYU turbo mixer and then use correctly.

In order to prevent harm, injury or any damage to the user and the people in the vicinity in a precautionary way, the safety instructions are classified into ranks like [Warning] and [Note].

Warning	In case of wrong usage, it may result in the death or serious injury of the user or the persons nearby. Hence, please understand the contents of this manual completely and please follow the instructions exactly.
Note	In case of wrong usage, it may result in the medium or slight wound to the user or the persons nearby, or in the physical damage. Hence, please understand the contents of this manual completely and please follow the instructions exactly.

NIKUNI Co.,Ltd.

Head office : 843-5 Kuji, Takatsu-ku, Kawasaki, Kanagawa, Japan, Postal code: 213-0032
TEL (044)833-1121 FAX (044)833-6482

Office : Osaka • Nagoya • Fukuoka

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1. Introduction

Thank you very much for using the KARYU turbo mixer (KTM). We have taken utmost care while manufacturing so that you can use this KTM safely. However, if this is used in a wrong manner, it may result in unexpected accident. Please use the KTM carefully and correctly by referring to this manual.

2. Unpacking check

Once you receive the KTM, please check the following.

- 1) Confirm whether the model number printed on the nameplate is the same as the one you had ordered for.
- 2) Confirm whether no damages have occurred during the transportation and whether nuts and bolts are not loosened.
- 3) Confirm whether the coupling can be turned by hand.
- 4) Confirm that all accessories and spare parts exist.

If there is any problem, please contact the seller by explicitly mentioning the model number printed on the nameplate and the manufacturing number (serial number).

3. Installation

3-1 Place of installation

- 1) Please install at the place with surrounding temperature within 40°C, humidity within 95% and altitude within 1,000 m. (These conditions may differ based on the specifications of the motor. Please contact the seller or us, if any condition is exceeded.)
- 2) Select a place with good air circulation and with less dust as much as possible.
- 3) Select the place where maintenance and inspection is possible.
- 4) Please use a fence or enclosure to ensure that non-related persons do not access the KTM.
- 5) Please install the KTM in a place near to the water source so that the length of the suction pipe is short.

3-2 Foundation work

- 1) Since the Foundation concrete sinks or inclines if the ground is weak, please see that there is sufficient area and volume to withstand the mass of the KTM. Also, depth should be sufficient enough to prevent frost heaving in the winter.
- 2) In order to embed the foundation bolt into the concrete, make the hole with enough space based on the drawing or the actual bolt itself, and see that the surface is as horizontal as possible.
- 3) Start the installation work after confirming that the concrete has dried up sufficiently.

3-3 Installation position

- 1) Once the foundation concrete gets dried and hardened, place the KTM on it.
- 2) Please check whether the common bed is horizontal or not using the spirit level, and if necessary, please insert a wedge (Taper liner) underneath the common bed and make it horizontal.
- 3) Once these adjustments are over, please pour the mortar below the common bed and strengthen (harden) it. During this, please ensure that the mortar is distributed evenly below the common bed and there are no cavities inside.
- 4) Once the mortar gets dried up, please tighten the foundation bolt evenly so that it is not tightened on one side only.

3-4 Plumbing work

- 1) Suction piping
 - (1) Please restrict the curves of the suction pipe to the minimum and connect to the water tank keeping the distance at the minimum. Also, for the KTM inlet, use a straight pipe whose length is more than 6 times of the inlet diameter. However, if the above conditions cannot be met due to the restrictions at the place of installation, please implement the piping by carefully considering NPSH.
 - (2) Please ensure that the diameter of the suction pipe is as large as possible. (At least same as the Inlet diameter)
 - (3) If the water level of the water tank is below the KTM, fix the foot valve at the bottom of the suction line. Also, fix the suction pipe in such a way that, the end of the suction pipe is inserted at the depth of more than 4 times of the inlet diameter from the water level, and more than 2 times the diameter from the bottom of the tank.
 - (4) Upgrade the suction pipe towards the KTM (1/100 or more) so that air lock is not created. Also, please fix the coupling of the suction pipe with utmost care so that air does not enter it.
 - (5) Please note that if particles like threading cuts, welding slag, sand etc. are inside the pipe, then the same would