

Welcome

Kadzama Company thanks you for purchasing our melanger. This operating manual is an integral part of this equipment and its main purpose is to ensure its safe use for the entire service life from unpacking to disposal.

Kadzama strongly recommends that everyone who is allowed to interact with this equipment carefully studies this document. We also ask you to note that each user must have constant access to these instructions. If your manual has been damaged during usage, rendering it unusable, or if it has been lost, please request a copy via official email at support@kadzama.com or download it from kadzama.com.

Kadzama is the developer of this equipment and therefore may make changes to the design of the melanger and the user manual if necessary, which may result in some discrepancies between the equipment itself and the images shown in this manual.

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1. Main information

1.1 General information

For simplicity and ease of use, all information in this manual is divided into topics and located in the section to which it relates. However, if you have difficulty understanding or interpreting the statements in this manual, please contact Kadzama's technical support service for clarification.

Everyone who will be allowed to interact with this machine must read and understand the information contained in this manual.

1.2 Symbols used



Attention. These messages are designed to draw attention, especially in processes that require it. Failure to comply with this requirement may endanger the life and health of the user and cause damage to individual parts of the equipment or the equipment as a whole.



Warning. These messages are used to draw attention to processes in which incorrect use may result in damage to the equipment or its individual parts.



Environment. These messages are intended to draw the user's attention to processes, actions or consequences that may harm the environment.



Notes. These messages contain explanations, notes and recommendations that will be useful to the user during operation and are of a recommendatory nature.

1.3 Content and purpose

- The purpose of this manual is to provide all users interacting with this equipment with the necessary and sufficient information for its correct use, maintenance and safe application for themselves and those around them.
- This manual complies with the EU and international requirements and standards and contains all the necessary instructions to ensure the highest level of use of the relevant equipment.
- The following requirements must be observed:
- Every operator, technician or other person authorised to interact with this equipment is required to carefully study these instructions.
- The person responsible for occupational safety in the workplace must ensure that all personnel authorized to interact with this equipment have read these instructions and understand the basic principles of operation of this equipment.
- All rules and recommendations contained in these instructions must be observed throughout the entire period of operation of the equipment, from transport to disposal.

1.4 Protection of the manual

This manual is an integral part of the equipment and therefore all safety requirements contained in this manual apply to it.

The following rules must be observed with regard to the manual itself:

- Store in a place protected from open flames and moisture.
- Store in a place accessible to personnel authorised to interact with the equipment.
- Do not use this manual with dirty hands.
- Do not make any changes to the text or images in this manual.
- Do not tear or crumple the pages of this manual.

1.5 Appearance and details



1 — Base

2 — Swing frame

3 — Tank

4 — Adjustable stones tensioner

5 — Control Block

6 — Handwheel

1.6 Identification plate



Line 1 - Product name

Line 2 - Model and serial number

Line 3 - Voltage and power

Line 4 - Manufacturer information

Line 5 - Place of manufacture information

Line 6 - Safety and compliance markings, year of manufacture

1.7 Intended Use

The melanger is designed for grinding cacao beans, sugar, nuts and other dry ingredients to a paste substance.

1.8 Operating environment

The melanger is designed for operation at temperatures of 10-40°C and relative humidity no greater than 80%. The equipment must be protected from harmful weather and atmospheric conditions (such as rain, frost, hail, etc.).



Any worker permitted to work on this equipment must ensure that there is no open flame or explosives in the immediate vicinity of the equipment.

1.9 Technical specifications

Melanger 20 kg

Dimensional size	680 x 875 x 1050 mm
Weight	130 kg
Loading capacity	12 - 20 kg (26 - 44 lb)
Supply	220-240 V~50-60 Hz
Power	1,1 kW
Housing material	Steel
Temperature Control	Yes
Rotation speed	10 - 90 rpm
Package overall size	1200 x 800 x 1550 mm
Package weight	150 kg
Warranty period	2 years
Bowl volume	30 liters / 53 pint

Melanger 35 kg

Dimensional size	680 x 910 x 1100 mm
Weight	170 kg
Loading capacity	20 - 40 kg (44 - 88 lb)
Supply	220-240 V~50-60 Hz
Power	2,2 kW
Housing material	Steel
Temperature Control	Yes
Rotation speed	10 - 90 rpm
Package overall size	1200 x 800 x 1550 mm
Package weight	210 kg
Warranty period	2 years
Bowl volume	50 litres / 88 pint

Melanger 65 kg

Dimensional size	800 x 1070 x 1180 mm
Weight	270 kg
Loading capacity	40 - 65 kg (88 - 143 lb)
Supply	220-240 V~50-60 Hz (available 380 - 400 V)
Power	3,0 kW
Housing material	Steel
Temperature Control	Yes
Rotation speed	10 - 90 rpm
Package overall size	1200 x 800 x 1550 mm
Package weight	316 kg
Warranty period	2 years
Bowl volume	92 liters / 162 pint

Melanger 85 kg

Dimensional size	850 x 1150 x 1250 mm
Weight	325 kg
Loading capacity	50 - 90 kg (110 - 187 lb)
Supply	220-240 V~50-60 Hz (available 380 - 400 V)
Power	3,0 kW
Housing material	Steel
Temperature Control	Yes
Rotation speed	10 - 90 rpm
Package overall size	1200 x 800 x 1550 mm
Package weight	346 kg
Warranty period	2 years
Bowl volume	110 l / 192 pint

1.10 Storage

Store the melanger on a flat surface with ample space. During storage turn off the equipment using the on/off button and unplug the main power cable.

1.11 Disposal

All components of this equipment must be disposed of in accordance with the applicable laws of the country in which it is disposed of. All electronic and electrical materials must be separated, and all rubber and plastic components must be disposed separately.

1.12 Warranty**Based on EU Directive 1999/44/EC**

Kadzama provides a 2-year warranty for this equipment model. This warranty covers failure of the electrical or mechanical components included in it, when used properly and in accordance with all instructions contained in this manual, the warranty is void if this equipment is repaired by unqualified personnel or if the identification plate containing the manufacturer's information and serial number is removed. Equipment repair works must be performed only by authorized persons approved by the manufacturer.

External mechanical damage, as well as unauthorized modifications and changes to the equipment, may affect the safety and operation of the equipment completely, and the equipment warranty will be voided.

During the warranty period the manufacturer undertakes to repair the equipment in the event of a breakdown or replace defective parts. In cases where repairs must be performed at the service center, the manufacturer covers the cost of transporting the equipment during the warranty period. Cleaning of equipment or its parts is not covered by the warranty.

1.13 Personnel qualifications

Mechanical Maintenance



Only qualified and trained personnel may operate the equipment. Any maintenance must also be performed only by qualified personnel.

Every person authorized to operate or perform maintenance must read and understand the information contained in this manual.

Electrical service

An electrical maintenance specialist must have a general knowledge of electrical circuits, as well as knowledge of the specific circuits and components used in the equipment.

Furthermore, such a specialist must be certified to operate the equipment.

The technician must disable the equipment's safety device before servicing. Any person authorized to work on this equipment may begin work only after all electrical controllers and components are in their designated locations and in working order.



Any action not described in this manual may only be performed by a specialist authorized by the manufacturer.

2. Safety Measures

- melanger is an electric appliance with a certain danger potential. When connecting the device to the electric grid, take all necessary precautions to avoid electric shock.
- melanger must be operated only by trained personnel.
- It is not allowed to operate melanger in the absence of electrical grounding («E» wire).
- melanger should be used only for its intended purpose.
- Use and store melanger in a place out of reach of children
- Do not leave melanger switched on without supervision for a long time.
- Do not operate melanger with wet hands.

- Do not allow liquids through the vents of melanger.
- Do not use melanger at ambient temperatures below 10°C and above 40°C, and relative humidity above 80%.
- When transporting melanger at sub zero temperatures, prior to first use it should be kept at room temperature for at least 1 hour.
- Any maintenance should be carried out when the melanger is disconnected from the power supply!
- Repair or disassembly of melanger may only be provided with the assistance of qualified personnel of KADZAMA.

3. Delivery and Transport

3.1 Packaging

General instructions and information with labels written on the package must be read before moving the equipment. The melanger is shipped assembled in a cardboard box.

3.2 Transportation

Equipment must be transported using a vehicle capable of lifting the load. After loading the equipment into the vehicle, ensure it is adequately secured to prevent movement or fall during transportation.

The melanger must be transported safely. Whilst transporting with other equipment, ensure that it will not damage the melanger during transit.



The manufacturer's warranty does not cover damage that may occur during shipping. To avoid any conflict, the customer must follow the instructions regarding unpacking on the adhesive. The instruction comes with the parcel and it's preliminarily sent to the customer.

3.3 Unloading and unpacking

Unloading and moving the equipment must be carried out by trained personnel only. Always wear appropriate personal protective equipment (PPE), including safety shoes. Keep all bystanders away from the unloading area.

The unloading of the melanger must be carried by a vehicle/truck with a lift loading platform and capable of lifting the load. It must be able to lift the weight of the melanger

contained in the specifications of this manual (section 1.9). Minimum 2 people must accompany the process of unloading to prevent any damage.

Unloading Procedure:

- Inspect the shipping crate (box) for visible damage before unloading.
- Verify that the lifting equipment has sufficient load capacity.
- Position the crane or forklift on firm, level ground.
- Attach the lifting slings only to the designated lifting points on the equipment or its pallet.
- Ensure that all slings are evenly tensioned before lifting.
- Lift the load slowly and smoothly. Do not allow the equipment to swing.
- Keep personnel clear of the suspended load at all times.
- Lower the equipment carefully onto a flat, stable surface.
- Remove all packing materials and inspect the equipment for shipping damage.
- Retain the packaging until installation has been completed and the equipment has been inspected. Save the original packaging! If the equipment needs to be returned to the manufacturer for special service or repair, the packaging will be required.

Important Safety Notes:

- Never lift the equipment by electrical cables, piping, handles, or covers.
- Never stand or walk beneath a suspended load.
- Do not use damaged lifting slings or hooks.
- If the center of gravity is unknown, raise the load only a few centimeters first to verify its balance.
- If any instability is observed, lower the load immediately and reposition the lifting slings.

4. Installation part

4.1 Installation

Before placing the machine, ensure that the frame, components, or parts will not be damaged during installation.

If any damage is detected, notify the manufacturer immediately.

4.2 Required Working Area

The surface on which the melanger will be placed must be sufficiently strong and suitable for the machine's weight. The customer is responsible for ensuring that the surface meets these requirements. The floor where it is installed must be reasonably level. To prepare the required work area and installation space, the equipment dimensions are provided to scale in Section 1.9. It should be positioned away from other equipment.

4.3 Operational preparation

After installing the equipment and connecting it to the electrical network, make sure there are no objects inside, and clean any elements contaminated during the installation process.

4.4 Before start

4.4.1 Remove the packaging.

4.4.2 Set melanger on a flat hard surface, providing easy access to controls.

4.4.3 Make sure that the distance between the body and the nearest objects is at least 10 cm, make sure the air vents are not blocked

4.4.4 Fix the wheels with wheel clips.

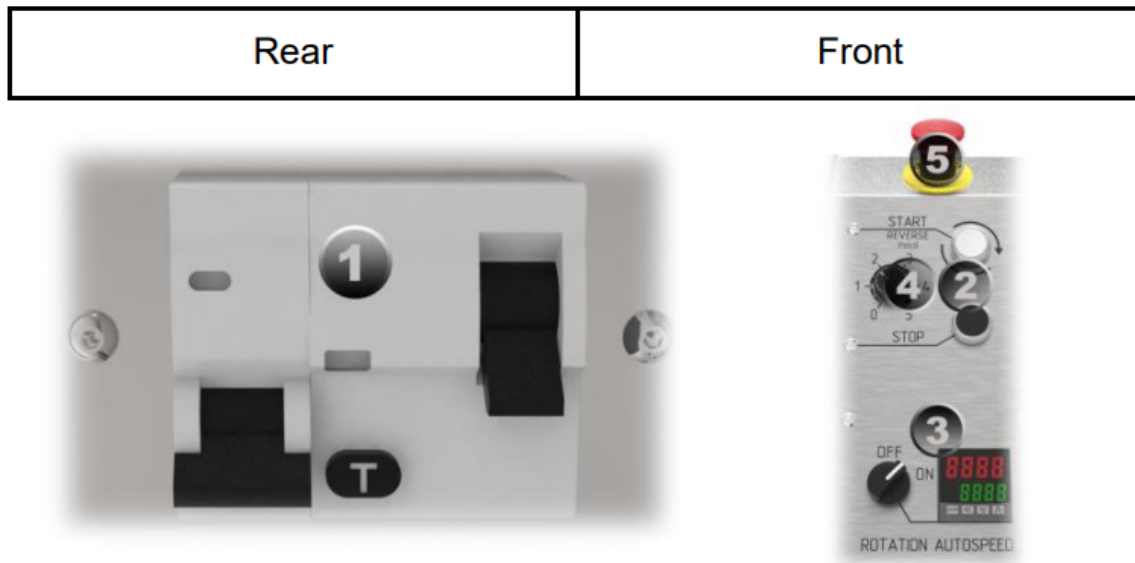
4.4.5 Make sure that the power cable:

- Does not touch moving parts of the device;
- Is not pressed by any objects;
- Is not located under the device;
- Does not touch hot parts of the device, such as an electric motor or heating elements.

4.4.6 Plug the equipment into a 220V power supply.

5. Operating section

5.1 Control Element Identifiers



1 — Circuit Breakers

2 — START / STOP / Reverse buttons

3 — Rotation autospeed control panel

4 — Rotary speed control knob

5 — Emergency stop button

5.2 Connection

5.2.1 General requirements



The melanger must be connected by qualified electrical installation personnel in accordance with current regulations, the facility's power supply design, and the data indicated on the equipment nameplate.

Before connection, make sure that:

- the voltage and frequency of the power supply match the melanger specifications;
- the line has a PE protective conductor;
- the cable cross-section, circuit breaker, and RCD/differential protection correspond to the equipment power and rated current;
- there is no insulation damage, mixed-up N/PE conductors, loose contacts, or unstable voltage in the power supply network.



Operation of the melanger without a PE protective conductor is prohibited.

5.2.2 Separate power line



It is recommended to connect the melanger to a separate power line from the distribution board.

It is not recommended to connect the melanger to the same group line as equipment that may generate electromagnetic interference or pulse leakage currents, such as:

- other frequency converters;
- welding equipment;
- powerful switching power supplies;
- UPS units;
- compressors;
- induction equipment;
- high-power heaters with electronic control;

- equipment with high inrush currents;
- contactors, solenoids, and electromagnetic valves without interference suppression.



Shared power supply with such equipment may cause false RCD tripping, frequency converter errors, or unstable melanger operation.

5.2.3 RCD and differential protection

The melanger is equipped with a frequency converter with a built-in EMC filter. The EMC filter is enabled as standard and creates an operating leakage current to the PE protective conductor during operation. This is not an equipment malfunction.

The distribution board must use RCD/differential protection compatible with frequency converters:

- for single-phase models with a frequency converter — at least type F; type B is also permitted;
- for three-phase models with a frequency converter — type B or B-Si is recommended;
- the use of type AC RCDs is not permitted;
- the use of type A RCDs is permitted only if this is specified in the electrical design and confirmed by the protective device manufacturer for operation with frequency converters.

If a type F RCD is already installed in the melanger, the RCD in the distribution board must be selectively coordinated with it. It is not recommended to install a group RCD of the same sensitivity without delay upstream of the equipment, especially if several devices with EMC filters are powered through it.



Important: it is prohibited to eliminate RCD tripping by disconnecting the PE protective conductor, installing jumpers, replacing the RCD with an unsuitable type, or disabling the EMC filter without approval from the manufacturer.

5.2.4 PE protective grounding

The PE protective conductor must be connected directly and reliably. The following are not permitted:

- operation of the equipment without PE;
- combining N and PE after the RCD;
- connecting PE through switches, fuses, or unreliable detachable connections;
- using pipes, metal structures, or the neutral conductor instead of the protective conductor;
- connection through extension cords, adapters, or sockets without a properly functioning grounding contact.

Before start-up, it is recommended to check:

- PE continuity;
- contact quality in the distribution board, plug/socket, or terminal box;
- absence of mixed-up N and PE conductors;
- absence of leakage to the housing from the external power supply line.

5.2.5 Line length and routing

The length of the power supply line from the distribution board to the melanger without additional approval is up to [30 m]. If the line length exceeds [30 m], the connection must be approved by the manufacturer or the design organization, with verification of voltage drop, protective disconnection parameters, PE quality, and leakage current levels.

5.2.6 Check after connection

After connection, perform a test run without load and under working load.

Check that:

- the melanger starts without frequency converter errors;
- the RCD inside the equipment does not trip during normal operation;
- the RCD/differential protection in the distribution board does not trip during start-up and operation;
- the equipment housing has no dangerous potential relative to PE;
- there is no interference with nearby equipment;
- there is no heating of the cable, plug, socket, terminals, or protective devices.



The melanger is equipped with a frequency converter with an enabled EMC filter. During operation, a normal leakage current to the PE protective conductor may occur. To prevent nuisance tripping, the equipment must be connected to a dedicated power line with a properly functioning PE protective conductor and an RCD/differential protection device compatible with frequency converters. Do not disconnect the PE conductor, bypass the RCD, or disable the EMC filter to prevent protective device tripping.

5.3 Usage

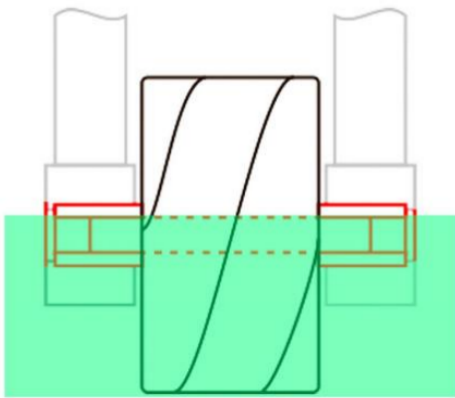
5.2.1 melanger is ready to work, switch it on using the circuit breakers located at the back of the control block. Make sure the emergency stop button (5) is not activated (if it turned on — turn off by rotating it clockwise).

5.2.2 Operate the main drive using the START / STOP buttons. The melanger is equipped with lids. To start the tank rotation, cover it with lids, placing them both in slots over the sensors (sensors are located 1pc on each side diagonally). The tank rotation will stop as soon as at least 1 lid is removed. To restart the rotation, put both lids on the sensors and press the START button over again. The START button is also responsible for the reverse function: press and hold it while the melanger is working to change the direction of bowl rotation. Release the pressed START button so that the reverse rotation stops and returns to original rotation.

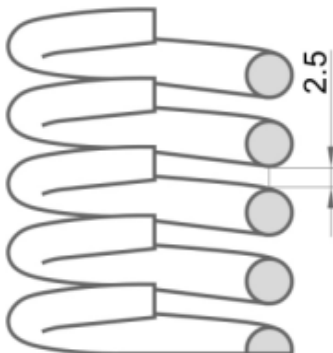
5.2.3 The rotation speed is controlled manually by knob (4) if the switcher on panel (3) is turned to OFF. To select automatic speed control set the upper temperature value on the controller (— select a number, — set values, MODE — confirm). Then turn the switch to ON. Now the rotation speed will slow down as the temperature of the mass approaches the set upper value (manual control by knob (4) is inaccessible).

5.2.4 Do not rotate the tank when the swing frame is at any other position than the original vertical.

5.2.5 Do not start the melanger when the stones are dry (!). This may cause rapid deterioration. During the grinding, axes of the millstone must be covered with the mass — this determines the minimum loading capacity of melanger (!).



5.2.6 The tensioner provides additional pressure on the stones to the bottom of the tank. That increases the productivity of the melanger. When the pressure is reduced, the grinding process is slowing down, but the conching process continues with the same intensity. A gap between the spring coils must be at least 2-3 mm for the tensioner to work properly.



5.2.7 Unused millstones need some breaking-in to reach maximum grinding intensity (!).

5.2.8 Load the ingredients gradually in order to avoid tank jamming.

5.2.9 If there is cacao butter in the recipe, it may be added at the same time with cacao nibs. That will ease primary grinding. It is recommended to add cacao butter in liquid form.

5.2.10 Gradually add the ingredients you want to grind till paste substance into the tank. To make chocolate, gradually add roasted cacao nibs. Add sugar as soon as the mass becomes fluid.

5.2.11 After the work is complete, pour off the produced mass. To do this, you need to tighten the nuts of the tensioner and bring the swing frame to the position you need to pour the mass, while rotating the handwheel (6).



Do not operate the melanger without a load for prolonged periods. Never start with solidified chocolate mass inside, the chocolate must be preheated beforehand until it reaches a fluid consistency before the melanger is started.

6. Maintenance and repair

6.1 General information



Ingredients should never come into contact with water or other liquids when used in equipment. Otherwise, bacteria and mold may develop. If bacteria are detected in a product produced on this equipment, production should be stopped immediately and the manufacturer should be contacted for disinfection.

Non-standard maintenance should only be performed by manufacturer-approved technicians.

6.2 General safety precautions

Before commencing any maintenance work, the melanger must be disconnected from the electrical supply and all necessary safety precautions must be taken.

At the beginning and the end of each maintenance, dust and other trash should be removed with a vacuum cleaner. Suitable solvents can be used if necessary.

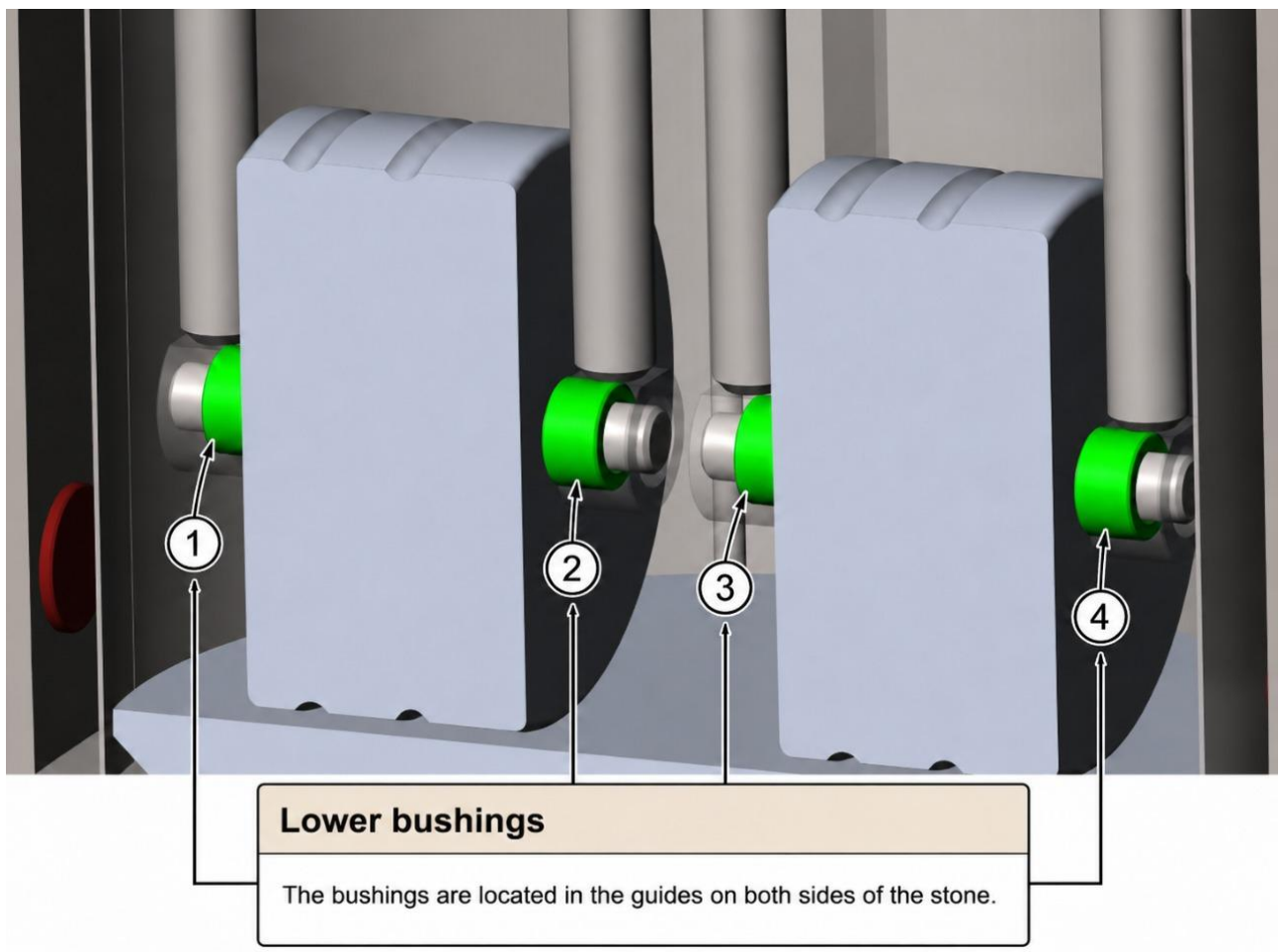
After each maintenance, the machine must be checked by a safety expert to ensure that it is operating properly.

6.3 Bushings check-up and replacement

This instruction is intended for replacing the lower bushings of the melanger rollers (stones).

Inspect the bushings every six months during intensive operation. Replace them immediately if wear or deterioration is detected.

You can order replacement parts directly from the manufacturer.



6.3.1 Location of the Lower Bushings

The lower bushings are located in the guides on both sides of each roller (stone). Four bushings are installed in total.

The bushings are made of wear-resistant polyamide and are replaceable inserts.

6.3.2 What to Inspect

Inspect all four lower bushings for oval wear, cracks, chips, material deterioration and any signs that the stone shaft has contacted the metal guide.

IMPORTANT: Do not operate the melanger if the shaft begins rubbing against the metal guide.

6.3.3 Disassembly and installation.

Stop the melanger and disconnect it from the power supply. Clean off product residues. Remove the upper beam, disassemble the stones: carefully unscrew and remove the heavy granite runners.

Access the Bushings: remove the central axis or spindle assembly that connects the runners to the rotating mechanism. Remove the old bushings: they have to be carefully pressed or tapped out of their housing. Remove all residues and contamination. Clean the bushing seats and the shaft. Install new bushings only on clean seating surfaces. Install the new bushings: press the new bushings into the housing, using a rubber mallet. Be extremely precise to ensure they are set to the exact depth and angle, as improper alignment can affect grinding efficiency or cause jamming. Verify that the bushings are fully seated, aligned, securely fixed and that the shaft rotates freely.

6.3.4. Reassembly

Reinstall the stones, upper beam and fasteners. Rotate each roller stone by hand before startup. Ensure smooth rotation without binding. A slight design clearance is normal. Run the melanger without product for 1–2 minutes and check for abnormal noise, vibration, roller runout and overheating.

6.4 Checklist of malfunctions

If the melanger does not start, follow these steps first:

- Check the power cable; it must be undamaged and properly connected to the melanger;
- The socket where the melanger is connected has a voltage that corresponds to the power supply parameters specified in the technical specifications of the device being connected (your building may be completely de-energized, or the circuit breaker responsible for this socket may be turned off in the distribution board of the premises);
- The plug is connected to the socket correctly and completely;
- Circuit breakers (automatic switcher / RCD) are turned on (control levers up).
- Red emergency stop button on the body of the equipment is not pressed (push it to check, then turn counterclockwise until OFF).
- All equipment lids (if available in the set) are on.
- Rotary speed control knob (potentiometer knob) is not (!) at 0.
- The tank starts rotating when the knob is turned to the ON (if available) / pushing the START button (you will hear a click sound and the button itself lights up).

— If all the conditions listed above are met and the tank does not start rotating — visually check the fan impeller of the electric motor. Inform KADZAMA manager with the result (rotating / not rotating) for further instructions.

Possible Problems and Causes

Problem	Possible Causes	What to Check
RCD inside the melanger trips	Excessive leakage current, moisture, contamination, damaged cable/motor, faulty EMC filter or frequency converter, PE/N wiring issues.	Check the PE conductor, motor and cable insulation, absence of moisture, correct N/PE wiring, and measure leakage current with a clamp meter.
RCD in the supply panel trips	Incorrect RCD type (AC/A instead of F/B), same sensitivity as the internal RCD, lack of selectivity, cumulative leakage from several devices, long supply line.	Connect the melanger to a dedicated line, verify the RCD type, $I_{\Delta n}$ setting, time delay, leakage current, and disconnect other loads for testing.
RCD trips when the EMC filter is enabled	The normal leakage current from the EMC filter flows to PE while the RCD is not intended for use with frequency converters/EMC filters.	Use a compatible RCD type, verify selectivity, do not disconnect the PE conductor or bypass the RCD.
Frequency converter error BRC 10 E093	Refer to the BRC 10 manual for the exact error description. Possible external causes: voltage drop, power disturbances, poor PE connection, loose terminals, shared supply line with interference-generating equipment.	Check the supply voltage under load, terminals, PE connection, dedicated supply line, and absence of nearby interference sources.
Interference affecting nearby equipment	EMC filter disabled, incorrect cable routing, poor PE connection, shared line with sensitive equipment.	Enable the EMC filter, check the PE connection, separate the supply lines, and connect the melanger to a dedicated circuit.
Periodic shutdown without an obvious cause	Total leakage current close to the RCD trip threshold, unstable	Measure leakage current, inspect all electrical connections, eliminate

	power supply, moisture, poor PE/N connection.	other loads, and test operation on a dedicated power line.
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6.5 Maintenance and care

- During the operation keep the melanger clean.
- It is allowed to wipe the melanger with a damp cloth, after disconnecting it from the power supply.
- You can wash the tank and the stones under warm water and wash it with detergents.
- Do not allow water into the control block.