K A D Z A M A

Chocolate & confectionery equipment



MELANGER

Operating Manual

Models **20 kg · 35 kg · 65 kg · 85 kg**

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 Personnel qualifications

Mechanical maintenance



ATTENTION

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.



ATTENTION

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

2. Safety measures

Safety measures contain essential health and safety requirements of the EU Machinery Directive 2006/42/EC and the new Machinery Regulation (EU) 2023/1230, as well as the principles of EN ISO 12100 and EN 60204-1.

2.1 General safety requirements

This machine has been designed and manufactured in accordance with applicable European safety requirements. Safe operation depends on correct installation, proper use, regular maintenance, and compliance with the instructions contained in this manual.

Before operating the melanger, carefully read and understand this manual.

The manufacturer shall not be liable for injuries, equipment damage, or product loss resulting from improper installation, unauthorized modifications, misuse, or failure to follow these instructions.

The machine shall be operated only by personnel who:

- have read and understood this manual;
- are trained in the safe operation of the equipment;
- are physically and mentally capable of operating industrial machinery.

Children and unauthorized persons must not operate or have access to the machine.

2.2 Intended use

The melanger is intended exclusively for:

- refining chocolate masses;
- grinding cocoa nibs;
- processing nut pastes, pralines, and similar food products.

The machine is designed for professional food production only.

Do not use the equipment for: explosive, flammable, or hazardous materials, metal, glass, stone, or other non-food materials; frozen products; any application not specified by the manufacturer.

Any use other than the intended purpose is considered improper use.

2.3 Electrical safety

The machine must be connected only to a power supply that complies with the specifications indicated on the machine nameplate.

The electrical installation shall:

- include a protective earth (PE) conductor;
- be protected by an appropriate circuit breaker;
- comply with applicable national electrical regulations.

Never operate the machine:

- without protective grounding («E» wire);
- with damaged cables or connectors;
- if electrical components are wet or damaged.

2.4 Mechanical safety

- Moving parts may cause injury. No loose clothing, scarves, jewelry or loose gloves can be used as they may become caught in rotating parts. Long hair must be securely tied back.
- 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.
- During operation never insert hands, tools, or foreign objects into the bowl.
- 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.

2.5 Safe operation

Before each use:

- inspect the machine for visible damage;
- verify that all fasteners are securely tightened;
- ensure that the bowl and grinding stones are clean;
- confirm that the shafts rotate freely;
- operate the machine only on a stable, level surface;
- maintain sufficient free space around the equipment for safe operation and ventilation.

2.6 Maintenance safety

Maintenance shall be performed only with the machine disconnected from the electrical supply.

If abnormal noise, vibration, smoke, overheating, or unusual odor occurs, stop the machine immediately, disconnect the power supply, identify and eliminate the cause before restarting.

Do not wash the machine using high-pressure water, steam or immerse electrical components in water. Do not modify, weld, drill, or alter any mechanical or electrical components without written approval from the manufacturer.

3. Melanger description

3.1 Appearance and details



1 Base
2 Swing frame
3 Tank
4 Adjustable stones tensioner
5 Control block
6 Handwheel

3.2 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

3.3 Intended use

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

3.4 Operating environment

The melanger is designed for operation indoors at temperatures of 10–40 °C and relative humidity no greater than 80%.

The operating area shall provide:

- sufficient lighting for safe operation;
- adequate ventilation;
- protection from rain, water splashes, and direct sunlight;
- protection against excessive vibration and mechanical impacts.

ATTENTION

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.

4. Technical specifications

4.1 Melanger 20 kg

Dimensional size	680 × 875 × 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 × 800 × 1550 mm
Package weight	150 kg
Warranty period	2 years
Bowl volume	30 liters / 53 pint

4.2 Melanger 35 kg

Dimensional size	680 × 910 × 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 × 800 × 1550 mm
Package weight	210 kg
Warranty period	2 years
Bowl volume	50 liters / 88 pint

4.3 Melanger 65 kg

Dimensional size	800 × 1070 × 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 × 800 × 1550 mm
Package weight	316 kg
Warranty period	2 years
Bowl volume	92 liters / 162 pint

4.4 Melanger 85 kg

Dimensional size	850 × 1150 × 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 × 800 × 1550 mm
Package weight	346 kg
Warranty period	2 years
Bowl volume	110 liters / 192 pint

5. Delivery and transportation

5.1 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.

5.2 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.



ATTENTION

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. **The check-list must be completed and submitted in order to activate the warranty coverage.**

5.3 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 4). 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.

5.4 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.

The equipment must be stored indoors in a clean, dry, and well-ventilated area.

Recommended storage conditions:

- ambient temperature: **+5 °C to +40 °C**;
- relative humidity: **up to 80%**, non-condensing;
- no exposure to rain, water splashes, condensation, or direct sunlight;
- no exposure to corrosive vapors, aggressive chemicals, conductive dust, or explosive atmospheres;
- no strong vibration, mechanical shocks, or risk of falling objects.

Before storage, the equipment must be cleaned, dried, and disconnected from the power supply. Product residues must be completely removed from all food-contact parts.

During storage, the equipment should be protected from dust and accidental damage. Use the original packaging, protective cover, or other suitable protective material where possible.

Do not place heavy objects on the equipment or its removable parts.

If the equipment has been stored or transported at temperatures below 0 °C, keep it at room temperature for at least 1 hour before connecting it to the electrical supply to prevent condensation inside electrical components.

For long-term storage, it is recommended to periodically inspect the equipment for cleanliness, corrosion, mechanical damage, and the condition of cables, seals, and removable parts.

6. Installation and connection

6.1 Installation

Install the melanger indoors on a stable, level, and load-bearing surface with sufficient space for safe operation, cleaning, maintenance, and ventilation. 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.

Do not connect or operate the melanger until it has been correctly positioned, assembled, inspected, and all protective components have been installed.

6.2 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 4. It should be positioned away from other equipment.

6.3 Operational preparation

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

Before start:

- Remove the packaging.
- Set melanger on a flat hard surface, providing easy access to controls.
- 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.
- Fix the wheels with wheel clips.
- 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.
- Plug the equipment into a 220 V power supply.

6.4 Initial cleaning before first use

As with all food-processing equipment, all product-contact surfaces must be cleaned before the first use.

Although the equipment is cleaned during manufacturing, residues from production, assembly, packaging, or transportation may remain on the surfaces.

Before first use:

1. Make sure the equipment is disconnected from the power supply.
2. Remove all removable food-contact parts in accordance with the maintenance instructions.
3. Wash all food-contact parts with warm potable water and a food-safe, non-abrasive detergent.

4. Rinse thoroughly with clean potable water.
5. Dry all parts completely before reassembly.
6. Wipe the external surfaces with a soft damp cloth. Do not use abrasive cleaners, steel wool, aggressive chemicals, or high-pressure water.

Do not immerse electrical components, the motor, or the control panel in water.

Ensure that all parts are completely dry before connecting the equipment to the electrical supply.

6.5 Connection

6.5.1 General requirements



ATTENTION

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.



ATTENTION

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

6.5.2 Separate power line



NOTE

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.



WARNING

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

6.5.3 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.



ATTENTION

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.

6.5.4 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.

6.5.5 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.

6.5.6 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.

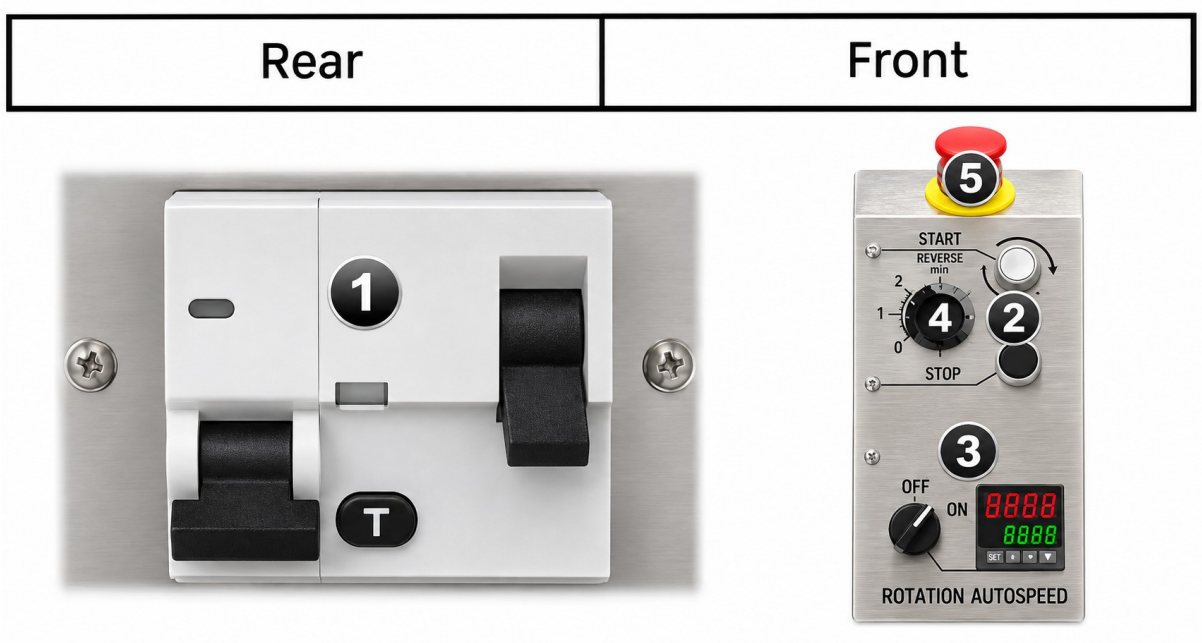


WARNING

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.

7. Operating section

7.1 Control element identifiers



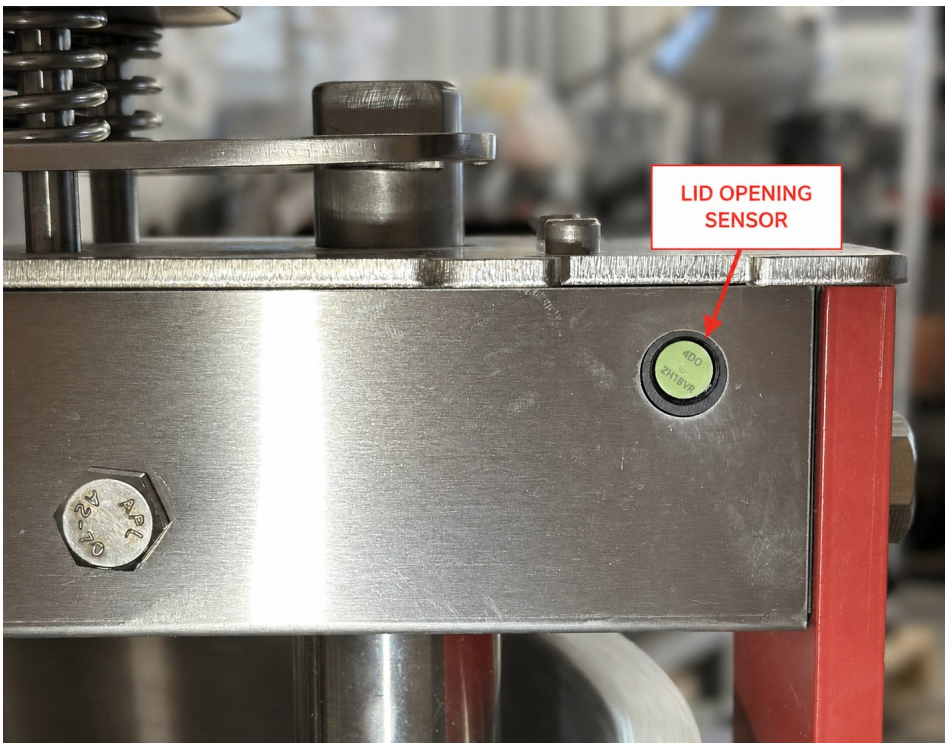
1 Circuit breakers
2 START / STOP / Reverse buttons
3 Rotation autospeed control panel
4 Rotary speed control knob
5 Emergency stop button

7.2 Usage

Before switching on the melanger, ensure that:

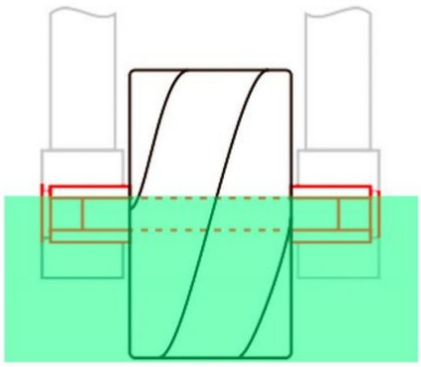
- the machine has been correctly installed;
- all components are properly assembled;
- the bowl, grinding stones, scrapers and lids are correctly installed;
- the machine is clean and ready for food production;
- there are no foreign objects inside the bowl;
- the emergency stop button is released.

1. The 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 is turned on — turn it off by rotating it clockwise).
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 1 pc on each side diagonally).

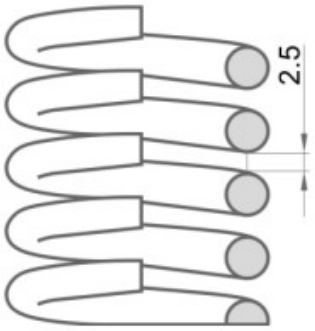


The tank rotation will stop as soon as at least 1 lid is opened or removed. To restart the rotation, close both lids to cover the sensors and press the START button over again. The START button is also responsible for the reverse function: press and hold it while the melanger is working to change the direction of bowl rotation. Release the pressed START button so that the reverse rotation stops and returns to original rotation.

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).
4. Do not rotate the tank when the swing frame is at any other position than the original vertical.
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 (!).



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.



7. Unused millstones need some breaking-in to reach maximum grinding intensity (!).
8. Load the ingredients gradually in order to avoid tank jamming.
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.
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.
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).

ATTENTION

During storage or resting, the chocolate mass may naturally separate into layers due to differences in density. The more liquid components tend to rise to the surface, while heavier solid particles settle toward the bottom. Therefore, before each use, the chocolate mass must be thoroughly stirred to ensure an even distribution of all components and restore a smooth, uniform consistency throughout the entire mass.

WARNING

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.

7.3 Auxiliary power socket



The auxiliary power socket installed on the front side of the melanger is intended exclusively for connecting a KADZAMA Vibrating Sieve.

The maximum permitted connected load is 1,000 W. Do not connect any other appliance, machine, heating device, extension lead, or electrical equipment with a power rating exceeding this limit.

Connecting unauthorised equipment or exceeding the maximum permitted load may cause overheating, damage to the socket, wiring, electrical components, or the melanger itself.

Any damage resulting from improper use of the auxiliary socket, connection of unauthorised equipment, or exceeding the 1,000 W load limit is not covered by the manufacturer's warranty.

7.4 Temperature controller



7.4.1 Temperature control and automatic speed regulation

The melanger is equipped with a temperature controller with automatic rotation speed regulation. This function is designed to prevent excessive heating of the chocolate mass during prolonged processing and is particularly useful when the machine operates for extended periods without continuous operator supervision.

7.4.2 Operation without automatic temperature control

When the melanger is operated using the rotation speed control knob, the operator manually selects the required rotation speed. At a higher rotation speed, especially at the beginning of the refining process, the temperature of the chocolate mass may initially remain relatively low. However, during prolonged operation, friction between the grinding stones and the product gradually generates heat, and the temperature of the mass will continue to increase.

ATTENTION

Important. The selected rotation speed does not automatically maintain or limit the product temperature.

Therefore, when operating in this mode:

- the operator must regularly monitor the temperature of the chocolate mass;

- the product must not be allowed to overheat;
- if the temperature approaches the maximum acceptable value for the processed product, the rotation speed must be reduced manually using the speed control knob;
- after the temperature decreases or stabilizes, the rotation speed may be adjusted again as required by the production process.



ATTENTION

Important. The appropriate processing temperature depends on the product and recipe. The operator is responsible for determining the permissible temperature range for the processed mass.

7.4.3 Automatic temperature control

For prolonged operation, including processing during periods when continuous operator supervision is not practical, the temperature controller located on the lower control panel can be used.

The operator sets the required maximum operating temperature on the controller. The melanger then uses the temperature reading to regulate the rotation speed automatically.

The control principle is as follows:

1. Set the required temperature on the temperature controller.
2. Activate the automatic temperature control function.
3. During normal processing, the melanger operates at the required rotation speed while continuously monitoring the product temperature.
4. As the temperature of the chocolate mass approaches the set value, the control system automatically reduces the rotation speed.
5. Reducing the rotation speed decreases the amount of heat generated by friction between the grinding stones and the product.
6. The system continues to regulate the rotation speed according to the measured temperature, helping to maintain the product within the required temperature range.
7. When the product temperature decreases sufficiently, the system may automatically increase the rotation speed again.

This automatic regulation helps prevent excessive temperature rise while allowing the refining process to continue.

7.4.4 Extended / overnight operation

The automatic temperature control function should be used whenever the melanger is intended to operate for an extended period without continuous manual adjustment, for example during overnight refining.

Before leaving the machine operating in automatic temperature control mode, the operator must:

- ensure that the correct temperature limit has been set;
- verify that the temperature sensor is functioning and correctly measuring the product temperature;
- confirm that automatic speed regulation responds correctly when the set temperature is approached;
- ensure that there is a sufficient quantity of product in the bowl and that the shafts, bushings and working surfaces that require product lubrication remain properly immersed;
- make sure that the machine is operating normally, without unusual noise, vibration, leakage or other signs of malfunction.



WARNING

Automatic temperature regulation is a process-control function intended to reduce the risk of product overheating. It must not be considered a substitute for the machine's safety devices or for the inspections required before prolonged unattended operation.

7.5 Prevention of damage to granite components

During operation of the melanger, the granite wheels and the bottom of the working bowl may become hot due to continuous friction. Depending on the product, operating speed, processing time, and other conditions, the temperature of these components may reach approximately 60–70 °C.

After processing is completed, do not pour cold water into the working bowl while the granite wheels and the bottom of the bowl are still hot. Sudden contact between hot granite components and cold water can cause a rapid temperature change and result in thermal shock. Thermal shock may lead to cracking, chipping, structural damage, or premature failure of the granite wheels and other components exposed to significant temperature differences.



WARNING

Never expose hot granite wheels or the hot bottom of the working bowl to cold water or other sudden temperature changes. A rapid temperature difference may cause the granite to crack or become permanently damaged.



ATTENTION

Important: Sudden temperature changes must be avoided not only during cleaning but at all stages of operation, shutdown, maintenance, and washing of the equipment. Always allow heated granite components to cool gradually before exposing them to substantially lower temperatures.

Granite wheel service life and warranty

The granite wheels are designed for long-term operation under normal operating and maintenance conditions. When the melanger is operated, cooled, and cleaned in accordance with the instructions in this manual, the granite wheels are intended to provide a long service life.

Damage caused by improper operation, cleaning, cooling, or repeated exposure to sudden temperature changes is not considered a manufacturing defect. If a granite wheel cracks or otherwise becomes damaged and KADZAMA determines, based on inspection and the available evidence, that the damage resulted from thermal shock, repeated sudden temperature changes, improper cooling, or failure to follow the operating and cleaning instructions, such damage will not be covered by the warranty.

In such cases, replacement granite wheels and any associated delivery costs must be ordered and paid for by the customer.

7.6 Granite bottom sealant

The granite bottom inside the melanger tank is secured using a special food-grade sealant suitable for direct contact with food products. This sealant provides a protective seal between the granite bottom and the stainless steel tank, preventing food particles from entering the gaps.

The condition of the sealant must be checked periodically, particularly during routine cleaning and maintenance. Make sure that the sealant remains intact and shows no signs of cracking, peeling, loosening, or detachment.

If the sealant begins to deteriorate, peel off, or detach in pieces, the damaged sealant must be completely removed and the affected surfaces thoroughly cleaned. A new layer of suitable food-grade sealant must then be applied to restore the protective seal and prevent food particles from entering the gaps between the granite bottom and the tank.



ATTENTION

Only sealants specifically approved for food contact and suitable for the operating conditions of the melanger may be used. Allow the sealant to cure completely before operating the machine.

The use of sealant is an essential part of the granite bottom installation. Since sealant may naturally deteriorate over time, its inspection and renewal are considered routine maintenance and are not covered by the warranty.

The customer is responsible for regularly checking the condition of the sealant, arranging its timely replacement, and ensuring that suitable food-grade sealant is available when needed.

If you have difficulty finding a suitable food-grade sealant or need guidance on removing the old sealant and applying a new layer, please contact the KADZAMA Service Department for assistance.

8. Cleaning and sanitation after use

8.1 General requirements

The melanger must be cleaned after use to prevent the accumulation of product residues, fats, sugar, allergens, microorganisms, and foreign matter.

Proper cleaning and sanitation help to:

- maintain hygienic production conditions;
- prevent cross-contamination between batches;
- prevent the transfer of flavours, colours, and odours;
- reduce the risk of allergen cross-contact;
- prevent hardened product residues from obstructing the grinding stones, shafts, bushings, scrapers, or other moving parts;
- maintain the quality and safety of the finished product;
- extend the service life of the equipment.



ATTENTION

Cleaning and sanitation shall be carried out only by trained personnel in accordance with this manual, the facility's hygiene procedures, and the instructions provided by the manufacturers of the cleaning and sanitising agents.



ELECTRIC SHOCK HAZARD

Before cleaning, disassembly, inspection, or sanitation:

1. Switch the melanger off.
2. Wait until all moving parts have stopped completely.
3. Disconnect the equipment from the electrical power supply.
4. Prevent accidental reconnection during cleaning.
5. Allow hot product-contact parts to cool to a safe handling temperature.

Never clean, disassemble, or reach into the working area while the melanger is connected to the electrical supply.

8.2 Cleaning frequency

The melanger should normally be cleaned:

- after completion of production;
- before processing a different product or recipe;
- before and after processing products containing allergens;
- whenever contamination is suspected;
- after an extended interruption in production;
- before the equipment is returned to service following storage, repair, or maintenance.

When the same product is processed continuously and the melanger is emptied and immediately refilled, the cleaning frequency may be defined by the operator's documented hygiene and HACCP procedures.

Cleaning shall not be postponed if product residues have entered the shafts, bushings, scrapers, seals, joints, or other areas where they may harden and interfere with machine operation.

8.3 Cleaning materials

Use only materials suitable for professional food-processing equipment:

- potable warm water;
- a food-grade, non-abrasive detergent suitable for the processed product;
- a food-grade sanitising agent compatible with stainless steel, granite, polymers, seals, and other product-contact materials;
- soft cloths or disposable food-safe wipes;
- soft nylon brushes of suitable size;
- plastic or silicone scrapers;
- clean, lint-free drying cloths.

Cleaning tools used for the melanger must be clean, in good condition, and reserved for food-equipment cleaning. Brushes or cloths used for floors, drains, waste areas, or non-food applications must not be used.

Do not use:

- steel, wood, metal brushes, knives, screwdrivers, or sharp scrapers;
- abrasive powders or abrasive pads;
- solvents, petrol, acetone, or other flammable cleaning agents;
- strongly corrosive acidic or alkaline chemicals;
- undiluted chlorine-based chemicals;
- cleaning products containing substances that may damage granite, stainless steel, seals, plastics, or electrical insulation;
- strongly scented household detergents that may contaminate the next product batch.

Always follow the chemical manufacturer's instructions concerning concentration, water temperature, contact time, rinsing, personal protective equipment, and disposal.

8.4 Washing and cleaning

- Disconnect the melanger from the power supply before removing any parts.
- Remove only those components identified as removable in this manual. Do not dismantle the motor, electrical enclosure, control panel, bearings, or other non-user-serviceable components.
- Remove loose product residues using a soft brush or food-safe scraper.
- Pre-rinse the components with potable water where appropriate.
- Wash all surfaces with warm potable water and a correctly diluted food-grade detergent.
- Clean all accessible surfaces, paying particular attention to:
  - grooves and working surfaces of the granite stones;
  - the granite base;
  - shafts and bushings;
  - scraper edges and mounting points;
  - corners, joints, threads, recesses, and discharge areas;
  - the inner and outer surfaces of the bowl;
  - surfaces located underneath removable components.
- Use soft nylon brushes to clean grooves and narrow areas.

- Rotate removable grinding components manually, where safe, to gain access to all surfaces.
- Do not leave granite parts immersed in water for longer than necessary.
- Rinse thoroughly with clean potable water until all detergent, loosened soil, foam, and product residues have been removed.
- Allow components to air-dry in a clean, protected area, or use clean, lint-free disposable towels.
- Reassemble the melanger only after all components have been inspected and completely dried. Do not reconnect the equipment to the electrical supply until reassembly has been completed.

No visible residue, oily film, detergent foam, foreign matter, or cleaning-agent odour may remain on food-contact surfaces.

Do not wash electrical or non-removable drive components under running water.



ATTENTION

Granite is porous and must be cleaned carefully. Do not pour very hot water onto cold granite or cold water onto hot granite, as thermal shock may cause cracking.

The use of a pressure washer, steam jet, water hose, or compressed-air jet for cleaning the melanger is prohibited unless a specific model is expressly designed and approved for such cleaning.

9. Maintenance and repair

9.1 General information



WARNING

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.

9.2 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.

9.3 Maintenance and care

Proper maintenance and care are essential to ensure safe operation, consistent product quality, and a long service life of the melanger.

The operator is responsible for keeping the equipment clean, inspecting it regularly, and replacing worn components when necessary.

After each production cycle:

- Disconnect the melanger from the electrical power supply.
- Remove all remaining product from the bowl and grinding stones.
- Clean and sanitise the equipment according to the procedure described in the Cleaning and Sanitation section of this manual.
- Dry all components thoroughly before reassembly.
- Return the swing frame to its original vertical position.
- Store the equipment in a clean, dry environment.

Do not leave chocolate, sugar, nut paste, or other food products inside the melanger for extended periods, as hardened residues may impair machine performance and accelerate wear.

Before each use, check that:

- the machine is clean and correctly assembled;
- all guards, covers, and safety devices are in place;
- the grinding stones are free from cracks, chips, or excessive wear;
- the shafts and bushings are clean and rotate freely;
- scrapers are correctly positioned and securely fastened;
- all accessible fasteners are tight;

- the power cable, plug, and electrical components are undamaged;
- no foreign objects are present inside the bowl.

Do not operate the melanger if any component is damaged or missing.

Storage — when the melanger is not in use for an extended period:

- clean and sanitise the equipment thoroughly;
- dry all components completely;
- disconnect the power supply;
- protect the machine from dust and moisture;
- store it indoors in accordance with the storage conditions specified in this manual.

Repairs

The operator may perform only the cleaning, inspection, and routine maintenance described in this manual.

Repairs, electrical work, replacement of drive components, and any adjustment affecting the safe operation of the machine shall be carried out only by qualified service personnel or an authorised KADZAMA service representative.

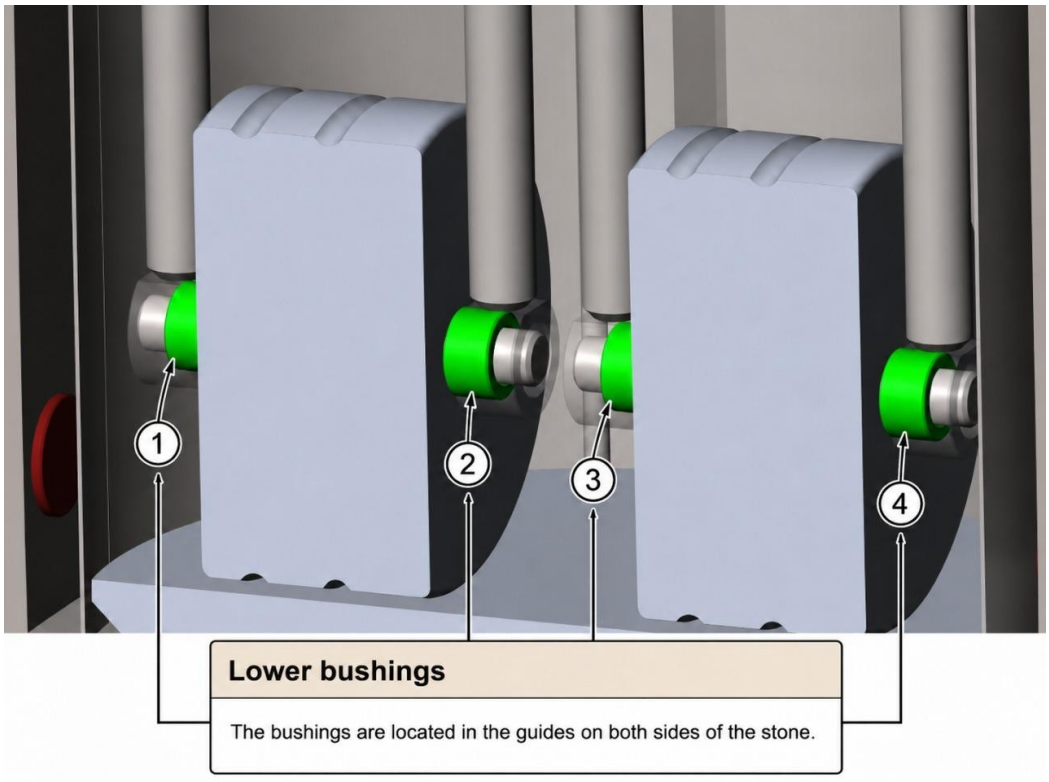
Unauthorised modifications or repairs may result in equipment damage, personal injury, loss of CE compliance, and void the manufacturer's warranty.

9.4 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.



9.4.1 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.

9.4.2 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.

9.4.3 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.

9.4.4 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.

9.5 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 clockwise 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, IΔn 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 power supply, moisture, poor PE/N connection.	Measure leakage current, inspect all electrical connections, eliminate other loads, and test operation on a dedicated power line.

10. Disposal



ENVIRONMENT

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.

11. Warranty

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. During the warranty period KADZAMA will repair or replace any component found to be defective due to manufacturing or material defects, free of charge.

The manufacturer is not responsible for damage that occurs during transportation after the equipment has been handed over to the carrier, subject to the applicable delivery terms.

For this reason, additional cargo transport insurance is arranged for the shipment to provide protection against possible loss or damage occurring in transit. Upon receipt of the equipment, the customer must carefully inspect the shipment before accepting it from the carrier and the checklist provided by the manufacturer must be completed and submitted in order to activate the warranty coverage.

This warranty does not cover defects or damage resulting from:

- improper installation or commissioning;
- operation contrary to this Operating Manual;
- inadequate cleaning or maintenance;
- normal wear of consumable and wear parts (including, but not limited to, bushings, scrapers, seals, belts and grinding stones);
- mechanical damage, impact, corrosion, or chemical attack;
- modifications or repairs performed without prior written approval from KADZAMA;
- use of non-original spare parts or accessories;
- damage caused by improper electrical connection or unstable power supply.

Any warranty repair or replacement shall be carried out by KADZAMA or an authorised service representative. 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.

This manufacturer's commercial warranty is provided by KADZAMA Slovenia, and is governed by the applicable laws of the Republic of Slovenia, including the Consumer Protection Act (ZVPot-1) where applicable. This warranty does not affect any mandatory statutory rights that the purchaser may have under the applicable legislation.