

**Melanger 04-0,2-230-50-FM**

**OPERATOR'S MANUAL**

**TU 5131-001-02351413-2016**



*Allure*  
*Vestra salus - nostra salus*

**Allure LLC**

**September 2020r.**

## Данные для идентификации

Type and designation	Melanger 04-0,2-230-50-FM
Serial number	№
Year of release	2020
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### **ATTENTION!**

**Before starting operating the Machine the Manual should be read by operators, repairers and others who are responsible for the transportation of the product, its installation, commissioning, service and maintenance.**

**Please read the operating instructions and the safety rules given in this manual.**

**Do not start work until fully reading and understanding the material contained in this manual and other documentation supplied.**

**All security recommendations in the manual are obligatory.**

**Manual must be kept in accessible place for service personnel.**

**In addition to the measures referred to in the Manual, the law on the bases of labour protection and the rules for accident prevention and environmental protection in accordance with applicable laws should be observed.**

**Security must be in first priority when using the Melanger.**

**Manual does not reflect the minor design changes in equipment made by the manufacturer after the signing of the release of this guide, as well as for accessories and documentation coming with them. It only means that Melanger is improved to better meet your requirements.**

### **ATTENTION!**

**Operating manual applies to the Machine with complete set of all units and does not take into account the changes reflected in the contract.**

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# 1. Introduction

This "owner's manual" (the Guide) on the Machine should be seen as an integral part of the Machine and must be accessible for maintenance personnel.

Purpose of these guidelines is to provide all the information needed for transportation, commissioning, operation and maintenance of the product. The Manual provides guidelines for the safe, appropriate and cost-effective operation of the Machine. For the units of the Machine, for which it is appropriate, the Guide includes instructions for maintenance, replacement and adjustment. Compliance with these instructions helps avoiding danger, reduce downtime and repair costs, increase reliability and extend the lifetime of the Machine.

This guide has the sign of attention, with the following meaning:



*The sign is put where it is necessary to be especially careful, precisely follow the requirements and instructions to avoid violations of the technological process and breaking the Machine.*



*Only a thorough daily implementation of guidelines to ensure the safety, maintenance of the Machine with care can ensure successful operation!*

*Failure to comply with the requirements of this manual frees the manufacturer from liability.*

*Use of Machine for other purposes than specified in this guide, is not permitted. The company Allure LLC is not responsible for damage caused by non-compliance with instructions and guidelines outlined in this Manual.*

If there are issues that you cannot resolve yourself, consult with the customer service of the Allure LLC



*Any request to perform work by our specialists should have indication to the model of Machine, serial number and the contract number.*

## 2. General information

### 2.1. Designation of the Machine

This manual applies to Melanger 04-0.2-230-50-A (hereinafter - melanger). The equipment is designed for the preparation of chocolate mass from raw materials. It is used in confectionery enterprises.

### 2.2. Personnel qualification



Personnel with appropriate qualifications and trained to work with melanger are allowed to repair. It is necessary to have documentary evidence of the qualifications of the personnel.

### 2.3. Declaration of conformity

When designing the melanger, when selecting materials for the parts of the melanger and its assemblies, when choosing components, manufacturing the melanger, the safety of the melanger was ensured in accordance with the following European standards, directives and safety regulations:

- (E)N 954-1 safety of machinery. Details of control systems for safety. Part 1. The basic principles of design.
- EN1005-2 safety of machinery. The physical characteristics of the person. Part 2. Manual handling of machinery and component parts of machinery.
- EN1005-3 safety of machinery. The physical characteristics of the person. Part 3. Recommended limits of efforts for the operation of the machines.
- GOST r 51333-99 (EN 292-1-91, EN 292-2-91). Safety of machinery. Basic concepts, general principles for design. Terms, technology solutions and specifications.
- GOST r 51334-99 (eN 294-92), safety of machinery. Safety distances for the protection of the upper extremities from getting into the danger zone.
- GOST r 51335-99 (eNo. 349-93) safety of machinery. Minimum distances to prevent crush parts of the human body.
- GOST r 51337-99 (eN 563-94), safety of machinery. Temperature of those surfaces. Ergonomics data to establish limit values for hot surfaces.
- GOST r 51339-99 (eN 811-96), safety of machinery. Safety distances to prevent lower limbs from getting into the danger zone.
- GOST r 51343-99 (eN 1037-95), safety of machinery. Prevention of unexpected start-up.
- GOST r 51344-99 (eN. 1050-96), safety of machinery. Principles of risk assessment.
- GOST r 51345-99 (eN 1088-95), safety of machinery. Locking device of protective devices- principles of design and choice.
- GOST r MEK 60204-1-99 (eN 60204-1) safety of machinery. Electrical equipment of machines and mechanisms. Part 1: General requirements.
- EU directive on machinery (98/37/EG).
- EU directive on electrical equipment designed for use within certain voltage limits (73/23/EEC).
- STATE STANDARD 12.2.003-91. system of labour safety standards. Equipment production. General safety requirements.
- GOST 2.601-2006 ESKD. Operational documents
- GOST 9.014-78 ESZKS. Temporary corrosion protection products. General requirements.
- GOST 9.032-74 ESZKS. Varnish-and-paint coatings. Groups, technical requirements and symbols.
- GOST 9.105-30 ESZKS. Varnish-and-paint coatings. Classification and basic parameters of a method of staining.
- GOST 9.402-2004 ESZKS. Varnish-and-paint coatings. Preparation of metal surfaces before painting.
- GOST 12.1.003-83 SSSL Noise. General safety requirements.
- GOST 12.1.012-2004 SSSL. Vibration safety. General requirements.
- GOST 12.1.030-81 SSSL. Electrical Safety. Protective earth. Features.
- STATE STANDARD 12.2.003-91 SSSL. Equipment production. General safety requirements.
- GOST 12.2.062-81 SSSL. Equipment production. Protective fences.
- GOST 12.2.064-81 SSSL. Control of production facilities. General safety requirements.
- STATE STANDARD 12.2.124-90 SSSL. Food equipment. General safety requirements.
- GOST 12.4.040-78 SSSL. Control of production facilities. Mark.
- GOST 15.201-2000 development system and products. Products for industrial purposes. Procedure for development and production of products for production.
- GOST r 27.403-2009 Reliability in engineering. Test plans to control the probability of non-failure operation.
- 112-78, GOST meteorological glass Thermometers. Technical conditions.
- GOST 2991-85 Boxes sealed the deal for cargo weighing up to 500 kg. General technical conditions.
- GOST 5264-30 manual arc welding. Welded connections. The main types, features and dimensions.
- GOST 6359-75 meteorological barographs of aneroid type. Technical conditions.
- GOST 7502-98 Roulettes, tapes measuring metal. Technical conditions.

- GOST 9150-2002 basic norms of interchangeability. Metric thread. Profile.
- GOST 10354-82 polyethylene film. Technical conditions.
- ISO 10374-93 analogue direct-acting electrical indicating and auxiliary parts to them. Part 7. Special requirements for multi-function instruments.
- GOST 11534-75 manual arc welding. Connections welded under acute and obtuse angles. The main types, features and dimensions.
- GOST 11708-82 basic rules of interchangeability. Thread. Terms and definitions.
- GOST 12969-67 Decals for cars and appliances. Technical requirements.
- GOST 14192-96 cargo marking.
- GOST 14254-96 degrees of protection provided by enclosures (IP code).
- GOST 15150-69 Cars, machinery and other technical products. Performance for different climatic regions. Category, operating conditions, storage and transportation in part the impact of climatic factors in the external environment.
- GOST 17187-81 sound level meters. General technical requirements and test methods.
- GOST 21130-75 electrotechnical products. Earthing Clips and grounding signs. Design and dimensions.
- GOST 23170-78 packaging for mechanical engineering production. General requirements.
- GOST 26582-85 food machinery and equipment. General technical conditions.
- GOST 30150-96 labelling machines. General technical requirements and test methods.
- GOST r 50342-92 thermoelectric converters. General technical conditions.
- GOST r 53228-2008 Scales manual actions. Part 1. Metrological and technical requirements. Tests.
- GOST r 52869-2007 pneumatic drives. The requirement for security.
- GOST r 51317.6.2-2007 electromagnetic compatibility of technical equipment. Immunity to electromagnetic interference technology applied in industrial areas. Requirements and test methods
- GOST r 51317.6.4-2009 electromagnetic compatibility of technical equipment. Electromagnetic interference from equipment used in industrial areas. Standards and test methods
- GOST r MEK 60204-1 2007-safety of machinery. Electrical equipment of machines and mechanisms. Part 1. General requirements
- RD 50-690-89, methodical guidelines. The reliability of the technology. Methods of evaluation of indicators of reliability by experimental data.

## 2.4. Manufacturer's warranty and liability

The manufacturer guarantees the compliance of the melanger with the requirements of the above-mentioned standards, directives and norms, provided that the consumer observes the conditions of transportation, storage, installation and operation of the melanger set out in this Manual. The warranty period of operation, during which the manufacturer undertakes to repair and replace the melanger, which has failed due to its fault, is **12 months**, unless otherwise stipulated by the supply contract. The beginning of the warranty period is calculated from the date of putting the melanger into operation, but no later than **3 months** from the date of receipt of the melanger from the manufacturer's warehouse.



The manufacturer is not liable for personal injury or material damage if they are the result of:

- non-observance of the rules for storing melanger set forth in the Manual;
- inadvertent use of melanger;
- improper handling of melanger during maintenance and operation;
- non-observance of the instructions set out in the Manual at any of the stages of handling melanger;
- operation of the melanger with incorrectly installed, inoperative or faulty protective devices, as well as when they are removed or ignored;

- changes in the parameters or design of the melanger, not agreed with the manufacturer;
- increased wear due to insufficient maintenance;
- improper performance of repair work.

## 2.5 General view and composition of the melanger

The general view of the melanger, the location and designation of the component parts is shown in Fig. 1 and Fig. 2. The list of components of the melanger is given in Table 1.



Fig.1

Fig. 2

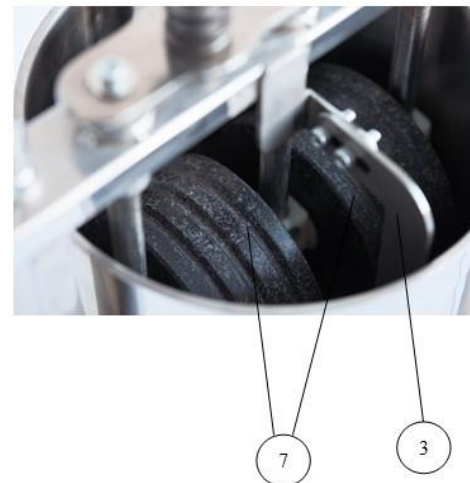


Table 1. List of components of the melanger

Unit name	Number at Fig.1, 2
Springs regulating the pressing of granite runners to the bottom of the bowl (Fig. 1.)	1
The bar of the spring pressure device of the millstones to the bottom of the bowl (Fig. 1.)	2
Scraper (Fig 2.)	3
A bowl made of food grade stainless steel, with a granite disc mounted in the bottom (Fig. 1.)	4
Frame (Fig 1.)	5
Case (Fig 1.)	6
Two granite millstones (runners) (Fig 2.)	7

## 2.6 Operating principle

The melanger design consists of a body 6 with a frame 5 and a bowl 4. A gear motor is installed in the body, which rotates the bowl 4 and two runners 7 (Fig. 2.). The bottom of the bowl and the two runners are made of natural granite. The suspension of the runners to the upper beam is made through the bar 2 of the pressure device of the millstones. Pressing the granite runners to the granite bottom of the bowl is carried out by means of springs 1. When the bowl rotates, the components are crushed and mixed on the granite bottom of the bowl with granite millstones. Stirring and removing the chocolate mass from the walls of the bowl is carried out with the help of blades 3 (scrapers). Control elements are located on the front panel of the case.

## 2.7 Control elements

Control elements (Fig.3).



Melanger is controlled by signals from the control unit.

- switch 1 is designed to turn on the power supply of the melanger,
- switch 2 starts the bowl rotation,
- the knob on the device 3 is designed to change the frequency of rotation of the bowl,
- button 4 for emergency stop melanger;

When the current and thermal protection is triggered, the melanger is automatically turned off.



### 3. Technical data and characteristics

#### 3.1. Technical characteristics of the melangers

The main parameters and dimensions must correspond to table 3.1.

Table 3.1.

<b>№</b>	<b>Name of parameters and characteristics</b>	<b>The values of parameters and characteristics</b>
1	Power supply characteristics	230 B ~ 50/60 Hz
2	Main drive power, kW	0.2
3	Weight of the loaded product, max, kg	4
4	Pressing force of the granite runner, kg	2-20
5	Maximum bowl rotation speed, rpm	135
6	Overall dimensions, mm, no more	800*350*300
7	Weight, kg, no more	27

#### 3.2 Conditions for connecting electrical equipment of the melanger

The melanger is powered by a single-phase AC network with mandatory grounding and the following characteristics:

- voltage 230 V;
- frequency 50/60 Hz;
- power, not less than 0.5 kW.

### 4. Safety requirements

#### 4.1 General safety requirements

The manual provides basic safety instructions for handling melanger, including transportation, storage, operation, maintenance, repair.

Safety when working on the melanger is ensured by the implementation of measures in the design of the melanger in accordance with the requirements set out in European standards, norms and directives. Despite this, the melanger can be a source of danger if it is misused by unqualified personnel or used for other purposes.

In this case, the danger is possible:

- for the health and life of the operator or a third party;
- damage to melange and other property.

Any person carrying out the movement of the melanger, its commissioning, maintenance and repairs, must read and understand this manual and in particular the section "General safety requirements" and strictly follow the requirements set out in the manual!



Safety requirements, in addition to this chapter, are also contained in the relevant sections of the Manual and in the appendices supplied in the kit.

The following safety instructions must be observed along with the general requirements for safety and injury prevention.



#### 4.2 Safety measures

##### 4.2.1 Hazard warning signs

In this manual, hazard warning symbols are used with the following meanings.

	<p><b>Mechanical hazard that endangers life and health of people, and can also lead to large material damage.</b></p>
	<p><b>Electrical hazard that endangers the life and health of people and can also lead to significant material damage.</b></p>

There are hazard warning signs on the m elanger with the following meaning.

	<p><b>Electrical hazard that endangers the life and health of people and can also lead to significant material damage. The sign is located on the side of the control unit.</b></p>
	<p><b>The use of a socket with grounding terminals is mandatory.</b></p>

	<p><b>Failure to heed the warning signs and failure to comply with the safety instructions can lead to serious health consequences and large material damage!</b></p>
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***Damaged and lost signs must be restored without fail!***

#### **4.2.2 Protective and safety devices**

The melanger is powered by an electrical line with grounding.

Overcurrent protection is provided by fuses on the rear of the case.

The motor is protected against overheating by a temperature fuse. After the temperature drops, the electric motor will turn on automatically.

The most probable reasons for the protection actuation are: jamming of the gearbox, motor overload.

#### **4.2.3 Requirements for service personnel**

##### ***General requirements for service personnel***


Personnel authorized to work with Machine, as well as to commissioning, maintenance and repair the Machine, is obliged to:

- get health and safety training in accordance with the manufacturer's instructions, developed on the basis of the operating instructions, standardly applied safety instructions;
- familiarize with the General rules of operation and maintenance of the Machine with safety instructions contained in this manual;
- familiarize with constructive and technological properties of the Machine and attend a special instruction on the work of the Machine of this model.




*Responsibilities on maintenance of the Machine should be clearly defined and strictly adhered, that in the part of ensuring security - the competence of each employee is clearly defined.*


*It also means that operation on the Machine in special modes (for example, when setting up) may only be carried out by specially trained personnel!*

	<p><b>Work on electrical maintenance of Machine must be conducted by two trained specialists, having Permit to the maintenance of electric equipment with voltage up to 1000V.</b></p> <p><b>Unauthorized individuals in the service area of the Machine are not allowed.</b></p> <p><b>Before switching on the voltage after installation or repair of electrical equipment or after a long interruption, ensure correct grounding.</b></p> <p><b>Access to the control unit to unauthorized persons is prohibited.</b></p> <p><b>Areas surrounding the control unit shall not be cluttered or jammed.</b></p> <p><b>Failure to comply with these requirements may result in electrical hazard or its risk possibility!</b></p>
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Dismantling or disabling any security devices is - unacceptable.

	<p><b>Working with disconnected security devices, gives rise to all kinds of mechanical and electrical dangers.</b></p>
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The operator must always maintain the Machine in perfect condition. Keep work area clean.

	<p><b>If there is dirt or foreign objects, if there is no order in the arrangement of the workplace tools, devices, movable goods etc. - there is a danger of confusion, slipping, or being hit by falling heavy objects on lower limbs.</b></p>
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Errors, noises and obvious flaws shall immediately be reported by service personnel to the person in charge and recorded in the work registry. In the case of danger - Machine should be immediately shut down.


### **The use of personal protective equipment**

When operating the Machine the personnel, as appropriate, should use personal protective equipment:

- dust masks with appropriate filters (when shipping products or materials that emit harmful substances in the work area that can get into the lungs);
  - durable thick gloves to protect hands from mechanical damage during technical maintenance and repairs;
  - Sturdy boots with soles to prevent slipping (if slippery fluids are used in production) as well as protecting the operator legs from injuries (protection from pinching or falling objects);
  - special robe, which could not catch hold of parts of Machine. Sleeves should be rolled up only inwards.
- Loose clothes, ties, neckwear, jewelry watches, rings, bracelets, etc. are dangerous;
- headdress, closing the hair;
  - earplugs (hearing protection from noise) if necessary.


### 4.3 Safety measures during transportation and installation of the Machine


Before switching on the Melanger, make sure that its start-up is not dangerous for people near it, remove foreign objects from the Melanger and from the working area, familiarize yourself with the device, the operating principle and the Melanger control system. - check the Machine (damage during transportation);


	<b>All metallic parts of the melange (motor housing) that can be energized above 25V are grounded through the power plug.</b>
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### 4.4. Security measures when preparing the Machine

It is strictly forbidden to disable the interlocks provided by the electrical diagram!

	<b>If you disable the locks provided for in the electroscheme of the Melanger, all kinds of mechanical and electrical hazards may appear.</b>
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	When the input switch is turned on, the white warning light comes on, signaling the presence of voltage on the melange. <b>Neglect of this information leads to an increased risk of occurrence of all types of mechanical and electrical hazards.</b>
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	After pressing button 1 (Fig. 3), the input contacts of the switch and the contacts of the terminal set remain under hazardous voltage at the control unit. <b>Neglect of this information leads to an increased risk of occurrence of all kinds of electrical hazards that threaten the life and health of people.</b>
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Do not use the Melanger in a hazardous (e.g., wet) environment, as humidity can lead to short circuits in the electrical system.

Dangerous zone between the Machine and other equipment in the production room (if available) should be fenced or protected by the user.

Ensure sufficient illumination of the workplace (at least 150 Lux).

	<b>Do not work in dark workplace for higher risk of errors of the operator and the breakdown of the Machine.</b>
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Observe the recommended operating modes of the Melanger

	<b>In cases of non-compliance with the recommended modes of operation of the Melanger, the danger of possible breakage of the Melanger and / or injury to the operator increases.</b>
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Melanger is not intended for use with combustible and explosive materials.



**If flammable or explosive materials are used, there is a risk of fire and / or explosion.**

*Compliance with these recommendations does not exempt the user from performing additional security measures due to the specifics of a particular production.*

Do not stand on the Machine in carrying out any works.



**Failure to do so could result in overturning the Machine, which leads to an increase in the risk of all mechanical hazards that threaten the lives and health of people, and can lead to great material damage.**

#### **4.5. The technical design changes**



*Any modifications or changes in the Machine unauthorized by the manufacturer are not allowed for reasons of safety for people and the Machine.*

*The user can use the spare and wear parts recommended by the manufacturer only.*

*Otherwise, the manufacturer is not liable for the operability of the Machine.*

#### **4.6. Machine noise level**

In standard operating conditions the Machine operator workplace noise level does not exceed 60 DBA. The Machine in typical conditions (load the hopper from 60 kg of cocoa beans, the noise level does not exceed 75 DB(a). Uncertainty of measurement of noise conforms to ISO 3746 and 95% probability with confidence equal to  $\pm 1.96 O_R$  of the measured values, where  $O_R = 3$  DBA.

Noise characteristics were measured in accordance with the methodology of ISO 3746-95 and ISO11204-95 in the light of the requirements of BS EN 415-3: 2000.



**At adverse operating conditions, when the average noise level for the 8 hour shift exceeds 80 DBA, one must use safety equipment (ear muffs, ear plugs), and/or reduce the time in these modes.**

#### **4.7. The residual risks**

The personnel requirements of the above Melanger for this model reduces the residual risks to the level achieved in the same equipment, adequate security is proven experience of its operation.

However, the personnel must know and remember about the existence of residual risks, because the fulfilment of the above requirements **are not completely obviate the danger.**

## **5. Scope of supply, marking, packing, storage, unpacking and handling**

### **5.1. Scope of supply**

The scope of supply is provided in the packing list, which is composed in accordance with the contract for the Machine.

### **5.2. Marking**

5.2.1. Each Machine has on its frame side surface, a nameplate attached containing:

- the country of the manufacturer;
- full company of the manufacturer;
- the mark of the manufacturer;
- the address of the manufacturer;
- product model, serial number, year of manufacture;
- power supply, voltage and frequency;
- power;
- weight.

5.2.2. The transport marking on the packaging contains:

#### Main inscriptions:

- full or conventional name of consignee;
- the name of the destination (the station), and the short name of a transport route (road, if necessary); name of reloading place (when necessary);
- package number (in the numerator-the pack number in the lot, in the denominator-the number of places).

#### Additional inscriptions:

- full or conventional name of consignor;
- the name of the item (the station) of road and short name of the sender (if necessary);
- inscriptions of transport organizations.

#### Information box:

- the dimensions of the package, santimeters;
- NET and gross weight, kg;
- cargo volume, m<sup>3</sup>.

#### Manipulation signs:

- "Beware - delicate";
- "the place of slinging";
- "Top, do not tilt";
- "Center of gravity";
- "do not stack";
- "No Humidity".

5.2.3. Additionally cargo space is indicated by:

- model of the Machine;

### 5.3. Packaging

Machine comes in a crate or a partial package on a pallet, film wrapped. The type of packing is negotiated with the buyer and is fixed in the contract on delivery.

All the Machine accessories, spare parts and documentation are packed in boxes, placed in a box for Machine packing or next to it (on partial packing) and securely fastened.



*The manufacturer is not liable for damage of the Machine, occurred during the transport in package inadequate to normative and technical documentation of the manufacturer*

### 5.4. Acceptance



*When receiving the Machine check the integrity of the packaging. The manufacturer does not hold liability for the Machine, delivered with damaged factory packaging.*

*Found damage should be confirmed by the forwarder by a note in the transportation documents.*

### 5.5. Storage

Storage of packaged Machine shall be:

-for any climate areas in heated and ventilated warehouses under the following conditions:

-ambient temperature: (+5-+40) °C;

-relative humidity: not more than 80% at 25 °C;

-dew is not allowed;

-the impact of corrosive gases is not permitted.



Failure to follow recommended storage mode increases the **risk of damaging** the Machine and/or **injury to** the operator.

Warranty storage period Machine in the factory packaging is 1 year under specified storage conditions.

### 5.6. Unboxing

When unpacking, it is recommended that you first remove the top board of packing box and then the side boards. Care should be taken not to damage the Machine by the tools during unpacking.



*Before unpacking the Machine should be kept under operating conditions temperature to align Machine temperature and facilities (usually 24 hours).*

*When unpacking, verify the completeness of the delivery against the packing list and/or for possible damage during transportation.*

*If there are discrepancies, please contact your manufacturer.*

## 5.7. Transport


Machine can be transported by any means of transport provided a reliable fixation and packaging ensured to keep from damage, in accordance with the rules of transporting goods, applicable for each mode of transport.

Transportation must be subject to the following conditions:

- ambient temperature: (+5 to + 50)°c;
- relative humidity: not more than 80 % at temperature of 25°c;
- dew is not allowed.




*Transport at temperatures below minus 20° (C) may damage electronic components.*

	Failure to follow recommended guidelines conditions of transportation increases <b>the risk of possible damages</b> of the Machine and/or <b>injury</b> to the operator.
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Before delivering the Machine carefully plan its unloading and transport to the place of installation. At the time of the delivery transport and lifting devices must be fully prepared. Before delivering the Machine remove possible obstacles for the transportation from the place of unloading to place of installation.



*Incorrect handling can lead to an accident or cause damage or malfunction of Machine, for which the manufacturer is not liable.*

	<b>Use vehicles only with sufficient carrying capacity, i.e. more than the transported weight!</b> <b>The weight of packed Machine is specified on the box.</b> <b>When you unload the Machine in packed form, make sure to follow the instructions marked on the outside of the package!</b> <b>During transportation to the place of installation and when placed on the floor, ensure that Machine is not subjected to strong shocks or drops.</b>
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## 6. Installation and initial start-up

### 6.1. Installation location

Machine does not require special foundation and is not anchored to it. It is enough to ensure the flat floor of sufficient load-bearing capacity and space.

There must be sufficient space for the operator and the maintenance and repair.

### 6.2. The Climatic operation conditions

Machine is designed for operation in premises with artificially controlled climatic conditions, for example in closed heated and ventilated premises (no direct sunlight, rain, wind, sand and dust from the outside air, the absence or substantial reduction of impacts of condensation of moisture) under the following conditions:

- ambient temperature: (+5-+40) °C;





- relative humidity: not more than 80% at 25 °C;
- dew is not allowed;
- the impact of corrosive gases is not permitted.

The temperature variation of the workspace is not specified.  
Dust content of the work shop shall be within sanitary norms.

The place of installation of Machine should be selected in such a way as to exclude local heating or cooling (Sun, heating, draughts, etc.).

Machine is not intended for use in explosive environments or near inflammable objects.

	<p>If you fail to comply with the requirements, there is <b>the danger of fire and/or explosion.</b></p>
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 *The manufacturer is not liable for defects or injuries caused as a result of non-compliance with the requirements on service conditions.*

### 6.3. Installation of the Melanger

Set the Melanger to work in accordance with points 6.1 and 6.2.

You should do the following:

1. Free the equipment from a transport package.
2. Perform a visual inspection of equipment for mechanical damage.
3. Check the tightness of the threaded connections.
4. Install the equipment on site to use it on a flat and solid horizontal area.
5. Make an electrical connection of the Melanger to the 230 V 50/60 Hz line with ground. The connecting cord (cable) should be placed in such a way as to prevent its damage (kink, fracture, cut, etc.)


*If necessary, open the body of the Melanger for the implementation of preventive and repair work is only allowed to qualified personnel!*

 *The electrical outlet must be grounded and be rated for a current of at least 6 A!*

### 6.4 An initial start-up

Equipment operation is controlled from the control panel (Fig. 3).

After connecting the melanger to the electrical network, turn on switch 1 (Fig. 3), the red indicator should light up, which indicates the presence of voltage in the network and the readiness to start the equipment. Turn on switch 2 (Fig. 3). Smoothly turn the bowl rotation speed control knob 3, set the required bowl rotation speed.

 **ATTENTION!** *The operators working clothing should not have any hanging straps, belts etc., to avoid getting in the moving parts of the machine!*

The adjustment of the pressing force of the granite runners is carried out by the clamping device. To increase (decrease) the clamping force of the runners, use the threaded knob for tightening the springs 1 (Fig. 1).



**ATTENTION! Keep extreme caution while being close to working machine. To avoid injuries - any work inside the bowl while machine is running/bowl rotating - is PROHIBITED!**



**ATTENTION! In case of any emergency situation immediately disconnect the equipment from the electrical circuit!**

It should be remembered that the grinding and mixing process is accompanied by the substantial generation of heat.

For proper preparation of the mass, it is necessary to control the temperature of the mass. To reduce the intensity of heating, you can reduce the frequency of rotation of the bowl and the pressure of the runners. The bowl rotation speed has the greatest influence on the heat release.



**In case of unexpected shutdowns of the equipment, it is necessary to take measures to maintain the temperature of the mass in a molten state, using external heating from fan heaters or covering with heat-insulating materials. If it is impossible to keep warm, it is necessary to take measures to unload the bowl and clean it of the mass.**

## 6.5 Emergency shutdown of melanger

In emergency situations, to stop the melanger, you must:

- press the red button "STOP" 4 (Fig. 3) on the top control panel of the melanger and disconnect the power supply with the switch 1 (Fig. 3).

## 7 Maintenance

### 7.1 General safety instructions for maintenance



**Before beginning any maintenance work on the Melanger, the possibility of its unintentional switching must be eliminated. The power supply must be turned off. It is also recommended that you unplug the power socket.**



**Regular maintenance is essential for safe and long Melanger perfectly work. The work described in this section must be carried out in a timely manner.**

**Please, following the maintenance work, in order to make an entry in the log book maintenance with a brief description of the work, as well as the champion and the date of the work.**

**The absence of journal entries may cause the manufacturer's maintenance warranty to be rejected.**

Maintenance on any subject you can get a free consultation by phone service.

## 7.2. Scope of maintenance work

The scope of works on maintenance service includes:

1. Checks to be done daily before machine is started;
2. Works performed monthly.

### 7.2.1 Daily maintenance

1. Perform the external inspection of the Machine. The Melanger must be kept clean. Dust should be removed with a vacuum cleaner or a dry cloth, and when necessary damp cloth with neutral detergent, avoiding the accumulation and leaving of water on the surface.
2. Check all fasteners, retighten if necessary.

### 7.2.2 Monthly maintenance

1. Perform the visual contamination check on surfaces of the runners along the axis of rotation. If necessary, clean them.
2. Perform the daily maintenance.



*Maintenance of motor gearbox is not required.*

## 8. Spare parts Order, call customer service

Spare parts, accessories, call customer service for warranty or post-warranty repair is carried out only on **written** application form.

In the process of technical improvement of the Melanger's design is subject to some changes. So when ordering spare parts, and call the service engineer the application should indicate the following:

- 1) Model and serial number of the Melanger. This number is indicated on the machine marking plate, also in the manual's section "Information on acceptance";
- 2) Description of parts quantity.

To identify parts, we recommend that you use catalog of Assembly units and parts.

Components (bearings, electrical equipment, etc.) to acquire by type or number, put directly on them, indicating the master data or the position marked on the diagram.

For details of broken-down specify a brief description of the problems with the old part and, if possible, the reasons for which they have.

## 9. Recommendations for working on the Melanger

- 1 Turn on toggle switch 1 (Fig. 3.), then switch 2.
- 2 To start the tank rotation, smoothly turn the 3 bowl rotation speed knob.
- 3 Heating. Before loading cocoa nibs, it is necessary to heat the granite parts of the bowl (millstones) with a hairdryer. Preheating is performed without rotation or at low rotation speeds of the tank. Heating is necessary for the formation of lumps of crumbs at the initial stage of loading. An empty bowl can also be preheated in the oven to 50-60 ° C. Pressure. Install the initial pressure of the burrs to the bottom of the tank using the load nuts or handles. The distance from the metal (load) bar to the top plane of the washer should be approximately 30-35 mm.
- 4 Loading. Load the grits in approximately 100 gram portions. Watch the millstones rolling. If the millstones start to stop, pause for 1-3 minutes in loading the next portion of cocoa nibs. If there is an active adhesion of cocoa nibs to stationary parts in the tank, use a hair dryer to heat the mass. (Do not use shovels, scrapers when rotating the tank).

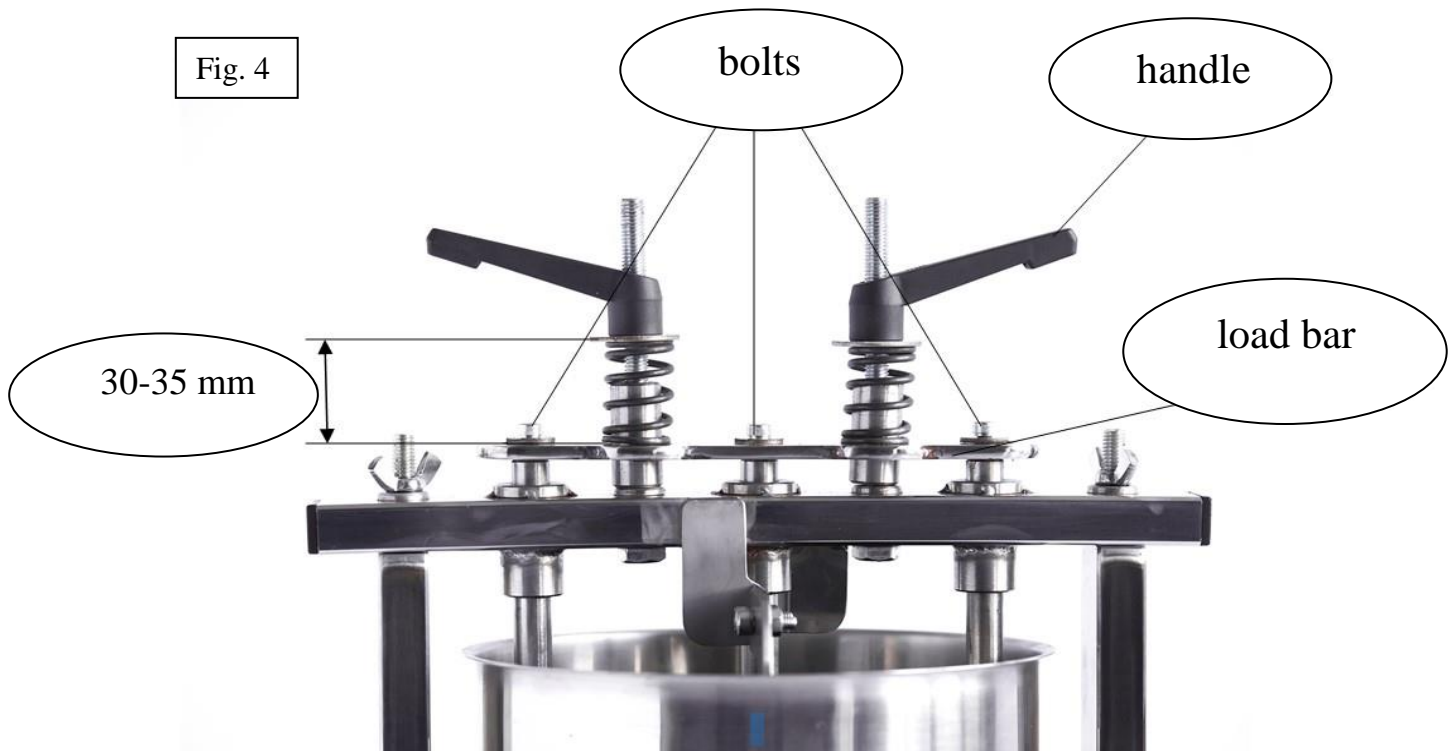
- 5 Grinding. After finishing loading, it is necessary to control the rotation of the millstones and the temperature of the chocolate mass. - Ideally, the rotation of the millstones should be smooth and continuous. If there are regular stops of the millstones, it is necessary to increase their pressure to the tank. To do this, tighten the load nuts until the millstones resume rotation. A short stop of the millstones is allowed for no more than 5-10 seconds. Watch the thickness (fat content) of the mass, add cocoa butter if necessary.
- 6 Removing the upper beam. Upon completion of grinding and conching of the chocolate mass, stop rotation with switch 2 (Fig. 3), turn off the melanger with switch 1 (Fig. 3).
  - Loosen (unscrew 3-5 turns) the two loading nuts (handles).
  - Unscrew the black plastic nuts (or metal wing nuts) securing the beam to the uprights.
  - Unscrew the load nuts (handles), remove the springs and guide bushings.
  - Taking by the edges, remove the upper beam with millstones from the tank.
 Place on pallet for further cleaning and disassembly.

#### 7 Cleaning the melanger

- Cleaning of the inner surfaces of the melanger is carried out under the following conditions:
  - (1) dry rotation of the tank with the millstones lowered (without washing liquid or working mixture) is not allowed;
  - (2) no pressure is applied to the millstones during the cleaning process;
  - (2a) the water temperature should not exceed 70 degrees. Celsius;
  - (3) tank rotation speed should be minimal;
  - (4) the water level must be above the axes of the millstones (2/3 of the tank height);
  - (5) the recommended rotation time of the tank is 15 minutes.

During the cleaning process and in the process of loading cocoa nibs, slight chipping of granite millstones with a size of about 1 mm is allowed. During further work, smaller particles are ground together with the mass without deteriorating the quality of the final product without harm to health.

- To eliminate the ingress of foreign particles into the final product, it is recommended to use the Allure VT vibration filter with a filter mesh size up to 0.8 mm when draining the chocolate mass.



- 8 Further disassembly. Unscrew the three bolts located on top of the load bar. Remove the load bar. The supports of millstones will easily come out of the guide bushings of the upper beam.

## Attachments : Appendix 1: Passport