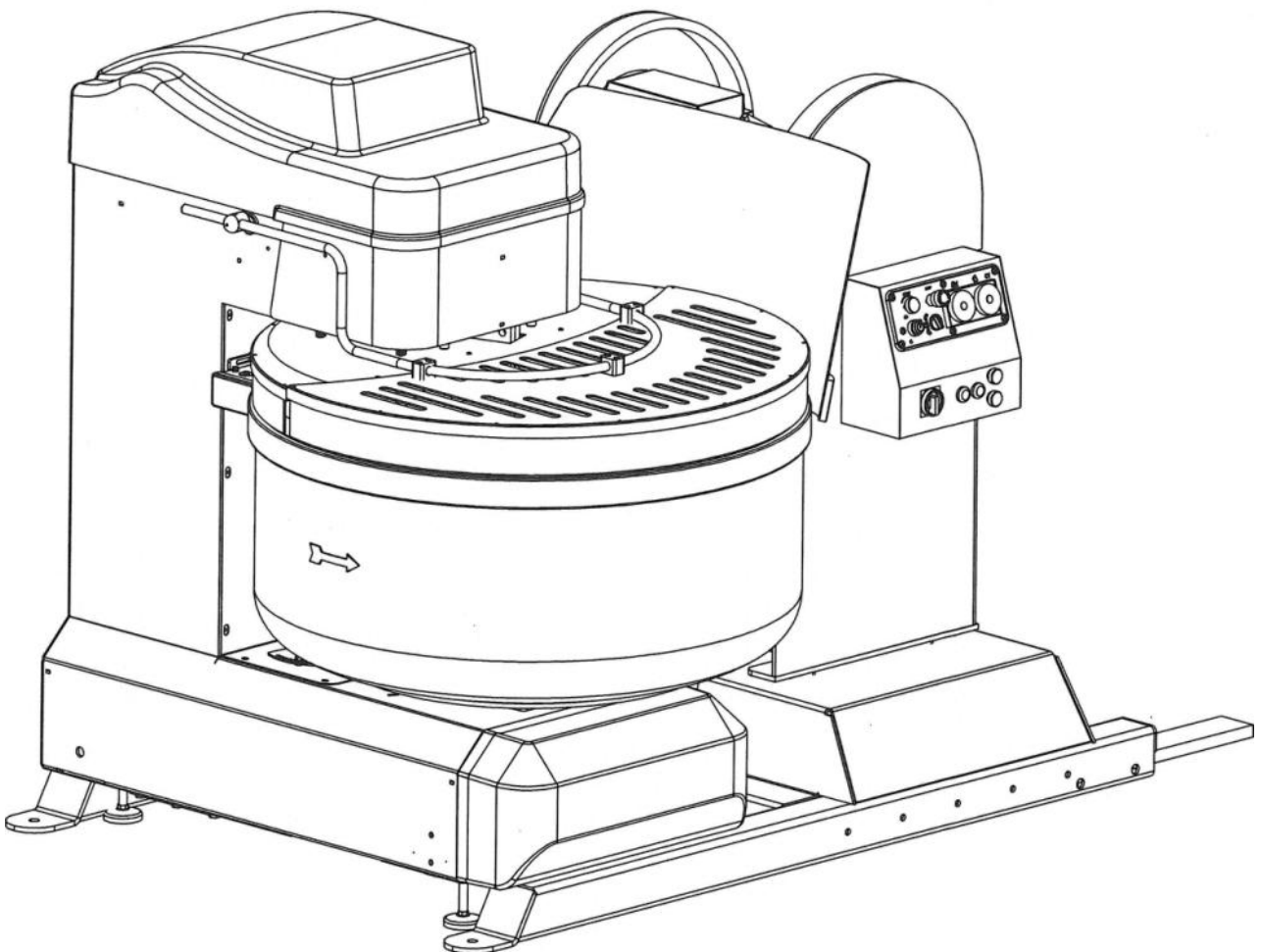




INSTRUCTIONS, USE AND MAINTENANCE MANUAL SL 280LB/LH MACHINES

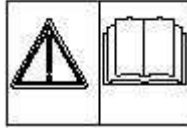


Edition date 13/02/2015

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1. General information



This instructions, use and maintenance manual provides the necessary instructions for machine transportation, commissioning, use and maintenance and it must be consulted before performing any of these operations.

The manual must be read by the maintenance technicians and by the machine operators who must perform their tasks correctly.

The manual is an integral part of the machine and it must be kept in an adequate place to ensure its integrity and availability for consultation throughout the machine life-span.

In case of loss or deterioration, request a copy from the manufacturer, clearly specifying all of the machine identification data (year or manufacture, model, serial number).

All references and/or instructions in this manual relating to:

- CE marking;
- CE declaration(s) of conformity;
- declaration(s) of incorporation of the partly-completed machine;
- directives and regulations issued by the EU institutional bodies (Parliament, Council, Commission, etc.) and related transposition deeds of the EU member states;
- European harmonised standards,

are to be considered valid only for the machines intended to be placed on the EU market or for which compliance with Laws, Directives, etc. issued by the EU was expressly required by the customer and formally accepted by SIGMA SRL.

These references and instructions have no meaning and value for all machines not intended for the EU market, apart from the above exceptions.

1.1. Foreword

This manual is intended for all those in charge of installation, use and maintenance of the machinery in question, so that they can make the best use of the product features.

It is important to keep this manual and ensure it follows the machine in all its transfers, including change of ownership, so that it can be consulted for the necessary information on safe operation.

The manufacturer is not obliged to notify any subsequent product changes.



It also reserves the right to ownership of this document in accordance with the law and prohibits tampering, reproduction and transmission to third parties without its authorisation.

The following symbols are used to highlight some parts of the text:

PERSONNEL QUALIFICATIONS: symbols used to indicate the specific competence required for the operation (they will be discussed further in the GLOSSARY chapter).



ATTENTION: indicates hazardous situations for which particular caution is required.

2. Content of the declaration of conformity

The undersigned manufacturer:

SIGMA SRL
VIA ARTIGIANATO, 85
25030 TORBOLE CASAGLIA (Bs), Italy
VAT number: 03121980175

Through Mrs. Ornella Salvadori, as Chairwoman;

DECLARES

that the machine: SL 280 LB/LH

Year of manufacture:

complies with the relevant provisions provided by:

-Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery and amending Directive 95/16/EC (transposed by the Italian state with L.D. 27/11/2010, no.17);

-Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC;

-Regulation (EC) No. 1935/2004 of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC

-Commission Regulation (EU) No. 1183/2012 of 30 November 2012 amending and correcting Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food;

-Commission Regulation (EU) No. 1183/2012 of 30 November 2012 amending and correcting Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food;

-Commission Regulation (EC) No. 2023/2006 of 22 December 2006 on good manufacturing practice for materials and articles intended to come into contact with food;

-Ministerial Decree of Health No. 76 of 18 April 2007, regulation on the hygiene control of materials and objects of aluminium and aluminium alloys intended to come into contact with food;

The Chairwoman
Ornella Salvadori

3. Warranty conditions

3.1. Validity

The warranty becomes effective from the date of shipment and lasts for twelve months, if:

- The machine was not damaged during transportation, and it was installed, commissioned, used and serviced as prescribed in this manual.
- It was not tampered with, modified and no unintended tools were installed on it.
- It has not been modified or repaired by the purchaser or by third parties in an inconsistent manner or without the prior consent of the supplier.

The following conditions constitute improper use of the machine:

- Loading more than what is allowed or use of unsuitable ingredients.
- Cleaning with unsuitable tools or instruments that can scratch the bowl or damage the machine, paint and plastic parts.
- Use of the machine in unsuitable places.

3.2. Warranty mode of provision

The purchaser must immediately notify the supplier of any detected machine defects; the supplier will quickly analyse the non-conformity and decide, in collaboration with the purchaser, on the actions to be taken.

After agreement with the supplier, the purchaser must give the same the necessary time and opportunity to carry out any changes, improvements, repairs or supply of under-warranty parts it deems necessary, otherwise the supplier is exempt from property vices.

3.3. Wear parts

Some components are sized to last longer than normal use of the machine under warranty time. The failure or malfunction of these parts depends on the use, they are therefore considered wear parts and are not covered by warranty, except for evident defects on the part or machinery.

Parts subject to wear: transmission belts, chain and bearings.

4. General safety standards

The safe and systematic use of the machine is subject to compliance with the below listed standards and behaviours.

4.1. Safety standards.

- Personnel must be in good physical and psychological conditions, and appropriately instructed on how to use the mixer by reading this document.
- Only professional use of the machine is allowed in places where access to the public, to profane, to children and to anyone not expressly authorised is forbidden.
- It is forbidden to use the machine: for operations and / or with different product(s) to those specified; if the connections to the service facilities from the site are not run as expected in this manual; in places with risk of fire and / or explosion and major incidents, high humidity or wet, excess water vapour, oily vapour, dust, presence of corrosive substances / gases, adverse weather conditions; in the vicinity of naked flame, zones with projection of sparks and heat sources; in conditions of abnormal vibration or shock.
- The safety officer, and / or the employer, and / or the owner of the company, in choosing the person who will be authorised to use the machine (suitable person to work according to applicable laws), must check the same on the basis of attitudes and skills encountered and provide training of the same, with the reading of this publication, in order to provide comprehensive knowledge of the machine and of the rules of conduct applicable to it.
- The space around the machine must be well-lit, uncluttered and clean. Leave about 250mm of free space around the machine, especially on the side where the master switch is located, leave 1000mm.
- Personnel in charge of running, cleaning and servicing the machine must wear the prescribed P.P.E. (personal protective equipment): gloves, shoes with reinforced tip, goggles, masks and helmet.
- Do not wear loose clothing or with fluttering hems (ties, torn clothes, open jackets, etc.) to avoid the risk of entanglement.
- During maintenance and cleaning operations, the operator must release the master switch (OFF) and secure the system (for example, by removing the plug and leaving it in a clearly visible position).
- Never leave the machine unattended during operation, pay attention to unusual sounds or behaviour and keep away from rotating parts. Never open the guard unless the tool has completely stopped.
- In order to empty the machine completely, release the master switch (OFF), disconnect power by removing the plug and leaving it clearly visible, secure it and clean with water.

4.2. Safety devices.

The machine is equipped with some devices to protect its operation and the operator's safety; they must never be removed and modified and their operation must be periodically verified.

- Master switch: disconnects power to the machine, for safe maintenance.
- Circuit breaker: it interrupts power supply in case of overheating of the electric motor that moves the spiral.
- Fixed guards: all casings and protections fixed with screws or mechanical blocks can only be removed for maintenance, by qualified personnel and as prescribed. Once the work is completed, they must be immediately reassembled.
- Mobile guards: properly closed mobile guards allow the machine to be used.

A lack of these conditions prevents operation.

4.3. Educating and training of machine operators

As repeatedly stated in this manual, the employer must provide workers with adequate information and training, also practical, on the correct and safe use of the machine (must be simple and understandable in relation to the acumen that can reasonably be expected by those concerned).

The following table provides a minimum list of topics to be covered as information, training and educating of personnel; for clarity we provide the following definitions:

information: transfer of information, knowledge, etc..., without verification of learning;

training: transfer of information, knowledge, etc ..., on special and specific topics, with verification of understanding of the topics covered, but without practical demonstration;

training: transfer of information, knowledge, etc ..., with practical demonstration of their implementing on special and specific topics, and verification of understanding by application to practical cases of the topics.

Topics	Information	Training	Training	Chapter
Hazard characterising the machine and related risks. Use of PPE. Machine limits and destination. Intended and/or prohibited uses.	X	X	X	4
Safe operating method and procedures	X	X		6
Safety signs	X	X		6.1
Residual risks and measures to take to limit them	X	X		6.2
Organisation of the manual and how to consult it	X	X		7
Machine description	X			8
Control panel description	X	X		10.2
Storage and conservation of the machine	X			10.4
Noise emitted by the machine	X			10.6
Machine handling and transportation	X		X	11.1
Description of the adjustment and commissioning operations	X	X		11.2
Adopted safety devices	X	X	X	12
Instructions on using and loading the ingredients (machine use and how to insert the ingredients)	X	X	X	13
Replacements and/or scheduled maintenance (routine and extraordinary maintenance)		X	X	14
Cleaning the machine		X	X	14.6
Troubleshooting	X			15

5. Customer set-ups

The environmental conditions of the location where the machine is installed must have the following features:

- Humidity-free.
- Water and heat sources at an appropriate distance.
- Appropriate ventilation and lighting that is compliant with the hygiene and safety standards required by the laws in force. The floor must be level and compact in order to favour proper cleaning.
- Do not place in the immediate vicinity of the machine, obstacles of any nature that may affect the normal operation and ventilation of the machine in question (leave about 250 mm free around the machine, especially on the side, where the master switch is located, leave 1000mm).
- Upon machine arrival, ensure it is intact. Any damages incurred during transport or delivery must be immediately reported.
- Ensure that the power supply matches that of the machine: check the plate on the machine and on the wiring diagram (chap. 18). Connection to the line **MUST** be done via a CE standard blocked socket, fitted with three valves adequate to the amount of current absorbed during machine operation.



The electrical mains must have an automatic circuit breaker with adequate features to those of the machine, where the opening distance between contacts is at least 3 mm. In particular, an earthing system compliant with current regulations is essential.



Check that the system power supply voltage and frequency are compatible with the values indicated in the technical features and on the plate affixed to the machine.

5.1. Instructions for ordering spare parts

SIGMA S.r.l., reserves to make all changes it deems necessary to its machine models.

It is, therefore, always necessary to specify:

- Type of machine
- Year of manufacture
- Position
- Description
- Serial no.
- Required number of parts.

Address your request to:

Sigma S.r.l.

via Artigianato 85,

25030 Torbole Casaglia (BS) Italy

Tel 030 265 04 88 - Fax 030 265 01 43

www.sigmasrl.info - Email: info@sigmasrl.info

6. Safe work methods and procedures



READ THESE INSTRUCTIONS CAREFULLY BEFORE USING THE MACHINE

In order to prevent hazardous conditions and/or possible injuries caused by: electric current, mechanical parts, fire, or of hygienic nature, the following safety warnings must be observed:

- Keep your work station tidy. Clutter can cause accidents.
- Assess the environmental conditions. Do not use or leave the machine in a wet, damp or poorly lit environment, or in the vicinity of flammable liquids or gases.
- Keep children and unauthorised personnel away. Do not allow these people to approach the machines or work station.
- Use the machine within its operating range and for the purpose for which it was designed. It works best and at its safest when it is not overloaded.
- Wear appropriate clothing. Do not wear dangling clothes or accessories that may get entangled in moving parts. Use the shoes with reinforced tip and non-slip sole. For health and safety reasons, long hair should be gathered in the appropriate net and gloves should be worn.
- Protect the power supply cable. Do not pull the cable to disconnect the plug. Do not expose the cable to high temperatures, in contact with sharp edges, water or solvents.
- Avoid unsafe positions. Find the most suitable position that ensures absolute stability.
- Always exercise extreme caution.
- Always take the plug out of the socket after use and before cleaning and maintenance and before moving the machine, and leave it in a clearly visible place.
- Never use extension cables outdoors.
- Make sure that the machine is not damaged. Carefully check the effectiveness of the safety devices before using the machine. Make sure that: the mobile parts are locked in place, there are no damaged components, all the parts have been assembled correctly and the machine can be run normally in optimal conditions. (See chapter 14)
- Entrust repairs to qualified personnel. Repairs must only be performed by qualified personnel using original spare parts.

FAILURE TO OBSERVE THESE REQUIREMENTS MAY BE CAUSE OF HAZARD FOR THE USER.

6.1. Risks for the operator



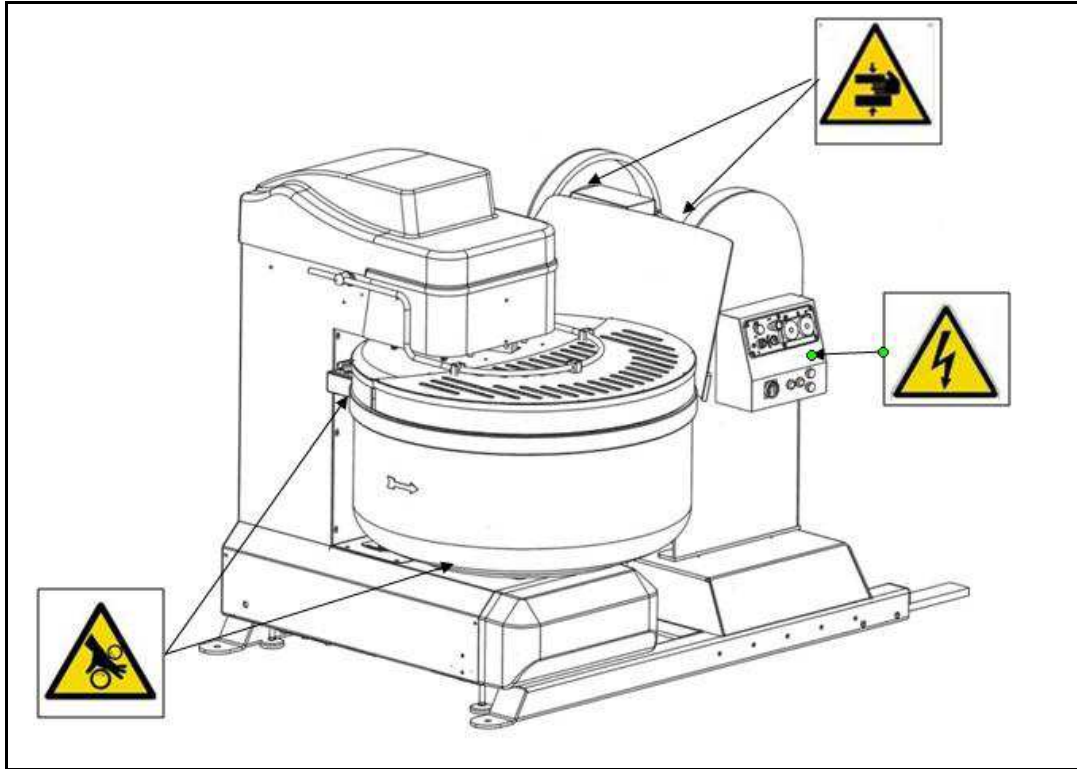
Gripping and dragging hazard: it is present between bowl and structure, between bowl and contrast wheels



Crushing hazard: it is present during the mixer ascent or descent phase,



Electrocution hazard: the machine must not be used without adequate earthing, and it must be connected to a system built according to building regulations in force in the country of installation.



Earthing obligation



Prohibition to clean and lubricate moving parts



Prohibition to remove the safety devices and guards

ATTENTION!

Wear the provided PPE during operation (e.g. shoes with reinforced tip, gloves, goggles and masks).

Clean the machine thoroughly after use.

Do not remove the safety devices or protective casings.

Do not put any objects through the bowl guard with the parts in motion.

Before any manoeuvre wait for the machine to completely stop, turn it off and disconnect it from the mains.



6.2. Residual risks

In short, the residual risks are:

-Gripping and dragging risk (very low) between bowl and base: despite the distance between the bowl and base meets the UNI EN 453 requirements, there is still a residual risk of being caught and dragged if a person inserts a body part in this space. The risk is even greater, the greater the thrust with which the person forces the passage (e.g. of an upper limb);

-Risk (very low) of crushing, shearing, dragging, impact in case of contact with the moving spiral: the bowl guard meets the requirements of UNI EN 453, however there is the remote possibility that a person reaches the moving spiral through the gap between guard and bowl, which forms by lifting the guard before the safety microswitch trips commanding the emergency stop or, once the guard is open, before the spiral completely stops (maximum stopping time allowed by Standard UNI EN453 is 4 seconds);

-Risk (very low) of bruising by dragging when the bowl is made to turn with guard open via the hold-down control device: if the operator places his hand in the dough near the spiral and/or column, as the dough rotates it may drag the hand and push it against the parts with risk of a slight bruising;

-Risk (very low) of crushing hands and feet during the mixer ascent or descent phase: if the operator places his hand on the mixing machine sliding guides during the ascent and descent phase, the limb will be crushed. There is the remote possibility that the operator places his foot under the foot during the mixing machine descent phase, and this leads to a contusion of the limb;





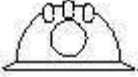

-Health risk from inhaling flour powder which, despite the measures taken in accordance with UNI EN 453, inevitably develops even if minimally, and due to inadequate cleaning of the machine;

-Risk of muscle - skeletal injury: due to ergonomic factors and/or abnormal stresses during the manual lifting of bags of flours and/or buckets of water to be poured into the bowl, and during the dough extraction operations.

As far as possible and relevant, adequate safety signs have been affixed on the machine; the affixed signs and their position on the machine are described in the instruction manual.

7. Organisation of the manual and how to consult it

7.1. Glossary

Symbol	Description	Features
	OPERATOR	Person informed on machine operation, adjustment and programming, on the safety and protection systems, who knows the possible manufacturing cycles and the ingredients to be used with related maximum quantities allowed, and has read and understood the operating and maintenance manual.
	ELECTRICAL MAINTENANCE TECHNICIAN	Person in good health conditions who is qualified by title, appointment and/or experience as an electrical maintenance operator and has read and understood the operating and maintenance manual.
	MECHANICAL MAINTENANCE TECHNICIAN	Person in good health conditions who is qualified by title, appointment and/or experience as a mechanical maintenance operator and has read and understood this operating and maintenance manual.
	HANDLING OPERATOR	Person in good health conditions who is qualified by title, appointment and/or experience to handle loads and has read and understood this operating and maintenance manual.
	ASSISTANCE Tel.+39030.265.04.88 Fax+39030.265.10.82 www.sigmasrl.info Email: info@sigmasrl.info	Requests for manual updates. Telephone assistance on the operation, commissioning or failure of the machinery. Requests for spare parts, product repairs, system revisions, on-site interventions. Training courses.
	ATTENTION	This type of signal urges to pay particular attention in the indicated operations. Failure to comply may cause injury to people in charge or damage the machine.

8. Machine description

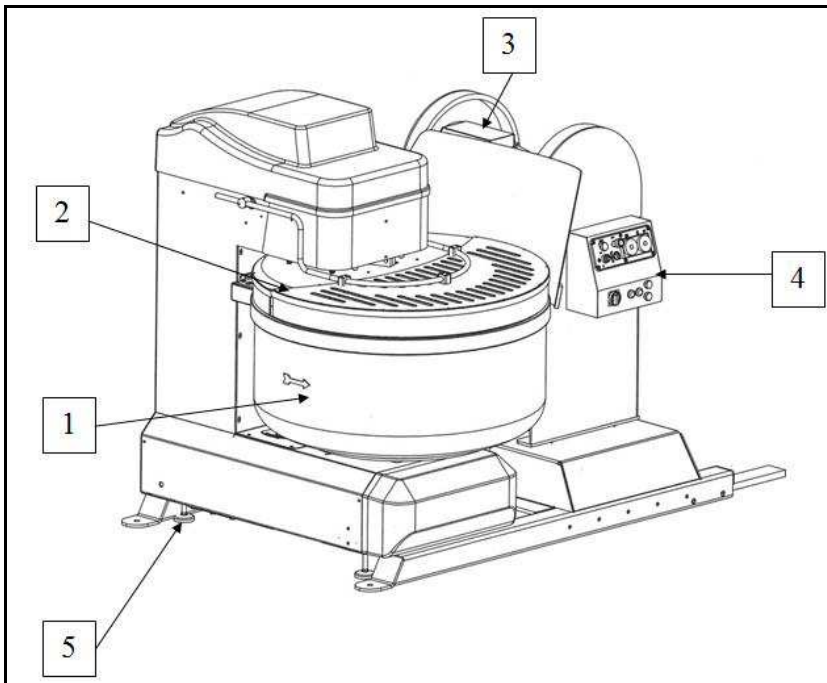
MACHINE DESCRIPTION AND USE:

The SAU mixing machines are designed for professional use only, to mix water and flour-based food dough for bread-making and pastry workshops. A spiral rotates mixing, refining and oxygenating the mix contained in a rotary bowl and, thanks to the vigorous mechanical action performed by the system, the mix is quickly and effectively prepared.

As specified above, the machines are for professional use only, by educated, trained and authorised personnel.

Any other use is forbidden, any particular needs and specifications must be examined by the SELLER on request.

This machine allows emptying the dough from the bowl directly on the table (SAU-B) or in a hopper (SAU-T), through a lifter fitted with lifting screw that takes the mixer machine to the desired height. To do this, turn off the mixer machine, lift the mobile pasta cover and press the ascent button. To facilitate the coming out of the dough, you can rotate the bowl. Once the dough has been toppled, press the descent button and then you can start a new mixture.



1) BOWL: container in which the various ingredients to be mixed are inserted, is equipped with rotation;

2) MOBILE GUARD: it is a guard used prevent spilling dough and flour from the bowl and/or prevent injuring the upper limbs; it is connected to a safety micro switch;

3) LIFTER: structure able to lift and/or lower the mixer machine to the desired heights;

4) CONTROL PANEL: electromechanical and/or digital device used to start or stop the machine, and set the processing time;

5) LIFTING FEET: used to stabilise the machine during operation.

9. Machine identification

There is a plate on the machine casing, like the one illustrated, which carries indications concerning the manufacturer, type of machine, serial number, electrical features, frequency, rated power, number of phases, year of manufacture and mass



9.1. Main components

- Raw materials used: the machine is almost completely made of steel, cast iron, brass and plastic. All of these components can be easily disposed of and are not dangerous to the environment and/or a hazard to personal safety. Adequately separate the different materials for subsequent reuse or separate disposal.
- Surface treatment: paint, electrolytic galvanising, chemical nickel-plating, Teflon coating, electro polishing, to ensure high technical performance, hygiene and durability.
- The Sigma packages fully meet the requirements of Directive 94/62/EC and Legislative Decree 05/02/97 no. 22 (and subsequent amendments and additions) and so become waste similar to urban, that can be easily inserted in any separate collection program.

10. Technical data and features

10.1. Units of measurement

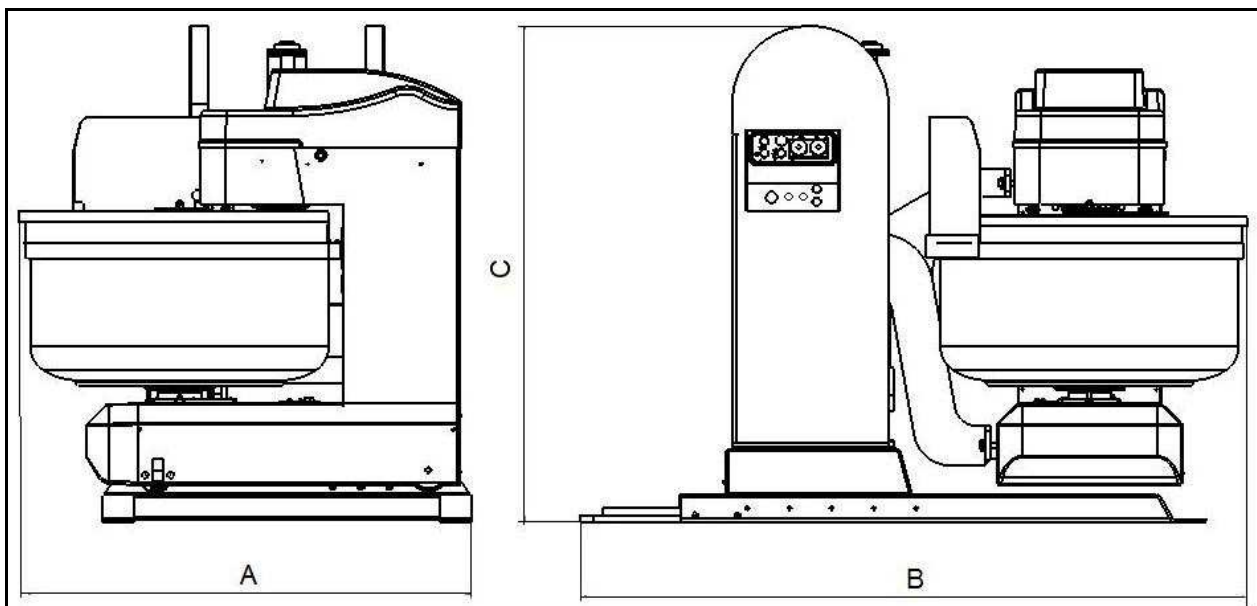
The units of measurement used in the manual are:

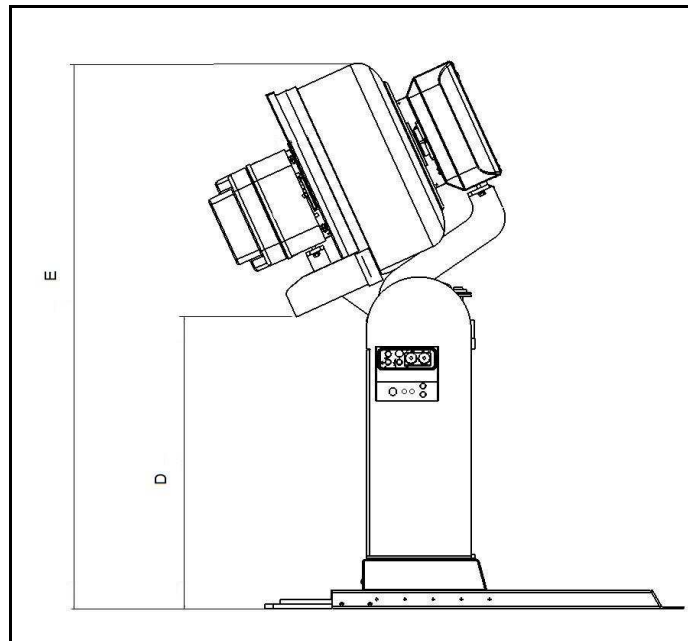
- Millimetres [mm]
- Kilograms [kg]
- Kilowatts [kW]
- Litres [l]

10.1.1. Technical data

MODEL	MACHINE MASS [kg]	LIFT POWER [kW]	MIXER MACHINE POWER [kW]	BOWL [litres]	ELECTRICAL POWER SUPPLY
SL 280 LB	1700	2.2	6.5/11	420	400V 50Hz 3 phases + PE
SL 280 LH	2000	2.2	6.5/11	420	400V 50Hz 3 phases + PE

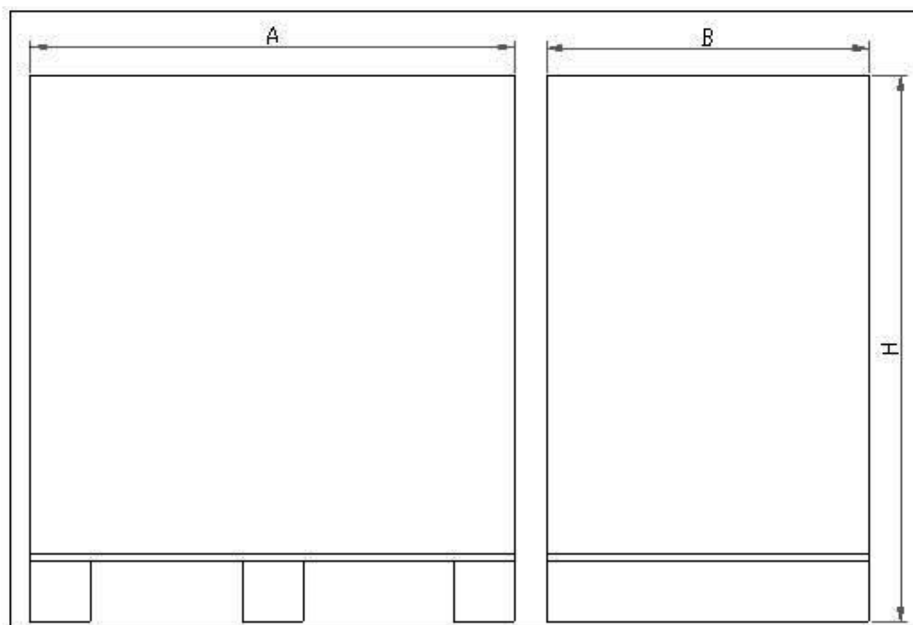
10.1.2. Dimensions





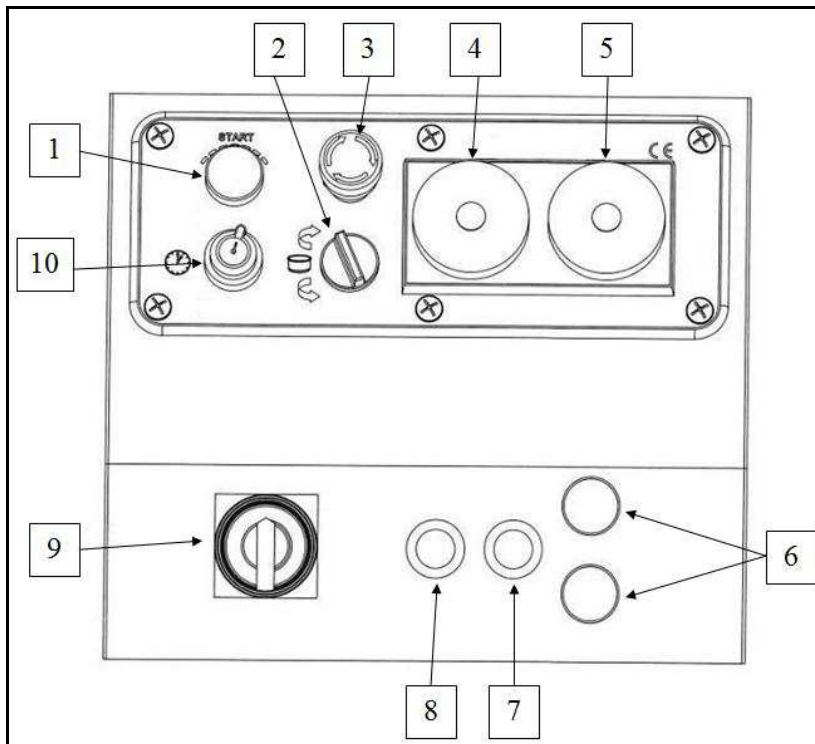
MODEL	A	B	C	D	E
SL 280 LB	1520	2300	1650	1200	2650
SL 280 LH	1520	2300	2150	1900	3300

10.1.3. Packaging



MODEL	A	B	H
SL 280 LB	2500	1800	1800
SL 280 LH	2500	1800	2250

10.2. Control panel



- 1) START BUTTON
- 2) BOWL ROTATION DIRECTION REVERSAL (for a limited time, ONLY in first speed)
- 3) STOP/EMERGENCY BUTTON
- 4) FIRST SPEED TIMERS
- 5) SECOND SPEED TIMERS
- 6) MIXER MACHINE ASCENT AND DESCENT BUTTON
- 7) MAINS INDICATOR (white light)
- 8) PHASE ERROR (indicates when the power supply cables have been reversed)
- 9) MASTER SWITCH
- 10) MANUAL SELECTOR (activate in case of faulty timers, you can choose between first and second speed) **USE ONLY IF NECESSARY (the key is kept and used by a manager ONLY). speed**

10.3. Type of drive, motors.

TYPE OF DRIVE: MECHANICAL

BOWL MOTOR T80: 4P 400V 0.75kW 50Hz 3.44-1.98A THREE-PHASE

T160 MOTOR MOTOR: 2/4P 11/9kW 400V 50Hz 19/21A THREE-PHASE

LIFTING MOTOR T100: 4P 3kW 230-400V 50Hz 12.5/7.2A

10.4. Storage and conservation of the machine

10.4.1. Storing the packaged machine:

The machine must be stored in a closed and covered place, on a smooth and solid surface protected from dust and dirt, from atmospheric agents and in a hygienically safe place.

The temperature must be between 5 and 40°C, humidity must not exceed 90%.

10.4.2. Storing the unpackaged machine.

If the machine has already been unpackaged, in addition to the above, it should be lifted off the ground with a pallet or other and covered to protect it from damp, dust and dirt. If it is wrapped with cellophane or another type of plastic, do not hermetically seal underneath the machine to avoid corrosion due to condensation.



ATTENTION

Storing the machine outdoors is not allowed.

10.4.3. Storing the machine

Storage before a long period of inactivity:

- Clean the machine thoroughly.
- Disconnect it from the electrical system.
- If possible, put it back in its original packaging.

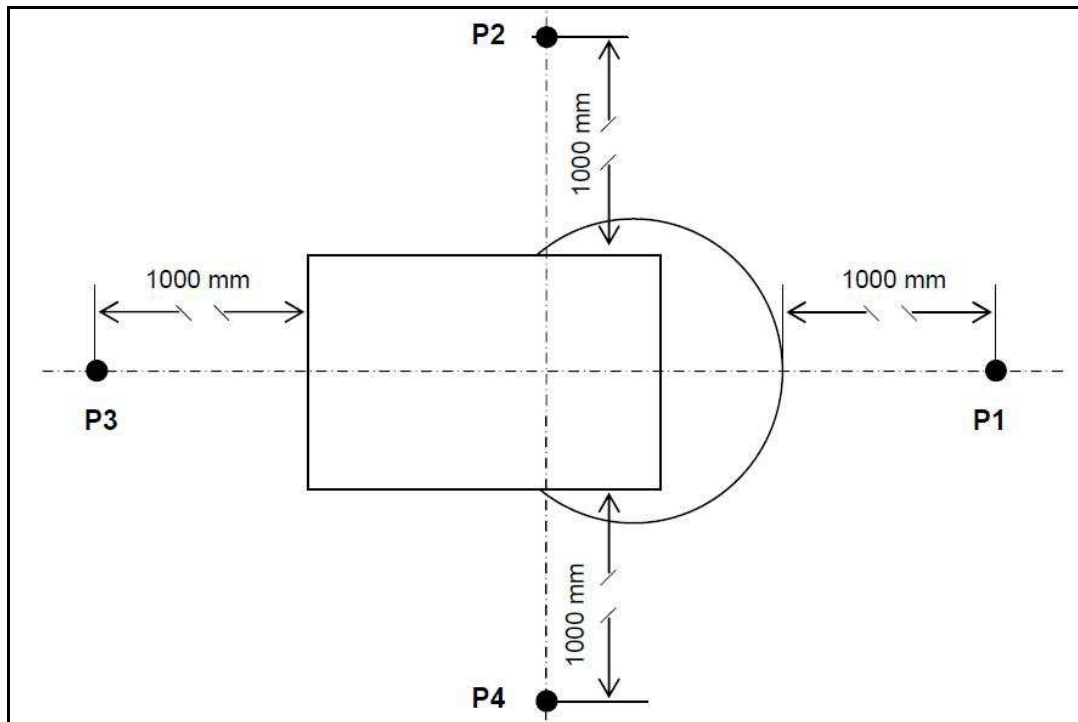
10.5. Types and features of the product and of the treated materials

CONDITIONS OF USE:

- Environmental conditions: the machine must be installed inside a lit, ventilated building, on a solid level support. Temperature from 5 to 40°C with humidity not exceeding 90%.
- Lighting: the light available to the operator must comply with the type of work performed, in relation to general lighting, according to current regulations and, however, sufficient to read the controls, the hazard signals and such not to blind the operator.

10.6. Type and features of machine emissions

- Vibrations: in proper operating conditions, the vibrations are not such to give rise to hazardous situations.
- From measurements taken on a SL 120 machine, the results can be deemed valid, by analogy, for all SL models, with Class 1 integrating sound level meter in the following conditions:
- -) vacuum operated machine at maximum speed of tool (spiral) and of bowl;
- -) microphone located at 1,6m from the ground and 1000 mm from the machine in the points indicated with P1 - P2 - P3 - P4 in the following figure;
- -) presence of a background noise characterised by an equivalent continuous A-weighted sound pressure level of 39.0 dB[A].
- It results that the machine emits an equivalent continuous A-weighted sound pressure level of below 70 dB[A], even taking into account an estimated maximum measurement error equal to 2 dB[A].



11. Transport and installation

11.1. Transport and handling

11.1.1. Machine on pallet



Make sure that the lifting equipment capacity is adequate to the load.

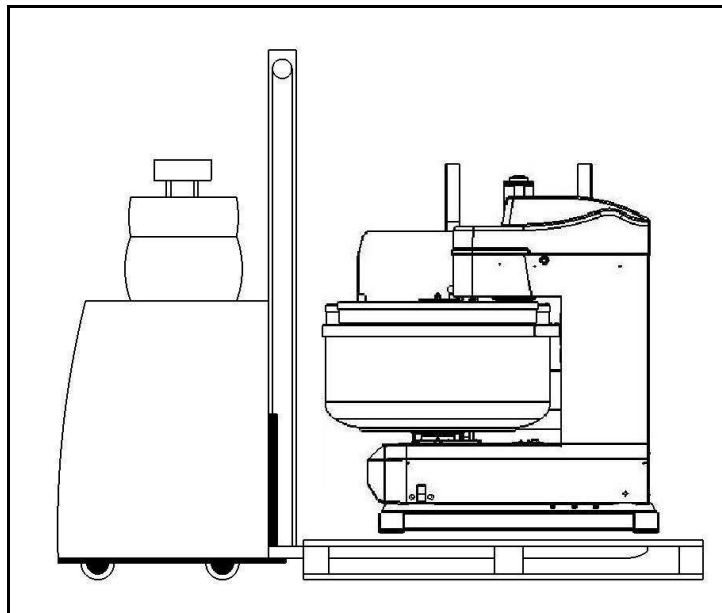
Widen the lifting forks as much as possible and make sure they stick out from the pallet.

Work in an area free from persons and animals.

During movement, always keep the load as close to the ground as possible.

Use the required P.P.E. (e.g. shoes with reinforced tip).

Standards on lifting using a forklift truck: always use a pallet to move the machine.



11.1.2. Machine without pallet



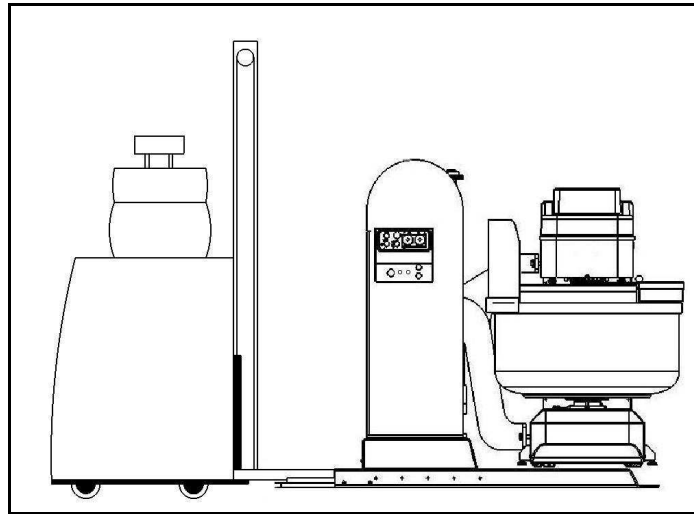
Make sure that the lifting equipment capacity is adequate to the load.

Widen the lifting forks as much as possible and make sure they stick out from the machine.

Work in an area free from persons and animals.

During movement, always keep the load as close to the ground as possible.

Use the required P.P.E. (e.g. shoes with reinforced tip).



ATTENTION: Before operating the machine, make sure that the feet are aligned so that the machine is not unbalanced.

11.2. Description of the adjustment and commissioning operations

11.2.1. Installation



The machine must be positioned vertically on a smooth surface and able to support the weight (floor with resistance above 20 kgcm²). The walls and the floor must be in good condition and easy to clean.

If there is a risk of overturning, anchor the machine to the floor using 4 wedges or bolts with tensile strength greater than 300 kg (M8) with the specific anchors that can be supplied on request.



ATTENTION: Before operating the machine, make sure that the feet are aligned so that the machine is not unbalanced.

11.2.2. Electric line connection



The electrical connection must be done by a qualified electrician, according to the methods and regulations in force in the country of installation.

The machine is supplied with power cable without plug. The cable must be kept away from hot and/or moving parts and must not obstruct the movement or transiting of people and things. The socket into which the plug will be inserted must have adequate features to the maximum current of absorption of the load and comply with the laws and regulations in force (including being correctly connected to the earthing system, which must be periodically checked by an authorised and competent technician).



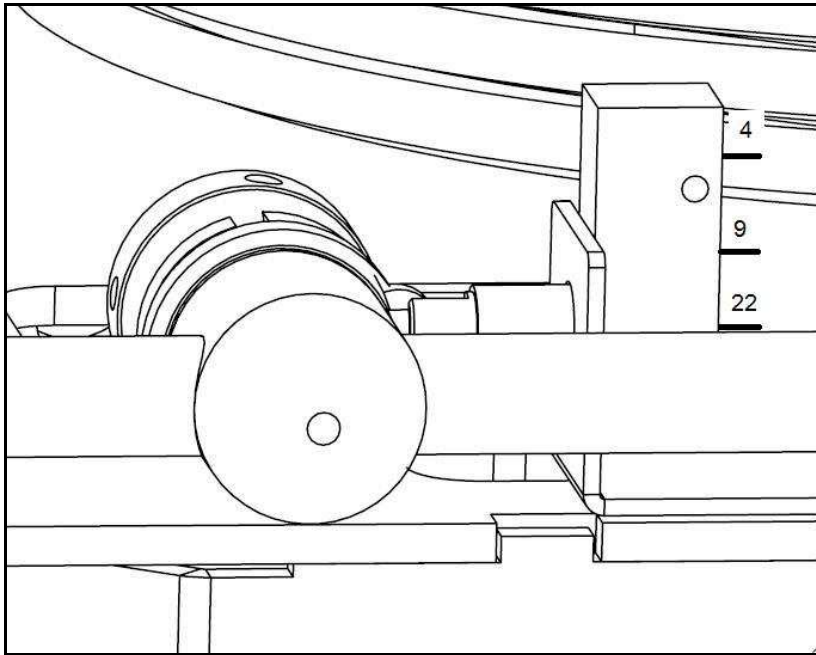
Make sure that the system voltage and frequency match those on the machine identification plate, incorrect connection voids the warranty.

12. Adopted safety devices

The alarm and signal devices on the machine in question are: PIZZATO MICRO-SWITCH and PROXIMITY.

This micro works as follows: by lifting the mobile guard (by 20-30 mm) a cam is connected to it that stops the machine (in 4 seconds) by acting on the micro-switch.

The proximity feels the presence during the mixer machine ascent and descent



Pizzato micro-switch of the mobile guard



Mixer machine lifting and lowering proximity



ATTENTION: Do not use the safety device as STOP

13. Work load and operating instructions

13.1. Operating instructions



For the machine to work, the mobile guard must be lowered, otherwise the safety systems prevent its operation. Check the correct rotation direction of the bowl (anti-clockwise, following the arrow on the bowl), if not correct contact a qualified electrician for intervention.

The machine **MUST** be used by a single operator at a time.

DO NOT REMOVE OR TAMPER WITH THE PROTECTIONS AND ELECTRICAL OR MECHANICAL SAFETY DEVICES FITTED ON THE MACHINE.

13.1.1. To start the machine

Rotate the master switch to power the equipment (ON).

Once ascertained that the emergency button is not pressed, set the first and second speed times using the two timers.

By pressing the START key the machine performs the full work cycle; to stop the machine, press the STOP button or wait for the timers to stop. The bowl can be made to rotate anti-clockwise for a few moments and **ONLY** at first speed.

Using the mixer machine ascent and descent buttons, the machine is lifted to the desired height for the dough to be emptied.

In the event of faulty timers, the manual switch excludes the electrical equipment thus enabling to continue to work with the machine, until the timers are replaced.

Before leaving the machine unattended, remember to turn off its master switch and disarm the electrical power panel switch.

13.1.2. Working with the machine.

The machine is now ready to mix. Follow some simple rules:

- Firstly, pour the necessary amount of water in the bowl.
- Add the correct amount of flour, the dough will gradually harden until the right consistency is obtained. On the contrary, adding water to flour creates masses of flour on the bottom that will require longer machining time with consequent dough damage.
- The other ingredients (salt, yeast, oil, etc.) are added as desired



ATTENTION: wear the dust-proof masks with filtering capacity appropriate to the particle size of the powder (given in the technical data sheet of the flour, if available, otherwise to be defined and measured by the employer) when inserting the FLOUR to avoid risks to the respiratory tract due to inhalation of the dust, make sure there is no one nearby before pouring the flour in the bowl. Wear the PPE: mask, shoes with metal tip and non-slip sole and gloves.

Lift moderate amounts of water, pouring only a few litres at a time instead of full buckets, to avoid muscle-skeletal injuries and/or problems. To load the flour in the bowl DO not suddenly overturn the container (e.g. the bag), lighten it by removing as much flour as possible (e.g. with a scoop) and only when there is little flour left, lift it manually. Do not tip the bag in the bowl, but put the bag in the bowl, being careful not to rest it on the bottom, cut the lower part and let the flour slowly come out so as to minimise the formation of dust. If necessary, add small amounts of flour to the dough in progress, gradually pour it without strong jolts, again to minimise the dispersion of dust in the environment. These operations are necessary to prevent muscle-skeletal problems (if possible, avoid bending your bust, rather bend your knees and keep the bust straight) and respiratory problems.



When unloading the dough, do not add flour to prevent dust forming.

To remove the dough from the bowl, portion the dough into balls of adequate weight.

Do not attempt to recover the flour deposited on the external parts of the machine and/or floor; this could contaminate the food with consequent health risk for consumers.

Do not place your hands, fingers, etc., in spaces characterised by the presence of moving parts (e.g. between bowl edge and guard, between bowl bottom and base, etc.).



The following table is to be considered a general indication of the factory.

For doughs with a different water percentage to that indicated, contact the manufacturer.

MODEL	DOUGH CAPACITY [kg]	WATER [%]
SL 280	280	60%

The use of flour rich in gluten gives rise to very elastic doughs, which absorb a lot of power. In this case, like in the case of dough with lower percentage of water to that indicated in the table, it is necessary to reduce the maximum dough capacity of the machine.

P/L	0.5÷0.7	60% OF WATER ON FLOUR
W	≤ 300	60% OF WATER ON FLOUR
W	> 300	65% OF WATER ON FLOUR

14. Scheduled maintenance and/or replacement interventions


14.1. Master switch



FOR ANY MAINTENANCE AND CLEANING OPERATIONS, THE MACHINE MUST BE OFF AND DISCONNECTED FROM THE ELECTRIC LINE.

Scheduled maintenance and/or replacement interventions of high wear parts with instructions for the **MAINTENANCE AND CLEANING OPERATIONS** to be performed, allow the machine to last longer.

Scheduled replacement interventions relating to high wear parts with instructions for the **MAINTENANCE AND CLEANING OPERATIONS** to be performed.

	<p>CHECKING THE INSTALLED SAFETY SYSTEMS AND ELECTRICAL SYSTEM</p> <p>The installed safety systems and the electrical system are subject to periodical checks carried out by a specialised electrician.</p>
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Key of the inspection intervals:INTERVALS	Key of the method of execution of the checks:METHODS
g = daily. m = monthly. s = six-monthly. a = annually.	O = Observation: requires simple visual check (e.g. alarm light) F = Function: requires a physical check of the action (e.g. the machine should stop by pressing the emergency button) M = Measurements: a check with specific instrument is required (e.g. check of earthing values).

14.2. Master switch

Purpose: protection of the power supply line.

Function: They are used to connect-disconnect any type of electric circuit, this equipment separates the machinery from the mains, it is placed on one side of the machine.

VERIFICATION:

INTERVAL	METHOD
m	F

14.3. Stop circuit and mobile guard safety micro-switch

Purpose: stop the machine.

Function: the machine stops by pressing the STOP button, ONLY in an emergency does the mobile guard lift. To restore machine operation, the operator must restart the cycle by pressing the START button, after having completely closed the guard. (In case of failure and/or malfunction, see par. 14.5).

VERIFICATION:

INTERVAL	METHOD
g	F

14.4. System checks

Periodically inspect the operation of machine automation and its earthing. Inspect the methods of operation, the safety functions, the contacts on the terminal board and the integrity of the cables, of the luminous indicators and of the earthing.

VERIFICATION:

INTERVAL	METHOD
m	F, M

14.5. Routine maintenance

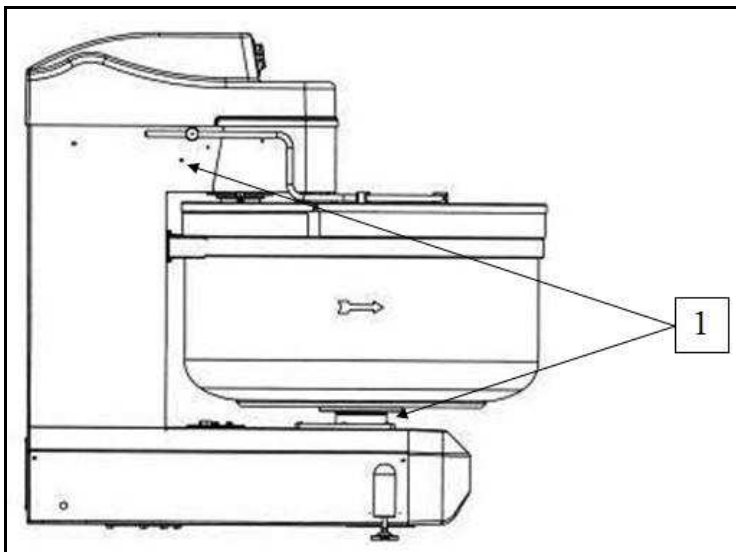


Functional check of the operating and emergency controls.

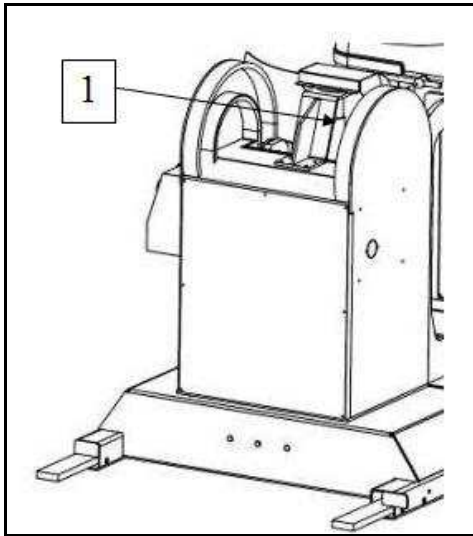
Check the external components of the machine: tools, bowl, protection grid.

Check the belt wear after the first few months of processing.

INTERVAL	METHOD
m	F,M



- 1) Periodically grease the machine through the specific grease nipples.
- 2) Use food grease, e.g. BECHEM BELORUB FB19, use a manual coupling grease pump.
- 3) For PPE wear shoes with reinforced tip and non-slip sole, helmet and goggles.
- 4) Carefully read the lubricant's technical data sheet and follow its instructions.
- 5) Need to provide adequate training to maintenance personnel.



- 1) Periodically grease the lifting screw.
- 2) Use a food grease, e.g. BECHEM BELORUB FB19.
- 3) For PPE wear shoes with reinforced tip and non-slip sole, helmet and goggles.
- 4) Carefully read the lubricant's technical data sheet and follow its instructions.
- 5) Need to provide adequate training to maintenance personnel

INTERVAL	METHOD
s	F,M

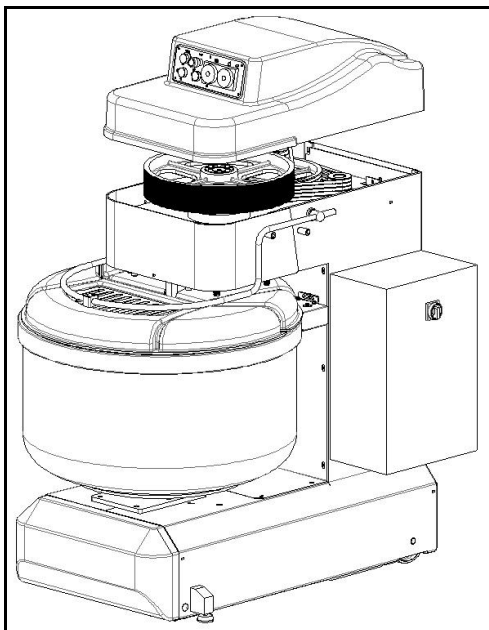
14.5.1. Replacement and/or tension of chain and belts



FOR ANY MAINTENANCE AND CLEANING OPERATIONS, THE MACHINE MUST BE OFF AND DISCONNECTED FROM THE ELECTRIC LINE.

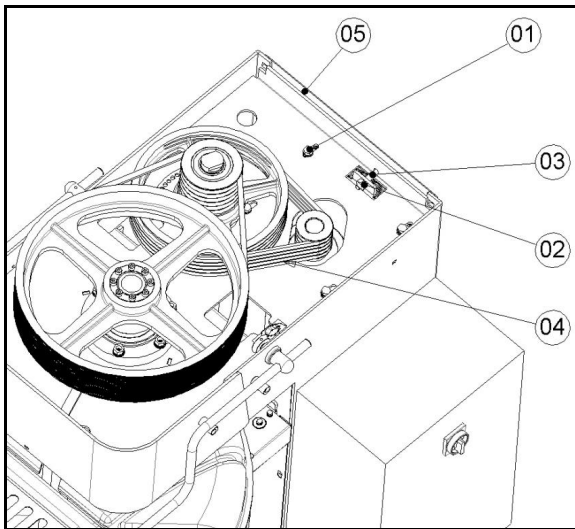
Before performing any of the following operations, wear PPE such as: shoes with reinforced tip and non-slip sole, gloves.

Replacement and/or tension of the spiral belts

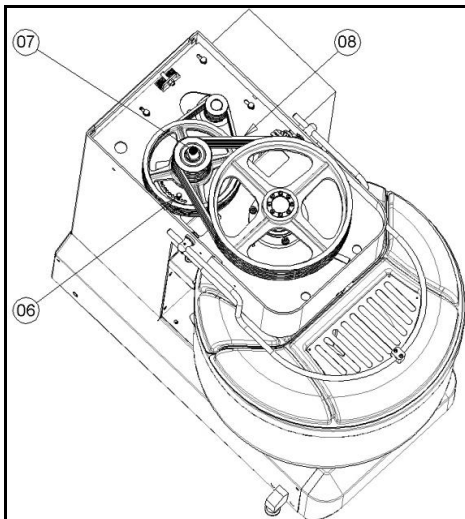


Before any operation, disconnect the machine from the power mains.

Remove the fixing screws of the upper casing and remove it from its position. The casing can be placed on a side shelf taking care of the electrical cables of the control panel.

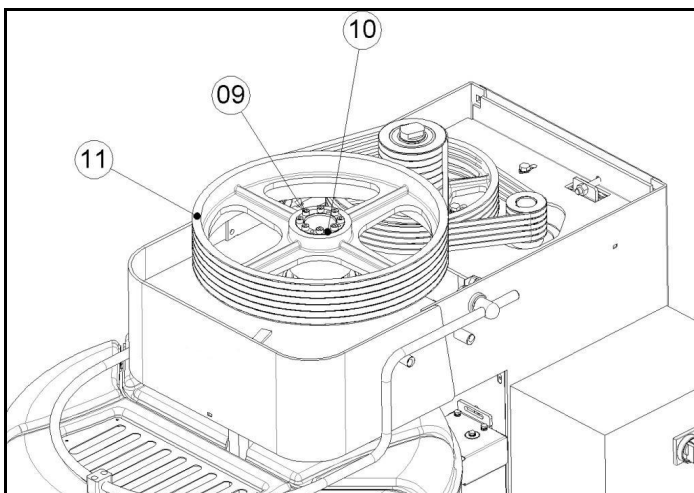


Loosen the 4 screws (01) from the motor seat, loosen the nut (02) and act on the screw (03) pushing the motor seat forward, thus loosening the belt tension (04). Should it be difficult to act on the screw (03), remove the rear casing (05).

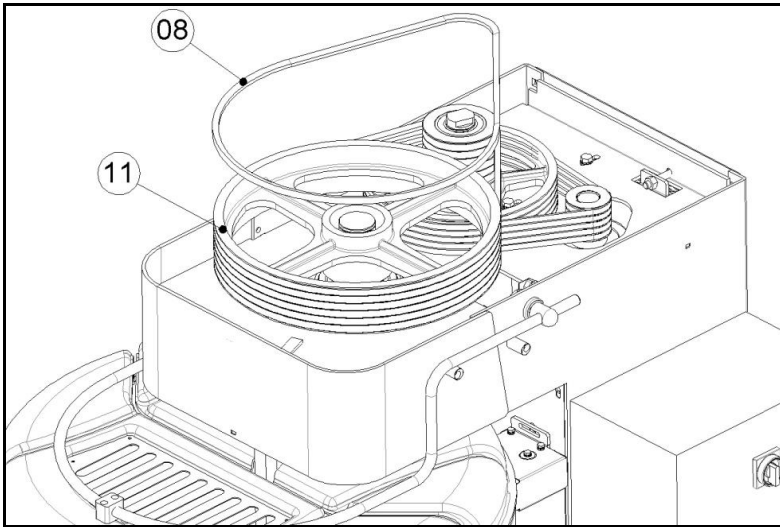


Loosen and remove the screw (06).

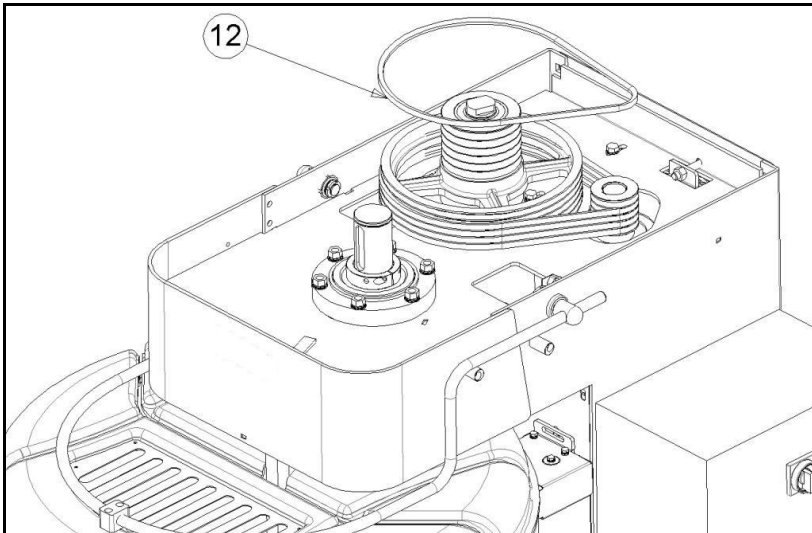
Using a wrench, rotate the eccentric shaft (07) thus loosening the belt tension (08).



Loosen all screws (09) from the shrink disc (10), 4 screws must remain inserted in the threaded holes to help release the shrink disc from the pulley (11).



Remove the belts (08) and then the pulley (11).



Remove the belts (12).

ATTENTION: it is recommended to change the full series of belts to prevent the formation of dust.

INTERVAL	METHOD
s	F,M

Tension the bowl belts



FOR ANY MAINTENANCE AND CLEANING OPERATIONS, THE MACHINE MUST BE OFF AND DISCONNECTED FROM THE ELECTRIC LINE.

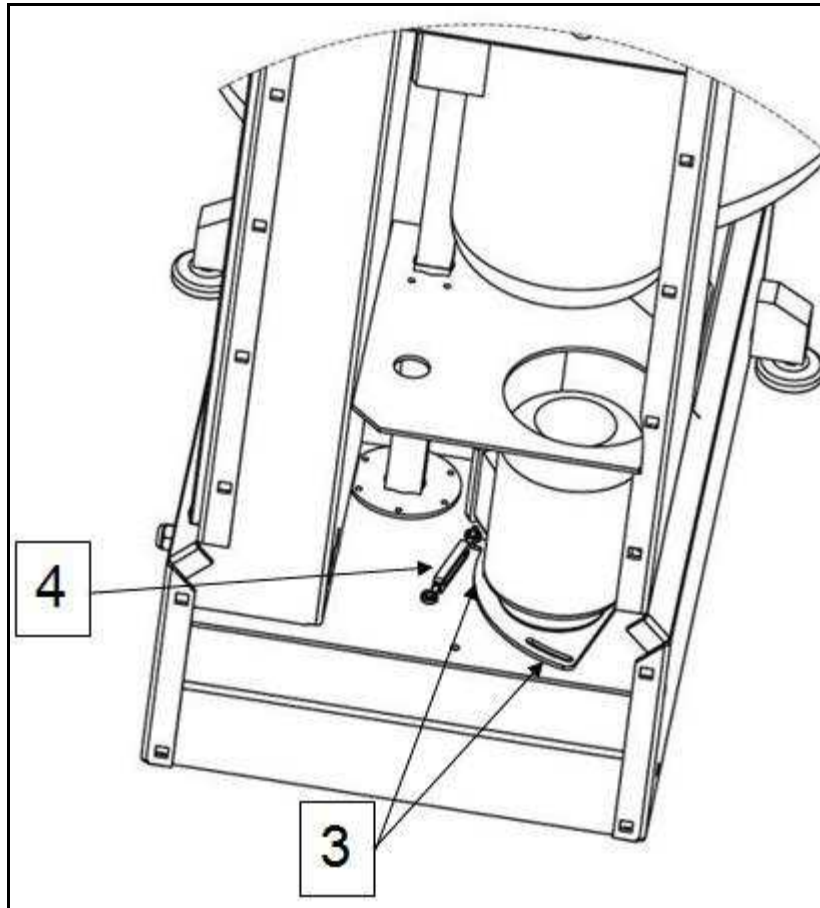
Before performing any of the following operations, wear PPE such as: shoes with reinforced tip and non-slip sole, gloves.

The following operations are **ONLY** necessary to tension the chain, if case of replacement, contact the seller



After tensioning the chain, always check the tension of the bowl rotation motor belt. To do this, loosen the upper casing and remove the rear casing, loosen the motor carrier plate screws (3) and tighten/loosen the tensioner (4) to tension the belt. Put the rear casing back, tighten the screws and repeat the procedure for the upper casing and test the machine.

To ensure the correct belt tension, see chap. 14.4.2.



INTERVAL	METHOD
s	F,M

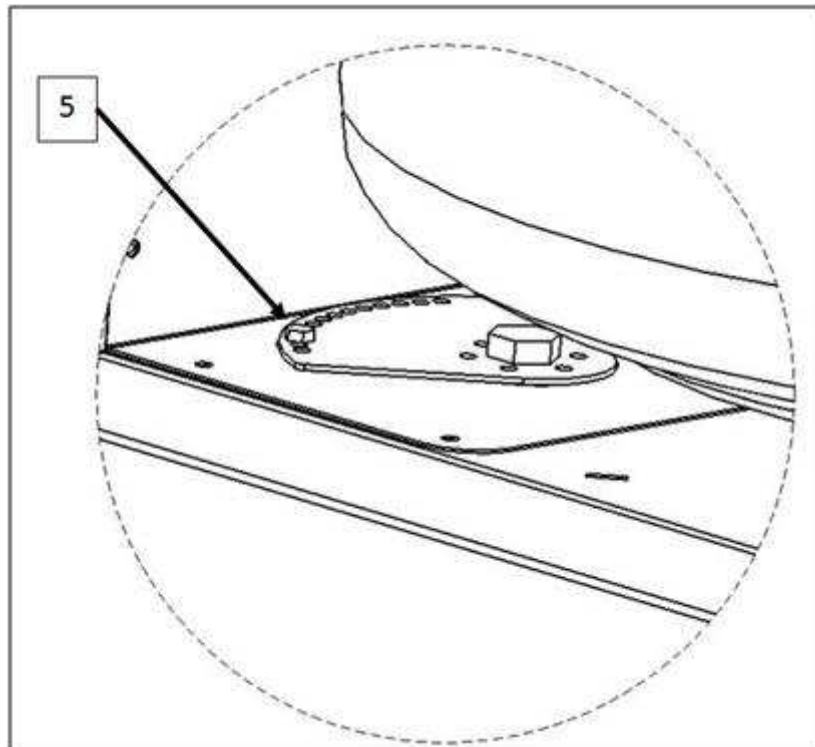


The chain is loose when it admits clearance of the bowl with machine off. To tension the chain located in the lower part of the machine, remove the lower base casing (see chap. 16.7).

To tension the chain, remove the locking screw (5) of the belt tightener tensioning plate (no.50 of the table in chap. 16), rotate the plate and check the chain tension. Once tensioned, reinsert the fixing screw (5) and tighten it, put the lower base casing back and test the machine.

After tensioning the chain, always check the tension of the bowl rotation motor belt.

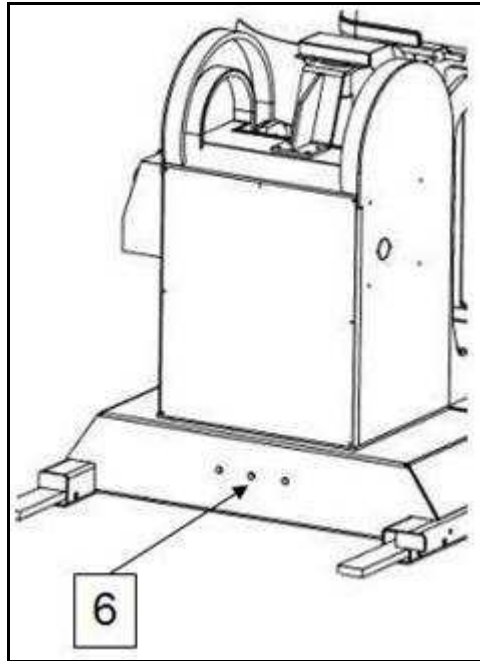
To ensure the correct chain tension, see chap. 14.4.2



INTERVAL	METHOD
s	F,M



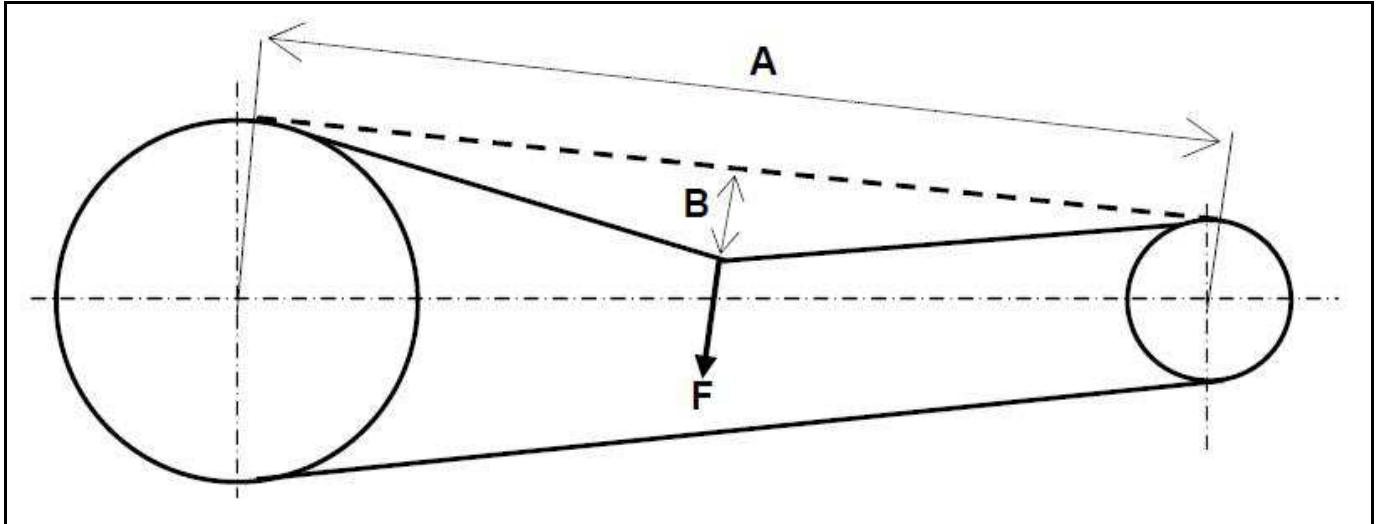
To adjust the tension of the lifter belt, tighten and/or loosen the central screw (6).



INTERVAL	METHOD
s	F,M

14.5.2. How to tension belt and chain

-) Describe how to properly tension a drive belt is very complicated.



- measure the length of free section A in mm
- halfway on free section A and perpendicularly to the same, apply force F required to bend the belt (arrow) B (mm) equal to $A/100$ (e.g. if $A=500$ mm, $B=5,0$ mm), use a millimetric reference to measure arrow B;
- the belt tension is correct if the force F applied for arrow B is between 12 and 18 N; measure the force using a dynamometer or, even better, a tensiometer, which normally allows detecting arrow B; both are readily available on the market.

For further information contact the seller or consult these sites: http://www.sitspa.it/it-IT/Trasmissioni_a_cinghia_Poly-V.html e <http://www.megadyneveneto.it/index.php/it/component/k2/item/223-pluriband>.

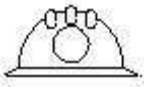
-) Describe how to properly tension a drive chain is also very complicated.

The chain tension is correct when, by pushing it with your thumb halfway on the free section, it is not rigid (otherwise it could break), but gives slightly and when released it goes back as it was; the chain meshes must be free enough to rotate on the pins but not sag (otherwise they might come out of the gears).

If the user reasonably doubts his ability to to adjust the chain tension, do not use the machine and contact the manufacturer as soon as possible for instructions.

<http://www.ognibenechaintech.it/>.

14.6. Special maintenance



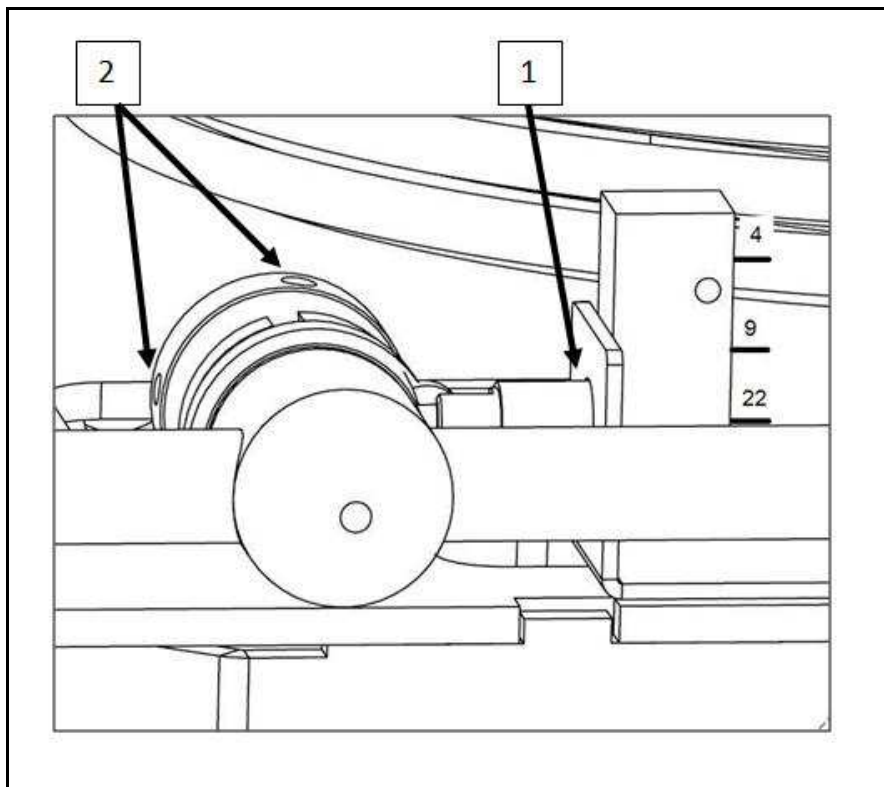
For operations that are not specifically mentioned in the manual, you must refer to personnel authorised by the seller. To replace the motor and electronic boards or following a machine fall, contact our customer service (for on-site assistance or an in-factory inspection).



Faults - replacement of mobile guard micro-switch: remove the screws holding the upper casing together with the structure, place the upper casing onto a flat surface and make sure that the sheath containing the wires is not taut, loosen the ring nut (1) and remove the micro-switch from the square.

Check the micro-switch, change it in case of failure and/or breakage. Put the micro-switch back in the square and tighten the ring nut (1).

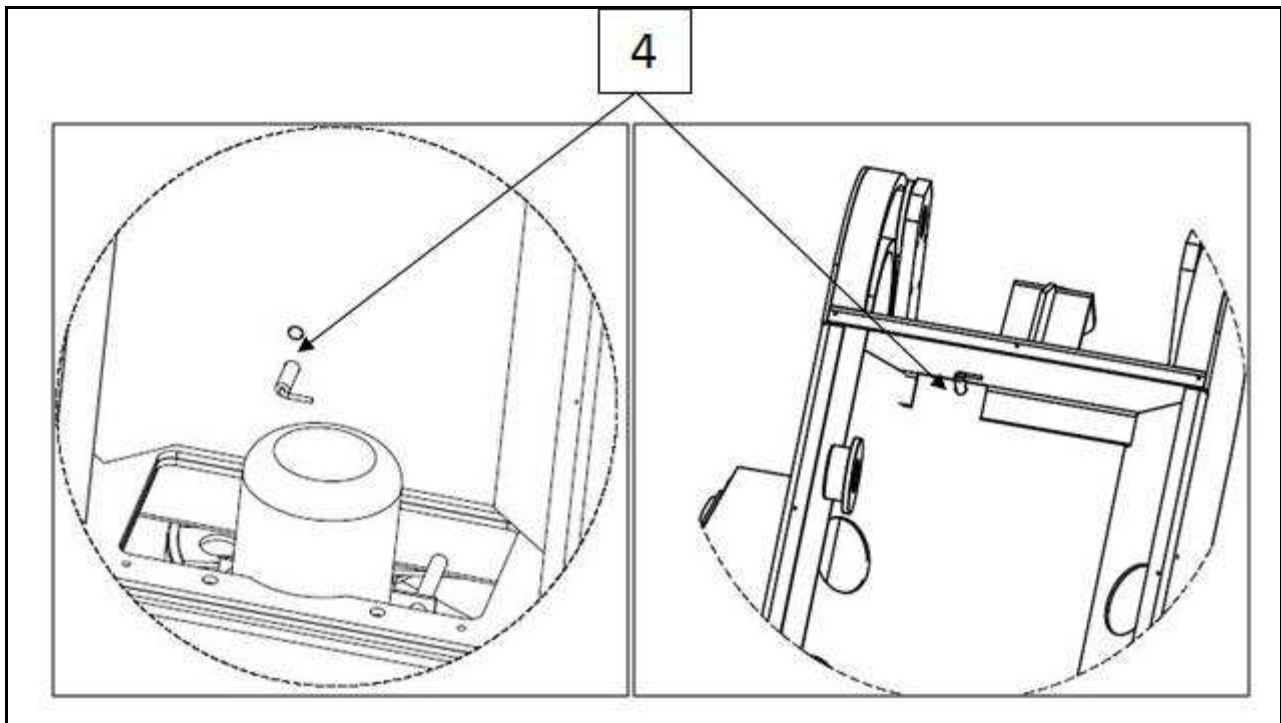
Check the cam controlling the micro-switch (2), checking the grub screws draw





Faults – replacement of the mixer machine lifting and/or lowering proximity: remove the rear casing of the lifter.

Check the proximity, change it in case of failure and/or breakage. When disassembling/assembling the proximity, tighten/loosen the ring nuts (4).



Please note that both the cam screws and the micro-switch screws are blocked with Bblock230, which is a product suitable for clamping screws and/or nuts that come loose due to vibrations (Bblock230 is a highly resistant product and can only be removed by heating the product at about 250°C (with naked flame or furnace); obviously, check that the product does not contain material flammable at this temperature). Before using Bblock230, make sure that the micro-switch is correctly positioned, block it, put the square back on the head and fasten it, put the upper casing back and tighten the screws. Turn on the machine, if it works properly it should stop in FOUR seconds from lifting the mobile guard. Ensured that the machine works properly, release the master switch, remove the rear casing, loosen the ring nut, put the thread locker and tighten it. Put the casing back and tighten the screws.



For the proximity, remove the rear casing of the lifter and replace the faulty proximity. Ensured that the machine works properly, release the master switch, remove the rear casing, loosen the ring nut, put the thread locker and tighten it. Put the rear casing back and tighten the screws.



Should the power cable be damaged, replace it with a H07RN/F cable with a 3x1.5 mm cross-section.

Electrical interventions: they must be carried out by a qualified electrician, referring to the diagrams attached at the end of the manual.

14.7. Machine cleaning

Daily Checks



Always keep the machine clean to prevent the formation of micro-organism colonies that can alter the end product and be harmful to health. It is also important that flour does not deposit on moving parts, thus creating annoying squeaks and abnormal wear.

FOR ANY MAINTENANCE AND CLEANING OPERATIONS, THE MACHINE MUST BE OFF AND DISCONNECTED FROM THE ELECTRIC LINE.

Cleaning: the machine is not spray-proof; it must not be cleaned with running water or compressed air, to minimise dust movement. To vacuum the dust, use a professional vacuum equipped with adequate filters depending on the grain size of the flour.

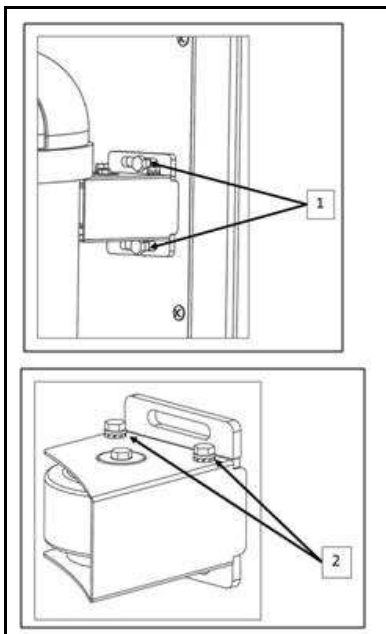
Cleaning the bowl: use a damp cloth and/or PLASTIC spatulas with water only.

N.B.: it is not advisable to use metal spatulas to clean the bowl.

Cleaning the column and spiral: use a damp cloth with water only. Mop between the bowl and column and/or between the bowl and spiral to avoid the formation of contaminated areas.



INTERVAL	METHOD
s	F,M



Cleaning the bowl contrast block:

Remove the two bowl contrast blocks by loosening the screws (1). After removing the block, loosen the four screws (2), take off the wheel cover and wearing a mask, clean the wheel using a clean brush and then a damp cloth.

Replace the wheel cover and block the screws (2) and then tighten the contrast block back on the column via screws (1).

ATTENTION: check that the distance between the bowl and its contrast block is 4 mm.

DO NOT MODIFY THIS SAFETY VALUE.

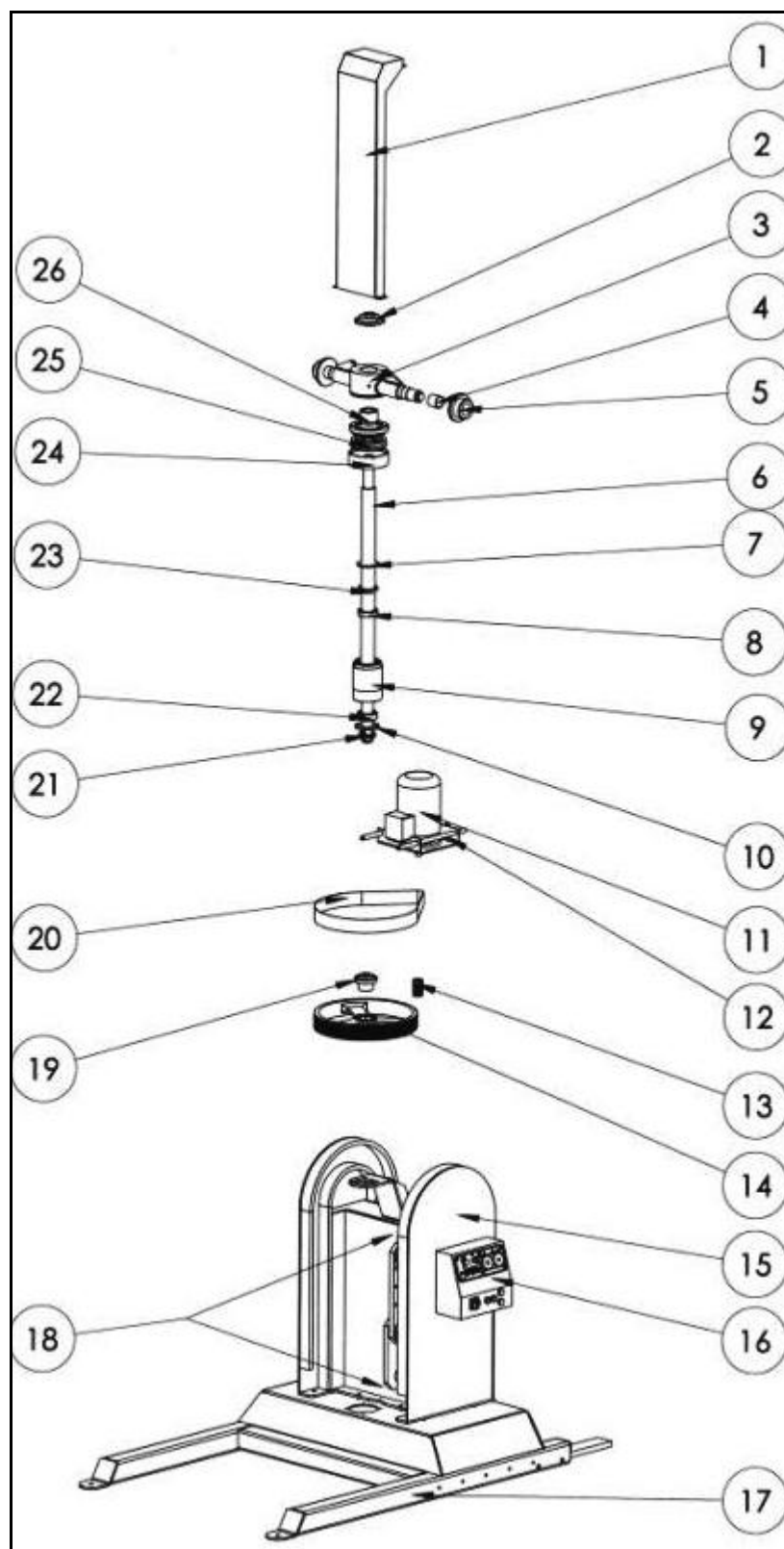
INTERVAL	METHOD
m	F,M

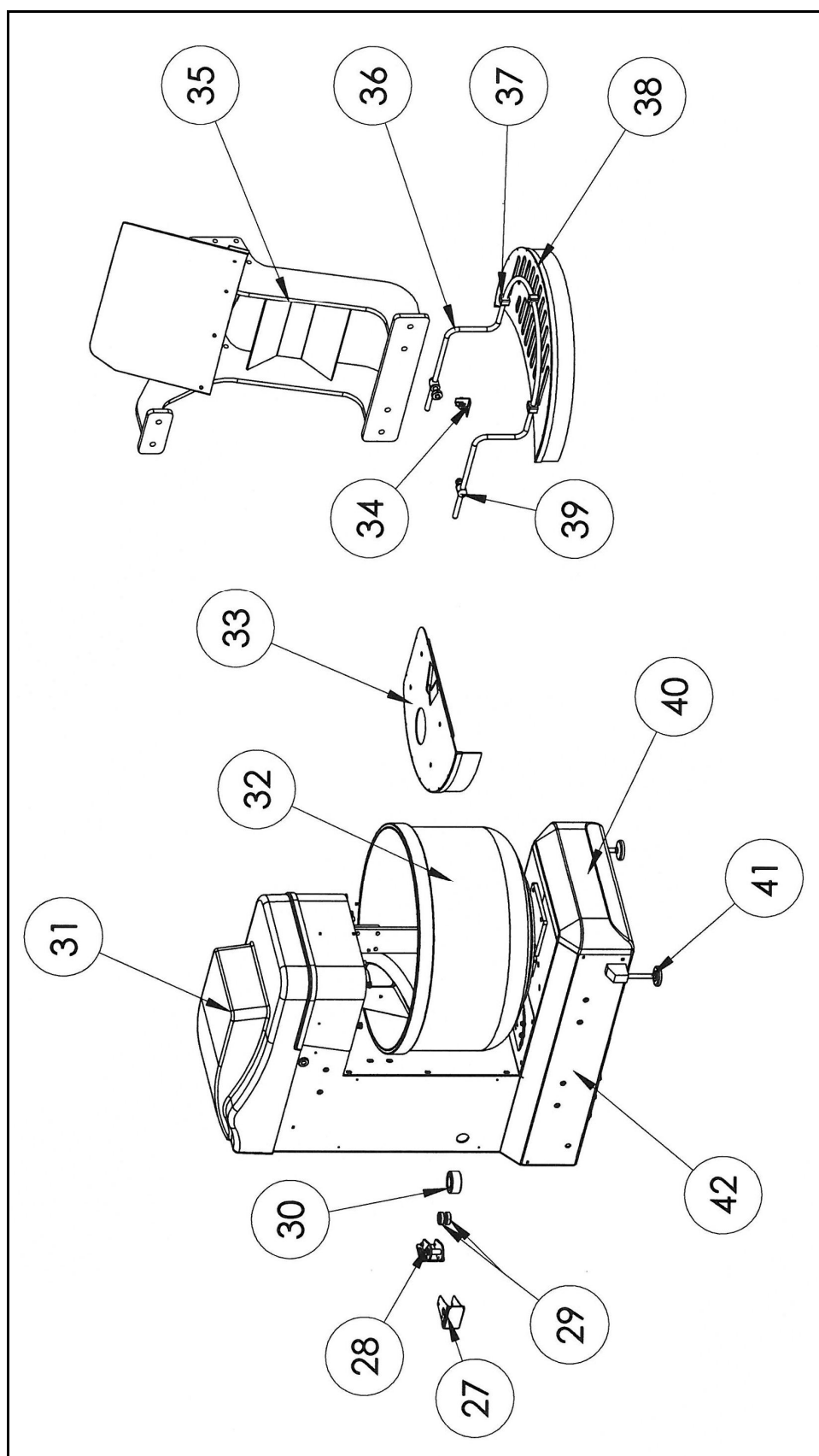
15. Troubleshooting

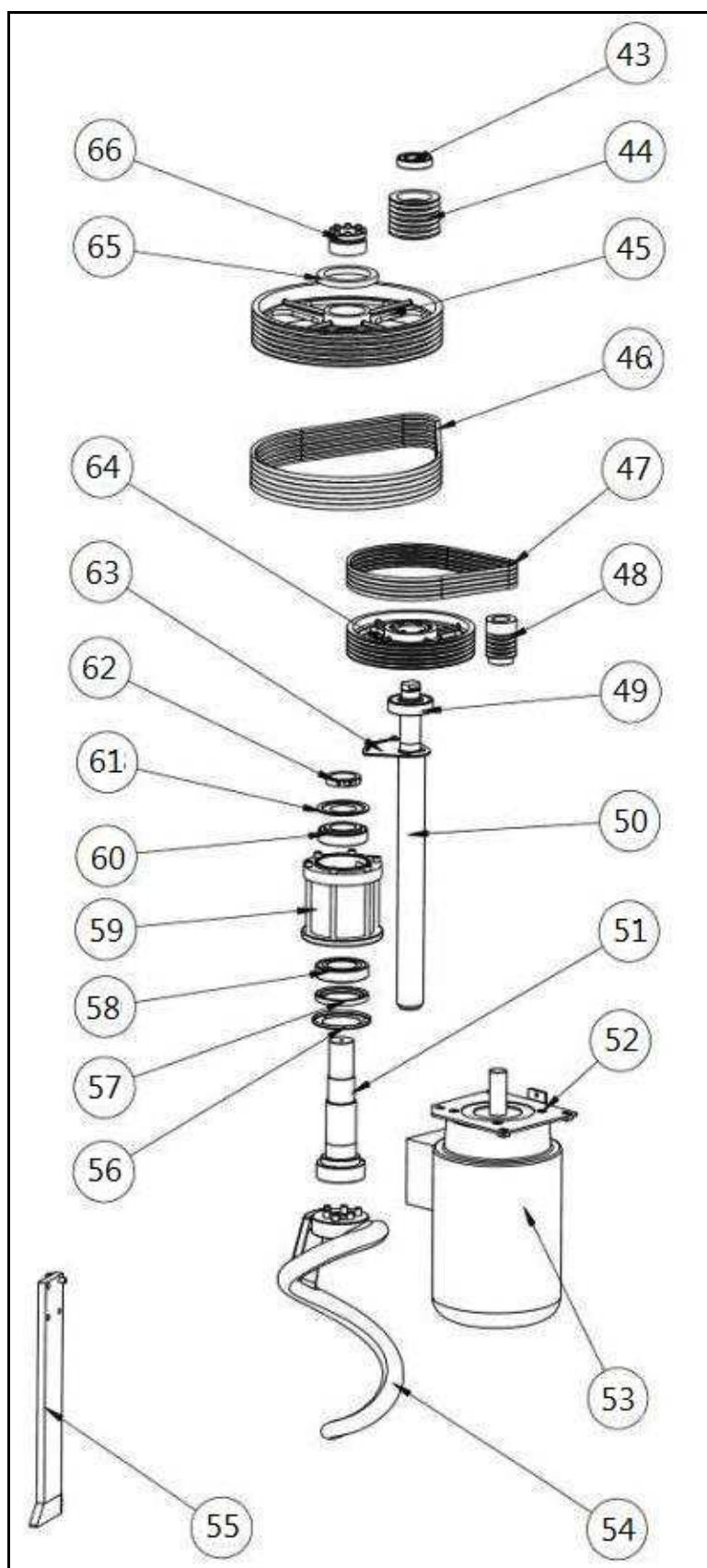
15.1. Machine lock-up and necessary solutions

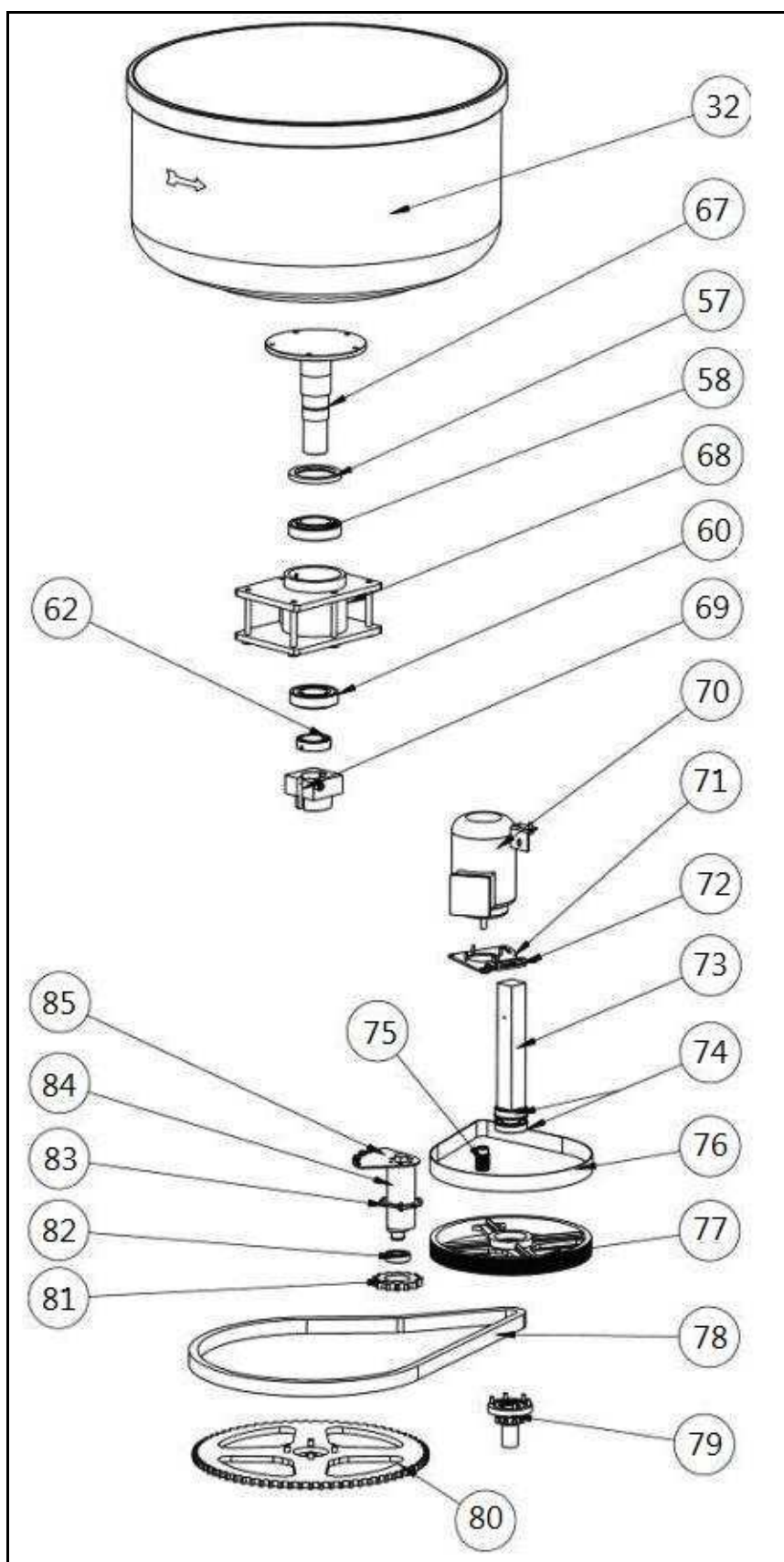
Operating anomalies	Possible causes	Repairs
Turning the master switch into position 1, the indicator light does not come on.	Plug not inserted properly, or its wires are detached	Check the connection
Pressing the START button, the machine does not start.	1) The protection grid is open. 2) Safety micro switches anomalies.	1) Rotate it and reposition it in closed position. 2) Replace the micro switch.
The spiral does not rotate smoothly.	1) Loose chain or belt. 2) Worn belt.	1) Tension the chain or belt. 2) Replace the belt.
The bowl does not rotate smoothly.	1) Loose chain. 2) Worn chain.	1) Tension the chain. 2) Replace the chain.

16. Machine exploded view







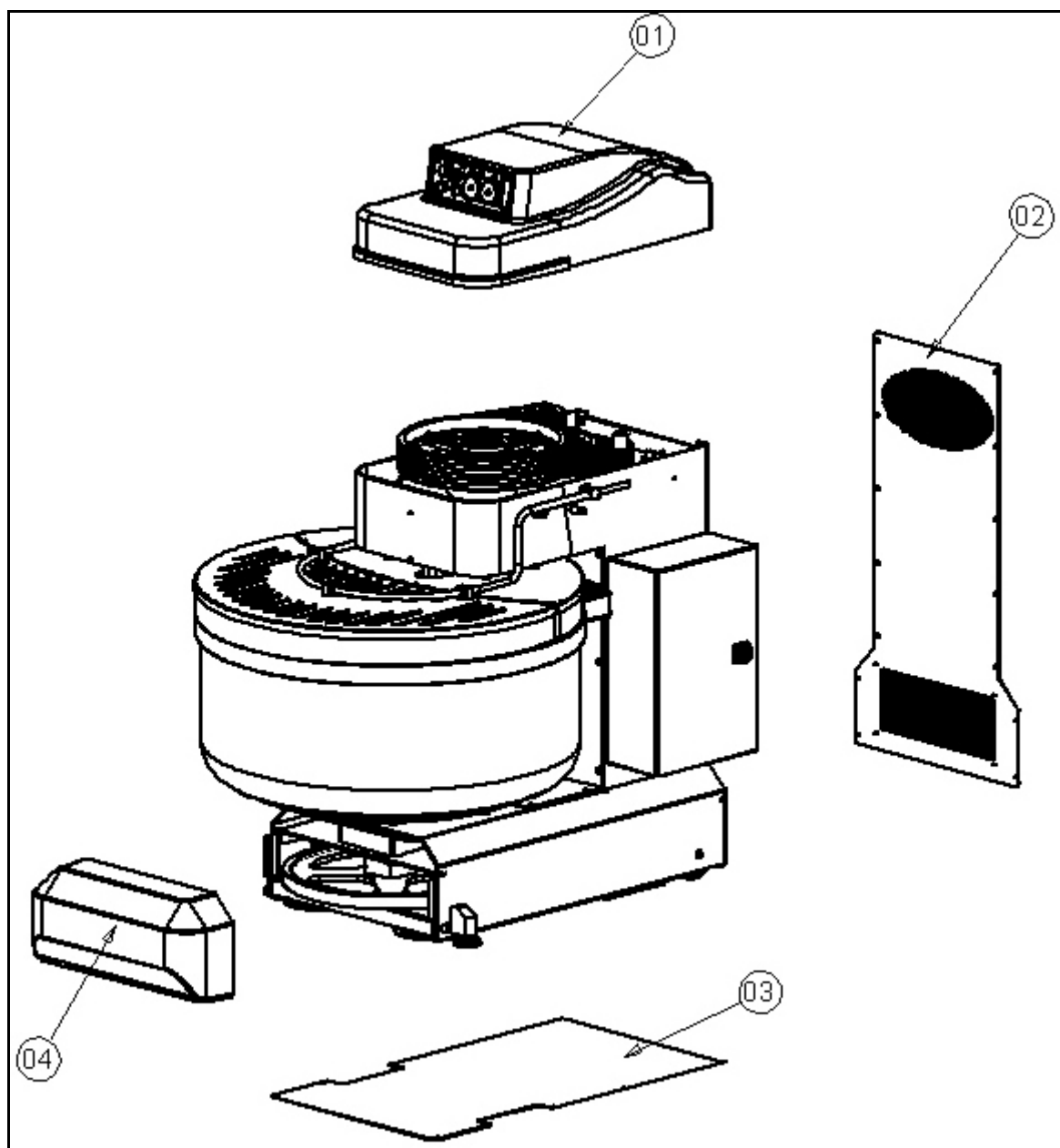


Pos.	Q.ty	Description	Drawing
1	1	SAU-B SCREW COVERING CASING	02170112
1	1	SAU-T SCREW COVERING CASING	02170113
2	1	UCFC SUPPORT	13006202
3	1	WORM SCREW CARRIER SHAFT ASSEMBLY	86170045-1
4	6	BUSHING KU 50x55x50	15005014
5	6	SLIDING WHEEL	84170050
6	1	SAU-B SCREW	01170094
6	1	SAU-T SCREW	01170033
7	1	LABYRINTH COVER	80170038-1
8	1	6210 BEARING	13000321
9	1	SCREW BUSHING TUBE	01170034
10	1	NILOS RING	14000715
11	1	T100 4P 3KW 230-400V/3/50HZ	11001302
12	1	T100 MOTOR SEAT	86170026-1
13	1	T100 MOTOR PULLEY	01170028
14	1	CONDUIT PULLEY	01168015
15	1	SAU-B GUIDE UPRIGHT	86170092
15	1	SAU-T GUIDE UPRIGHT	86170023-1
15	2	SAU LOWER LEVER	86170051
15	1	RIGHT UPPER LEVER ASSEMBLY	86170055
15	1	LEFT UPPER LEVER ASSEMBLY	86170056
16	1	CONTROL PANEL	85123145-1
16	1	EMERGENCY BUTTON	25009050
16	2	DOUBLE TIMER	25007022
16	1	MASTER SWITCH	25003013
17	1	BASE ASSEMBLY	8617006-1
18	2	INDUCTION SENSOR	25001371
19	1	DUCT PULLEY HUB	01170029
20	1	POLY-V BELT	12003959
21	1	LOCK-NUT	85021135-1
22	1	32210 BEARING	13000514
23	1	SEAL RING	19000035
24	1	WORM SCREW PROTECTION	86170049-1
25	1	SAFETY WORM SCREW	01170048
26	1	LIFTING WORM SCREW	01170047

Pos.	Q.ty	Description	Drawing
27	1	LEFT CONTRAST WHEEL COVER	02197049
27	1	RIGHT CONTRAST WHEEL COVER	02197048
28	2	CONTRAST PIN	01193044-1
29	4	6204 BEARING	13000015
30	2	POLYURETHANE WHEEL	17001501
31	1	UPPER CASING	03196046-1
32	1	BOWL	04197102
33	1	FIXED PASTA COVER	01197153
34	1	CROUZET MICRO-SWITCH	25001308
35	1	SELF-EMPTYING CONNECTION ASSEMBLY	86197110-2
36	1	PROTECTION PROFILE TUBE	87197053
37	3	COLLAR TORQUE	14002512
38	1	MOBILE PASTA COVER	01197154
39	1	MOBILE SHORT PROTECTION PIN	85193095-1
39	1	MICRO-SWITCH CONTROL CAM	01078048
39	1	MOBILE PROTECTION PIN	85193059-3
40	1	BASE FRONT CLOSURE	86197072-1
41	2	FOOT BLOCK	85193020-1
41	2	FOOT	14002823
42	1	BASE	86197021-4
43	1	6209 BEARING	13000020
44	1	RETURN DRIVE PULLEY	01197040
45	1	SPIRAL PULLEY	01197043-1
46	6	SPA 1657 BELT	12003106
47	5	SPZX 1112 BELT	12003302
48	1	MOTOR PULLEY	01197145
49	1	6310 BEARING	13000031
50	1	RETURN SHAFT	01197041-2
51	1	SPIRAL SHAFT	85169043-4
52	1	SPIRAL MOTOR PLATE	86197116-2
53	1	T160 2/4P 11/9KW 400V/3/50HZ	11001852
54	1	SPIRAL	01169048-1
55	1	CONTRAST ROD ASSEMBLY	01197067
56	1	SPIRAL LABYRINTH COVER	01169044-1
57	2	SEAL RING	19000060

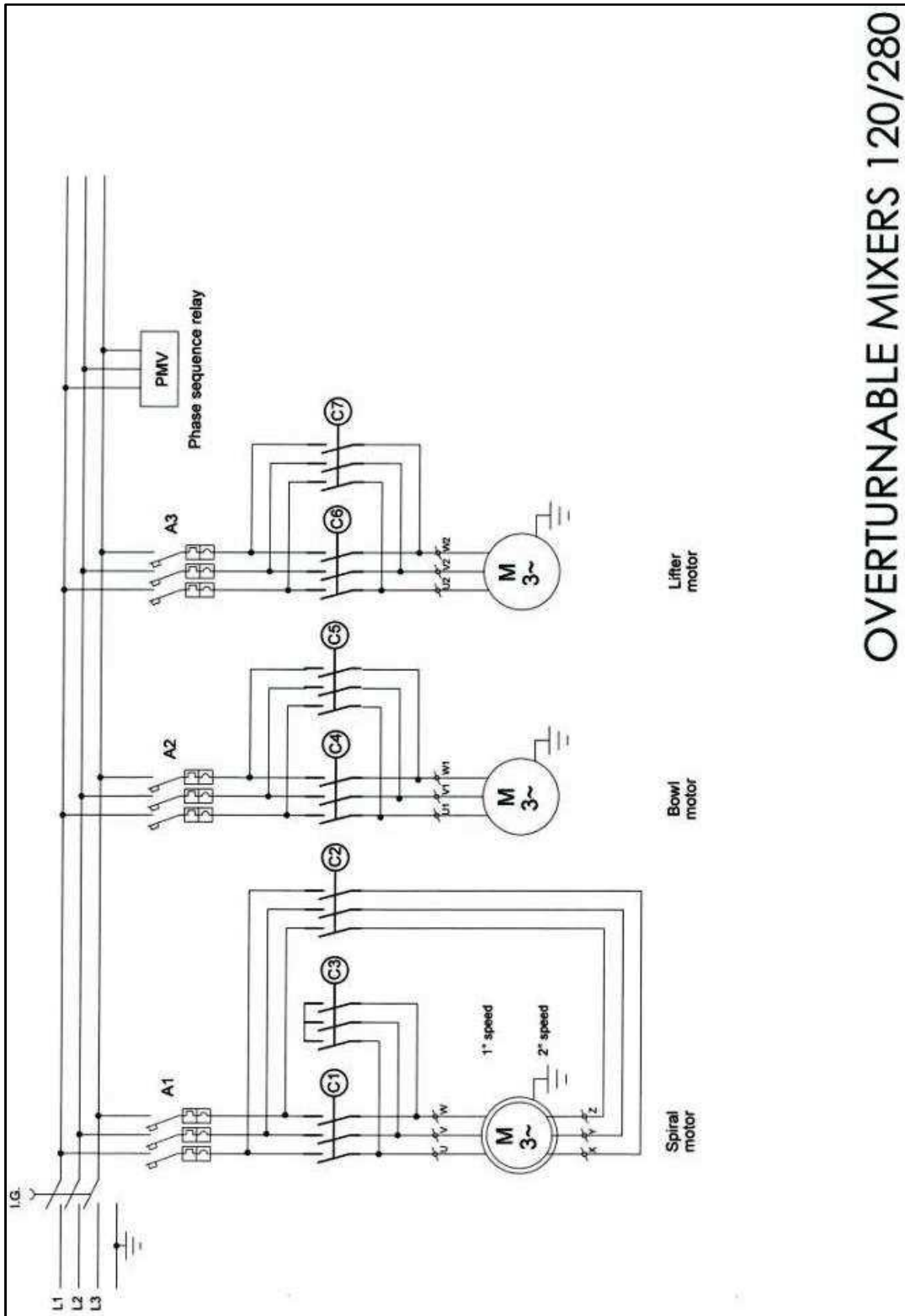
Pos.	Q.ty	Description	Drawing
58	2	32215 BEARING	13000519
59	1	SPIRAL BUSH	01169006-1
60	2	32213 BEARING	13000509
61	1	NILOS RING	14000740
62	2	LOCK-NUT	01169064-1
63	1	RETURN TENSIONING PLATE	02197042-1
64	1	RETURN DUCT PULLEY	01197039
65	1	PULLEY REINFORCEMENT RING	01197123-1
66	1	SHRINK DISC	14000501
67	1	BOWL SHAFT	01197060-3
68	1	BOWL BUSHING	85197056-3
69	1	BOWL CROWN HUB	01197063-1
70	1	T80 4P 0.75KW 230-400V/3/50HZ	11000707
71	1	BOWL MOTOR PLATE	86196040
72	1	TENSIONER	23010151
73	1	BOWL RETURN SHAFT	01197117
74	2	6208 BEARING	13000019
75	1	BOWL MOTOR PULLEY	01196035-1
76	1	POLY-V BELT	12003976
77	1	BOWL RETURN PULLEY	01197106-3
78	1	CHAIN	12002906
79	1	GEAR Z8	84197029-4
80	1	Z71 BOWL CROWN	01197064-3
81	1	BELT TIGHTENER CROWN	01197130
82	1	6206 BEARING	13000017
83	1	SHAFT SUPPORT HALF-RING	01196042-2
84	1	BELT TIGHTENER SHAFT	85197036-3
85	1	BELT TIGHTENER TENSIONING PLATE	02196031-1

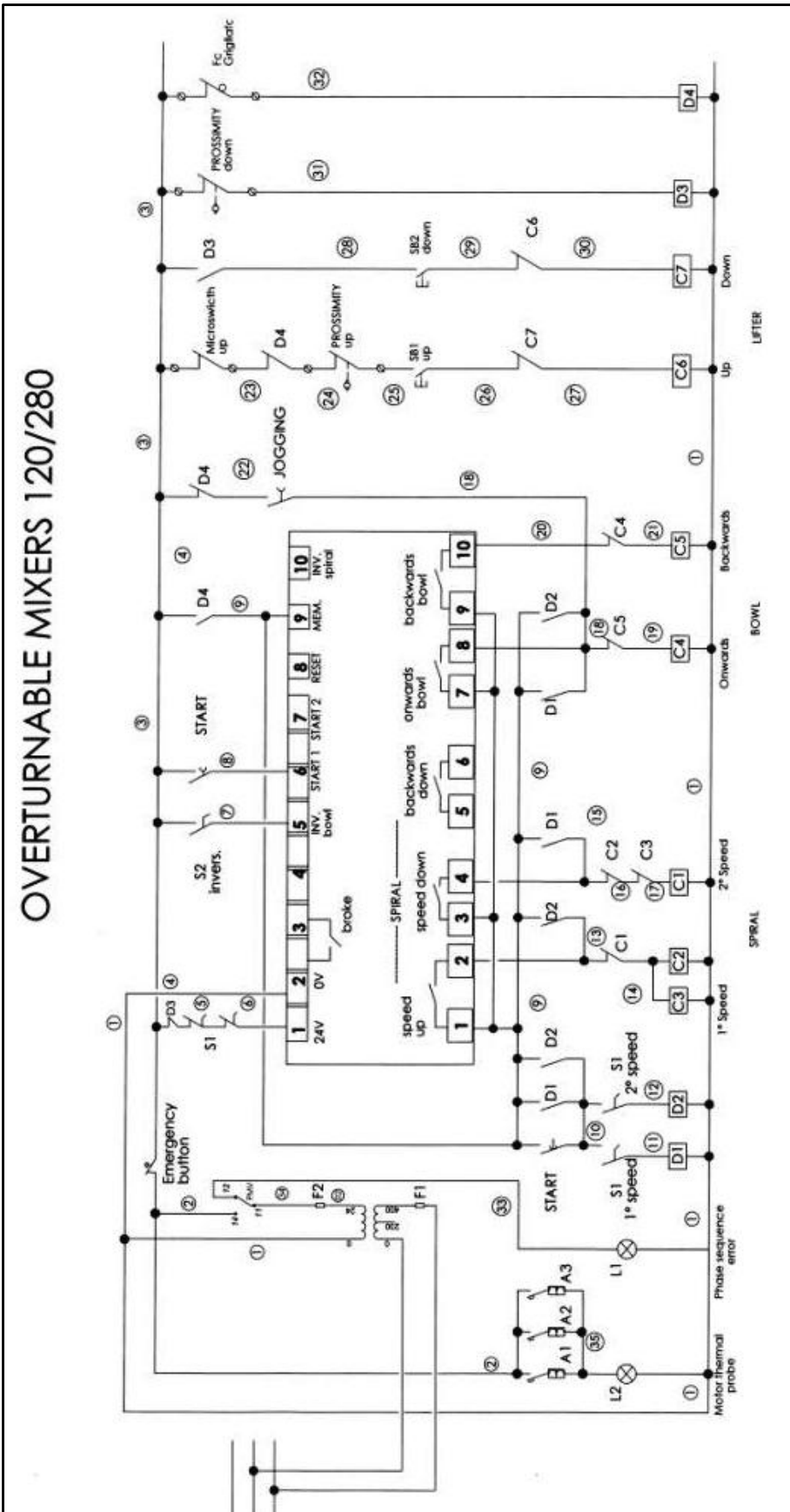
16.1. Casing exploded view



Pos.	Q.ty	Description	Drawing
1	1	UPPER CASING	03196046-1
2	1	REAR CASING	86197025-2
3	1	LOWER CASING	86197023-2
4	1	BASE FRONT CLOSING CASING	86197072-1

17. Electrical Drawing





18. Demolition and disposal

Machine decommissioning is the direct responsibility of the purchaser, who must keep to the local standards and regulations. Mechanical and electrical parts disassembly must be entrusted to skilled personnel.

18.1. Obligations of informing users

Information form for "professional" type products users



INFORMATION FOR USERS

Pursuant to art.26 of Leg.Decree 14/03/2014, no. 49 "Implementation of Directives 2012/19/UE, on waste of electrical and electronic equipment (WEEE), as well as waste disposal"

The crossed out wheeled bin symbol on the equipment or on its container indicates that the product must be disposed of separately from other waste at the end of its useful life.

The manufacturer plans and manages separate collection of this equipment at the end of its life. Users who wish to dispose of this equipment must, therefore, contact the manufacturer and follow its system for separate collection of the equipment at the ends of its life.

Proper separate collection to then send the equipment no longer in use to recycling, treatment and environmentally compatible disposal contributes to preventing possible negative effects on the environment and on health and favours reusing and/or recycling the materials that make up the equipment.

Illegal product disposal by the owner results in the application of the administrative sanctions required by the standard in force.