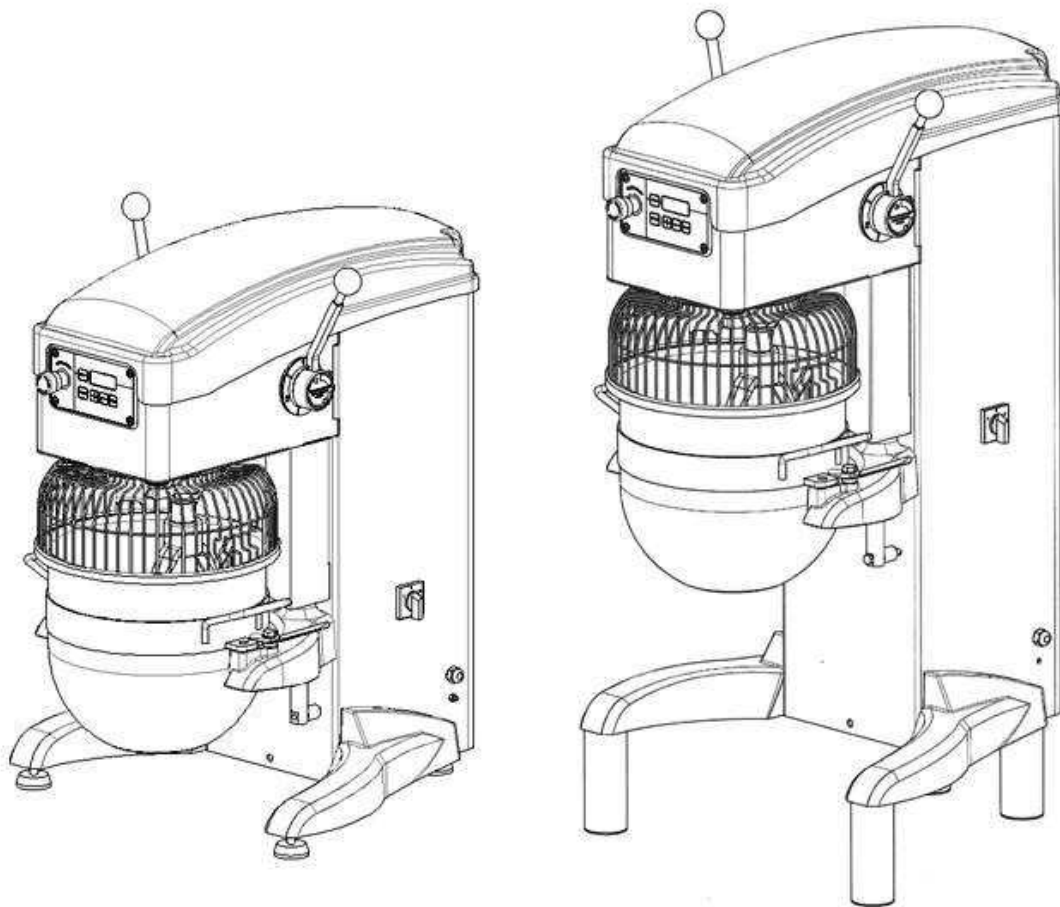




Via Artigianato 85 – 25030 Torbole Casaglia.
(BRESCIA) – ITALY – Tel 030 265 04 88 – Fax 030 265 01 43

INSTRUCTIONS, USE AND MAINTENANCE MANUAL BMR 20 - 20H - 30 PLANETARY MIXER WITH MECHANICAL SPEED VARIATION

Translation of the original instruction



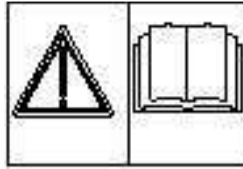


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1. General information



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.

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. Declaration of Conformity

**COSTRUTTORE DI MACCHINE PER PANIFICI – PASTICCERIE – PIZZERIE
MANUFACTURER OF BAKERY, CONFECTIONERY AND PIZZERIA MACHINES**

Il sottoscritto costruttore / The undersigned manufacturer:



VIA ARTIGIANATO, 85
25030 TORBOLE CASAGLIA
(BRESCIA) ITALY

Dichiara che il materiale nuovo specificato come segue / declares that the new equipment:

MACHINE NAME: BMR 20 - 20H - 30 PLANETARY MIXER WITH MECHANICAL SPEED VARIATION

SERIAL NUMBER:

CERTIFICATO DI CONFORMITÀ / CONFORMITY CERTIFICATE

Relativo ai Materiali sottoposti ad Autocertificazione / for equipment subjected to self certification
2006/42/EC – 2014/30/EU – 2006/95/EC – 2006/2023/EC – 2012/1183/EU– M.D. 76/2006 – EN 60204-1 –
Legislative Decree 17/2010

E' conforme alle normative d'igiene e di antinfortunistica ad esso applicabili / Is built in compliance with the health and accident prevention regulations.

In Torbole Casaglia, on

Il legale rappresentante / Chairman of the board of directors

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 has not been damaged during transport and is installed, commissioned, used and serviced as indicated in this manual.
- It has not been tampered with, modified or installed with non-intended tools.
- It has not been modified or repaired by the purchaser or by third parties in a non-compliant manner or without the prior consent of the supplier.

The following conditions constitute improper use of the machine:

- Excessive loading or use of unsuitable ingredients.
- Cleaning using unsuitable tools or means, that may scratch the bowl, damage the machine or the paint and plastic.
- Use of machine in unsuitable environments.

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.

Wear parts are: drive belts, 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.
- When choosing the person who will be using the equipment (person fit to work according to the laws in force), the company safety manager in the operating area or in the department must consider the person's education, physical suitability and psychological aspect (mental balance, sense of responsibility, etc.). Based on the observed skills and capacities, the manager must appropriately train the person by having him/her read this document so as to provide thorough knowledge of the machine and the rules of conduct that apply to it.
- The space around the machine must be well-lit, uncluttered and clean.
- Personnel in charge of running, cleaning and servicing the machine must wear the prescribed PPE (personal protective equipment).
- Do not wear loose clothing or dangling items (ties, napkins, torn clothes, open jackets, etc.) to avoid the risk of entanglement.
- During maintenance and cleaning operations, the operator must disarm the master switch and put the system into safety mode (for example, by removing the plug).
- Never leave the machine unattended during operation, pay attention to unusual sounds or behaviour and keep away from rotating parts. Never open the grid before the tools have stopped completely.
- At the end of work, completely empty the machine, disengage the master switch by cutting power, put it in safety mode and clean it with a mild degreaser (i.e. castile soap).

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: disconnects power in case of overheating of the electric motor.
- Inverter power lock: disconnects power in case of overload of the electric motor (only if there is an inverter).
- 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.

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.
- There must be no obstacles in the immediate vicinity of the machine that might compromise normal ventilation and operation of the machine in question.
- Upon machine arrival, make sure it is intact. Should it not be possible to immediately check the machinery, accept subject to verification. Any damages incurred during transport or delivery must be immediately reported.
- Make sure that the room voltage is the same of the machine: check the label near the power supply cable. 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:

- Machine type
- Year of manufacture
- Position
- Description
- Serial no.
- Desired amount of requested pieces.

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. Untidiness may cause accidents.
- Assess the environmental conditions. Not in a damp, wet or insufficiently lit environment, near flammable liquids or gas.
- Keep children and unauthorised people away. Do not allow them to approach the machine or the work station.
- Use the machine within the powers on the plate and for the intended use only. It will work better and safer without overload.
- Dress adequately. Do not wear dangling clothes or accessories that may get entangled in moving parts. Use non-slip shoes. For health and safety reasons, long hair should be gathered in an 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 appropriate position that always ensures balance.
- Always pay the utmost attention.
- After each machine use and before cleaning, maintenance or displacement, disconnect the plug from the socket.
- Do not use extension cables outdoors.
- Check that the machine is not damaged. Carefully check the effectiveness of the safety devices before using the machine. Check that: mobile parts are fixed, that there are no damaged components, that all parts are properly assembled and that all conditions which may affect the regular operation of the machine are optimal.
- Have the machine repaired by 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



Risk of injury: from the chute or disassembling the casings during maintenance, you can access the moving parts of the machine.



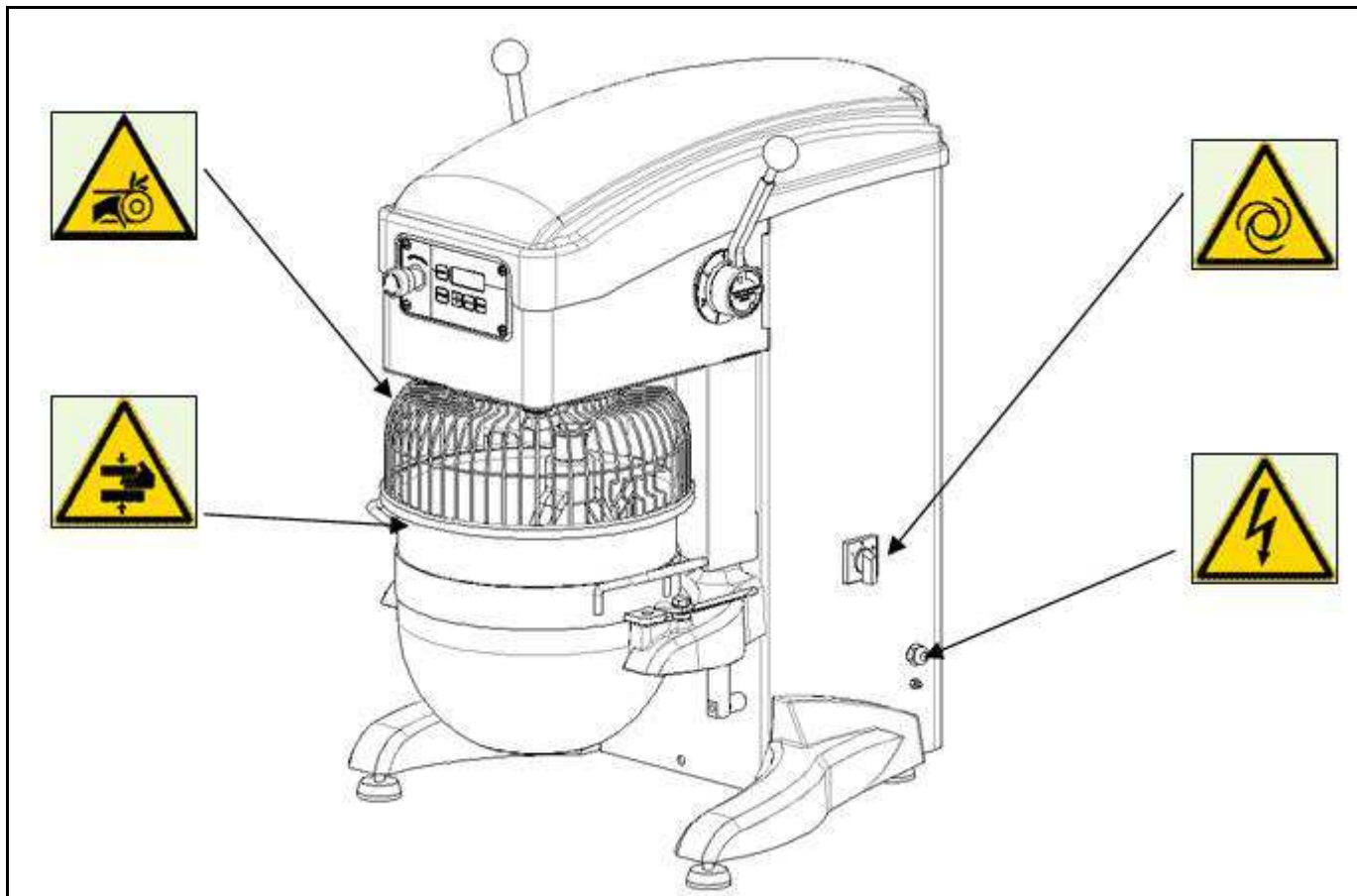
Hazardous areas are where serious injuries may occur, do not introduce limbs or other objects without having secured the machine.



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.



Automatic cycle: after start-up, the machine performs an automatic cycle of operation.
Never put limbs or other objects beyond the safety barriers during operation.



Earthing obligation



Obligation to disconnect the machine before intervening on it.

ATTENTION!

During operation, wear the provided PPE.

Always thoroughly clean the machine after use.

Do not remove the safety devices and protection casings.

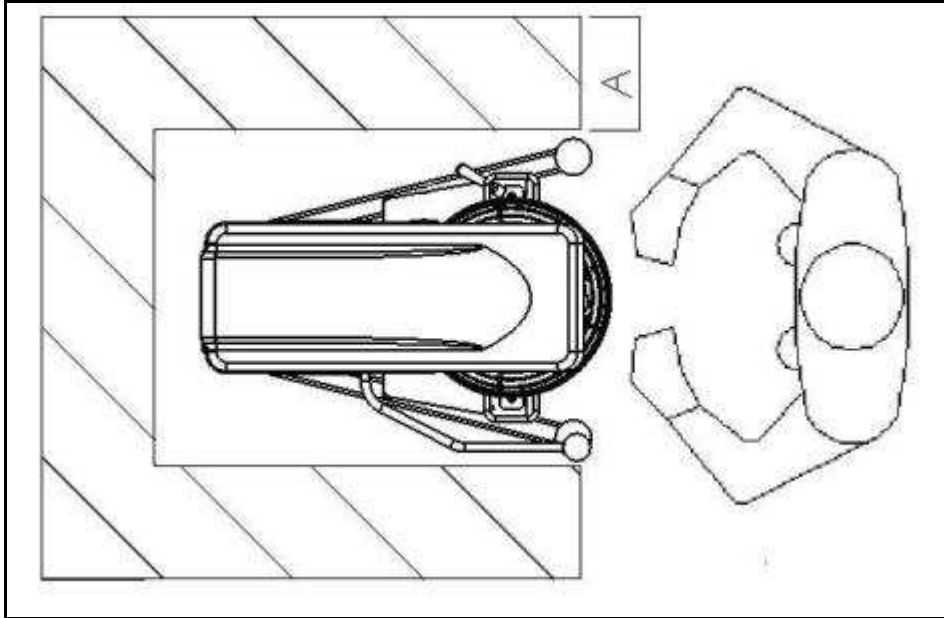
Do not put any object through the chute with parts in motion.

Wait for the machine to completely stop before performing any manoeuvres on the chute.







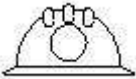

6.2. Hazardous area

Hazardous area A that must be clear of people for a distance of 250 mm.



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:

BMR 20 - 20H - 30 series planetary mixers are mixers that are particularly suited to use in the hotel management sector. Driven by a high-power motor, they use a belt regulator with a high transmission ratio that allows for optimal range between minimum and maximum planetary speed and proportional tool speed. The machine was built to process, beat, whip and knead edible mixtures made of flour, water, yeast, salt, butter or margarine, eggs, potatoes (boiled), sugar, cream, ground meat, puree and additives, provided that they are allowed by the laws and hygiene standards. Using ingredients that have been hardened by freezing or other methods is absolutely not permitted.

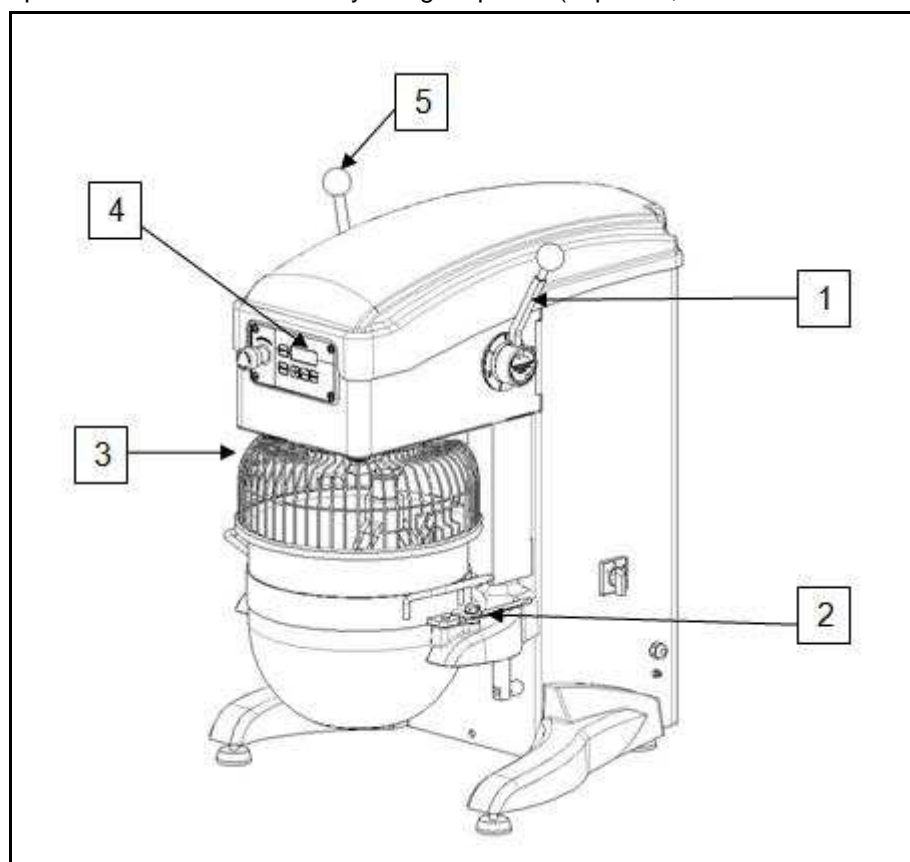
Adapting the machine to other types of processing entails authorised personnel modifying the machine as well as modifying this manual.

The high-power motor and the transmission system in combination with the steel structure created an extremely sturdy, reliable ensemble, abundantly sized for professional use. The machine is completed by safety devices and electric control equipment that are compliant with all European standards.

The electromechanical bowl lowering device, the extreme ease with which said bowl and tools are disassembled make this machine highly professional.

The utmost care was taken in creating the supplied tools - whisk, blade and spiral - which, along with the shape of the bowl, guarantee the best results.

To remove the mixture, you must switch off the machine using the master switch or wait for the set knead time to run out, lower the bowl via the lifting lever, rotate the grid, free the tool from the hooking pin and free the bowl from the handles. At this point, the bowl can be removed and the mixture can be overturned wherever you wish. The operation can be facilitated by using a spatula (in plastic, aluminium or wood so as not to scratch the bowl).



- 1) MANUAL SPEED CHANGE
- 2) BOWL LOCKING LEVER
- 3) PROTECTION GRID
- 4) CONTROL PANEL
- 5) LIFTING LEVER

9. Machine identification

The machine casing fits a plate similar to the illustrated one that indicates the manufacturer details, machine type, serial number, electrical features, frequency, absorbed power, phase number and year of manufacture.



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: painting, zinc plating, nickel plating, tefloning, electropolishing are carried out on components to give technical features and ensure their 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

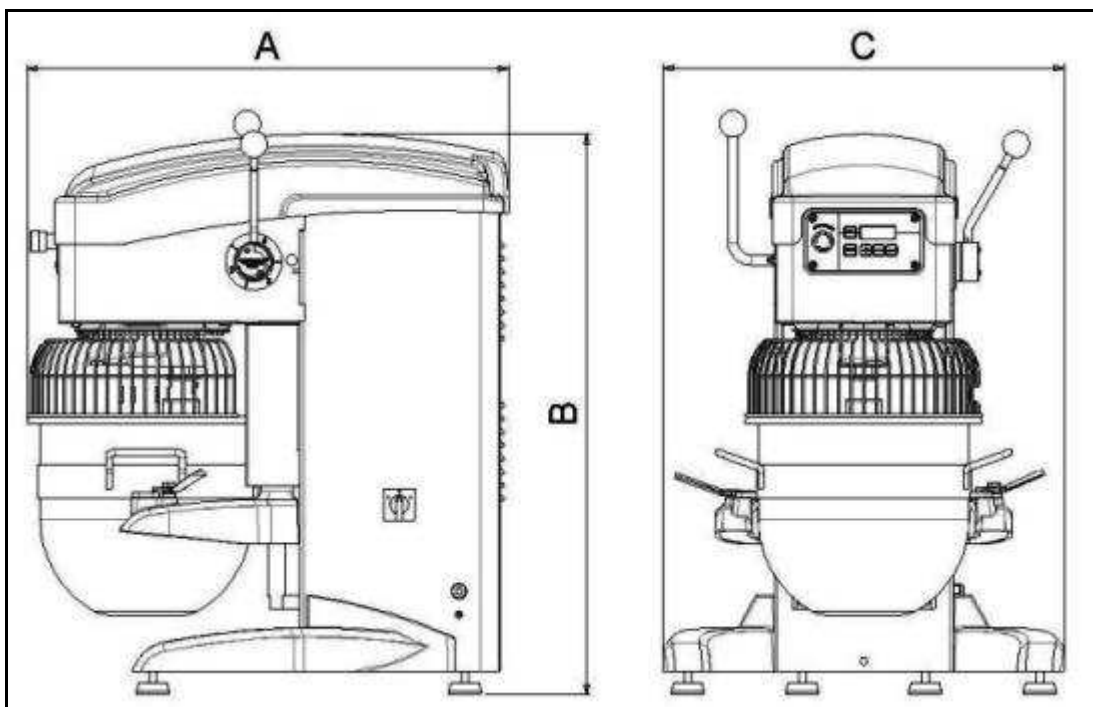
The units of measurement used in the manual are:

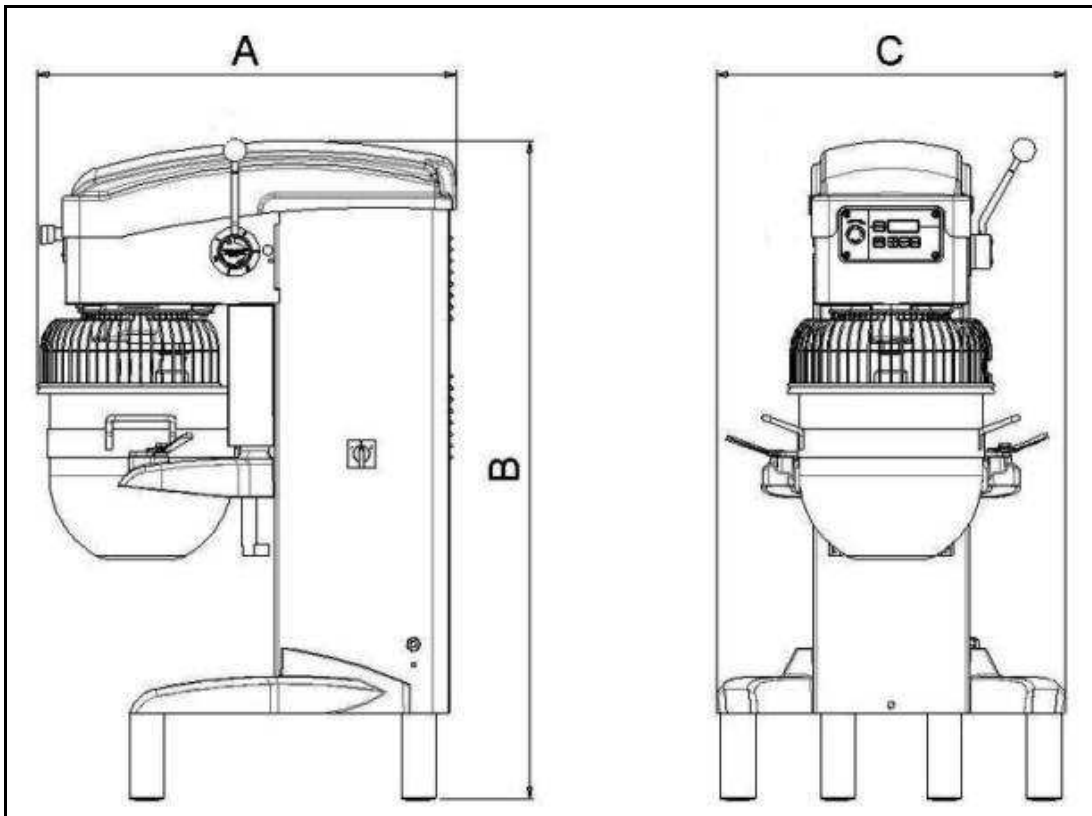
- Millimetres [mm]
- Kilograms [kg]
- Kilowatts [kW]
- Litres [l]

10.1.1. Technical data

MODEL	MACHINE WEIGHT [kg]	POWER [kW]	BOWL [litres]	BOWL diameter x H [mm]	POWER SUPPLY
BMR 20	108	0.9	20	Φ 315x290	400/50/1
BMR 20H	128	0.9	20	Φ 315x290	400/50/1
BMR 30	130	1.1	30	Φ 350x365	400/50/1

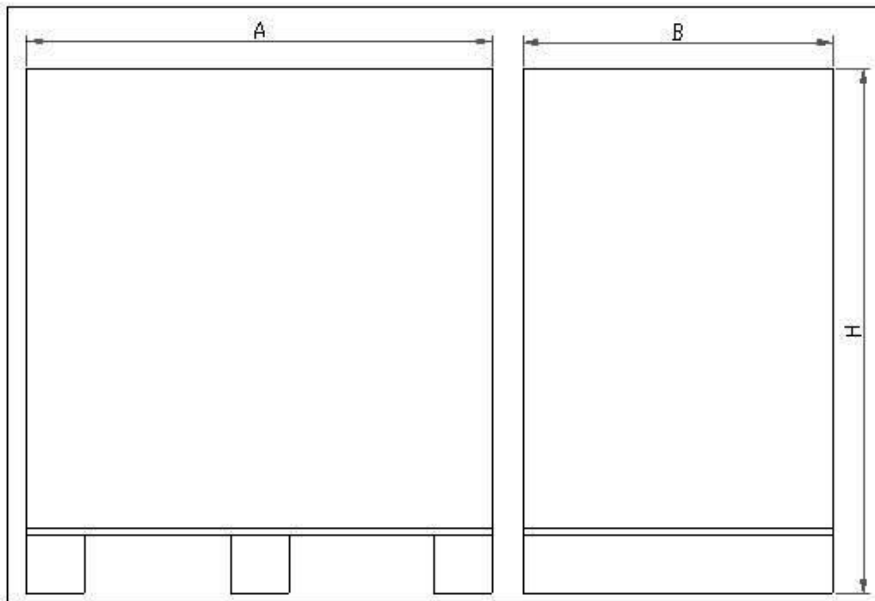
10.1.2. Dimensions



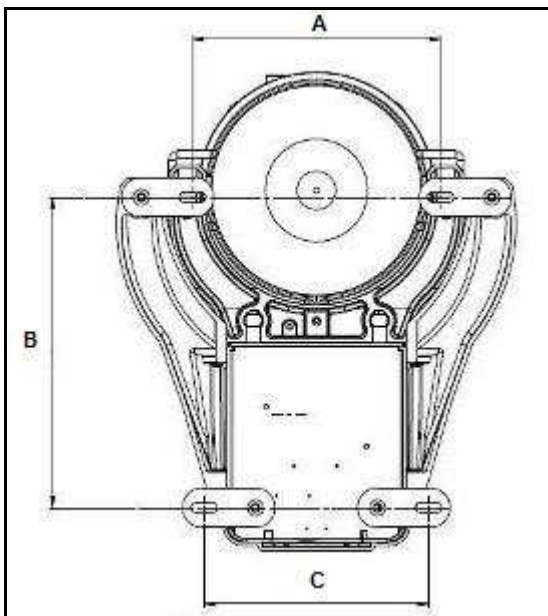


MODEL	A	B	C
BMR 20	735	840	605
BMR 20H	735	1180	605
BMR 30	735	1180	605

10.1.3. Packaging



MODEL	A	B	H
BMR 20	900	750	1000
BMR 20H	780	710	1320
BMR 30	780	710	1320

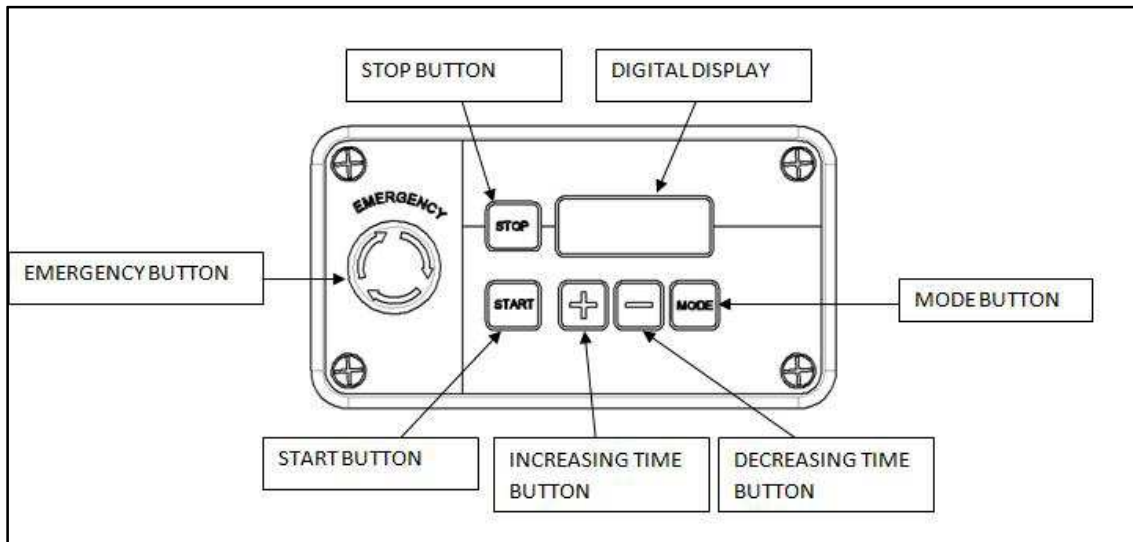


SHIP ANCHORING

Machine stability: in case of slipping on wet or greasy surfaces, equipment positioning in unstable places (ships, aeroplanes or other), use the specific connections for stable fixing (4 anchoring devices with 300 kg resistance, M12 screws).

MODEL	A [mm]	B [mm]	C [mm]
BMR 20 - 20H - 30	375	470	340

10.2. Control panel



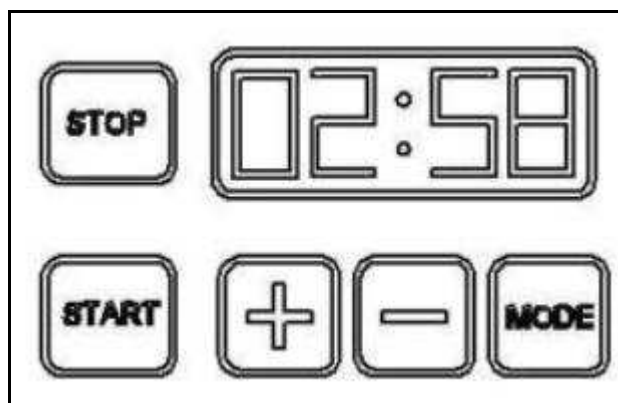
METHOD OF USE

First of all, make sure the emergency button has been released. The planetary mixer can work in continuous mode or with a digital timer. If the bowl and the grid are properly closed, steady blue lights will appear on the display. If the lights are flashing, check bowl positioning again or rotate the protection grid until the lights go back to steady on the display.

If you wish to operate manually with the continuous work cycle, press the green "START" key to start the work cycle. During this stage, the display will show the lights moving horizontally. Pressing the "STOP" key stops the machine and the lights go back to being steady.

DIGITAL TIMER MODE:

If you wish to use the digital timer supplied on the board, press the "MODE" key once. The last set time will appear on the display, expressed in minutes and seconds. If the time shown is the correct one, press "START" and the work cycle begins. During the work stage, you will notice a countdown, at the end of which the planetary mixer will stop automatically.



Programming the timer:

If you wish to set a different time than the one shown on the display, hold down the "MODE" key for a few seconds. The current time begins flashing on the minute digits. Pressing the "+" and "-" keys, you can increase or decrease the digits until you reach the desired time. Pressing the "MODE" key once again makes the seconds digits flash.

Repeat the same operation as when selecting the minutes ("+" or "-"). To terminate programming, press "MODE" one last time. The timer stops flashing and a new work time appears on the display. To start the cycle, simply press "START".

DO NOT FORGET:



"Best Mix" line planetary mixers with mechanical speed variation have 7 available speeds. Use the lever located on the right side of the machine to go from one speed to another. This must **ALWAYS BE DONE WHILE THE MACHINE IS MOVING**.

Moving the speed change lever when the machine is stopped or off could cause the distribution belts to break or be damaged.



If, during the machine working stage, the bowl lifting lever is lowered or the protection grid is opened, the machine stops immediately and the digits flash on the display. Once one or both have been correctly repositioned, you must press the "START" key again to restart the cycle.



Before starting each job and putting ingredients into the bowl, check the position of the speed lever. In order to avoid unpleasant setbacks to the bowl and tools, we recommend bringing the planetary mixer back to the lowest speed at the end of every work cycle.

10.3. Storage and conservation of the machine

10.3.1. Storage

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%.

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.

10.3.2. 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.



10.4. Type of drive, motors.

TYPE OF DRIVE: MECHANICAL

MOTOR FOR BM 20 G-80: 230-400V 0.75 kW 1380 REVS 3.4-1.98 A

MOTOR FOR BM 30 G-80: 230-400V 1.1 kW 1380 REVS 4.78-2.75 A

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.
- Sound emissions: 70 dBA under normal use.
- Electromagnetic environment: the machine in question is built to work correctly in an industrial electromagnetic environment.

11. Transport and installation

11.1. Transport and handling

11.1.1. Machine on pallet



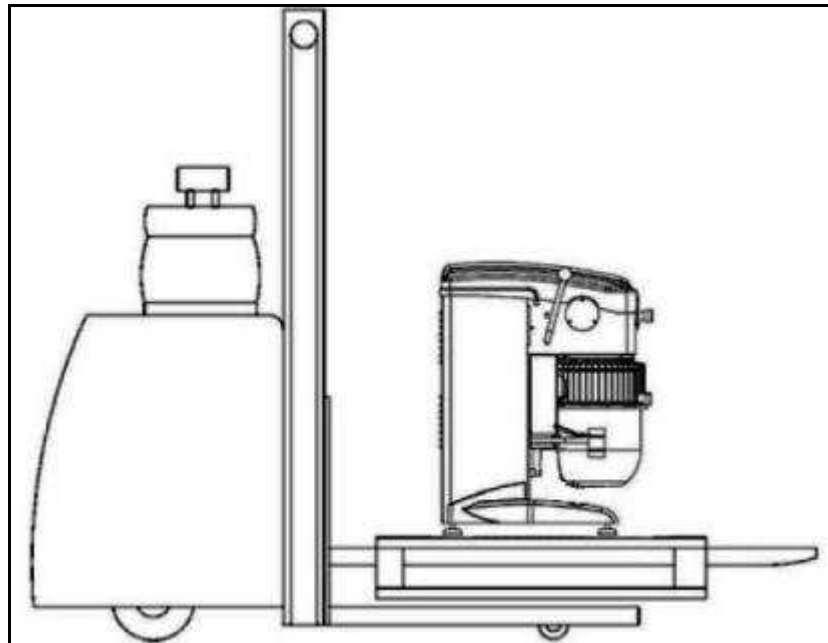
Make sure that the lifting means complies with the load.

Widen the lifting forks to the maximum and ensure they protrude from the pallet.

Work in an area clear of things, people or animals.

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

Use the necessary PPE.



11.1.2. Machine without pallet



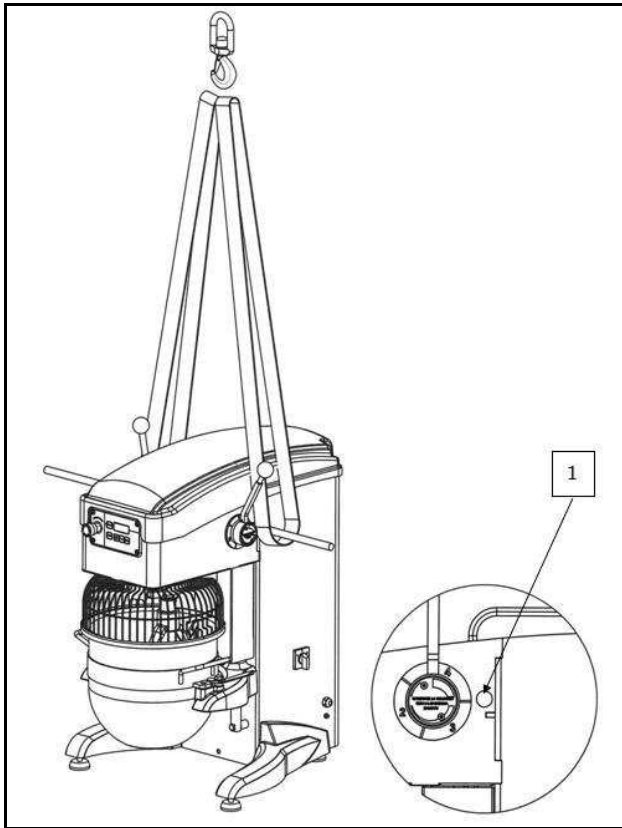
Given its instability, the machine must be handled with appropriately robust straps, moving it below people's heads, as shown in the figure to the right.

Make sure that the lifting equipment is adequate to the load, work in an uncluttered area and, during movements, always keep the load as close to the ground as possible.

Use the necessary PPE.

When lifted, the machine assumes a position that is slightly inclined by 10-15 degrees.

Forklift lifting standards: to handle the machine, always use a pallet.



1) Insert a pole of Φ 17.5 [mm]

11.2. Description of the adjustment and commissioning operations

11.2.1. Installation



The machine must be positioned on a smooth surface able to support the weight (floor with resistance above 20 kgcm²) and must be appropriately secured to the floor.

If there is a risk of overturning, anchor the machine to the floor using 4 dowels or bolts with tensile strength greater than 300 kg (M8).

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.



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

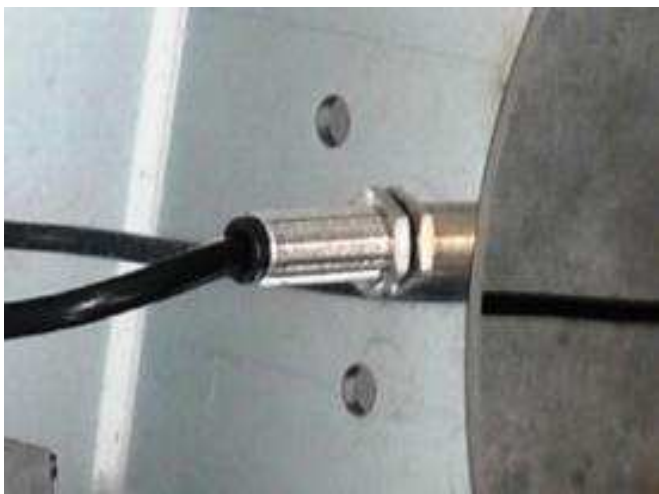
12. Adopted safety devices

The safety devices adopted for this machine are: PROTECTION GRID.

12.1. Alarms and signals

The alarm and signal devices on the machine in question are:

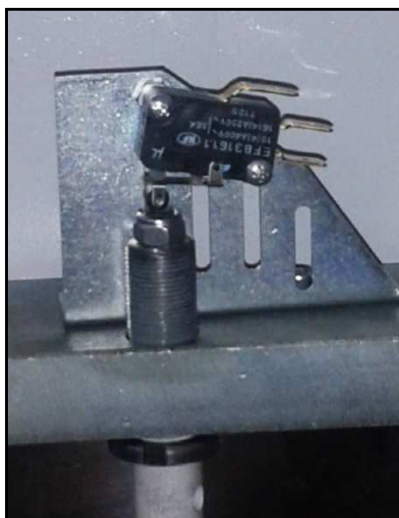
- MVK11D15 PIZZATO MICRO-SWITCH
- MAGNETIC SENSOR (PROXIMITY)



BMR20-30 grid proximity sensor



BMR20 bowl lifting micro-switch



BMR30 bowl lifting micro-switch



BMR30 lifting micro-switch

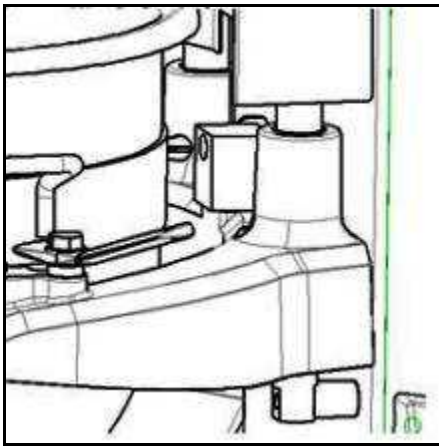
13. Work load and operating instructions

13.1. Operating instructions

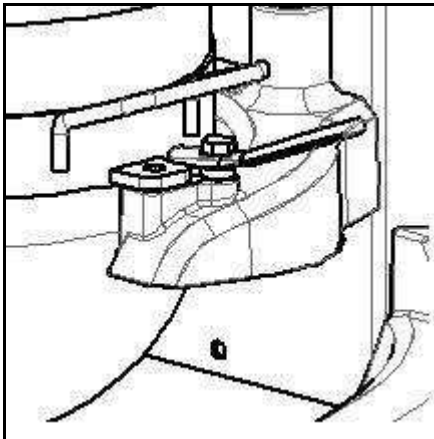


In order to work, the machine needs the bowl to be assembled and the bowl protection grid to be closed, otherwise the safety systems prevent it from operating.

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

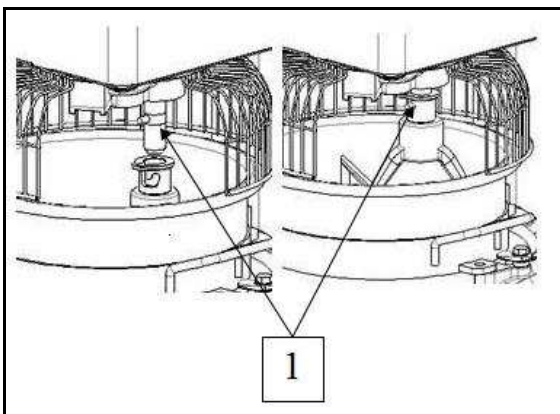


The bowl must be positioned on the machine, leaning the bowl presence block that is on the back part on the bowl lifting arch IN LOW POSITION.



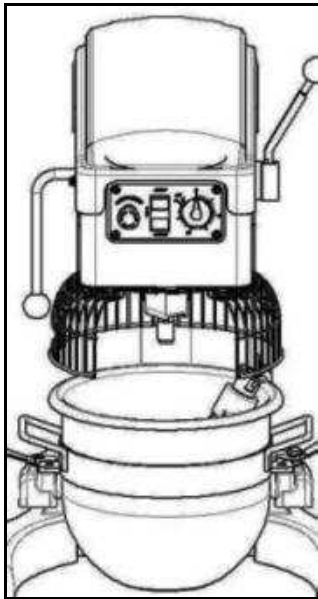
Complete positioning by matching up the holes on the bowl resting plates with the centring pins. Lock the bowl with the handles.

ATTENTION: DO NOT ASSEMBLE THE TOOL BEFORE HAVING RAISED THE BOWL TO THE WORKING POSITION, leaving it inside the bowl while the ingredients are added.



RAISE THE BOWL using the lifting lever and, if you have not already done so, completely rotate the protection grid and insert the selected tool on the tool carrier shaft. Once inserted, rotate it clockwise, bringing the drive pin into the work position as shown in the figure (1). Lower and insert the tool locking ring.

At this point, you can start the work cycle.



To remove the mixture, after having waited for the tool to stop, rotate the protection grid; lower the bowl and free the tool from the hooking sleeve. Remove the tool and free the bowl from the handles.

13.2. Work load

Planetary mixer work load is established by the customer. However, many problems arise by subjecting the mixer to improper use. Exceeding the recommended quantities compromises product quality and the duration of the machine's mechanical parts.



This table is to be considered a general factory recommendation.

The user will establish the actual quantities based on its own recipe.

Contact the manufacturer to request confirmation on your own recipe.

RESPECT THE SPEEDS SHOWN.

As a recommendation on the maximum quantities, compare with the following table:

APPLICATIONS	UNIT OF MEASUREMENT	BMR 10	BMR 20	BMR 30	TYPE OF TOOL	SPEED
Bread, pizza and focaccia dough (60% water)	[kg]	0.5/3.0	1.0/7.0	1.5/10.0	Spiral	1 - 2
Dough for croissants (puff pastry)	[kg]	1.0/2.5	2.0/5.0	2.0/7.0	Spiral	1 - 2
Shortcrust pastry	[kg]	0.5/3.0	1.0/7.0	1.5/10.0	Spiral/blade	1 - 2
Meat filling	[kg]	0.5/5.0	1.0/10.0	1.5/15.0	Spiral/blade	1 - 2
Russian salad	[kg]	0.5/5.0	1.0/10.0	1.5/15.0	Blade + scraper	1 - 2
Whipped egg whites (medium eggs of 60[g])	Number of eggs	10/30	15/40	15/50	Whisk	MAX
Whipped cream (total litres of liquid)	Liters	1.0/2.5	2.0/5.0	3.0/6.0	Whisk	MAX

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.

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

	<p>CHECK OF THE INSTALLED SAFETY SYSTEMS AND OF THE ELECTRICAL SYSTEM</p> <p>The installed safety systems and the electrical system are subject to periodic inspections to be carried out by a qualified electrician.</p>
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Key of the inspection intervals:INTERVALS	Key of the method of execution of the checks:METHODS
g = daily. s = weekly. m = monthly. a = yearly.	O = Observation: requires a 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: this equipment separates the machinery from the mains, it is located on the machine control panel (MASTER SWITCH)

VERIFICATION:

INTERVAL	METHOD
a	F

14.3. Stop circuit and grid safety micro-switch

Purpose: to stop the machine immediately and unconditionally. Function: pressing the STOP button or rotating the protection grid disconnects the motor power supply, completely and not systematically stopping the machine. To restore machine operation, the operator must restart the cycle by pressing the START button.

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:

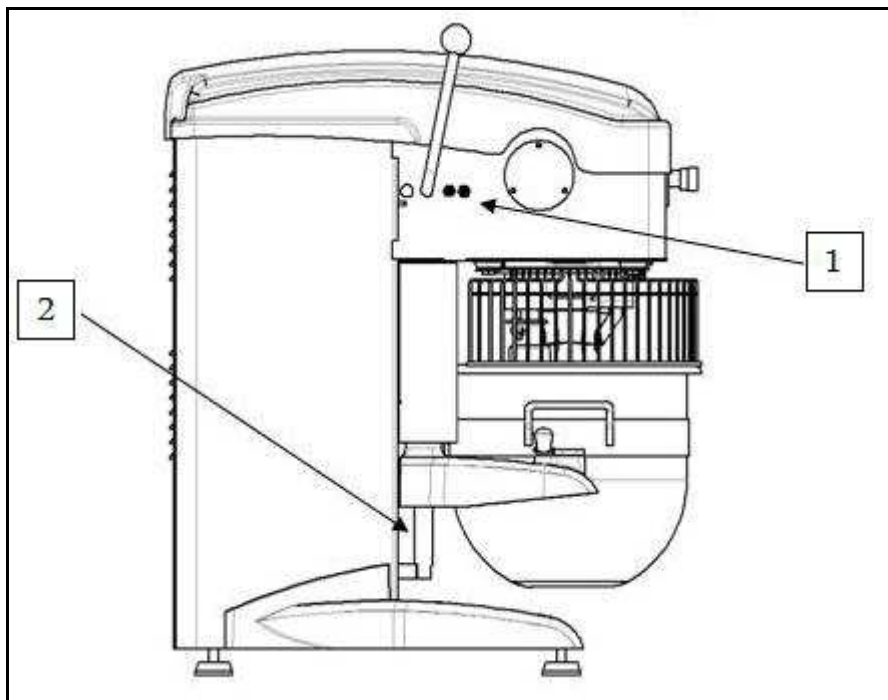
INTERVAL	METHOD
a	F, M

14.5. Routine maintenance



DO NOT CARRY OUT ANY MAINTENANCE OR CLEANING WITH POWER ENGAGED. The machine does not require particular maintenance operations. Check belt wear after the first three months of operation.

Periodically, 4 ,6 months, grease and oil the points shown on the following diagram (use MOLYKOTE 165 LT grease).



- 1) GREASE NIPPLES
- 2) GREASE MANUALLY

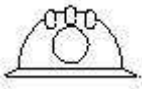


Should the power cable be damaged, replace it with a H07RN/F cable with a 3x1.5 mm cross-section².



Cleaning: the machine is not spray-proof; it must not be cleaned with running water. Clean with a damp rag and mild cleaning solutions, for example castile soap degreasers.

14.6. Special Maintenance



For operations that are not specifically mentioned in the manual, you must refer to personnel authorised by SIGMA Srl. 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.

14.7. Periodic maintenance



DAILY CLEANING AND CHECKS:

Clean the external surfaces with a cloth and mild degreaser.

Check the operating controls.

14.8. Monthly maintenance



Thoroughly clean the machine.

Check the function of the operating controls.

Check the transmission noise level.

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

Check the motor level.

14.9. Yearly maintenance



Thoroughly clean and check the entire machine.

Carefully check the transmission parts.

Check bolt tightening for the entire machine.

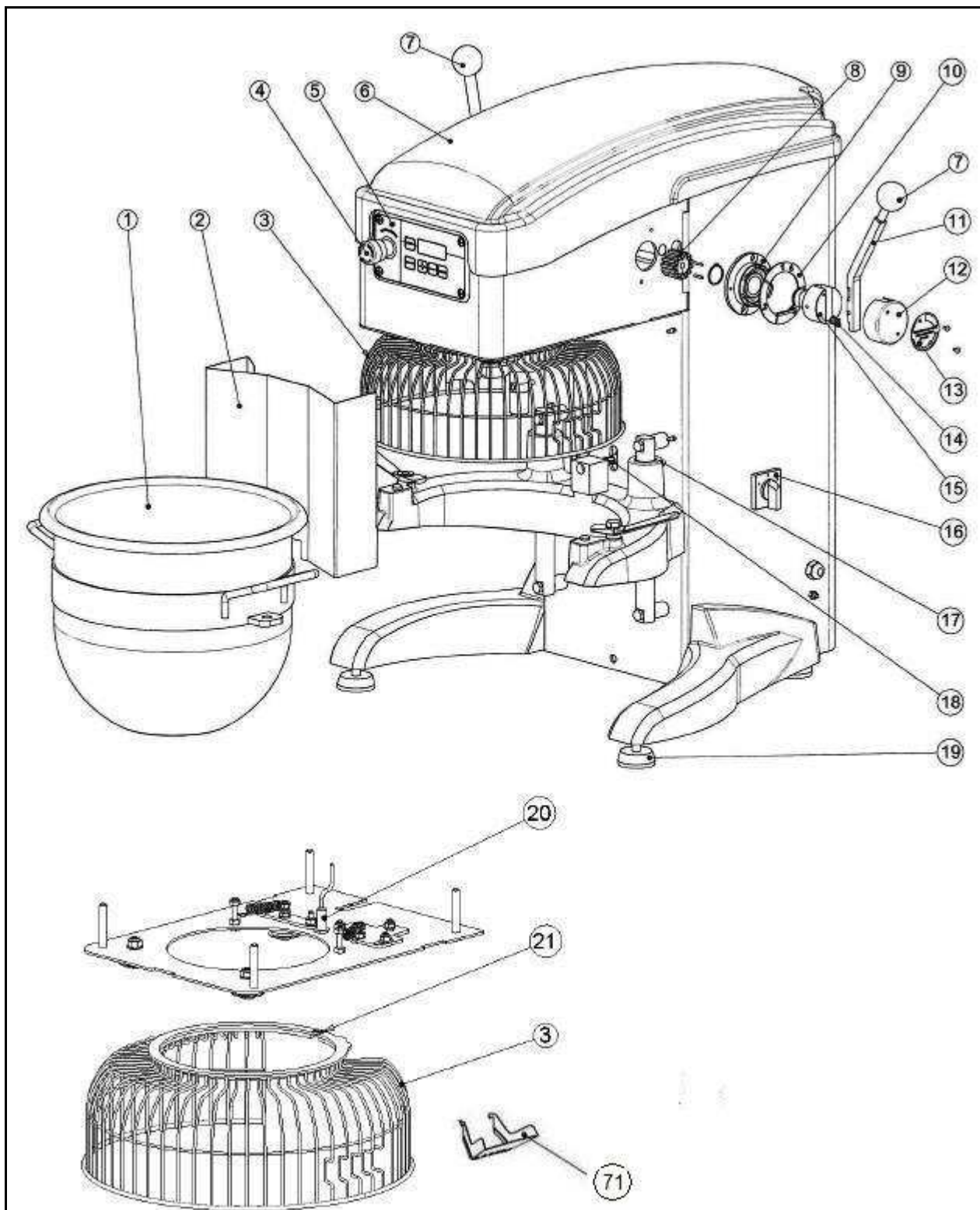
Check the installed safety systems.

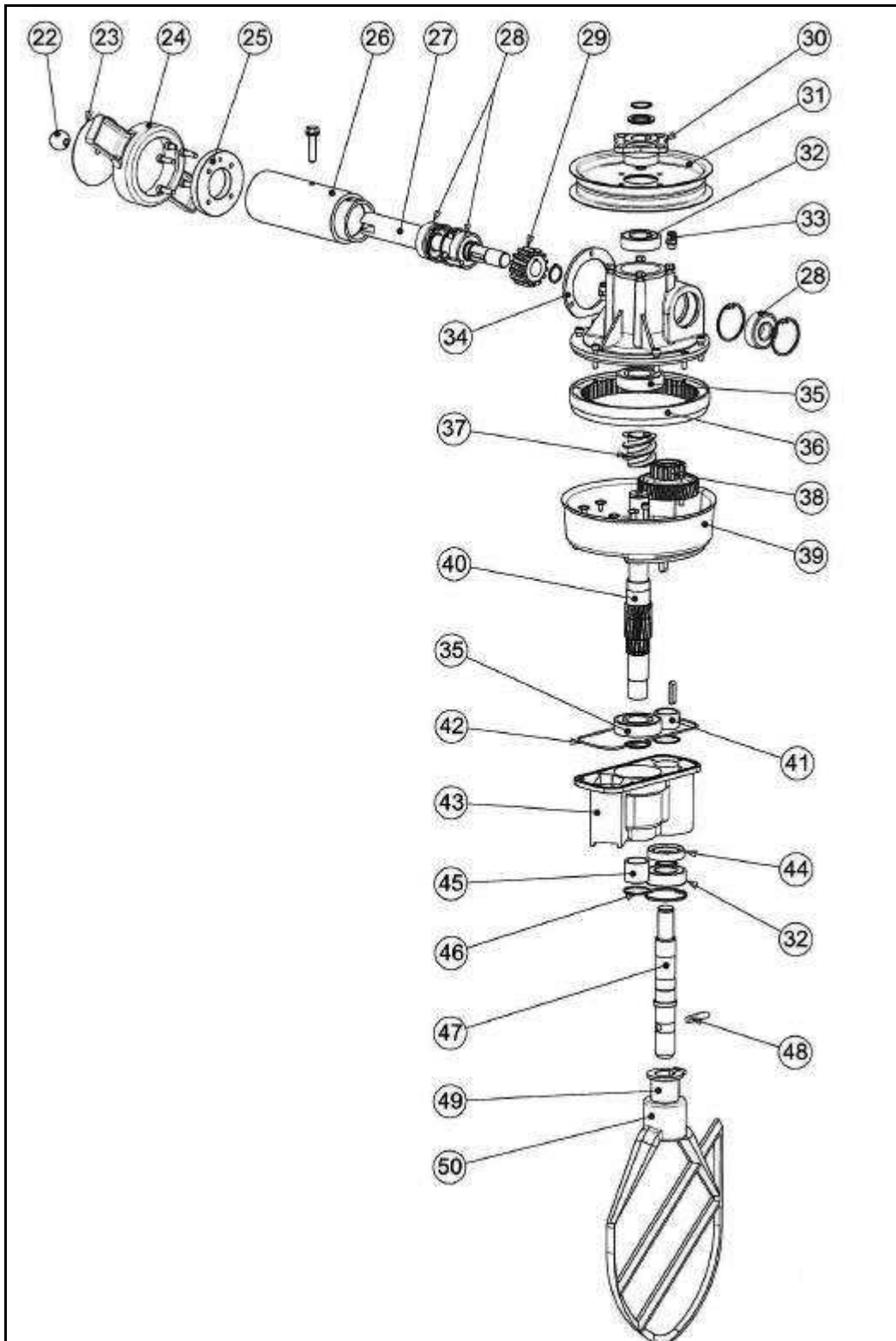
15. Troubleshooting

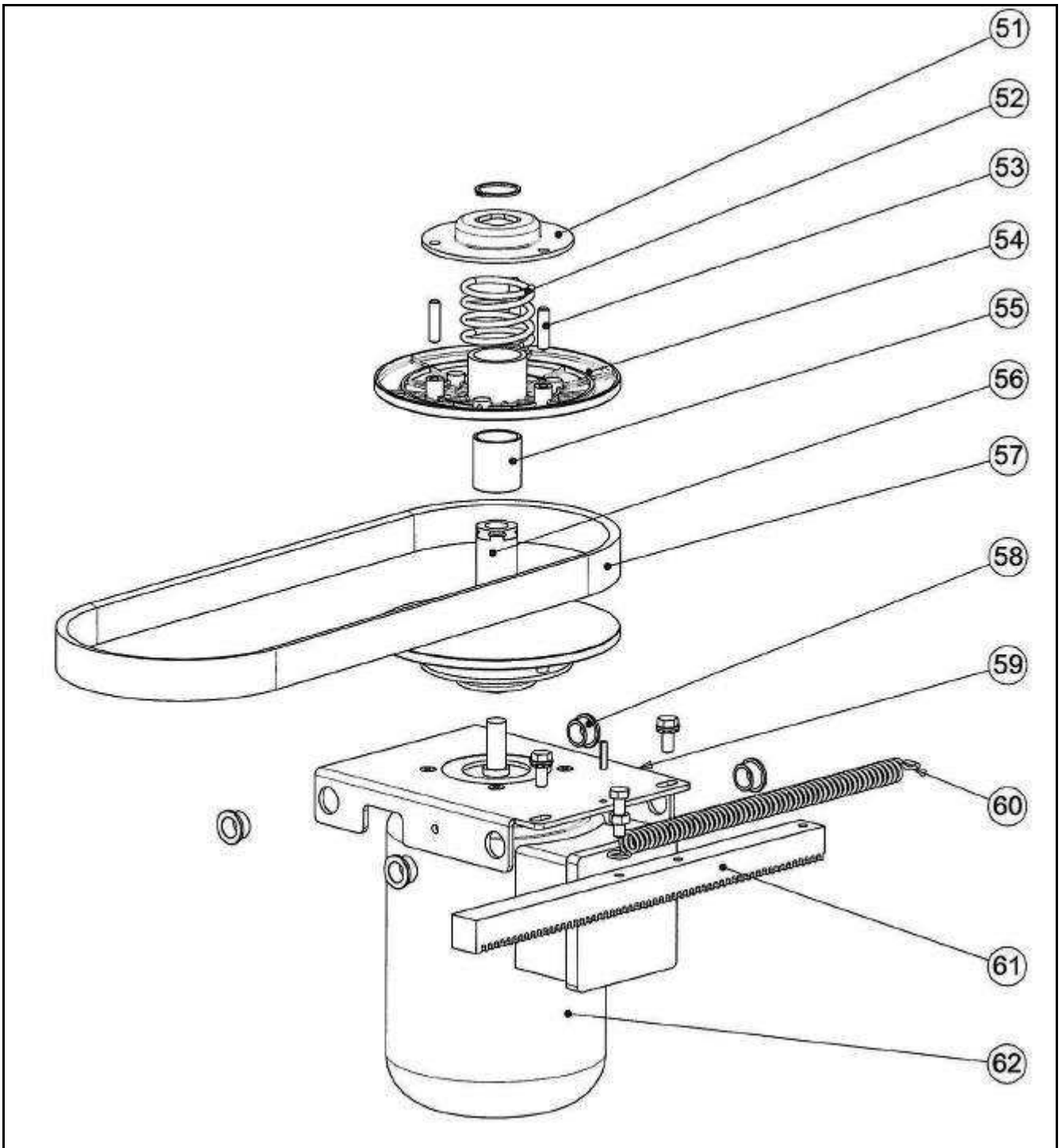
15.1. Machine lock-up and necessary solutions

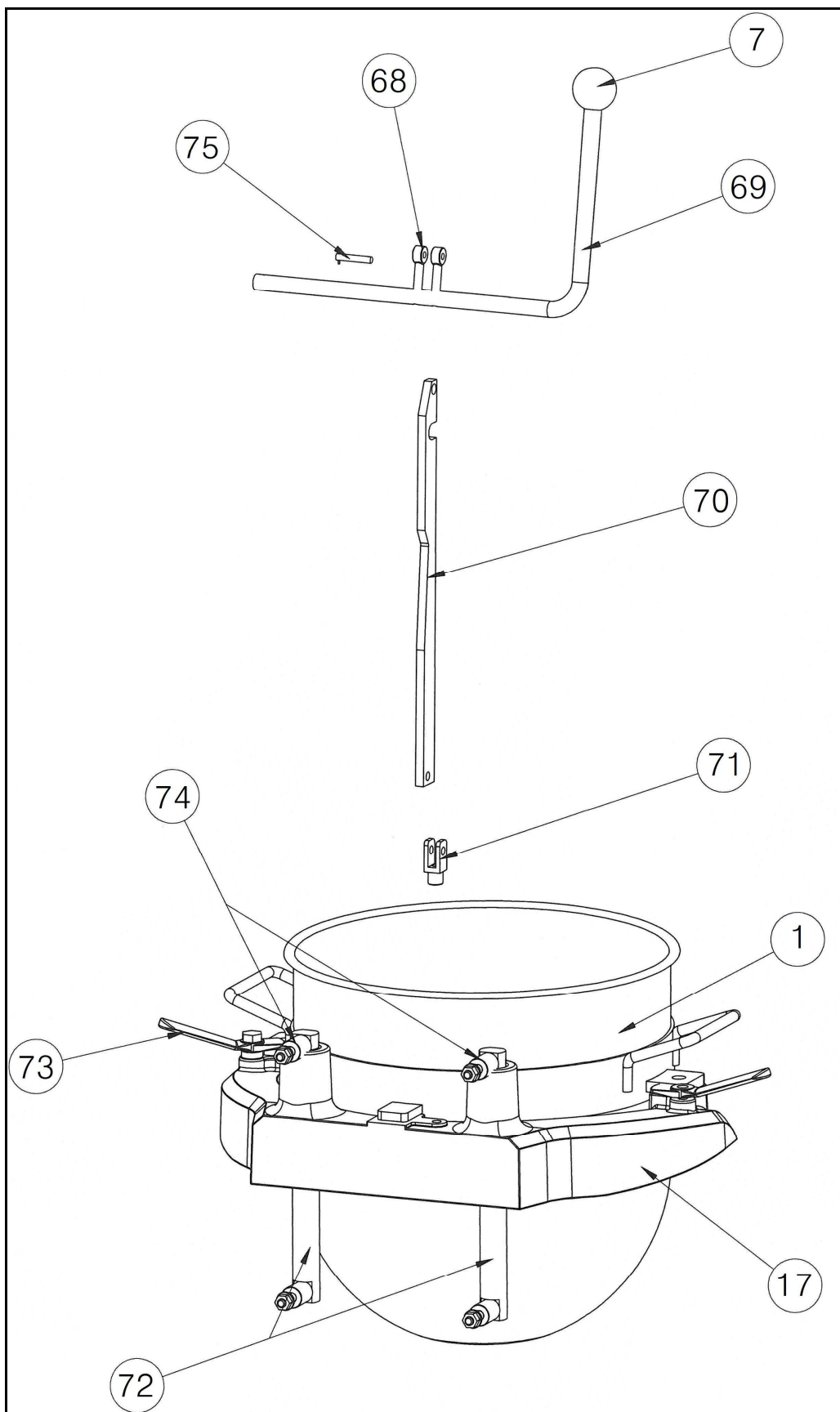
Operating anomalies	Possible causes	Repairs
Turning the master switch into position, the indicator light does not come on.	Plug not inserted properly, or its wires are detached	Check the connection
Pressing the ASCENT button, the machine does not start.	<ol style="list-style-type: none"> 1) The mobile guards are not closed properly. 2) Safety micro-switch faults. 3) The machine is not properly levelled and, as a result, the bowl presence sensor is not active. 	<ol style="list-style-type: none"> 1) Put the guards back to their correct positions. 2) Replace the micro-switch. 3) Adjust the machine feet.
Continuous noise	<ol style="list-style-type: none"> 1) Check chain and bearing efficiency. 2) Check whether there is oil in the hydraulic control unit 	<ol style="list-style-type: none"> 1) Replace the bearings or grease the chains. 2) Use Agip OSO46 hydraulic oil or one with the same features
Intermittent noise	Lack of grease to the transmission (gears)	Grease via the nipples or manually
Speed change lever is difficult to move.	<ol style="list-style-type: none"> 1) Lack of lubricant on sliding poles. 	<ol style="list-style-type: none"> 1) Grease as shown in the lubrication diagram drawing.
Speed does not change when the speed lever is moved.	<ol style="list-style-type: none"> 1) Variable pulley locked up. 2) Belt worn. 3) Drive sprocket worn 	<ol style="list-style-type: none"> 1) Check whether there is a mechanical impediment preventing normal pulley stroke. 2) Replace the belt. 3) Replace the sprocket.
The tool does not revolve normally on the tool carrier shaft.	Drive pin broken	Replace the pin.

16. Machine exploded view









Pos	Q.ty	Description	Drawing
1	1	BM 20 – 20H BOWL	04200043-1
1	1	BM 30 BOWL	04161001-1
2	1	BOWL PROTECTION CASING	02097040-6
3	1	BM 20 GRID	87200016-2
4	1	EFB/30 EMERGENCY BUTTON	25009050
4	1	HOLDER CONTACT	25009093
4	1	ROCKER	25009099
5	1	CONTROL PANEL + BOARD	25001505
6	1	UPPER CASING	03200094-R
7	2	PB/41 M8 SPHERICAL KNOB	14002203
8	1	DRIVE SPROCKET	01097037-1
9	2	SPEED HANDLE SUPPORT	84097057-8
10	1	SPEED PLATE	09097142-1
11	1	SPEED CONTROL LEVER	85199100
12	1	CLOSING LID	85098041-1
13	1	DISC WITH INDICATION	09098043-1
14	1	GRIPPING SPRING	08098055-2
15	1	SPEED PIN	84097036-9
16	1	4G10-10-R SWITCH	25003009
17	4	25 - 30 -20 BUSHING	15001509
18	2	PIZZATO MICRO-SWITCH	25001308
19	4	M12 x 50 FOOT	14002811
20	1	STEM D1021 MAGNETIC SENSOR	25001338
21	1	PERMANENT MAGNET	14000952
22	1	PB/25 M6 SPHERICAL KNOB	14002201
23	1	H.M. COUPLING PROTECTION	02103060
24	1	H.M. REDUCER LOCK-NUT	87200073
25	1	H.M. CLOSING FLANGE	85097079-2
26	1	H.M. REDUCER SUPPORT	85199071-1
27	1	H.M. COUPLING SHAFT	01199070-1
28	3	6204 2RS 20-47-14 BEARING	13000315
29	1	PA66 REDUCER CROWN	01199069-3
30	1	Ø25 HUB	01184016
31	1	BM20 CONDUIT PULLEY	85200047-1
32	2	6205 2RS 25-52-15 BEARING	13000016
33	2	TDK 06/8 GREASER	21000200
34	1	REDUCER SUPPORT SHEET METAL	85185020

Pos	Q.ty	Description	Drawing
35	2	6206 2RS 30-62-16 BEARING	13000017
36	1	INTERNAL RING GEAR	01199024-3
37	1	REDUCER SCREW	01199068-2
38	1	PLANETARY GEAR AND CROWN	80199022
39	1	CONTAINMENT TRAY AND COVERING	03199023-2
40	1	PLANETARY SHAFT	80199019-5
41	1	HK2520 ROLLER BUSHING	13005202
42	1	OR 3550 GASKET	19000207
43	1	PLANETARY	87200057-1
44	1	MIM 25-47-10 RING	19000011
45	1	BK2526 ROLLER BUSHING	13005253
46	1	OR 3550 GASKET	19000206
47	1	TOOL CARRIER SHAFT	85199021
48	1	TOOL SHAFT PIN	01098095
49	1	TOOL HUB	01161037-1
49	1	HUB FLANGE	01097193
50	1	ALUMINIUM BLADE FOR CHEF 20	01097224
50	1	ALUMINIUM BLADE FOR CHEF 30	01161038-1
50	1	ALUMINIUM SPIRAL FOR CHEF 30	01097223
50	1	ALUMINIUM SPIRAL FOR CHEF 20	01161039-1
50	1	WHISK FOR CHEF 20	01097014
50	1	WHISK FOR CHEF 30	01161011
51	2	DRIVE LID	85097089-2
52	2	SPRING FOR VARIABLE PULLEY	08097021
53	6	DRIVE PIN	84161028-2
54	2	VARIABLE SEMI-PULLEY	01097004
55	2	30-35-35 BUSHING	15001508
56	1	BM20 REGULATOR PULLEY SHAFT	85097120-5
57	1	REGULATOR BELT	01200050
58	4	15-20 L=12 BUSHING	15000003
59	1	BM 20 MOTOR HOUSING	86200010-1
60	1	MOTOR HOUSING CONTRAST SPRING	08199017
61	1	BM20 RACK	01200011-1
62	1	T80 4P KW 0.75 230/400V/3/5 (50 / 60Hz) MOTOR for BM 20	11000707
62	1	T80 4P KW 0.75 Single phase MOTOR for BM 20	11000610
62	1	T80 4P KW 1.1 230/400V/3/5 (50 / 60Hz) MOTOR for BM 30	11000701
63	2	M8x50 EYE BOLTS	23010113

Pos	Q.ty	Description	Drawing
64	1	LIFTING LEVER	85200052
65	1	BOWL LIFTING TIE-ROD FOR BM 20	85200053-1
65	1	BOWL LIFTING TIE-ROD FOR BM 30	85161004-4
66	1	M8x42 FORK	23010201
67	2	BOWL LIFTING GUIDE POLE	85097024-3
68	2	FUSED HANDLE	01098108-1
69	4	GUIDE POLE SPACERS	85098057
70	2	LIFTING PIN	85098080
71	1	STRAINER SHEET METAL	02098101

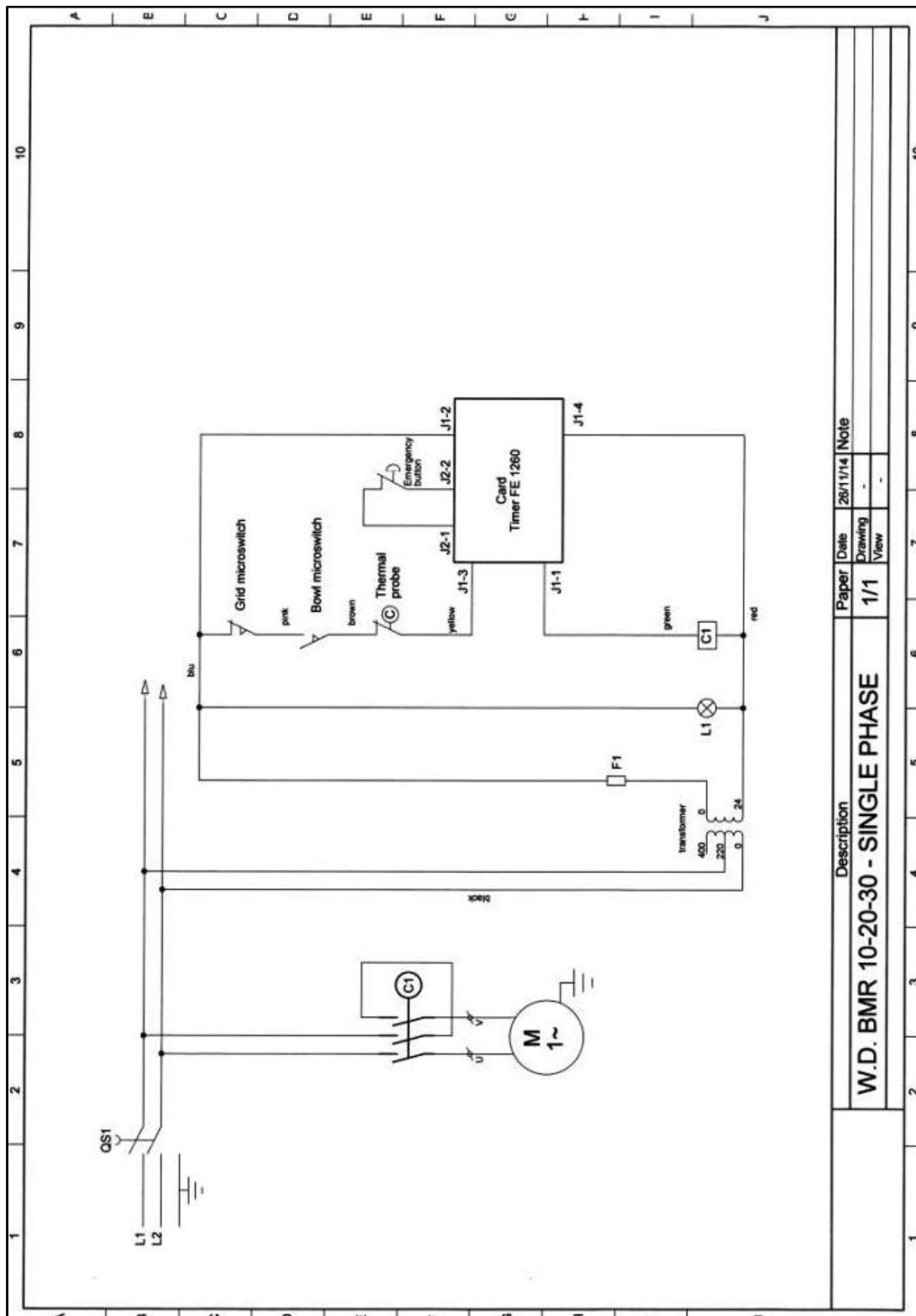
17. Recommended spare parts

Description	Q.ty	Drawing
TOOL CARRIER SHAFT	1	85199021
TOOL HUB	1	01161037-1
BM20 COMPLETE SPIRAL	1	01097223
BM30 COMPLETE SPIRAL	1	01161039-1
BM20 COMPLETE BLADE	1	01097224
BM30 COMPLETE BLADE	1	01161038-1
BM20 COMPLETE WHISK	1	01097114
BM30 COMPLETE WHISK	1	01161011
REGULATOR BELT	1	01200050
6204 BEARING	3	13000315
6205 BEARING	2	13000016
6206 BEARING	2	13000017

17.1. Recommended spare electrical parts

Description	Q.ty	Drawing
PANEL + ELECTRICAL BOARD	1	25001505
PIZZATO MICRO-SWITCH	2	25001308
MASTER SWITCH	1	25003009

18. Wiring diagram



19. Demolition and disposal

Machine decommissioning is the direct responsibility of the purchaser, who must keep to the local standards. Mechanical and electrical parts disassembly must be entrusted to skilled personnel. The electrical system must be disassembled and disposed of through a specialised company.

19.1. 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 wheellie 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.