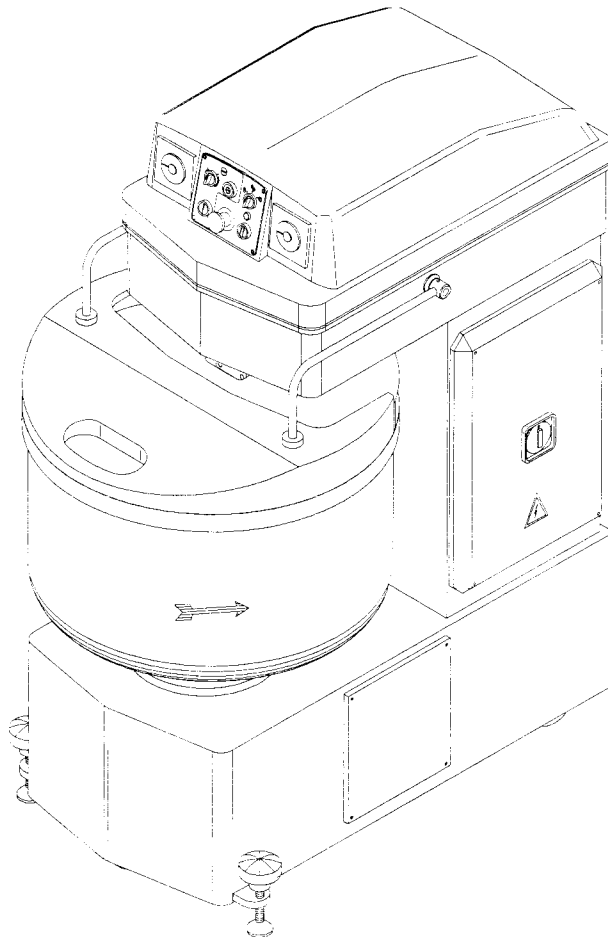


INSTRUCTION AND MAINTENANCE
MANUAL

MODEL 80/120 FBF 2V

208 V

**SPIRAL KNEADING MACHINE
WITH FIXED BOWL**



**MANUFACTURER AND MACHINE
SPECIFICATIONS**

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1 USING THIS MANUAL

1.1 PURPOSE OF THE MANUAL

Using the manual

The manual for the use and maintenance of the machine, together with the Technical File, form an integral part of the machine. They must be preserved for the full life of the machine and must be passed on to any subsequent users.

The layout of the manual clearly identifies the chapters and the topics dealt with therein, allowing for an efficient consultation.

Caring for the manual

The manual must be handled with care in order to prevent it from being damaged. It should be filed in a place which will ensure its safekeeping but at the same time which will allow it to be easily accessible for consultation.

Consulting the manual

The manual begins with a contents page, listing the various chapters and the topics contained therein.

It is necessary to strictly respect both the specified precautions, before switching on the machine, and the instructions concerning safety measures.

1.2 UPDATING THE MANUAL

Whenever modifications are made to the machine or the user purchases optional equipment, the manufacturer will either supply a new, complete manual or only the specific documentation related to the parts to be added or replaced.

In the latter case of partial documentation, instructions will be given on the correct procedure to replace and/or complete:

- the documentation;
- the contents page;
- the enclosures.

2 GENERAL INFORMATION

2.1 CONDITIONS OF GUARANTEE

Validity

The guarantee period begins from the delivery date.

This guarantee is valid for a period of:

- six months, for electrical parts and motors;
- twelve months, for mechanical parts and other components.

An essential condition to ensure the validity of the guarantee in the above specified periods, is that accurate routine maintenance has been carried out, in accordance with the instructions specified in chapter 9.

Guarantee services

Defective pieces still under guarantee must be returned with no transport costs charged to the manufacturer.

The manufacturer, after having verified that the parts are truly defective, will forward the spare parts to be replaced; the transport costs will be charged to the consignee.

The manufacturer cannot be held responsible for any situations arising from incorrect or inappropriate use of the machine by the user, which could compromise the safety of the machine.

For example:

- a lack of maintenance;
- the installation of tools on the machine which do not belong to it or which are not allowed to be used on the machine.

2.2 TECHNICAL SERVICES

During the warranty period

If a technical intervention is required for special maintenance or to repair a fault, then it is obligatory to consult the manufacturer before carrying out any operations related to the aforesaid cases.

Technical services in general

In addition to routine maintenance, it is recommended that scheduled maintenance also be carried out by suitably qualified personnel, in the manner specified in chapter 9.

2.3 GENERAL SAFETY WARNINGS

Safety and precautionary measures for which the user is responsible

The personnel assigned to the operation of the machine, must be able to carry out all the tasks necessary for the basic operation of the machine. That is, they must have a good working knowledge of:

- the work cycle and the safety devices;
- the procedures for the loading of the ingredients and the unloading of the dough;
- the procedures for the cleaning of the machine and the workplace.

For additional information on this topic refer to sections 7 and 8.

During the kneading process, it is necessary not to exceed the maximum quantities of dough allowed for the specific machine being used.

These quantities can vary, depending on the respective percentages of the ingredients to be used.

Other safety measures

It is necessary to observe the safety standards currently in force at all times.

Under no circumstances must the personnel assigned to the machine operate without the safety guards and safety systems installed.

It is absolutely forbidden to tamper with or modify the safety devices and circuits.

3 PLANNED USES OF THE MACHINE

The machine has been designed and constructed for the purpose of making bread or pastry dough.

3.1 *WORK ENVIRONMENT*

In addition to the obligatory requirement of operating in an environment which is suitable for the production of foodstuffs, it is also necessary to respect other conditions, such as:

- the absence of ventilation during the loading and initial phase of the work cycle;
- the use of suitable containers and tools which come into contact with foodstuffs;
- sufficient access to the machine for all cleaning and routine maintenance operations.

3.2 *MATERIALS TO BE USED*

The purpose of the machine

The machine and all its parts have been designed for the processing of foodstuffs (bread and pastry dough). This machine allows for the production of an homogeneous mixture of water, flour and other ingredients required for bread dough (yeast, salt...) or pastry dough.

Description of ingredients which can be used

All types of flour,
Water,
Yeast,
Fats- Butter,
Sugar,
Flavourings,
Salt,
Liqueurs and other ingredients used to make bread or pastry dough.

Percentages of ingredients

The maximum quantities of ingredients which can be placed into the bowl depend on the percentages of the ingredients in the mixture.

For information on the capacity and percentage of flour and water, refer to section 12/14.

3.3 INSTRUCTIONS TO AVOID IMPROPER USE OF THE MACHINE

The following conditions constitute improper use of the machine and are forbidden:

- Loading quantities which exceed the specified maximum quantities for the machine being used;
- Removing or changing the position of safety systems, such as fixed and mobile safety guards, limiting device microswitches;
- Using unsuitable ingredients;
- Cleaning with tools which can scratch the bowl;
- Using the machine in unsuitable environments.

4 HANDLING THE MACHINE

4.1 WARNING

When lifting and moving the machine, it is necessary to strictly adhere to the instructions specified in this chapter and in the chapter related to safety (refer to chapter 8).

4.2 UNPACKING THE MACHINE

As shown in λ , the machine rests on a wooden pallet (pos. A).

The machine is held in place by two vertical threaded bars (pos. B) and one transverse bar (pos. C).

The machine always rests on a pallet and can then be packed in one of the following ways:

- machine wrapped in nylon bubble wrap;
- machine placed in a thick cardboard box;
- machine placed in a wooden crate;
- machine placed in a wooden box.

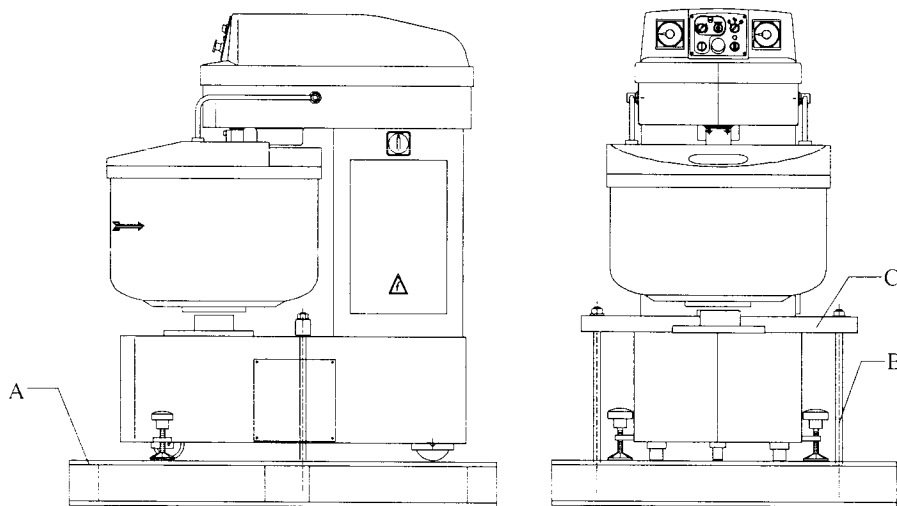


Figure 4-1

The information concerning the net and gross weight appears on the outside of the packaging.

Once the outer packing material has been removed, in order to unpack the machine, it is necessary to remove the two vertical threaded bars from the pallet and to remove the transverse bar.

To lift the machine from the pallet use:

1. a fork lift truck, inserting the forks under the machine in the position shown in **Error! Number cannot be represented in specified format.;**
2. a belt, passing it under the head, close to the column of the machine as shown in **Error! Number cannot be represented in specified format..**

For additional information on the procedure for lifting the unpacked machine from the pallet, refer to the next section.

All the material used for the packaging, excluding the vertical threaded bars and the transverse bar, can be recycled or disposed of as ordinary urban waste.

4.3 LIFTING AND MOVING THE MACHINE

Lifting the machine with packaging

Before starting, check the total weight of the machine with packaging and then use appropriate equipment to lift the packed machine. In the case when a transpallet or fork lift truck is used, the machine must be lifted by inserting the forks into the pallet in the positions indicated in the corresponding figures (2 and 8).

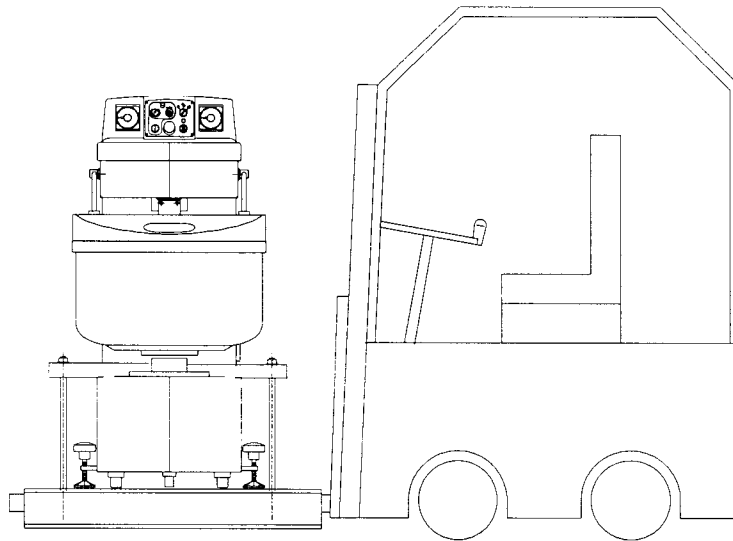


Figure 4-2

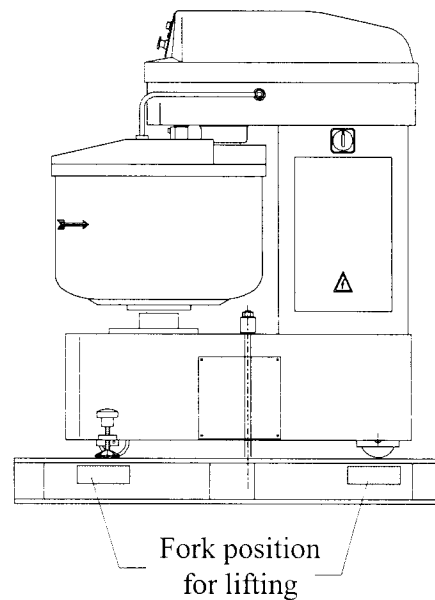


Figure 4-3

Lifting the machine without packaging

The unpacked machine can be lifted using a fork lift truck, in the manner shown in **Error! Number cannot be represented in specified format.**, or using a belt positioned under the head, between the column and the spiral mixing tool (refer to **Error! Number cannot be represented in specified format.**). In order to prevent the machine cover from being damaged, use a spacer

(suitable bar or wooden board with a minimum section of 25x130 mm) to keep the belt away from the cover.

During the lifting process, the machine is in an inclined position since the centre of gravity has been shifted, however, this does not compromise the safety of the people or of the machine itself.

Avoid oscillations during this operation.

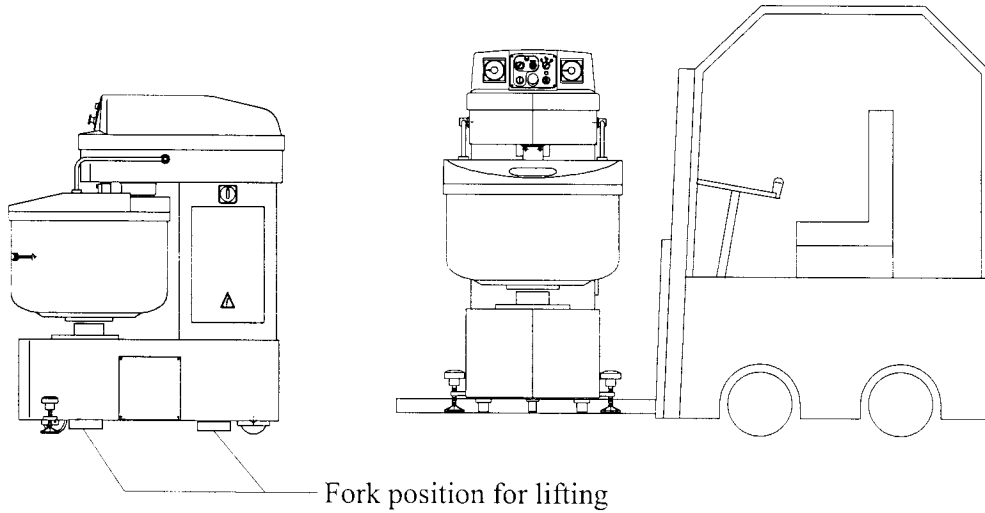


Figure 4-4

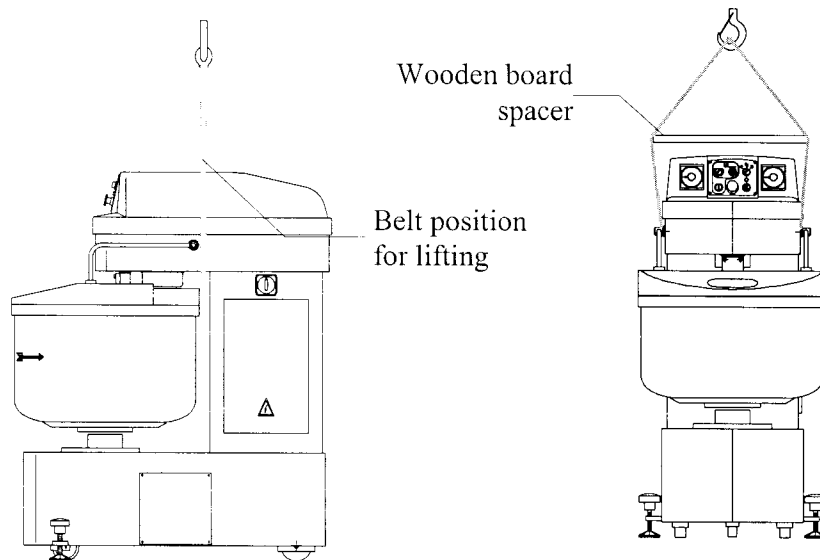


Figure 4-5

Manually moving the machine

The machine rests on three wheels, two at the back which are fixed (A) and one at the front which can revolve (B). This allows the machine to be moved, in order to allow the space underneath the machine to be cleaned.

This can be done simply by lifting the front plates (C) and pushing the machine to the desired position, making sure that the power cable (D) has first been removed from its socket.

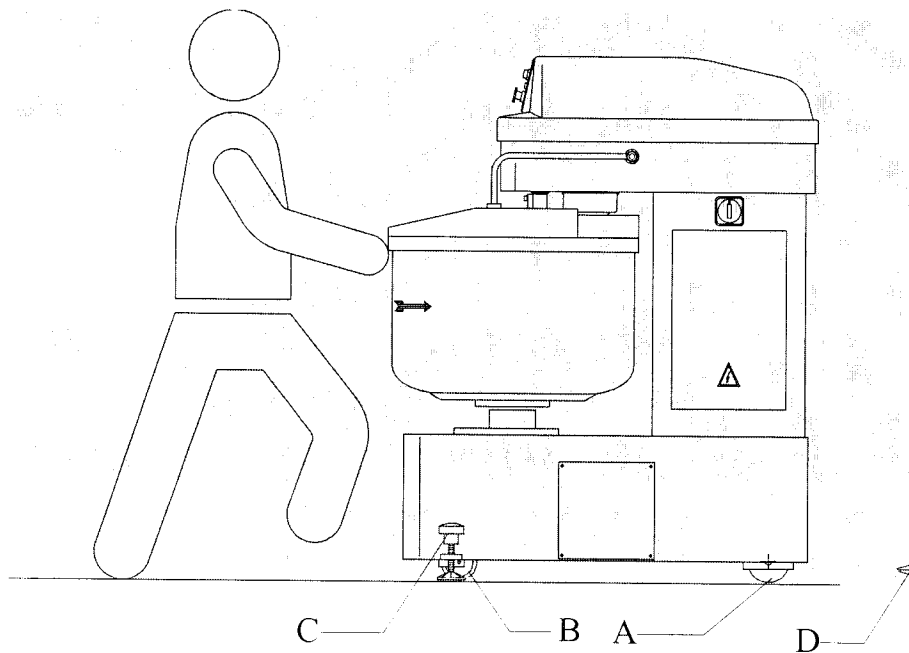


Figure 4-6

5 INSTALLING THE MACHINE

5.1 WARNING

Place the machine in the workshop in a position which allows for easy loading of the ingredients and removal of the dough. Provide sufficient space around the machine to allow both the maintenance and cleaning operations to be carried out (refer to 7).

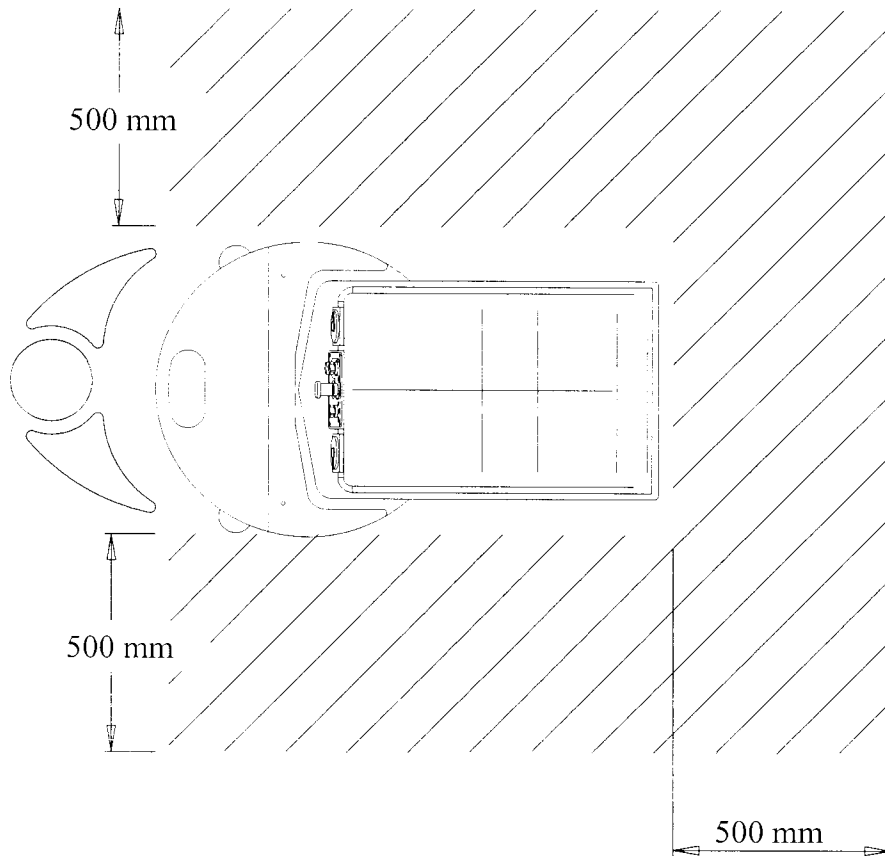


Figure 5-1

5.2 ENVIRONMENTAL CONDITIONS

The machine has been designed for use in bakeries or pastry-making confectioneries and therefore for use in environments with extremely variable humidity and temperature. Avoid excessive ventilation of the environment itself, which could lead to flour powder escaping from the bowl.

5.3 POSITIONING AND FIXING THE MACHINE IN PLACE

Once the machine has been placed in the chosen position, it must be fixed in place by adjusting the front plates (C) so that the revolving front wheel (B) does not touch the floor (**Error! Number cannot be represented in specified format.**).

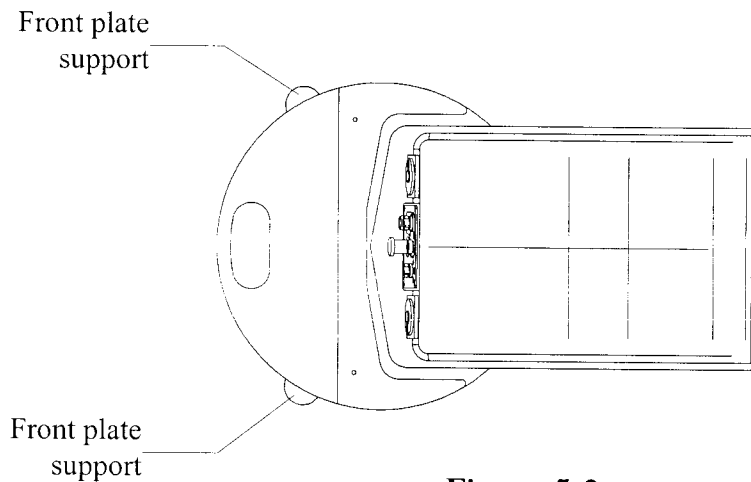


Figure 5-2

6 PREPARING THE MACHINE FOR USE

6.1 WARNING

It is absolutely necessary to observe the safety standards when operating on the machine.

For a correct use of the machine, it is necessary to carefully check the type of ingredients which make up the dough to be kneaded and their quantities; the quantities of ingredients must not exceed the maximum quantities allowed for the specific machine being used.

6.2 ADJUSTING THE MACHINE

Machine stability

To ensure that the machine is in a stable position, it is sufficient to adjust the front plates (C) so that the revolving front wheel (B) does not touch the floor.

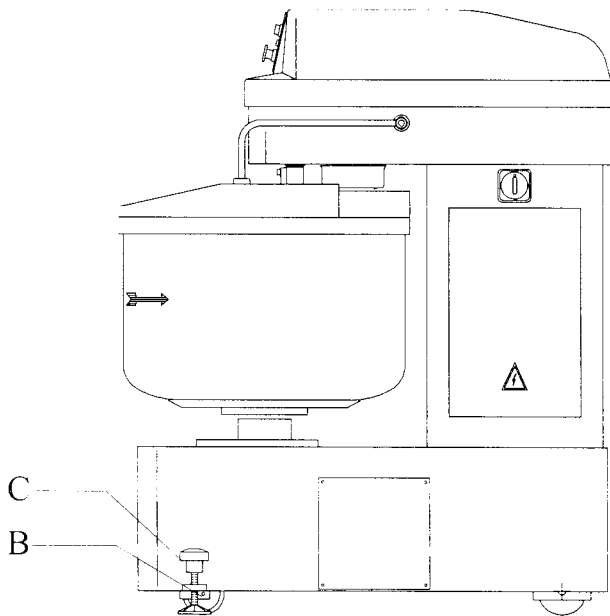


Figure 6-1

Safety mechanism related to the opening of the mobile protective cover

The minimum opening of the cover, which activates the safety mechanism to stop the machine, and the maximum opening of the cover allowed, are adjusted during the test phase carried out at the manufacturer's workshop.

If the mobile protective cover (A) is lifted while the machine is running, then cam (B), positioned inside the machine head, activates a microswitch (C) which in turn triggers the stop signal.

The cam is adjusted so that the microswitch is activated as soon as the mobile protective cover starts to lift.

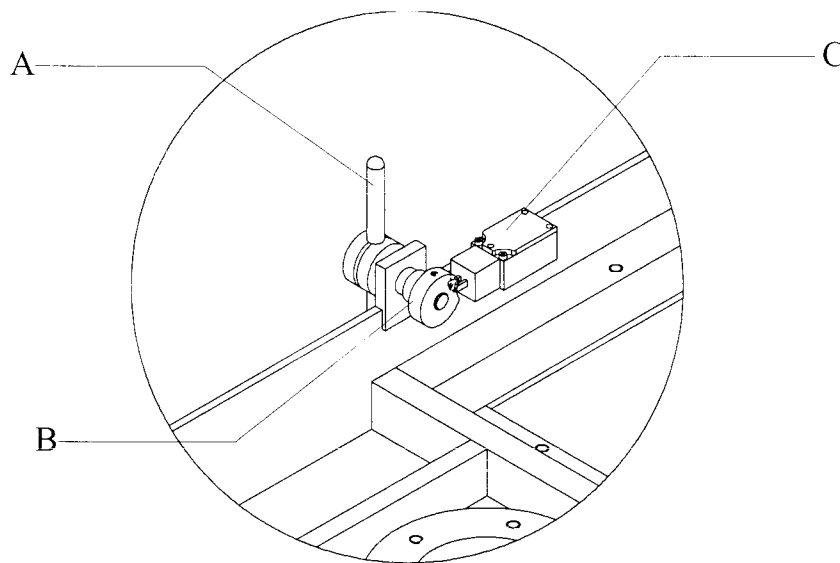


Figure 6-2

6.3 CONNECTING THE MACHINE TO THE POWER SUPPLY

Check that the voltage specified on the plate corresponds with that of the power supply to be used, because an incorrect connection will invalidate the guarantee. Then, connect the power cable (pos. D, λ) to the appropriate socket. Turn on the main switch (pos. E λ).

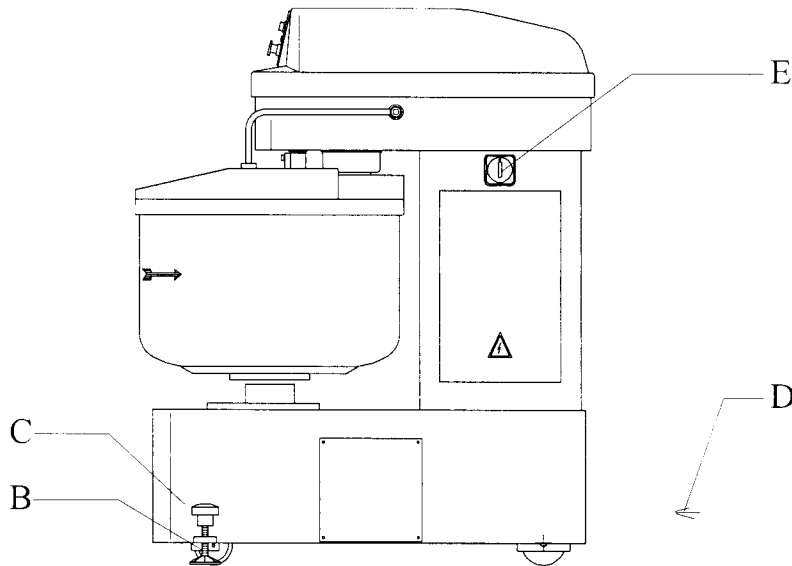


Figure 6-3

6.4 CLEANING THE MACHINE

The machine has been designed for use in the production of foodstuffs, therefore it is indispensable that it be cleaned thoroughly each day.

Body of the machine

It must only be cleaned using a sponge soaked in water.

Bowl

To remove the dough residue which has accumulated in the bowl, use only water and a suitable plastic spatula.

Floor under the machine

To clean this area, it is necessary to move the machine, after having unplugged the cable (D) from the socket and loosened the front fastening plates (C) to lower the front wheel onto the floor.

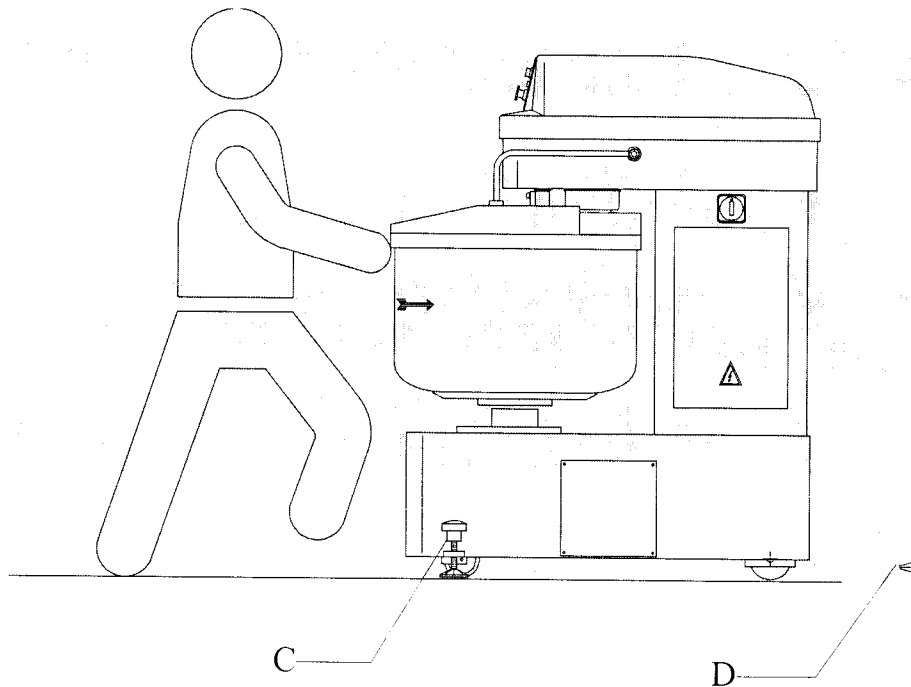


Figure 6-4

7 USING THE MACHINE

7.1 WARNING

Strict observance of the safety standards is indispensable for the starting up and use of the machine.

7.2 PRELIMINARY CHECKS BEFORE STARTING

Before starting the work process, check:

- that the machine is in a stable position;
- that it has been connected to the electric socket;
- that the parts are clean.

7.3 DESCRIPTION OF THE WORK PROCESS

Loading the ingredients to be kneaded

With the machine turned off, the bowl can be simply accessed by lifting the mobile protective cover (A).

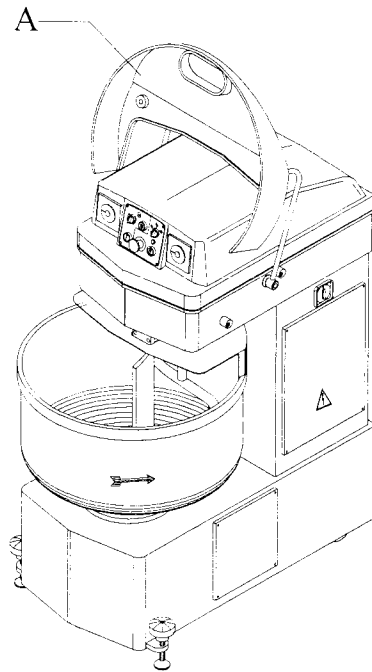


Figure 7-1

The ingredients (exclusively those suitable for the production of bread and pastries) are added to the bowl in the required quantities, which must not exceed the maximum quantities specified for the machine being used (refer to section 12/14).

Starting the work process

Only after the mobile protective cover has been lowered, can the machine be started.

Selecting the manual cycle, it is possible to start, select the two speeds and stop the machine manually, by pressing the corresponding buttons on the control panel (refer to section 7.4).

To use the automatic, semi-automatic or manual cycle, it is first necessary to set the pre-mixing and mixing times using the two timers, then start the cycle by pressing the first speed button on the panel (refer to section 7.4).

During the entire work cycle, the window (A) located on the mobile protective cover allows the state of the dough to be checked visually. Furthermore, it allows samples of dough to be extracted and small quantities of ingredients to be added to correct the mixture, if this should be necessary.

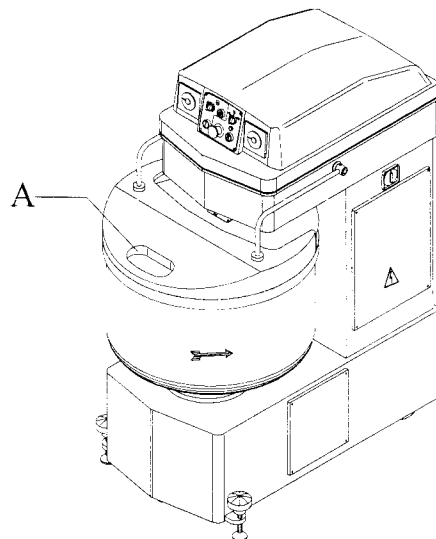


Figure 7-2

Unloading the dough

At the end of the cycle, it is possible to remove the dough from the bowl, after having lifted the mobile protective cover.

7.4 DESCRIPTION OF THE FUNCTIONS FOR OPERATING THE TWO-SPEED MODEL

All the controls for the functions required to operate this machine are located on the control panel, as shown in 7 and 8.

The specific function of each button and selector is clearly indicated by graphic symbols located on or next to these controls.

λ shows the control panel for the two-speed model. The two timers are located on the front of the machine, next to the panel.

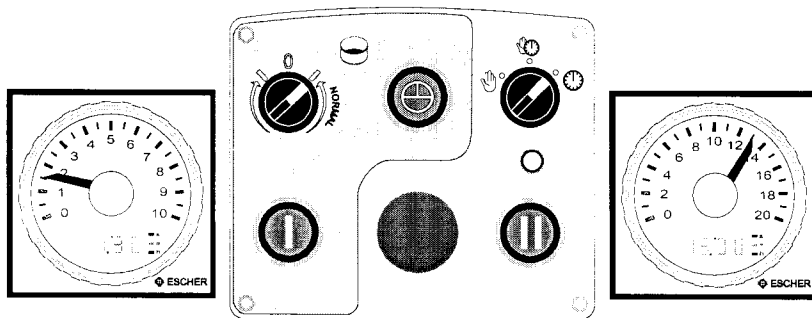


Figure 7-3

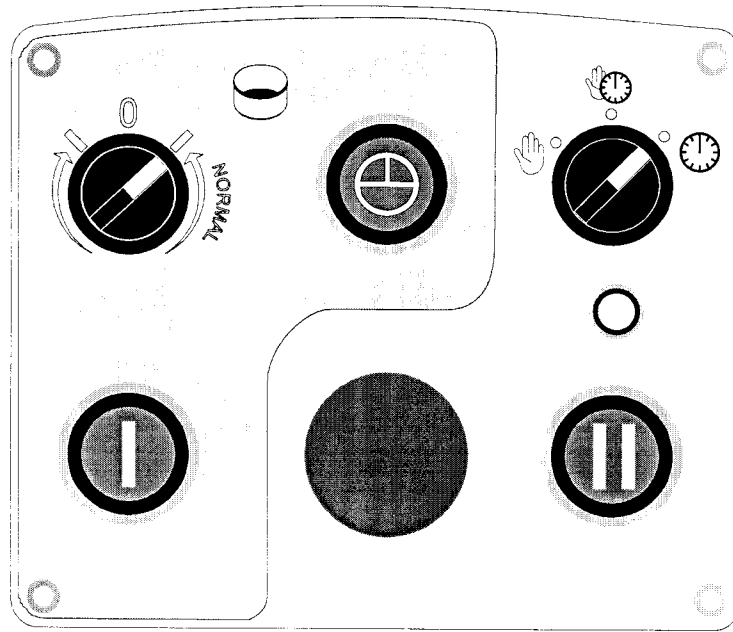


Figure 7-4

Description of push button control panel



Figure 7-5

BOWL ROTATION SELECTOR

Selects the direction of rotation of the bowl in the jog and first speed mode.



Figure 7-6

JOG BOWL

The bowl rotation direction is selected using the “bowl rotation selector”.



Figure 7-7

1st SPEED START PUSH BUTTON

The bowl rotation direction is selected using the “bowl rotation selector”.



2nd SPEED START PUSH BUTTON

The bowl rotation direction is NORMAL.

Figure 7-8



MANUAL, SEMI-AUTOMATIC, AUTOMATIC CYCLE SELECTOR

Figure 7-9

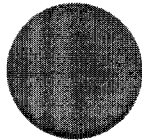
- Manual cycle: this operation disables the timers.
- Semi-automatic cycle: allows the mixer to operate in 1st speed or in 2nd speed.
- Automatic cycle: the mixer automatically switches from the 1st to the 2nd speed.



LIGHT

Figure 7-10

Indicates that the power is on.



EMERGENCY-STOP

Figure 7-11

The bowl and spiral rotation can be stopped by pressing the emergency button.

To restart the machine, it is necessary to first remove the emergency condition, by rotating the same push button clockwise until it is released, then press the required speed button. The timers are reset.

Operating modes

The machine can run in three modes:

- Manual;
- Semi-automatic;
- Automatic.

Relationship between the timer settings and the operating modes:

- If the pointer of the first speed timer is set below the zero marking, then this timer switches off (only the green LED indicating that the units of measurement are minutes remains on). With this setting, if the first speed start button is pressed, then the machine works in manual mode, even if the operating cycle selector (**Error! Number cannot be represented in specified format.**) has been set to automatic mode.
- If the pointer of the second speed timer is set below the zero marking, then this timer switches off (only the green LED indicating that the units of measurement are minutes remains on). With this setting, if the first speed start button is pressed, then the machine carries out the first speed cycle for the time set on the first speed timer, after which the machine stops. If the second speed button is subsequently pressed, then the machine will work in manual mode, even if the operating cycle selector (**Error! Number cannot be represented in specified format.**) has been set to automatic mode.
- If the pointers of both timers are set below the 0 marking, then both timers switch off (only the green LEDs indicating that the units of measurement are minutes remain on). With this setting, the machine works in manual mode, even if the operating cycle selector (**Error! Number cannot be represented in specified format.**) has been set to automatic mode.
- When the time set for the first speed cycle has expired and the bowl rotation has been set in the direction opposite to the normal direction of rotation (selector in 2), then the bowl stops for approximately 1,5 seconds, after which the machine switches to the second speed (in which the number of revolutions of the spiral is increased and the bowl rotates in the normal direction). This pause occurs in order to allow the bowl rotation direction to be changed and is necessary to avoid

sudden changes in the direction of rotation of the bowl motor, which in the long term would damage the motor itself.

Manual Mode



Figure 7-12

- Turn the selector to the manual cycle position (**Error! Number cannot be represented in specified format.**).
- Press the “first speed” push button on the control panel to start running at the first speed in order to amalgamate and pre-mix the ingredients (**Error! Number cannot be represented in specified format.**).
- It is possible to select the reverse bowl rotation (option only available in the first speed), to accelerate the process of mixing the ingredients (↺). Before changing the bowl rotation, wait 1 second with the selector in the central position (0), in order to stop the rotation.
- Press the “second speed” push button on the control panel to start running at the second speed to finish off the mixing process (**Error! Number cannot be represented in specified format.**).
- Press the “emergency-stop” push button to end the manual cycle (**Error! Number cannot be represented in specified format.**).

Semi-automatic Mode

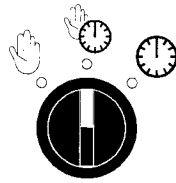


Figure 7-13

- Turn the selector to the semi-automatic cycle position (**Error! Number cannot be represented in specified format.**).
- Programme the first and second speed timers according to the speed at which the cycle is required to be executed.

To work in the first speed

- Press the “first speed” push button on the control panel to start running at first speed in order to amalgamate and pre-mix the ingredients (**Error! Number cannot be represented in specified format.**).
- It is possible to select the reverse bowl rotation (option only available in the first speed), to accelerate the process of mixing the ingredients (↺). Before changing the bowl rotation, wait 1 second with the selector in the central position (0), in order to stop the rotation.
- The end of cycle is determined by the first speed timer. At the end of the cycle, the machine is stopped automatically.
- If the “second speed” push button on the control panel is pressed, then the machine switches to the second speed (**Error! Number cannot be represented in specified format.**). The end of cycle will then be determined by the second speed timer.

To work in the second speed

- Press the “second speed” push button on the control panel to start running at the second speed (**Error! Number cannot be represented in specified format.**). The end of cycle is determined by the second speed timer.

Automatic Mode



Figure 7-14

- Turn the selector to the automatic cycle position (**Error! Number cannot be represented in specified format.**).
- Programme the two timers for the first and second speed.

To work with both the first and second speeds

- Press the “first speed” push button on the control panel to start running at the first speed in order to amalgamate and pre-mix the ingredients (**Error! Number cannot be represented in specified format.**).
- It is possible to select the reverse bowl rotation (option only available in the first speed), to accelerate the process of mixing the ingredients (↺). Before changing the bowl rotation, wait 1 second with the selector in the central position (0), in order to stop the rotation.
- The first end of cycle is determined by the first speed timer. At the end of this first cycle, the machine automatically switches to the second speed and the second end of cycle is subsequently determined by the second speed timer.
- If you press the “second speed” push button on the control panel during a first speed cycle, then the machine will switch to the second speed (**Error! Number cannot be represented in**

specified format.). The end of cycle will then be determined by the second speed timer.

To work in the second speed

- Press the “second speed” push button on the control panel to start running at the second speed (**Error! Number cannot be represented in specified format.**). The end of cycle is determined by the second speed timer.

Remarks

- If you open the protective bowl cover, then the machine will stop. The timers will not be reset.
- In order to simplify the emptying of the bowl, it is possible to move the dough to the front extraction area, by using the “bowl rotation” selector and the “jog bowl” push button.

This operation, which allows only the bowl to be rotated, can be carried out even when the protective bowl cover is open. However, for safety reasons, to do this, it is necessary to keep the “jog bowl” push button pressed in for the time of rotation required to move the dough to the front extraction area.

- It is always possible to switch to the second speed when the machine is running at the first speed.
- The reverse bowl rotation is automatically disabled when the machine is running at the second speed.

7.5 STOPPING THE MACHINE NORMALLY

The work cycle can be stopped normally, by pressing the “emergency-stop” button.

If the machine is operating in automatic or semi-automatic mode, then in the former case, the machine stops when the second speed timer reaches the end of the programmed time and in the latter case, the machine stops when the first or second speed timer reaches the end of the programmed time, depending on the speed at which the work cycle is carried out.

7.6 STOPPING THE MACHINE IN AN EMERGENCY

The bowl and spiral rotation can be stopped by pressing the “emergency” button.

To restart either the manual or the automatic cycle, it is necessary to first remove the emergency condition, by rotating the same push button clockwise until it is released, and then to press one of the speed buttons.

7.7 DESCRIPTION OF THE SAFETY SYSTEMS

Mobile protective cover

If the protective bowl cover is lifted at any time, then the microswitch will stop the machine.

Emergency push button

The emergency button, located alongside the control panel in the one-speed model and on the control panel in the two-speed model, can be used to immediately stop the bowl and spiral rotation.

7.8 EFFICIENCY OF THE SAFETY SYSTEMS

When one of the safety systems is activated, the time taken for the spiral and bowl rotation to stop is not more than 4 seconds; this time interval is a result of the inertia.

An immediate stop would cause stresses and fatigue failures.

8 SAFETY INSTRUCTIONS

8.1 WARNING

The machine has been designed and constructed to guarantee maximum safety.

The safety guards and safety systems, which are operational when the machine functions, do not in any way detract from the functionality and efficiency of the machine itself.

8.2 GENERAL CRITERIA

The mechanical parts and, above all, the moving members, have been designed to function in absolute safety and reliably for long periods of time.

The electrical components, both in terms of the single components and the connections guarantee safety.

8.3 RISKS TO PERSONS

If the machine is used in the correct manner and suitable ingredients are used, respecting the maximum quantities specified for the machine, then there are no risks for the operators assigned to use the machine.

Maintenance

All maintenance and repair operations must be carried out in accordance with the instructions specified in chapter 10.

These operations must only be carried out by suitably qualified and authorised personnel.

8.4 ENVIRONMENTAL CONDITIONS AND NOISE

Other than the requirements explained in chapter 5 for the location of the machine, there do not exist any additional particular requirements.

The noise to which the operator may be subject is, in the most severe conditions, always less than 75 dB.

The noise detection reports are contained in the Technical File.

9 MAINTENANCE AND REPAIRS

9.1 WARNING

To carry out any type of maintenance on the machine, it is indispensable to first disconnect the machine from the power supply.

Clean the machine daily. Thorough cleaning prevents the build up of material and flour which, in the long term, can damage the moving members.

9.2 MAINTENANCE

The preventive maintenance consists of checking the tension and wear of the belts and should be carried out monthly.

The driving belts must be replaced when they are frayed or under excessive tension, before they actually break. When a driving belt needs to be replaced, it is necessary to replace the entire set of belts related to that specific drive.

The bearings are also subject to wear and may therefore also require replacement; this operation must be carried out by a suitably qualified technician using suitable equipment.

9.3 INSTRUCTIONS FOR THE ADJUSTMENT OF THE SPIRAL BELT TENSION AND THE REPLACEMENT OF THESE BELTS FOR THE MODEL WITH DIRECT TRANSMISSION

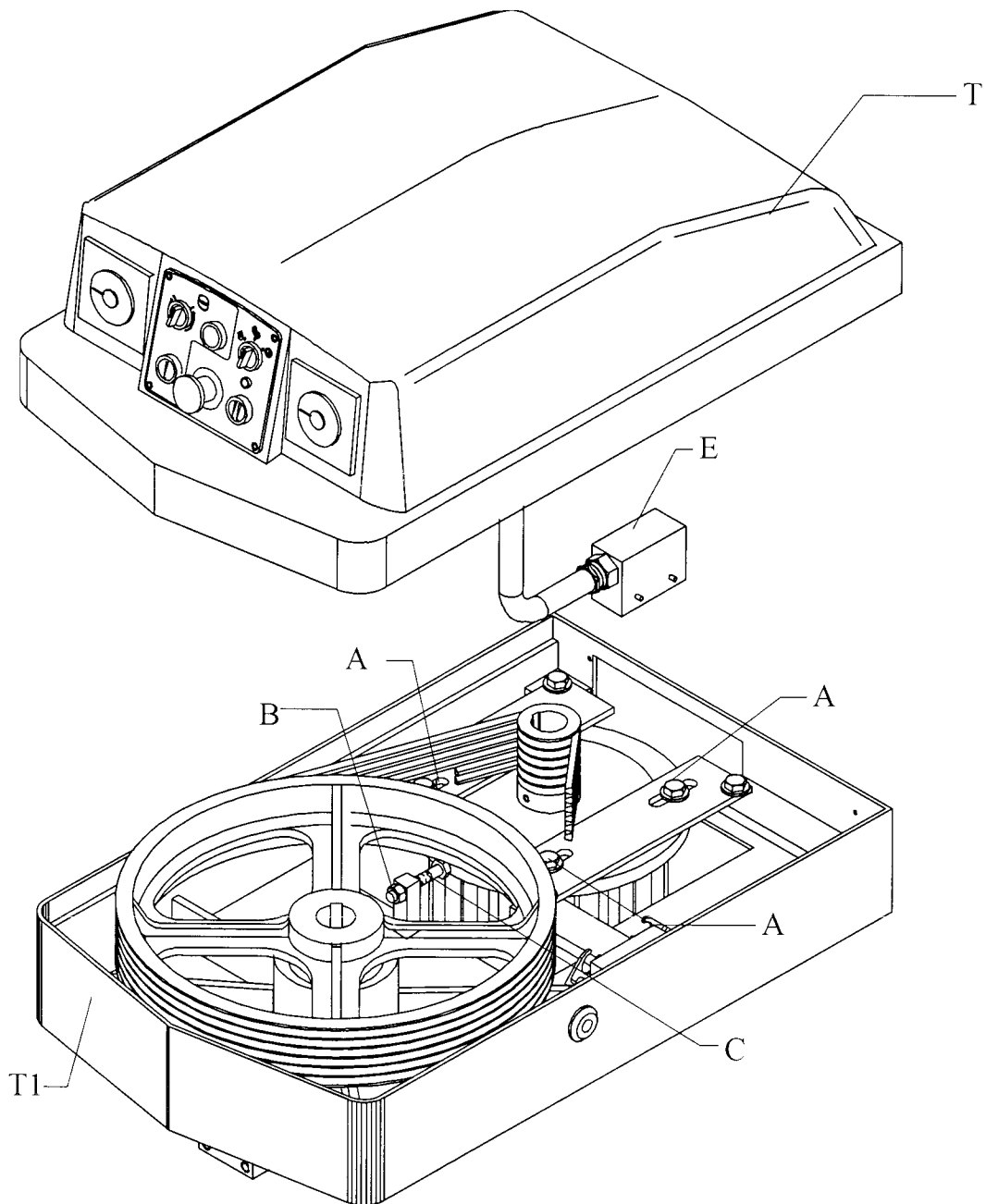


Figure 9-1

Replacing and adjusting the tension of the motor and spiral tool driving belts - model with direct transmission

The belt tension must be adjusted when it is noticed that the rotation of the spiral tool tends to slow down during the work cycle.

1. Lift the head casing (pos. T) and disconnect the connector (pos. E).
2. Loosen the four screws (pos. A) of the spiral tool motor plate, without unscrewing them completely.
3. Unscrew the nut (pos. B).
4. If it is necessary to replace the belts, then tighten the screw (pos. C) to loosen the belts and hence allow them to be replaced.
5. If it is necessary to tension the belts, then loosen the screw (pos. C) accordingly.
6. Tighten the four screws (pos. A) of the spiral tool motor plate.
7. Lock the nut (pos. B).
8. Reconnect the connector (pos. E).
9. Place the casing (pos. T) back in the correct position, so that it closes onto the head (pos. T1).

Note: When replacing the belts, it is first necessary to ensure that the new belts have the same characteristics as those installed by the manufacturer of the machine.

9.4 ADJUSTING THE TENSION OF THE BOWL DRIVING BELTS AND REPLACING THESE BELTS

If it is noticed that the rotation of the bowl tends to slow down during the kneading process, then proceed in the following manner:

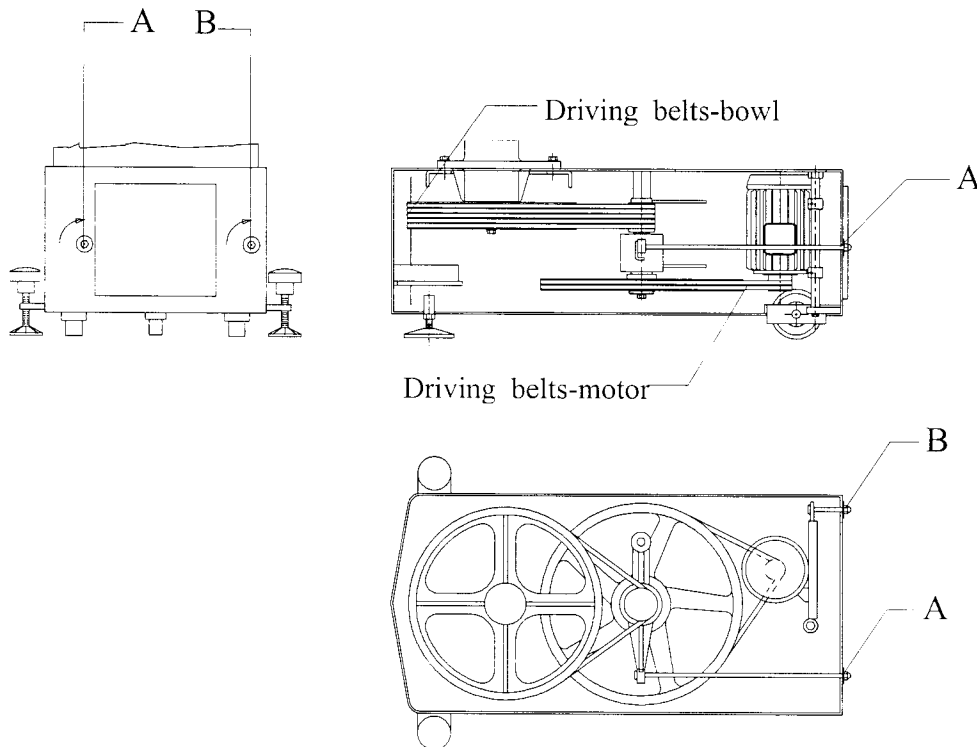


Figure 9-2

1. To tension the belts of the bowl driving gear, turn the nut (pos. A) clockwise, using the spanner.
2. To tension the belts of the motor driving gear, turn the nut (pos. B) clockwise using the spanner.

To replace the belts, it is first necessary to turn the nut (pos. B) anticlockwise and then the nut (pos. A) in the same direction (anticlockwise). In this manner, the belts

are now loosened and it is possible to replace them. Before replacing them, it is necessary to ensure that the new belts have the same characteristics as those installed by the manufacturer of the machine. To tension the new belts carry out instructions 1 and 2 specified above.

10 PERSONNEL TRAINING

10.1 WARNING

The operator must have a good working knowledge of all the functions on the control panel and of all the safety guards and safety systems installed on the machine.

10.2 PERSONNEL ASSIGNED TO THE MACHINE

Operator

In addition to all the functions on the control panel, the safety guards and safety systems, the operator must also have a good working knowledge of the work cycles, the ingredients which can be used and the maximum quantities of ingredients allowed for the specific machine being used.

Maintenance engineer

The maintenance and repair operations must be carried out by suitably qualified personnel, using suitable equipment (following the instructions specified in chapter 9).

11 ADDITIONAL IMPORTANT INSTRUCTIONS FOR THE USE OF THE MACHINE

Before starting the machine:

The voltage, frequency and number of phases of the power supply network must correspond with the ones specified on the plate located on the rear of the machine.

Check that the machine is in a stable position and that it is level (refer to chapter 5).

It is forbidden to tamper with or remove any of the safety guards and safety systems installed on the machine.

Loading the ingredients:

The machine is able to knead maximum quantities of ingredients, as specified in section 12 / 0, and these maximum quantities must not be exceeded.

While the machine is running:

When the machine is running, all the safety guards are installed and all the safety systems are connected.

The duration of the reverse bowl rotation can be determined by the operator during the first speed running cycle.

Repeated interruption of the work cycle can lead to overheating of the motor and, in the long term, can compromise its efficiency.

12 ETL REFERENCE STANDARDS

The machine model described herein complies with the ETL requirements of the following reference standards:

- ETL Listing No. 95696 “Motor Operated Commercial Food Preparing Machines” – Conforms to UL STD. 763;
- ETL Sanitation Listing “Commercial Powered Food Preparation Equipment” – Conforms to STD. NSF-8;
- C-ETL Listing “Motor Operated Food Processing Appliances (Household and Commercial) - Conforms to CSA C22.2 No. 195 - M1987.

12.1 ETL PLATE

The ETL plate is located on the back of the machine. This plate is shown in **Error! Reference source not found.**



Figure 12-1

13 TECHNICAL MACHINE SPECIFICATIONS - 80 FBF

Kneading capacity (Max.):	80 kg	176 lb
Flour capacity (Max.):	50 kg	110 lb
Litres of water (Max.):	30 l	10 gal
Bowl volume:	154 l	40 gal
Bowl diameter:	680 mm	27 in
Floor to bowl rim height:	965 mm	38 in
Length:	1215 mm	47 in
Width:	710 mm	28 in
Height:	1510 mm	59 in
Weight:	519 kg	1.144 lb
Motor for spiral tool:	2/4 kW	2,7/5,3 hp
Motor for bowl:	0,55 kW	0,75 hp
Total power:	4,55 kW	6,05 hp
Spiral tool speed:	89/177 rpm	89/177 rpm
Bowl speed:	14 rpm	14 rpm

External dimensions and weight with packaging

Carton on pallet:	133 x 83 x 171(h)	cm	550 kg
	52 x 32 x 67(h)	in	1.212 lb
Wooden crate:	140 x 90 x 178(h)	cm	584 kg
	55 x 35 x 70(h)	in	1.287 lb
Wooden box:	140 x 90 x 178(h)	cm	700 kg
	55 x 35 x 70(h)	in	1.543 lb

14 TECHNICAL MACHINE SPECIFICATIONS - 120 FBF

Kneading capacity (Max.):	120 kg	264 lb
Flour capacity (Max.):	72 kg	159 lb
Litres of water (Max.):	48 l	12.7 gal
Bowl volume:	181 l	47.8 gal
Bowl diameter:	750 mm	29.5 in
Floor to bowl rim height:	965 mm	38 in
Length:	1265 mm	49.8 in
Width:	780 mm	30.7 in
Height:	1510 mm	59 in
Weight:	519 kg	1.144 lb
Motor for spiral tool:	2,6/4,8 kW	3,4/6,4 hp
Motor for bowl:	0,55 kW	0,75 hp
Total power:	5,35 kW	7,15 hp
Spiral tool speed:	89/177 rpm	89/177 rpm
Bowl speed:	14 rpm	14 rpm

External dimensions and weight with packaging

Carton on pallet:	133 x 83 x 171(h)	cm	550 kg
	52 x 32 x 67(h)	in	1.212 lb
Wooden crate:	140 x 90 x 178(h)	cm	584 kg
	55 x 35 x 70(h)	in	1.287 lb
Wooden box:	140 x 90 x 178(h)	cm	700 kg
	55 x 35 x 70(h)	in	1.543 lb

15 ASSEMBLY DRAWINGS FOR SPARE PARTS, WIRING DIAGRAMS AND LIST OF ELECTRIC COMPONENTS

Drawings and corresponding technical data

- 1st Table: exploded view of head group
- 2nd Table: exploded view of base group
- 3rd Table: exploded view of machine structure
- 4th Table: power wiring diagram
- 5th Table: control wiring diagram
- 6th Table: wiring arrangement for components

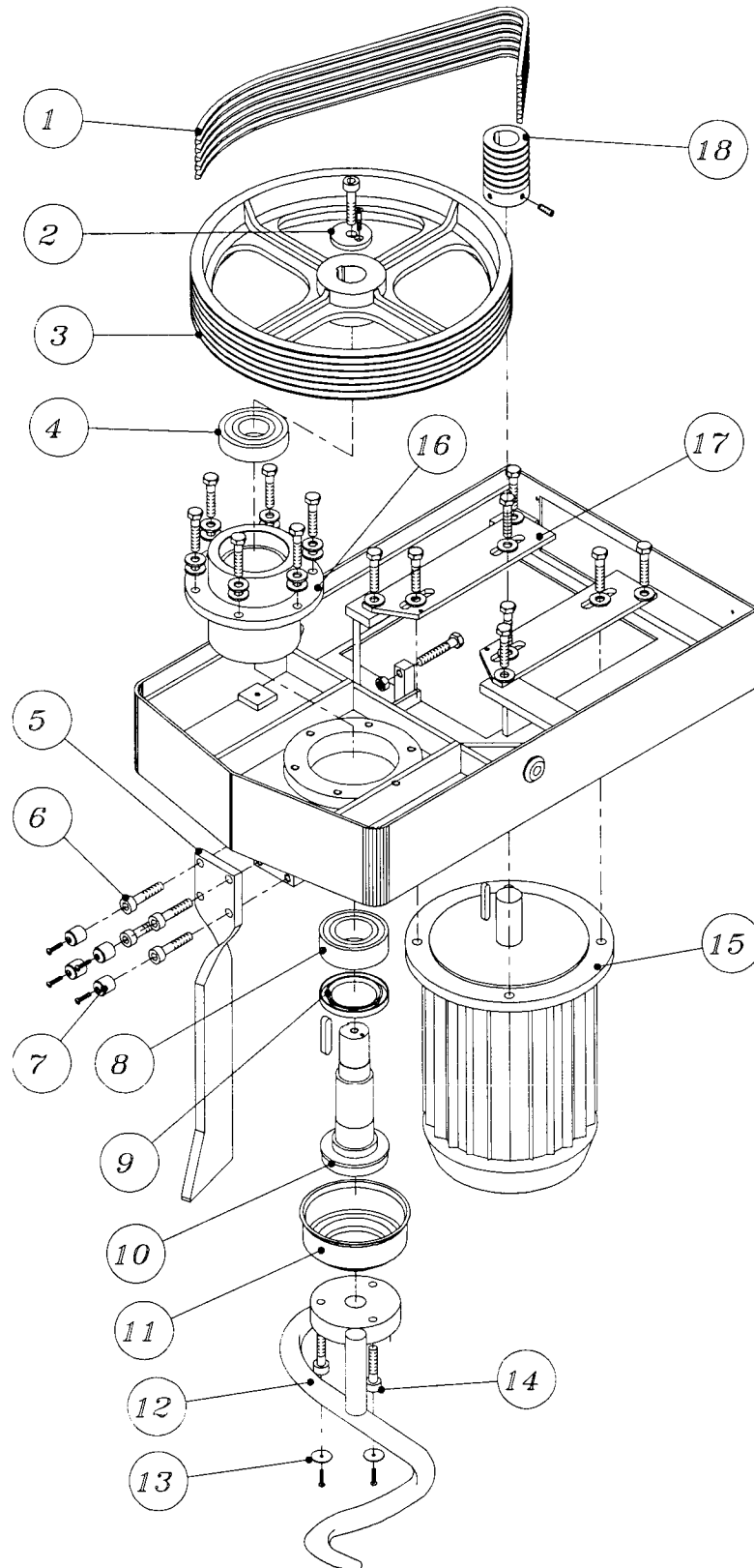
Instructions for requesting spare parts

When requesting spare parts, it is necessary to specify the following details:

- machine model;
- machine serial number;
- technical data table number;
- position of part in technical data table;
- description of part;
- quantity required;
- code of part.

If possible, a copy of the corresponding assembly drawing and technical data table should be enclosed with the request.

1st TABLE: exploded view of head group
code: 290518



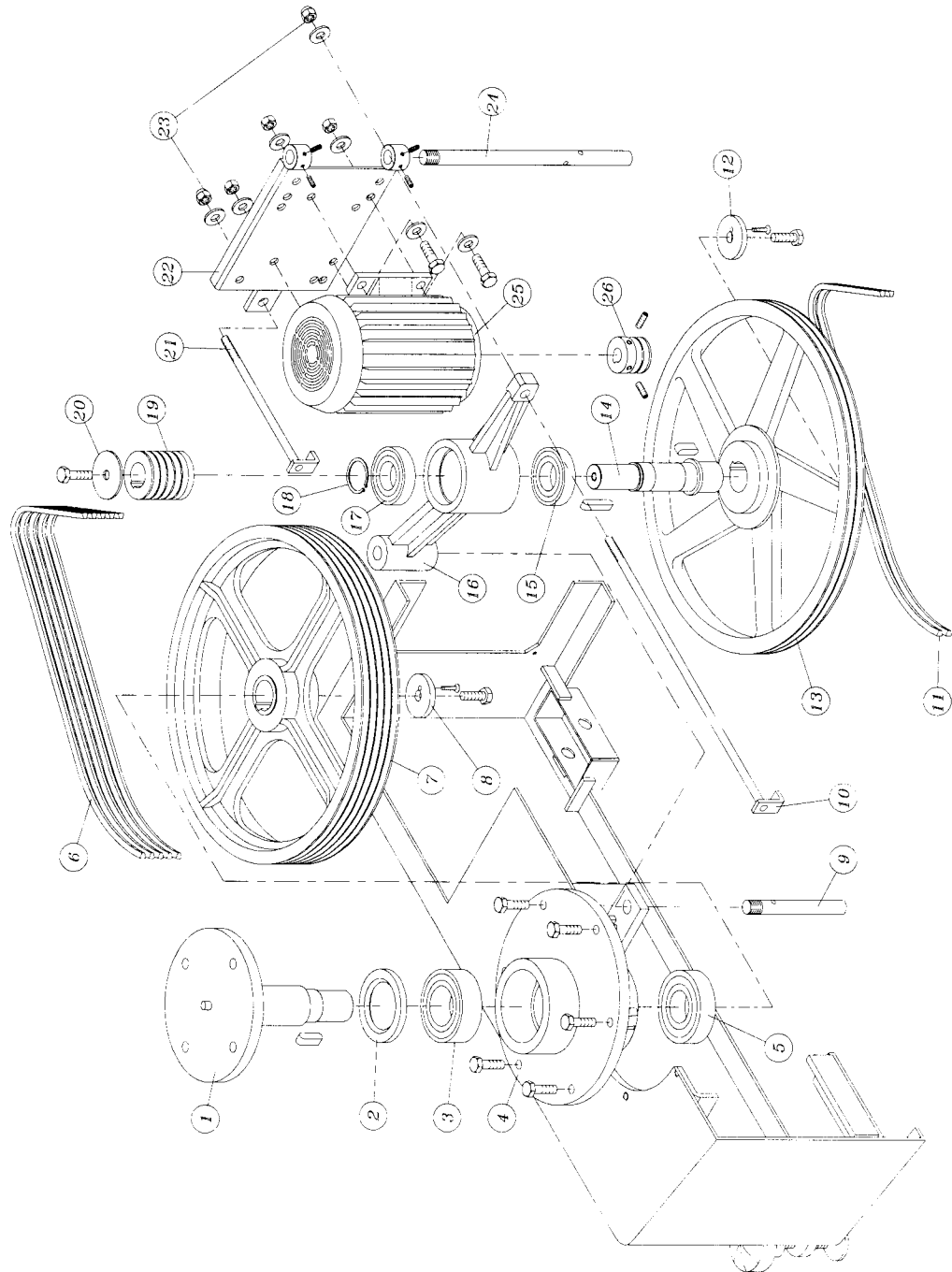
1st TABLE

Pos.	Description	Qty	Code
1	Belts SPZ 1637	6	C00155
2	Washer	1	211.000
3	Belt pulley	1	180.005
4	Bearing 6309 2RS	1	C00108
5	Breaking column	1	177.004
6	Special screw	4	266.001
7	Screw cap	4	128.001
8	Bearing 3211	1	C00098
9	Ring MIM 65/100x12	1	C00093
10	Spiral tool holder shaft	1	100.004
11	Cup	1	135.001
12	Spiral tool	1	220.005
13	Screw cap	3	128.000
14	Special screw	3	266.002
15	Motor	1	*
16	Spiral tool shaft support	1	216013
17	Plates	2	191.001
18	Belt pulley	1	183.037

* Refer to electric materials legend

2nd TABLE: exploded view of base group

code: 290501



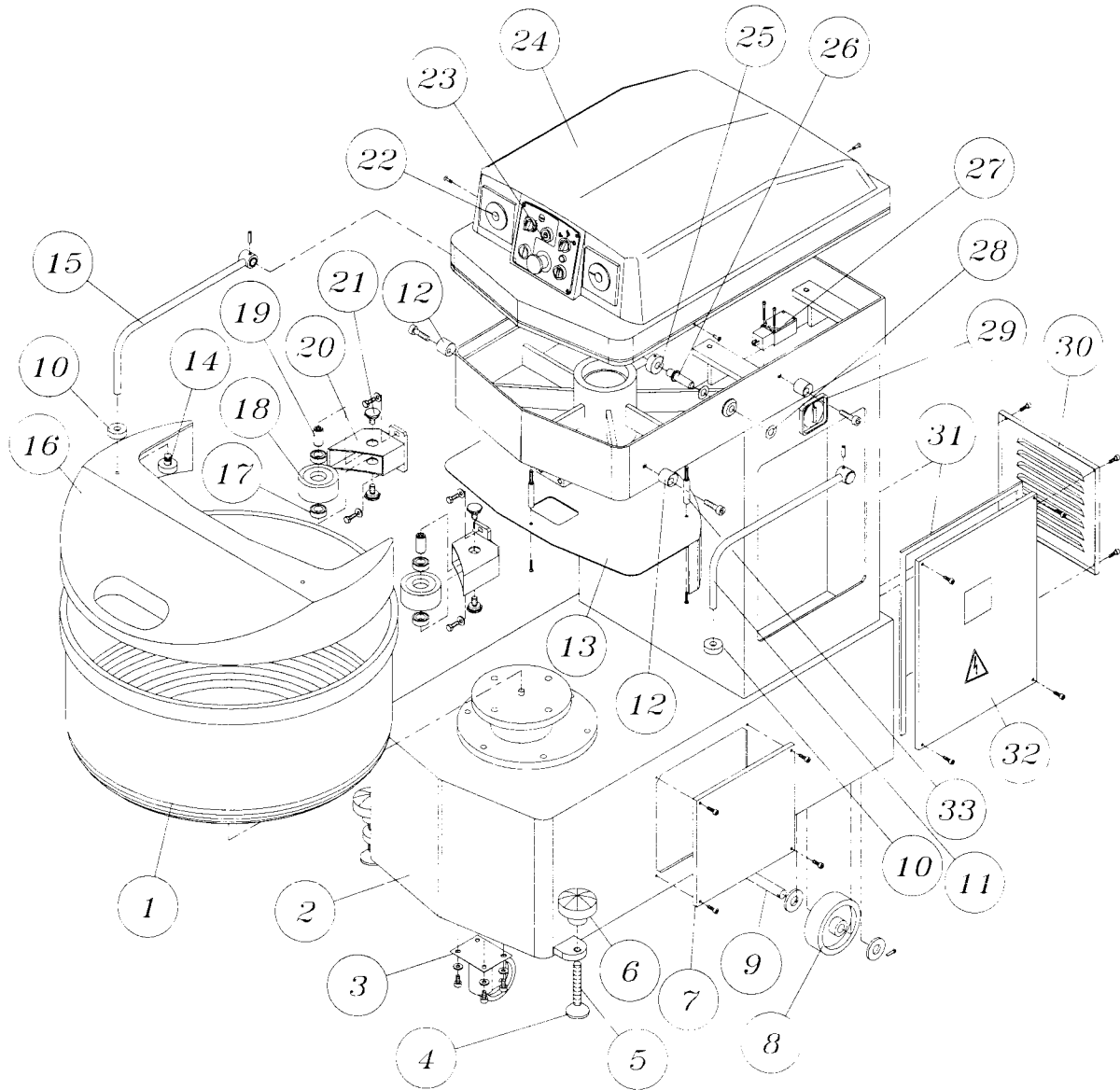
2nd TABLE

Pos.	Description	Qty	Code
1	Bowl holder shaft	1	100.010
2	Sealing ring MIM 65/100x12	1	C00093
3	Bearing 3211	1	C00098
4	Bowl shaft support	1	213.002
5	Bearing 6309 2RS	1	C00108
6	Belt SPZ 1587 for model 80	5	C00153
6	Belt SPZ 1600 for model 120	5	C00154
7	Belt pulley	1	180.000
8	Washer	1	211.000
9	Driving gear support pin	1	186.001
10	Backstand	1	154.000
11	Belt SPZ 1650	2	C00156
12	Washer	1	211.000
13	Belt pulley	1	180.004
14	Bowl driving gear shaft	1	100.003
15	Bearing 6208 2RS	1	C00106
16	Bowl driving gear support	1	213.001
17	Bearing 6208 2RS	1	C00106
18	Snap ring UNI 3653 E 39	1	C00058
19	Belt pulley	1	183.005
20	Washer	1	211.000
21	Backstand	1	154.000
22	Bowl motor slide	1	231.000
23	Cap nut UNI 5721 M10	2	C00053
24	Motor slide pin	1	186.002
25	Motor	1	*
26	Belt pulley	1	183.002

* Refer to electric materials legend

3rd TABLE: exploded view of machine structure

code: 290511



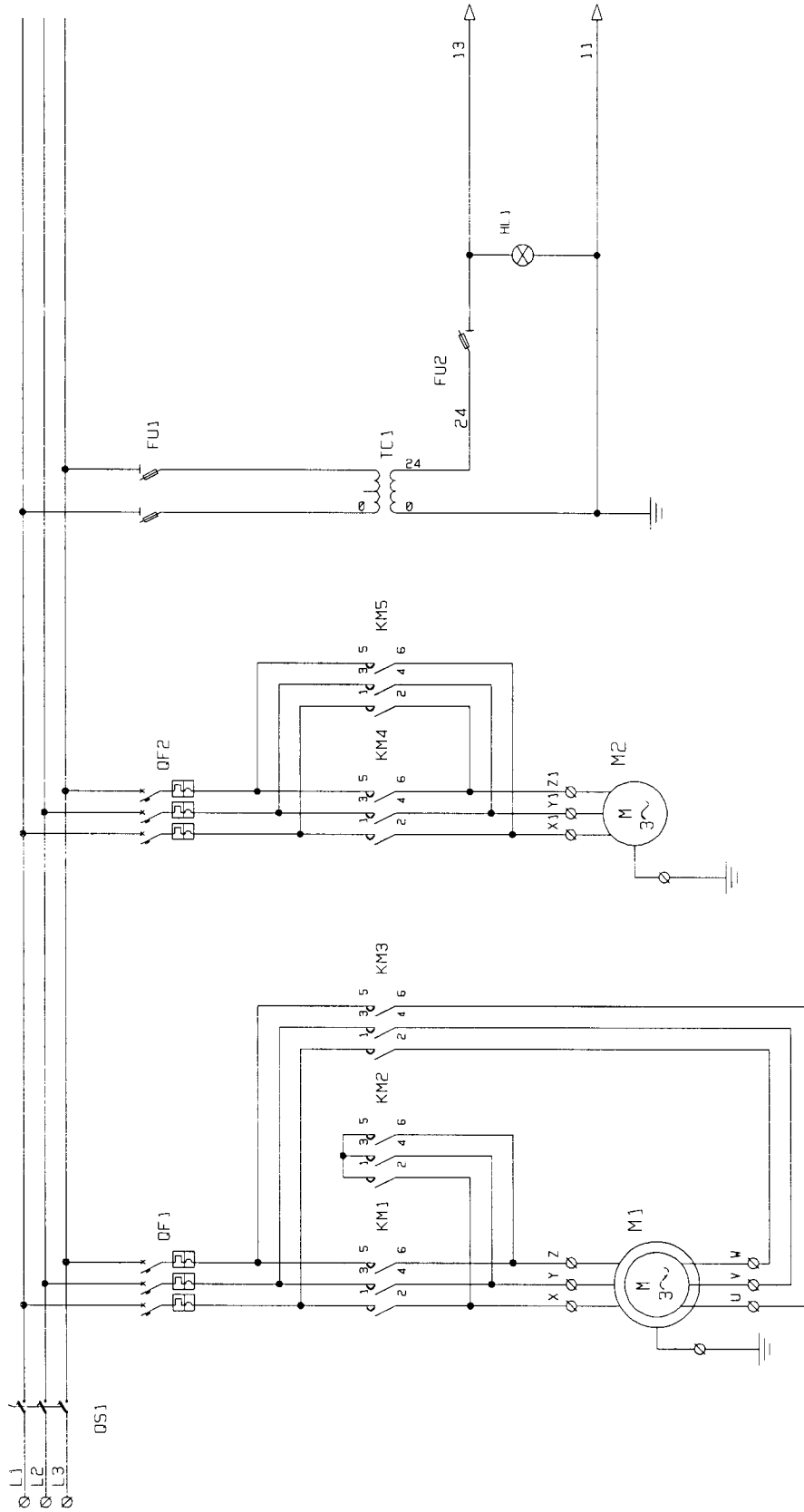
3rd TABLE

Pos.	Description	Qty	Code
1	Bowl for model 80	1	261.010
1	Bowl for model 120	1	261009
2	Body	1	285.010
3	Revolving support with wheel	1	C00118
4	Foot rest disk	2	142.000
5	Foot pin	2	186.007
6	Handwheel	2	269.000
7	Side casing	1	208.002
8	Wheel	2	C00117
9	Wheel clutch pin	2	186.008
10	Upper bush	2	211.001
11	Arm right	1	118.022
12	Eccentric bush	3	116.001
13	Fixed bowl cover for model 80	1	205.008
13	Fixed bowl cover for model 120	1	205009
14	Pin	2	186.004
15	Arm left	1	118.023
16	Mobile bowl cover for model 80	1	202.019
16	Mobile bowl cover for model 120	1	202022
17	Bearing 6204 2RS	4	C00104
18	Thrust roller with rubber exterior	2	200.007
19	Thrust roller pin	2	186.025
20	Thrust roller support	2	216.020
21	Hexagonal pin	4	186.021
22	Timer	2	*
23	Control panel	1	239.020
24	Head cover	1	125.015
25	Cam	1	131.001
26	Pin for mobile bowl cover	2	186.023
27	Safety microswitch	1	*
28	Fifth wheel	4	C00240
29	Main switch	1	*
30	Rear base casing	1	208.003
31	Rubber packing	1	C00239
32	Column casing	1	159.019
33	Pin for fixed bowl cover	3	186.010

* Refer to electric materials legend

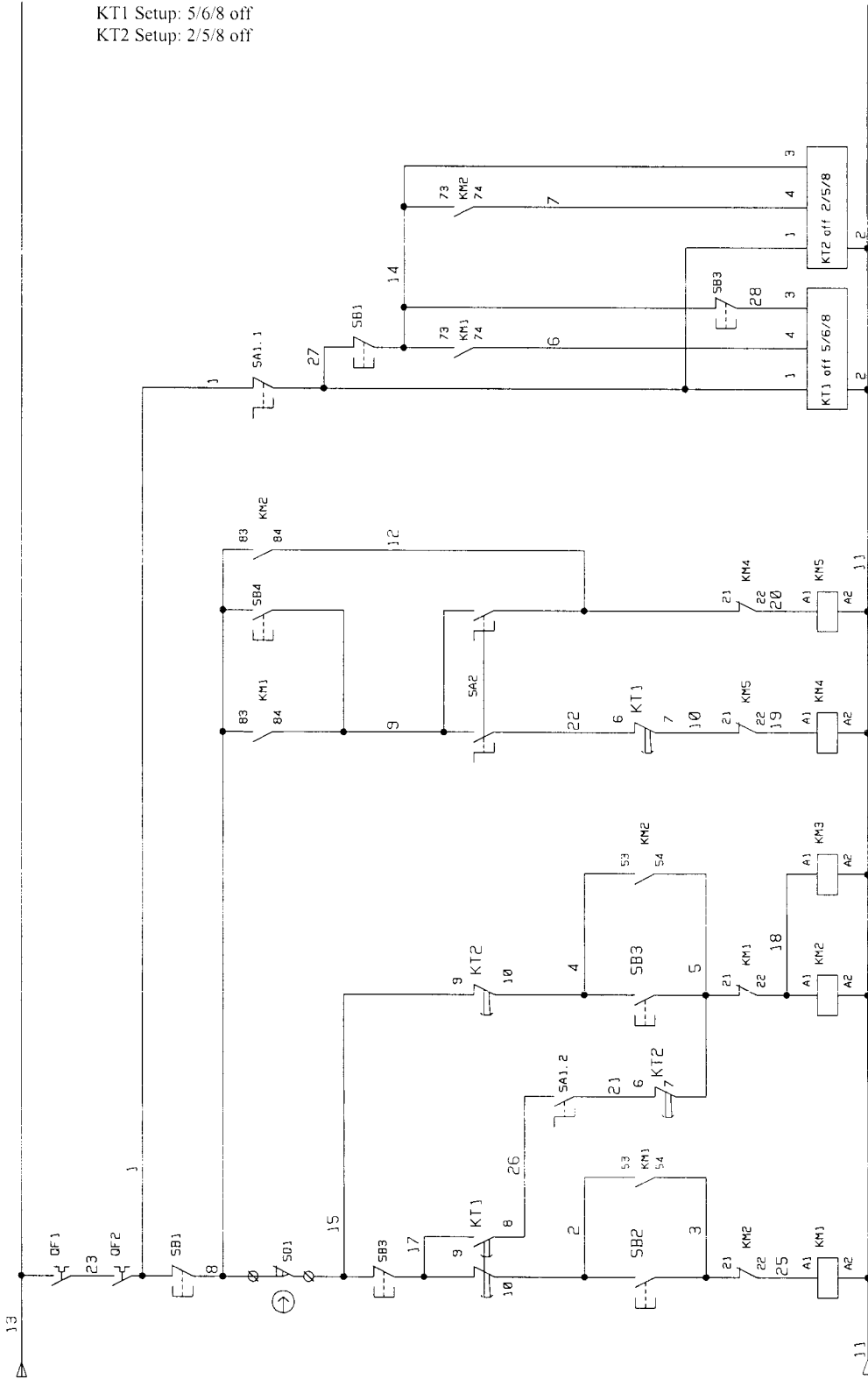
4th Table: power wiring diagram

code:316000

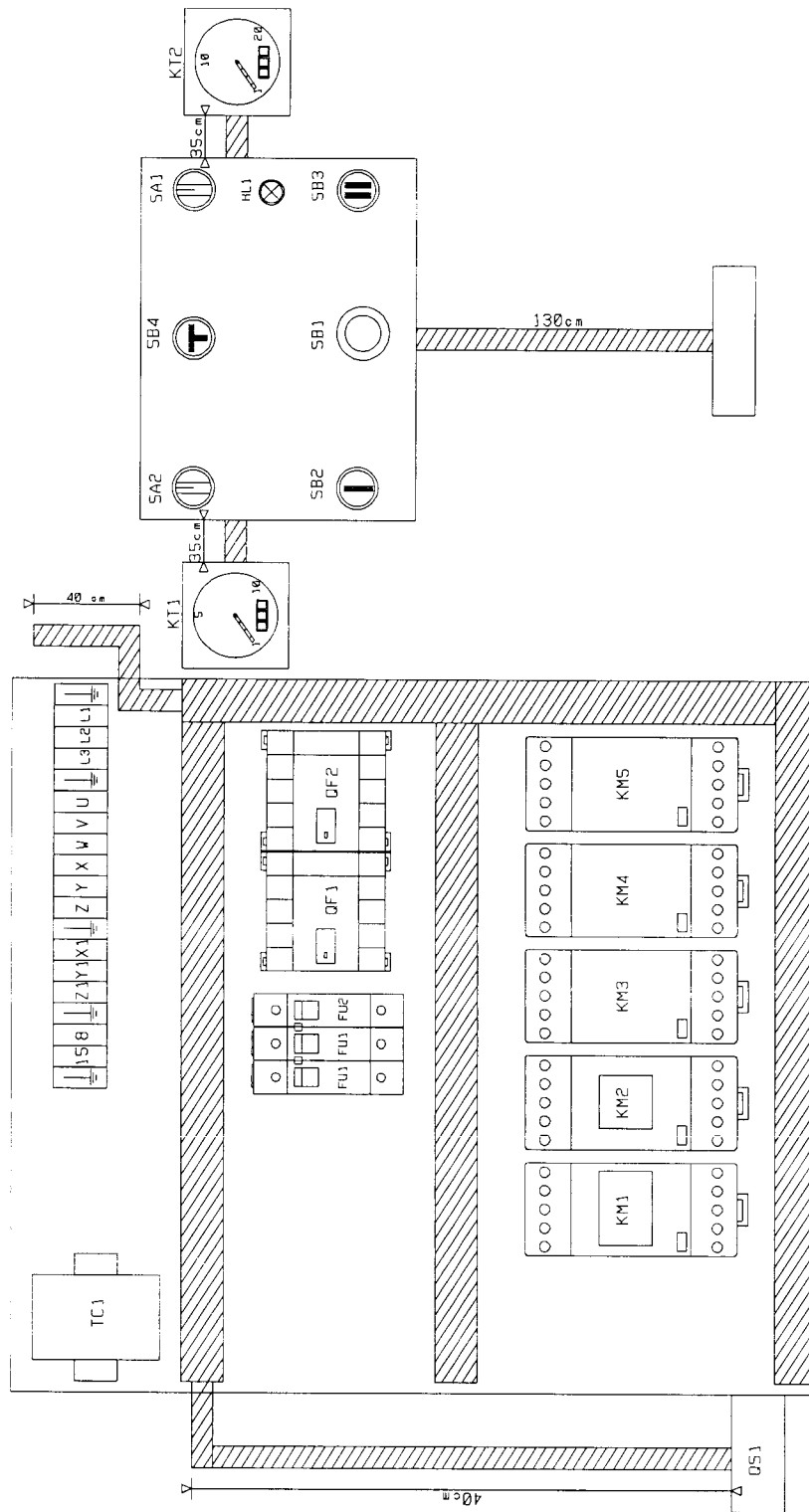


5th Table: control wiring diagram

code:317000



6th Table: wiring arrangement for components code:318019



ELECTRIC MATERIALS LEGEND FOR 80/120 FBF 2V
208 V 60 Hz SYSTEM

ID	Description	Qty	Code
BUILT-IN PANEL			
M1	Spiral tool motor	1	*
M2	Bowl motor	1	*
QS1	Main switch ILME ZQE 803	1	E00001
	extension	1	E00011
TC1	Transformer CED 150 VA D.208.220 0.24	1	E00050
KM1	Contacteur TELEMEC. LC1 D2501B7	1	E00055
	TELEMEC. LA1 DN31	1	E00023
KM2	Contacteur TELEMEC. LC1 D1801B7	1	E00056
	TELEMEC. LA1 DN31	1	E00023
KM3	Contacteur TELEMEC. LC1 D3201B7	1	E00057
KM4	Contacteur TELEMEC. LC1 D0901B7	1	E00024
KM5	Contacteur TELEMEC. LC1 D0901B7	1	E00024
QF1	Magneto thermal TELEMEC. GV3 M40	1	E00058
	TELEMEC. GV1 A01	1	E00019
QF2	Magneto thermal TELEMEC. GV2 M10	1	E00021
	TELEMEC. GV2 AN11	1	E00020
FU1	Fuse BUSS NON01	2	E00053
FU2	Fuse BUSS NON6	1	E00054
	Three-pole Fuse holder BUSSMAN-WEBER B2UL30/3	1	E00002
KT1	1 st speed timer SITEC-VMI D01 sc. 10	1	E00045
	Socket	1	E00255
KT2	2 nd speed timer SITEC-VMI D01 sc. 20	1	E00056
	Socket	1	E00255
SQ1	Limit switch TELEMEC. XCKP102	1	E00028
J1	24-pole connector ILME CHI24+CNF24	1	E00009

* Refer to assembly drawings

ID	Description	Qty	Code
CONTROL PANEL			
J1	24-pole connector ILME CHO24+CNM24	1	E00010
SB1	Emergency push button TELEMEC. ZA2BS54+ZA2BZ102+ZB2BE102	1	E00297
SB2	1 st speed push button TELEMEC. ZA2BA331 + ZA2BZ101	1	E00256
SB3	2 nd speed push button TELEMEC. ZA2BA336 + ZA2BZ101+ ZB2BE102 +ZB2BE102	1	E00030
SB4	Jog bowl push button TELEMEC. ZA2BA345 + ZA2BZ101	1	E00031
SA1	3-position selector TELEMEC. ZA2BD3+ZA2BZ101+ZA2BE102	1	E00034
SA2	3-position selector TELEMEC. ZA2BD3+ ZA2BZ103	1	E00033
HL1	Power On light SLIMM 24V	1	E00271
OTHER COMPONENTS			
	Protective push button cover TELEMEC. ZBP0	3	E00622
	Filter RC 0,5 microF 100 OHM	5	E00257

N.B.¹ The technical data is not binding. The data can be changed in order to improve the product.