MIXER

USE AND MAINTENANCE MANUAL

MIXER

ASM E

mod.60-80-100-130-160-200-250-300

COD. MSM000EX0000000-EN

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INDEX

USE AND MAINTENANCE MANUAL MIXERS FOR ASM/E 60 – 300 MODELS

CE DECLARATION OF CONFORMITY

Montegalda , 01/01/2010

Models: ASM / E 60 – 80 – 100 – 130 – 160 – 200 – 250 - 300

The company **MIXER S.r.l.** via dell'Industria, 2/4 – 36047 Montegalda – Vicenza,

declares on its own responsability that a.m. goods, object of the present declaration, is in compliance with the following Directives :

2006/42/CE (Machines Directive)

2004/108/CEE (Electromagnetic Compatibility)

2006/95/CE (Low tension)

1935/2004 (CE Regulation, Material and objects in contact with foodstuff)

The person authorised to compile the technical file is : Andriolo Fabio

MIXER S.r.l.
Michelazzo Paolo
Sole director

1.0 INSTRUCTIONS - PRECAUTIONS - GENERAL NOTICE

It is up to the buyer -after looking over the present manual - to inform whoever coming in direct or indirect contact with the machine about the instructions content in order to work in safety conditions. The manufacturer declines all responsibility for any damage to people or things caused by the non-observance of the safety instructions contained in this manual or indicated on the machine.

1.1 Safety

The machine is destined for a professional use only. The operator is to be fit for using middle-complex machines and in a position to read and understand the instructions contained in this manual .
The machine is to be installed in a suitable room, the features of which are specific and usual for a food laboratory, where special sanitary and environmental conditions are required.
Before starting any operation, it is necessary for the user to read carefully and understand the content of this manual. The non-observance or the negligence of the safety rules shall be the origin of even heavy accidents or anomalous machine operating with potential consequences of accidents in using it or during the maintenance. For any further doubts or explications you may require , kindly get in touch with the Manufacturer who shall be at your disposal and will be pleased to assist you.
We remind you that you are not allowed to carry out any change to the machine or any maintenance not being described in this manual or whatever not authorized - in an official form - by the Manufacturer. Should the machine be started in an incorrect manner, it shall be whatever operating and reveal dangerous non-conformities later only.
The Manufacturer is not responsible for any damage to people and/or things occurred owing to the carelessness in reading the manual or putting into practice the content of the present manual.

USE AND MAINTENANCE MANUAL MIXERS FOR ASM/E 60 – 300 MODELS

1.1.1 Safety pictograms and symbols used in the present manual

You are kindly requested to take the greatest care in taking into consideration all danger, caution and warning signs shown in this manual and on the machine.In order to draw your attention on the manual content and on the machine, the main pictograms and the symbols used are shown here below just for your information

	General potential danger to people. Risk of accident;
	Danger of present tension;
	Danger of mechanical gears in motion;
	Danger of possible crushing;
	Caution. Handle with care;
	Do not move the safety device;
	Do not smoke or light free flames;
	Warning: Safety directions;

1.1.2 Safety rules

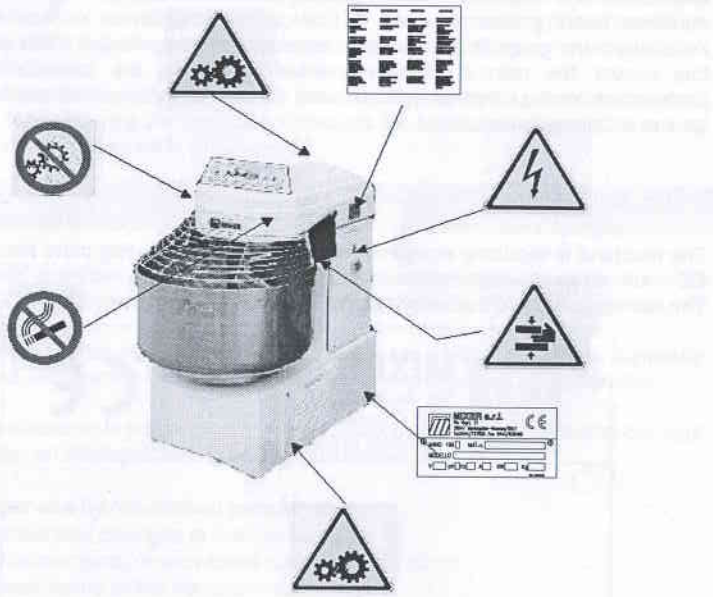
Before carrying out any maintenance or cleaning interventions, remove the plug from the socket:

- do not alter the safety device;
- do not put any objects on the machine;
- do not introduce any different things into the bowl from the ingredients to be mixed;
- Inspection periodically and keep all machine parts efficient, particularly the safety device.

The spiral working area is protected by a stainless steel protection grid equipped with an opening suitable for a manual inspection of the dough.
The protection is hinged at the machine structure and is equipped with an electrical safety interlock stopping the mixer while being lifted.
The closing of the protection does not cause the automatic starting of the machine.
All transmission gears are contained in the machine structure and are accessible through carters and panels fixed by means of screws.
The machine is arranged for grounding.
The power and control electric circuit is equipped with protection device against short circuits and overloading.
On the control panel there is a stop-emergency button stopping immediately the machine when being pushed.
The machine re-set, occurring by pulling the push-button cap, does not cause the automatic re-starting.

1.1.3 Placing of safety pictograms

Should the pictograms signs be damaged or illegible, kindly ask the Manufacturer for their replacement and re-place them as per scheme suggested.



1.1.4 Caution against the flour powder development

In order to contain the flour powders within the tolerable limits prescribed by the sanitary rule, the machine shall be started - after loading the ingredients - at first speed and after 120 seconds at least it can be changed over at second speed. Do not start the machine, if the bowl contains flour only.

1.2 Risk analysis

An assessment of the risks which may occur during use and maintenance has been made for the machine described in this manual. All necessary interventions for the machine have been carried out in order to make the machine reliable and up to the safety rules in compliance with the applicable regulations. The remaining risks have been mentioned in this manual and shown on the machine through the pictograms concerned.

2.0 PREAMBLE

The present material forms an integral part of the product, it shall be kept near the machine for an easy and prompt consulting; it is also to be preserved in the future until the final elimination of the machine. The Manufacturer does not answer for the legal-technical reliability of the installation room and the machine bearing means, even if all instructions for a correct machine installation are given in the section concerned of this manual. With regard to this aspect, the user is kindly requested to ask for the consultation of a professional and skilled technician even for the observance of any eventual laws or local regulations.

2.1 Machine identification data

The machine is regularly equipped with a manufacturer rating plate showing the CE mark as per the facsimile mentioned here below .
The rating plates and the safety pictograms placing is shown in par. 1.1.3.

3.0 INTRODUCTION

The text of this manual is divided into subjects. In order to make the comprehension easier, we point out - herewith - the principle assumed for the classification of the different parts making up this manual on the basis of the progressive numeration used.

Section **1.0**
Chapter 1.1
Paragraph 1.1.1

USE AND MAINTENANCE MANUAL MIXERS FOR
ASM/E 60 – 300 MODELS

4.0 MACHINES PROFILE

In the fixed bowl spiral mixer with reversible bowl rotation, the products to be mixed are put into a rotating bowl, supported by a wheel-trolley, in which there is a tool called spiral, fixed on the main structure and rotating on its own axis. The bowl and the spiral have two speeds of rotation indicated in the technical data table. The low speed (first speed) is used for mixing the ingredients uniformly and the fast speed (second speed) allows the dough refining.

The central column, which is fixed on the main structure and placed in the bowl, is used for conveying the ingredients towards the spiral and allowing the mixing of small quantities as well.

4.1 Destination of use

The mixer is exclusively used for flour, water, salt, sugar, fat, oil and similar ingredients dough according to the parameters shown in this manual.

This mixer shall be destined for the use only, for which it has been expressly conceived. Any further use is to be considered improper and unreasonable.

The manufacturer is not to be considered responsible for any eventual damage caused by an improper, wrong and unreasonable use, as for ex.:

- improper use by non-trained personnel;
- non-authorized changes or interventions;
- use of non-original or not model-specific spare parts;
- non-observance of the instructions.

4.2 Limits of use

There are no particular limitations of the machine in its destination of use.
The only one caution is the achievable dough hardness, which is expressed in the limit of 55% liter of water on the weight quantified in kilograms of the flour to be worked into dough. The maximum flour capacity is shown in the technical data table.

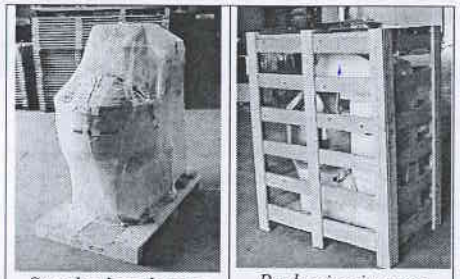
The mixer is to be used by an over 14 years aged skilled and professionally qualified person only.

5.0 INSTRUCTIONS FOR TRANSPORT

The machine is to be handled with the greatest care for transport. The parameters shown on the packaging are strictly to be taken into consideration.
Do not sling the machine through metallic bands.
Avoid any machine collision during handling as this could damage the machine and compromise its correct operating.
Read the par. no. 5.1 and 5.2 referred to the packaging and the handling of a machine placed on a pallet carefully.

5.1 Packaging

The machine is normally packed after placing it on a pallet and fixing it properly on the same by means of bolts.Afterwards the machine is wrapped up by using a thermoretractile material of highly mechanical resistance. The thermoretractile material is fixed on the machine ground, i.e. on the pallet wood through wooden strips fixed on by rivets. The following hot-treatment keeps the wrapping up adherent and safe and protects against any possible external agents during handling and storage.



Standard packaging | *Packaging in cage*

On request the machine can be packed in a wooden cage or in a wooden case

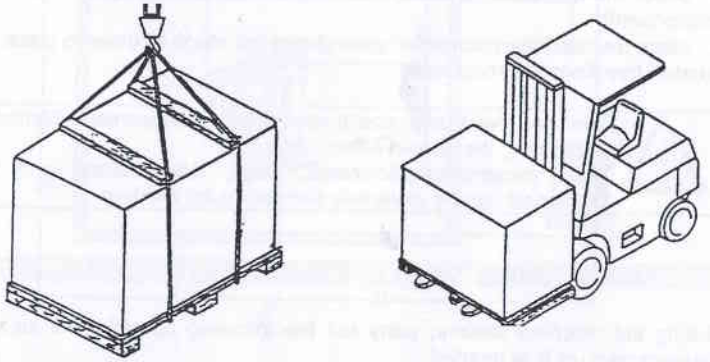
5.2 Handling , loading and unloading

The packed machine loading and unloading from the mean of transport shall be carried out by :

- a crane
- a service-lift

The transport is to be carried out carefully taking all necessary precautions in order to avoid any damage to the machine. Consequently the machine has not to be placed upon other materials and no other materials can be placed upon

the machine. This is valid either for transport and storage. During the transport the machine has not to be placed in condition to suffer any possible collision caused by other goods carried. The machine is to be fixed firmly in order to avoid any possible falls which shall cause a damage to the machine same and eventually to people in its vicinity. Before unloading the machine from the mean of transport, the package is needed to be checked in order to verify its integrity and that it does not represent a danger of turning over. A careful caution is recommended in placing the machine on the floor while unloading, in order to avoid any dangerous impacts which could damage it. Handling is always to be carried out according to the directions mentioned on the packaging and the weight expressed in kilograms on the same.



5.3 Weight and measure table

Model	Weight in Kg	Dimensions
ASM60	300	635x1040x1300
ASM80	390	745X1180X1330
ASM100	395	745x1180x1330
ASM130	460	845x1260x1390
ASM160	650	945x1450x1460
ASM200	660	945x1450x1460
ASM250	855	1045x1630x1520
ASM300	880	1145x1730x1520

5.4 Unpacking

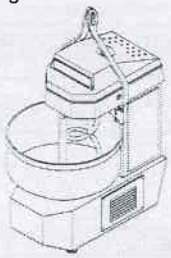
After unpacking the machine, make sure of its integrity and do not use the machine in case of evident non-conformities.
Even if there are no particular restrictive conditions for unpacking, the following directions are recommended :

- do not carry out any lifting-handling if the means are not perfectly being maintained and not in a position to support the weight declared ;
- do not let the machine pass and/or do not stop it over people or things during handling while lifting ;
- check the directions for use mentioned on the packaging and follow them consequently ;
- place the machine upon a flat ground and not rough in order to place it on a support free from any roughness.

⚠	Do not leave any packaging material unguarded. Eliminate it according the laws in effect. Any packing plastic-sheets, bags, rivets, wood and other materials can be extremely dangerous for children.

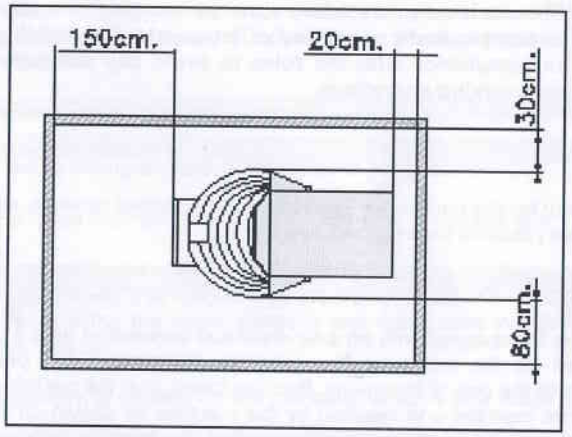
5.5 Internal handling

During the machine lifetime, carry out the following operations if an internal displacement of it is needed .
Release the machine from any eventual fasteners to the ground. Move any eventual objects in the vicinity of the machine. Fasten the safety protection in order to avoid any unforeseeable movements of the same. Sling the machine as shown in the figure mentioned here below.
Lift the machine by means of a tackle or similar system equipped with sufficient power features for the operation to be carried out. Use lifting belts up to the rules and suitable for the product being moved. Move in avoiding to pass, with the loading, over people standing on the same machine way.



6.0 INSTALLATION

The machine is to be placed upon - while installing it - according to the instructions given herewith. These instructions represent the optimum conditions for a correct placing of the same in respecting the functional and safety measures for the operator.



6.1 General rules

The part number and the general date plate is situated on the right side of the machine.
The mixer is to be installed in a room in compliance with the rules in force.
The opening for the room aeration and a suitable lighting are very important as reminded herewith.
The floor is to be perfectly flat and leveled, cemented or paved and suitable for supporting loads according to the specified safety margins. It is necessary for the electric connection to be arranged as mentioned here below. This connection is to be carried out by skilled staff only in possession of all specific, technical and professional qualifications, having entered his name on the professional roll concerned and in a position to take the complete responsibility of it.

6.2 Optimum environmental conditions

No further particular environmental conditions are required in addition to the ones provided for in work and safety matters. A particular attention is however to be paid in observing the different rules issued by the local authorities.

The accidents may occur more frequently if the environment is narrow, badly ventilated of temperate. The lighting is to be in compliance with the rules to avoid any difficulties during the working operations.

6.2.1 Lighting

It is necessary for the environment lighting to be arranged correctly according to the local rules provided for work and safety.

6.3 Electrical connection

The machine is equipped with an only electrical connection with a connection cable placed on the back of the machine. Check that the plate voltage corresponds to the one of the mains. Besides check that the available electrical power is more than the one required by the machine as shown on the part no. plate.The connection to the principal mains of the room is to be carried out through a manual control sectioning voltage device in order to allow the separation of the electrical equipment from the supply mains, when needed. (For ex. during the cleaning and maintenance process). Such a device must be able to transmit the plate rated current and the connection cables of the principal mains and of external protection (protection equi-potential circuit) are to be according to the suitable section. The principal mains is to be originally equipped with a differential switch and a grounding of the laboratory.

6.4 First start

Before switching on :

- make sure that the connection has been carried out following the instructions;
- check that no packaging waste or other materials are contained in the bowl .

Switch the machine on and check the bowl and spiral rotation direction which is to be counterclockwise as shown by the arrow located on the dough screen cap.

If the bowl and the spiral turn counterclockwise, invert the position of the two phase wires on the supply plug.

Any even slight interventions on the electrical system require the activity of professionally qualified personnel.

Check the mixer stability on the floor and let it operate at second speed. Should the machine totter during its operating, try to make perfect its ground support on the floor.

6.5 Final test

Carry out a test involving all push-button control panel device.

Check the electrical interlock device operating of the protection grid.

Carry out a complete opening and closing cycle of the machine and check, when the mixer is open, that the starter push-button is not activated.
Train the user in using the mixer correctly and make sure that he knows the content of this manual.

No other adjustment is needed for the machine, which is now ready for use.

7.0 STRUCTURE OF THE MACHINE

The machine has been designed and developed for food ingredients kneading. Very strict rules have been applied for choosing the component materials.All parts in contact with the ingredients are made of special steel or enameled with suitable products.

All main components along with their manufacturing features are shown on the following pages, while some typical product data are mentioned here below.
The flour screen and the contrast column are made of AISI 304 stainless steel and compatible with the ingredients kneading. They are firmly fixed on the mixer head.

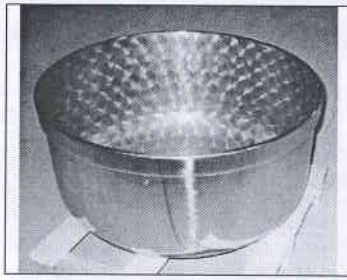
The protection grid is made of AISI 304 stainless steel and is compatible with the ingredients kneading.
It is hinged at the mixer head and protects the spiral working area. It is equipped with a safety electrical interlock device stopping the machine when being lifted.
The electrical equipment is composed of the power electric panel placed in a suitable container and obtained from the column of the main structure and the control panel.

7.1 Main components

The machine is composed of the following main components:

Bowl;
Spiral;
Commands;
Machine body;
Transmission;
Contrast column;
Flour screen;

7.1.1 Bowl

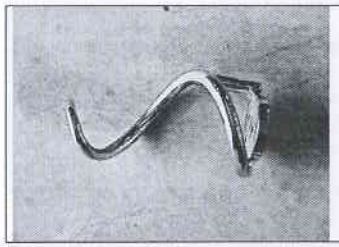


Bowl made of AISI 304 stainless steel and compatible with ingredients kneading. It receives the motion from a two speed geared motor.

7.1.2 Machine body

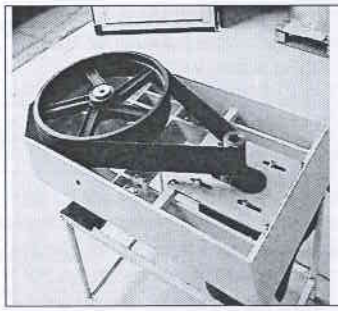
The main structure is made of a suitable thickness RAL 9002 white painted sheet steel .
It is equipped with openings closed by carters which can be inspectionned through a screws removal in order to allow any maintenance and control operation. In the structure there are all motion transmission gears.

7.1.3 Spiral



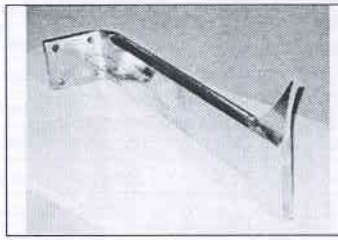
Spiral made of AISI 431 stainless steel and compatible with the ingredients kneading. It receives the motion through belt pulleys and driving belts from a two speed geared motor.

7.1.4 Transmission



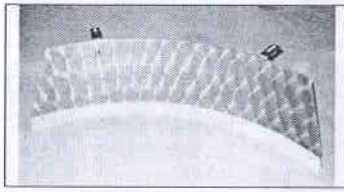
The transmission gear system is fully contained in the machine body and is composed of highly reliable components. The driving belts are made of material provided for by the safety rules and are duly marked.

7.1.5 Contrast column



The contrast column is made of AISI 304 stainless steel and compatible with the ingredients kneading. This column is firmly fixed on the mixer head.

7.1.6 Flour screen



Even the flour screen as the contrast column is made of AISI 304 stainless steel and compatible with the ingredients kneading. This device is firmly fixed on the machine head.

7.1.7 Control panel typology

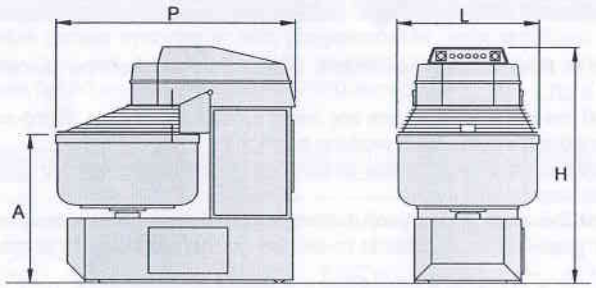
The control panels shall be of different typology depending on the machine structure.
Actually the control panels shall be manufactured in two versions: i.e. automatic with programming through timers and through programmable logic. In chapter 11.0 the different panels for the man/machine interface are well specified.

8.0 SAFETY DEVICE

The spiral working area is protected by a stainless steel grid equipped with an opening for the manual inspection of the dough. The grid is hinged at the structure and is equipped with a safety electrical interlock stopping the mixer when being lifted. The grid closing does not imply the automatic re-starting of the machine.
All transmission gears are contained in the machine structure and are accessible through carters and panels fastened with screws.
The danger of crushing between the mixer base and the bowl-holder trolley is avoided from a fixed protection grid and an in-kept-action command.
The power and control electric circuit is equipped with own protection device against short circuits and overloading . On the control panel there is an activated stop-emergency push-button stopping the machine immediately, when being pushed. The re-set, being done by pulling the push-button cap, does not imply the automatic re-starting.

USE AND MAINTENANCE MANUAL MIXERS FOR ASM/E 60 – 300 MODELS

9.0 TECHNICAL DATA



MODEL	ASM 60	ASM 80	ASM 100	ASM 130	ASM 160	ASM 200	ASM 250	ASM 300
A (mm)	810	810	860	870	860	900	930	950
P (mm)	1040	1180	1180	1260	1450	1450	1625	1730
L (mm)	635	745	745	845	935	945	1045	1145
H (mm)	1300	1330	1330	1390	1460	1460	1520	1520
Total bowl volume (LT);	100	135	155	205	260	285	380	470
Total weight (kg);	300	390	395	460	650	660	855	880
Max. dough capacity (Kg)	60	80	100	130	160	200	250	300
Spiral speed (rpm);	90/180	90/180	90/180	90/180	90/180	90/180	90/180	90/180
Bowl speed (rpm);	9/18	9/18	9/18	9/18	9/18	9/18	9/18	9/18
Installed power (KW);	3.1	5.3	5.3	6.3	7.4	7.4	12.1	12.1
Supply voltage (V);	400	400	400	400	400	400	400	400
Frequency (Hz);	50	50	50	50	50	50	50	50
Phases (pH);	3 + T	3 + T	3 + T	3 + T	3 + T	3 + T	3 + T	3 + T
Auxiliary voltage (V);	24	24	24	24	24	24	24	24
Db aerial noise(A);	<70	<70	<70	<70	<70	<70	<70	<70
Flour capacity Kg.	3/38	5/50	5/62	6/80	6/100	6/125	9/150	12/185

10.0 DIRECTIONS FOR USE

10.1 General notice

At the end of the kneading operations, do not go away from he machine without switching it off.
Check that the protection covers are really closed so that the micro-switches do not prevent the machine from working correctly.
Do not use the protection covers to stop the machine. For such a function, use the special stop push-button.
Check that the emergency push-button is not closed; in this case operate on the same push-button in order to re-set the normal working of the machine.

10.1.1 Power supply interruption

In the event of a power supply interruption, the machines equipped with automatic control panels (timers) will be stopped and after the power supply returning, all functions are to be re-set again and will re-start again from the beginning of the cycle with the same previous setting-data.

10.1.2 Restart after the emergency stop

After the emergency stop, the safety rule provides for that two re-adjustment operations are needed for bringing back into use the machine functions.
The first adjustment operation consists in a mechanical activation of the emergency push-button (through rotation or call) and the second one through a restarting of the functions after resetting.

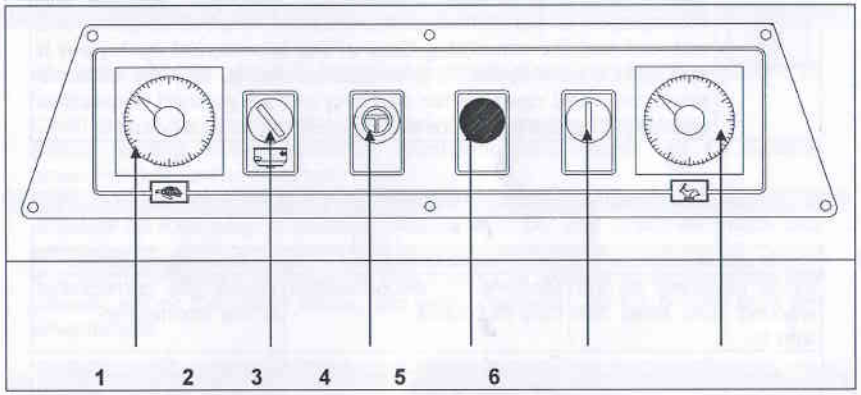
10.2 Machine loading

Put the recipe ingredients into the bowl as per max. total quantity of the dough capacity as shown in the technical data table.

11.0 CONTROL PANELS

According to customer's requirements the machines shall be supplied with timers control panels systems or with programmable logic modules. Owing to these differences we mention herewith the physical typologies of the timer control panel for 60 models and for 80 – 300 versions.

11.1.1 Automatic timer control panels



1	First speed timer;
2	First speed running rotation reversal selector;
3	Bowl rotation push-button;
4	Emergency push-button;
5	Mains connection signal-light + Run push-button;
6	Second speed timer;

12.0 ADJUSTMENTS

No adjustments are expected for a correct machine operating. However the timers are to be duly and opportunely adjusted for those machines being equipped with these control systems.

12.1 Control panels adjustment

The working time for a middle-type dough is 4-5 minutes at first speed and 3-4 minutes at second speed. For low water percentage dough (45-50%) it is better to work at first speed only for about 12-15 minutes.

12.2 Automatic control panel operating (timers)

Set up the dough times at first and second speed on timers, switch on the general switch, lower the protection, re-set the mushroom-emergency-stop-button and push the run-button. The mixer will provide automatically for shifting to second speed after setting up the time on the first speed timer and then, at the end of the time being set up on second speed timer, for stopping the machine.

The intervention of the stop-emergency button or the lifting of the protection grid, while the mixer is working, will set the timers back to the initial set-up times. A new run impulse will not run out the remaining time of the interrupted cycle, but it will start a new cycle. It is recommended to use the suitable protection grid opening for carrying out the manual inspection operations of the dough or the ingredients to be added .

13.0 INCONVENIENCES - CAUSES – SOLUTIONS

Inconveniences	Possible causes	Corrective action
While switching on the working light does not turn on	Machine disconnection from the mains	Check the correctness of the connection
	General isolating switch disconnected	Re-set the correct power supply connection
	Light bulb burnt out	Ask for a spare part to the servicing and change it after switching the machine off previously
Run button non activated	General switch non connected	Connect the general switch
	Accident prevention protection grid open	Lower the protection gri
	Stop-emergency button connected	Disconnect the button
	Overload of ingredients while working	Load the machine correctly

Any further non-working or non-correct working situations are beyond the competence of the user and require the intervention of professionally skilled and qualified personnel.

14.0 ROUTINE MAINTENANCE

Before carrying out any maintenance or cleaning intervention, take the plug preventively away from the socket. It is strictly forbidden to carry out any operation while the machine is in motion. At the end of the intervention, check that the carters concerned and the eventual removed panels are installed again at their place.

14.1 Machine washing

Wash the machine carefully before any expected and long inactivity periods of time.
Clean always the machine after terminating the working operations.
Before starting these operations, mentioned here below, put on suitable protection and sanitary clothes.
Take the greatest care in using detergent substances. Use neutral soap or products for food only. A polluting product shall be dangerous for health and environment.
It is strictly forbidden to discharge any product or working waste materials into sewers, among the urban waste, into water courses, on the ground or in the environment.

14.2 Maintenance and cleaning interventions frequency

- For a good working of the machine, in safety conditions, it is needed to replace the defective parts, in particular the safety device at the first non-conformity signs and to carry out any maintenance and cleaning operations according to regular intervals as mentioned here below :

Daily	bowl, spiral and contrast column cleaning by using special products for metallic surface;
Weekly	External general cleaning of the machine by using a water sodden cloth and normal detergents.
Every two months	Check the belts strength of the spiral motion; the first inspection is to be carried out after about 10 working hours. Check the wheel bearing of the bowl motion. Check and adjust the bowl thrust bearing rollers. Check the good condition of the power supply cable. Check the normal working of the electrical interlock safety device of the accident prevention protection grid. Control the oil level in the oleodynamic device tank and inspection the origin of any eventual losses.

ATTENTION

PART RESERVED TO SKILLED AND QUALIFIED STAFF ONLY

18.0 TECHNICAL SERVICING

Inconvenience	Possible cause	Corrective action
Run button non activated	Electrical connection not carried out	Carry out the electrical connection
	Electrical interlock device of the protection grid damaged	Replace the interlock device
	Short circuit and fuses damaged	Find and eliminate the cause of the damage and replace the fuses
Inverse spiral rotation.	Power supply plug connection not in phase	Invert the position of the two phase wires on the plug
Spiral irregular rotation	Belts of spiral motion loose or worn out	Stretch the belt and, if necessary, replace them
Noise from bowl thrust bearing rollers.	Excessive roller worn out and damage of bearings	Replace rollers or bearings