



**PLANETARY MIXER LT. 150-200-250-300  
with ELECTRONIC SPEED VARIATOR**

**MODEL “PL 150”**

**MODEL “PL 200”**

**MODEL “PL 250”**

**MODEL “PL 300”**



*READ THIS HANDBOOK CAREFULLY, TO OBTAIN THE BEST PERFORMANCE FROM YOUR MACHINE*

**INSTRUCTIONS AND SPARE PARTS**

The firm reserves the right to make changes without previous notice.

**PLANETARY MIXER LT.150/200/250/300  
WITH SPEED VARIATOR**

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## 1ST CHAPTER

### MACHINE MARKING

#### 1.1

Each machine has got a small plate with its main datas.

The plates gives the following information:

- EC Marking

- Furthermore, it shows the following datas, which feature each model:

1) Machine model



2) Machine number

3) Voltage (Volt)

4) Feed frequency (HZ)

5) Absorbed power (kW)

6) Absorbed power of bowl-motoreductor (kw)

	
THIENE - VICENZA TEL. +39.0445.366342	
	MADE IN ITALY
MODELLO MODEL :	<input type="text"/>
N° DI SERIE SERIAL No :	<input type="text"/>
ANNO YEAR :	<input type="text"/>
VOLT - Hz :	<input type="text"/> <input type="text"/>
AMPERE :	<input type="text"/>
KW :	<input type="text"/>
Kg :	<input type="text"/>

## 2ND CHAPTER

### GENERAL INFORMATION

THE INSTRUCTIONS WORKBOOK MUST BE CONSIDERED AS AN INTEGRAL PART OF THE MACHINE AND IT MUST BE KEPT FOR FURTHER REFERENCES FOR THE WHOLE LIFE OF THE MACHINE.

#### 2.1

Before carrying out any operation with the machine, please read this workbook carefully, specially the chapter dealing with safety standards.

#### 2.2

The workbook must be preserved so that it can always be consulted and so that it is not damaged (in a place protected against outer agents, against humidity, dust, sun beams etc....).

#### 2.3

The manufacturer has got the right to bring both the production and the workbooks up to date, without being obliged to bring even the previous production and workbooks up to date.

#### 2.4

**The manufacturer considers himself/herself as free from any responsibility coming from:**

- an incorrect, wrong or unreasonable use of the machine
- a use against the national standards in force
- an incorrect installation of the machine
- feed defects
- lacks in the foreseen maintenance
- modifications or non-authorized interventions
- use of spare parts and products which are not original or specific for the machine
- non-compliance with the instructions

#### 2.5

At the arrival of the machine, remove the packaging, then make sure that it is undamaged.

In case of doubt, address yourselves to skilled technicians.

## 3RD CHAPTER

### FORESEEN USE OF THE MACHINE

#### 3.1 GENERAL DESCRIPTION

The machine is reserved for being used by a staff qualified to produce and knead flour and dough, specially by people working in pastry and bakery workshops.

The machine is a crown-wheel like kneading machine, that is, it is used to knead and mix any kind of dough for pastry (various kinds of creams, pastry for confectionery etc).

The mixture is obtained by the interchangeable current tools of the machine which operate in a crown-wheel like manner, have different shapes and, therefore, can be used in different ways.

#### 3.2 MACHINE CAPACITY

The motor with the toothed gearing with mechanical reduction gear allow the machine to reach the highest capacity, and to work even when the basin is full, to carry out mixtures.

If, on the contrary, some dough for bread, pizza or similar should be prepared, **one must never exceed 1/3 (one third) of the basin capacity.**

#### 3.3 INCORRECT USE OF THE MACHINE

The machine has been designed only for the use described in the paragraphs 3.1 and 3.2.

Any other use can cause damages to the machine and/or can bring to dangerous situations for which the manufacturer cannot be considered responsible.

In particular, it is not allowed to employ other kinds of materials (food or not), which have not the above described requirements.

## 4TH CHAPTER

### TECHNICAL DATA

#### 4.1 OVERALL DIMENSIONS

The overall dimensions are shown in the figure nr. 4.1.

#### 4.2 TECHICAL FEATURES

- Steelwork with a casting base
- Gearbox with mechanical reduction gear in oil
- Basin, protection, tool shaft, coupling for tools fixing, thin wire whip, thick wire whip, spatula spiral tool of stainless steel.
- 3 speeds motor pre-imposed from the factory + speed variator
- 4 electronic timers
- The machine is equipped with an automatic lifting device for the basin holding fork through a 0.757 KW motoreductor

#### 4.3 FEATURES OF THE ELECTRICAL MOTOR

Three-phase Asynchronous Motor.

Technical data:

- Power ..... 3 till 11 kW
- Speed ..... 1400 rev./min.
- Frequency ..... 50 Hertz
- Voltage ..... 400
- Three-phase
- Four poles
- Protection IP 44

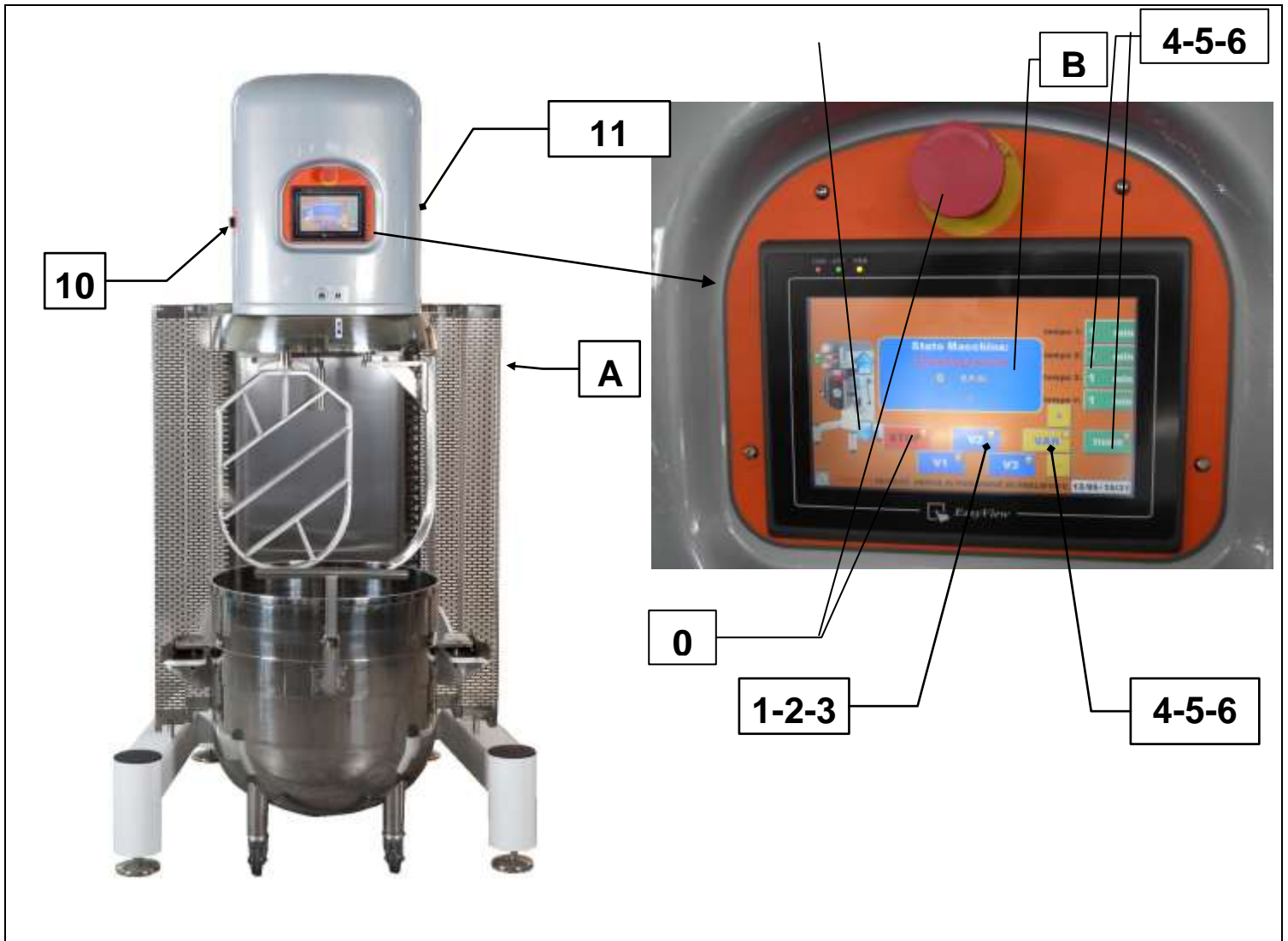
#### 4.4 FEATURES OF THE ELECTRICAL SYSTEM

The electrical system has been built according to the regulations in force and particularly according to the safety standard EN 60204-1 concerning the electrical equipment on machineries.

- Earthing system
- Protection device against overcurrent:
  - thermal cutout
  - fuses to protect the primary and the secondary of the transformer

## MACHINE COMMANDS

0	STOP – RED	Stop of machine
1	1 – BLUE	Push-button 1° speed
2	2 – BLUE	Push-button 2° speed
3	3 – BLUE	Push-button 3° speed
4	VAR – YELLOW	Variator mode
5	▲ - YELLOW	Increases variable speed
6	▼ - YELLOW	Decreases variable speed
7	TIMER – GREEN	Timers
8	+ GREEN	Increase the time
9	– GREEN	Decrease the time
10	BLACK BUTTON	Lift or low the bowl
11	BLACK ARROW UP	Lift the bowl
11	BLACK ARROW DOWN	Low the bowl



**Figure 4.1**

## 4.5 DESCRIPTION OF THE PROTECTIONS AND OF THE SAFETY SYSTEM

The dangerous working elements of this machine are the interchangeable tool with which it is equipped, that is: 1 thick wire whip + 1 thin wire whip + 1 paddle + 1 spiral .

The access to such elements is prevented by a partially movable protection.

The protection is completely made of stainless steel and its size complies with the PREN 953 - MPL S ED EN 294 standards.

When lifting the protection, a limit switch acts to switch the machine off according to the directions of the EN 60204-1 and EN 60947-5-1 standards.

In any case, it is strictly forbidden to remove, to change or to damage the protections of the machine in any way.

## 4.6 CONTROLS OF THE MACHINE

**WARNING:** Before connecting the machine, be sure that the plate information corresponds to the electrical power source information.

If “triple phase error” appears on the display when the machine is first turned on, disconnect the machine and swap the two line wires inside the machine’s triple-phase plug.

Installation should be carried out by qualified technicians, respecting the current regulations and according to the manufacturer’s instructions.

Faulty installation can cause damage to people, animal and things for which the manufacturer cannot be held responsible.

This electrical machine should only be used for the function for which it was made. The manufacturer cannot be held responsible for possible damages caused by inappropriate use, irregular use or misuse.

The figure 4.1 shows the specification of the machine controls with the following meaning:

Switch POS.A .....	this switch turns the power on or off
Display POS.B .....	digital display shows the revolutions number of the cam which lets the tool rotate
Red push-button POS.0 .....	emergency button to stop the machine
Blue push-button POS.1-2-3... ..	push-button to let the machine works at the 1°-2°-3° speed
Yellow push-button POS.4 .....	this button enters to use speed variator
Yellow push-button POS.5-6 .....	these buttons increase-decrease r.p.m. of machine
Green Timer POS.7 .....	electronic timer which allows to regulate the working time of the machine from 1 to 99 minutes with automatic switching off at the end of the work. (for programming see follow pages)
Green Push-button POS.8-9 .....	these buttons increase-decrease time of work machine
Blue Push-buttons POS.10-11.....	these buttons move up and down the bowl trolley (always together with black button )



#### **4.6.1 EMERGENCY STOP**

The machine is equipped with an emergency stop with a mushroom-like, red push-button which allows to stop the machine at any time, by the opening of the electric circuit.

The emergency stop has been made according to the instructions of the guideline nr. 89/392/EC and of the standards EN 418 and EN 60204-1.

When one applies the emergency stop, it remains in a locked position. The machine can start again, only when the push-button returns to its previous position (anyhow, the machine does not start, until the starting button is pressed again).

#### **4.7 NOISE EMISSION OF MACHINE**

Thanks to manufacturing techniques, such as the use of gear with grease, the noise emission could be limited under 70 dB.

## 5TH CHAPTER

### TRANSPORT, POSITIONING

#### AND CONNECTION TO THE ELECTRIC NETWORK

##### 5.1 TRANSPORT

The weight of PL150 is of 1000 Kg.

The weight of PL200 is of 1100 Kg.

The weight of PL250 is of 1220 Kg.

The weight of PL300 is of 1320 Kg.

Thanks to its particular shape, the transport of the machine is comparative easy. In any case, it is better not to stress the main elements, such as the inox guard, the bowl and the control TOUCH SCREEN.

##### 5.2 POSITIONING

A WRONG INSTALLATION OF THE MACHINE CAN CAUSE DAMAGES TO PEOPLE, ANIMALS OR THINGS, FOR WHICH THE MANUFACTURER CANNOT BE CONSIDERED RESPONSIBLE.

After having removed the packaging, make sure that the machine is undamaged. In case of doubt, address yourselves only to skilled technicians.

After having chosen the place where the machine is to be positioned, make sure that the floor base is perfectly intact and even, in order to avoid any possible oscillation of the machine during the working cycle.

##### 5.3 CONNECTION TO THE ELECTRIC NETWORK

THE TENSION (VOLT) AND POWER (KW) OF YOUR ELECTRIC NETWORK MUST FIT TO THE DATA SHOWN ON THE SMALL PLATE OF THE MACHINE (SUMMARIZED IN THE 1ST CHAPTER).

Connect the plug with a magneto-thermal differential switch or with a switch provided with protection fuses suitable to the machine features.

The socket must be placed near the machine and must be easy to reach.

If other machines are connected to the same socket, make sure that the amperage capacity of the socket is not exceeded.

### 5.3.1 EARTHING

Verify the efficiency of the earthing in your electrical system. Connect the plug and the relative earthing cable according to the local electrical standards. Never connect the earthing cable to gas or water pipelines, or to tele-phone cables.

### 5.3.2 PRECAUTIONS

ANY OPERATION, IN WHICH LIVE LINES OR ELECTRICAL ELEMENTS SHOULD BE REACHED, MUST BE CARRIED OUT ONLY BY SKILLED TECHNICIANS AND, IN ANY CASE, THE FOLLOWING PROCEDURE MUST BE FOLLOWED:

- 1) TURN THE MACHINE OFF
- 2) TURN OFF THE POWER BY THE MAIN SWITCH  
(SEE CHAPTER ON MACHINE RUNNING)
- 3) REMOVE THE PLUG FROM THE SOCKET
- 4) MAKE THE NECESSARY OPERATIONS
- 5) CONNECT AGAIN THE PLUG WITH THE SOCKET

## 6TH CHAPTER

### EQUIPMENT

The following equipment is delivered with the machine:

- Nr.01 Bowl on inox trolley with wheels
- Nr.01 Paddle-Spatula ON REQUEST
- Nr.01 Thin wire whip ON REQUEST
- Nr.01 Thick wire whip ON REQUEST
- Nr.01 Spiral tool ON REQUEST

After having unpacked the machine, you will find all these fittings in the basin.

- Nr.01 Use and maintenance workbook.

This workbook must not be lost or damaged. It must be possible to consult the workbook whenever necessary, so keep it near the machine.

**7TH CHAPTER**  
**USE AND WORKING**  
**OF THE PLANETARY MIXER**

**7.1 GENERAL INFORMATION**

Check the connection to the electric network so that it complies with the rules mentioned in paragraph 5.3.

**7.2 STARTING AND WORKING (see chapter 4.6)**

The machine mixes at three speeds with pre-set times and with another variable speed in which the operator has to do all of the operations manually.

It is necessary to use the following procedures:

- Insert the plug in the appropriate network plug.
- Start up: switch on the yellow-red switch (pos.A) on the right-hand side of the machine.
- Lift on the bowl using 2 push-buttons on two side of head : pos.10 and pos.11 . when machine is ready to start , display will write "ready"
- Make sure all of the protections are closed (no red LEDS are lit except for stop), press the speed button (1,2,3, VAR) and the machine will work at the desired speed.
- In VAR (variable) it is possible to increase or reduce the speed by pressing the yellow arrow buttons (5,6).
- To stop the machine, press emergency 'STOP' or stand red button "STOP" (pos.0)
- In pre-set speeds 1°-2°-3° you have 3 different fixed speeds: low, medium and high speed.
- To use the timer (with a manual start and the machine stops automatically at a pre-established time), set the desired times.
- The timer must be set by pressing green timer button N.7 while machine is stopped; then press 1° speed button (N.1) and you set minutes using buttons N.8,9 . In the same way set speed for 2,3 and VAR speeds. At this point you have to press the timer button n.7 again to complete the set-operation.
- The timer has an only cycle of use: you can set alls speeds ( 1 2 3 VAR) alls together, if you need
- If you don't set someone of these 4 type of speeds the machine skips to the follow speed ! This option is important because sometime the operator wants use only one or two speeds using timers.
- To activate the cycle timers, press 1° speed (N.1) and then press timer N.7. So the cycle will begin and will be displayed by a flashing yellow LED near the speed buttons. Display will indicate the time, the speed is working and revolutions per minutes.
- To stop the machine during the timer process, press 'stop' N.0. The timer will pause and if you want to restart the process: press timer another time or to stop press stop again.

### 7.3 DISENGAGEMENT

- When the work is finished, turn off the power bringing the switch 0-1 to the position 0.

### 7.4 NOTES

The machine starts only when the cover is well closed.

**ATTENTION:** To obtain a very thick dough, use the tool SPIRAL and fill the basin up to one third of its capacity and not more.

**ATTENTION:** The machine can be stopped at any time, pressing the red STOP button (Nr.0), lifting the protection or lowering the basin with white button n.11.

## 8TH CHAPTER

### MAINTENANCE

**IMPORTANT** : BEFORE ANY CLEANING OR MAINTENANCE OPERATION, OR BEFORE REACHING ANY LIVE PART OR ANY MOVING MECHANISM, TURN OFF THE POWER BY THE MAIN MAGNETO-THERMAL SWITCH AND DISENGAGE THE PLUG FROM THE SOCKET.

IN ALL THOSE OPERATIONS WHICH COULD BE DANGEROUS IN ANY WAY (ADJUSTMENTS, DISASSEMBLAGES, CHECKINGS ETC..), THE WORKER MUST BE ABLE TO CHECK THE ACTUAL SEPARATION OF THE PLUG FROM THE SOCKET AT ANY TIME.

IN ANY OPERATION WHICH IMPLIES THE DISASSEMBLAGE OF A FIXED OR MOBILE PROTECTION OF THE MACHINE, THE MACHINE MUST NEVER BE STARTED AGAIN, IF SOME PROTECTIONS HAVE NOT BEEN FIXED IN THE RIGHT WAY YET.

#### 8.1 WHEN THE MACHINE IS NEW

1) Before beginning the real production phase, it is recommended to test the machine with some product, in order to clean it from possible production residuals.

#### 8.2 DAILY OPERATIONS

The machine must be cleaned every day, specially in those areas in contact with the dough.

Never use abrasive, sharp or metal tools to clean the machine, and in any case, never use tools which could damage the surfaces in some way. For example, plastic paddles or clothes can be used.

NEVER use toxic products, solvents, irritating or abrasive products and in any case never use any product which could damage the surfaces or be polluting for the dough.

Be careful not to use any solvent on painted surfaces.

Before restarting the machine, make sure that nothing which has been used for cleaning is remained into the machine basin.

#### 8.3 SIX-MONTHLY OPERATIONS

Check the good condition of the toothed belt which is into the machine head. Act as follows:

- 1) Turn the machine power off by the general switch on the position 0.
- 2) Remove the plug from the socket.
- 3) Open the head cover unscrewing the fixing screws.
- 4) Check the condition of the toothed belt. Should it be worn out, let it be changed only by qualified technicians.
- 5) Now close the machine, applying the head cover through the special fixing screws.

## 9TH CHAPTER

### SAFETY STANDARDS

#### OTHER DANGERS

##### 9.1 STANDARDS TO COMPLY WITH

This machine must be intended for the use for which it has been expressly planned. The manufacturer cannot be considered responsible for possible damages to people, animals or things, caused by a wrong use of the machine itself.

After having removed the packaging, make sure that the machine is undamaged. **The packaging elements** (wooden crate, rivets, metal staples, bubble nylon) **are potentially dangerous** and therefore they must not be left where children can reach them.

**BEFORE CLEANING OR SERVICING THE MACHINE, DISCONNECT THE MAIN SWITCH AND DISENGAGE THE PLUG FROM THE FEED NETWORK.**

**NEVER DISASSEMBLE ANY SAFETY ELEMENT OF THE MACHINE.**

Never start the machine, if the fixed and/or mobile safety elements are disassembled.

The machine running can be interrupted at any time pressing the red STOP button.

The control TOUCH SCREEN has been given a low tension (24 volt), in order to avoid the dangers coming from high tensions as much as possible.

In case of failure and/or bad running of the machine:

- turn it off
- do not make any direct intervention; address yourselves only to a specialised servicing centre and use only original spare parts.

Carry out the electrical connection according to the instructions mentioned in the chapter about the connection to the electrical network.

**This handbook must always follow the machine.**



## 9.2 OTHER DANGERS

### 1) Interchangeable tools.

During all their working cycle inside the basin, the various interchangeable tools with which the machine is equipped (2 whips, 1 hook and 1 paddle) are wholly protected by a liftable front grid and by a rear grid, fixed to the machine frame.

### 2) Gearbox elements.

The gearbox elements, all potentially dangerous, are protected by fixed protection for which the instructions contained in this handbook are to be followed.

### 3) Electrical dangers.

The electrical system has been made according to the safety standards for installations in machineries.

In any case, the instructions contained in this handbook, as well as all the normal precautions to follow when using live equipment, are to be followed.

ANY OPERATION, IN WHICH LIVE PARTS AND ELECTRICAL ELEMENTS ARE TO BE REACHED, MUST BE CARRIED OUT ONLY BY A SKILLED STAFF AND, HOWEVER, THE FOLLOWING PROCEDURE IS TO BE OBSERVED:

- A) Turn off the machine.
- B) Turn off the power by the main switch (see chapter on running).
- C) Remove the plug from the socket.
- D) Carry out the necessary operations.
- E) Connect again the plug with the socket.

### 4) Dangers caused by toxic materials.

Since the materials in contact with food comply with the regulations in force on the matter, they must not be considered toxic.

## 10TH CHAPTER

### SPARE PARTS CATALOGUE

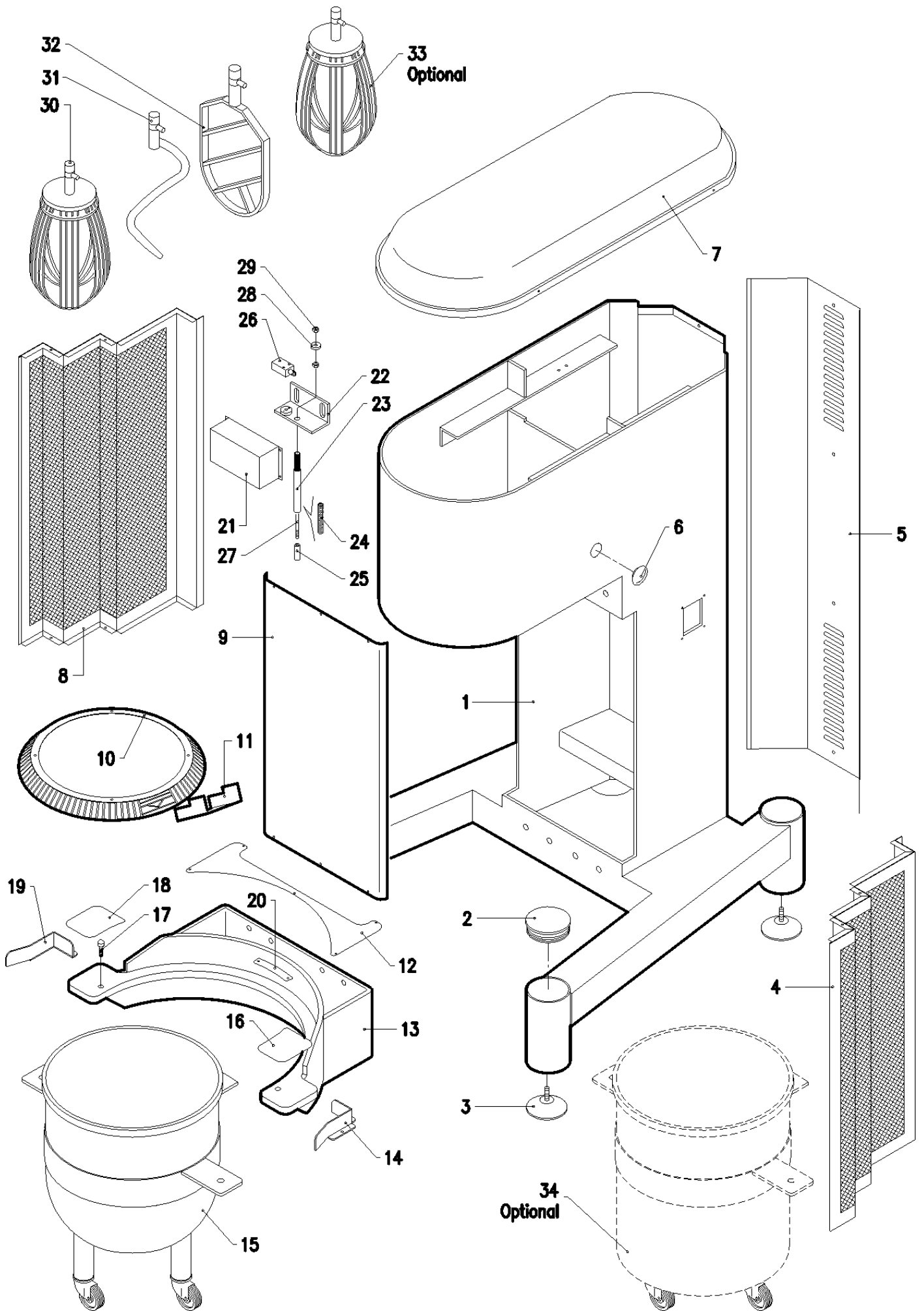
The catalogue is intended to help the users to order spare parts. The details have been represented with an exploded view which not only makes each piece easy recognizable, but also helps the user to assemble the pieces of the machine in the right way.

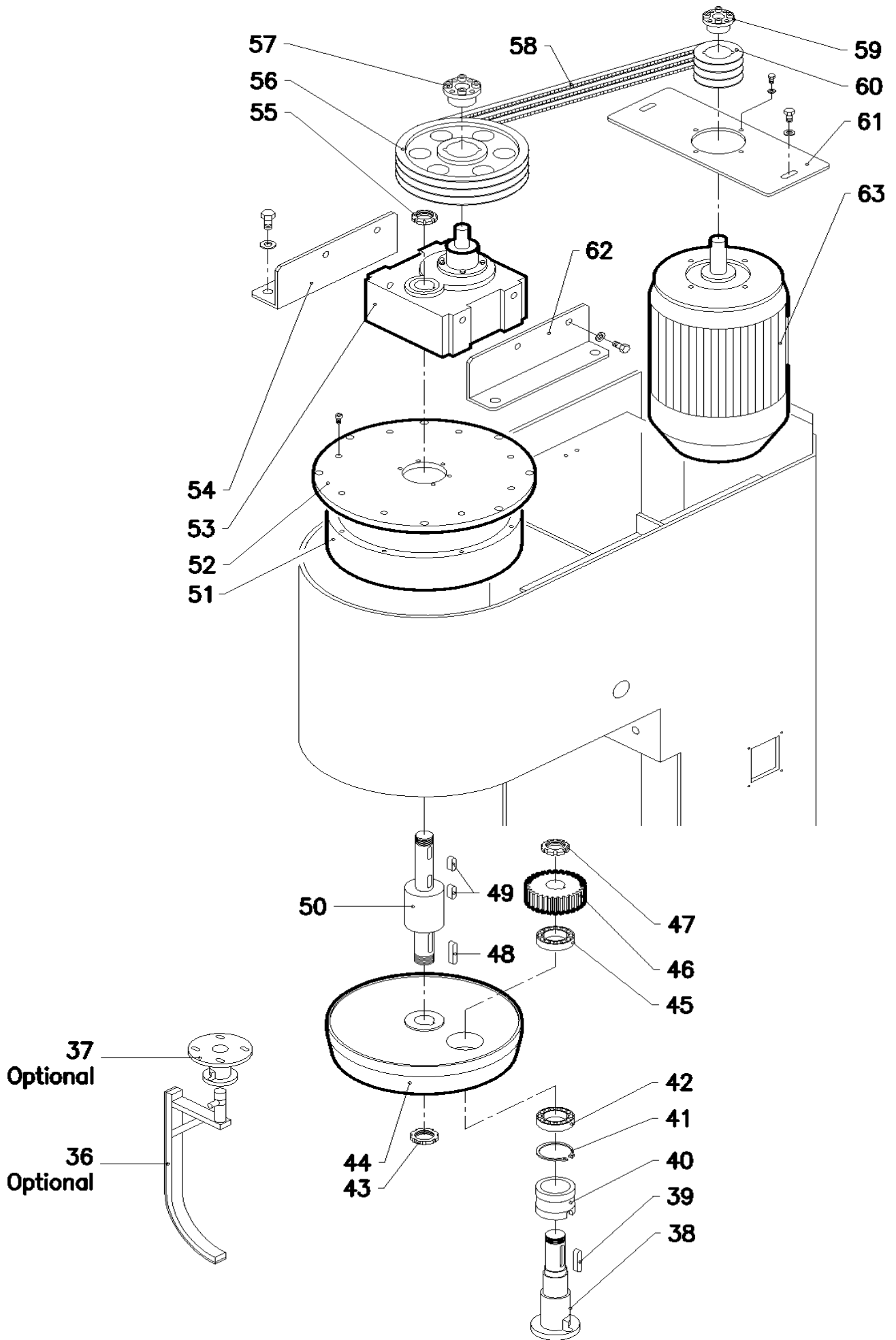
On the exploded view the machine details are marked by a number by which the article name can be univocally recognized.

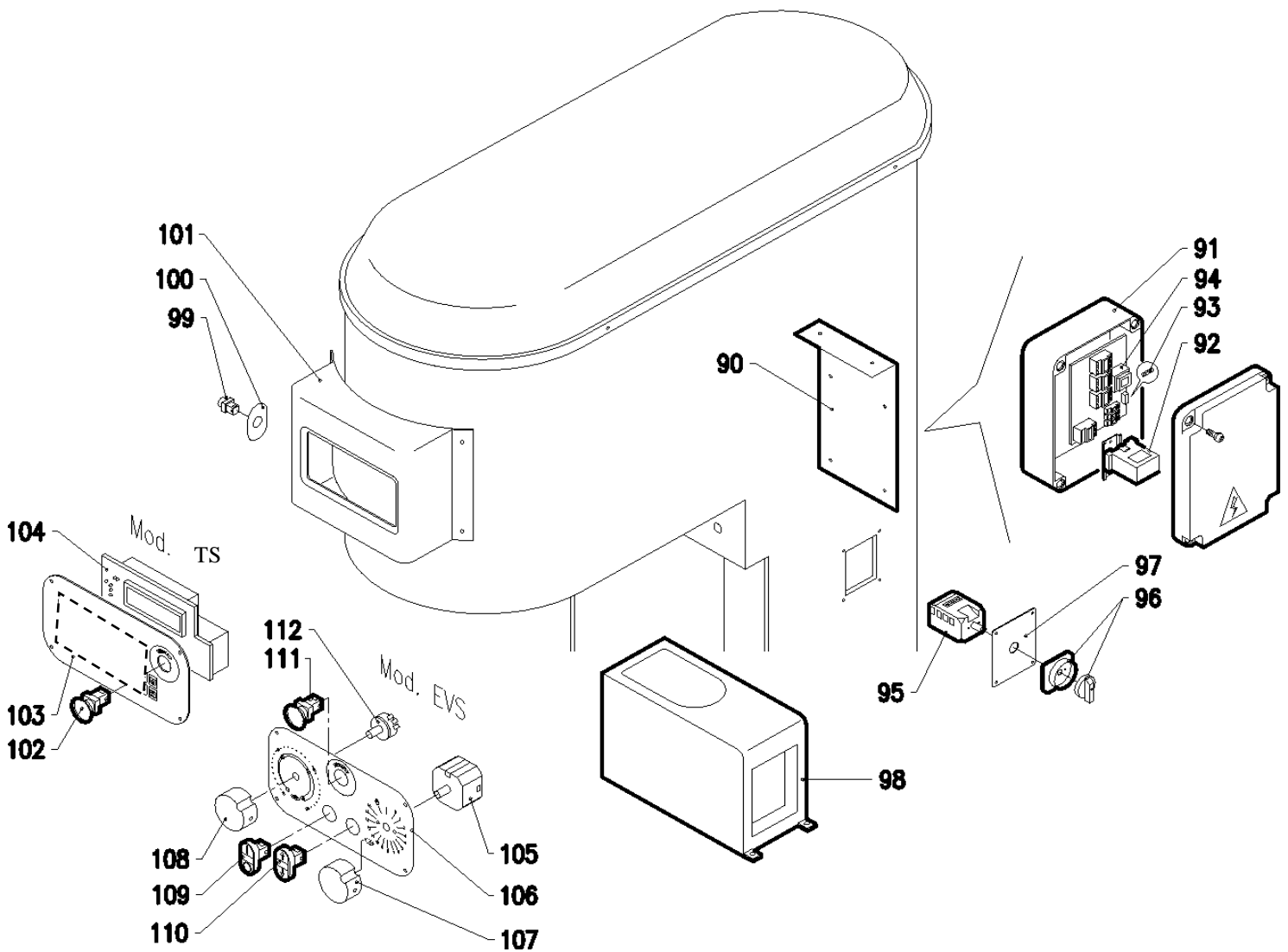
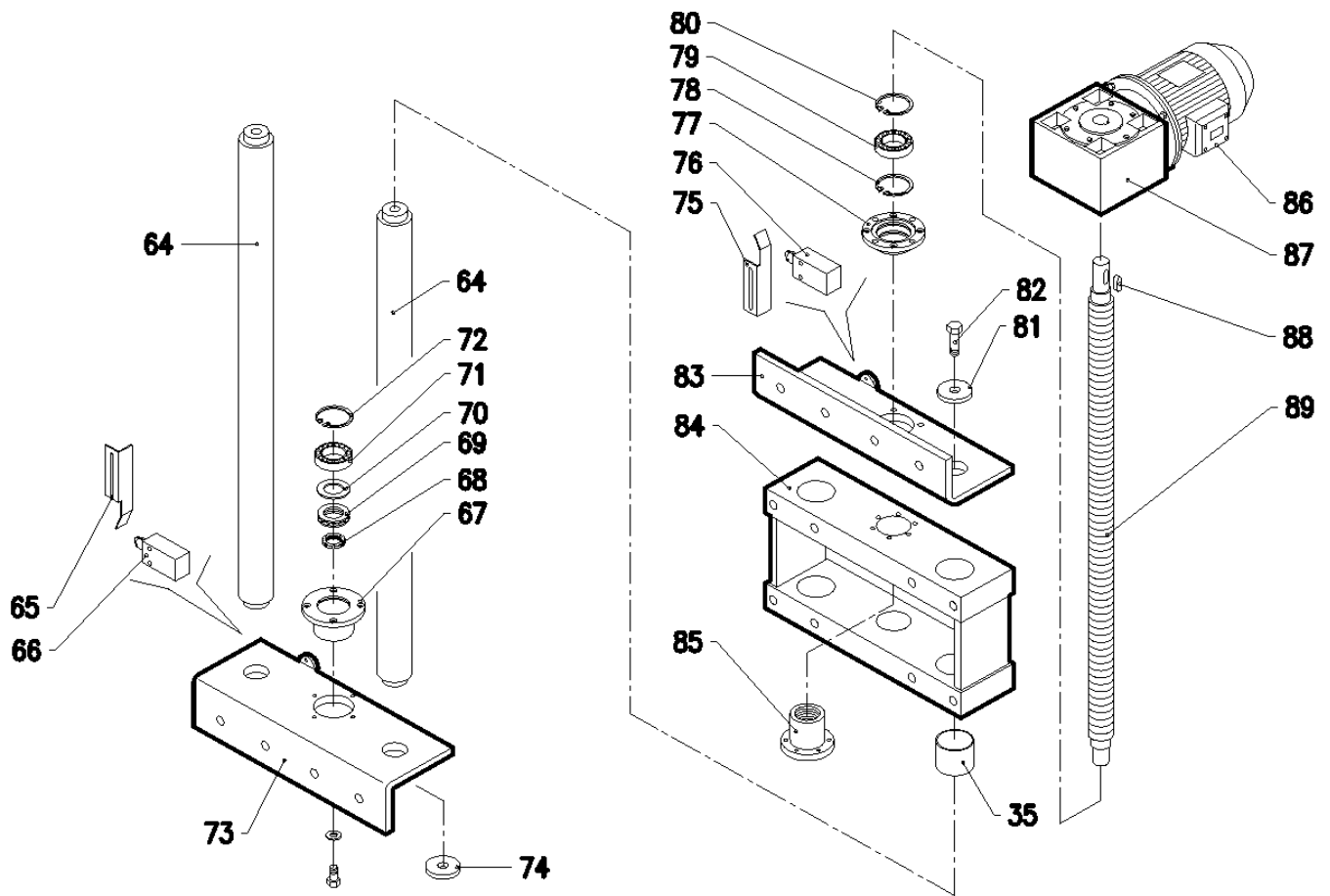
When placing an order the following data are to be indicated:

- A) TYPE OF THE MACHINE
- B) MACHINE NUMBER (SEE THE SMALL PLATE ON THE MACHINE)
- C) REFERENCE NUMBER AND NAME OF THE ARTICLE
- D) DEMANDED QUANTITY









## COMPONENTS LIST

NR.POS.	DESCRIPTION
1	CARPENTRY
2	COVER FOR BASE FOOT
3	NOT-VIBRATION FOOT
4	LATERAL SAFE GUARD
5	BACK COVER
6	STOPPER CLOSING LIFTING HOLES
7	HEAD COVER
8	LATERAL SAFE-GUARD
9	CLOSING FRONT COVER
10	SAFETY GUARD
11	EXTRA HOPPER FOR PRODUCTS
12	LIFT FORC TOP CARTER
13	LIFT FORC FOR BOWL
14	POSITIONING BOWL SUPPORT
15	BOWL
16	LATERAL COVERING FOR BOWL SUPPORT
17	FIXING BOWL SHAFT
18	LATERAL COVERING FOR BOWL SUPPORT
19	FIXING BOWL SHAFT
20	BACK COVERING FOR BOWL SUPPORT
21	CARTER x MICRO COVER
22	SUPPORT FOR MICROSWITCH
23	COMMAND SHAFT x MICROSWITCH
24	SPRING for MICRO.
25	STOPPER x MICROS.
26	BOWL MICROSWITCH
27	INSIDE SHAFT x MICROS.
28	RING x BOWL MICROSWITCH
29	BOLT X RING N°28
30	WHISK
31	SPIRAL TOOL
32	SPATULA – BEATER
33	TICH WIRE WHISK (OPTIONAL)
34	DOUBLE JACKET BOWL (OPTIONAL)
35	AUTOLUBRIF. SUPPORT
36	INOX SCRAPER (OPTIONAL)
37	MANDREL SHAFT x SCRAPER
38	MANDREL SHAFT x TOOLS
39	PIN
40	FIXING COLLAR x TOOL
41	SEEGER I90 x BEARING FIXING N°42
42	LOWER BEARING
43	METAL RING FOR CAM
44	CAM
45	TOP BEARING x CAM
46	CAM PINION
47	METAL RING FOR CAM PINION

## COMPONENTS LIST

NR.POS.	DESCRIPTION
48	LOWER PIN FOR CAM SHAFT
49	TOP PIN FOR CAM SHAFT
50	CAM SHAFT
51	CROWN RING
52	CROWN SLAB
53	OIL REDUCTOR
54	RENFORCE
55	LOCKING METAL RING
56	PULLEY
57	LOCKING SUPPORT x PULLEY
58	TRANSMISSION BELTS
59	LOCKING SUPPORT x PULLEY
60	MOTOR PULLEY
61	MOTOR SUPPORTS
62	RENFORCE x REDUCTOR
63	MAIN MOTOR POWER
64	COLUMNS FOR FORK MOVIMENT
65	STIRRUP FOR MICROSWITCH
66	MICROSWITCH
67	BEARING SUPPORT
68	FIXING METAL RING
69	RING-SUPPORT 53205
70	DISTANTIAL RING V205
71	BEARING 1205
72	SEEGER I52
73	LOWER SUPPORT COLUMN FIXING
74	FIXING RING
75	STIRRUP FOR MICROSWITCH
76	MICROSWITCH
77	BEARING SUPPORT
78	SEEGER I52
79	BEARING 1205
80	SEEGER I5
81	FIXING RING
82	BOLT FIXING COLUMN
83	TOP FIXING SUPPORT
84	BLOCK X COLUMNS MOVEMENT
85	SCREW THREAD
86	LIFT BOWL MOTOR
87	LIFING BOWL REDUCTOR
88	PIN
89	BOWL LIFTING SCREW
90	ELECTRIC BOX PLAIN SUPPORT
91	ELECTRIC BOX PLAIN
92	CONTACTOR
93	FUSE
94	TRANSFORMER



## COMPONENTS LIST

<b>NR.POS.</b>	<b>DESCRIPTION</b>
95	MAIN SWITCH
96	KNAP x SWITCH
97	PANEL
98	INVERTER
99	BLACK PUSH BUTTON
100	BUTTON SUPPORT
101	PLASTIC HEAD COVER
102	EMERGENCY STOP PUSH-BUTTON
103	TOUCH SCREEN SUPPORT
104	TOUCH SCREEN
105	TIMER
106	PUSH BUTTON PANEL
107	TIMER HANDWHEEL
108	SPEED RPM HANDWHEEL
109	DOUBLE PUSH BUTTON
110	LIFT BOWL PUSH-BUTTON
111	STOP EMERG. PUSH BUTTON
112	RPM VARIATOR SWITCH

**ELECTRIC LAYOUT**

**SEE ATTACHED ELECTRIC SCHEME SHEETS**

## **GUARANTEE**

AT THE DELIVERY, PLEASE CHECK THAT THE MACHINE HAS NOT BEEN DAMAGED DURING THE TRANSPORT AND THAT THE MACHINE EQUIPMENT AND THE POSSIBLE OPTIONALS, REQUIRED BY YOURSELVES, ARE COMPLETE.

ANY CLAIM MUST BE SUBMITTED IN WRITING TO THE MANUFACTURER WITHIN 8 (EIGHT) DAYS AND NOT LATER.

The manufacturer undertakes to supply a guarantee of 12 (twelve) months, starting from today, for each mechanical element of this machine .

All the electric parts of the machine are excluded from the guarantee.

The pieces will be replaced only at the arrival of the damaged parts at our firm, free of charge.