

SVLC

**SPEZZATRICE VOLUMETRICA COMPATTA
COMPACT VOLUMETRIC DIVIDER
DIVISEUSE-PESEUSE VOLUMETRIQUE COMPACTE
KOMPAKTE VOLUMETRISCHE TEIGTEILMASCHINE
DIVISORA-PESADORA VOLUMETRICA COMPACTA**



- MANUALE D'USO E MANUTENZIONE
- USE AND MAINTENANCE HANDBOOK
- BESTRIEBSANLEITUNG
- MANUEL D'USAGE ET D'ENTRETIEN
- MANUAL PARA USO Y MANUTENCION

REV.07

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1. TRADE-MARK OF THE MACHINE

On the machine, an identification plate is placed to indicate CE marking showing the following data:

- Model
- Serial number
- Voltage
- Frequency
- Absorbed power
- Mass
- Year of manufacture

IMPORTANT: DO NOT REMOVE OR TAMPER WITH THE PLATE

2.GENERAL INFORMATION

THE USE AND MAINTENANCE HANDBOOK IS AN INTEGRAL PART OF THE WHOLE MACHINE AND THE USER MUST PRESERVE IT FOR ALL THE LIFE OF THE MACHINE

2.1

Before using the machine read carefully this handbook , particularly the safety chapter .

2.2

The handbook must be preserved in its case , where everybody can read it and where it is not damaged by water , sunshine, dust , dough , etc.

2.3

The manufacturer can update the production and the handbooks without the oblige of updating old production and handbooks .

2.4

The manufacturer cannot be considered responsible for the following events :

- improper , wrong or irrational use of the machine .
- use not in conformity with national laws .
- wrong installation of the machine .
- problems with electric power .
- insufficient maintenance .
- not authorized modifications .
- use of unoriginal spares.
- not observance of the instructions of this handbook .

2.5

After unpacking the machine when it arrives , please make you sure the machine is unbroken . In case of doubt , please contact qualified personnel only .

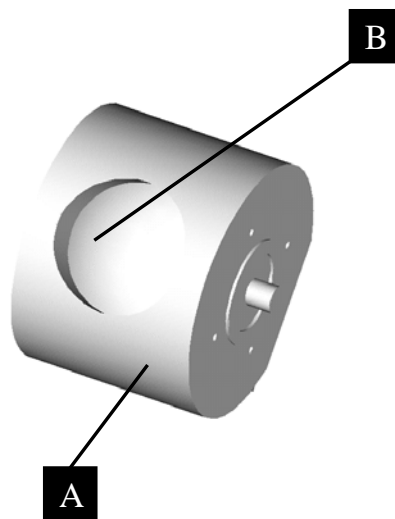
3.PROVIDED USE OF THE MACHINE

3.1 GENERAL DESCRIPTION

The machine has to be used by qualified people. It is designed to work with dough made of flour used in bakeries and confectioneries.

The machine is a volumetric dividing machine designed for dough made of soft and mixed grain, also ideal for confectionery , load sizes are sleeplessly selected by means of a useful handwheel and values are shown on a special display .

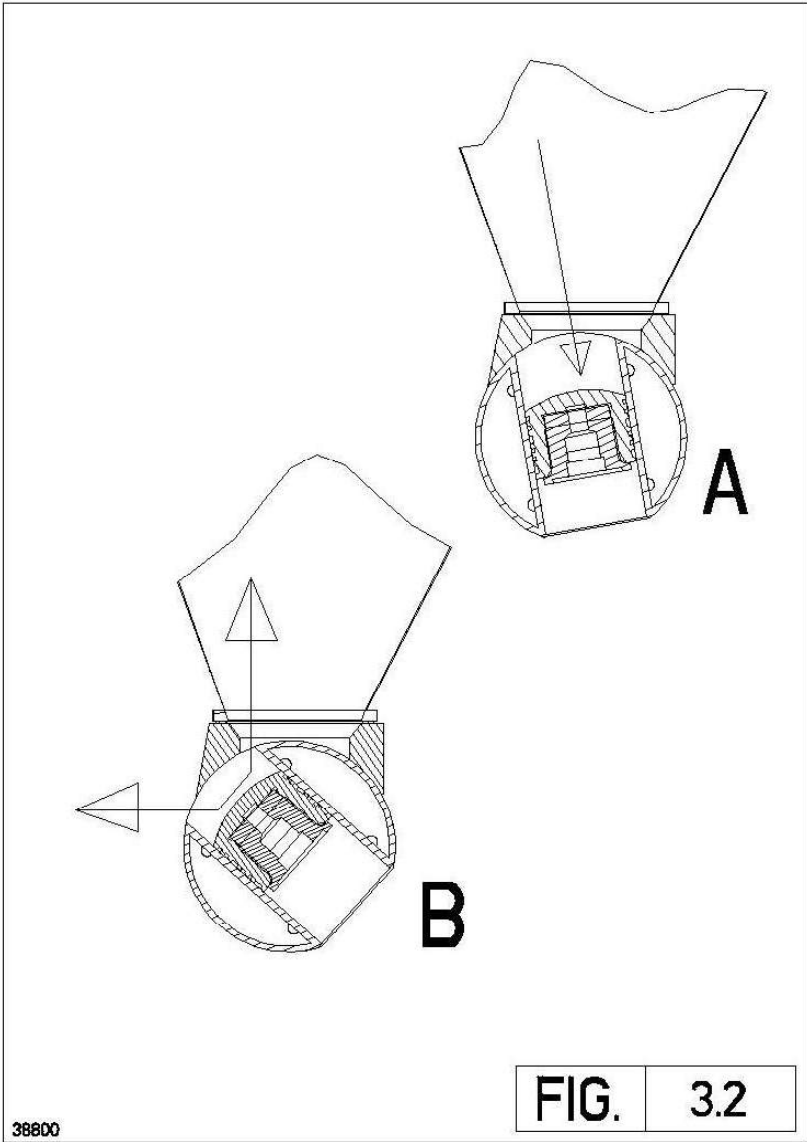
The machine is made of a steel body, it has a dividing drum A with a piston B (see picture 3.1).



Picture 3.1

The machine has also has a forced lubrication with oil recirculation and filtration , ensuring the lowest oil consumption .

Picture number 3.2 shows the working of the machine . The piston sucks the dough in the hopper , the dividing drum (A of picture 3.2) , turns and divides the dough and then the piston pulls out the dough on the conveyor belt . As you can observe on picture 3.2-B , the machine never mistreats the dough because it doesn't press it too much . The dough indeed can always escape or toward the hopper or to the conveyor belt. **So the divider machine always divides softly the dough , without damage it .**



3.2 POTENTIALITY OF THE MACHINE

Output can be continually controlled and adjusted from 900 pieces for hour to 2700 pcs/hr . The size of dough that can be produced varies according with the diameter of the piston of the machine.

The following table shows how the size is related to the diameter of the piston.

Modello Model Modèle Modell Modelo	Pistoni Pistons Pistons Kolben Pistón	Pezzatura Sizes Morceaux Größe Dimensiones (gr)	Produzione pezzi/ora Outputs pcs/hr Vitesse de travail pcs/h Produktion in der Stunde Stk/h Producción de piezas/hora	
SVL 110	1	80-800*	900	2700
SVL 125	1	100-1100*	900	2700
SVL 140	1	200-1350*	900	2700
SVL 150	1	250-1600*	900	2700
SVL 170	1	400-1800*	900	2700

* Pesi indicativi soggetti a variazioni in base alla tipologia della pasta
Approximates weights subjected to variations according to the kind of dough
Poids indicatifs passibles de changements d'après la typologie de la pâte
Wandelbare umgefahre Gewichte je nach Teigtyp
Peso indicativo sujeto a variaciones según la tipología de la masa.

3.3 LIMITS TO THE USE OF THE MACHINE

The machine cannot work with precision hard dough . So the machine can work only dough with at least 53% of water that means al least 5,3 litres of water for 10 kilograms of dough .

3.4 WRONG USE OF THE MACHINE

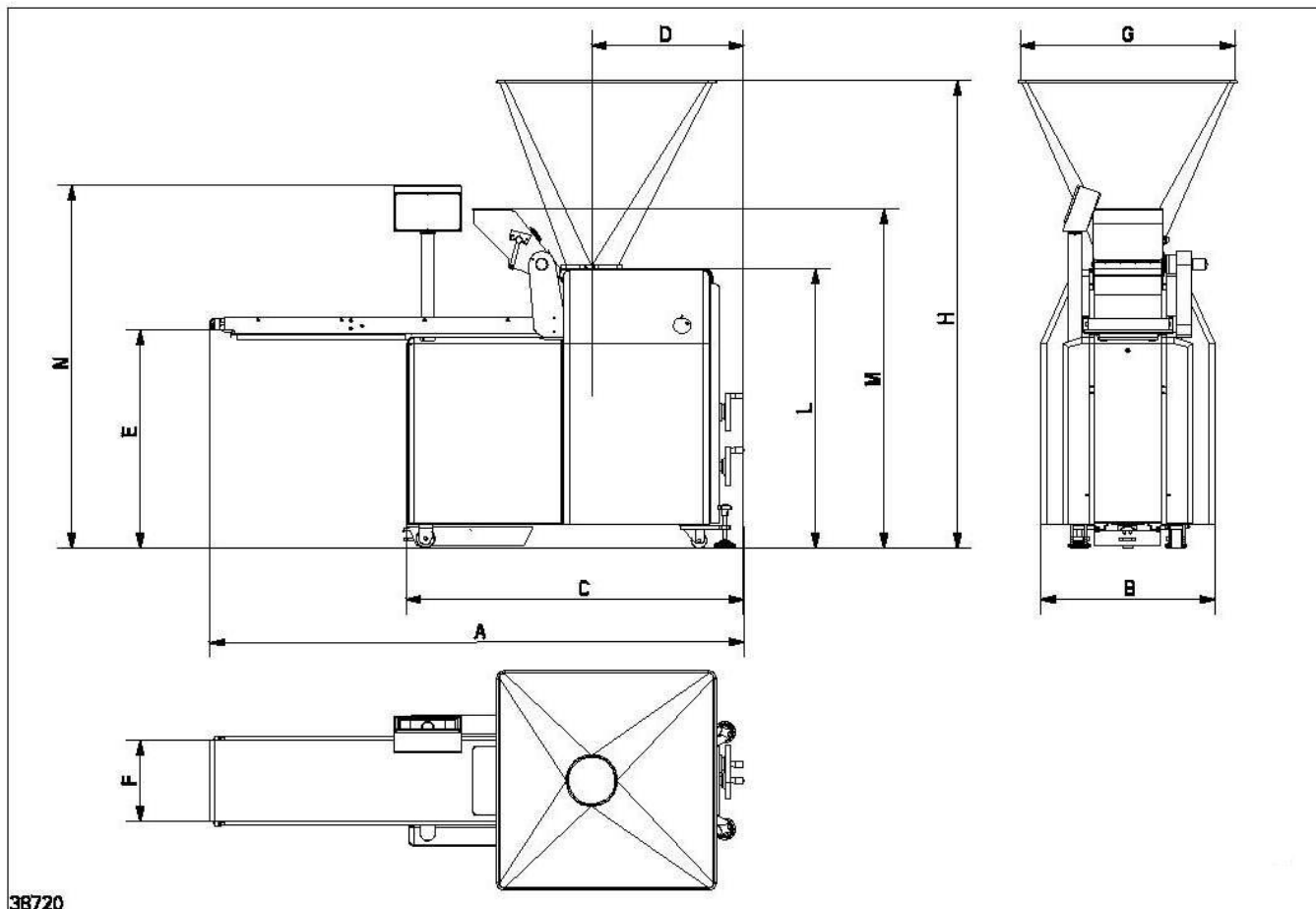
The machine must work only for the use described in the paragraph number 3.1 Every other use of the machine are considered improper and therefore dangerous . The manufacturer cannot be considered responsible for possible damages to persons , animals or things caused by improper , wrong or irrational use of the machine .

It is forbidden to work other kind of materials which are not dough for bread .

4. TECHNICAL DATA

4.1 OVERALL DIMENSIONS

The picture n. 4.1 shows the dimensions of the machine .



Hopper capacity (Kg)	Heigh (cm)
50	155
80	165
100	165
140	174
180	174

C	126
D	57
E	81
F	30
G	80
L	104
M	126
N	135

4.2 ELECTROMOTOR

Asynchronous motor with 3 phases

Rating plate :

Power 1.5 KW
Speed 700 rpm
Frequency 50 HZ
Current 5.7 A (with 380 Volts)
Protection IP 55

4.3 ELECTRIC INSTALLATION

The constructor made the electric installation in conformity with the standards in force and particularly with the european EN 60204-1 : “ Safety of machinery - Electrical equipment of machines - Part 1 : general requirements “ .

Number of phases : 3

All exposed conductive parts of the electrical equipment and the machine are connected to the protective bonding circuit .

Device for overcurrent protection : circuit - breakers with breaking capacity $I_{cu} > 100$ kA (referring to IEC 947-2) .

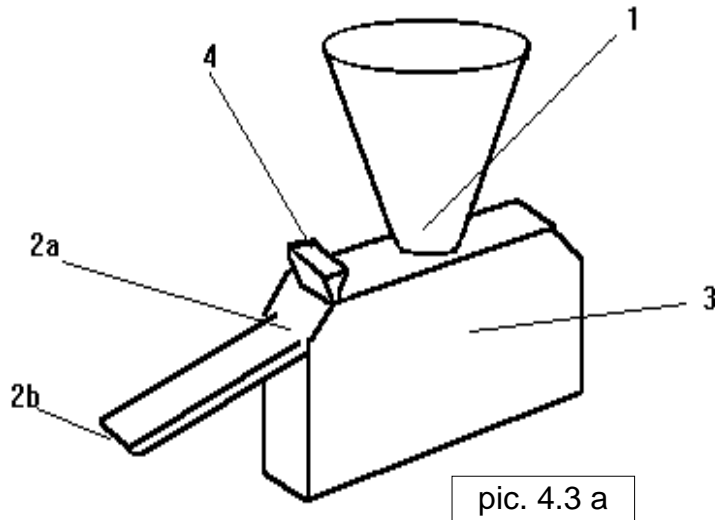
4.4 DESCRIPTION OF GUARDS AND SAFETY DEVICES

Referring to the European standards of prEN 12042 “ Food processing machinery - Automatic dividers - Safety and hygiene requirements “ , this machine presents the following zones with mechanical hazards :

4.4.1 Zone 1 : dividing zone

- Access via the hopper :

This area (see n.1 of picture 4.3 a) is the most dangerous zone of the machine . There can be two means to prevent the access via the hopper when the machine is working :



1) A guard which forbids the admittance to the dangerous zone . The dimensions of the guard follow European standards of EN 294. The guard let the user to observe the working of the machine .

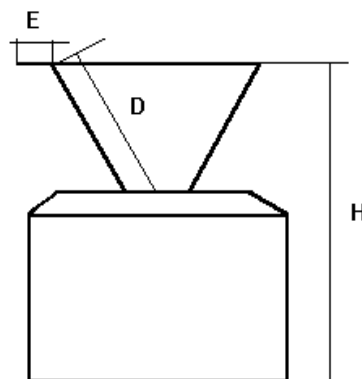
Lifting the guard , a limiting device interrupts the power circuit and the machine stops , in conformity with EN 60204-1 and EN 60947-5-1 standards . To start again the machine , put the protection in the original position and push the start button .

2) By the provision of the distance H and D as shown on figure 4.3 b , where :

$$H + D + E \geq 2250 \text{ mm}$$

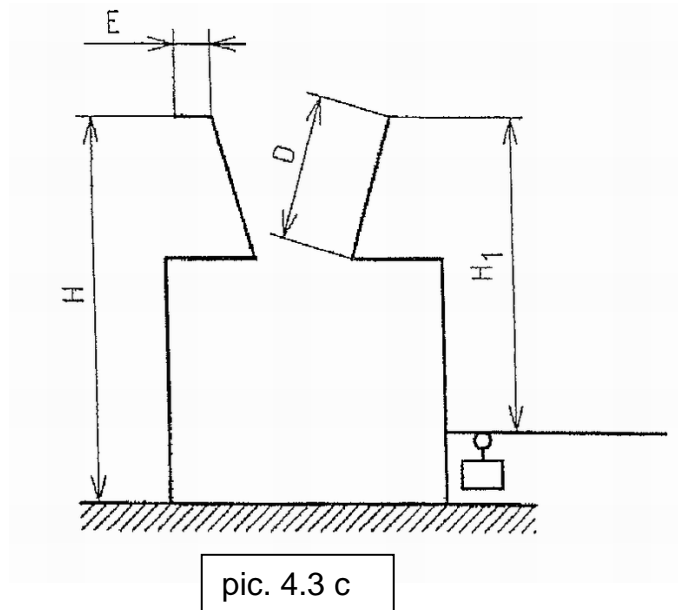
$$H \geq 1400 \text{ mm}$$

$$D + E \geq 550 \text{ mm}$$



pic. 4.3 b

3) When a platform is necessary for cleaning, this platform shall be in accordance with the following dimensions (see picture 4.3 c for an interlocking platform)



$$H + D + E \geq 2250 \text{ mm}$$

$$H \geq 1400 \text{ mm}$$

$$D + E \geq 550 \text{ mm}$$

$$H_1 \geq 1100 \text{ mm}$$

- Access to the dividing mechanism through the discharge opening :

The zone where the dough goes out from the dividing drum and come on the conveyor belt has only a limited danger of nipping the fingers (2a of picture 4.3 a). In fact the machine has been projected so that when the mouth of the cylinder is above the conveyer belt, the piston has reached the end of its run, and the surface of the piston is fush with the external surface of the cylinder. In this way the admittance to the dangerous zone has prevented.

- Access to the dividing mechanism from other sides of the machine :

Access to the dividing mechanism from other sides of the machine has been prevented by fixed guards

4.4.2 Zone 2 : discharge device

The conveyor belt has been projected so to prevent access to nipping points .

4.4.3 Zone 3 : Drive mechanism

Access to the driving mechanisms has been prevented by fixed guards .

4.4.4 Zone 4 : Flour Duster

The flour sprinkler have no guards . It's alternate motion in fact can't trap the fingers and the bristles are not hard .

It is forbidden to take away , modify or damage any guard of the machine .

IT'S ABSOLUTELY FORBIDDEN TO START THE MACHINE IF THE HOPPER OF THE MACHINE IS NOT MOUNTED . THIS CAN CAUSE A BIG DANGER FOR PERSONS AND ALSO FOR THE MACHINE .

5. TRANSPORT , POSITIONING AND ELECTRIC CONNECTION

5.1 TRANSPORT

The weight of the machine is indicated in the trade-mark .

The machine has two eyebolts of the tool supply (which is often already mounted) which let you to transport the machine to your laboratory .

Wires , chains or any other lifting-gear must be adapt to the weight of the machine .

5.2 POSITIONING

A WRONG INSTALLATION OF THE MACHINE CAN CAUSE DAMAGES TO PERSONS , ANIMALS OR THINGS AND THE CONSTRUCTOR IS NOT RESPONSIBLE FOR THIS .

After unpacking make you sure the machine is complete and ready to start. In case of doubt don't use it and contact the supplier .

The machine has been fixed to the wood cage with two bolts. To remove the machine from the wood cage, you must open the sides of the machine unscrewing the screws and unscrewing the bolts that fix the machine to the cage .

The machine has wheels which let you to transport and position it easily .

After deciding the place of installation put the black foot of the tool supply under the blockage . Screw the handwheel till the head of the blockage is joint into the foot . This will allow to fix the machine on the floor and will avoid useless and dangerous vibrations .

5.3 ELECTRIC CONNECTION

BE SURE YOUR SUPPLY IS THE SAME AS THE VOLTAGE AND THE POWER GIVEN ON THE RATING PLATE (see also chapter 1) .

Connect the plug of the electric cable to a magnetothermal differential switch or to a switch provided of protection with fuses of characteristics suitable to the data of the rating-plate of the machine .

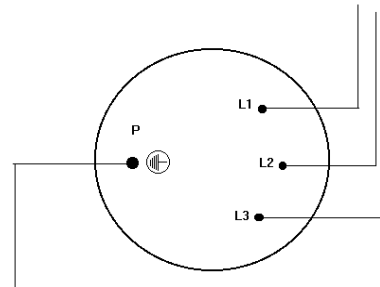
The electric plug must be near the machine and give an easy admittance .

If other machines are connected to the same plug , make sure that the amperage capacity is not too low .

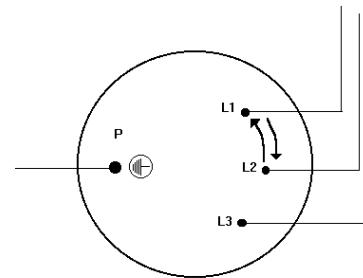
5.3.1 CONNECT OF THE MAIN ELECTRIC CABLE WITH THE PLUG

Generally the main electric cable (power cable) is not connected with the electric plug . Do the following steps for the connection :

- 1) Disassemble the plug so to have access to the base where connect the wires .
- 2) The pictures of this paragraph show the scheme of the base of the plug .
- 3) Connect the yellow-green wire (grounding wire) to the terminal P (see the picture 5.1). This terminal has its own characteristic symbol . It has the bigger pin .
- 4) Connect the other 3 phases to the terminals L1 , L2 , L3 .
- 5) Start the machine for a few seconds so to control if it rotates in the right way .
- 6) If the rotation is wrong , stop immediately the machine , take away the plug and exchange the wire connected with the terminal L1 with the wire connected with the terminal L2 , like the picture 5.2 .



Picture 5.1



Picture 5.2

5.3.2 GROUNDING

Control the good working of the grounding of your electric plant and connect the grounding cable of the machine and the plug following the local electrical standards. Never connect the grounding cable to the gas or water tube , or to the telephone cable .

5.3.3 PRECAUTIONS

WARNING ! WHEN USING ELECTRIC TOOLS , TAKE ALWAYS THE BASIC SAFETY PRECAUTIONS TO REDUCE THE RISK OF FIRE , ELECTRIC SHOCK AND PERSONAL INJURY . ANYWAY ONLY QUALIFIED PERSONNEL CAN APPROACH TO PARTS OF THE MACHINE USUALLY UNDER ELECTRIC POWER AND HE MUST USE ALWAYS THE FOLLOWING RULES :

1. STOP THE MACHINE .
2. DISCONNECT THE ELECTRIC CURRENT BY THE MAIN SWITCH (SEE THE CHAPTER ABOUT THE USE OF THE MACHINE) .
3. TAKE AWAY THE PLUG FROM THE CURRENT-TAP .
4. DO THE NECESSARY OPERATIONS .
5. CONNECT THE PLUG TO THE CURRENT-TAP .

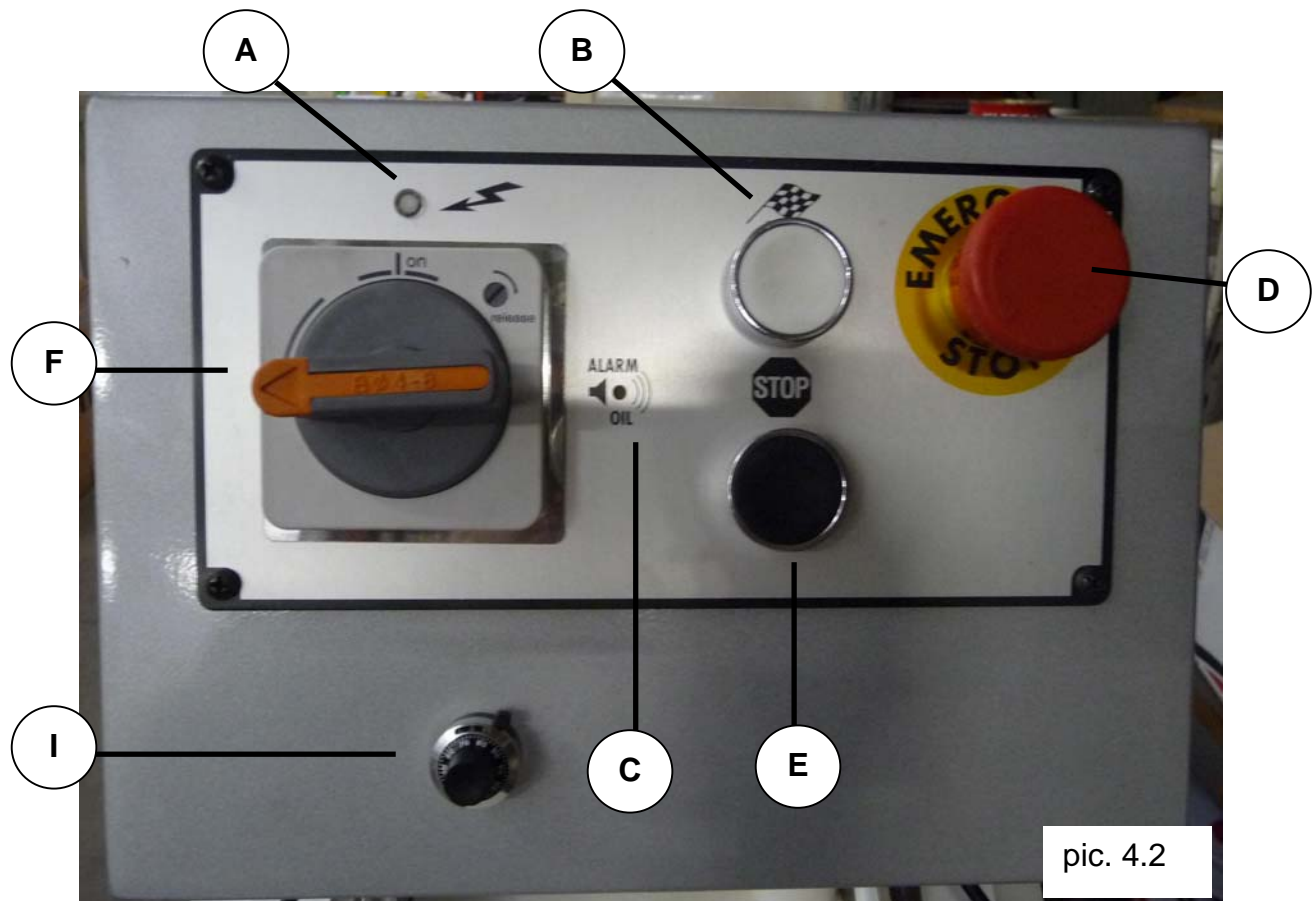
6.START AND WORKING OF THE MACHINE

6.1 GENERAL INFORMATION

Check that electric cabling follows how described in paragraph n. 5.3 .1.

6.2 MACHINE CONTROLS

Into the picture 4.2 You can see the standard control board of the machine. Every button is identified with a letter and the correspondent meaning is the following :



Light A : If it is ON, this means that the machine is under tension, so ready to work.

Button B : Start button. If You push it the machine start the work.

Allarm C : When it sounds, the machine is without oil

Button D : Emergency red button. If You push it the machine stops immediately.

Button E : Switch off button. If You push it the machine switches off.

Switch F : Stop and start button from the main switch. You take off tension from the complete machine.

knob I : adjust the machine speed (pcs / min)

6.3 EMERGENCY STOP

The machine has an emergency stop which is a red mushroom-type push button . It let the user to stop the machine anytime.

The emergency stop conforms to 89/392/CEE and to European standards EN 418 and EN 60204-1 .

When the user pushes the emergency stop, the machine stops and the button is locked in the pushed position .

Resetting the control device shall not by itself cause a restart command : the user have to push the start button to start again the machine .

Emergency stop device reset :

The reset of the emergency stop depend on the kind of button assembled on the machine :

- if the button has two arrows on its surface , it is necessary to rotate it with a clockwise rotation
(follow the arrows) : the button resets by itself .
- if the button has not arrows on its surface , it is necessary to draw out the button.

6.4 SOUND PRESSURE

The use of particular manufacturing technique , like the use of belts , keeps the noise emission under 70 dB .

6.5 ELECTROMAGNETIC COMPATIBILITY

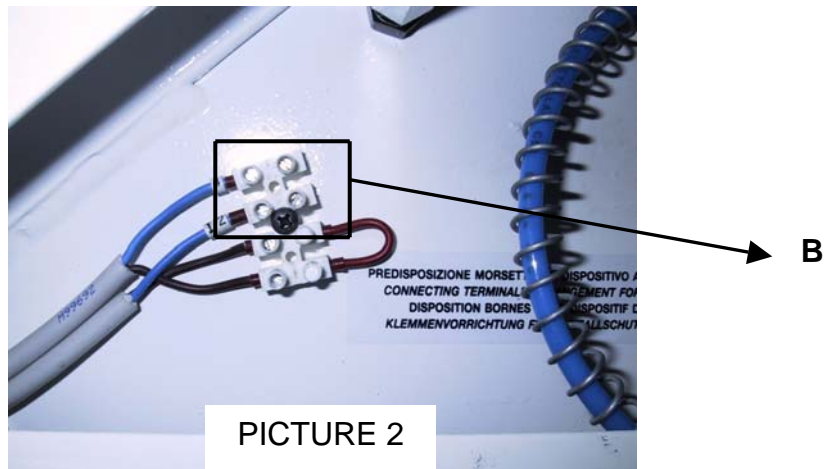
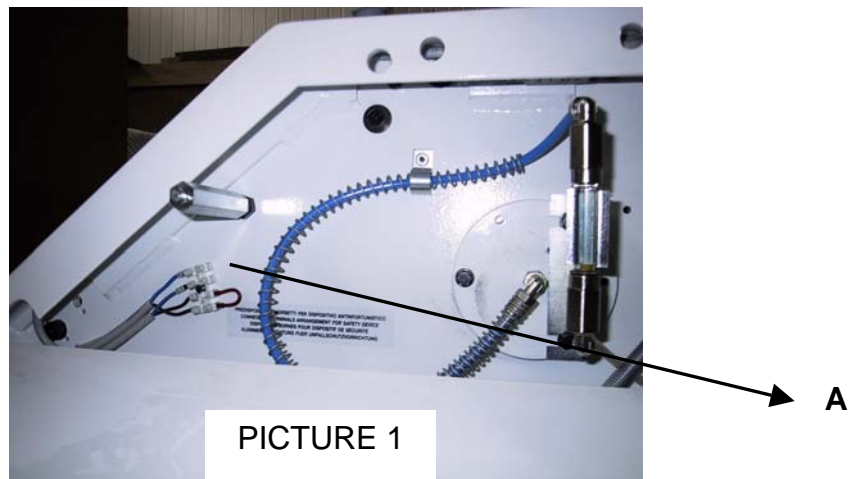
The machine conforms to the European standards of 89/336/CEE law .

6.6 START AND STOP

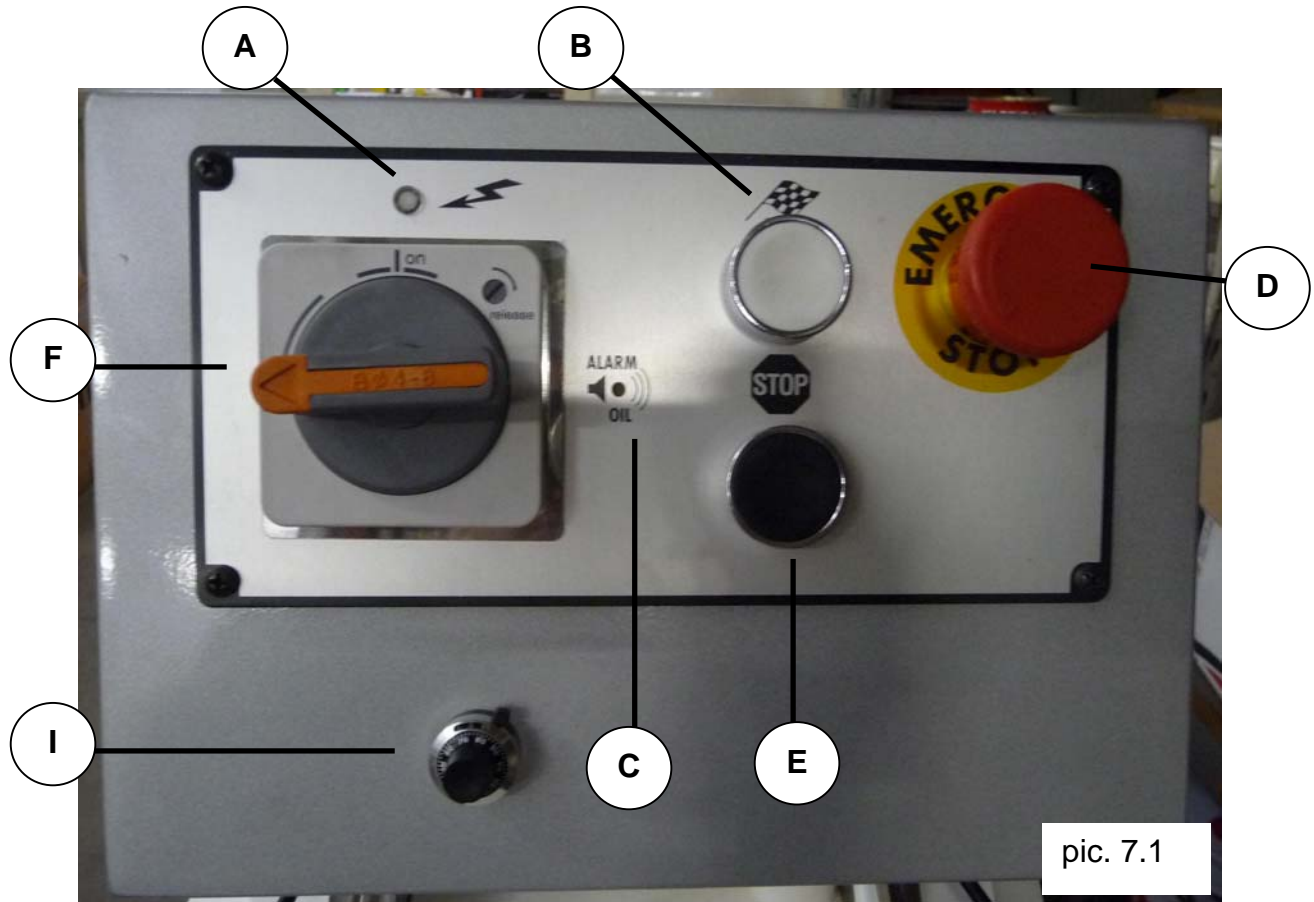
The machine start working only if the hopper, complete of the guard, is installed. So, before to use the hopper, it is necessary to create the electrical connection between the hopper and the divider.

The hoppers are equipped with a cable with n. 2 wires. These wires must to be connected to the machine. In order to do this, You have to follow the suggested instructions:

- 1) Open the right side cover of the machine (watching the machine from the back side).
- 2) Toward the back side of the machine you can see a terminal (look at number A of picture 1)
- 3) Connect to the two terminals now free (look at number B of picture 2) the wires coming from the cable of the hopper (the order is not important).



Before start working with the machine double check that all the safety guards described in the chapter 4 are working fine.



ATTENTION PLEASE !!!

**The machine is equipped with electronic devices.
To maintain long life, whenever you want to stop the machine,
do so by pressing the STOP button on the control panel.**

**USE THE RED BUTTON MUSHROOM
ONLY IN CASE OF EMERGENCY**

To start the machine rotate the main switch F of pic 7.1. Now, push the start button (B of pic. 7.1) Control that the conveyor belt is rotating in the right way : the conveyor belt must goes out of the machine) . If it is not so , stop immediately the machine , and follow instructions of paragraph 5.3.1.

Stop the machine pushing the stop button E .

At the end of the cycle of working cut out the power pushing the button F of the main switch (the light A switches OFF) .

EVERY TIME IS POSSIBLE TO STOP THE MACHINE PUSHING THE RED EMERGENCY BUTTON (D).

6.7 DOUGH LOADING

After knowing a lot about starting and breaking functions, we suggest you to put some kilos of dough in the hopper and run the machine. In this way you will remove the manufacture grease remnants, if any.

6.8 ADJUSTMENT OF THE SPEED OF THE MACHINE

To vary the speed of the machine, turn the knob (Fig. 7.1-l). Turning clockwise increases the speed of the machine, while the same counterclockwise decreases. This should be done with the machine in motion.

6.9 ADJUSTMENT OF THE WEIGHT OF A DOUGH PIECE

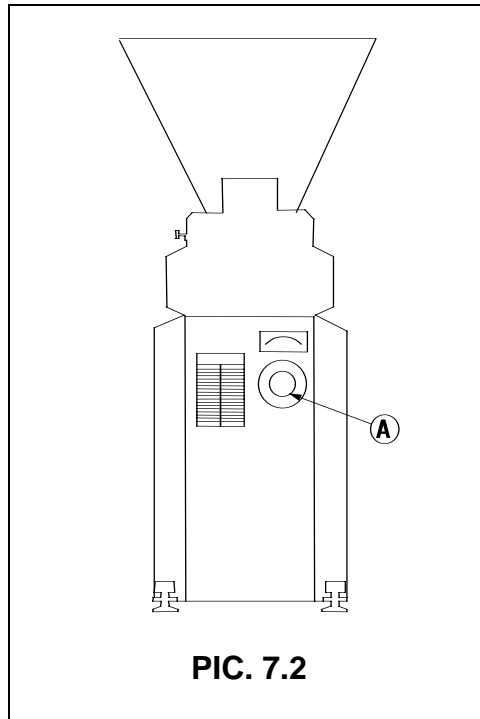
In case of emergence, to adjust manually the weight of the dough pieces , turn the handwheel A of picture 7.2 .

- a) To increase the dough weight : turn the handwheel with a clockwise rotation .
- b) To reduce the dough weight : turn the handwheel with an anti-clockwise rotation .

We suggest to operate in this way only when the machine is working.

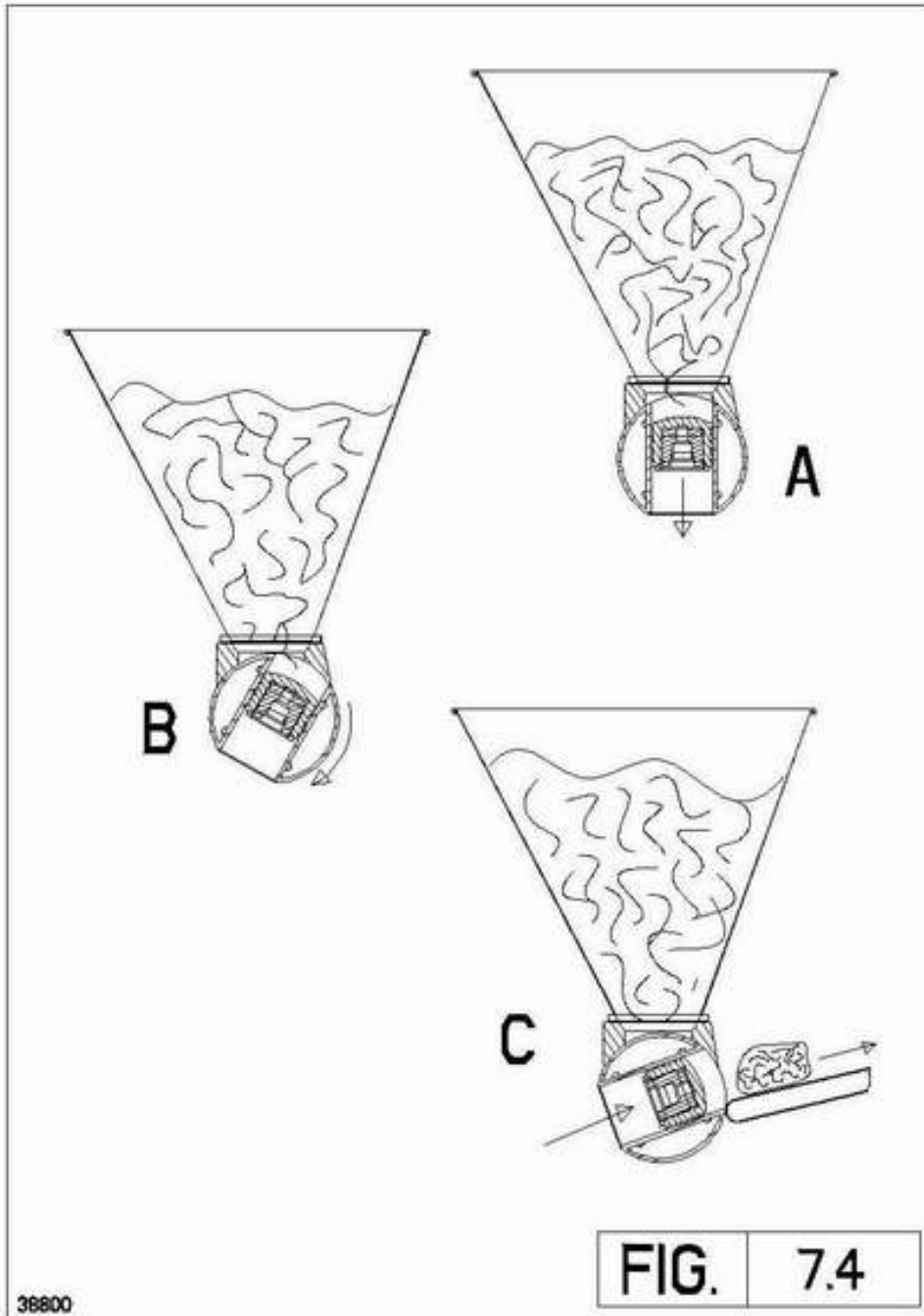
Once the weight is obtained you can control it on the plate near the handwheel .

In the empty spaces you can write the different sizes .



6.10 WEIGHT PRECISION PROBLEMS

As explained also in paragraphs 3.1, the volumetric divider works sucking the dough by the vacuum produced by the piston when it goes down (see fig. 7.4)



If you have deviations in weight with the machine there can be three types of problems :

- PROBLEMS FOR THE TYPE OF DOUGH -

1) **The dough is too much hard** . As explained also in paragraph 3.3 , the volumetric divider cannot work if the dough has less than 53% of water , that means dough with less than 5,3 liters of water for 10 kilograms of flour .

SOLUTION : use a dough with 53 % of water at least . If you don't do it, it's difficult to obtain precision in dough production .

2) **The machine works cutting risen up dough** . The machine works cutting in a very gentle way the dough without pressing hardly it . This is on one side a good characteristic of the machine because it doesn't damage the dough , but on the other side , if the dough has risen up , the holes done by this rising up remain into the dough during the cutting and this causes that the pieces of dough have different weight according with the different number and sizes of holes that are in each one .

SOLUTION : Cut the dough just after that the dough has been mixed . The ideal way of working with the machine is to mix and then within maximum 15-20 minutes to cut all the dough .

3) **There are big fluctuations of the quantity of dough in the hopper** . The weight of the dough in the hopper overhanging the piston , gives a contribution with its weight to the quantity of dough that goes into the cylinder . For this reason when the hopper is full there is more dough weight over the piston and the cut weight is a little bit bigger than when the hopper is about empty of dough .

SOLUTION : to fill more frequently with dough the hopper avoiding big fluctuations in the level of the dough into the hopper . In any case , as obvious , the last 5-10 pieces , when hopper empties , will be affected by weight deviation .

- PROBLEMS FOR A BAD USE OF THE MACHINE OR NEGLIGENCE OF THE OPERATOR -

1) **Use of others types of oils not recommended**. The use of types of oils not recommended from the manufacturer cause the wear of the gaskets and the piston.

SOLUTION: First of all You must substitute the gaskets and the piston and then use only one of types of oils indicated.

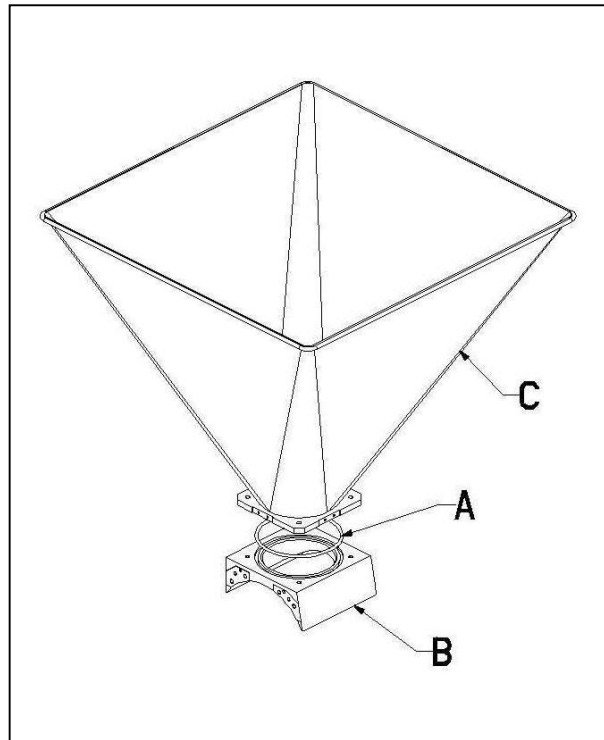
2) **The machine worked without oil or an hard piece of material is came into the machine together with the dough**. If the volumetric divider worked without oil or an hard piece of material is came together with the dough (for example the dough scraper), it is possible that some parts of the machine have been damaged In this case, it is necessary to take down

the piston and to verify if the piston, the gaskets and/or others parts of the machine have been damaged

SOLUTION: It is necessary to substitute all the damages parts; the cylinder and the piston have evidence marks, and the gaskets if have been damaged.

3) THE GASKET (FIG. 6.4) IS DAMAGED AND/OR THE BOLTS THAT FIX THE HOPPER ARE NOT TO BE WELL FIXED. If the gasket of the hopper (see fig. 6.4) is damage or the bolts are not to be well fixed, air enter into the cylinder, and it cause problem of weight

SOLUTION : You must substitute the gasket (see fig. 6.4 a) . Moreover we recommend You not to take away the hopper for cleaning, but cleaning it without dismounting. As to dismount and mount every day the hopper, cause the damages in the gasket and/or the bolts that fix the hopper not to be well fixed.



Picture 6.4

7. LUBRICATION

7.1 RECOMMENDED OIL

For a good working of the machine , the most important operations are the controls and the maintenance concerning the lubrication .

**WARNING
USE ONLY RECOMMENDED OILS**

BRAND	OIL TYPE	VISCOSITY MEASURED AT 40°C cSt = [mm ² /sec]
AGIP	OBI 10	60
BP	ENERPAR M 006	68
ESSO/MOBIL	PRIMOL 352	70
FINA	VESTAN 350 UPS	68,5
VANGUARD	WF/FU 68	68
ROLOIL	OB 55 AT	60
SHELL	ONDINA OIL 68	68
API	BV R	70
ARAL	AUTIN SL	70

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY USING OTHER TYPES OF OIL.

The use of different oils can seriously damage the machine.

DOT NOT ABSOLUTELY USE SEED OIL , OLIVE OIL OR SIMILAR OILS .

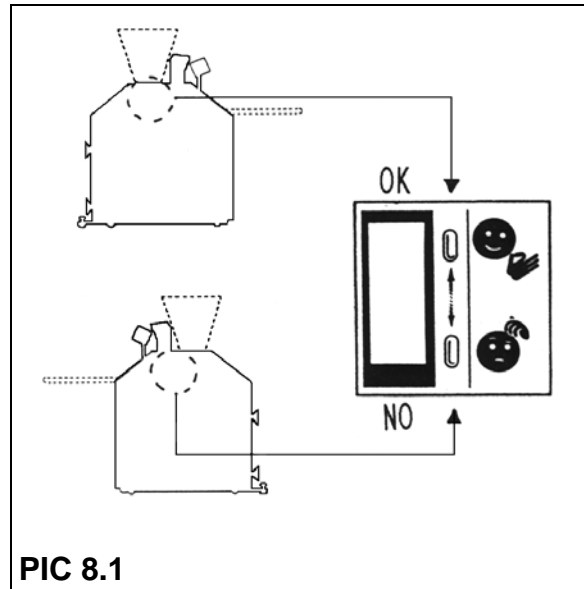
The divider has in fact a close circuit which recycles the oil and only the pure synthetic oils keeps good for a lot of time . Olive oil and seed one, yet, are not allowed because they can damage the machine .

Notwithstanding the machine needs a very little quantity of oil , it is necessary to have a little stock , asking for it to the constructor .

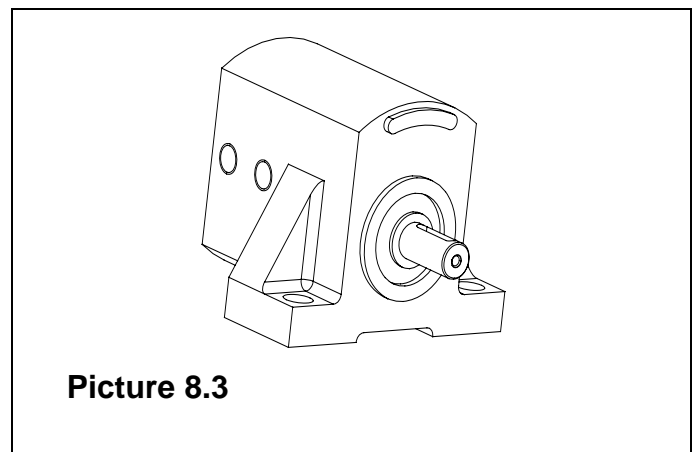
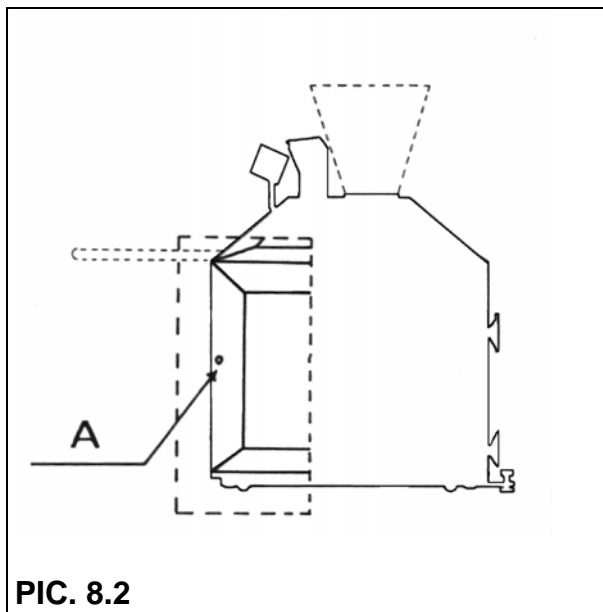
7.2 CONTROL OF PISTON LUBRICATION

There is a correct lubrication of the piston only if the two red signals of picture 8.1 are in the high position when the machine is working .

If these two signals are down it means that the oil does not circulate and so it is necessary to control the lubrication system .



You can do this control by opening the side cover (take off the screws A of picture 8.2) ,by cleaning the filters and controlling the pump (picture 8.3) ; unscrew the tube and , with a very thin iron wire take away the dirt , paying attention not to damage the piston .



7.3 ALARM SIGNAL

The machine is delivered with a reserve of 1.5 liters of oil sufficient to operate the machine from 6 to 12 hours (depending on models and the use of the machine)

The tank includes a level sensor that activates an alarm when it's time to add oil.

Comes into operation when the alarm (oil to the lowest level) will add oil to fill the tank. Top up from the finger hole (picture below) the tank.



Recommend adding **8 liters of oil from the time the alarm sounds**

8.MAINTENANCE AND CLEANING OF LUBRICATION SYSTEM

8.1 OIL TANK

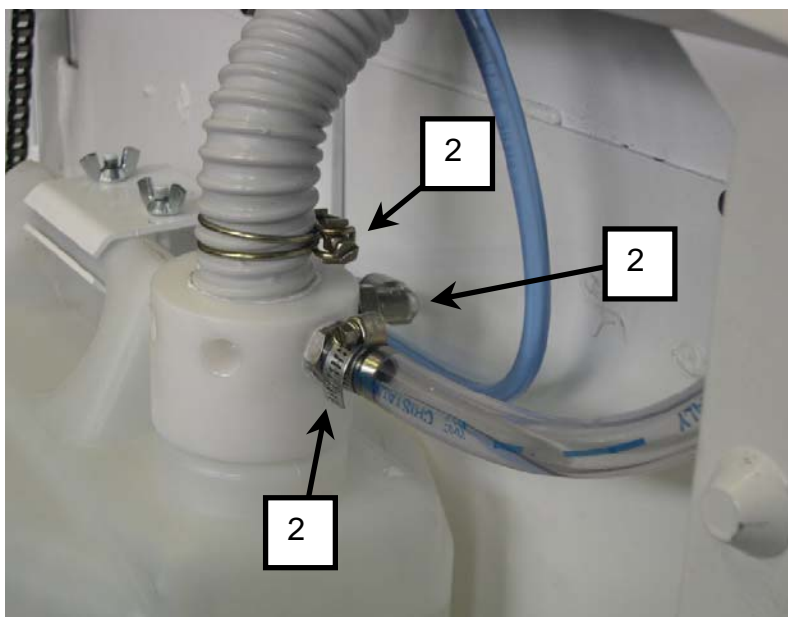
The oil tank (lt.15 capacity) is under the right side cover. It should always be introduced or otherwise finely filtered clean oil impurities.

Do this operation when the dust in the bottom of the tank reach the level of 5 cm

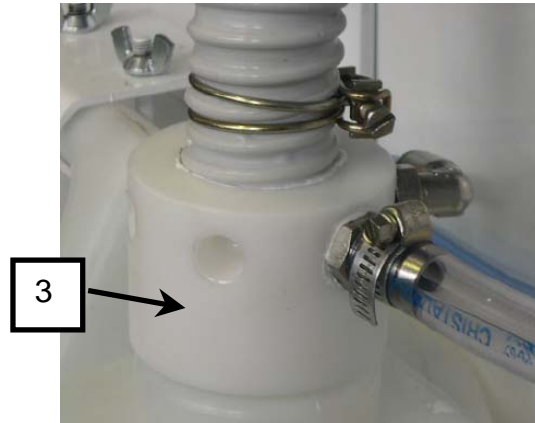
- 1 Take away the side right panel (looking the machine from the front)



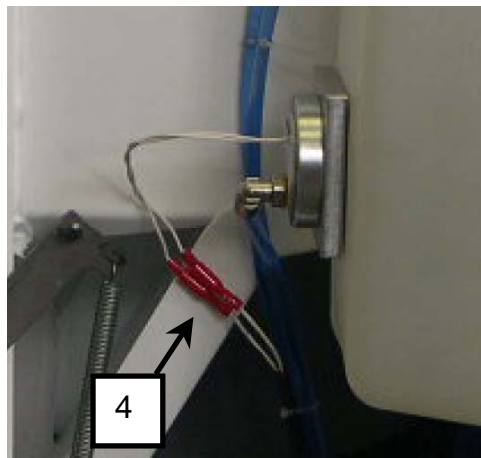
- 2 Take away the connecting tubes unscrewing the screws (ref.2)



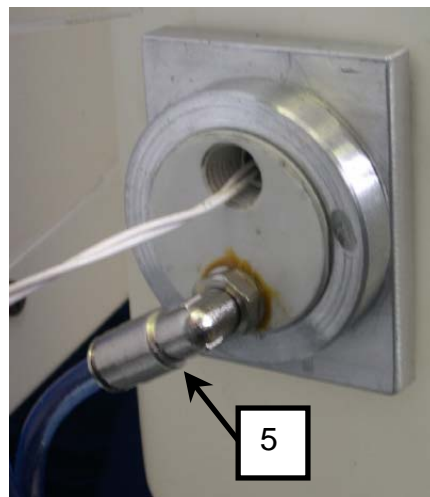
3 Unscrew the upper tap (ref.3)



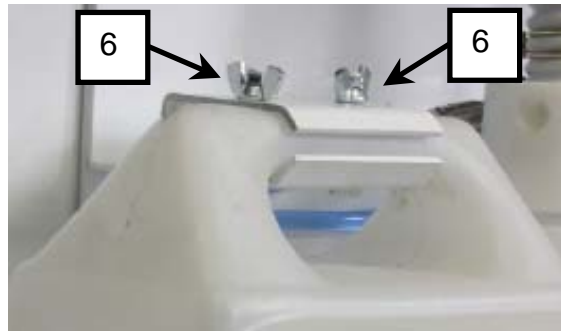
4 Detach the fast electric connection (ref.4)



5 Detach the fast connection of the lubrication tube (ref.5). **Put one cup underneath the tube when you disconnect it to avoid oil leaking on the floor.**



6 Unscrew the upper screws to (ref.6)



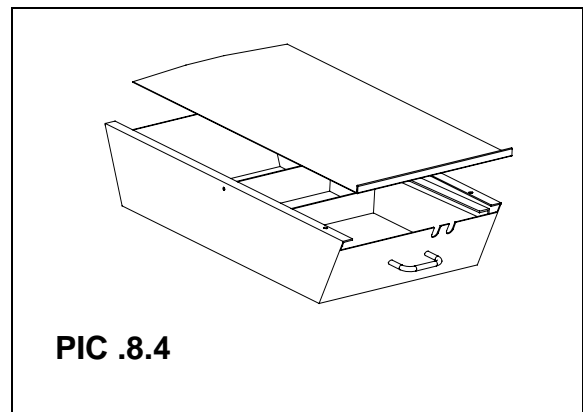
7 Detach the tank from the machine . Put water inside and clean the tank. **Pay attention not to use high pressure water to avoid damaging the level sensor that is inside the tank.**

8 When the clearing is finished . **Pay attention to put the tank in its proper place only after it is completely dry to avoid to have water inside the oil circuit.** To install back the tank do the points in the reverse order from 6 to 1 .

8.2 OIL COLLECTING TANK

Periodically take away the collecting tank (fig. 8.4) that is in the lower part and take off the bulkhead that collects the waste material. take away the filter of the tank, empty and clean the tank.

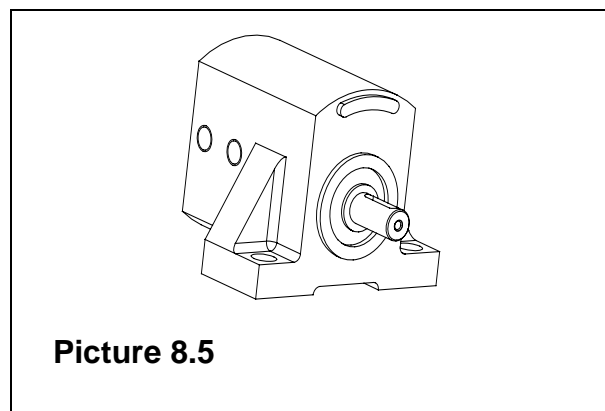
Attention: put the tank in the support guide and press it well up to the end run position.



PIC .8.4

8.3 PUMP

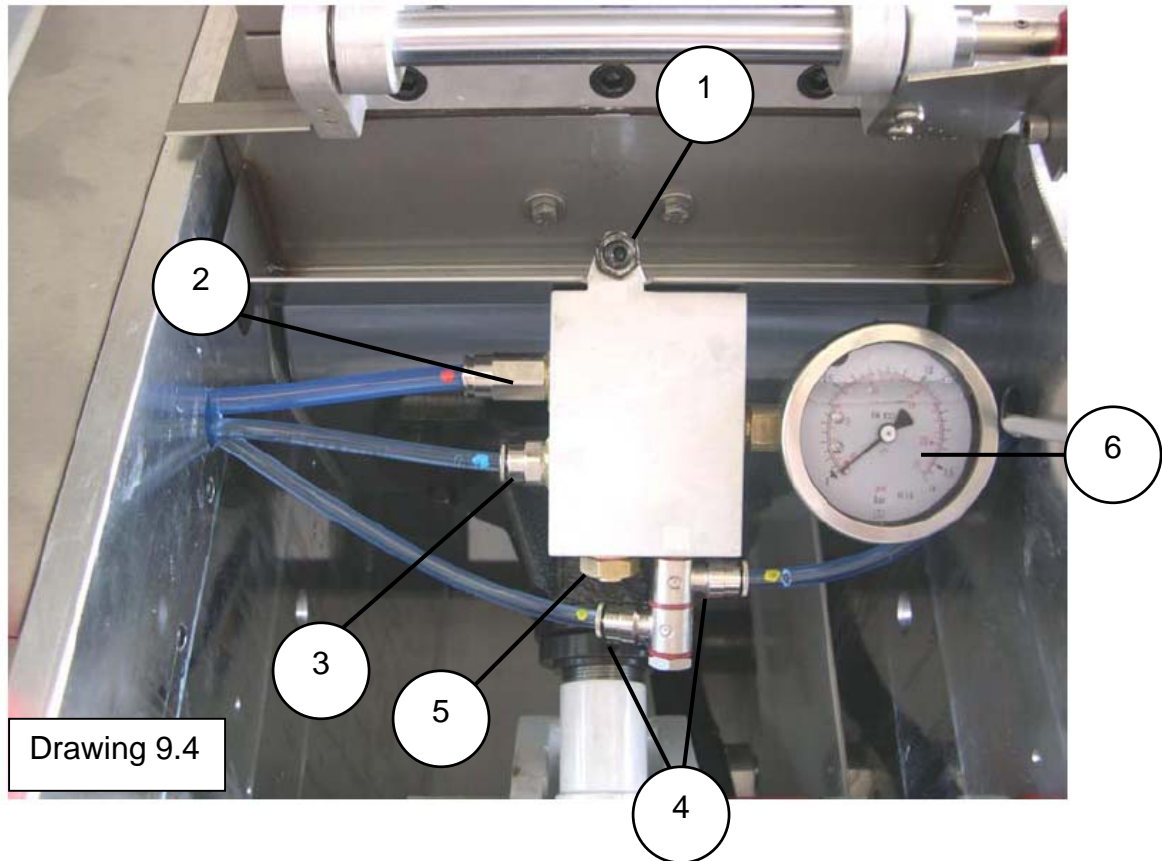
In case of bad functioning of the pump (fig. 8.5), please control if the tank or the filters are clean. If it is necessary, change all the oil unscrewing the lower cap



Picture 8.5

8.4 REGULATION OF THE LUBRICATION SYSTEM

The lubrication of machine is done by a regulating system (Drawing 9.4) which allow to increase or decrease the quantity of oil in circulation.



The regulator is composed as follows :

1. Nozzle for oil discharge into casing lubrication basin
2. Oil coming from the sending pump
3. Oil discharge inside collection tank
4. Nozzle for oil discharge to lubricate the internal part of the drum
5. Oil flow register
6. Oil-pressure gauge which show the pressure value for oil into circulation.

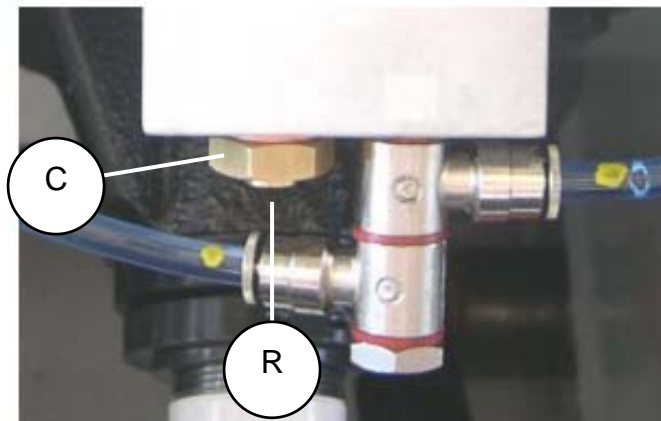
The lubrication system is calibrated in our factory so, in general, it doesn't require particular adjustments. In any case, if it will be necessary to adjust it (for example owing to the replacement of some parts) it will be necessary to follow the procedure below :

First step : Adjusting of oil quantity that reaches the drum

1. **Adjust the divider to the maximum weight and at the maximum speed**

In this condition the pressure displayed on the gauge, under normal conditions, must to be 0.6 bar. If the pressure indicated by the gauge is different from this value, to adjust it, it is necessary to do the following:

2. Loosen the nut C. Once the nut has been loosed it is possible to move the register R which allows to adjust the oil quantity that flows into the drum.
3. Turning the register R in anticlockwise (by unscrewing the register) You decrease the pressure, while turning the register R in clockwise (by screwing the register) You increase the pressure.
4. Once you will find the required pressure, screw the nut C to fix the adjustment made

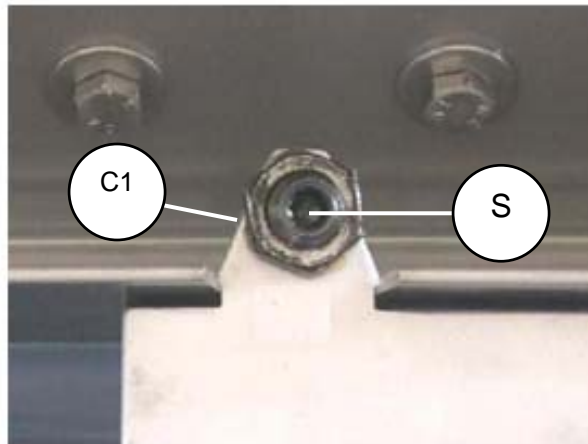


Second step : Adjusting of oil quantity that reaches the small basin behind the drum

1. Adjust the divider to the minimum weight and at the minimum speed

In this condition for each cycle of the piston motion (i.e. the time that elapses between two passages of the piston in the same position) it must exits form the noozle n.3 drops of oil. If the number of drops is different from that value, You must do as follows :

2. Loosen the nut C1. Once the nut has been loosed it is possible to move the register S wich allows to adjust the oil quantity that reaches the small basing behind the drum.
3. Turing the register S in anticlockwise (by unscrewing the register) in this way You decrease the number of drops for each cycle, whine turning the register R in clockwise (by screwing the register) You increase the number of drops for each cycle.
4. Once You will find the required adjustment, screw the nut C1 to fix the adjustment made.



As the adjustment of oil quantity flowing into the small basing leads to a modest variation in the oil pressure, with consequent modification of oil quantity coming to the drum, it is good to repeat the two above mentioned steps in sequence :

First step : Adjusting of oil quantity that reaches the drum

Second step : Adjusting of oil quantity that reaches the small basin behind the drum

This in order to do a fine lubrication adjustment.

The flow regulator is easy to be disassembled; if necessary catch the blocage and lift it from the guide, paying attention to not obstruct the pipes.



8.5 WASTE OIL DISPOSAL

When you change the lubricating oil, read the following rules:

- 1) DO NOT DISPERSE THE OIL IN THE ENVIRONMENT
- 2) DO NOT MIX IT WITH OTHER WASTE PRODUCTS (IRON, PAPER, WOOD, ETC)
- 3) EMPTY IT IN SUITABLE CONTAINERS
- 4) GIVE IT TO THE AUTHORIZED COLLECTING CENTRES
- 5) REMEMBER TO SUBSTITUITE IT WITH A SIMILAR OIL

9.MAINTENANCE

WARNING : BEFORE EVERY CLEANING OR MAINTENANCE OPERATION , CUT OFF THE POWER BY THE MAIN SWITCH AND DISCONNECT THE ELECTRIC PLUG FROM THE CURRENT TAP .

EVERYTIME THERE IS A POTENTIALLY DANGEROUS OPERATION LIKE ADJUSTMENTS, MAINTENANCE, DISASSEMBLY , ELECTRIC OR MECHANICAL SUBSTITUTIONS , THE OPERATOR MUST BE ALWAYS SURE OF THE REAL DISCONNECTION OF THE PLUG FROM THE CURRENT TAP .

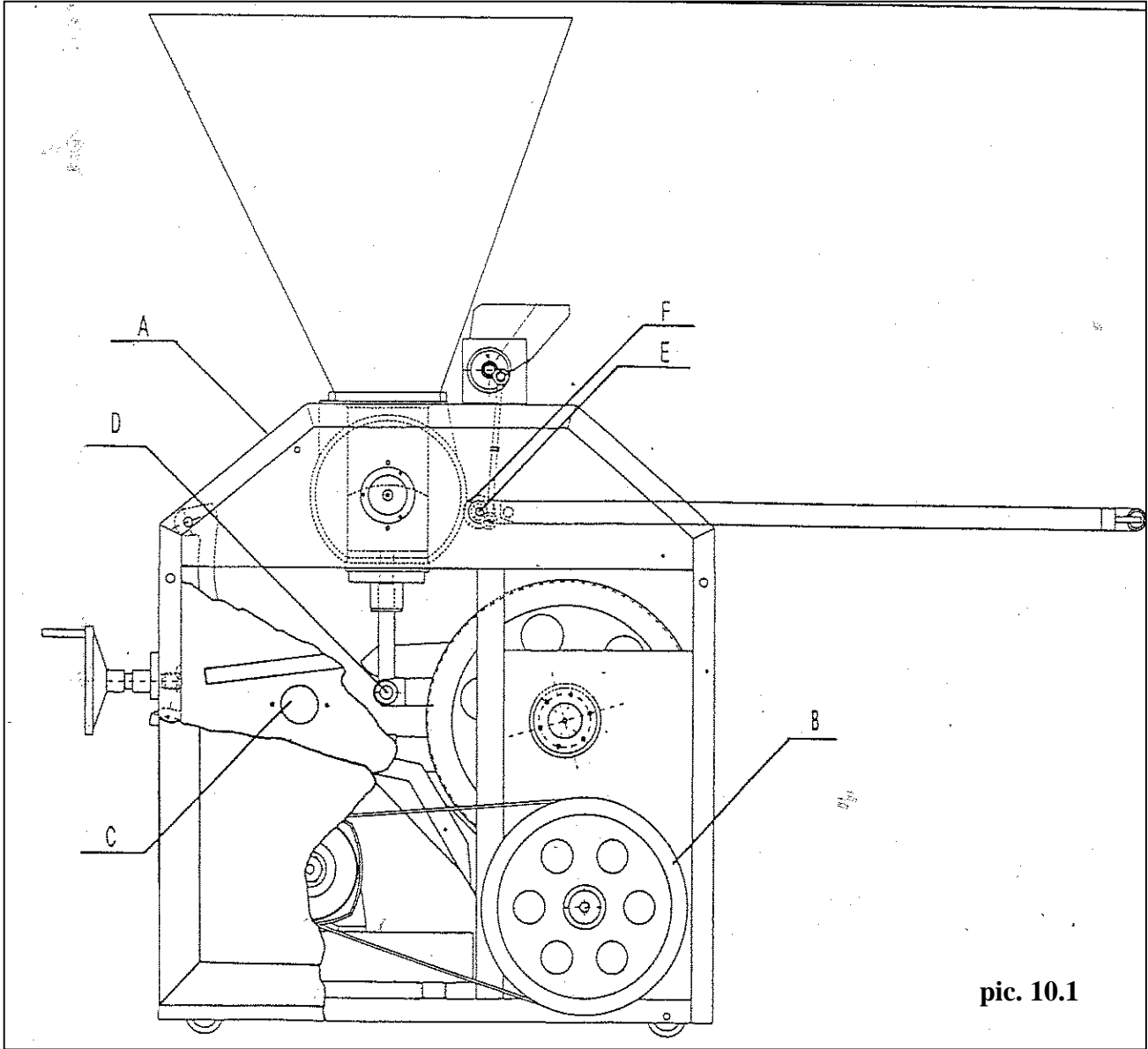
DURING AND AFTER EVERY OPERATION WHICH REQUIRES THE DISASSEMBLY OF ONE OR MORE FIXED OR MOVING PROTECTIONS, IT IS FORBIDDEN TO START THE MACHINE UNTIL ALL THE PROTECTIONS ARE CORRECTLY ASSEMBLED AGAIN .

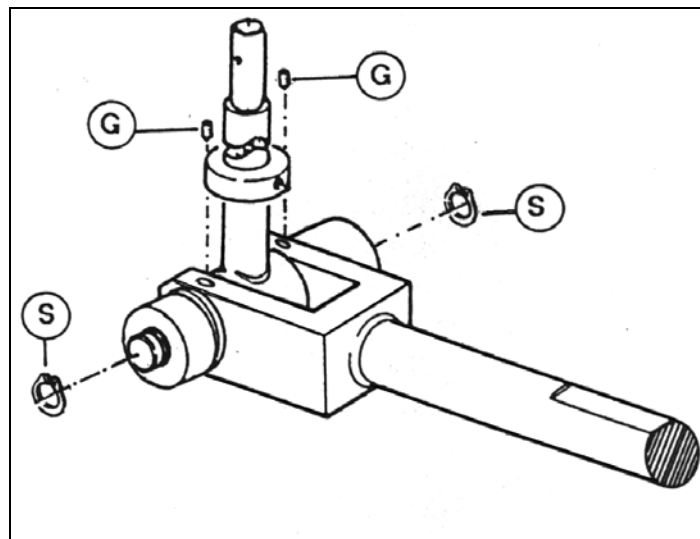
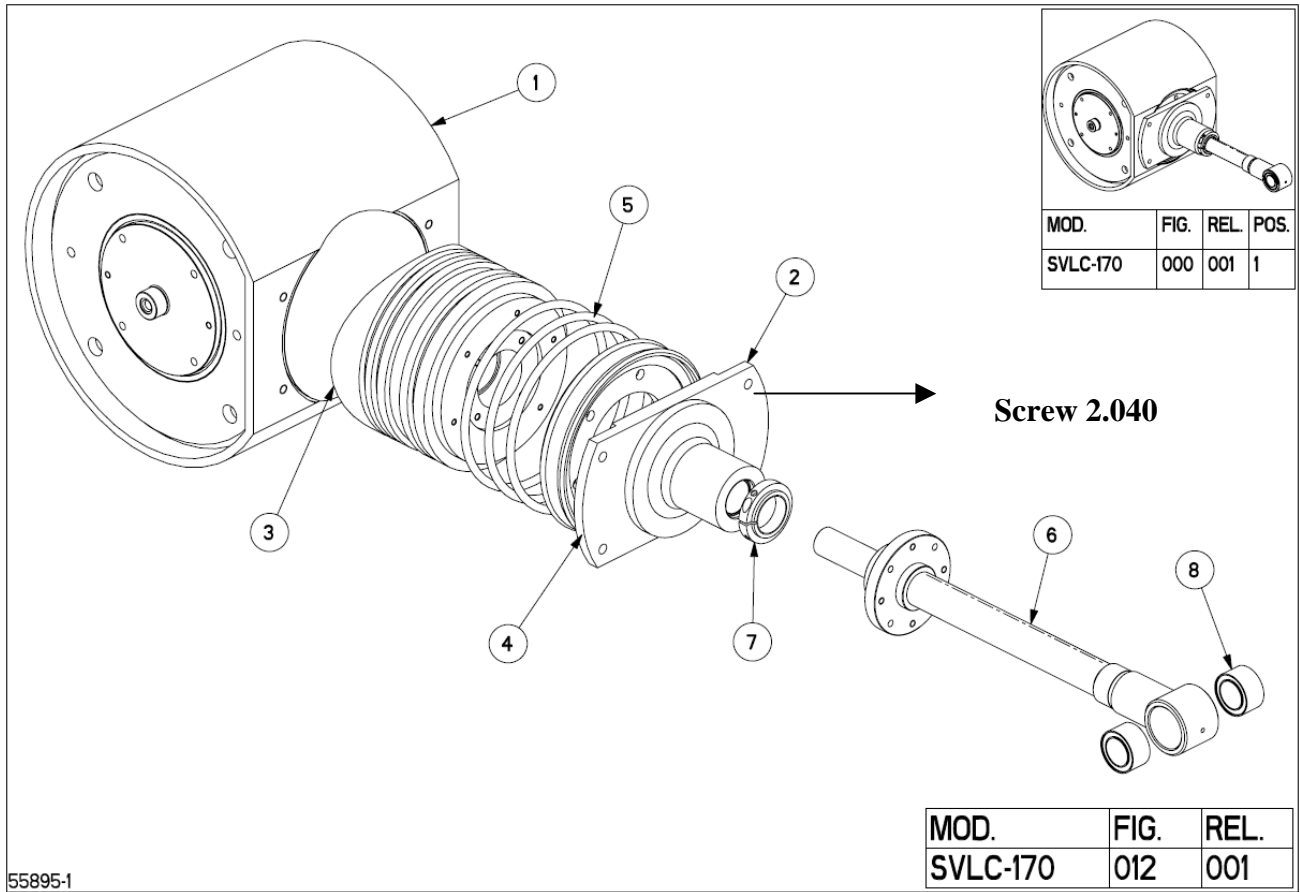
9.1 CHANGE OF THE PISTON

IMPORTANT: IF THE PISTON MUST BE CHANGED BECAUSE OF DAMAGES ON ITS SURFACE, CONTROL CAREFULLY THE INTERNAL AREA OF THE CYLINDER. IF IT IS DAMAGED THIS COULD CAUSE DAMAGES TO THE NEW PISTON. IN SUCH A CASE WE RECOMMEND TO CHANGE BOTH PISTON AND DRUM WITH NEW ONES.

If you want to disassemble the piston in order to change the O - rings, please do as follow:

- a. Take away the protection "A" of fig. 10.1.
- b. Open the left side.
- c. Take away the bulkhead of the window "C" .
- d. Turn the pulley "B" till the pin "D" is near the window "C"
- e. Loosen the small screw G of picture 10.4 and take away the rings S .
- f. Take away the pin "D" of picture 10.1 .
- g. Take away the four screws that fix the connecting rod support with the cylinder (Fig. 10.2 pos 2.040) and all the group connecting rod-support-piston will slip off the cylinder in horizontal position .
It is no necessary to remove other components of the machine.
- h. Now you can replace the four o rings n. 5 and the gasket n. 4.



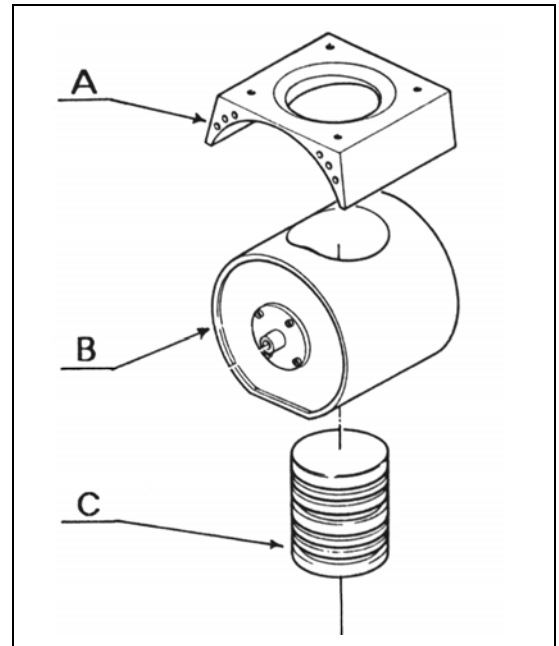


pic. 10.4

**WHEN YOU ASSEMBLE AGAIN ALL THE PARTS , IT IS VERY IMPORTANT TO LUBRICATE EACH ELEMENT , ESPECIALLY THE CYLINDER AND THE PISTON WITH ITS OWN OIL (READ PARAGRAPH 7.1) .
YOU HAVE TO PAY ATTENTION NOT TO DAMAGE THE O RINGS (FIG.012 POS. 5) AND ESPECIALLY THE GASKET (FIG.012 POS. 4)WHEN YOU INSERT THE PISTON INTO THE DRUM .**

9.2 CHANGE OF THE HOOD

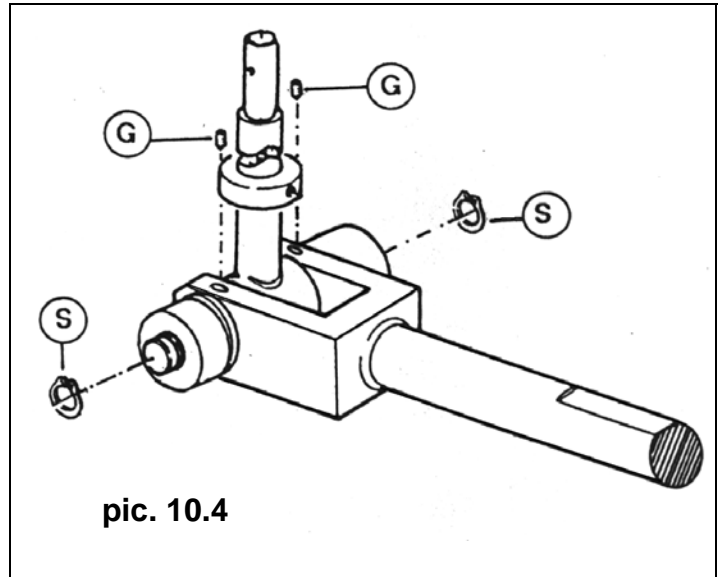
IMPORTANT. If the hood (fig. 10.3 A) has been damaged because of the use of a wrong oil, because of the introduction of an object or for any other reason, it is very important to verify also the drum (fig. 10.3 B), to check if also the drum has been damaged. Indeed, if the drum is damaged, and not replaced it can damage the new hood. So we suggest an attentively and carefully recondition of the group hood-drum-piston.
This will avoid useless lost of money .



pic. 10.3

After making this control and verifying that the hood is the only element that has to be changed, follow the instructions:

- a. Let operate the machine and stop it when the piston is completely out.
- b. Open the sides of the machine
- c. Take away the bulkhead from window "C" (fig. 10.1), turn the pulley "B", till the pin "D" is near the window, then take away the two small screws rings of fig. 10.4-S and the ones of fig. 10.4-G, then take away the pin "D" of fig.10.1.
In this way all the drum group will be removed from the connecting rod.



- d. Loosen the screws and the conic plugs that join the hood as follows:

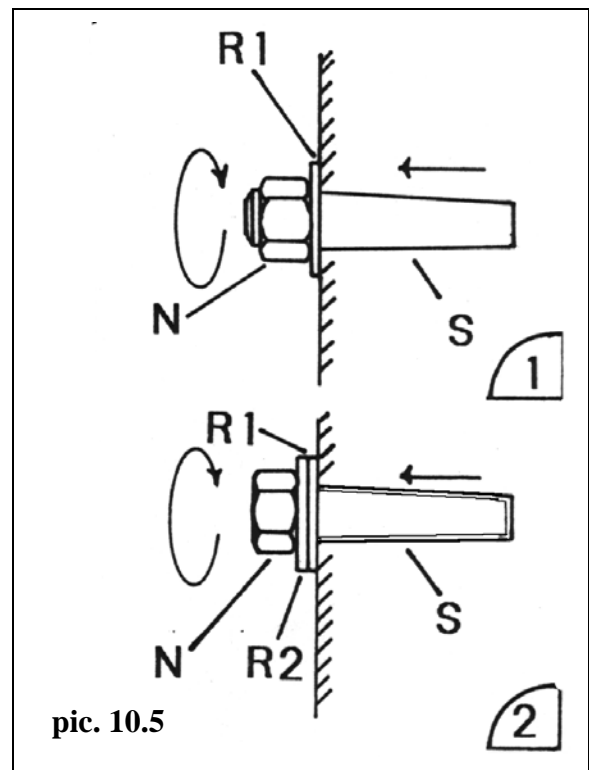
To take away the conic plugs:

1. Insert a washer (fig. 10.5-R1) with a 8 mm. hole and with 1 mm. thickness and a M8 nut (fig.10.5-N) screw the nut till the plug (fig.10.5-S) will be a little loose.
2. Unscrew the M8 nut and insert another washer (fig. 10.5-R2) with the same characteristics of the other one, screw the M8 nut that with the thickness of the two washers will enable to take away the conic plug .

- e. Remove the damaged hood

- f. Clean carefully the cylindric part of the new hood that will be in contact with the drum. Put the hood on the drum .

- g. Assemble the 8 side screws and screw just four of them; hold the chromium coated stem of the drum group and let the drum oscillate. This operation is very important because it is possible to control the contact between the assembled hood and the drum. This contact must be soft and enables to have the drum manually oscillating with no efforts; the superficial distance between the hood and the drum must be included from 0.02 mm to 0.05 mm. After observing this condition, screw strongly; it is not important to assemble the conic plug.To carry out the job in a workmanlike manner, you must redo the seat with a conical broacher.



9.3 CHANGE OF THE CONVEYOR BELT

a. Remove the two covers by unscrewing the screws showed into photo 10.5



Photo 1



Photo 2

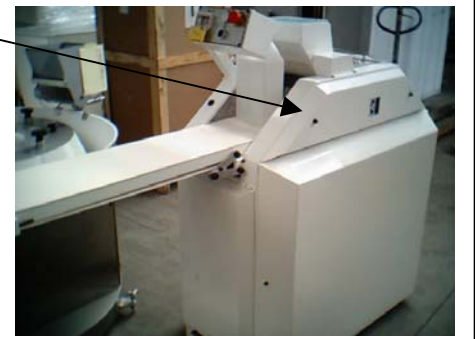


Photo 10.5

b. Relax the belt holder as showed into photos 1 and 2

c. Remove the screws A, as showed into photo 3.

A



Photo 3



Photo 4



Photo 5

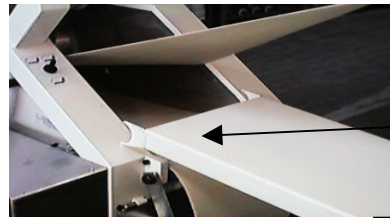


Photo 6



Particular of the belt's forks

d. Take off the frame by removing the forks usually put on the bearings, as showed into photos 4-5 and 6.

e. You can see the ruled roller as showed into photo 7. To remove it follows drawing 10.9.

f. Remove the old belt and assembly the new one. Then make all above mentioned operation on the contrary.



Photo 7

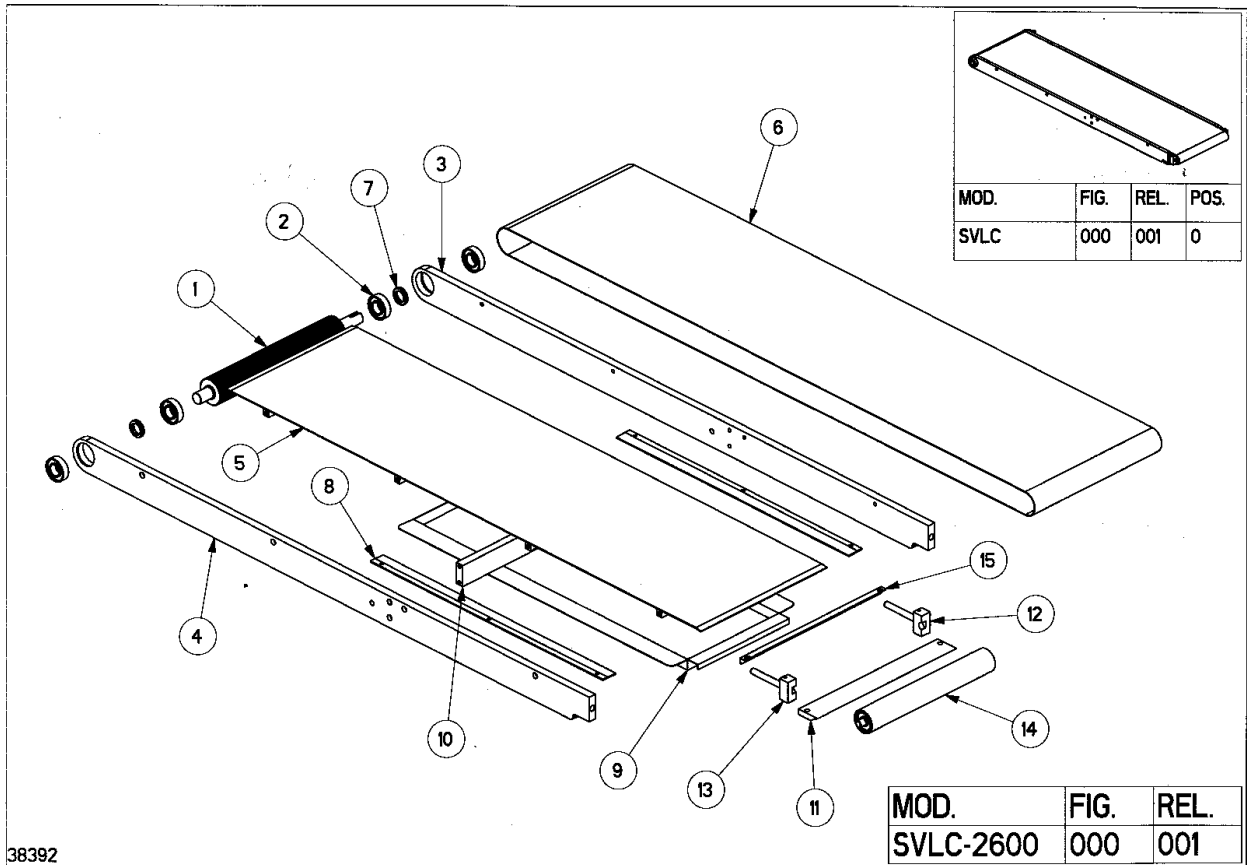
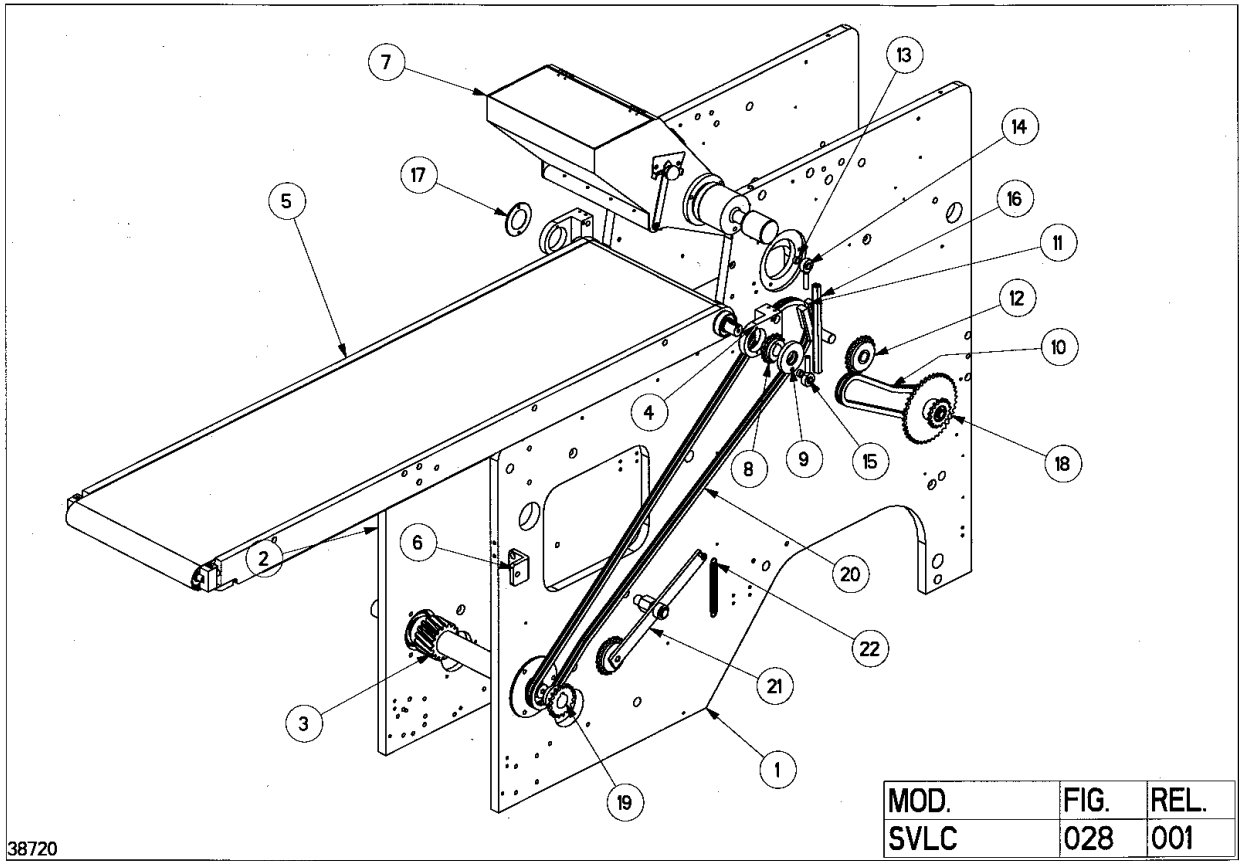


FIG.10.9

9.4 CHANGE OF THE PULLEY

9.4.1 FIXING END FLOAT OF THE PULLEY

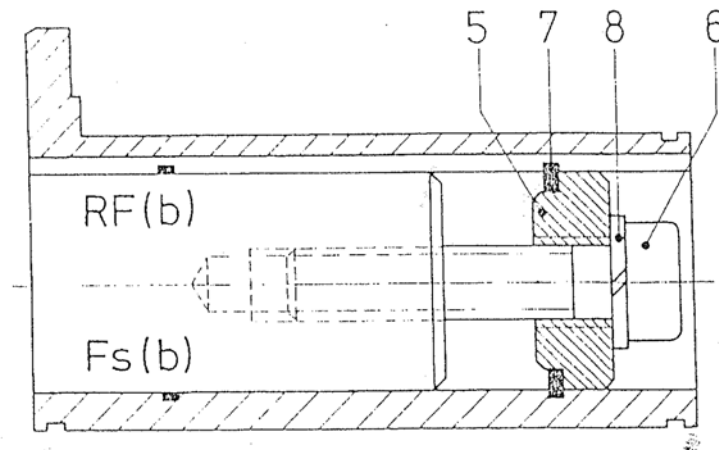
With the shafts built with according to IEC O DIN 748 directions we advise you the fixing as indicated in the following drawings.

Two are the prerogatives of this type of fixing:

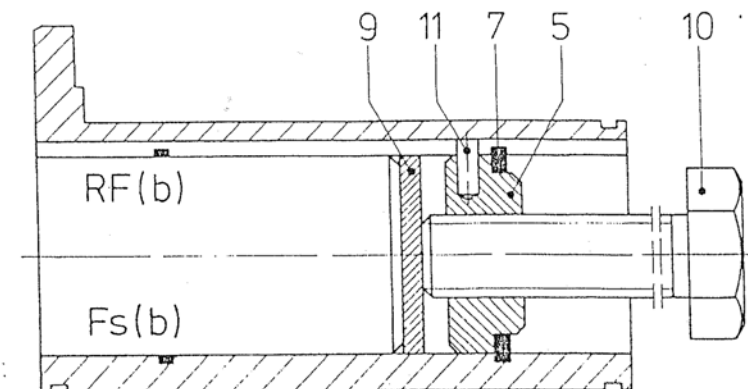
- 1) Absence of rotary parts except the pulley.
- 2) It can be used also to extract the pulley.

9.4.2 EXTRACTION OF THE PULLEY

Doing the fixing as over delineated, for the disassembly it must continue as follows: to take away from the hole the fixing screw (6), the elastic ring (8), the stop ring (7) and the fixing washer (5).

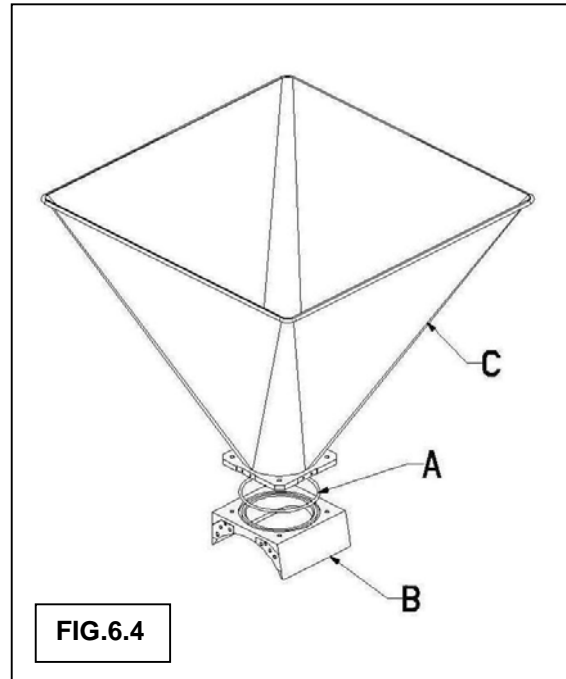


Not to damage the internal thread, insert a metallic disc on the end of the shaft (9). Put the washer (5) on reverse position, then assemble to insert the stop ring (7) in its housing. Making a thrust on the extremity of the shaft with a screw (10) of suitable measure (with the threading greater than the fixing screw) it can be possible to obtain the extraction of the pulley.



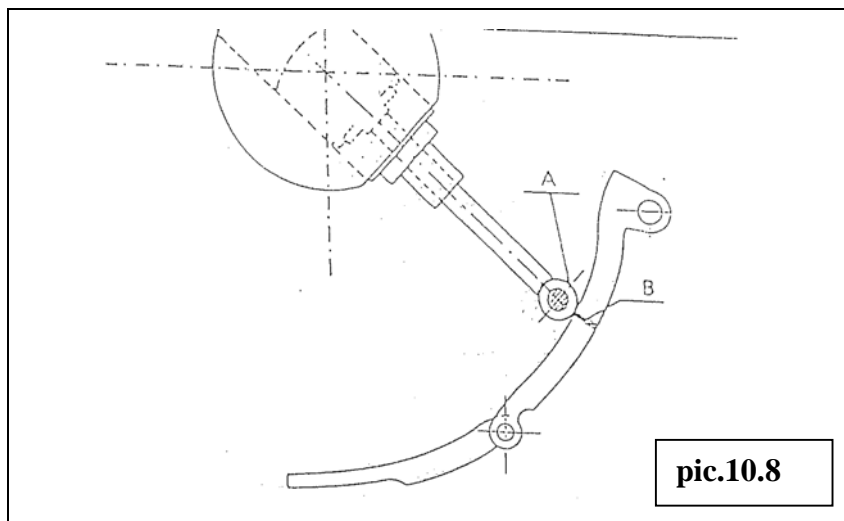
9.5 HOPPER CLEANING

To clean the hopper and the mouth, take away the 4 fixing screws (using key 17) and take away the hopper. Pay attention to assemble the rubber part (pic. 6.4-A) perfectly flat. BEFORE DOING THESE OPERATIONS, DISCONNECT THE PLUG FROM THE SUPPLY.



9.6 INACTIVITY OF THE MACHINE

In case of long inactivity of the machine, before deactivating it, using the general switch, be sure that the red line under the support (fig. 10.8-A) tallies with the red line on the "runner" (fig. 10.8-B).



9.7 WHEN THE MACHINE IS NEW

- When the machine is new it is good practice to let the machine work with some kilos of dough before starting the production . In this way you will remove the grease remnants of the manufacture .

9.8 EVERY DAY

9.8.1 Control of the guards :

Every day before starting the working cycle , you must control that all the guards described in paragraph 4.5 are working fine .

9.8.2 Cleaning of the machine

The machine must be cleaned every day , especially in all that parts which get in touch with the dough.

For the cleaning not use knives , sharpened , hard or metal objects , brushes too much hard or every other thing which can damage the surfaces . You can use for example , plastic spatulas , soft cloths , etc. , and for the carpets of the conveyors , a soft brush .

NOT USE toxic products , solvents , irritants , abrasives , and every kind of product which can damage the surfaces , or defile the dough .

Before starting the machine control if nothing has been forgotten in the machine .

9.8.3 Check that the rubber wheel (10.8-A) is worn out

This part is continuously stressed while the machine is working, and it can wear out earlier than other parts. For this reason, a spare is supplied together with the machine.

**DON'T LET THE MACHINE WORK IF THE PLASTIC ROLLER IS DAMAGED.
IF THE MACHINE WORKS WITH THE PLASTIC ROLLER WORN OUT, THIS COULD AFFECT THE SAFETY FEATURE OF THE MACHINE IN THE EXIT AREA.
FOR THIS REASON, IT IS IMPORTANT TO CHECK AT THE END OF EVERY DAY THAT THE ROLLER IS IN GOOD CONDITIONS.**

9.9 RECURRENT MAINTENANCES

Of course the more the machine works, more often you must :

- 1 - Grease the chains .
- 2 - Grease the screws of the sizes and speeds regulators .
- 3 - Clean the oil collecting tank .
- 4 - Clean the intake filter in the collecting tank .
- 5 - Clean the inside filter of the oil tank.

10.ANOMALIES

10.1 OIL LOSSES FROM THE LOWER COLLECTING TANK.

If there are oil losses from the lower collecting tank, during the operation of the machine, the principal causes could be the following two:

1. The filter is obstructed.
Clean the filter or change it .
2. The regulating oil group is not calibrated and the manometer indicates values that exceed 2 bars with a consequent excess of the circulating oil.
Loosen the setscrew and the register till the value of the pressure in the manometer is under 1 bar.
3. Double check that the tank in the bottom of the machine is completely inserted in its place; otherwise some oil drops can fall on the floor.

If the loss goes on, notwithstanding these operations, please call the assistance service.

10.2 SIZE IRREGULARITIES

If, during the production, the weight of a single piece is not constant, this could depend on an insufficient vacuum of the intake piston. In fact, if this vacuum lacks, the dough could not be regularly sucked.

The principal causes of this problem could be two:

1. The choke rings or the rubber gasket of the piston are worn out, so you must substitute them, disassembling the piston.
2. The tolerance is more than the limits (0.022 and 0.05 mm). This can be caused by a wear of the surfaces (problem of oil circulation) or may be the hood has been changed and if you assembled the conic plugs you forgot to make the new seats with a conical broacher.

For the vacuum test , the good lubrication of the black rubber gasket is very important .
When you take away the hopper for the test , control that the gasket is completely lubricated , both in its upper side , both in its lower side and then mount the vacuum meter on the gasket .

10.3 OIL FLOW IRREGULARITIES

**DON'T LET THE MACHINE WORK IF THE PLASTIC ROLLER IS DAMAGED.
IF THE MACHINE WORKS WITH THE PLASTIC ROLLER WORN OUT, THIS COULD AFFECT THE SAFETY FEATURE OF THE MACHINE IN THE EXIT AREA.
FOR THIS REASON, IT IS IMPORTANT TO CHECK AT THE END OF EVERY DAY THAT THE ROLLER IS IN GOOD CONDITIONS**

11. SAFETY INSTRUCTIONS

11.1 SAFETY INSTRUCTIONS

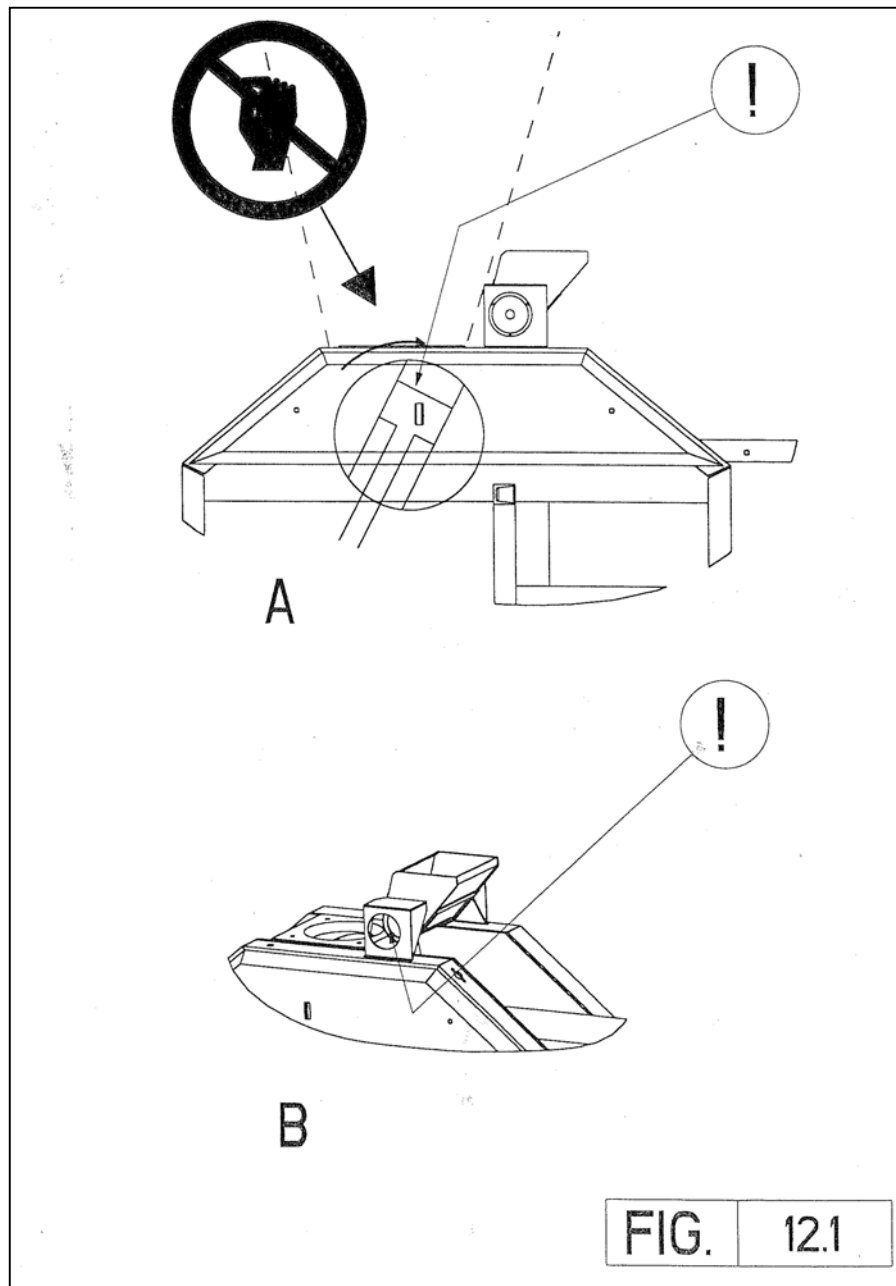
1. This machine has to be destined only for the use for which it has been expressly conceived . The constructor cannot be considered responsible for possible damages to persons , animals , or things caused by improper , wrong or irrational use .
2. After unpacking , make sure of the entirety of the machine . The packing elements must be kept away from children and are potentially dangerous .
3. Don't operate the machine until you read and understand the operating instructions and become thoroughly familiar with the machine and its controls.
4. BEFORE EVERY CLEANING OR MAINTENANCE OPERATION , DEACTIVATE THE MAIN SWITCH AND CUT OFF THE POWER BY DISCONNECTING THE ELECTRIC PLUG FROM THE CURRENT TAP .
5. DO NOT DISASSEMBLE ANY PART OF THE SAFETY UNITS OF THE MACHINE .
6. Never operate a machine while a safety device is removed or disconnected.
7. Never remove "Warnings" that are displayed on the machine.
8. Torn or worn labels should be replaced immediately.
9. Do not start the machine until all other personnel in the area have been warned and have moved outside the operating zone.
10. Remove any tools or other foreign objects from the operating zone before starting.
11. Absolutely do not have loose clothing or unrestrained long hair near operating machine.
12. Keep operating zone free of obstacles that could cause a person to trip or fall toward an operating machine.
13. Never sit or stand on anything that might cause you fall against the machine.
14. "Horseplay" around machinery at any time is dangerous and prohibited.
15. Know the emergency stop procedure for the machine.
16. Air, hydraulic and electrical power must be off when the machine is not in use. NOTE: for maximum protection, the power source should be locked out using a lock for which only one person has the key. This prevents anyone from accidentally turning on the power to the machine while it is being serviced.
17. Never by-pass limit or other safety switches.

18. Keep alert and observe indicator lights and warnings that are displayed on the machine.
19. Never leave the machine unattended while in operation.
20. Do not operate faulty or damaged equipment. Make certain proper service and maintenance procedures have been performed.
21. Avoid placing fingers, hands, or any part of your body into the machine or near moving parts when control circuits are energized.
22. The work of the machine can always be stopped acting on the red stop switch.
23. Control board is low-voltage made (24 Volt) .
24. In case of damage and/or bad working of the machine , deactivate it and absolutely do not try to repair it . Please apply to qualified personnel only . The repair of the products has to be made only by an assistance center , authorized by the constructor and using original spare only . The not observance of this direction could prejudice the safety of the machine .
25. Do the electric connection following the process described in the installation chapter .
26. This handbook must always be together the machine in every transfer of the machine .

11.2 HAZARDS

11.2.1 Working gears :

Sucking Piston and rotating cylinder . The working of this machine , with the piston which sucks and then cut the dough , is potentially very dangerous (see the picture 12.1) . The paragraph 4.5 describes the methods used to protect the user of the machine .



IT IS COMPULSORY TO FOLLOW ALL THE INSTRUCTIONS OF THIS HANDBOOK .

It is forbidden to take away , modify or damage any guard of the machine or substitute the hopper with one not approved by the manufacturer.

IT'S ABSOLUTELY FORBIDDEN TO START THE MACHINE IF THE HOPPER OF THE MACHINE IS NOT MOUNTED . THIS CAN CAUSE A BIG DANGER FOR PERSONS AND ALSO FOR THE MACHINE .

11.2.1.1 Access to the dividing mechanism through the discharge area

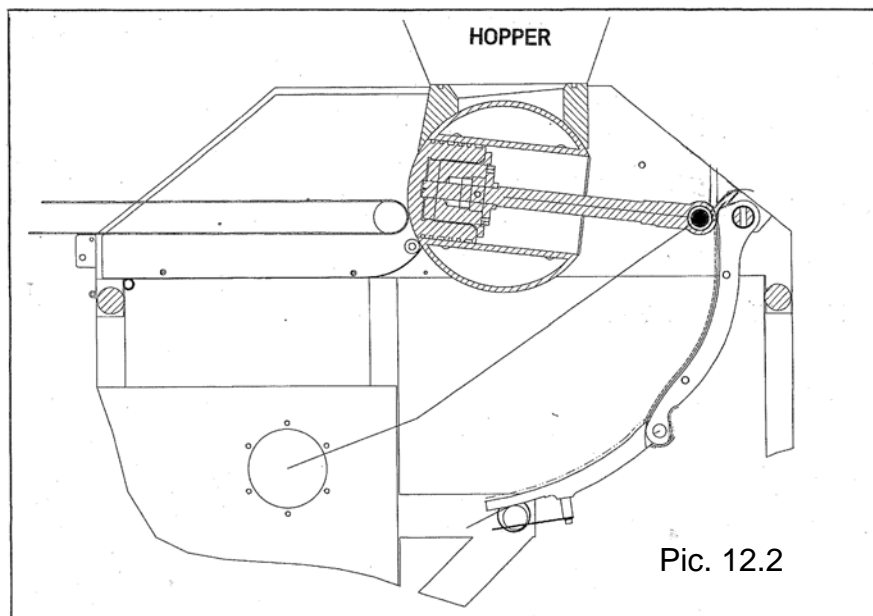
The machine has been designed to avoid any possibility of nipping the finger in the discharge area. In fact when the mouth of the cylinder is above the exit conveyor belt has reached the end of its run and the external surface of the piston is perfectly flush with the external surface of the drum.

The piston stays perfectly flush with the external surface all time long while the drum is rotating back in such a way avoiding any potential share between the fixed part: hood, and the moving part: drum.

These safety feature are ensured if the machine is kept in proper service conditions. It is very important to check carefully every day that the rubber wheel that run on the rail and push the piston flush with the external surface of the drum is not worn out.

To check that the rubber wheel is in good conditions do as follows:

- Slow down the speed of the machine to the minimum (so it will be easier to switch off the machine in the selected position).
- Switch off the machine while the piston is coming with the mouth over the exit conveyor belt. In such a way the piston will be almost horizontal and the rubber wheel will be in the top position on the rail (see picture 12.2). To be sure to be in the right position, check that the rubber wheel is on the top position of the rail.



Pic. 12.2

- Check that in this position the piston is completely flush with the external surface of the drum. IF THE PISTON IS NOT COMPLETELY FLUSH WITH THE EXTERNAL SURFACE OF THE DRUM THAT MEANS THAT THE RUBBER WHEEL IS WORN OUT AND YOU HAVE TO REPLACE IT WITH A NEW ONE. IT IS FORBIDDEN TOO LET THE MACHINE WORK WITH THE RUBBER WHEEL WORN OUT. THW MANUFACTURER DECLINE ANY RESPONSABILITY FOR ANY INJURIES THAT MAY OCCUR TO PERSONS WHILE THE MACHINE IS RUNNING WITH THE RUBBER WHEEL WORN OUT.

This yellow rubber wheel is continuously stressed while is running on the rail, for this reason the manufacturer supplies the customer with one spare white nylon wheel that is provided together with the tool of the machine.

Also after replacement of the yellow rubber wheel with the white nylon wheel it is very important to check every day the good state of this wheel and purchase immediately a new wheel (yellow or white according with Your choice) in order to have it ready for the next replacement. .

VERY IMPORTANT : the difference between yellow and white wheel are the following :

- **Yellow rubber wheel:** with this wheel the machine is more silent, but this wheel has a faster wear than the other in white nylon material.
- **White nylon wheel:** with this wheel the machine is a little more noise, but this wheel has a longer life that the other in yellow rubber material.

11.2.1.2 Flour duster

The flour duster is not a dangerous gear : the brush inside has an alternate motion and it is made with no hard materials .

11.2.2 Driving gears :

All the driving gears , which are all potentially dangerous , are protected by fixed guards and for the admittance to these gears it is compulsory to follow the precautions described in this handbook.

11.2.3 Electric hazards

The electric installation follows the safety European standards . Only qualified personnel can approach to parts of the machine usually under electric power and he must use always the following rules :

1. STOP THE MACHINE .
 2. DISCONNECT THE ELECTRIC CURRENT BY THE MAIN SWITCH (SEE THE CHAPTER ABOUT THE USE OF THE MACHINE) .
 3. TAKE AWAY THE PLUG FROM THE CURRENT-TAP .
 4. DO THE NECESSARY OPERATIONS .
- CONNECT THE PLUG TO THE CURRENT-TAP .

11.2.4 Hygienic hazards

The materials which get in touch with the dough are not toxic as by the law enacted number 108 of 25/01/92 . (25 of January) .

12. SPARE PARTS CATALOGUE

12.1 PICTURES AND IDENTIFICATION CODE

The catalogue needs to help the user in ordering the spare parts . Detail are shown with a design which makes the choice of the single piece easier and help the user for the perfect assembly of each part of the machine . In each design the spare parts are indicated with a position number that enables to easily find it.

Each part has to be identified through an identification code that has to be composed of four parts as per the following example:

FIRST	SECOND	THIRD	FOURTH
MOD.	FIG.	REL.	POS.
SVLC	005	001	002

FIRST: MODEL: INDICATES THE MODEL OF THE MACHINE

SECOND: FIG:INDICATES THE NUMBER OF THE FIGURE WHERE IS SHOW THE PART.

THIRD: REL: INDICATES THE RELEASE OF THE DRAWING TO RECOGNISE UP GRADES INTERVENTIONS ON THE MACHINE

FOURTH: POS: INDICATES POSITION OF THE REQUEST PART INTO THE ABOVE MENTIONED DRAWING

12.2 SPARE ORDERS

For spare parts orders it is necessary to indicate :

- 1) MODEL OF THE MACHINE
- 2) REGISTER (MATRICULATE) NUMBER (SEE THE MACHINE PLATE)
- 3) DRAWING CODE.
- 4) QUANTITY

**DISEGNI TECNICI
TECHNICAL PICTURES
TECHNISCHE ZEICHNUNGEN
DESSINS TECHNIQUES**

**IMPIANTO ELETTRICO
WIRING
ELEKTRISCHANLAGE
INSTALLATION ELECTRIQUE
ELECTRICO INSTALACION**

**SEE WIRING DIAGRAM
ON BOARD MACHINE**