PROMAG

le macchine per il gelato

CE

USE AND MAINTENANCE INSTRUCTION MANUAL: "CUOCICREMA" MACHINE

STARCREM 30 Evolution

STARCREM 60 Evolution

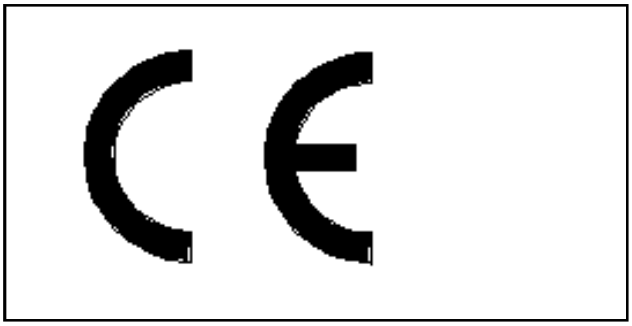
USER INSTRUCTIONS

STARCREM 30 Evolution

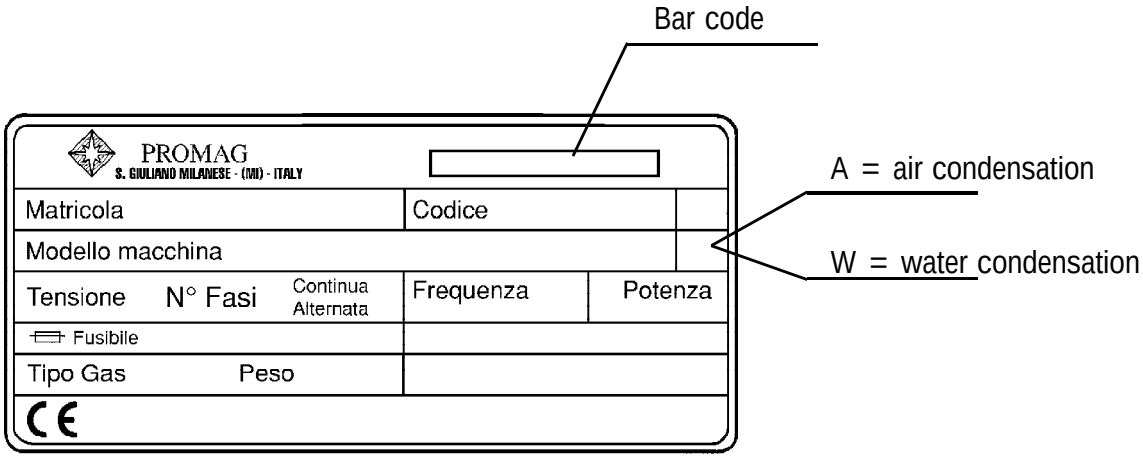
STARCREM 60 Evolution

STARCREM 30/60 IngleseUTILIZZATORE (USER)

03 - 2004



The technical data for each machine model is shown in the enclosed tables and on the data plate located on the rear side of the machine. This data is used as a reference when performing inspections or checks.



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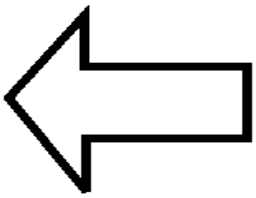

This plate is an exact copy of that located on the rear side of the machine, for this reason the manual forms an integral part of the machine and must be kept together with it.

Manufacturer

PROMAG

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Bologna Italy
Tel. 051-6505385
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Safe machine operation is assured by correctly following the instructions given in this manual. Therefore, we suggest you keep the manual in a safe place where it can be readily consulted as required.

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INTRODUCTION

This manual gives all assembly, operating and maintenance instructions required for assuring excellent operating results and a long machine service life.

Before starting to use the machine, read these instructions and follow them very carefully.

Please do not hesitate to contact us for any assistance you may require.

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Failure to abide by the norms included in this manual will invalidate the guarantee.

If the machine is sold or otherwise put into another person's possession,ensure that the manual accompanies the machine therefore allowing the new owner to correctly follow the operating procedures and abide by the relative precautions.

The present "CUOCICREMA" machine, is a multi-functional machine, destined exclusively for pastry products (cream cooking) and ice cream making (preparation and/or pasteurization of ice cream mixture).

Do not utilize the "CUOCICREMA" for any other use other than that described above.

A similar use shall be considered improper.

This machine is designed to be used by adults. Keep children away from the machine; they should not be allowed to play with it.

Any attempt to modify this machine will not only invalidate the guarantee but is also extremely dangerous.

In order to assure efficient, correct machine operation carefully follow the manufacturer's instructions and only allow professionally qualified personnel to perform any necessary maintenance.

Never try to repair the machine yourselves, as any attempt to make repairs by incompetent persons will not only be dangerous but may also cause serious injuries.

In the case of a malfunction, contact the distributor from whom the machine was bought. They can give you the address of the Authorized Service Centre closest to you.

Only use original spare parts for any necessary replacements.

If you decide to no longer use the machine, we advise you to cut the electrical cord so that it cannot be used (after disconnecting the plug from the power socket).

In addition:
- Under no circumstances should the refrigerant gas or compressor oil be allowed to escape and thus contaminate the environment.

- See that the machine is disassembled and that the parts are disposed of in accordance with the national regulations in force.

This machine contains H.C.F.C. gas which could be harmful to the environment in the case of incorrect maintenance operations or disassembly.

Therefore, any such operations must be done in accordance with the national regulations in force, and must only be performed by authorized maintenance personnel.

PROMAG reserves the right to make any and all modifications reemed necessary in order to keep the machine updated - technically or otherwise - as well as to allow it to meet the requirements of certain individual countries.

For any additional information or technical help you may require, please contact your authorized service centre.

This manual is made up of three parts:

Part A:
instructions and information for
the User and
the Technician-Installer

Part B:
instructions and information for
the Technician - the Shipper
the Installer - the Maintenance Man the Repair Man

Part C:
electrical diagrams
and spare parts

Copy of the conformity declaration found with the machine

I) *La ditta PROMAG, con la firma del suo delegato alla sicurezza del prodotto, dichiara sotto la propria esclusiva responsabilità che la macchina:*

2) *The company PROMAG hereby declares under its own sole responsibility, through the signature of its product safety manager, that the machine:*

3) *La société PROMAG, parla signature de son délégué à fa sécurité du produit, déclare sous sa propre et exclusive responsabilité que la machine:*

4) *Die Firma PROMAG erklärt unter ihrer ausschließlichen Verantwortung mit der Unterschrift ihres Beauftragten für die Produkt-Sicherheit, daß die Maschine:*

5) *Het bedrijf PROMAG verklaart hierbij uitsluitend op eigen verantwoordelijkheid, door middel van de handtekening van zijn manager produktveiligheid, dat de machine:*

6) *La empresa PROMAG, mediante la firma de su encargado para la seguridad del producto, declara bajo su propia y exclusiva responsabilidad que la máquina:*

7) *A firma PROMAG, com a assinatura do seu delegado para a segurança do produto, declara sob a própria e exclusiva responsabilidade que a máquina:*

8) *Firmaet PROMAG erklærer hermed, gennem den produktsikkerhedsansvarliges underskrft og under eget ansvar, at maskinen:*

9) *Yhtiö PROMAG vakuuttaa täten tuoteturvallisuudesta vastaavansa allekirjoittamana ja omalla vastuullaan, että kone:*

10) *Härmed intygar företaget PROMAG, genom underskrift av sin produktsäkerhetsansvarige och på eget ansvar, att maskinen:*

11) *Firmaet PROMAG erklærer herved, ved den produktsikkerhetsansvarliges underskrift og under sitt eneansvar, at maskinen:*

STARCREM 30/60 Matr.....

1) *preparatore e pastorizzatore di prodotti per pasticceria e gelateria, è conforme ai requisiti essenziali previsti dalle Direttive CEE 89/392, 91/368, 89/336, 73/23 e 93/68.*

2) *preparing and pasteurizing machine for pastry and ice cream products, complies with the essential requirements indicated in EEC directive 89/392, 91/368, 89/336, 73/23 and 93/68.*

3) *machine pour la prèparation et la pasteurisation de produits pour pâtisserie et glacerie, est conforme aux conditions requises essentielles prévues par les directives CEE 89/392, 91/368, 89/336, 73/23 et 93/68.*

4) *Maschine für die Vorbereitung und Pasteurisierung von Konditorei- und Speiseeisprodukten, den grundlegenden, von den EWG-Richtlinien 89/392, 91/368, 89/336, 73/23 und 93/68 gestellten Anforderungen genügt.*

5) *machine voor het bereiden en pasteuriseeren van producten voor gebak en consumptieijs, voldoet aan de essentiële voorwaarden vervat in de EEG-Richtlijnen 89/392, 91/368, 89/336, 73/23 en 93/68.*

6) *preparador y pasteurizador de productos para pastelería y helados, es conforme a los requisitos esenciales prevístos por las Directivas CEE 89/392, 91/368, 89/336, 73/23y 93/68.*

7) *Preparador e pastorizador de produtos para confeitaria e sorveteria, é feita conforme os resuisitos principais previstos pelas Normas CEE 89/392, 91/368, 89/336, 73/23 e 93/68.*

8) *maskine til tilberedning og pasteurisering af konditorkager og is-produkter overensstemmer med de væsentligste krav anført i EU direktiv 89/392, 91/368, 89/336, 73/23 og 93/68.*

9) *konditoria-ja jäätelötuotteiden valmistus-ja pastörointikone noudattaa EU direktiiveissä 89/392, 91/368, 89/336, 73/23 ja 93/68 ilmaistuja olennaisia vaatimuksia.*

10) *för tillagning samt pastörisering av bakverk och glassprodukter uppfyller de väsentliga kraven i EU-direktiv 89/392, 91/368, 89/336, 73/23 och 93/68.*

11) *maskin for tilberedning og pasteurisering av deig-og iskremprodukter er i samsvar med de vesentligste krav angitt i EU-direktiv 89/392, 91/368, 89/336, 73/23 og 93/68.*

The operating instructions form an integral part of the machine. - The machine user must not perform any of the operations described in parts B and C; these must only be carried out by a qualified technician. - The user is therefore informed that if he attempts to do so he will compromise the safety and health standards with which the machine is designed and built.

INFORMATION FOR THE USER AND TECHNICIAN-INSTALLER

General Information

Thank you for having chosen this machine. Please read the instructions in this manual carefully; they will assure long machine service life.

We can guarantee that only the very best materials have been used for this machine, that it has been very carefully tested, and that we are always ready to serve and assist you in the best possible way.

IMPORTANT PRECAUTIONS

When the machine is being installed, make sure that a disconnecting switch is installed on the power supply line by a qualified technician.

Always ensure that the plug is disconnected from the mains before putting your hands inside the machine or before performing cleaning or maintenance operations.

(Contact a qualified technician whenever maintenance is required).

Never clean the machine using a water jet under pressure.

Always ensure that the plug is disconnected from the mains before removing the housing, side panels or any other protection in order to carry out any operation within the inner part of the machine.

(Such operations must only be performed by a qualified technician)

HELPFUL ADVICE

When manufacturing your products only use the very best ingredients, in order to fully satisfy even your most demanding customers.

Obtain all basic ingredients from well-established firms that have a proven reliability.

When making your products follow the instructions very carefully and do not try to change the recipe in any way.

Always keep the machine spotlessly clean.

For all necessary repair work always contact one of PROMAG's assigned maintenance firms.

If any of the operating, cleaning or maintenance instructions given in this manual are not carefully followed, and an accident occurs, PROMAG cannot be held responsible.

Thanking you once again, we wish you all the best.

A 1 - ENVIRONMENTAL CONDITIONS

The machine must not be kept in a room where the temperature can drop below 0° C.

The machine is not designed for installation in atmospheres where there is a risk of explosion.

A 1.1
MACHINE OPERATING NOISE LEVELS

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The acoustical pressure level produced by the machine is shown on the enclosed technical diagram.

Measurements were made throughout the operating cycle using a class 1 instrument held at the point where the user stands in relation to the machine (as indicated in the sketch).

Level of continuous acoustical pressure measured with a ponderation "A" filter.

STARCREM 30 - STARCREM 60
dB (A) 61 ÷ 65

A 2 - MACHINE DESCRIPTION

Significance of trade-mark names

STARCREM 30 = 30 litres
STARCREM 60 = 60 litres

Function:
MULTIFUNCTIONAL MACHINE TO BE USED EXCLUSIVELY FOR PASTRY PRODUCTS (CREAM COOKING) AND ICE CREAM MAKING (PREPARATION AND/OR PASTEURIZATION OF ICE CREAM MIXES, MAINTENANCE AND/OR MATURING OF ICE CREAM MIXES).
For technical data of machines, see enclosures.

Machine components
The machine is complete with a main frame with a stainless steel structure, the base of which is provided with four wheels, one at each corner.

The frame is parallelpipedal, containing the cylinder, electric box and cooling system.

The cylinder is mounted vertically, disposing of a cooling system on external surface (containing refrigerating gas), a heating system (containing water) and a deep basin (containing water), in which resistances are located, and whereby heating is carried out with "bain-marie" method, a particular characteristic of Promag.

The low speed and high speed mixer shafts are immersed in the cylinder. They are connected to respective motors, the latter being assembled onto motor bearings.

The main cooling system elements comprise: a compressor, a condenser, a thermostatic valve and a compressor pressure switch.

The cylinder diposes of an outlet which is located on the front side of the machine. This opening may be closed with a cock, provided with a piston with two O-ring seals.

Above closes outlet at the level of container edge. This solution guarantees a perfect hygiene, as the mix contained in the cylinder has no chance of stagnating in the stub pipe.
The outlet diameter may also be reduced for the discharge of extremely liquid mixes.

Two half-lids are located at the upper part of the cylinder, served by two magnetic safety microswitches.

On opening any one of the two lids, all machine operations will be interrupted and "OPEN" will appear on the display.

As already mentioned, the motors are mounted on motor bearings.
Above are served by a magnetic safety microswitch. On lifting the motor bearings, all operations of the machine are interrupted and "OPEN" will appear on the display.

The manual cock commanding the small washing shower unit is located on the upper left front side of the machine.
The small shower unit is situated on the bottom of the cylinder in the right-hand corner.

A control panel, facing inwards, is located on the upper front side of the machine, where an electronic card may be found.

Control buttons are accessible on control panel.

The electric box, as described above, is also included inside the frame and is positioned on the rear side of same.

Water connections for cooling system are present on the rear side of the machine, in addition to those for drinking water for small shower unit.
Electric feed cables are also present.

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A 3 - NUMBER OF USERS AND TYPE OF WORK

The machine is designed to be used by one operator only, in charge of loading product to be processed, setting productive cycle and subsequent recovery of product through cock.

A 4 - PRODUCTIVE CYCLE

The user opens the front half-lid (**34**) and pours the product into the cylinder, closing same.
He starts up productive cycle, after having set appropriate parameters with buttons (**36**).
He unloads product by using special cock (**37**).

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A 5 - OPERATING MODES

The machine is designed for a single type of continuous operation, on pressing heating or maintenance buttons.

Machine stops automatically.
Machine is also designed for manual operation on pressing buttons for low speed stirring, intermittent low speed stirring, high speed stirring.

A 6 - PRECAUTIONS

Danger points

The machine has certain danger points and areas where accidents may occur if the following precautions are not observed.

- It is forbidden and very dangerous to approach machine cylinder when same is turned on or in motion.

- It is forbidden and very dangerous to carry out any repairs on system, whether mechanical or electrical, when the machine is functioning.

Refer to enclosures for electric and water systems.

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- It is forbidden to use the machine without operatorís supervision.

- It is forbidden and very dangerous to come too near and/or touch with any part of the body and/or any type of object the shaft bars: low speed and high speed mixers project from cylinder covers
until reaching motor bearings.
For the same reason do not approach relative motors from rear side of motor casing.

- It is forbidden and very dangerous to introduce parts of the body or any type of object into the product outlet.

- It is dangerous to touch machine ON/OFF wall switch with wet hands.

- It is strictly forbidden to open electric box.

- It is forbidden and very dangerous to approach the machine with magnetic materials, as they would interfere with magnetic safety microswitches located under the two cylinder half-lids and under the right shoulders of the motor bearings

(For the user only)
It is forbidden and very dangerous for user to carry out any intervention which should be done by a TECHNICIAN/INSTALLER.
Removal of protective coverings and access to internal parts of machine, in addition to all internal maintenance operations, repairs, installation, transport and unpacking must be carried out by qualified personnel.

A 7 - SAFETY DEVICES

A 7.1

Three magnetic microswitches are mounted onto the STARCREM machines (**19**) (**20**) (**21**).
Microswitch (**19**) is located on the front left-hand side under the cylinder.
Microswitch (**20**) is located on the rear right-hand side under the cylinder.
Microswitch (**21**) is located on the rear left-hand side under the cylinder.
Their purpose is to block any machine operation should the front half-lid [(microswitch (**19**)], motor bearings [(microswitch (**20**)], rear half-lid [(microswitch (**21**)], be opened or lifted with the machine in operation.

A 7.2

There is a machine stop button (**7**) located on the control panel at the front of the machine which, when pressed, stops any machine operation.

A 7.3

- 12 Volt control panel.

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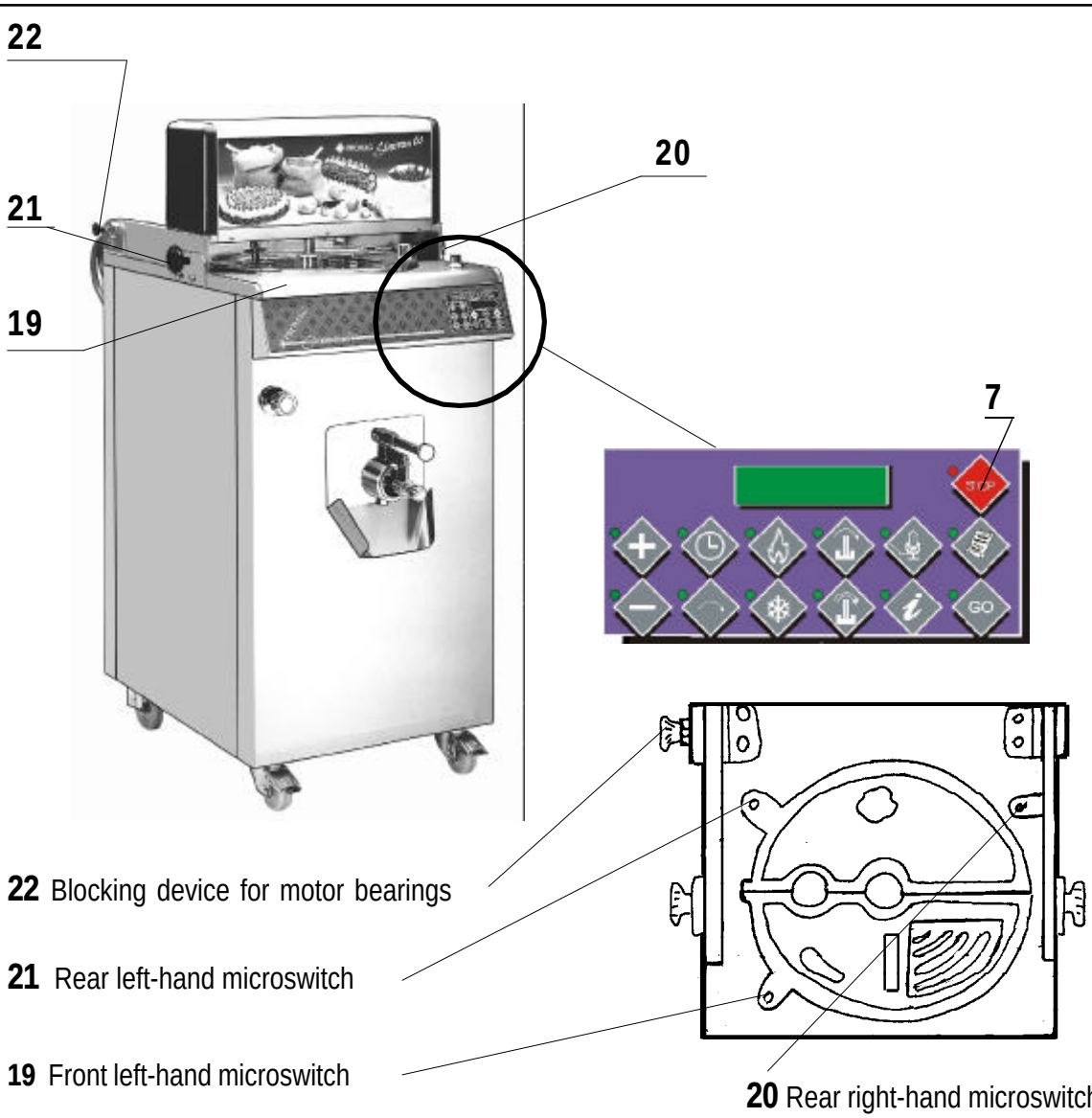


22 Blocking device for motor bearings

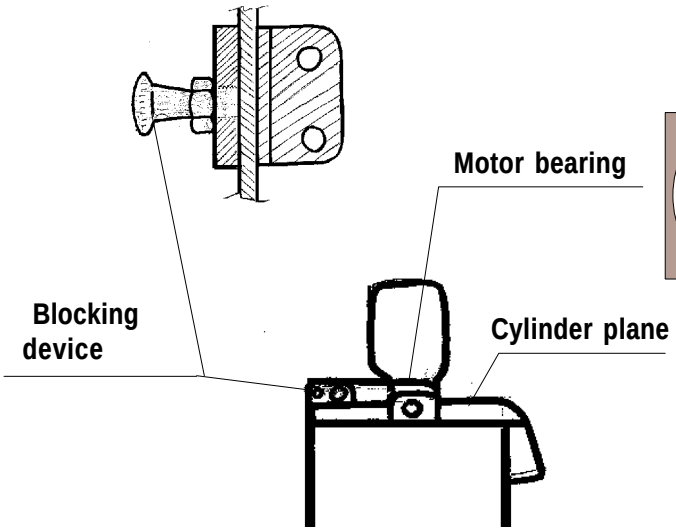
21 Rear left-hand microswitch

19 Front left-hand microswitch

20 Rear right-hand microswitch

A 7.5
The STARCREM machines also have a safety device to block the motor bearings (22).
The purpose of this is to prevent motor bearings falling onto cylinder plane, should the latter be lifted for either cleaning of mixer shafts or for any other reason.

A 7.5a
Normal position of motor bearings with machine in operation. The motor bearing leans on cylinder plane and disconnected blocking device.



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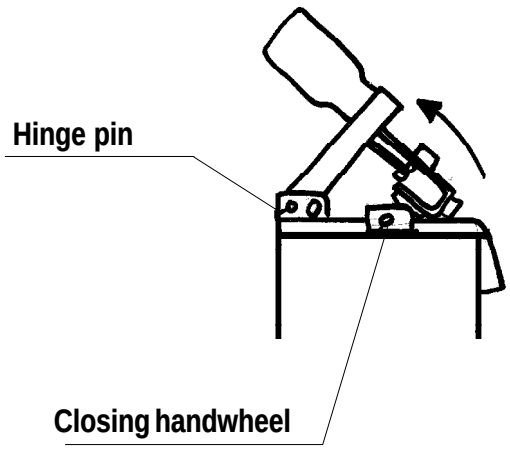
A 7.5b
Turnover phase of motor bearings.
The motor bearing may be lifted subsequent to unscrewing of closing handwheel screws.

Perform above operation with extreme care, so that motor bearing does not fall on cylinder plane, subsequently hitting operator and causing serious damage.

Until motor bearing is not in a vertical position, the relative safety blocking device will not be activated; therefore, as already mentioned, it is the operatorís responsibility to take precautions, utilizing the necessary measures to prevent risks of crushing, entangling, or cutting with regard to persons, animals or objects.



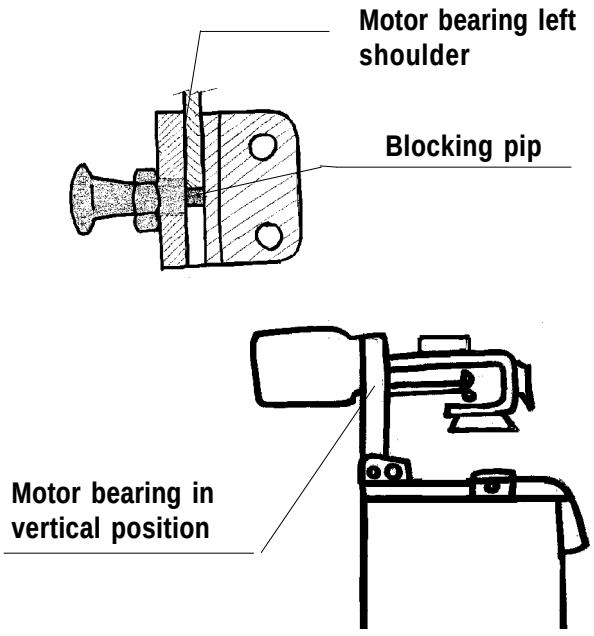
A. 7.5c

Motor bearing entirely upturned: motor bearing has been completely lifted, therefore now in vertical position. Only in this position will the blocking security device be activated, causing the block pip to protrude.

In this manner, the motor bearing cannot fall onto the cylinder plane and cleaning and washing operations may be safely performed.

However, it is always necessary to check that above device is functioning properly, together with wear of same.

Should any deterioration be detected, please contact authorized technical service.



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A. 7.5e

Closing of motor bearing on cylinder plane.

In order to carry out this operation, it is necessary to unblock security device.

With the right hand, firmly maintain motor bearing in vertical position; contemporarily pull the security device knob towards the left with the left hand.

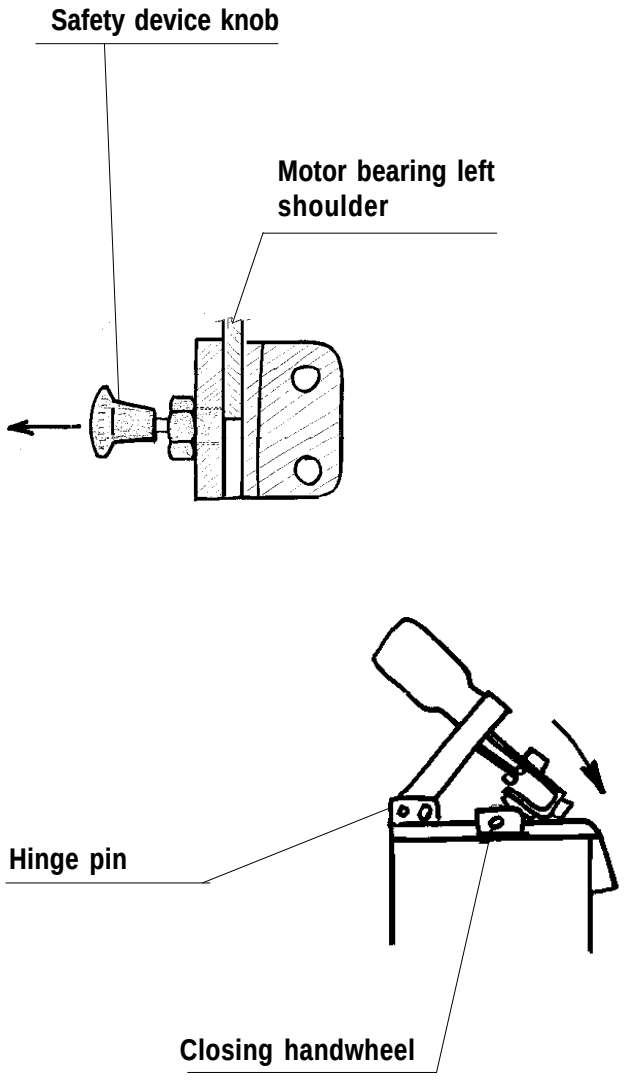
Slightly lower motor bearing, until block pip grazes over left shoulder of motor bearing. In this position, safety block may no longer be activated.

Firmly grip motor bearing with both hands, subsequently lowering same onto cylinder plane.

Carry out this operation extremely carefully, avoiding that motor bearing falls abruptly onto cylinder plane, subsequently hitting operator and causing serious damage.

When closing motor bearing, it is operatorís responsibility to be careful, taking necessary precautions to prevent risks of crushing, entangling and cutting with respect to persons, animals or things.

When the motor bearing is on the cylinder plane, block it with two closing handwheels.



A 8 - MACHINE USE

Use according to norms.
STARCREM machines are expressly designed to cook cream, being multifunctional and only destined for pastry products (cream cooking), ice cream making (preparation and/or pasteurization of ice cream mixes), maintenance and/or maturing of ice cream mixes.

Use for any other purpose will not conform to the norms.

The manufacturer is not responsible for any damages deriving from improper use.

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Any risks will be borne by user.
Manufacturerís safety, operational and maintenance regulations must be observed.

The norms in force regarding accident prevention and other acknowledged technical safety regulations must also be observed.

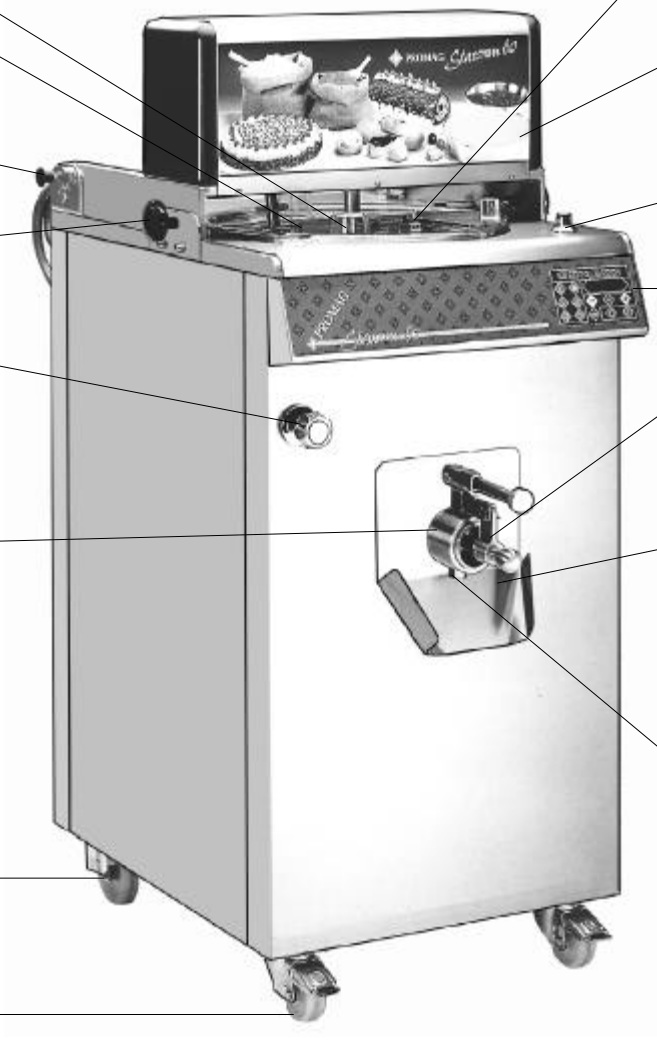
Only properly trained and qualified personnel may use, maintain or repair the machine.

The machine is mainly manufactured in stainless steel AISI 304, together with plastic material as for the food industry.

Any arbitrary modifications made to the machine will exonerate manufacturer from any eventual damages deriving therefrom.

The machine may only be used with original accessories and spare parts made by the manufacturer.

A 9 - DESCRIPTION OF EXTERNAL COMPONENTS (front view)



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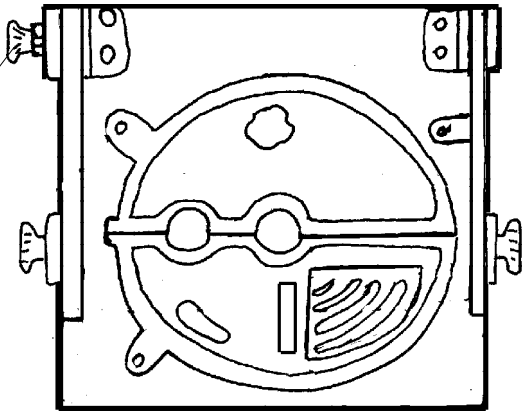
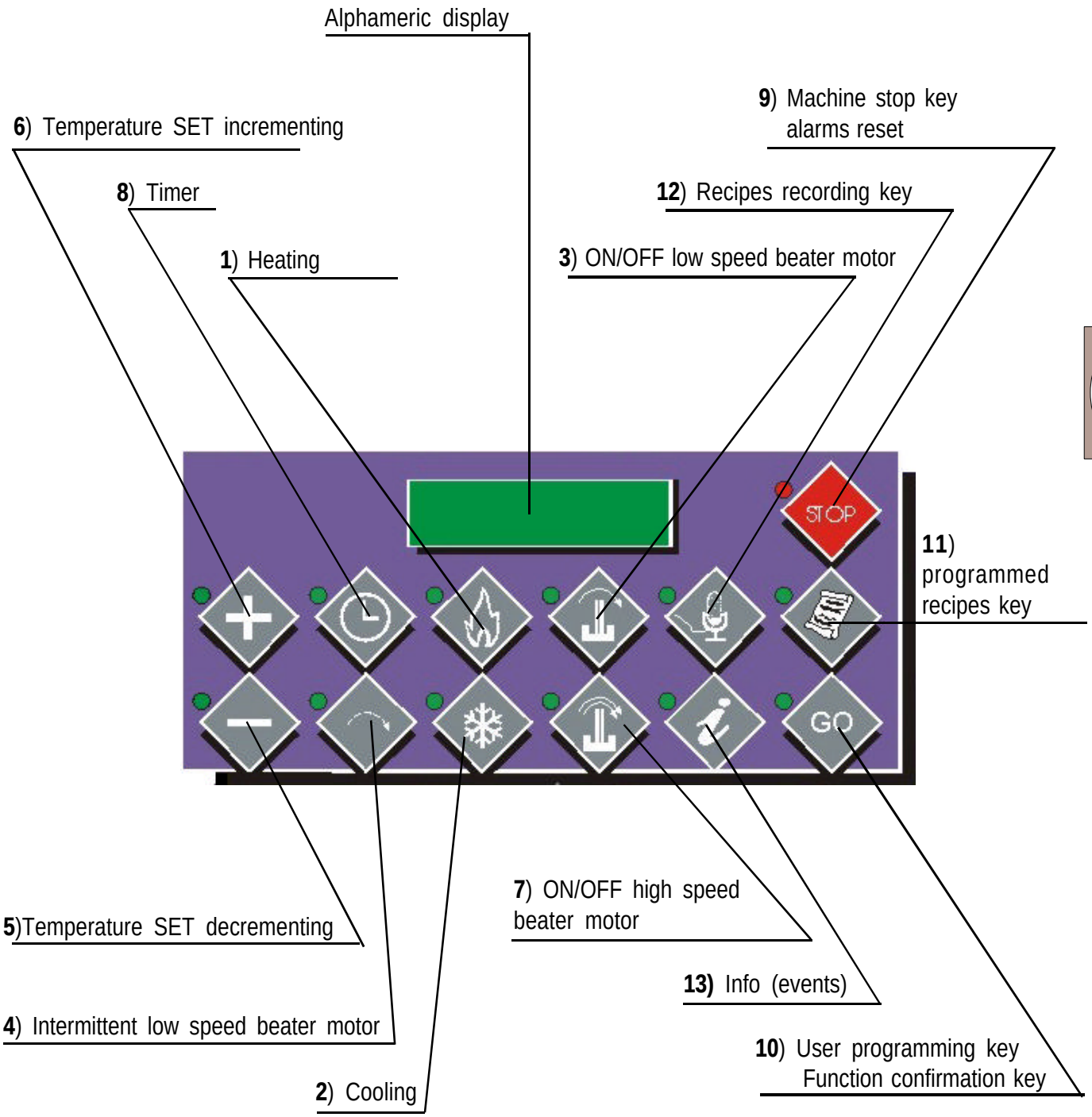
A 9 - DESCRIPTION OF EXTERNAL COMPONENTS (top view without motor casing)



A 9 - DESCRIPTION OF EXTERNAL COMPONENTS (Control panel)



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A 9 - DESCRIPTION OF INTERNAL COMPONENTS (controls)

A 9.1
Machine stop - alarms reset

In this function, the machine is not working and its led is on. From stop position, access to any machine function is made possible. On display: real time

This button is also used to reset every alarm.

A 9.2
ON/OFF low speed beater motor

This button activates beating in the tank. The function can be deactivated with STOP key. Time as well as mix temperature in the tank are displayed.
Low speed beating is controlled by an Inverter. That's why low speed beating is divided into 3 speed modes: Low, Mid and High.

One pressure of this key will fixed-light relevant led and activates Low speed.
If the same key is pressed twice, relevant led will blink and Mid Speed will be activated.
On third pressure, led will blink more quickly and High Speed will be activated.
When pressing the same key again, beating mode will be deactivated.

A 9.3
INTERMITTENT low speed beater motor

any of LOW BEATING MODES can be INTERMITTENT if you press this button.
One can insert intermittence only after activating a beating mode.

A 9.4
ON/OFF high speed beater motor

This key activates toggle high speed beating in tank. High speed beater motor is independent of low speed beater motor .
The screen displays time and temperature of mix inside the tank.
Intermittent high speed beating activation is not allowed.

A 9.5
Functions confirmation

By pressing this key you confirm the execution of an automatic program selected.

A 9.6
Heating

By pressing this key, the screen will display the time on top, the temperature to be reached (set) down leftwards and the real temperature read in that moment down rightwards.
The product is heated till pre-set temperature (set) is reached and held through Low Speed low beating on continuous running.
By pressing low speed beating key, you can change speed mode or disable it in order to get a static heating.
It is also possible to activate and deactivate high speed beating by pressing relevant key.
With buttons (**5**) Decrementing or (**6**) Incrementing one can respectively decrease and increase the value of pre-set temperature (set).

A 9.7
Cooling

By pressing this key, the screen will display the time on top, the temperature to be reached (set) down leftwards and the real temperature read in that moment down rightwards.
The product is cooled till pre-set temperature (set) is reached and held through low speed beating.
By pressing low speed beating key, you can change speed mode or disable it.
It is also possible to activate and deactivate high speed beating by pressing relevant key.
With buttons (**5**) Decrementing or (**6**) Incrementing one can respectively decrease and increase the value of pre-set temperature (set).

A 9.8
Incrementing

This key is used to increment temperature sets, whenever it is allowed (relevant led on).
In programming mode, it is used to increase the value of programming steps.

A 9.9
Decrementing

This key is used to decrement temperature sets, whenever it is allowed (relevant led on).
In programming mode, it is used to decrease the value of programming steps.

A 9.10
Timer

This timer is linked up with acoustic signal, only.
Once it is pressed, the screen display time on top, set value down leftwards and incrementing time down leftwards.
An acoustic signal will warn you that time is over.
The value can be changed through (**5**) decrementing and (**6**) incrementing keys 1 to 59 minutes; if you go on increasing the value, hours (minutes may no longer be changed) will automatically increase up to a maximum of 9.

A 9.11
Info (events)

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The machine has a wide memory which helps us storing most events (selected functions, alarms, etc.)
In order to read events it is necessary to set the machine at STOP and press INFO key. The screen will display the most recent event and will also indicate date and time of happening. Events can be scrolled using incrementing and decrementing keys.
In order to leave events mode, press STOP or just wait for 15".

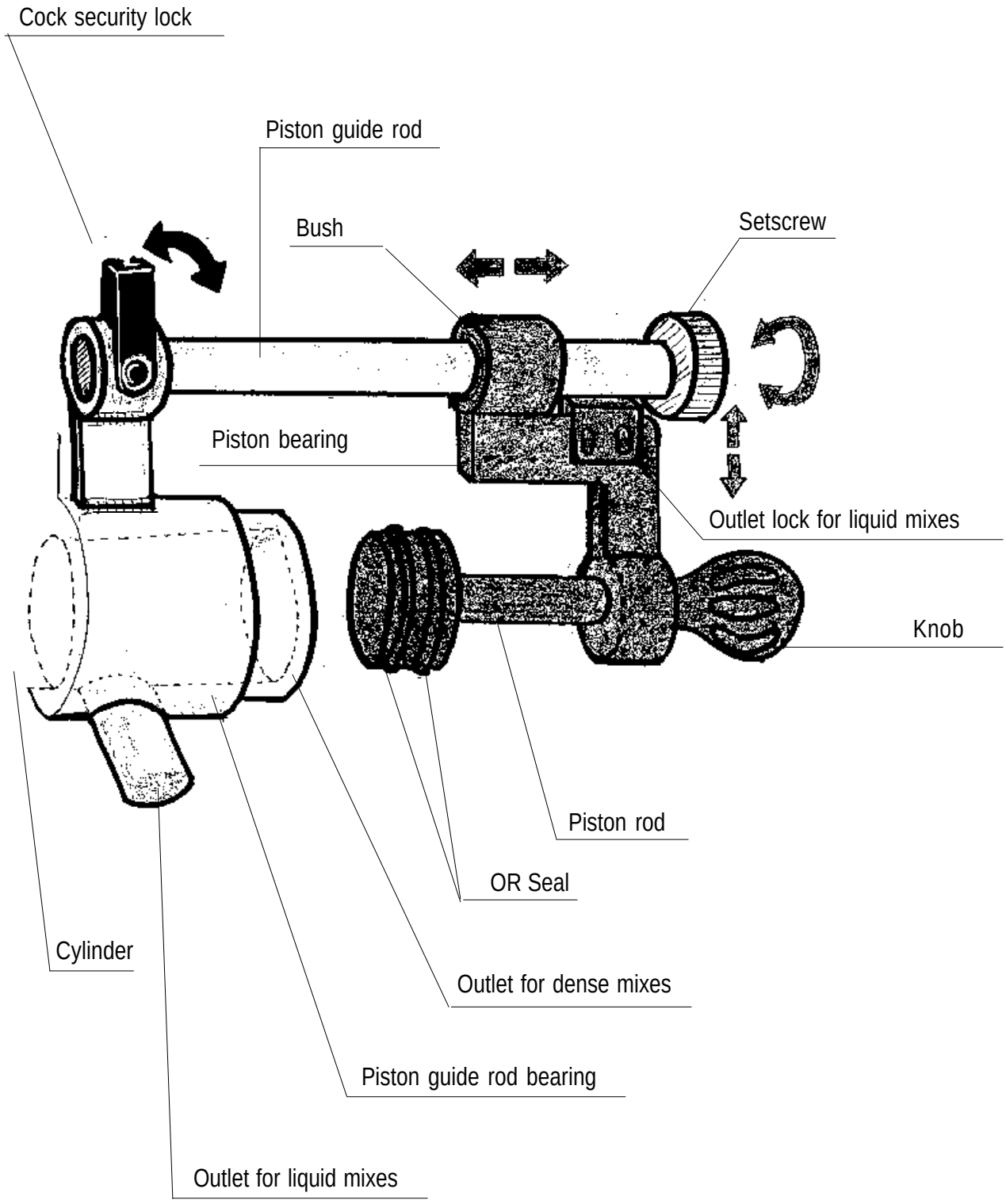
A 9.12
Recipes recording

This key has different functions referring to reading, personalizing and constructing recipes personalized by the user.
In order to construct a recipe, it is necessary to set the machine at STOP and press recipes recording key : the machine will automatically set at the first free program (1÷9).
It is time to insert the necessary functions of the program steps, now (heating, cooling, timer, etc.). Press the Recipes Recording in order to store and enter next step. Max. number of steps per program is 25. Going beyond this limit, the screen would display "Steps out", so returning to STOP and cancelling the porgram.

A 9.13
Programmed recipes

By pressing this key, the first available automatic program will be displayed. You have 8 automatic programs and can select them by means of incrementing and decrementing buttons. Once the program you may wish to execute is selected, press selection confirmation key (**10**).

A 9 - DESCRIPTION OF EXTERNAL COMPONENTS PRODUCT OUTLET COCK



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A 9 - DESCRIPTION OF EXTERNAL COMPONENTS (rear view)

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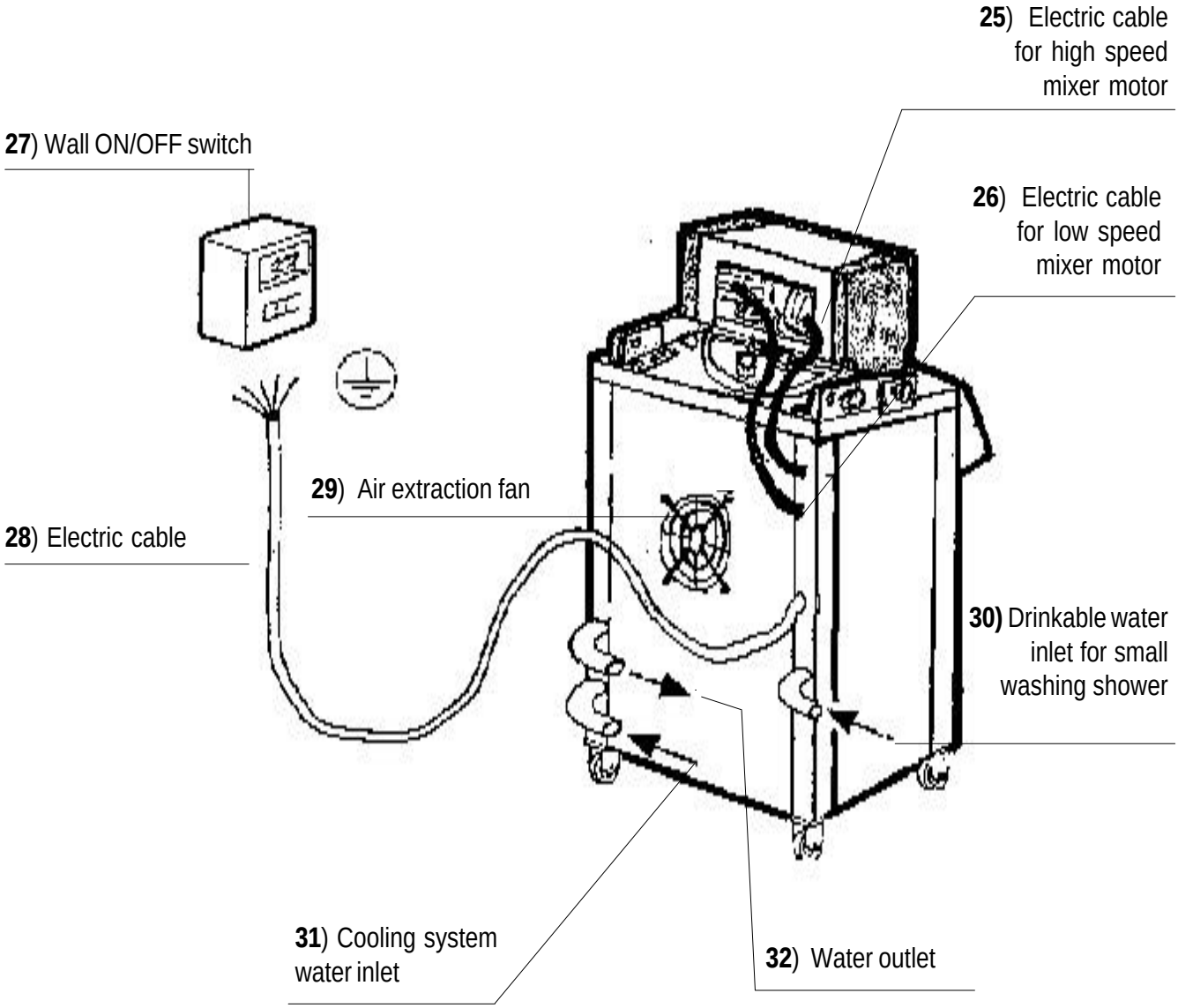


In order to avoid mineral deposits in the tubes and condenser, caused by water hardness, it is recommended to install a water softener.

A 10 - CORRECT USE OF PRODUCT DISPENSING COCK

In order to use the product dispensing cock correctly, the following must be carried out:
begin productive cycle after having carried out cleaning operations indicated in specific paragraph.
However, remember that mechanical parts in contact with food must be perfectly sterilized, whilst those in motion or sliding must be subsequently lubricated, using advised products or similar.

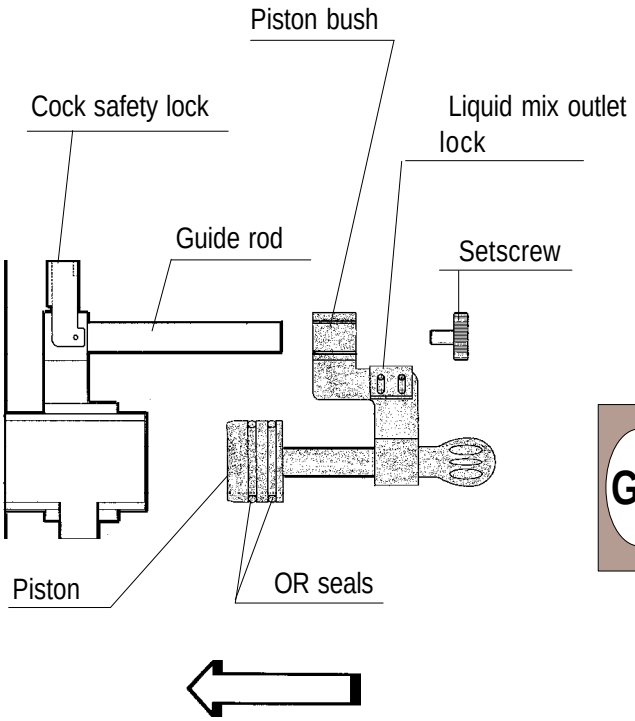
A - Check that guide rod, piston bush and 2 OR seals are duly lubricated. Push piston guide rod bearing against slide.
Tighten the dowel on the right-hand side with special setscrew wrench.

B - Place cock safety lock in vertical position.

C - Place liquid mix outlet lock in downward position.

D - Assemble piston group onto guide rod with piston bush. Centering of bush with rod should be carried out carefully, thereby avoiding any damage to bush during introduction, wearing out external edges of same.

E - Screw setscrew until contact is made with guide rod.



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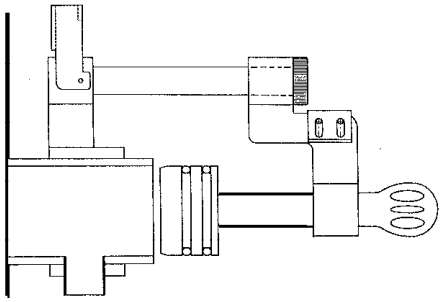
A 10.2
Cock disassembly
Repeat previous operations in opposite sense.

Assembled cock

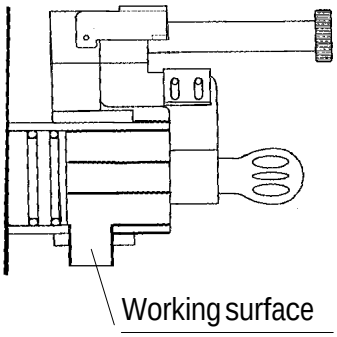


A 10.3
Cock closing
A - Push the piston group towards the dense mix outlet.
The movement direction must be perpendicular to outlet.
IN NO WAY MUST GUIDE ROD OR PISTON GROUP BE FORCED IN DIFFERENT DIRECTION, as disalignment of guide could be caused, with consequential erroneous centering of piston in outlet.

B - Introduce piston into the outlet with a smooth movement, avoiding that any metallic parts of the two components come into contact with one another. Push piston until reaching stop.

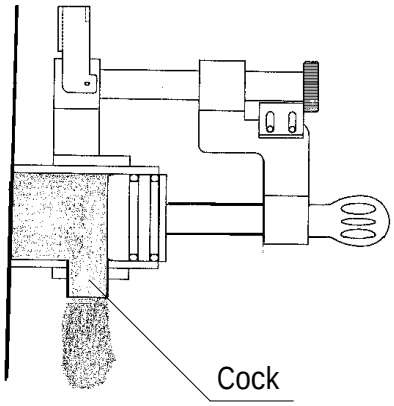
C - Lower the cock safety lock.

D - This will guarantee closing position, also in the presence of strong mixing vibrations in the cylinder towards outside.



A 10.4
Extraction of liquid mix

A - Once the cock is closed, pull the lock upwards to discharge liquid mixes.
B - Place the cock safety lock in vertical position.
C - Pull piston group in perpendicular direction with respect to outlet, until lock for liquid mix outlet rests against the setscrew. At this point, the mix will be discharged from the lower part of the outlet, through the stub pipe with a diameter suitable for liquid mixes.
Attention:
After every extraction of liquid mixes, wash the cock perfectly, using the proper swabs. Subsequently, sterilize using the proper hygienic solutions.



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A 10.4
Extraction of dense mix

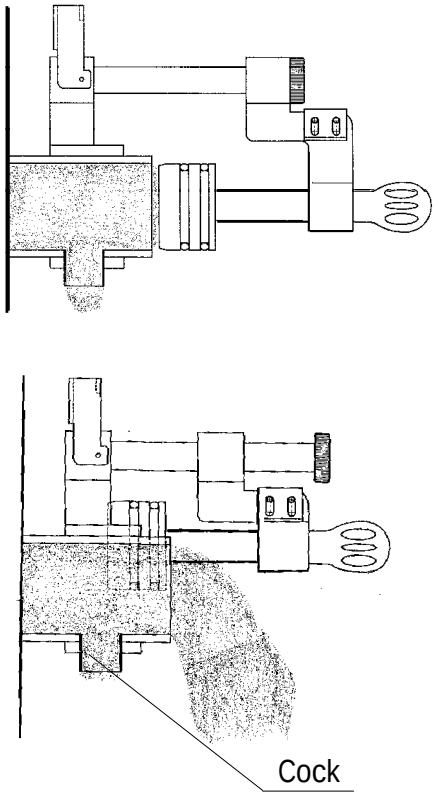
A - When liquid mix is ready to be discharged, lower outlet lock.

B - Pull piston group in perpendicular direction with respect to outlet, until same rests against the setscrew.

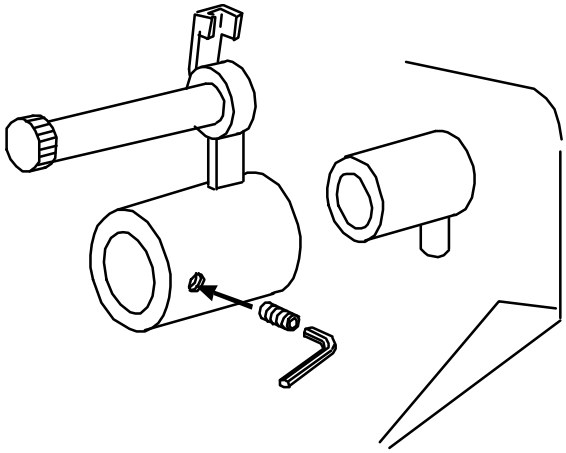
C - Very slightly turn piston group around guide rod.

D - Push piston group, leaning it on outlet.

At this point, a small quantity of the mix will be discharged from the lower part of the outlet through the pipe stub with a diameter suitable for liquid mixes, whilst the majority will be discharged from the front part of the outlet for dense mixes.
Attention:
After every extraction of dense mixes, wash the cock perfectly, using the proper swabs. Subsequently, sterilize using the proper hygienic solutions.



A 10.5
ATTENTION
Never unscrew cock screws. The only screw which may be unscrewed, for cleaning purposes, is that supporting the piston guide rod.



A 11 - SCRAPING BLADES

A 11.1
The slow speed beater shaft is provided with two blades made of teflon, which function is to scrape the tank wall and at the same time to stir the product.

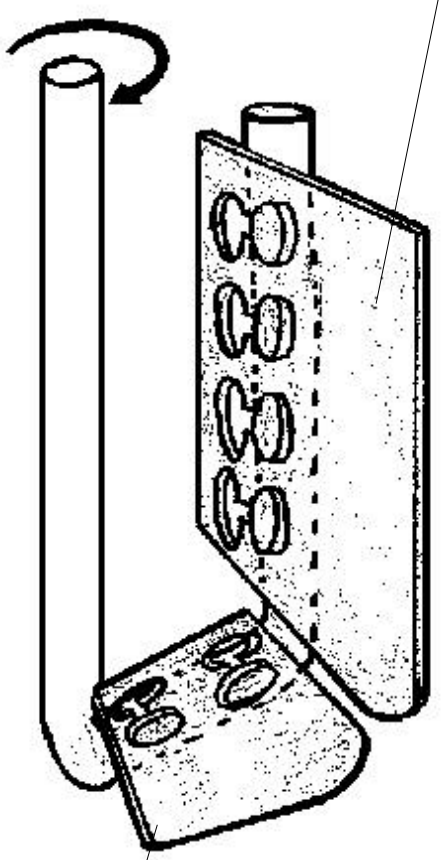
A 11.2
Blade assembly
In order to assemble the blades, the motor bearing must be in vertical position.

With regard to above, reference should be made to paragraphs on safety devices, dangerous points on the machine and other risks, inviting the user, technician-installer or any other person to strictly follow instructions contained therein.

No responsibility will be assumed for improper use of the machine or operations carried out which are not in compliance with safety regulations.

The blades are hooked on, mating hole with head, pushing blade until resting against slot.

A 11.2
Disassembly of blades
Proceed as indicated for assembly, but with reverse sequence.



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Informative notes for user, but strictly concerning technician-installer

A 12 DESCRIPTION OF INTERNAL COMPONENTS STARCREM 30 - 60

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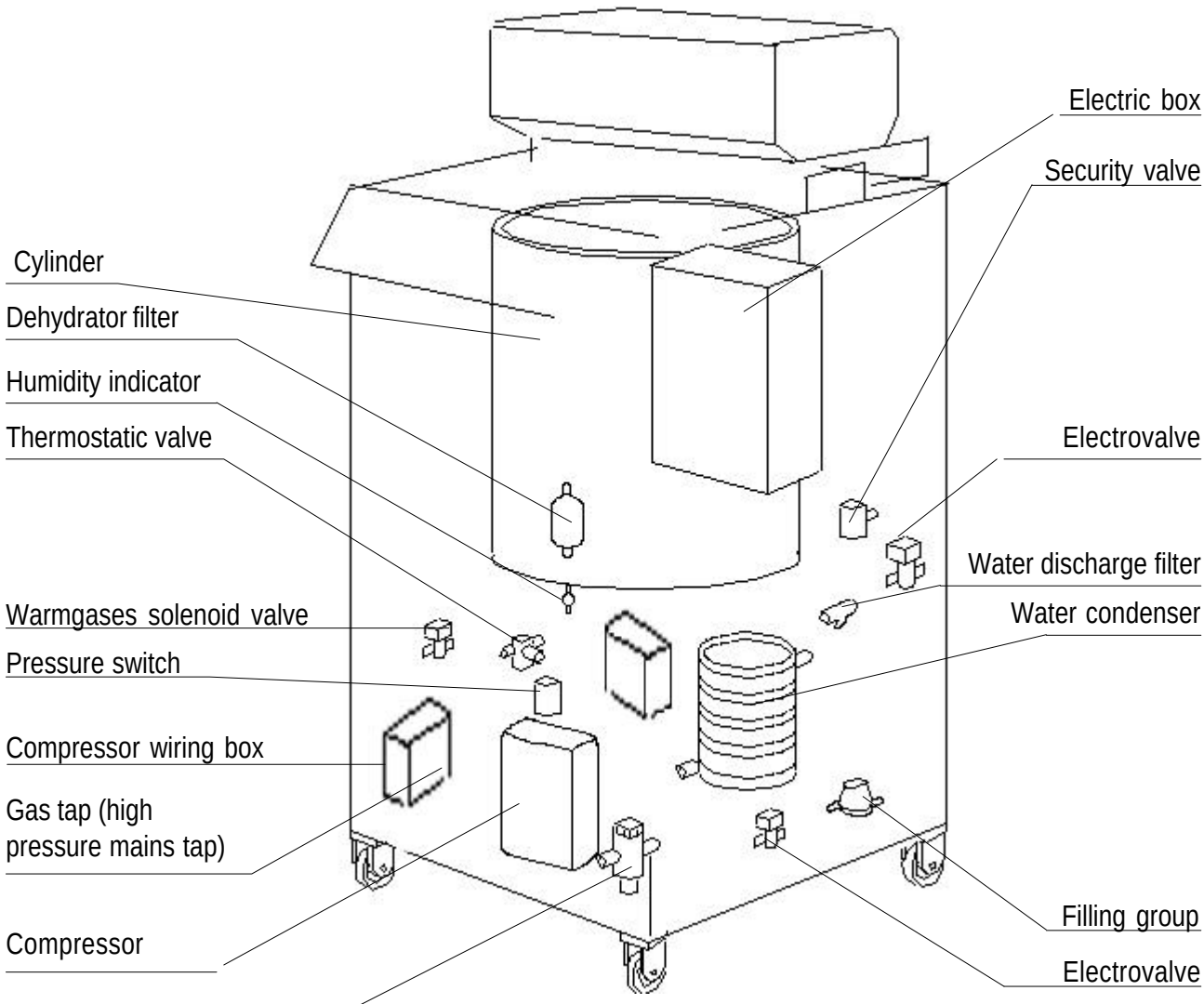


A 13 - DANGEROUS POINTS ON THE MACHINE

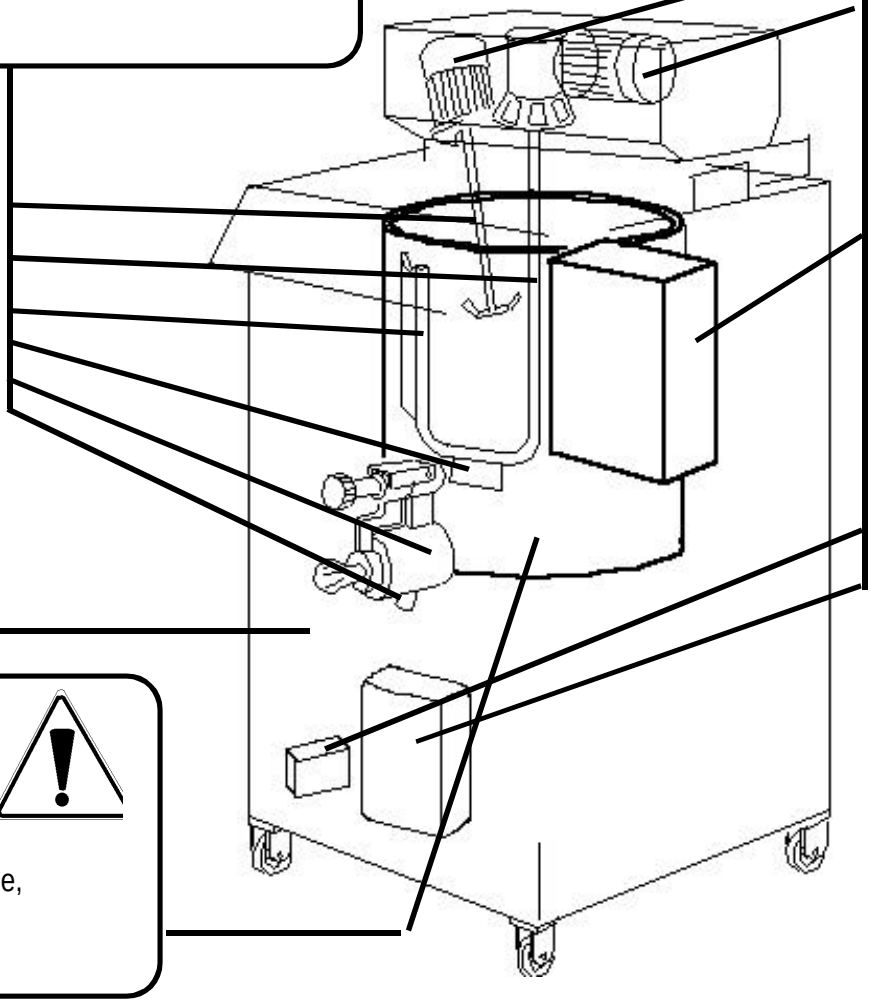
Definition of dangerous areas with relative warning modalities; general description of protection measures adopted.

PARTS IN MOTION

TAKE CARE OF HANDS

A 13.1)
Danger of entangling and dragging.
Danger of cutting and crushing.
- High speed mixer shaft.
- Low speed mixer shaft.
- Blades.
- Product outlet with cock open or disassembled.

A 13.4)
Dangerous electric voltage
- General electric panel.
- Motor compressor.
- Motors.



A 13.2)
Thermal danger:
hot and cold parts.
- Cooling system.
- Compressor connection tube, condenser.
- Cylinder.

A 13.3)
Dangerous pressure:
- Cooling system under pressure.

GB

A 14 - DANGEROUS POINTS ON MACHINE
with motor bearings in vertical position and during opening

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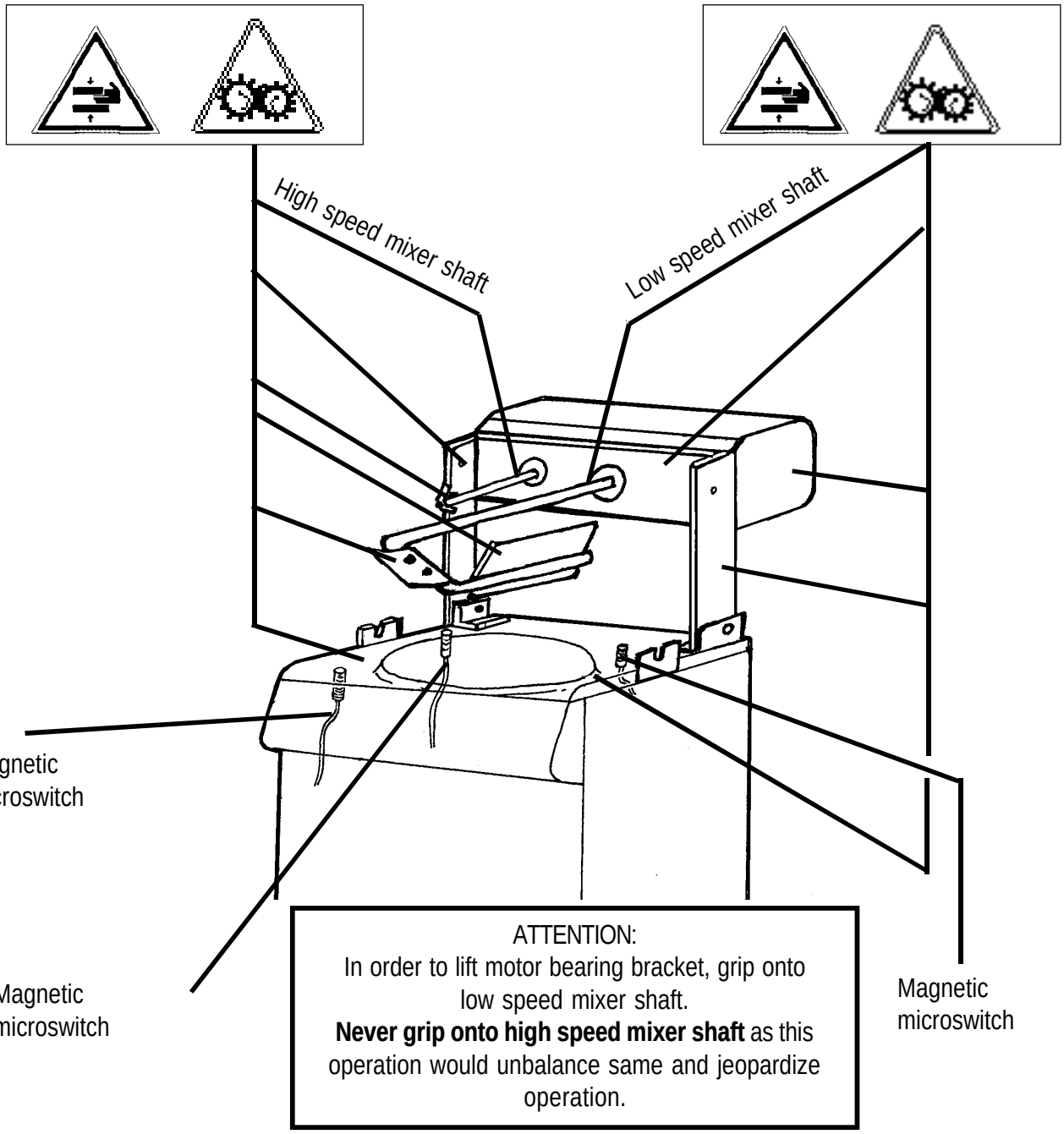
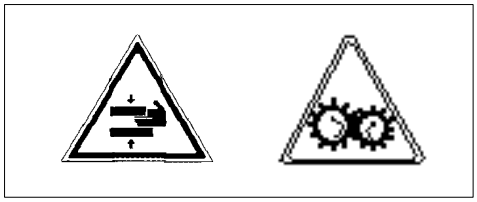


ATTENTION:
In order to lift motor bearing bracket, grip onto low speed mixer shaft.
Never grip onto high speed mixer shaft as this operation would unbalance same and jeopardize operation.

A 14.1)
Danger of cutting, entangling, crushing, dragging
- High speed mixer shaft
- Low speed mixer shaft
- Blades
- Left and right brackets of motor bearing
- Motor bearing
- Motor casing
- Cylinder edge
- Cylinder bottom
-Small fans of high speed mixer shaft.



A 15 - PROTECTION MEASURES FOR DANGEROUS MACHINE AREAS

A 15.1
The machine is equipped with a casing, preventing access to internal part of machine, together with moving parts.
Above casing is fixed with screws.
Casing (fixed with screws) may only be removed by qualified personnel and authorized by Promag.

A 15.2
Manual access to cylinder outlet is very difficult and nevertheless it is only possible when cock has been disassembled or is in open position.
The distances of the liquid mix and dense mix outlets from the lateral surface of the cylinder and therefore from the scraping blades and relative low speed shaft is considerable, thereby preventing access of body parts and avoiding above-mentioned dangers.

A 15.3
Access to high speed mixer shaft and low speed mixer shaft is possible only by lifting the front and/or rear half-lid and/or motor bearing. With above operations, the three safety magnetic microswitches interrupt all machine operations, stopping rotation motion of same.

A 15.4
During cleaning phase of two shafts, the motor bearing is lifted in vertical position.
It is impossible for same to fall backwards, thereby crushing hands or upper limbs of operator, as in this position the motor bearing lock device is automatically activated, as previously described.

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A 16 - INFORMATION ON OTHER RISKS IMPOSSIBLE TO ELIMINATE, DESPITE MEASURES ADOPTED BY DESIGNER

Other risks involved using the machine are:

A 16.1
Danger of entangling and dragging.
Please note that it is absolutely forbidden to come into contact with mobile parts inside the cylinder (high speed mixer shaft, low speed mixer shaft) whilst the machine is functioning, with any object whatsoever or part of the body, as this could result in jamming, crushing and/or cutting.
Danger exists if, for imprudent cleaning operations with cleaning rods or similar and with the machine still in operation, one attempts access to cylinder through the liquid mix outlet or through the cylinder pipe union, with tap either disassembled or open. In case of danger, press the STOP button.

A 16.2
Dangerous pressures
The cooling system still remains under pressure even when the machine is off.
Before carrying out maintenance operations on same, eliminate this type of risk.

A 16.3
Thermal danger
Please note that on water and cooling systems both hot and cold mechanical parts exist, protected by special casings.
Besides, any contact with same is absolutely forbidden, thereby avoiding burning risks.
Danger exists in the case of repair and/or with internal inspection of machine when same is still functioning or recently turned off. (Remember that these operations must be carried out by qualified personnel, authorized by Promag).
Danger also exists when processing mixes whose final heating temperature is high and when cylinder lid is opened for product inspection.
If user is near the cylinder, steam produced by liquid mix may hit his face, causing burning. Danger also exists if hands or other parts of the body are introduced into the mix. It is absolutely forbidden to introduce hands or any other part of the body into the hot mix. It is absolutely forbidden to bring face or other parts of the body near the cylinder.
In case of danger, press the STOP button.

A 16.4

Danger of cutting, entangling and crushing

During washing and cleaning operations, the motor bearing is lifted and placed in vertical position. As already mentioned, there is no danger of same falling and crushing hands or upper limbs, as in this position the motor bearing lock device is automatically activated, as described above. Danger still exists, however, if, during opening of motor bearing, operator fails to take a firm grip of same, owing to wet hands or similar, or lacks sufficient strength.

In this case, the motor bearing would fall on the cylinder plane, hitting any object in its way, causing crushing, cutting and entangling between itself and the edge of the cylinder, in addition to cylinder plane.

It is absolutely forbidden to place the machine in an environment unsuitable for its appropriate use.

It is absolutely forbidden to move the machine and/or its components in an irregular manner, thereby jeopardizing its stability and reliability.

In case of danger, push the STOP button.

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A 16.5

Danger also exists when approaching the machine (especially with motor bracket open) with magnetic materials, as same would interfere with safety magnetic microswitches located under the two cylinder half-lids and under the right shoulder of the motor bearing. In this case, if the machine were operating, the two motors would start up, causing the respective shafts to rotate, dragging anything in contact around with them.

It is absolutely forbidden to approach the machine with magnetic materials or interfere with safety magnetic switches on purpose.

In case of danger, press the STOP button.

A 16.6

Dangerous electric voltage

During repair and/or maintenance operations, (operations nevertheless permitted only by qualified personnel, authorized by Promag), it is possible that technician needs access to control panel, motor compressor, motors or any other electric or electromechanical component.

Danger exists if these operations are carried out without having previously cut off electricity from mains, using a special disconnecting device provided for during machine installation, or even worse, when the machine is in operation.

It is absolutely forbidden to gain access to electric and/or electromechanical parts, without having previously turned off machine with special disconnecting device.

In case of danger, press the STOP button.

A 17 - RECOMMENDATIONS ON PREVENTION MEASURES TO BE ADOPTED

A 17.1

Safety regulations.

In order to maintain the machine in a perfect state and guarantee a safe operation for user, we advise that following regulations are scrupulously followed.

This machine must only be used for the purpose for which it has been originally designed.

Any other use is to be considered improper and therefore dangerous.

During handling, loading and unloading of machine, be very careful in choosing lifting points.

Do not leave machine exposed to atmospheric agents (rain, sun, etc.).

Do not permit machine to be used by children or inexperienced persons.

Machine must not be used by untrained personnel.

Maintain machine in perfect operating state, always utilizing the various protections provided for, having periodical maintenance carried out by professionally qualified personnel.

Before connecting the machine, control that plate data corresponds to that of electric and water distribution network, (the plate is situated at the rear part of the machine).

Assure that machine is perfectly grounded, as foreseen by safety regulations in force.
It is necessary that this fundamental safety requisite is respected: in the case of doubt, ask for a careful control of the plant by professionally qualified people.
Check that plant electric power is suitable to the maximum absorbed power of the machine.
In case of doubt, revert to a qualified person, who must control that the plant cable section is suitable for absorbed power of machine.
Do not touch the machine with either wet or damp hands or feet
Do not use the machine barefoot
Do not use extensions in rooms destined for bathrooms or shower rooms
Do not pull the feed cable to disconnect the machine from mains.

A 17.2
In order to avoid dangerous overheating, it is necessary to wind up the entire feed cable.
Before carrying out any maintenance operation, disconnect machine from mains, using plant disconnecting device.

In case of breakdown and/or poor functioning of machine, disconnect the main disconnecting device, abstaining from any attempt to repair or intervene directly, reverting only to professionally qualified and authorized personnel.
Eventual product repair will have to be carried out by manufacturing company or by an authorized Service Centre, only using original spare parts.

Machine safety could be compromised, if above instructions are not observed.

A 17.3
Never utilize water to turn out fires occurring on electric parts, but a dry powder fire extinguisher.
The machine must be turned off when not in use.
Do not modify protections and remove them only when machine is no longer operative and disconnected from mains.
Should you decide to no longer use this type of machine, disconnect same by removing feed cable from mains.
Discharge line must be in a position to resist a continuous temperature of 100° C and well secured to the drain collector.

For cleaning operations, scrupulously follow instructions laid down by manufacturer.

Do not block suction or dissipation grilles.
After having disconnected the machine, only qualified personnel may have access to control panel.
When washing stainless steel, it is absolutely

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A 18 - INSTALLATION

The cream cooking machine must be positioned so that rear part is at least **20 cm** from wall or any object, thereby permitting free air circulation.
Block the wheels with fitted brakes. It is advisable to leave a space between the sides of the machine and surrounding walls, thereby facilitating cleaning operations.

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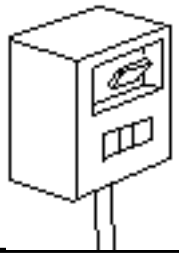
A 19 - USE OF MACHINE

A 19.1 OPERATION START-UP

A 19.2
Open the tap of water mains.

A 19.3
Connect to power with relative switch especially provided for during installation.



A 19.4
Date and time will be displayed

A 20 - MACHINE PREPARATION

It is advisable that first work cycle after machine installation is carried out with cylinder full of water rather than mix, in order to control the various work phases.

To carry out above, proceed as follows:

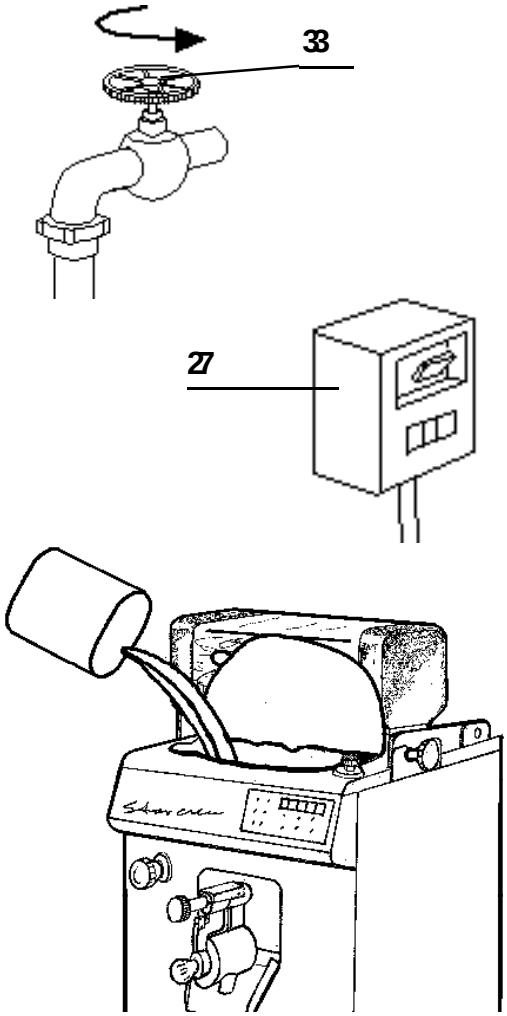
- Lift the lid and pour water into the cylinder for a quantity not lower than advised minimal values reported in technical specifications.
- Press button (**11**) and with buttons (**5**) and (**6**) select recipe Nr 2 Ice cream mix pasteurization.
- Press button (**10**) and the cycle will begin.
- Complete the cycle, empty the cylinder through the extraction cock.

A 21 - OPERATION

A 21.1

STARCREM machines have been designed to satisfy customerís needs to the utmost, together with those of technician-installer/repairer.

With above philosophy, the mix is processed and electronically controlled.



forbidden to use steel shavings, wool or brushes. For protection of environment and machine itself, please abstain from using corrosive or polluting products, not exceeding advised quantities.

A 21.2

MACHINE START-UP

Open the water mains tap (**33**), insert the wall switch (**27**) as mentioned above.

GB

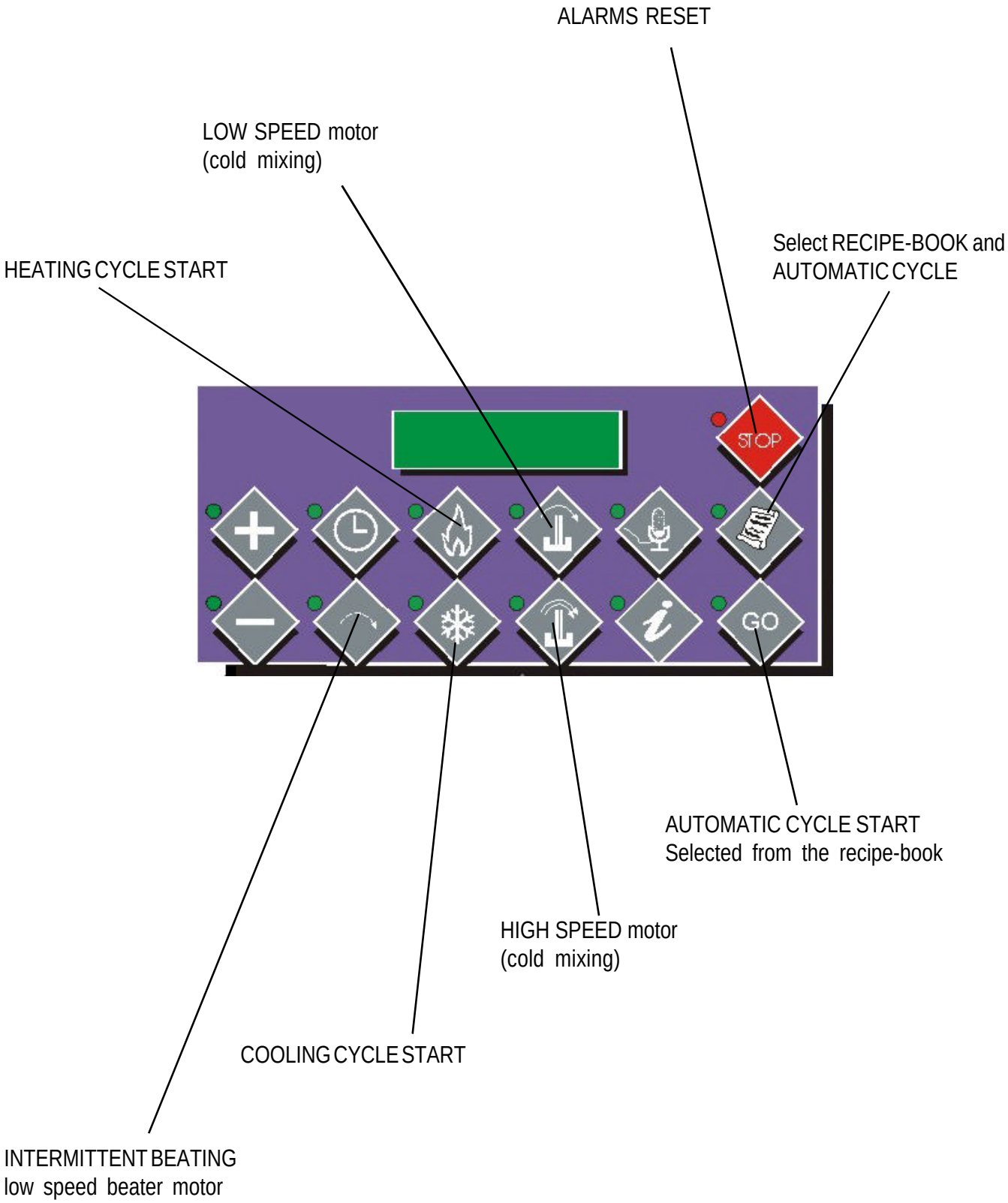
OFF will appear on display.

Open the front half-lid and introduce the mix.
The quantities are specified in the following table.

Model	Minimum	Maximum
STARCREM 30	15 Litri	30 Litri
STARCREM 60	30 Litri	60 Litri

Close half-lid.

A 21. 3
At this point, two possibilities exist:



A 22 - EXECUTION OF AUTOMATIC PROGRAMS

A 22.1

For the execution of an automatic program, press programmed recipes button (**11**) (either the led of this button or the one of imcrementing and decrementing buttons will light up).
The screen will display "Custard" (the first automatic program). Select the desired program through (**5**) decrementing and (**6**) incrementing buttons. Press functions confirmation button (**10**) in order to execute the program.

Available programs:

- Recipe nr 1 Custard
- Recipe nr 2 Static Custard
- Recipe nr 3 Ice cream mix pasteurization
- Recipe nr 4 Dark chocolate
- Recipe nr 5 Milk chocolate
- Recipe nr 6 coloured chocolate
- Recipe nr 7 hardening storage
- Recipe nr 8 Hardening final step

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When in any program phase the set value can be modified, Incrementing and Decrementing key leds will light up.
In order to skip a step, press the programmed recipes key (**11**) for a few seconds. As each step ends, the buzzer will sound 5 seconds. At the end of the cycle, the program name will alternate with storage time or extraction message.

If the program is modified during its execution, the new values will be stored. If you execute the program again, the new values will be recalled.

Some recipes end with an indeterminate time storage. Such a time is computed and displayed on top rightwards. For example, when Custard program ends and if Storage time was 31 minutes, following 2 messages will alternate on display:

OK CUSTARD 1 set +04°c +03°c	STORAGE 00:31 set +04°c +03°c

For the product extraction you can select any beating mode at the end of any program. The beating mode selected will run on a continuous basis and you can disconnect it by pressing the same button, so inserting a static thermostatic control. If you insert a beating mode and you then select the intermittence, a thermostatic control will start with beating (the one you selected) and together with the compressor.

A 23 - CYCLE 1 Custard

A 23.1
Cycle description:

- Continuous Low Speed Beating for 1 minute
- Continuous Low Speed Beating and Heating up to 95°C (value can be modified 91°C to 110°C).
- Continuous Low Speed Beating for 1 minute (value can be modified 1 to 99 minutes)
- Cooling with Continuous Low Speed Beating up to 25°C
- Intermittent Low Speed Beating up to 4°C (value can be modified 0°C to 20°C)
- Custard is ready

A 24 - CYCLE 2 Static Custard

A 24.1
Cycle description:

- Continuous Low Speed Beating for 1 minute
- Continuous Low Speed Beating and Heating up to 95°C (value can be modified 91°C to 110°C)
- Continuous Low Speed Beating for 1 minute (value can be modified 1 to 99 minutes)
- Cooling with Continuous Low Speed Beating up to 55°C
- Intermittent Low Speed Beating up to 4°C (value can be modified 0°C to 20°C)
- Custard is ready

A 25 - CYCLE 3 Ice cream mix Pasteurization

A 25.1
Cycle description:

- Continuous Mid Speed Beating for 1 minute
- Continuous Mid Speed Beating and Heating up to 85°C (valuecan be modified 6 5°C to 99°C)
- Continuous Mid Speed Beating for a time which is automatically computed
- Cooling with Continuous Mid Speed Beating up to 55°C
- Continuous Mid Speed Beating up to 4°C (value can be modified 2°C to 20°C)
- Ice cream Mix is ready

A 26 - CYCLE 4 dark chocolate

A 26.1
Cycle description:

- Water loading
- Static heating for 4 minutes (value can be modified 3 to 10)
- Heating up to 45°C (value can be modified 40°C to 60°C) with continuous low speed beating
- Cooling up to 30°C (value can be modified 20°C to 60°C)
- 3 minutes after reaching 31°C, acoustic signal
- IDark chocolate is ready

A 27 - CYCLE 5 Milk chocolate

A 26.1
Cycle description:

- Water loading
- Static heating for 4 minutes (value can be modified 3 to 10)
- Heating up to 45°C (value can be modified 40°C to 60°C) with continuous low speed beating
- Cooling up to 30°C (value can be modified 20°C to 60°C)
- 3 minutes after reaching 31°C, acoustic signal
- Milk chocolate is ready

A 28 - CYCLE 6 Coloured chocolate

A 28.1
Cycle description:

- Water loading
- Static heating for 4 minutes (value can be modified 3 to 10)
- Heating up to 45°C (value can be modified 40°C to 60°C) with continuous low speed beating
- Cooling up to 30°C (value can be modified 20°C to 60°C)
- 3 minutes after reaching 31°C, acoustic signal
- Coloured chocolate is ready

A 29 - CYCLE 7 Hardening storage

A 29.1
Cycle description:

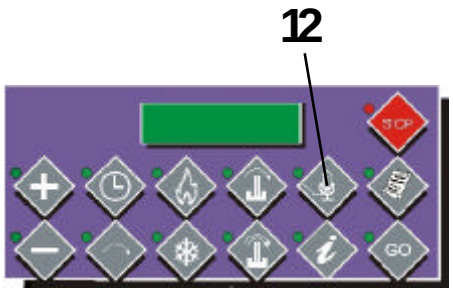
- Water loading
- Heating up to 45°C (value can be modified 40°C to 60°C) with continuous low speed beating
- On reaching 45°C, the product is held at this temperature through intermittent low speed beating

A 30- CYCLE 8 Hardening final step

A 30.1
Cycle description:

- Water loading
- Cooling up to 30°C (value can be modified 20°C to 60°C)
- 3 minutes after reaching 31°C, acoustic signal and beginning of intermittent low speed beating

A 31 - USER PROGRAMS CONSTRUCTION



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It is possible to store up to 9 user's personal cycles into USER PROGRAMS memory space.
Recipe Recording button (**12**) has different functions referring to reading, personalizing and constructing users' cycles.

A 31.1
Constructing a user program
From STOP press il pulsante (**12**) Recipe Recording button: the machine will automatically set at the first free program 1 to 9, where one can insert the new personalized working cycle.
Following will be the new display (provided that the first free program is Nr 1):

PROGRAM Nr 1	
set	P. 01

One at a time, all working phases, called cycle STEPS, will now be loaded and stored (heating, cooling, etc.). In order to store each step you select, press the button (**12**) and go to next step.

Max. number of steps per program is 25.
If you go beyond this limit, the screen will display "STEPS OUT" and the machine will set at STOP so cancelling the program.

To complete the program with end cycle temperature holding at an indetermined time (THERMOSTATIC CONTROL) it is enough last step is set with a TIMER at "0" (without pressing either cooling or heating buttons)

If, beside the THERMOSTATIC CONTROL at indetermined time, which is so stored, you also load an INTERMITTENT BEATING, this will take place in parallel with the compressor. Only in this case will the beating NOT take place on an intermittent mode, but it will only start when cold is required by the compressor.

To complete storing the cycle, it is enough you press the button (**12**) without selecting any function. the machine sets at STOP, now.

A 31.2

Example of a user program construction

Heating to 90°C with continuous high speed, thermostatic control at 90°C for 5 minuti (static), cooling with continuous loow speed beating up to 2°C, thermostatic control at indeterminate time at 2°C (static).

Operations sequence	Key	Display
1) Press Recipes Recording		PROGRAM Nr 2 set P.01
2) Press Heating		PROGRAM Nr 2 set +85° P.01
3) Press Increment up to 90°C		PROGRAM Nr 2 set +90° P.01
4) Press High Speed Beating		PROGRAM Nr 2 set +90° P.01
5) Press Recipes Recording		PROGRAM Nr 2 set P.02
6) Press Timer		PROGRAM Nr 2 set 0:30 P.02
7) Press Decrement up to 5'		PROGRAM Nr 2 set 0:05 P.02
8) Press Recipes Recording		PROGRAM Nr 2 set P.03
9) Press Cooling (Low Beating will automatically activate)		PROGRAM Nr 2 set +04° P.03
10) Press Decrement up to 2°C		PROGRAM Nr 2 set +02° P.03
11) Press Recipes Recording		PROGRAM Nr 2 set P.04
12) Press Timer		PROGRAM Nr 2 set 0:30 P.04
13) Press Decrement up to 0'		PROGRAM Nr 2 set 0:00 P.04
14) Press Recipes Recording		PROGRAM Nr 2 set P.05
15) Press Recipes Recording again		14:15:08 MAR 10/06 +02°

Program 2 is now coded and can be executed at any time.

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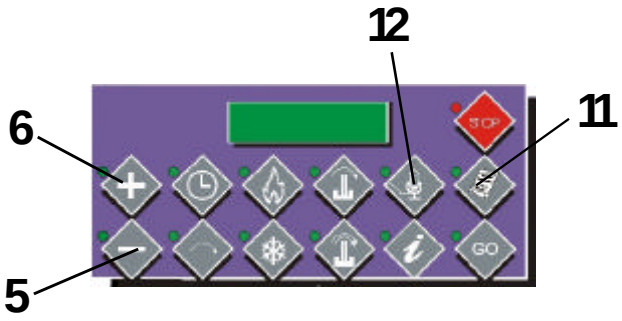
A 32- (Automatic and user) PROGRAMS READING



To read a program steps sequence:
- Press Programmed Recipes key (**11**)
- Select your recipe with Decrementing (**5**) and Incrementing (**6**) keys
- Press Recipes Recording key (**12**)

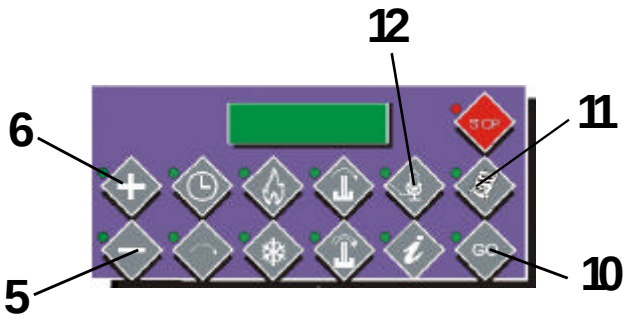
Each step of any program can by this be scrolled with no need of execution.

To pass to next step, press Recipes Recording key (**12**)

When reading the steps, temperature and time values can be modified by means of Decrementing (**5**) and Incrementing (**6**) keys.
Above mentione values can be modified with the same keys (**5**) and (**6**) also during the program execution.

GB

A 33- DELETING A USER PROGRAM



To delete a User Program you will have to
- Pressl Programmed Recipes key (**11**)
- Through Decrementing (**5**) and Incrementing (**6**) keys select the recipe you are going to delete
- Press Recipes Recording key (**12**)
- Press Recipes REcording key (**12**) 5 seconds.

On display:

Sure? [Y/N]
[GO/RIC]

By pressing Functions Confirmation key (**10**) you will confirm program deletion, whereas you will abandon the operation by pressing the Programmed Recipes key (**11**).

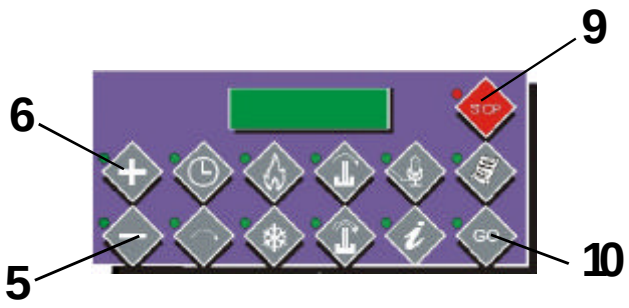
A 34- USER PROGRAMMING

From STOP press Functions Confirmation key (**10**) about 3 seconds.

On display:

Language
ITA [num]

indicating Italian language



Release the key (**10**).

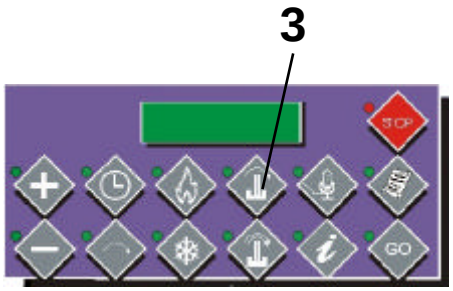
Change language by means of Decrementing (**5**) and Incrementing (**6**) keys, if need be.

Press funcitons Confirmation key (**10**) : in this way steps of following table will all be displayed in a sequence and they can be modified by means of keys (**5**) and (**6**).
In order to come out from User Programming, press Stop key (**9**) or you will leave it automatically if no key is pressed some 15" long.
Changed values will automatically be stored.

GB

STEP	DISPLAY	COMMENTS	M.U.	MIN	MAX
1	Language	ITA, FRA, ENG, DEU	nr	ITA	DEU
2	HOURS		hours	0	23
3	MINUTES		min	0	59
4	SECONDS		sec	0	59
5	DAY OF WEEK		gg	sun	sat
6	DAY OF MONTH		gg	1	31
7	MONTH		mese	1	12
6	Time Beater ON	Intermittent beating	sec.	003	60
9	Time Beater OFF	Intermittent beating	s-m	001"	60
10	Defrost Trigger		°C	10	40

A 35 - INVERTER MANUAL FUNCTION



A 35.1

By pressing key (**3**) once, relevant led will fixed-light up and Low speed will be activated.
By pressing the same key for the second time, relevant led will blink slowly and Mid Speed will be activated.
By pressing it for the third time, the led will blink more quickly and High Speed will be activated.
A new pressure will deactivate beating.
The Inverter function can always be entered from manual functions.
This function allows changes of speed within automatic programs. Once an automatic program has been modified, the change will be stored and recalled by next cycle execution.

GB

A 36 - BLACK OUT

A 36.1
BLACK OUT

In the event of power failure, if the machine was in
- Stop
- Slow Speed beating
- High Speed beating
- Timer

on power return, it sets at STOP.

In case of power failure during Pasteurization cycle, the machine CPU stores the temperature and computes blackout time. On power retunr the CPU will allow restarting the function in progress only if temperature and time parameters can guarantee that the mix did not go bed. If, on the contrary, through temperature and time values the CPU senses that the mix was altered, a new pasteurization cycle will start and the operator will receive a warning message.
On display:

```
RESTART Automat.
Min=012      TEV  +28°C
```

meaning that we hade a 12 minutes power failure and on its return TEV is 28°C. A few seconds later, following message will be displayed:

```
   BLACK OUT
set=+50°C    +28°C
```

alternating with

```
program 1      P.01
set=+50°C      +28°C
```

meaning that pastesurization will be executed again starting from step 1 (heating at 50°C).

On power return, it is therefore checked the temperature of the mix inside the tank. By mix that has undergone no alteration it is meant that if power failure time during COOLING is LESS than what mentioned in the table herebelow referring to relevant temperature range, the machine will restart the function in progress.

BLACKOUT MANAGING TABLE

Temperature range TEV	Time
85°C to 65°C	1 hour
64°C to 50°C	30 minutes
49°C to15°C	10 minutes
14°C to 4°C	20 minutes
4°C	2 hours

GB

If a new pasteurization cycle was necessary after a blackout and the new cycle is completed successfully, the message on display will be as follows:

```
   High Pasteur.
set=+50°C      +28°C
```

alternating with

```
   BLK  28/09  13:16
set=+50°C      +28°C
```

BLK 28/09 13:16 means that power returned on 28/09 at 13:16 and the machine carried out the program again.

In the event of repeated blackouts in one cycle, the stored one is always the latest.

A 37 - ALARMS

A 37.1
STARCREM units are provided with a series of protections to machine and operators.

A37.2
Alarms on display
If an alarm causes the machine to set at STOP, it will be displayed in both lines of the display.
For example (pressure switch alarm)

Pressure switch Alarm
Pressure switch Alarm

GB

The message on the second line indicates that the alarm is still active and it will disappear on alarm reset. The message on the first line is left on display as a reminder. To cancel it, press a key at random.

If it occurs an alarm that does not cause the machine to set at STOP (such as pressure switch in Storage), following message will be displayed:

Press. Switch Alarm set +04°C +28°C

the alarm is displaye on the first line, whereas on the second one the display goes on indicating temperature of times values. On alarm reset, the message on top line is still displayed as a reminder till a key at random is pressed.
Alarm list:

Thermal relay High speed beating
High Speed beat. thermal relay tripping.
(Alarm RTV) : machine sets at STOP and the message on display will be "Thermal relay High Speed beat."

Pressure Switch alarm
Safety pressure switch tripping.
This alarm stops the compressor. On pressure switch reset, the alarm, too, will automatically reset. On display: Press. Switch Aalrm ".

Cover open
Tank cover is open
Whenever tank cover is opened during machine operation, the machine will immediately stop and following message will appear on display: "Cover open". The machine will only restart after closing the cover. Alarm will be on display till a key at random is pressed.

Alarm TEV
TEV temperature sensor broken or under short circuit.
On display "Alarm TEV" and the machine sets at Stop.

Alarm TEC
TEC temperature sensor broken or under short circuit.
On display "Alarm TEC" and the machine sets at Stop.

Alarm TCC
TCC temperature sensor broken or under short circuit.
On display "Alarm TCC" and the machine sets at Stop.

Alarm INVERTER
The inverter used has a free contact which is closed in the event of a overhead alarm caused by the inverter itself.

A 38 - OPERATIONS TO BE PERFORMED AFTER USE

A 38.1
OPERATIONS TO BE PERFORMED AFTER USE
Every day after use turn off the Cream cooking machine by pressing button (**10**);
OFF will appear on display.
Subsequently turn off at wall switch.
Only now may cleaning operations safely begin.

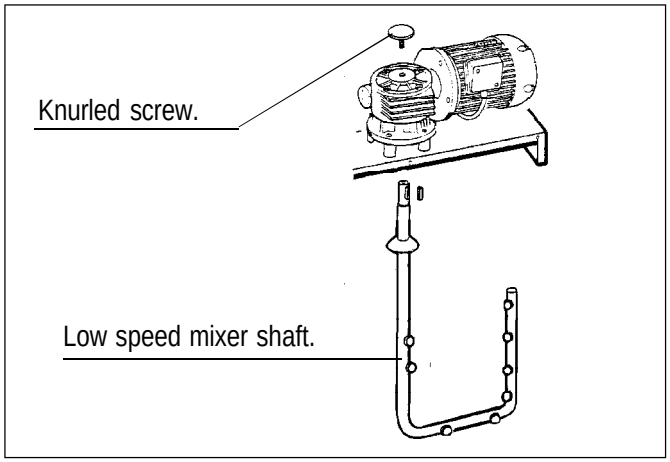
A 38. 2
CLEANING OPERATIONS
After installation, before use or at the end of production, carefully clean, as indicated below.

A 38.3
Fill the tank with lukewarm water.
Press the button (**3**) starting the low speed beater motor.
Press ithe button (**7**) starting the high speed beater motor.
Let lukwarm water run for a time necessary to clean.
Press ithe button (**9**) and drain washing water from the tap
Repeat the operation in order to eliminate any residues.

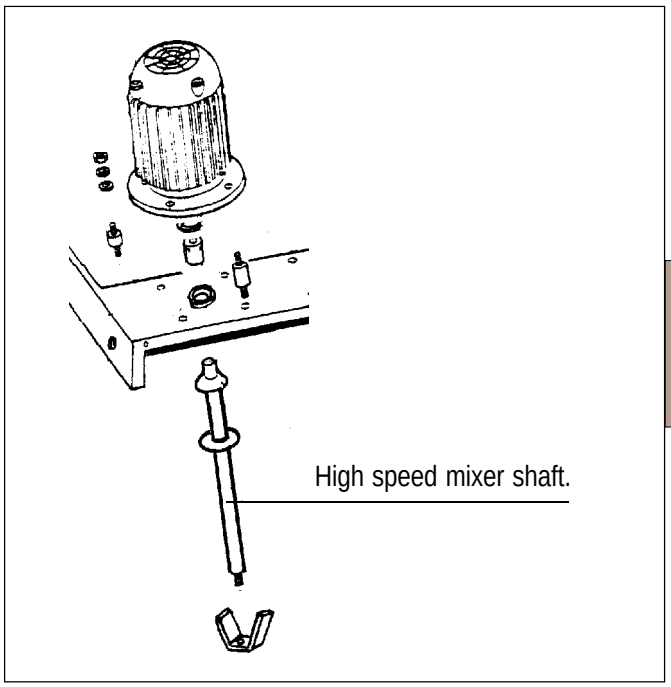
A 38.4
By loosening setscrew, remove and carefully wash complete piston group.
Reassemble, putting same back on machine by tightening setscrew.

A 38.5
Unhook blades, carefully washing them and rehook.

A 38.6
Unscrew low speed mixer shaft, unhook and carefully wash.
Reassemble and tightly screw the knurled screw above reducer.



A 38.7
Unscrew high speed mixer shaft and wash carefully.
Should any difficulties exist in unscrewing, use a 27 and 17 spanner. Reassemble and firmly screw up.



A 38.8
Repeat all previous operations with a sterilizing detergent solution like DETERSTOV (specific for machines in contact with foodstuffs, non-toxic, and not damaging parts with which it is in contact), subsequently rinsing.

A 38.9
Washing operations must be carried out on all components in contact with food mixes.
It should be remembered that for parts subject to other risks, cleaning operations should be carried out with the machine entirely disconnected and more generally operative operations on machine should be carried out in safety conditions.
In general, washing with small hoses should be carried out with a maximum water pressure of 0.2 Mpa (3Bar).

THE FOLLOWING IS ALSO RECOMMENDED:
Ten minutes before starting new productive cycle, sterilize parts in contact with foodstuff mix, rinse and do not touch sterilized parts.

GB

A 39 - DISMANTLING

If you decide to discontinue using the machine, follow the instructions given in the preface regarding the removal of the machine's electrical and water connections.

Do not leave the machine in any area where it can create a hazard.

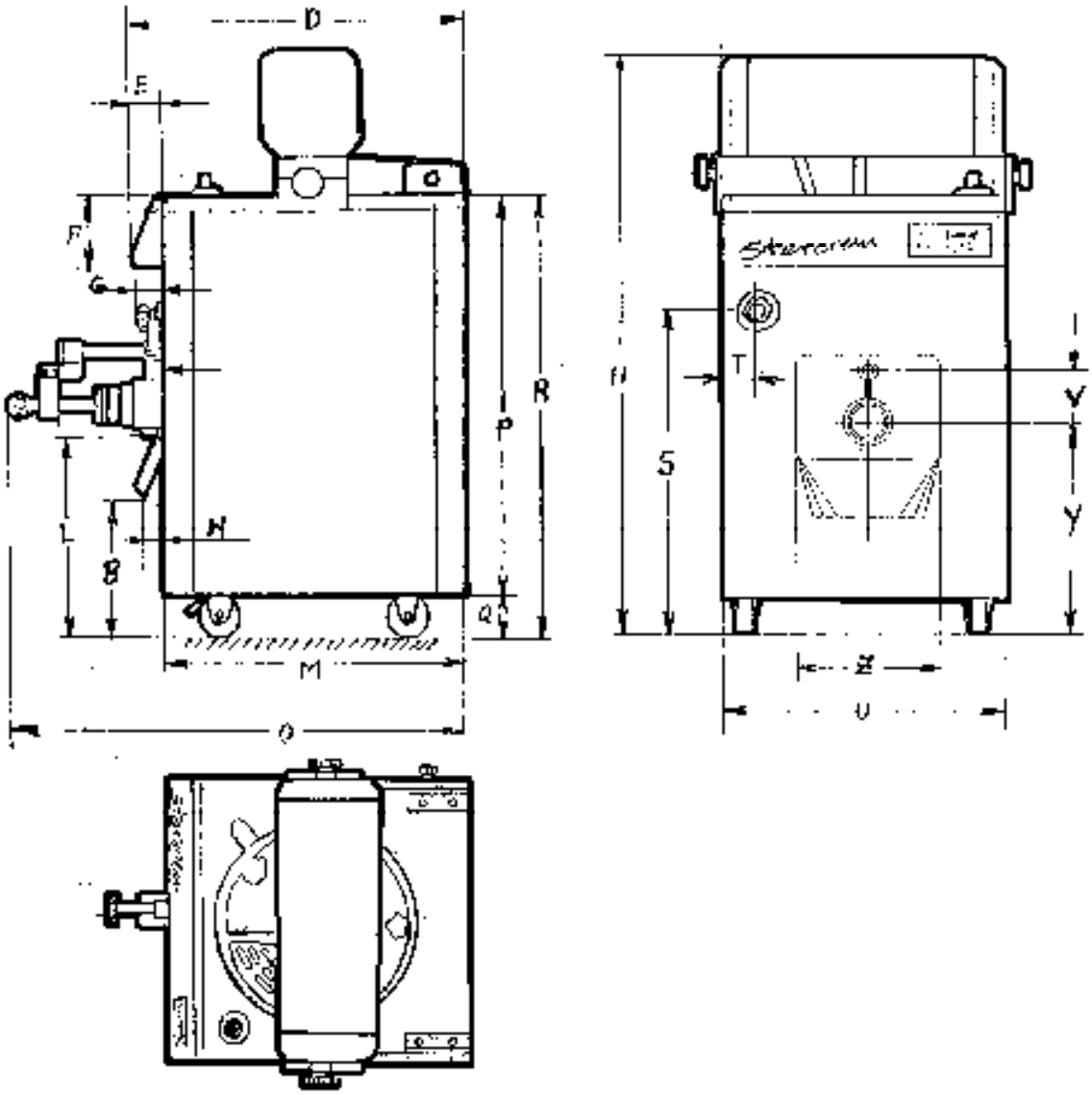
The removal and disposal of the refrigerant gas must be carried out by competent personnel in compliance with the norms regarding the protection of the ozone layer.

A 40- TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS	STARCREM 30		STARCREM 60
Tank capacity	41		76
Loading tank capacity (litres)	15/30		30/60
Connections to the electric web	380-400/50/3	200/50-60/3 220/60/3	380-400/50/3
Electric resistances	2 kW x n° 2 resistances		2 kW x n° 3 resistances
Power of the reduction motor (kW)	0,18		0,26
Power of the high speed mixer motor	0,18		0,18
Standard calibration of the thermic (A)	0,80	1,4	0,80
Power of the compressor motor (kW)	1,2		2,2
Absorption of the compressor (A)	Nom. 2,22 Max. 3	Nom. 4,7 Max. 6,6	Nom. 3,9 Max. 4,2
Total electric power, including the absorption of the high speed mixer motor (kW)	4,8	4,5	7,2
Refrigerant gas			
Gas quantity	R404A		R404A
Net weight (kg)	0,7kg		0,75kg
	149		185

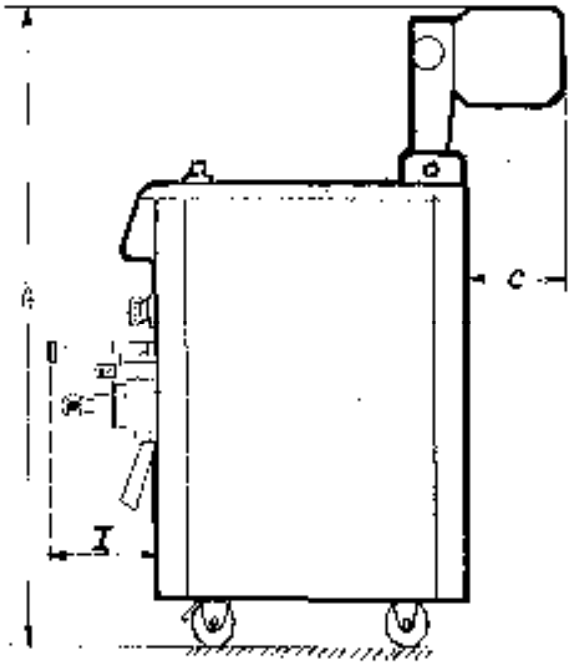
GB

A 41 - DIMENSIONS



DIMENSIONS		
Reference	STARCREM 30	STARCREM 60
A	1390	1596
B	515	525
C	160	231
D	660	760
E	70	70
F	157	157
G	60	60
H	1348	1440
I	195	195
L	625	625
M	600	690

STARCREM with lifted motor assembly



DIMENSIONS		
Reference	*STARCREM 30*	*STARCREM 60*
N	*60*	*60*
O	*874*	*964*
P	*900*	*1000*
Q	*110*	*110*
R	*1010*	*1110*
S	*770*	*870*
T	*50*	*50*
U	*560*	*620*
V	*90*	*90*
Y	*675*	*680*
Z	*250*	*250*

A 42 - PROGRAMMING TABLE INVERTER

Nr	Name of parameter	Comments	Default	Starcrem
01	Line voltage		01	
02	Carrier frequency		02	04
03	Starting method		01	
04	Stopping method		01	
05	Standard speed reference		01	02
06	Relays output	16-17:NA->NCin caseof alarm	01	04
10	Functions TB-13A selection		01	04
11	Funcitons TB-13B selection		01	04
12	Functions TB-13Eselection		01	04
14	Control		01	
16	Unit editing		02	
17	Rotation		01	
19	Acceleration time		20.0	3
20	Deceleration time		20.0	3
21	cc brake time		0.0	
22	cc brake voltage		0.0	
23	minimum frequency		0.0	0.0
24	maximum frequency		50.0	50.0
25	Current limit		180	
26	Motor overload		100	
27	Basic frequency		50	
28	Fixed boost		1.0	
29	Acceleration boost		0.0	
30	Creeping compensation		0.00	
31	Pre-set speed #1		0.0	22
32	Pre-set speeds #2		0.0	32
33	Pre-set speeds #3		0.0	
34			0.0	42
38	Jump bandwith		0.0	
39	Speed reduction		0.0	
42	Accel/Decel #2		20.0	
44	Password		225	
45	Speed to the minimum of reference mark		0.0	0.0
46	Speed to the maximum of reference mark		50.0	50.0
47	Events eraser		01	
48	Program selection		01	
50	Alarm events		N/A	
51	Software code		N/A	
52	cc bus tension		N/A	
53	motor tension		N/A	
54	Load		N/A	
55	Input 0-10 VCC		N/A	
56	Input 4-20 mA		N/A	
57	Status terminal board TB		N/A	
58	Status keypad		N/A	

GB