



INSTRUCTION HANDBOOK

LB RTX

We wish to thank you for the preference granted to us by purchasing one of **CARPI-
GIANI** machines.

To the best guarantee, since 1993 **CARPIGIANI** has submitted its own Quality System to the certification according to the international Standard ISO 9001-94, nowadays its production has got UNI-EN-ISO 9001-2000 Certified Quality System.

CARPIGIANI CORPORATION OF AMERICA
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336-661-9893 • 336-661-9895 (Fax)

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FOREWORD

INSTRUCTION HANDBOOK

Editing this handbook, it was taken into due account European Community directions on safety standards as well as on free circulation of industrial products within E.C.

PURPOSE

This handbook was conceived taking machine users' needs into due account. Topics relevant to a correct use of the machine have been analyzed in order to keep unchanged in the long run quality features characterizing **CARPIGIANI** machines all over the world. A significant part of this handbook refers to the conditions necessary to the machine use and to the necessary procedure during cleanout as well as routine and special maintenance. Nevertheless, this handbook cannot meet all demands in details. In case of doubts or missing information, please apply to:

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HANDBOOK STRUCTURE

This handbook is divided in sections, chapters and subchapters in order to be consulted more easily.

SECTION

A section is the part of the handbook identifying a specific topic related to a machine part.

CHAPTER

A chapter is that part of a section describing an assembly or concept relevant to a machine part.

SUBCHAPTER

It is that part of a chapter detailing the specific component of a machine part.

It is necessary that each person involved in the machine operation reads and clearly understands those parts of the handbook of his/her own concern, and particularly:

- The Operator must read the chapters concerning the machine start-up and the operation of machine components.
- A skilled technician involved in the installation, maintenance, repair, etc., of the machine must read all parts of this handbook.

ADDITIONAL DOCUMENTATION

Along with an instruction manual, each machine is supplied also with additional documentation:

- **Part list:** A list of spare parts which is delivered together with the machine for its maintenance.
- **Wiring diagram:** A diagram of wiring connections is placed in the machine.

ATTENTION

Before using the machine read carefully the instruction handbook.
Pay attention to the safety instructions.



CONVENTIONAL SYMBOLS



CAUTION:ELECTRICSHOCKDANGER

The staff involved is warned that the non-observance of safety rules in carrying out the operation described may cause an electric shock.



CAUTION:GENERALHAZARD

The staff involved is warned that the operation described may cause injury if not performed following safety rules.



NOTE

It points out significant information for the staff involved.



WARNINGS

The staff involved is warned that the non-observance of warning may cause loss of data and damage to the machine.



PROTECTIONS

This symbol on the side means that the operator must use personal protection against an implicit risk of accident.

QUALIFICATION OF THE STAFF



MACHINE OPERATOR

He/she is an unskilled person, who has no specific expertise and can only carry out easy chores, such as the machine operation by means of controls available on the push-button panel, and filling and drawing of products used during operations.



MAINTENANCE ENGINEER

He/she is a skilled engineer for the operation of the machine under normal conditions; he/she is able to carry out interventions on mechanical parts and all adjustments, as well as maintenance and repairs. He/she is qualified for interventions on electrical and refrigeration components.



CARPIGIANI ENGINEER

He/she is a skilled engineer the manufacturer assigned to field interventions for complex jobs under particular conditions or in accordance with agreements made with the machine's owner.

SAFETY

When using industrial equipment and plants, one must be aware of the fact that drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damage to persons and things.

Who is in charge of plant safety must be on the look-out that

- An incorrect use or handling shall be avoided
- Safety devices must neither be removed nor tampered with
- The machine shall be regularly serviced
- Only original spare parts are to be used especially as far as those components with safety functions are concerned (ex.: protection microswitches, thermostats).

To achieve the above, the following is necessary:

- At the working place an instruction manual relevant to the machine should be available.
- Such documentation must be carefully read and requirements must consequently be met.
- Only adequately skilled personnel should be assigned to electrical equipment.
- Be on the look out that no technician will ever carry out interventions outside his own knowledge and responsibility sphere.

QUALIFICATION OF THE STAFF

Staff attached to the machine can be distinguished according to training and responsibility as follows:

OPERATOR

- A person who has not necessarily a high technical knowledge, just trained for ordinary operation of the machine, such as: startup, stop, filling, basic maintenance (cleanout, simple blocking, instrumentation checkings, etc.).

SKILLEDENGINEER

- A person engaged on more complicated operations of installation, maintenance, repairs, etc.

IMPORTANT!

One must be on the look-out that the staff does not carry out any operation outside its own sphere of knowledge and responsibility.

NOTE:

According to the standard at present in force, a SKILLED ENGINEER is who, thanks to

- *training, experience and education,*
 - *knowledge of rules, prescriptions and interventions on accident prevention,*
 - *knowledge of machine operating conditions,*
- is able to realize and avoid any danger and has also been allowed by the person in charge of plant safety to carry out all kinds of interventions.*

WARNING

When installing the machine, insert a differential magnetothermal protection switch on all poles of the line, adequately sized to the absorption power shown on machine data plate and with contact opening of 3 mm at least.

- Never put your hand into the machine, alike during production and cleaning operations.

Before carrying out any maintenance operation, make sure that the machine is in “STOP” position and main switch has been cut out.

- It is forbidden to wash the machine by means of a bolt of water under pressure.
- It is forbidden to remove panels in order to reach the machine inside before having disconnected the machine.
- **CARPIGIANI** is not responsible for any accident that might happen during operation, cleaning and/or servicing of its units, if this warning has not been fully complied with.



1 GENERAL INFORMATION

1.1 GENERAL INFORMATION

1.1.1 Manufacturer's identification data

The machine has a data plate carrying manufacturer data, machine type and serial number, assigned when it is manufactured.

Copy of machine data plate to be found on first page of this handbook.

EQUIPMENT DATA PLATE Quesito - Salerno, North Carolina													
MODEL NO. _____													
SERIAL NO. _____ DATE _____													
UNITS _____ PHASE _____ HZ _____													
MAX. BREAKER/FUSE SIZE _____ AMP													
MINIMUM CIRCUIT AMPACITY _____													
<table border="1"> <tr> <td></td> <td>DESIGN PRES.</td> <td>OPERATING PRES.</td> </tr> <tr> <td>HIGH SIDE PSIG</td> <td></td> <td></td> </tr> <tr> <td>LOW SIDE PSIG</td> <td></td> <td></td> </tr> </table>						DESIGN PRES.	OPERATING PRES.	HIGH SIDE PSIG			LOW SIDE PSIG		
	DESIGN PRES.	OPERATING PRES.											
HIGH SIDE PSIG													
LOW SIDE PSIG													
REFRIGERANT _____ AMOUNT _____ OZ													
	BEATER	COMPRESSOR	FAN										
QTY													
HP													
FLA													
LRA													

1.1.2 Information about service

All operations of routine maintenance are here described in section "Maintenance"; any additional operation requiring technical intervention on the machine must be cleared with the manufacturer, who will also examine the possibility of a factory technician field intervention.

1.1.3 Information to the user

- The manufacturer of the machine is at user's disposal for any explanation and information about the machine operation.
- In case of need, please call the local distributor, or the manufacturer, if no distributor is available.
- Manufacturer's service department is available for any information about operation, and requests of spare parts and service.



1.2 INFORMATION ABOUT THE MACHINE

1.2.1 General data

LB RTX are batch freezers for the production of ice cream. They have a horizontal barrel which facilitates the extraction of ice cream. These machines are electronically controlled to ensure a professional use and best quality of ice cream. It is possible to personalize ice cream production programs in order to get any kind of ice cream and other specialities; only with the **LB RTX** can you really produce an extraordinary variety of ice cream, exclusively tasty cremolata fruit.

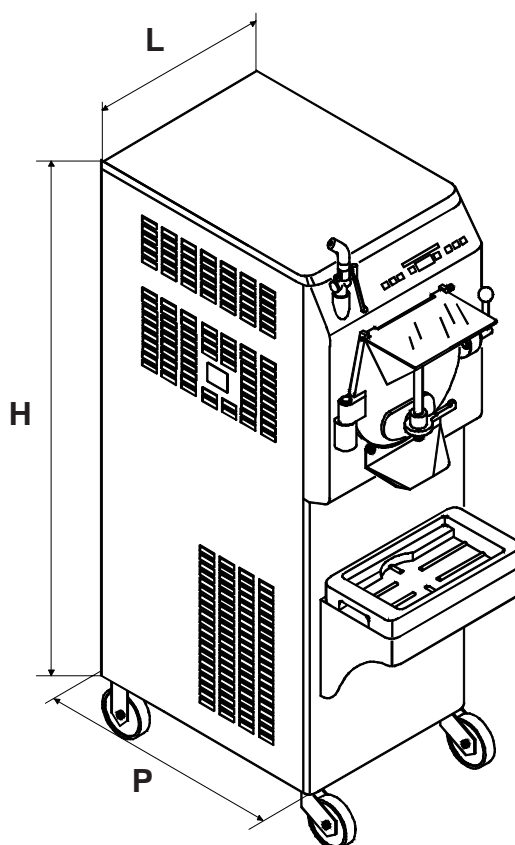
CARPIGIANI recommends to always use high quality mix for ice cream production in order to satisfy your customers, even the hardest-to-please ones. Any saving made to the prejudice of quality will surely turn into a loss much bigger than the saving itself.

Bearing in mind the above statements, please take heed of the following suggestions:

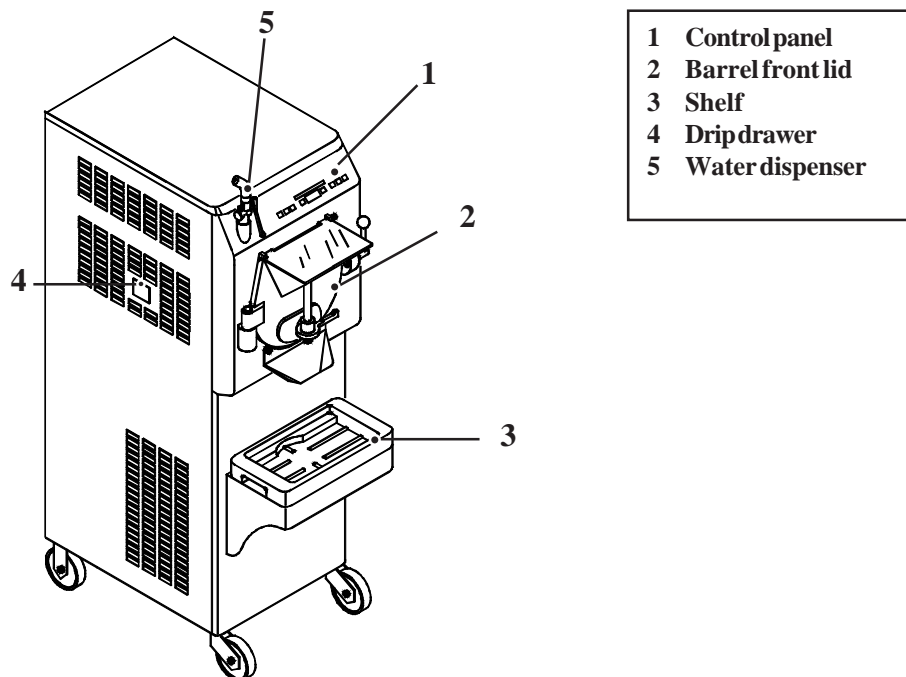
- Make your mixes yourselves from high quality natural ingredients or buy them from reliable companies.
- Follow closely instructions given by your mix supplier for the preparation of the mixes.
- Do not alter your mix supplier's recipes, by adding, for instance, water or sugar.
- Taste ice cream before serving it and start selling it only if entirely satisfactory.
- Make sure your staff always keeps the machine clean.
- Have your machine serviced always by companies authorized by **CARPIGIANI**.

1.2.2 Technical features

MODEL	ICE-CREAM								Cremolata	beater motor speed nr	Power supply			rated output	Condenser	Dimensions (in)			Net weight
	Quantity per batch				Hourly output						Quantity per cycle lb	Volt	Hz			Ph	hp	base	
	mix batch lb		ice cream Gallons		Mix per batch lb		ice cream Gallons		Width. (L)					Depth (P)					
	Min	Max	Min	Max	Min	Max	Min	Max											
LB 202 RTX	3,3	11	0,6	2,1	22	66	4,2	12,6	8,8	1	208-230	60	3		Water/air	20	25,5	55	
LB 202 RTX-G	3,3	11	0,5	1,8	22	66	3,1	11	8,8	2	208-230	60	3	4,4	Water/air	20	25,5	55	507
LB 302 RTX	5,5	16,5	1	3,1	33	99,2	6,3	19	14,3	1	208-230	60	3	3,7	Water/Air	20	35	55	484
LB 302 RTX-G	5,5	16,5	0,9	2,7	33	99,2	5,5	16,6	14,3	2	208-230	60	3	3,7	Water/air	20	35	55	528
LB 502 RTX	8,8	30,8	1,7	5,9	52,9	187,3	10,1	35,6	23,1	1	208-230	60	3	6,5	Water/air	24	40	55	650
LB 502 RTX-G	8,8	30,8	1,4	5,1	52,9	187,3	8,9	31,7	23,1	2	208-230	60	3	6,5	Water/air	24	40	55	700
LB 1002 RTX	15,4	44	2,9	8,4	92,5	264,5	17,6	50,7	30,8	1	208-230	60	3	9,5	Water/air	26	47	55	990
LB 1002 RTX-G	15,4	44	2,5	7,3	92,5	264,5	15,8	44,3	30,8	2	208-230	60	3	9,5	Water/air	26	47	55	1052



1.2.3 Location of machine groups



1.3 INTENDED USE

The **LB RTX** must only be used for the production of ice cream, cremolata fruit and slush ("G" option) with the respect of what indicated in 1.2.1 "General information", within the limits indicated here under.

Voltage	±10%
Min air temperature	50°F
Max air temperature	109°F
Min water temperature	50°F
Max water temperature	86°F
Min. water pressure	14,5PSI
Max water pressure	116PSI
Max relative humidity	85%

- This machine has been designed for its use in rooms not subject to explosion-proof laws; its use is thus bound to complying rooms and normal atmosphere.

1.4 NOISE

The steady acoustic pressure level weighed A in a working place alike by watercooled and by aircooled machines is less than 70 dB(A).

1.5 STORING A MACHINE

The machine must be stored in a dry and dump-free place.
Before storing the machine, wrap it in a cloth in order to protect it against dust and else.

1.6 DISPOSAL OF PACKING STUFFS

When opening the packing crate, separate packing stuffs per type and get rid of them according to laws in force in machine installation country.

2. INSTALLATION

2.1 ROOM NECESSARY TO THE MACHINE USE

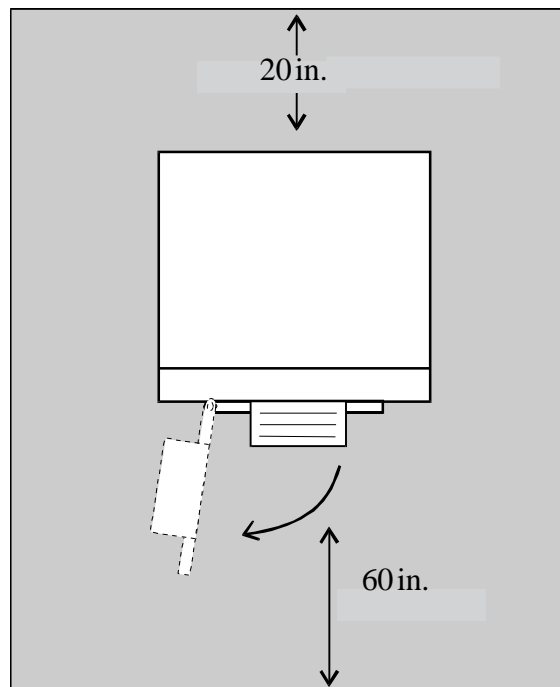
The machine must be installed in such a way that air can freely circulate all around.
Rooms for the approach to the machine must be left free in order to enable the operator to act without constraint and also to immediately leave working area, if need be.
The minimum approach room to working area should be at least 60 in. in consideration of space taken by opened doors.

ATTENTION

Machines with aircooled condenser must be installed no closer than 20 in. to any wall in order to allow free air circulation around the condenser.

NOTE

An insufficient air circulation affects operation and output capacity of the machine.



2.2 WATER SUPPLY CONNECTION

The machine must be connected to running water which pressure must not be higher than 116 PSI.
By aircooled machines, water connection for drinking water (for machine wash) is placed under the machine.

By watercooled machines water connections (for machine wash and gas cooling) are placed on upper panel.

2.3 MACHINE WITH AIRCOOLED CONDENSER

Machines with aircooled condenser must be installed no closer than 20 in. to any wall in order to allow free air circulation around the condenser.

NOTE

An insufficient air circulation affects operation and output capacity of the machine.





2.4 MACHINES WITH WATERCOOLED CONDENSER

To make the machine run, a watercooled machine must be connected to running water supply, or to a cooling tower.

Water must have a pressure of 14,5 PSI and 116 PSI at least, and a delivery at least equal to the estimated hourly consumption.

Connect inlet pipe marked by plate "Water Inlet" to water supply installing a shut-off valve, and outlet pipe marked by plate "Water Outlet" to a drain pipe, installing a shut-off valve.

2.4.1 Water valve adjustment

IMPORTANT

If water valve needs be reset, this operation will have to be carried out by skilled personnel, only. Valve adjustment must be carried out in such a way that no water flows when machine is off and lukewarm water flows when machine is on.

NOTE

Water consumption increases if temperature of entering water is above 68°F.

ATTENTION:

Do not leave the machine in a room with temperature below 32°F without first draining water from the condenser.

2.5 ELECTRIC CONNECTION

Before connecting the machine to the mains, check that machine voltage indicated in data plate corresponds with the mains.

IMPORTANT

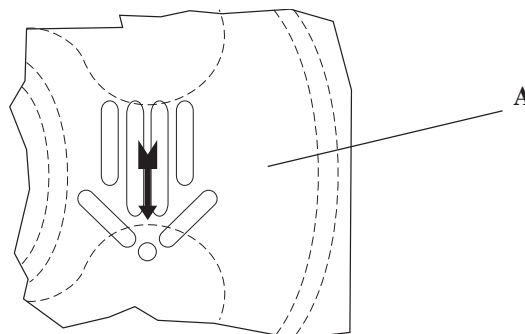
Yellow/green ground wire must be connected to an adequate ground plate.

IMPORTANT

**Direction of rotation
Beater rotation is anticlockwise**

NOTE

By threephased machines, it is necessary to check that axial pulley A has clockwise rotation: to do that, watch through slits of rear panel (see picture).

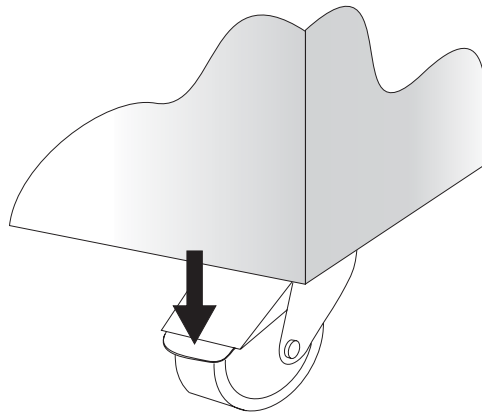


Reversal of rotation

Should direction of rotation be wrong, reverse it by exchanging two of the three phases which start at the differential magnetothermal protection switch.

2.6 LOCATION

The machine is provided with castors for an easy positioning; a mechanical block system, once engaged, prevents machine from moving and keeps it standstill.



2.7 REFILLING

Motor installed in the machine is of the type with lubrication for life; no action of checking/replacing or topping up is necessary.

Gas filling necessary to the freezing system is carried out at **CARPIGANI** works during machine postproduction testing.

If a gas addition happens to be made, this must be carried out by skilled technicians, only, who can also find out trouble origin.



2.8 MACHINE TESTING

A postproduction test of the machine is carried out at **CARPIGANI** premises; Operation and output functionality of the machine are thoroughly tested.

Machine test at end user's must be carried out by skilled technicians or by one of **CARPIGANI** engineers.

After the machine positioning and correct connections, also carry out all operations necessary to functional check and test of the machine.



3. DIRECTIONS FOR USE

3.1 MACHINE SAFETY WARNINGS

When using industrial equipment and plants, one must be aware of the fact that drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damages to persons and things.

Who is in charge of plant safety must be on the look-out that

- An uncorrect use or handling is avoided
- Safety devices must neither be removed nor tampered
- Only original spare parts are to be used especially as far as those components with safety functions are concerned (ex.: protection microswitches, thermostats).

To achieve the above, the following is necessary:

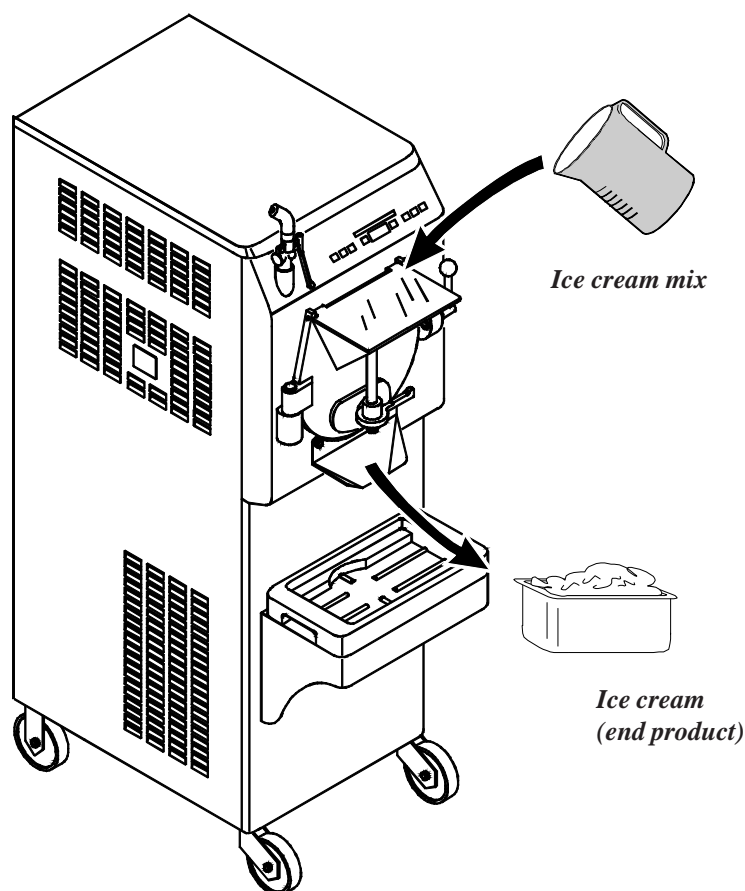
- At working place an instruction manual relevant to the machine should be available.
- Such documentation must be carefully read and regulations must consequently be followed.
- Only adequately skilled personnel will have to be assigned to electrical equipment.



3.2 MACHINE CONFIGURATION

The machine consists of motor drive for beater assembly drive, a cooling system with water- or aircooled condenser.

Ice cream is made by pouring mix into the barrel and starting the automatic production cycle which ends when right consistency of ice cream as set by **CARPIGIANI** is reached. To this purpose, minum and maximum quantities of mix per batch must be followed, as shown in table Sec. 1.2.2. When cycle is over, ice cream is ready for being taken out from ice cream door and poured directly in ice cream cups and containers.



3.3 CONTROLS

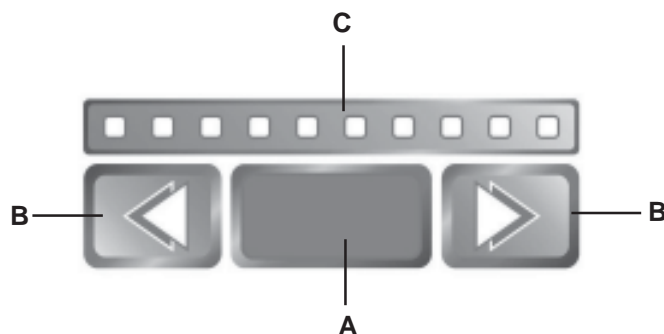
3.3.1 Push-button panel

The machine has a push-button panel on its front side; each push-button has a symbol representing the corresponding function.



3.3.2 Checking monitor

Ice cream consistency checking monitor (**HARD-O-DYNAMIC**) consists of 3 parts:



- A DISPLAY displaying set values
- B PUSH-BUTTONS for variation of setting values
- C LED BAR for checking that working steps go ahead

3.3.3 Push-button functions



STOP

When pressing it, the machine stops.



ICE CREAM PRODUCTION (EC-SP)

When pressing it, operation of the beater motor and compressor is automatically controlled.

It is possible to select 2 production types, i.e., **EC** (Excellent Ice cream) to obtain an excellent ice cream, **SP** (Ice cream Speed) and the production cycle is faster. Ice cream consistency is controlled by the exclusive electronic system **CARPIGIANI, HARD-O-DYNAMIC**, to reach the best production values.



DISTRIBUTION

When pressed, it controls beater rotation at high speed for an easy distribution of the product.

Attention

Three minutes after selecting this function, the machine automatically sets to "**STOP**" in order to avoid an excessive wear of beater and cylinder



CREMOLATA FRUIT (CF)

When pressed, it controls the production of Cremolata by switching the compressor on; the beater runs instead ON/OFF at intervals during the whole production time. The production time must be selected on the display by the user.



**CLEANING**

When pressed, it just controls beater rotation, whilst freezing system is off.

Attention

3 minutes after inserting this function, the machine automatically sets to **"STOP"** in order to avoid an excessive wear of beater and barrel.

**SHOWER**

When pressing it, water inlet is activated by means of the shower onto the machine front side.

3.3.4 Serial connector

LB 202 G units are provided with a serial connector to be found on the machine rear. Connection of your PC to the machine allows to look at, to download and to print the machine events. The connection of your machine to a modem allows to receive and thence to transfer operation data to the service department, directly, in order to have technical diagnosis and remote repairs.

**NOTICE**

To connect the machine to your PC, it is necessary to place an order of an Easyloader kit to Carpigiani.

Code is nr 193.013.520 and includes connection and CD cable with the program allowing PC-machine dialog.

To connect the machine to modem, use the cable usually supplied with modem.

**3.4 ICE CREAM PRODUCTION (PROCESSING)**

After washing, sanitizing and thoroughly rinsing the machine just before its use, as per instructions in Section 5, take the mix from pasteurizing unit, pour the desired quantity of mix into the cylinder through front lid hopper, while following minimum and maximum quantities shown in the table (Sec. 1.2.2).

Before filling the machine with mix, make sure front lid and ice cream door are perfectly closed.

On pressing the push-button **PRODUCTION** ice cream, the display will show the message **EC** that can be changed into **SP** with the arrows-buttons. The two monograms mean the two different kinds of production programs, namely:

EC

GELATO EXCELLENT: it indicates the program to obtain an "eccellent" product, i.e., a well made, smooth and creamy ice cream with a high overrun, suitable for long display. This program is particularly suitable for small batches and fruit ice cream.

SP

GELATO SPEED: This program is faster; ice cream is compact and dry; suitable for highest outputs.



The lighting-up sequence of all LEDS on the bar of **HARD-O-DYNAMIC** monitor shows ice cream status during its processing. The blinking of LED bar, as well as an ear signal mean that the cycle is over and ice cream is ready for dispense.



NOTE

*If ice cream is not dispensed soon after its preparation due to a temporary engagement of the operator, ice cream is kept under beating and **HARD-O-DYNAMIC** steadily checks its consistency. On a decrease in ice cream consistency, **HARD-O-DYNAMIC** starts up compressor again and processing automatically restarts, thus bringing ice cream back to its best thickness conditions.*



3.4.1 Ice cream consistency

CARPIGIANI sets the best consistency value to 10.

HARD-O-DYNAMIC constantly secures a perfect ice cream in relation to the mix used, and yet the operator can set personalized processing cycles through **LB RTX**

Particularly creamy ice cream may require a higher consistency, whilst ice cream with low fat contents, such as sherbets, requires a lower consistency degree

3.4.2 Changing ice cream consistency


To vary final ice cream consistency, press push-button   while machine is processing ice cream.

In order to get a harder ice cream, increase setting value displayed on monitor A by pushing arrow .

To get a smooth ice cream, decrease setting value displayed on monitor A, by pushing arrow .

Example:

To vary consistency value from 10 to 8:

- Press push-button for ice cream processing
- Press repeatedly push-button arrow  so decreasing value until number 8 is displayed; the new set value of consistency is immediately stored.
- At the end of processing cycle, i.e. when buzzer will ring and LED bar will blink, ice cream consistency value will be 8 instead of 10.

Typical value is 10, the new value set will be stored until it is not changed again.

The above described operation can be carried out on both **EC** and **SP** programs. By **EC** cycle, the machine control system is able to automatically recognize whether the operator has filled the machine with minimum or maximum batched and whether it is working a fruit or cream product; consistency value can be modified 8 to 12.

In **SP** program, the consistency value can be set 1 to 12.

IMPORTANT

LB RTX hourly output may vary depending on:

- room and cooling water temperature
- kind and quantity of mix used
- set value of consistency

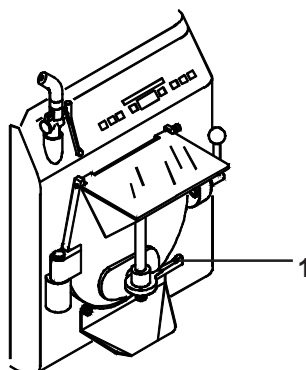
3.4.3 Ice cream distribution

When production cycle is over, as it is shown by blinking of LED bar and by the buzzer simultaneously, ice cream can be dispensed from the cylinder as follows:

- Place a container on the shelf, under ice cream door.
- Turn the lid by unlocking lever towards the left (ref. 1).
- Lift handle together with ice cream door (Fig. C).
- Press push-button "**DISPENSE**".
- Last, press "**STOP**".

SAFETY NOTE

To avoid a useless wear of sliding shoes and barrel, the machine returns to STOP after 3 minutes uninterrupted running in distribution.



3.4.4 Use ice cream dispensing handle

Locking

Lock ice cream door turning the handle (rif. 1) rightwards till the stop.

Opening

Turn the handle (rif. 1) 90° leftwards.

Lift handle and ice cream door.

Lock ice cream door on top turning the handle (rif. 1) rightwards till the stop.

Closing

Repeat in the opposite direction opening sequence described above.

3.4.5 Aftercooling

This function, which is a peculiarity of **LBRTX**, is particularly useful by those models with a bigger output capacity (2 containers per cycle or more).

As a matter of facts, if ice cream in each container needs further preparation, such as garnish and variegation or else before storage, ice cream still inside the machine being left at high speed of dispense may lose its original thickness.

At any moment during **DISTRIBUTION** and upon operator's choice, it is also possible to press push-button **PRODUCTION** in order to cool ice cream again. The result is a steady consistency of ice cream, from beginning to the end of distribution. Starting Post-Cooling from SP (Speed) production program, makes the compressor run 20 seconds only.



3.5 CREMOLATA PRODUCTION

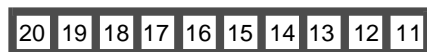
Through front lid hopper, pour slush mix into the barrel.

From "STOP" position, press push-button "CREMOLATA PRODUCTION"  in order to

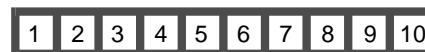
start cooling intermittently.

Monitor A displays production time set in minutes. All lighted LEDS on bar C dynamically show how many minutes are to cycle ending.

The machine is set with a production time of 12 minutes.



minutes



minutes

When the number set is over 10, LED bar decreases from left to right. If, on the contrary, the number set is below 10, it decreases from right to left.

3.5.1 Variation of cremolata production time

The user can vary production time between 2 and 20 minutes, depending on final product he would like to obtain.

In order to change cremolata production time, it is necessary to act on push-buttons arrow of MONITOR, with the machine in **CREMOLATA PRODUCTION**. In order to obtain a drier cremolata,

the time must be increased by pressing , and vice versa decreased by pressing .

New time set is displayed on MONITOR.

NOTE

By power failure, time setting remains memorized on last value stored.

3.5.2 Cremolata extraction

When the production cycle is over, as indicated by the LED bar blinking and the buzzer sound, the machine sets to STOP.

You can take the "cremolata" out, now, by opening the lid and using the special spatula.

NOTE

The best FRUIT CREMOLATAS are obtained when using same or bigger quantities than the ones to be found in table on page 10.

4. SAFETY DEVICES

4.1 ALARMS

LB RTX have been provided with a series of safety devices to machine and operators' safeguard. Any tripping of a safety device coincides with an alarm signal on control panel display. Hereunder an ALARMS list:



ALARMEr

It trips when the machine does not cool the product.

ALARM Pt

It trips when the machine lid is open.

ALARME rt

Thermal relay has tripped. If the alarm blinks it means thermal relay has not yet reset. When fixed, it means the thermal relay had tripped but it has also reset. To reset the alarm, press "STOP".

ALARMEE

Call an engineer.

ALLARME tt

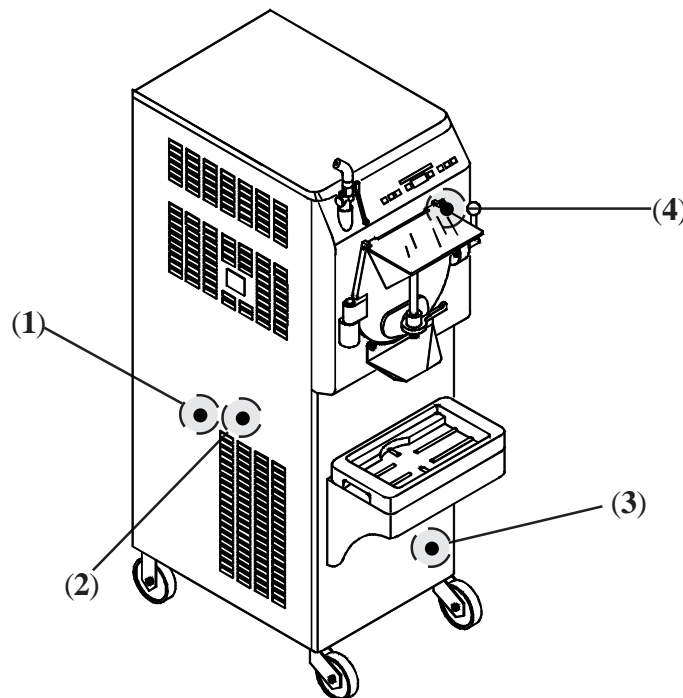
Call an engineer.

ALARM AG

It trips if the beater is not inserted into its seat or if there is no mix in the cylinder.

4.2 MACHINE SAFETY SYSTEMS

The diagram with location of above mentioned safety devices is hereunder illustrated. Safety devices can be seen on right and left sides of the machine, after removing side panel.



Symbolizes the parts inside the machine.

WARNING

IT IS ABSOLUTELY FORBIDDEN TO REMOVE AND TO TAMPER WITH DEVICES TO OPERATOR'S SAFETY.




CAUTION

CARPIGANI will not be responsible for any damages to people and/or to the machine, if safety devices turn to be tampered with or removed.



**THERMAL RELAYS(1)**

They take overheating of beater motor and motorcompressor; maximum values of setting bring about machine stop and the machine sets to **"STOP"**, whilst MONITOR blinks,  meaning that THERMAL CUT OUT has tripped.

On automatic resetting of thermal relay, display stops blinking. Before resetting operation, it is necessary to find out reason of tripping. In order to restart the machine, press desired push-button.

FUSES(2)

They protect control electric circuit against overloads. If they trip, check and eliminate causes of trouble, before replacing them.

**NOTE**

To identify values and features of fuses, refer to machine wire diagram.

PRESSURE SWITCH(3)


It is a protection of for cooling system and make the circuit cooling compressor stop in the event the circuit has no water (watercooled machines) or in the event of insufficient air circulation in the condenser (aircooled machines). Reset follows automatically.

**WARNING**

Too long running of compressor as well as stop and restart over and over again mean that cooling is insufficient; check reasons.

PROTECTIONS FOR THE OPERATOR(4)**Magnet switch**

On the closing lid of the cyclinder in which you find the beater assembly, there is a magnet switch which immediately controls the machine stop on lid opening. The machine sets to **"STOP"** and on

DISPLAY the message  will be blinking in case the machine was operating, will be steadily on if the machine was already in **"STOP"**.

Reclosing the lid keeps the machine in **"STOP"** and makes the alarm on display off.

**WARNING**

Before opening front lid, make sure the machine is in STOP position.

5. CLEANOUT DISASSEMBLING AND REASSEMBLING OF PARTS IN CONTACT WITH THE PRODUCT

IMPORTANT

Cleanout and sanitation must be carried out at the end of every working day as a habit and with utmost care in order to guarantee the production quality in the observance of necessary healthy rules.

WARNING

**Ideal water temperature for washing and sanitizing the machine is 131°F.
Water temperature must never be higher than 140°F and lower than 113°F.
Wash the disassembled parts by hands: do not use automatic washing machines.**

WARNING

Never use solvents, alcohol, or detergents that can damage the machine parts or pollute production functional parts.

5.1 OUTSIDE CLEANOUT

Clean the machine from dust and material its has been strewed with before shipment. Use water only and add a mild detergent, such as soap and a smooth cloth.

5.2 PRELIMINARY CLEANOUT

With machine off and beater front lid closed, let water in the barrel by means of the hose placed on machine front side and opening shut-off valve.

Press push-button "CLEANOUT" and let beater run for the time strictly necessary.

The machine runs about 3 minutes and then it automatically sets to "STOP" position, in order to avoid a useless wear of sliding shoes and barrel..

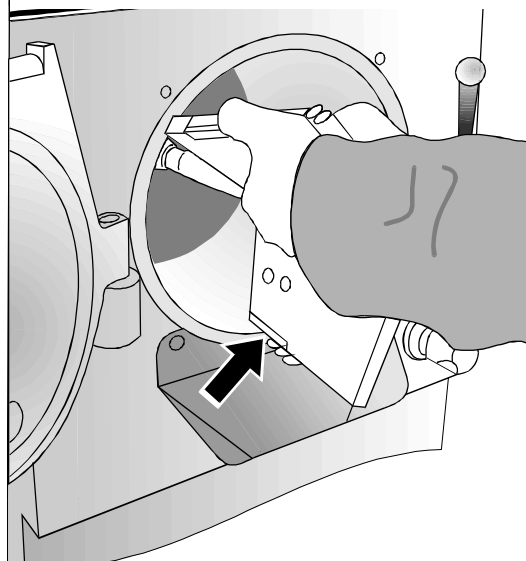
Drain all water from barrel, open the lid so as to remove beater.

5.3 BEATER DISASSEMBLY

Remove beater with care, paying attention not to damage the sliding shoes.

WARNING

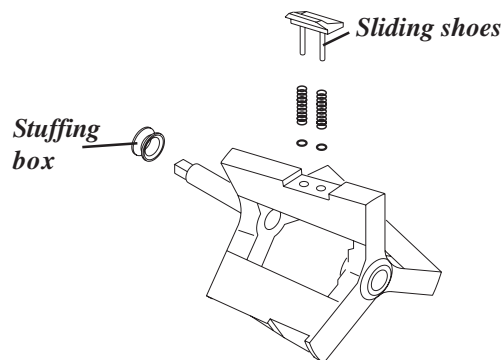
Carry out this operation with utmost care, since beater may be damaged in case it falls to the ground.



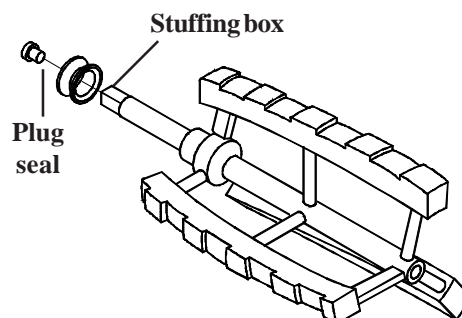
When reassembling the beater, catch it with both hands and push the sliding shoes in order to insert it easily. Push to the beater to the bottom and at the same time let it turn in order to fully insert the beater shaft into its seat.



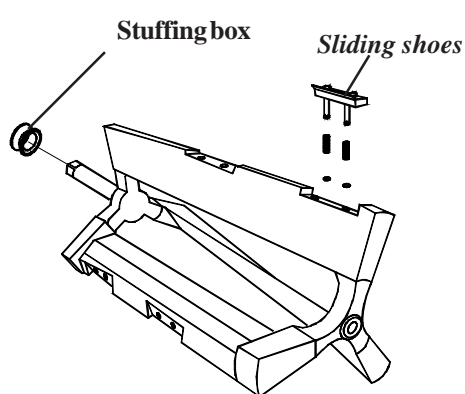
- Fully disassemble the sliding shoes (model LB 202);
- Withdraw the stuffing box from its seat on the beater shaft pos. 28.
- Wash all parts with water and a cleansing solution, then rinse.
- Reassemble all parts previously disassembled, minding to grease the stuffing box with a film of edible fat.



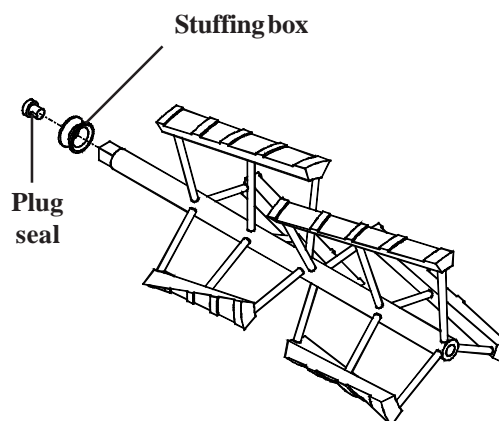
Beater for LB 202 G, LB 302 G, LB 505 G



Beater for LB 302 - LB 502



Beater for LB 1002 G



Beater for LB 1002

5.3.1 Sliding shoes disassembly

Sliding shoes mounted on beater are "self-adjusting". An accurate cleaning secures full working order of the system.

5.3.2 Stuffing box

On disassembling beater also check wholeness of stuffing box; depending on machine operation length, it is necessary to replace it through the spare one to be found in the accessory kit inside machine packing.

- Remove beater assembly
- Remove stuffing box from its seat
- Lubricate spare stuffing box
- Mount the new stuffing box
- Clean and lubricate the old stuffing box and put it away for recovery of its elasticity.

IMPORTANT

Stuffing box must be replaced each time ice cream drops are found on withdrawing drip drawer placed at the machine side.

Keeping on operating the machine after finding ice cream drops brings about a bigger leakage from stuffing box, thence a malfunctioning of the machine which consequently affects production.

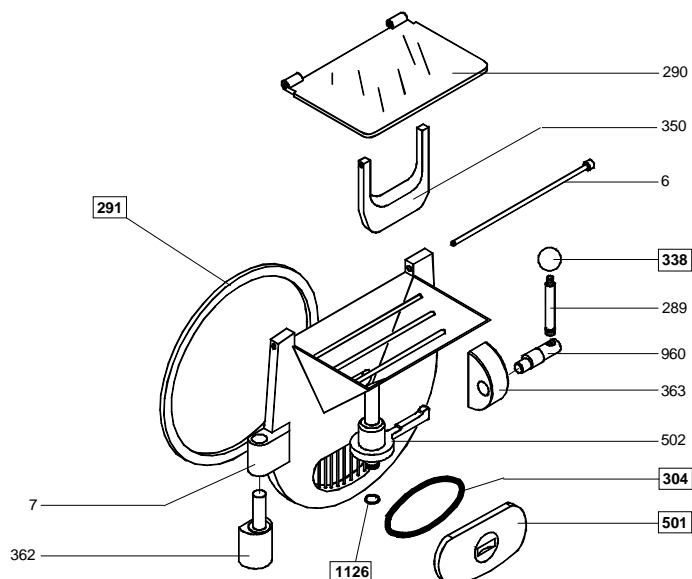
CAUTION

When you do not use the machine, leave beater lid open in order to avoid stuffing box buckling.



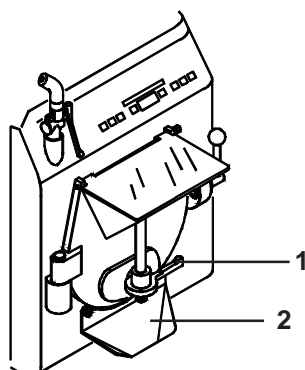
5.4 FRONT LID DISASSEMBLY

- Lift lid locking lever and shift it towards right.
- Open the lid by rotating it on its hinge.
- Remove lid while lifting it.
- To carry out cleaning operations, remove all movable parts and seal with barrel.
- Wash all parts previously disassembled with water and a cleansing solution, then rinse.
- Reassemble all parts previously disassembled, minding to grease the OR and the support rif. 362 with a film of edible fat.



5.4.1 Ice cream door disassembly

- Lift the lid by turning the lever (ref. 1) by 90° towards the left.
- Lift the lever and the door and lock the lid upwards by turning the lever rightwards till its stop.
- Remove the OR from the lid sliding rod, now, and take it out, in order to release the lever, as well.
- Remove the OR of the lid itself.
- Wash all disassembled parts with water and a cleansing solution, then rinse.
- Reassemble all parts previously disassembled, minding to grease the OR with a film of edible fat.



5.4.2 Hopper cover disassembly

To clean the mix filling area, withdraw the cover fixing rod (pos. 6) and remove it.

The cover is provided with a small panel to prevent ice cream from going back to the hopper, which must be disassembled to be cleaned.

Wash all disassembled parts with water and a cleansing solution, then rinse.

5.4.3 Ice cream slid disassembly

- Release the slide from its fixing knobs by rotating it.
- Wash the slide with water and soap, then rinse.





5.5 SANITIZATION

- With machine off and beater assembly lid closed, pour a NON CORROSIVE sanitizing solution into the the freezing barrel.
- Push push-button "**CLEANOUT**". Let the machine run 10/15 seconds.

WARNING

Too long running at "CLEANOUT" position with empty barrel or with water and cleansing solutions will wear out beater sliding shoes very quickly.

- Let the sanitizing solution act into the cylinder about 10/15 minutes according to the instructions given by the manufacturer.
- Fully draining the sanitizing solution from the freezing cylinder.

ATTENTION

Do not touch sanitized parts with hands, napkins, or else.

WARNING

Before starting again with ice cream production, rinse thoroughly with just water, in order to remove any residue of sanitizing solution.

5.6 HYGIENE

Ice cream fat contents are ideal fields for proliferation of mildew and bacteria. To eliminate them, parts in contact with mix and ice cream must be thoroughly washed and cleaned. Stainless steel materials as well as plastic and rubber ones used for the construction of these parts and their particular design make cleaning easy, but cannot prevent the growth of mildew and bacteria if not properly cleaned.

6. MAINTENANCE

CAUTION

Never put your hands into the machine, either during the operation or during cleaning.
Before servicing, make sure the machine has been set in "STOP" position and the main switch has been cut out.



6.1 SERVICING TYPOLOGY

ATTENTION

Any servicing operation requiring the opening of machine panels must be carried out with machine set to stop and disconnected from main switch
Cleaning and lubricating moving parts is forbidden
Repairs of electrical and freezing plants must be carried out by skilled engineers



Operations necessary to proper machine running are such that most of servicing is completed during production cycle.

Servicing operations, such as cleaning of parts in contact with the product, replacing of stuffing box, disassembling of beater assembly are to be carried out at the end of a working day, so as to speed up serving operations required.

Herebelow you can find a list of routine servicing operations:

- **Cleanout and replacement of stuffing box**
Cleaning should be carried out at the end of a working day, whilst replacement only after checking of stuffing box and in the event product drips inside drip drawer.
- **Cleanout of beater assembly**
At the end of a working day
- **Cleanout of sliding shoes**
At the end of a working day
- **Cleanout of panels**
To be carried out daily with neutral soap, seeing to it that cleaning solution never reaches beater assembly at its inside.
- **Cleanout and sanitization**
At the end of each working day, according to procedures described in section 5 of this manual.

WARNING

Never use abrasive sponges to clean machine and its parts, as it might scratch their surfaces.



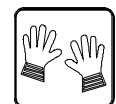
6.2 WATERCOOLING

By machines with watercooled condenser, water must be drained from condenser at the end of selling season in order to avoid troubles in the event that the machine is stored in rooms where temperature may fall under 32°F. After closing water inlet pipe, withdraw drain pipe from its seat and let water flow out from circuit.



6.3 AIRCOOLING

Clean condenser, periodically, so as to remove dust, paper and what can prevent air from circulating. For cleanout, use a brush with long bristles or a bolt of compressed air.



ATTENTION

When using compressed air, put on personal protections in order to avoid accidents;
put on protective glasses

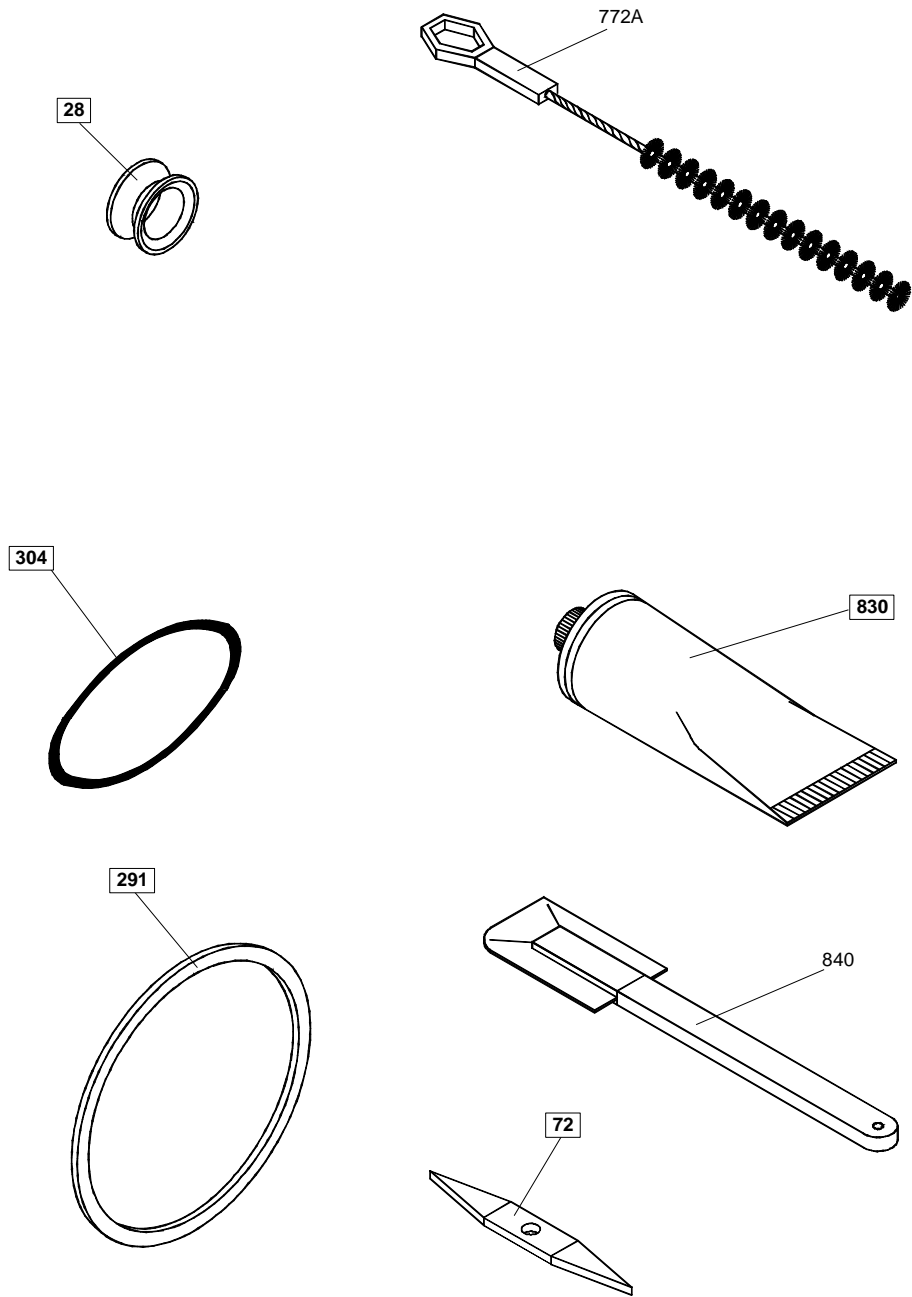
Note: never use sharp metal objects to carry out this operation. Good working of a freezing plant mostly depends on cleaning of condenser.

6.4 ORDERING SPARE PARTS

When one or more parts are worn out or broken, place the order through your local distributor.



6.5 ACCESSORIES KIT



LB202G ACCESSORY KIT

Description	Position number
Beater stuffing box	28
O-ring extractor	72
Hose adapter	287
Lid gasket	291
Gaskets for hose adapter	352
Brush	772A
Food-grade lubricant tube	830
Ice cream spatula	840

7. TROUBLESHOOT GUIDE



IRREGULARITY	CAUSE	PROCEDURE
Machine does not start	Main switch is off	Switch it on
	Machine unplugged	Check and plug in
	Machine is not set at PRODUCTION	Check push button for PRODUCTION is lit
	Front lid is not closed well	Check front lid closure
Compressor starts and then stops after a few seconds without ice cream being thick	Watercooled machine: water does not circulate	Open water tap Check that hose is neither squashed nor doubled up.
	Aircooled machine: air does not circulate	Check that rear of machine is at least 20 in. from wall Clean condenser from obstructions
After 15 minutes processing mix has not frozen and the machine returns to Stop	No gas	Check leakage and weld
	Pressure switch has broken down	Check connection and replace, if need be
Machine runs but no ice cream comes from ice cream door	No sugar in the mix	Allow to thaw, then modify or replace the mix
Machine works but ice cream is too soft	Too much sugar in the mix	Modify or replace the mix
Mix in drip drawer	Stuffing box missing or ruined	Install if missing Replace if ruined
Ice cream comes out from behind front lid	Gasket missing or not properly installed	Check and fix or replace
Bacteria tests show too high bacteria charge	Too high bacteria charge in the mix	Improve preparation procedure by sanitizing all containers, spoons, etc., and have mix analyzed before pouring it into the machine
	Machine not clean enough	Empty and thoroughly wash the machine. Carry out sanitization as per chapter 5 of manual.