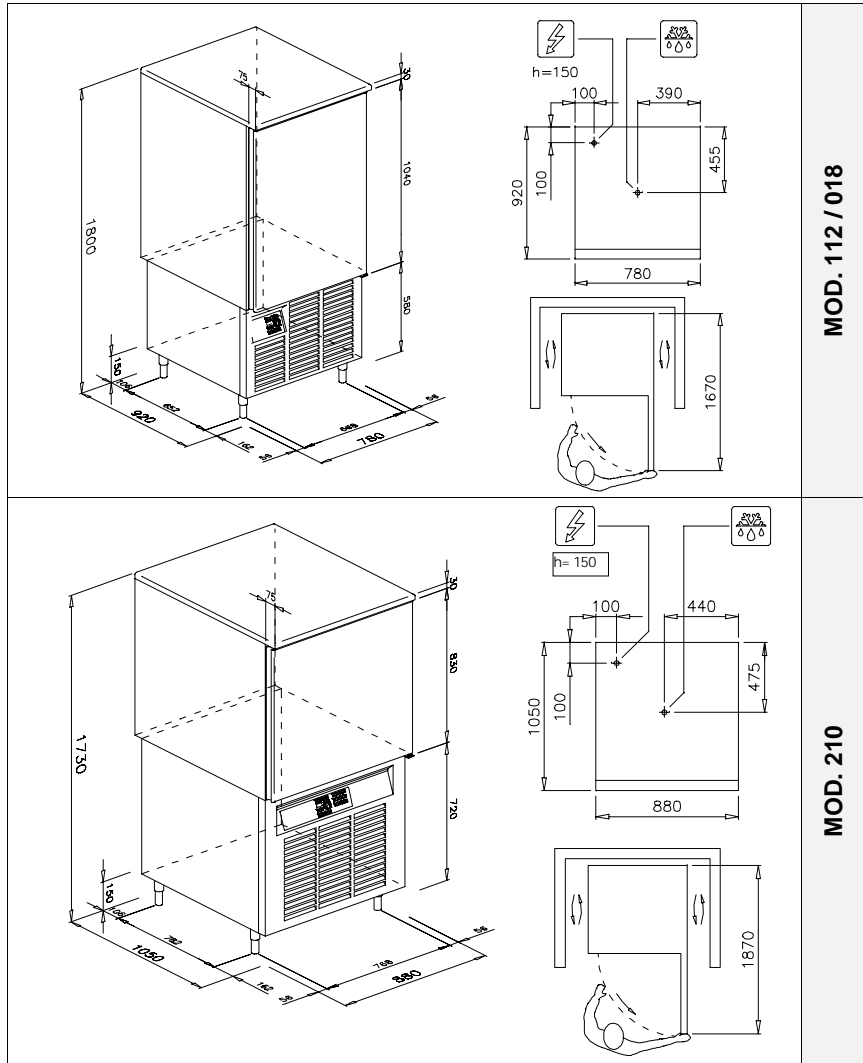


005E - 105S - 106S - 110S - 112S - 210S
004E - 006S - 009S - 018S



GB	INSTRUCTIONS FOR INSTALLATION, ADJUSTMENT, USE AND MAINTENANCE	INDEX	GENERAL WARNINGS	3
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SCHEMI ALLACCIAMENTO - HOOK-UP DIAGRAMS - ANSCHLUßPLÄNE

01	Aggiornata descrizione punti 2.17, 2.2.7, 2.3.8, 2.4.8, 2.5.8, 2.7.9, 2.8.9, pagine 8, 9, 10. Modificata descrizione 1.10e 1.11 a pagina 7. Aggiunta versione teglie GN 2/1 a pagina 4.	16/05/00	Fontanive	Zambon
00	Prima emissione	24/01/00	Fontanive	Zambon
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	<p>MOD. 004 / 005 / 105 / 006</p>
	<p>MOD. 106 / 009</p>
	<p>MOD. 110</p>

Action

Check and if necessary replace with another pipe of the correct diameter.

Problem

ERROR MESSAGES

8.1 THE DISPLAY ALTERNATES THE "ER 1" ERROR MESSAGE WITH CURRENT DISPLAY.

8.1.1 Cause

SENSOR CHAMBER INTERRUPTED OR IN SHORT CIRCUIT

Action

Check and replace if necessary.

8.2 THE DISPLAY ALTERNATES THE "ER 2" ERROR MESSAGE WITH THE CURRENT DISPLAY.

8.2.1 Cause

SENSOR ROD INTERRUPTED OR IN SHORT CIRCUIT

Action

Check and replace if necessary.

8.3 THE DISPLAY ALTERNATES THE "ER 3" ERROR MESSAGE WITH THE CURRENT DISPLAY.

8.3.1 Cause

EVAPORATOR SENSOR INTERRUPTED OR IN SHORT CIRCUIT

Action

Check and replace if necessary.

8.4 THE DISPLAY ALTERNATES THE "NP" ERROR MESSAGE WITH THE CURRENT DISPLAY.

8.4.1 Cause

DOOR OPEN

Action

Close the door

8.4.2 Cause

DOOR MICRO-SWITCH NOT WORKING OR NOT CONNECTED ELECTRICALLY.

Action

Check, replace the door micro-switch or restore electrical connection.

Problem

9.0 – THE MACHINE HAS CONVERTED TO CONSERVATION BUT THE PRODUCT HAS NOT REACHED THE PRE-SET CORE TEMPERATURE FOR THE END OF THE CYCLE

9.1 Cause

CYCLE SELECTED : "SENSOR ROD" TEMPERATURE REDUCTION. THE SENSOR ROD HAS NOT BEEN INTRODUCED INTO THE CORE OF THE PRODUCT.

Action

Check and if necessary start a new cycle, after having ensured that the sensor rod is introduced into the product core

9.2 Cause

CYCLE SELECTED: "SENSOR ROD" TEMPERATURE REDUCTION: THE SENSOR HAS BEEN INTRODUCED INTO THE CORE OF THE PRODUCT IN AN AREA (CLOSE TO THE SURFACE) THAT HAS REACHED THE END OF CYCLE TEMPERATURE BEFORE THE REST OF THE PRODUCT

Action

Check and if necessary start a new cycle, after having introduced the sensor into the core in an area of the product that will guarantee a successful result.

9.3 Cause

CYCLE SELECTED: "TIMED" TEMPERATURE REDUCTION: A TIME HAS BEEN SET THAT IS LOWER THAN THAT REQUIRED

Action

Check and if necessary repeat the cycle with a greater time value.

Problem

10.0 THE PRODUCT IN THE MACHINE HAS NOT REACHED THE CORE TEMPERATURE THAT HAD BEEN SET FOR CYCLE END

10.1 Cause

THE PRODUCT MASS HAS NOT BEEN UNIFORMLY DISTRIBUTED ON THE PANS.

Action

Check and if necessary repeat the cycle after having distributed the product on all the pans.

It is possible to adopt a HARD programme

10.2 Cause

THE AMOUNT OF PRODUCT IN THE MACHINE IS LESS THAN THE RECOMMENDED AMOUNT.

Action

Check and if necessary repeat the cycle after having introduced an amount of product equal the established yield.

10.3 Cause

CYCLE SELECTED : "SENSOR ROD" TEMPERATURE REDUCTION

PRODUCTS HAVE BEEN PLACED IN THE PANS WITH DIFFERENT CHARACTERISTICS, AND THE SENSOR ROD HAS BEEN INTRODUCED INTO THE CORE OF PRODUCTS WITH MORE FAVOURABLE CHARACTERISTICS

Action

Check and if necessary repeat the cycle, after having introduced the sensor into the core of the products with less favourable characteristics.

10.4 Cause

CYCLE SELECTED: "TIMED" TEMPERATURE REDUCTION

DIFFERENT SORTS OF PRODUCT HAVE BEEN PLACED ON THE PANS IN THE MACHINE AND AN ADEQUATE TIME HAS NOT BEEN SELECTED FOR THE PRODUCTS WITH LESS FAVOURABLE CHARACTERISTICS

Action

Check and if necessary repeat the cycle, adopting a time that is more suitable for the products with less favourable characteristics.

10.5 Cause

INSUFFICIENT SPACE HAS BEEN LEFT BETWEEN THE SHELVES FOR CORRECT AIR CIRCULATION.

Action

Check and if necessary repeat the cycle with more rational distribution of the products.

10.6 Cause

CYCLE SELECTED: "TIMED" TEMPERATURE REDUCTION WITH PARTIAL LOADS

WITH ONLY A PARTIAL LOADING OF THE MACHINE, THE TIME SELECTED IS NOT ADEQUATE FOR THE QUANTITY OF PRODUCT INVOLVED

Action

Check and if necessary repeat the cycle selecting a time that is more suitable for products with less favourable characteristics.

GENERAL WARNINGS

IMPORTANT



INSTALLATION, START UP AND MAINTENANCE OF THE TEMPERATURE REDUCTION UNIT MUST BE CARRIED OUT BY QUALIFIED PERSONNEL, FOLLOWING THE MANUFACTURER'S INSTRUCTIONS

This manual has the aim of granting correct installation, running and maintenance of the unit. It is therefore of fundamental importance that:

- The following instructions are all carefully read;
- The unit is installed, checked and serviced by qualified personnel (law no. 46 dated 5/3/1990) who have all requisites as required by law.
- The manufacturer declines any responsibility and the guarantee is immediately cancelled in the case of electrical and/or mechanical changes to the unit. Any unauthorised modifications that do not respect the requirements of this manual cause immediate cancellation of the guarantee.
- At the moment of installation all local safety standards must be respected.
- Check that the characteristics of the electricity network conform to the data shown on the matriculation plaque

that is positioned at the back of the machine.

- This manual and the electrical layout of the machine must be carefully kept and be available for the operator for future consultation.
- The packing material (plastic bags, polystyrene foam, nails, etc) could be a hazard and must be kept out of the reach of children and correctly recycled according to local legislation.
- In the case of faulty or poor working the machine must be turned off.
- For any sort of repair only an authorised service centre should be called and only original spare parts used. Alternatively the safety of the machine could be compromised.

IMPORTANT



THE MANUFACTURER DECLINES ANY RESPONSIBILITY FOR DAMAGE DIRECTLY OR INDIRECTLY CAUSED TO PERSONS AND THINGS DUE TO THE LACK OF ADHERENCE TO THE ENCLOSED INSTRUCTIONS

POSITIONING

The machine has been designed for internal installation and cannot be used in the open air or exposed to rain.

- Check that the work surface is flat and adequate for the weight of the machine.
- Respect the working spaces.
- Avoid placing boxes or other items on top of the machine. The weight could compromise the correct working of the machine.
- For machines with remote condenser unit installed on the terrace or roof, we recommend fitting it onto anti-vibrating supports; in this case the connection pipes must be fitted with elastic joints.
- Position the machine away from hot air currents.

ACCESSORIES

Upon request the machine can be fitted with the following accessories:

- Voltage different from the standard
- HACCP pre-setting
- Printer with additional sensor for cycle trend registration
- Pan carrying trolley (106/110/210)
- Pan carrying structure (106/110/210)
- Wheels

WORKING AREA

The choice of the correct position for the machine is of fundamental importance for its correct working.

Sources of heat (like hot air outlets), difficulty in air exchange around the installation area, articles that can obstruct or contrast the airflow can cause working anomalies.

A minimum amount of space is required for the machine to work properly and for its maintenance.

Ensure that the machine is not installed in areas with poor air exchange.

Ensure that between the machine and the adjacent side structures there is a space of at least 150 mm. to guarantee adequate air circulation.

The enclosed charts show a few types of installation; they must be checked in each single case bearing in mind the instructions given in this manual. This machine must be used exclusively **for the use for which it was designed** i.e. rapid reduction of temperature of food products; any other use is improper and hazardous.

TECHNICAL FEATURES

Model	DX005E	DX106S	ZX105S	DX106S	ZX106S	DX110S	ZX110S	DX112S	ZX112S
External measurements	mm	750	750	750	750	780	780	780	780
	Mm	700	700	700	700	920	920	920	920
Internal measurements	mm	850	850	850	1250	1250	1730	1730	1800
	Mm	415	415	415	410	410	425	425	425
Pan capacity	GN 1/1	3/5	3/5	3/5	6	6	10	10	12
Pan capacity	400x600	3/5	3/5	3/5	6	6	10	10	12
Yield per cycle	Kg	11/7	11	20	20	25	30	45	30
Core temperature	°C	+70 / +3 - +70 / -18 +25 / -18							
Supply voltage		AC230 50Hz				3N AC400 50Hz			
Weight	Kg	110	110	110	155	155	230	230	230
Refrigerant	type	R404A							
Electrical features									
F.L.A.	A	3.5	4.2	5.8	5.8	2.6	2.6	7.5	2.6
L.R.A.	A	16.5	22	28	28	13	13	23	13
F.L.I.	W	900	1050	1600	1600	2300	2400	3000	2420

Model	DX210S	ZX210S		DP110S	ZP110S	DP112S	ZP112S	DP210S	ZP210S
External measurements	mm	880	880	780	780	780	780	880	880
	Mm	1030	1030	920	920	920	920	1030	1030
Internal measurements	mm	1730	1730	1730	1730	1800	1800	1730	1730
	Mm	760	760	660	660	660	660	760	760
Pan capacity	GN 1/1	20	20	10	10	12	12	20	20
Pan capacity	GN 2/1	10	10	/	/	/	/	10	10
Pan capacity	400x600	/	/	10	10	12	12	/	/
Yield per cycle	Kg	45	90	30	45	30	45	45	90
Core temperature	°C	+70 / +3 - +70 / -18 +25 / -18		+70 / +3					
Supply voltage		3N AC400 50Hz							
Weight	Kg	270	270	230	230	230	270	270	270
Refrigerant	type	R404A							
Electrical features									
F.L.A.	A	7.5	8.4	6	8	6	8	8	15
L.R.A.	A	23	51.5	16	25	16	25	25	63
F.L.I.	W	3500	5700	2400	3300	2420	3350	3500	6700

Model	DX004	DX006S	ZX006S	DX009S	ZX009S	DX018S	ZX018S	DP018S	ZP018S
External measurements	mm	750	750	750	750	780	780	780	780
	Mm	700	700	700	700	920	920	920	920
Internal measurements	mm	850	850	850	1250	1250	1800	1800	1800
	Mm	415	415	415	410	410	425	425	425
Pan capacity	GN 1/1	/	/	/	/	/	/	/	/
Pan capacity	400x600	6	6	6	9	9	18	18	18
Yield per cycle	Kg	11/7	11	20	20	25	30	45	30
Core Temperature	°C	+70 / +3 - +70 / -18 +25 / -18						+70 / +3	
Supply voltage		AC230 50Hz				3N AC400 50Hz			
Weight	Kg	105	110	110	155	155	230	230	230
Refrigerant	type	R404A							
Electrical features									
F.L.A.	A	3.5	4.2	5.8	5.8	2.6	2.6	7.5	6
L.R.A.	A	16.5	22	28	28	13	13	23	16
F.L.I.	W	900	1050	1600	1680	2350	2420	3200	2420

F.L.A. = Power absorbed by the compressor under maximum allowed conditions
 F.L.I. = Power absorbed by the machine under maximum allowed conditions
 L.R.A. = Acceleration current of the compressor

Cause 2.2
DIRTY DEHYDRATOR FILTER
 Using a thermometer fitted with a contact sensor, measure the refrigerant temperature at source and at the end of the filter, if the difference is above 1°C it means that the filter is dirty and should be replaced.

Action
Replace the filter.

Cause 2.3
REDUCED REFRIGERANT LOADING

Action
Eliminate any leakage points, to identify these the circuit can be pressurised, carry out the emptying and loading operations.

Problem
3.0 – COMPRESSOR PROTECTION INTERVENTION

Cause 3.1
THE ELECTRONIC CONTROL DOES NOT CALCULATE DELAYS.
 Close starting times are not accepted.

Action
Check the relative parameters and if necessary set them to the manufacturer's values.

Cause 3.2
INTAKE GAS TEMPERATURE ABOVE THE IDEAL VALUES
 Close starting times are not accepted.

Action
Check that the thermostatic valve works correctly. Check the refrigerant loader and the presence of any leakage points, to identify these the circuit can be pressurised, carry out the emptying and loading operations.

Problem
4.0 FAULTY SENSOR

4.1 Cause
ELECTRICAL INTERRUPTION

Action
Check that the connections are not damaged and replace the sensor if necessary.

4.2 Cause
SENSOR NOT WORKING

Action
Use a tester to check the integrity of the sensor and replace if necessary.

Problem
5.0 UNSUCCESSFUL START UP OF THE COMPRESSOR

5.1 Cause
INTERRUPTION IN THE POWER SUPPLY.

Action
Check the continuity of the electric connections of the supply cable of the compressor.

5.2 Cause
THE THERMAL CUTOUT IS OPEN (WHEN INSTALLED)

Action
Check the cause for the intervention, restore normal working.

5.3 Cause
THE COMPRESSOR METER IS BLOCKED IN THE OPEN POSITION

Action
Check the cause, replace if necessary.

5.5 Cause
THERE IS AN OPEN COIL OR SHORT CIRCUIT IN THE ELECTRIC MOTOR

Action
Replace the compressor.

5.6 Cause
THE COMPRESSOR HAS MECHANICAL PROBLEMS (SEIZED)

Action
Replace the compressor.

5.7 Cause
ELECTRONIC CHART NOT WORKING

Action
Use a tester to check the working of the electronic control contact which is connected to the supply cable of the meter bobbin / cut-out of the compressor

5.8 Cause
ELECTRIC MOTOR BURNT OUT

Action
Use a tester to check the working of the motor and replace the compressor if necessary.

Problem
6.0 NOISY MACHINE / CONDENSER UNIT

6.1 Cause
FIXING SCREWS LOOSE AT THE BASE OF THE COMPRESSOR

Action
Check the screws and tighten if necessary.

6.2 Cause
VIBRATING COMPRESSION OR EXTRACTOR PIPES

Action
Check if correctly fixed and if necessary separate any tubes that knock together, or if they are loose tighten them.

6.3 Cause
EXTRACTOR OR COMPRESSION VALVE BROKEN

Action
Replace the compressor.

6.4 Cause
LACK OF OIL
 The sight glass shows this when the compressor is off.

Action
Add more oil after having checked the cause of the lack.

Problem
7.0 EVAPORATOR WITH EXCESSIVE AMOUNT OF FROST / ICE

7.1 Cause
POOR DEFROSTING

Action
Check the efficiency of the defrosting function by starting a manual defrosting cycle.

7.2 Cause
HOT GAS SOLENOID NOT WORKING

Action
Check and replace if necessary.

7.3 Cause
HOT GAS PIPE NOT INSULATED

Action
Check and insulate with adequate material if necessary.

7.4 Cause
HOT GAS PIPE NOT CORRECTLY DIMENSIONED

IDENTIFICATION OF FAULTS

SUMMARY:

- 1.0 – HIGH PRESSURE ANOMALY, INTERVENTION BY THE HIGH PRESSURE PRESSURE-GAUGE
- 2.0 – LOW PRESSURE ANOMALY
- 3.0 – INTERVENTION BY COMPRESSOR PROTECTIONS
- 4.0 – SENSOR FAULT
- 5.0 – UNSUCCESSFUL START UP OF THE COMPRESSOR
- 6.0 – NOISY MACHINE /CONDENSER UNIT
- 7.0 – EVAPORATOR WITH EXCESSIVE AMOUNT OF FROST / ICE
- 8.0 – THE DISPLAY SHOWS AN ERROR MESSAGE : ER1, ER2, ER3, MP
- 9.0 – THE MACHINE HAS CONVERTED THE FUNCTION TO CONSERVATION BUT THE PRODUCT HAS NOT REACHED THE CORE TEMPERATURE SET FOR THE CYCLE
- 10.0 – THE LOADED PRODUCT HAS NOT REACHED THE CORE TEMPERATURE SET FOR THE CYCLE

The following is intended as an aid in seeking the solution to certain anomalies that could occur with the machine, it should be understood that the list does not completely cover all the various possibilities. Should a safety device activate, it indicates a working anomaly, before starting up again check and eliminate the cause. Below is a list of the possible problems and relative causes, with their remedies (*in bold type*).

IMPORTANT



THE OPERATIONS LISTED BELOW ARE THE FULL RESPONSIBILITY OF WHOEVER CARRIES THEM OUT, IT IS IMPERATIVE THAT AN AUTHORISED SERVICE CENTRE, WITH ALL THE NECESSARY REQUISITES FOR RESTORING THE MACHINE TO WORKING CONDITIONS, IS CONTACTED

ATTENTION



BEFORE STARTING ANY SORT OF MAINTENANCE OPERATION, ENSURE THAT THE MACHINE IS TURNED OFF AT THE MAINS SUPPLY.

Problem

1.0-HIGH PRESSURE ANOMALY, INTERVENTION BY THE HIGH PRESSURE PRESSURE-GAUGE

Cause 1.1

DIRTY CONDENSER BATTERY

With the compressor running, use a pressure gauge to measure the condensation pressure value. With a condenser air entrance temperature equal to +32°C the difference between the saturated value of the condensation pressure and the air value must be equal to:

Max 20°C at cycle start up

Max 10°C at the end of the cycle.

Action

If the difference is outside these values, the **CONDENSER BATTERY** must be cleaned as instructed.

It is of fundamental importance that the battery guarantees maximum heat exchange. It is therefore important that the surface is always free of dirt and dust that could have deposited due to the action of the electric fans.

Use a vacuum cleaner and a paintbrush or non-metallic brush to remove any impurities that may have deposited on the surface of the battery. Check that the aluminium blades have not been damaged or bent, should this have happened, they should be

"combed" with the relevant tool until the battery regains its original condition to guarantee the maximum airflow.

Cause 1.2

CONDENSER FAN NOT WORKING

When the compressor is running the fan should work.

Action

Before beginning replacement turn the machine off and check that the electric connections are not damaged.

Cause 1.3

A VALVE CLOSED ON THE GAS DIFFUSER OR THE LIQUID CONDUCT

Action

Open the valve concerned

Cause 1.4

EXCESSIVE REFRIGERANT LOADING (FOR MODELS WITH REMOTE CONDENSER UNIT)

Action

Reduce the load

Cause 1.5

THE SOLENOID VALVE ON THE LIQUID CONDUCT DOES NOT OPEN

Action

Check the electric working of the bobbin and the supply circuit for the bobbin

Cause 1.6

PRESENCE OF NON CONDENSING SUBSTANCES IN THE CIRCUIT

In the presence of non-condensing substances in the circuit the difference between the saturated value of the condensation pressure and the external air temperature exceeds the values shown above.

Action

Remove all the refrigerant from the circuit. Produce a value vacuum equal to or below 100 Pa; introduce a quantity of refrigerant into the circuit that is equal to the amount shown on the matriculation plaque.

Cause 1.7

LITTLE VENTILATION IN THE AREA AROUND THE CONDENSER

Action

Remove anything that may obstruct the correct air circulation in entry/exit from the condenser.

Problem

2.0 – LOW PRESSURE ANOMALY

Cause 2.1

THERMOSTATIC VALVE NOT WORKING

Action

Replace the valve with another identical one

RECEIPT

SUMMARY:

- 1.0 – CONTROLS ON RECEIPT
- 2.0 – HANDLING
 - 2.1 – HANDLING on FORKLIFT TRUCKS or SIMILAR
- 3.0 – PACKAGING REMOVAL
- 4.0 – POSITIONING

1.0 – CONTROLS ON RECEIPT

The equipment is shipped in special protective packaging. On arrival check that the equipment has not been damaged during transport and that it is complete, as per the order. **Should there be any visible signs of damage, note these immediately on the shipping bill with the following phrase: "ACCEPTANCE UNDER PROTEST FOR OBVIOUS PACKAGING DAMAGE"** as the shipment ex factory includes insurance cover for damage as per law N° 450 dated 22.08.85 "indemnity limits"



IMPORTANT

ALL THE FOLLOWING OPERATIONS MUST BE CARRIED OUT IN CONFORMITY WITH CURRENT SAFETY STANDARDS, BOTH REGARDING THE EQUIPMENT AND THE OPERATING METHODS



ATTENTION

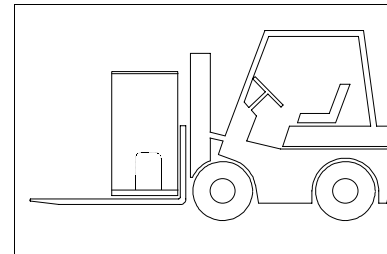
BEFORE BEGINNING HANDLING OPERATIONS ENSURE THAT THE LIFTING CAPACITY IS ADEQUATE FOR THE WEIGHT OF THE UNIT TO BE MOVED.

2.0 - HANDLING

2.1 – HANDLING on FORKLIFT TRUCKS or SIMILAR

2.1.1 – Introduce the forks into the long side of the wooden board under the equipment.

2.1.2 – Begin lifting, ensuring that the equipment is perfectly balanced.



WARNINGS

RESPECTING THE WARNINGS PRINTED ON THE OUTSIDE OF THE PACKING CARTON WILL GUARANTEE THAT THE EQUIPMENT IS PHYSICALLY INTACT AND WORKING. TO SAFEGUARD THE CUSTOMER WE THEREFORE RECOMMEND :

- HANDLE WITH CARE
- KEEP IN A DRY PLACE
- AVOID PLACING OTHER ITEMS ON TOP OF THE UNIT, UNLESS THEY ARE WITHIN THE LIMITS OF THE OVERLAYING LAYERS WHICH ARE SHOWN (THE NUMBER SHOWN INDICATES THE NUMBER OF LAYERS THAT CAN BE PLACED ON TOP. E.G. 1 = 1 LAYER CAN BE PLACED ON TOP OF THE UNIT)

3.0 – PACKAGING REMOVAL

- 3.1 – Cut the binding straps with scissors.
- 3.2 – Lift off the packing case.
- 3.3 – Lift the unit so as to separate it from the board.
- 3.4 – Place the unit on the ground in the established position.
- 3.5 – Check for signs of visible damage.
- 3.7 – Dispose of the packing material through the specific waste disposal methods or specialised recycling centres (conform to current legislation)

4.0 - POSITIONING

- 4.1 – Completely remove the protective film.
- 4.2 – Level the unit by adjusting the feet underneath. If there is a distinct difference in level or inclination, it could have a negative effect on the correct working of the temperature reduction unit.
- 4.3 – Remove the internal grid from the clamps
- 4.4 – Place the ABS basin for collecting condensation/defrosting water in the relative guides at the bottom of the structure.
- 4.5 – Check the correct distances for access (as shown in the installation chart).
- 4.6 – Check that the electric cable is not under traction.
- 4.7 – Check that the air intakes are not blocked.

START UP AND DISPOSAL

SUMMARY:

1.0 – PRELIMINARY CHECKS

- 1.1 GENERAL CHECKS
- 1.2 CHECKS FOR THE ELECTRIC PARTS
- 1.3 CHECKS FOR WATER SUPPLY (only for those units with water run condensing unit)

2.0 – START UP - CONTROLS

3.0 - DISPOSAL

IMPORTANT

BEFORE CONNECTING THE UNIT TO THE NETWORK, ENSURE THAT THE DATA SHOWN ON THE PLAQUE IS THE SAME AS THAT OF THE ELECTRICITY NETWORK.

THE MATRICULATION PLAQUE SHOWING THE ELECTRICAL REQUIREMENTS FOR INSTALLATION IS POSITIONED ON THE BACK OF THE UNIT.

INSTALLATION MUST BE CARRIED OUT IN CONFORMITY WITH THE FOLLOWING INSTRUCTIONS AND BY QUALIFIED PERSONNEL

ELECTRICAL SAFETY OF THE UNIT IS GUARANTEED ONLY WHEN IT HAS BEEN CORRECTLY CONNECTED TO AN EFFICIENT EARTHED PLANT AS FORESEEN BY CURRENT SECURITY STANDARDS.

THIS FUNDAMENTAL SAFETY REQUIREMENT MUST BE CHECKED, AND IN CASE OF DOUBT REQUEST AN ACCURATE CONTROL OF THE UNIT BY QUALIFIED PERSONNEL.

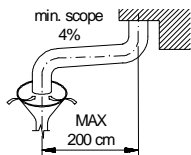
THE MANUFACTURER DECLINES ANY RESPONSIBILITY FOR DAMAGE CAUSED BY THE LACK OF EARTHING OF THE PLANT. FURTHERMORE THE PLANT MUST BE INCLUDED IN AN EQUIPOTENTIAL SYSTEM, WITH THE EFFICIENCY CHECKED IN ACCORDANCE WITH CURRENT LEGISLATION.

NO USE MUST BE MADE OF ADAPTORS, MULTIPLE PLUGS AND/OR EXTENSION LEADS.

1.0 PRELIMINARY CHECKS

1.1 GENERAL CHECKS

- 1.1.1 Check that the unit is perfectly balanced. If required adjust the feet until perfect alignment is obtained.
- 1.1.2 Check that the protective film has been removed from the outside parts.
- 1.1.3 Check that the inside of the unit has been washed with warm water and neutral detergent.
- 1.1.4 Check that the air can circulate freely around the compressor area.
- 1.1.5 Check that the ABS basin for the condensation/defrosting water has been positioned on the relative guides at the bottom of the structure.
- 1.1.6 Check that the outlet pipe, should it be necessary to replace the basin with a fixed water discharge system, has not been completely channelled along the clean water discharge network, but that there is an air gap of at least 25 mm. A funnel must be interposed to grant free downflow to avoid the need to reduce the diameter of the discharge pipe (see drawing).



1.2 CHECKS TO THE ELECTRICAL PARTS

- 1.2.1 Check the voltage and frequency values of the network:

THEY MUST FALL WITHIN THE VALUES SHOWN BELOW

**(Tolerance – 10 / +6% above the voltage value)
Single phase unit 220-240 / 1 / 50 Hz
Three phase unit 380-400 / 3 / 50 Hz**

- 1.2.2 Check that the screws that fix the conductors to the electric parts on the control panel are well tightened (during handling and transport, vibrations could have loosened these).
- 1.2.3 Ensure that a single-throw switch has been installed at the

source of the connection socket, with openings for the contacts equal to or above 3 mm.

- 1.2.4 Fit a compatible plug onto the power supply cable supplied with the unit.

1.2.5 Qualified personnel should check that the section of the connection cable is adequate for the voltage absorbed by the unit.

1.2.6 The mains switch that the supply cable is connected to should be turned to 0 (zero).

- 1.2.7 Insert the plug in the socket.

1.3 WATER SUPPLY CHECKS (only for the units with water run condensers)

- 1.3.1 Check that the water supply has been correctly connected.

1.3.2 Check that interception cocks have been installed at the source and around the water connections of the unit.

- 1.3.3 Check that the water pressure value is not:

- Lower than 1.5 bar, if necessary install a pump with the adequate capacity/head characteristics.

- Above 16 bar (**attention should be paid to the maximum values supported by the flexible connection joints**) if the pressure is superior, a pressure valve must be fitted at the source of the unit.

2.0 START UP

After all the above mentioned checks have been carried out, the machine can be started up.

- 2.1.1 Turn the mains switch with the supply cable fitted to position 1.
- 2.1.2 Press button 1 to give power to the electronic controls.
- 2.1.3 Check that the led on the electronic controls lights up.
- 2.1.4 Press the corresponding button for the desired cycle.

3.0 DISPOSAL

Should the machine be disposed off, before sending it for destruction, it must be made inactive by removing the supply cable and eliminating any part that could form a hazard. Furthermore all closures must be blocked so that children cannot play with the unit, and be closed inside or hurt themselves.



IMPORTANT

ALL LOCAL LEGISLATION MUST BE RESPECTED FOR THE DESTRUCTION OF THIS TYPE OF EQUIPMENT.

CLEANING AND MAINTENANCE

SUMMARY:

1.0 – WEEKLY CLEANING

- 1.1 - STRUCTURE
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This section is dedicated to the final operator and is extremely important to ensure that the unit works correctly.

There are just a few operations which should be scrupulously carried out at regular intervals, and which avoid the need to call out specialised technicians.

No special technical knowledge is required to carry out these operations, and they can be summarised in simple controls on the various components of the unit.



IMPORTANT

ENSURE THAT THE UNIT IS TURNED OFF BEFORE BEGINNING ANY MAINTENANCE OR CLEANING OPERATIONS.



ATTENTION

DO NOT WASH THE UNIT WITH HIGH PRESSURE JETS OF WATER. DO NOT WET THE ELECTRICAL PARTS.

1.0 – WEEKLY CLEANING

1.1 - STRUCTURE

1.1.1 Check if the structure is clean. Special attention should be paid to the steel parts.

1.1.2 Clean the inside and outside surfaces with water and neutral soap or detergent, without using abrasives or steel wool which would scratch and damage the surfaces. A drop of vinegar in the water removes any unpleasant smells that may have formed.

- 1.1.3 Rinse well with water and dry.



IMPORTANT

AVOID SALT DEPOSITING ON THE STEEL SURFACES. SHOULD THIS HAPPEN THEY MUST BE CAREFULLY CLEANED IMMEDIATELY.

1.2 – CONDENSATION/DEFROSTING WATER COLLECTION SYSTEM

1.2.1 Check that the condensation / defrosting water outlet pipe is not blocked. Clean if necessary.

1.2.2 Empty the collecting basin for the condensation / defrosting water and correctly reposition it on the guides.



ATTENTION

INCORRECT USE WOULD REQUIRE FREQUENT CHECKS OF THE WATER LEVEL IN THE BASIN.

2.0 – ORDINARY MAINTENANCE

2.1 – CONDENSATION BATTERY

It is important that the condenser battery gives the maximum heat exchange. It is therefore important that its surface is always clean and free from dust that could have deposited due to the action of the electric fans.

2.1.1 – Use a brush to remove any sort of dirt, such as paper, leaves, etc. that could have deposited on the surface of the battery.

2.1.2 – Using a high pressure jet of water clean the aluminium surface of the battery, taking care that the jet is in the same parallel direction as the blades, so as not to damage these.

2.1.3 – Check that the aluminium blades are not damaged or bent, should this be the case use the relative tool to "comb" the battery until the maximum air flow is once again restored.

2.2 – ELECTRIC FANS

2.2.1-Check that the electric fan is correctly fixed to its support.

2.2.2-As far as possible, check that the electric fans are not unbalanced, this could be detected by unusual noises and vibrations.

2.3 – SUPPLY CABLE

2.3.1- Check that there is no damage to the supply cable between the unit and the socket, as this could compromise its insulation. Contact an authorised service centre should it require maintenance.

3.0 – EXTENDED MACHINE STOPS

In the case of extended inactivity proceed as follows:

- 3.1- Turn the mains switch to the OFF position.
- 3.2- Remove the plug from the socket.
- 3.3- Empty the machine and clean as described above.
- 3.4- Leave the doors ajar to avoid the formation of unpleasant smells.
- 3.5- Protect the compressor unit from dust.

In the case of faulty working, we advise emptying the machine, removing the plug from the socket and calling the nearest authorised service centre.



ATTENTION

ANY MAINTENANCE BY UNAUTHORISED SERVICE CENTRES OR THE USE OF SPARE PARTS THAT ARE NOT ORIGINAL WOULD CAUSE IMMEDIATE CANCELLATION OF THE GUARANTEE AND WOULD FREE THE MANUFACTURER FROM ANY SORT OF RESPONSIBILITY.

flashing to confirm the conversion. From this moment on the display shows the room temperature. However, once the conservation is finished, carry out the procedure described at 2.7.9. to deactivate the cycle.

2.7.10 Press button 7 to activate a defrosting cycle (in this way the machine is ready for the next cycle).

2.8 HARD NEGATIVE REDUCTION TIMED CYCLE AT -18°C (WITHOUT SENSOR IN THE CORE OF THE PRODUCT)

This is activated when the historic cycle times for the product are already known and difficult situations must be faced, such as:

- product quantity
- product thickness
- need for rapidity
- large difference between the core temperature and the temperature to be reached.

2.8.1 Place the food product inside the machine.

2.8.2 Press button 1 to turn on the electronic control. When the nearby led is alight, it indicates that the electronic control is on.

2.8.3 Press button 3 to select the negative -18°C cycle. When the nearby led is on, it indicates that a negative reduction cycle is active. The display shows - - -

2.8.4 Press button 2 to select the HARD operation mode. When the nearby led is alight, it indicates that the HARD negative cycle is active.

2.8.5 Wait until the display shows the temperature value read by the sensor rod.

2.8.6 Press buttons 5 or 6 until the time value (in minutes) is displayed for the cycle time.

2.8.7 Wait until the temperature value read by the sensor rod is displayed.

2.8.8 Press button 10 to activate the selected cycle.

The HARD negative reduction cycle will terminate when the pre-set time period is over.

2.8.9 Press button 10 to deactivate the selected cycle. When the nearby led is off it indicates that the negative reduction cycle has been deactivated. If the selected cycle is not deactivated at the end of the pre-set time period, the machine converts automatically to conservation. The leds near to the -18 and HARD buttons will slowly start flashing to confirm the conservation. From this moment on the display shows the room temperature. However, at the end of the conservation cycle, carry out the procedure described at 2.8.9. to deactivate the cycle.

2.8.10 Press button 7 to activate a defrosting cycle (in this way the machine is ready for the next cycle).

2.9 REMOVAL OF THE SENSOR ROD FROM THE FROZEN PRODUCT (this function is only included in the machines that include a negative -18°C reduction cycle). The machine is fitted with a heating system for the tip of the sensor rod so that it can be removed from the frozen product without any risk of damage.

2.9.1 Press button 8. The display shows EST. The sensor rod is automatically heated for about 15 seconds. When the nearby led is alight, it indicates that the core sensor rod heating phase is active.

2.9.2 The display shows the temperature of the sensor rod.

2.9.3 Remove the sensor rod taking care to grasp it on the bent steel part so that the correct pull is produced.

2.9.4 Place the sensor rod in its relative holder near the door.

2.10 STERILISATION.

Upon request, the machine can be fitted with a special system for sterilising the components and accessories inside the refrigerated cell.

2.10.1 Press button 9. The sterilisation system is activated automatically with a timer device for approximately 10 minutes. When the nearby led is alight, it indicates that the sterilisation phase is active.

2.10.2 Press button 9 before time to deactivate the phase should it be necessary.



ATTENTION

THE PHASE CAN ONLY BE ACTIVATED WITH THE DOOR CLOSED AND THE MACHINE IN STAND-BY

2.11 DEFROSTING.

The machine is fitted with an automatic system that is activated manually, for melting the frost or ice that may have formed on the surface of the evaporator due to excessive humidity in the air.

2.11.1 Press button 7. The defrosting system is activated automatically with a timer device for approximately 3 minutes. When the nearby led is alight, and the display shows SBR, it means that the defrosting phase is active.

2.11.2 Press button before time to deactivate the phase should it be necessary.



ATTENTION

NOTE FOR THE .X105S MACHINES : DEFROSTING CAN ONLY BE CARRIED OUT WITH THE DOOR OPEN

3.0 ALARM SIGNALS

Any anomaly that may occur whilst the machine is running is signalled through a special alarm code. Table 1 lists all the alarm signals for the configuration of the machine described in this manual

IMPORTANT: If an alarm should appear that is not included in this list, it means that the configuration parameters of the control panel have not been set correctly. In this case immediately contact your nearest authorised service centre.

Table 1

Code	Component	Description
E1	Cell sensor	Sensor fault
E2	Sensor rod	Sensor fault
NP	Micro door	Door open



ATTENTION

ON ALL MODELS, EXCEPT FOR 105, THE STOPPING OF THE COMPRESSOR AND THE INTERNAL FAN ARE DELAYED OF 45 SEC. AT THIS STAGE THE DISPLAY SHOWS THE ALARM CODE NP. WHEN TIME FINISHES THE OPENED DOOR WILL CAUSE THE STOPPING OF THE COMPRESSOR AND OF THE INTERNAL FAN.

"NEW S" TYPE CONTROL PANEL

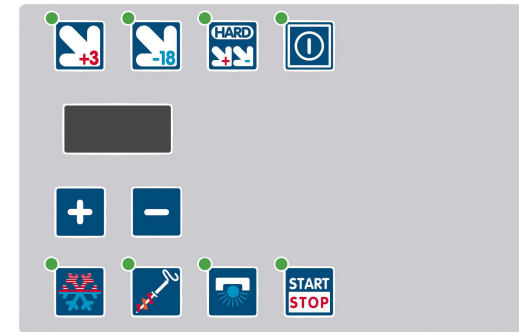
SUMMARY:

1.0 - BUTTONS

2.0 - CYCLE SETTING AND START UPI

- 2.1 POSITIVE TEMPERATURE REDUCTION CYCLE AT +3°C "SENSOR ROD" (WITH A SENSOR INTRODUCED INTO THE CORE OF THE PRODUCT)
- 2.2 NEGATIVE TEMPERATURE REDUCTION CYCLE AT -18°C "SENSOR ROD" (WITH A SENSOR INTRODUCED INTO THE CORE OF THE PRODUCT)
- 2.3 "TIMED" POSITIVE TEMPERATURE REDUCTION CYCLE (NO SENSOR IN THE CORE)
- 2.4 "TIMED" NEGATIVE TEMPERATURE REDUCTION CYCLE (NO SENSOR IN THE CORE)
- 2.5 HARD POSITIVE TEMPERATURE REDUCTION CYCLE AT +3°C "SENSOR ROD" (WITH SENSOR INTRODUCED INTO THE CORE OF THE PRODUCT)
- 2.6 HARD NEGATIVE TEMPERATURE REDUCTION CYCLE AT -18°C "SENSOR ROD" (WITH SENSOR INTRODUCED INTO THE CORE OF THE PRODUCT)
- 2.7 "TIMED" HARD POSITIVE TEMPERATURE REDUCTION CYCLE AT +3°C (NO SENSOR IN THE CORE)
- 2.8 "TIMED" HARD NEGATIVE TEMPERATURE REDUCTION CYCLE AT -18°C (NO SENSOR IN THE CORE)
- 2.9 EXTRACTION OF SENSOR ROD FROM THE FROZEN PRODUCT.
- 2.10 STERILISATION.
- 2.11 DEFROSTING.

3.0 - ALARM SIGNALS



1.0 BUTTONS AND DISPLAY

1.1 - **Button 1 ON / OFF BUTTON FOR THE POWER SUPPLY TO THE ELECTRONIC CONTROL.**

If the nearby led is alight, it means that the electronic control is turned on.



ATTENTION
THIS BUTTON MUST NOT BE USED FOR STARTING OR STOPPING A WORK CYCLE BUT ONLY FOR THE FUNCTION DESCRIBED ABOVE

1.2 - **Button 2 HARD BUTTON (FOR RAPID TEMPERATURE REDUCTION)**

If the nearby led is alight, it means that the rapid temperature reduction /freezing cycle is active.

1.3 - **Button 3 NEGATIVE TEMPERATURE REDUCTION BUTTON** only for the DX ZX models

If the nearby led is alight it means that a negative temperature reduction cycle is active.

1.4 - **Button 4 POSITIVE TEMPERATURE REDUCTION BUTTON.**

If the nearby led is alight it means that a positive temperature cycle is active.

1.5 **Button 5 TIME INCREASE BUTTON** Button to increase the cycle time (used in the **timed cycles**).

1.6 **Button 6 TIME DECREASE BUTTON.** Button to decrease the cycle time (used in the **timed cycles**).

1.7 **Button 7 MANUAL DEFROSTING SELECTION BUTTON**

If the nearby led is alight it means that the defrosting cycle is active.

1.8 **Button 8 CORE SENSOR HEATING BUTTON (SENSOR ROD)** only used for the DX ZX versions
If the nearby led is alight, it means that the core sensor heating cycle (sensor rod) is active.

1.9 **Button 9 STERILISATION BUTTON**

If the nearby led is alight, it means that the sterilisation phase is active.

1.10 **Button 10 BUTTON FOR ACTIVATING /DEACTIVATING THE SELECTED CYCLE TIME INCREASE BUTTON**

When the machine is on stand-by, pressing the button activates the selected cycle, if the machine is running, pressing the button stops the cycle.

1.11 **DISPLAY.** For viewing:

- The temperature read by the sensor rod.
- The room temperature during the conservation phase
- Time left to finish the cycle (if a timed cycle has been selected) only if the increase or decrease time button has already been pressed.
- The time passed since the beginning of the cycle (if a sensor rod cycle has been selected) only if the increase or decrease time button has already been pressed.

2.0 SETTING AND CYCLE START UP

2.1 POSITIVE TEMPERATURE REDUCTION CYCLE AT +3°C "SENSOR ROD" (WITH A SENSOR INTRODUCED INTO THE CORE OF THE PRODUCT)

This is used when the product must be chilled rapidly for conservation for a *limited period*, in suitable thermo-hygro-metric surroundings.

2.1.1 Place the food product inside the machine.

2.1.2 Place the product onto the pan and introduce the sensor rod into the core of the product.

2.1.3 Press button 1 to turn on the electronic control. When the nearby led is alight it indicates that the electronic control is turned on.

2.1.4 Press button 4 to select the positive +3°C cycle. When the nearby led is alight it indicates that the positive reduction cycle is active. The display shows "- - -".

2.1.5 Wait until the temperature read by the sensor is displayed.

2.1.6 Press button 10 to activate the selected cycle. The reduction cycle will be terminated when the temperature at the core of the product reaches +3°C.

2.1.7 Press button 10 to deactivate the selected cycle. When the led is off, it indicates that the positive reduction cycle is deactivated. If the selected cycle is not deactivated when the temperature of +3°C is reached at the core of the product, the machine will convert automatically to the conservation cycle. The led near to the +3 button will slowly start flashing to confirm that the machine cycle has been converted. From this moment on the display shows the room temperature. However, once the conservation is terminated, carry out the procedure described at 2.1.7 to deactivate the cycle.

2.1.8 Press button 7 to activate the defrosting cycle (in this way the machine is ready for the next cycle).

2.2 NEGATIVE TEMPERATURE CYCLE AT -18°C "SENSOR ROD" (WITH A ROD INTRODUCED INTO THE CORE OF THE PRODUCT)

This is activated when the product must be frozen for conservation in surroundings with adequate thermo-hygro-metric characteristics.

2.2.1 Place the food product inside the machine.

2.2.2 Place the product on the pan and introduce the sensor rod into the core of the product

2.2.3 Press button 1 to turn on the electronic control. When the nearby led is alight it indicates that the electronic control is turned on.

2.2.4 Press button 3 to select the negative -18°C cycle. When the nearby led is alight it indicates that the negative reduction cycle is active. The display shows "- - -".

2.2.5 Wait until the temperature read by the sensor is displayed.

2.2.6 Press button 10 to activate the selected cycle. The negative reduction cycle will be terminated when the temperature at the core of the product reaches -18°C.

2.2.7 Press button 10 to deactivate the selected cycle. When the led is off, it indicates that the positive reduction cycle is deactivated. If the selected cycle is not deactivated when the temperature of -18°C is reached at the core of the product, the machine will convert automatically to the conservation cycle. The led near to the -18 button will slowly start flashing to confirm that the machine cycle has been converted. From this moment on the display shows the room temperature. However, once the conservation is terminated, carry out the procedure described at 2.2.7 to deactivate the cycle.

2.2.8 Press button 7 to activate the defrosting cycle (in this way the machine is ready for the next cycle)

2.3 POSITIVE REDUCTION "TIMED" CYCLE (WITHOUT A SENSOR ROD IN THE CORE)

This is activated when the product must be rapidly chilled for conservation for a *limited period of time* in surroundings with adequate thermo-hygro-metric characteristics.

2.3.1 Place the food product inside the machine.

2.3.2 Press button 1 to turn on the electronic control. When the nearby led is alight, it indicates that the electronic control is on.

2.3.3 Press button 4 to select the positive +3°C cycle. When the nearby led is alight it indicates that the positive reduction cycle is active. The display shows "- - -".

2.3.4 Wait until the temperature read by the sensor is displayed.

2.3.5 Press button 5 or 6 until the display shows the value (in minutes) for the required duration of the cycle.

2.3.6 Wait until the temperature read by the sensor is displayed.

2.3.7 Press button 10 to activate the selected cycle.

The positive reduction time cycle will be terminated when the selected time is over.

2.3.8 Press button 10 to deactivate the selected cycle. When the nearby led is off it indicates that the positive reduction cycle has been deactivated. If the selected cycle is not deactivated when the selected time period is over the machine will convert automatically to conservation. The led near to the +3 button will slowly start flashing to confirm that the machine cycle has been converted. From this moment on the display shows the room temperature. However, once the conservation is terminated, carry out the procedure described at 2.3.8 to deactivate the cycle.

2.3.9 Press button 7 to activate the defrosting cycle (in this way the machine is ready for the next cycle).

2.4 NEGATIVE "TIMED" REDUCTION CYCLE (WITH NO SENSOR ROD IN THE CORE OF THE PRODUCT)

This is activated when the product must be frozen for conservation in surroundings with adequate thermo-hygro-metric characteristics.

2.4.1 Place the food product inside the machine.

2.4.2 Press button 1 to turn on the electronic control. When the nearby led is alight it indicates that the electronic control is on.

2.4.3 Press button 3 to select the negative -18°C cycle. When the nearby led is alight it indicates that the negative reduction cycle is active. The display shows "- - -".

2.4.4 Wait until the temperature read by the sensor is displayed.

2.4.5 Press button 5 or 6 until the display shows the value (in minutes) for the required duration of the cycle.

2.4.6 Wait until the value of the temperature read by the sensor is displayed.

2.4.7 Press button 10 to activate the selected cycle.

The negative time cycle will be terminated when the selected time is over.

2.4.8 Press button 10 to deactivate the selected cycle. When the nearby led is off it indicates that the negative reduction cycle has been deactivated. If the selected cycle is not deactivated when the pre-set time is over the machine will convert automatically to conservation. The led near to button -18 will slowly start flashing to

confirm that the machine cycle has converted. From this moment on the display shows the room temperature. However, once the conservation is terminated, carry out the procedure described at 2.4.8 to deactivate the cycle.

2.4.9 Press button 7 to activate a defrosting cycle (in this way the machine is ready for the next cycle).



ATTENTION

IF A POSITIVE (OR NEGATIVE) "SENSOR ROD" REDUCTION CYCLE HAS BEEN SELECTED, AND THE SENSOR ROD IS NOT INSERTED IN THE PRODUCT IT WILL CAUSE A MACHINE ANOMALY: THE MACHINE WILL ADJUST TO THE TEMPERATURE READ BY THE SENSOR, NO MATTER WHERE IT IS PLACED.

2.5 POSITIVE HARD REDUCTION CYCLE AT +3°C "SENSOR ROD" (WITH A SENSOR ROD INTRODUCED INTO THE CORE OF THE PRODUCT)

This is activated when difficult situations must be faced, such as:

- product quantity
- product thickness
- need for rapidity
- large difference between the core temperature and the temperature to be reached

2.5.1 Place the food product inside the machine.

2.5.2 Place the product on the pan and introduce the sensor rod into the mass of the product.

2.5.3 Press button 1 to turn on the electronic control. When the nearby led is alight it indicates that the electronic control is on.

2.5.4 Press button 4 to select the positive +3°C cycle. When the nearby led is alight it indicates that the positive reduction cycle is active. The display shows "- - -".

2.5.5 Press button 2 to select the HARD operations mode. When the nearby led is alight, it indicates that the HARD positive reduction cycle is active.

2.5.6 wait until the display shows the temperature value read by the sensor rod.

2.5.7 Press button 10 to activate the selected cycle. The reduction cycle will be terminated when the temperature at the core of the product reaches +3°C.

2.5.8 Press button 10 to deactivate the selected cycle. When the led is off, it indicates that the positive reduction cycle has been deactivated. Should the selected cycle not be deactivated when the temperature of +3°C is reached at the core of the product, the machine will convert automatically to conservation. The leds near to the +3 and HARD buttons will slowly start flashing to confirm that the machine has converted. From this moment on the display shows the room temperature. However, once the conservation is terminated, carry out the procedure described at 2.5.8 to deactivate the cycle.

2.5.9 Press button 7 to activate the defrosting cycle (in this way the machine is ready for the next cycle).

2.6 HARD NEGATIVE REDUCTION CYCLE -18°C WITH SENSOR ROD (WITH A SENSOR ROD INTRODUCED INTO THE CORE OF THE PRODUCT)

This is activated when difficult situations must be faced, such as:

- product quantity
- product thickness
- need for rapidity
- large difference between the core temperature and the temperature to be reached

2.6.1 Position the food product inside the machine.

2.6.2 Place the product on a pan and introduce the sensor rod into the mass of the product.

2.6.3 Press button 1 to turn on the electronic control. When the nearby led is alight, it indicates that the electronic control is on.

2.6.4 Press button 3 to select the negative -18°C cycle. When the nearby led is alight, it indicates that the negative reduction cycle has been activated. The display shows "- - -".

2.6.5 Press button 2 to select the HARD operational mode. When the nearby led is alight, it indicates that the HARD negative reduction cycle is active.

2.6.6 Wait until the display shows the temperature value read by the sensor rod.

2.6.7 Press button 10 to activate the selected cycle. The reduction cycle will be terminated when the core temperature of the product reaches -18°C.

2.6.8 Press button 10 to deactivate the selected cycle, when the nearby led is off, it indicates that the negative reduction cycle has been deactivated. If the selected cycle is not deactivated when a temperature of -18°C has been reached, the machine converts automatically to conservation. The leds near to buttons -18 and HARD start flashing to confirm the conversion. However, at the end of the conservation cycle, carry out the procedure described at 2.6.8 to deactivate the cycle.

2.6.9 Press button 7 to activate the defrosting cycle (in this way the machine is ready for the next cycle)

2.7 POSITIVE HARD REDUCTION +3°C TIMED CYCLE (WITHOUT SENSOR ROD IN THE CORE OF THE PRODUCT)

This cycle is activated when the historic cycle times for the product are already known and when difficult situations must be faced, such as:

- product quantity
- product thickness
- need for rapidity
- large difference between the core temperature and the temperature to be reached

2.7.1 Place the food product inside the machine.

2.7.2 Press button 1 to turn on the electronic control. When the nearby led is alight, it indicates that the electronic control is on.

2.7.3 Press button 4 to select the positive +3°C cycle. When the nearby led is alight, it indicates that a positive reduction cycle has been activated. The display shows "- - -".

2.7.4 Press button 2 to select the HARD operation mode. When the nearby led is alight, it indicates that a HARD positive reduction cycle is active.

2.7.5 Wait until the display shows the temperature value read by the sensor rod.

2.7.6 Press buttons 5 or 6 until the time (in minutes) is displayed for the required cycle duration.

2.7.7 Wait until the display shows the temperature value read by the sensor rod.

2.7.8 Press button 10 to activate the selected cycle. The HARD positive reduction cycle will be terminated when the pre-set time is finished.

2.7.9 Press button 10 to deactivate the selected cycle, when the nearby led is off, it indicates that the positive reduction cycle has been deactivated. If the selected cycle is not deactivated at the end of the pre-set time the machine converts automatically to conservation. The leds near to the +3 and HARD buttons will slowly start