ICE-CUBE MACHINES

N25S / N25L / N35S
N45S / N45L / N50BI
N55S / N55L / N70S
N90S / N90L / N140

Air and water - cooled versions

R 134a

ISO 9001
Cert. N° 0412/2

OUR SYSTEMS COMPLY WITH EEC DIRECTIVE 73/23 - 89/336 CEE

Icematic®

SERVICE MANUAL

Cod. 71503026/0 GB- 01/2006 - **Rev. 002**

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GENERAL INFORMATION

A. INTRODUCTION

This manual provides the specification and the step-by-step procedures for the installation, start-up and operation, maintenance and cleaning for the Icemakers.
The machine cubers are quality designed, engineered and manufactured.
Their ice making systems are thoroughly tested providing the utmost in flexibility to fit the needs of a particular user.
This product qualifies for the following listings:

These icemakers have been engineered to our own rigid sefety and performance standards.
The VDE - SEV - GS seals signifity that it is listed with them and that it complies with the materials and manufacturing standard of them. These seals also signify that these icemaker models have been inspectors who reserve tha right to periodically examine production icemakers at the factory to assure continued compliance.

NOTE. To retain the safety and performance built into this icemaker, it is important that installation and maintenance be conducted in the manner outlinde in this manual.

B. UNPACKING AND INSPECTION

1. Call your authorized Distributor or Dealer for proper installation,.
2. Visually inspect the exterior of the packing and skid. Any severe damage noted should be reported to the delivering carrier and a concealed damage claim from filled in subjetto inspection of the contents with the carrier's representative present.
3. a) Cut and remove the plastic strip securing the carton box to the skid.
   b) Remove the packing mails securing the carton box to the skid.
   c) Cut open the top of the carton and remove the polystyre protection sheet.
   d) Pull out the polystyre posts from the corners and then remove the carton.
4. Remove the front and the sides panels of the unit and inspect for any concealed damage. Notify carrier of your claim for the concealed damage as stated in step 2 above.
5. Remove all internal support packing and masking tape.
6. Check that refrigerant lines do not rub against ou touch other lines or surfaces, and that then fan blades move freely.
7. Check that the compressor fits snugly onto all its mounting pads.
8. See data plate on the rear side of the unit and check that local main voltage corresponds with the voltage specified on it.

CAUTION. Incorrect voltage supplied to the icemark will void your parts replacement program.

9. Remove tha manufacture's registation card from the inside of the User Manual and filling all parts including: Model and Serial Number taken from the data plate. Forward the completed self-addressed registration card the factory.

INSTALLATION

LOCATE AND LEVELLING

This icemaker is designed to be installed in rooms with temperatures between 10°C and 40°C. Operating for long period out of these limits will vaid your warranty program.

Before installing the machine make sure that:

The ambient temperature must not fall bellow 10°C (50°F) or above 40°C (100°F).

The mains water temperature must not fall below 5°C (40°F) or above 40°C (100°F).

Machine is away from sources of heat and in a sufficiently ventilated area; leave at least 8 inches (20 cms.) between the machine on the back and the two sides and the wall.

Machine is correctly levelled in both the left to right and front to rear directions by means of the adjustable legs.

WATER SUPPLY CONNECTIONS

The mains water pressure must not fall below 1 atm. (14 Psi) or above 5 atms. (70 Psi). If pressure is above 5 atms. a pressure regulator shoult be fitted on the water supply machine.

Fix a flexibile palstic pipe (with an inside diameter of 20 mm. and adequate lenght to reach and open vented drain) to the waste pipe fitting. In the water -cooled machine it must also be conected to the second pipe fitting (that conveys water coming from the condenser) to the drain.
Level of main drain must be sufficiently below ice-maker waste outlets to ensure free flow of waste water.
The drain recptacle should be an, open, trapped or vented construction (see skech).

N.B. Make sure that water connection are made before elettrical connections.

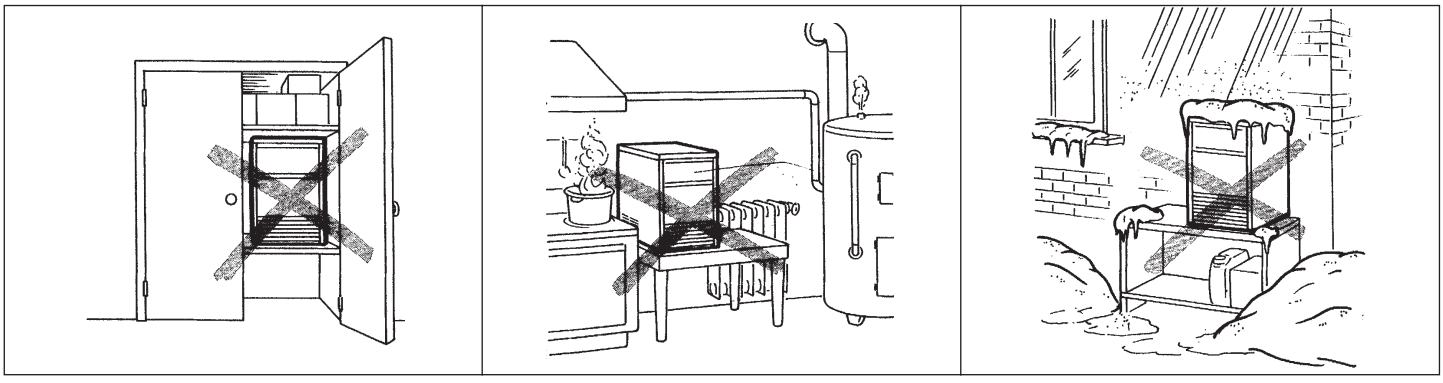
ELECTRICAL CONNECTIONS

Connect machine to water supply first and then to eletricity supply.

Connect the machine to the eletricity supply after having checked that the voltage corresponds to that on the plate on the rear panel of the machine.

Connect the machine to the eletricity supply after having checked that the voltage corresponds to that on the plate on the rear panel of the machine.

WARNING This icemaker is not designed for outdoor installation and will not function in ambient temperatures below 10°C (50°F) or above 40°C (100°C).
This icemaker will malfunction with water temperatures below 5°C (40°F) or above 40°C (100°C).



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ALLACCIAMENTO ELETTRICO....

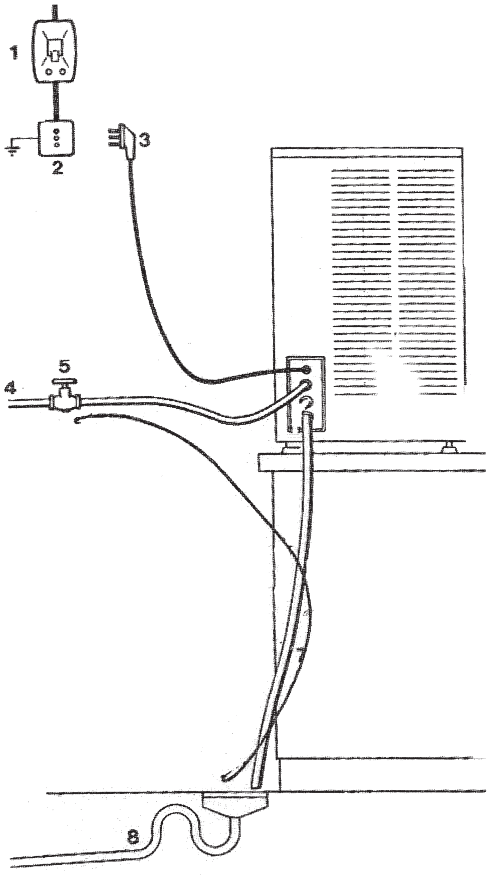
The maximum voltage variation should not exceed 10% of that stated on the rating plate.

The machine should be connected to an independet fused or suitable power supply protected with earth. See rating plate for load requirements.

Fix a solid earth ground plug to the electrical power supply wire of the machine. Be sure the plug is in conformity with the local electrical code requirement.

Check by means of a tester the continuity of the earth mass from the panels to the plug earth terminal board.

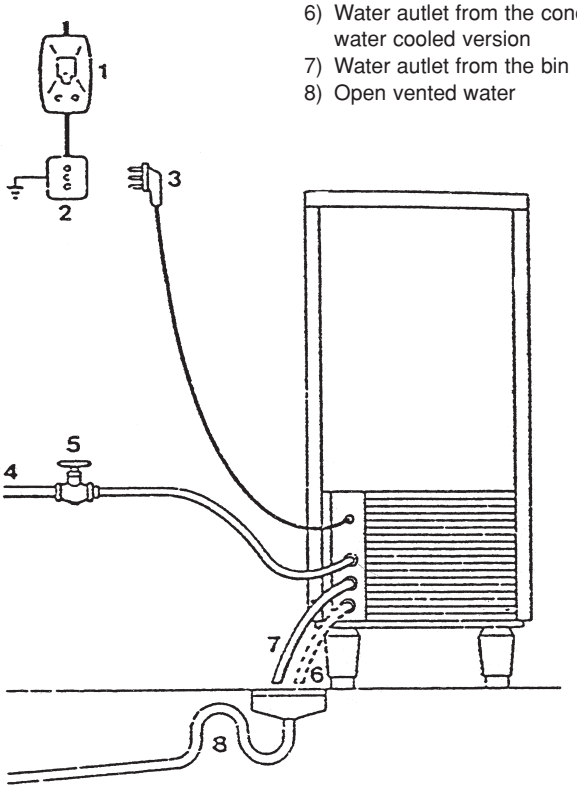
Mod. N25S ÷ N140



1) Swicth
2) Socker
3) Electrical plug
4) Water iniet
5) Shut of valve
6) Water autlet from the condenser: water cooled version
7) Water autlet from the bin
8) Open vented water

Mod. N25W ÷ N140W

1) Switch
2) Socker
3) Electrical plug
4) Water iniet
5) Suht off valve
6) Water autlet from the condenser: water cooled version
7) Water autlet from the bin
8) Open vented water



FINAL CHECK

a) Check that the supply means voltage corresponds to that stated on the plate of the machine.

b) Open the shut-off valve of the water supply and check there are no leaks.

c) Check that the icemaker is properly levelled.

d) Check that the storage bin has been wiped clean.

e) Give the “Operationg instructions” manual to the owner/user and recommend him on the importance to observe the instructions and period maintenance.

f) Properly fill in the certification card and mail it to Caste Mac.

g) Check all refrigerant lines and conduit lines or panels to guard against vibrations and rubbing.

h) Make sure that the unit is installed in a room where the ambient temperature doesn’t fall below 10°C even winter months.

i) Check that the water supply pressure is of minimum 1 atm (14 Psi).

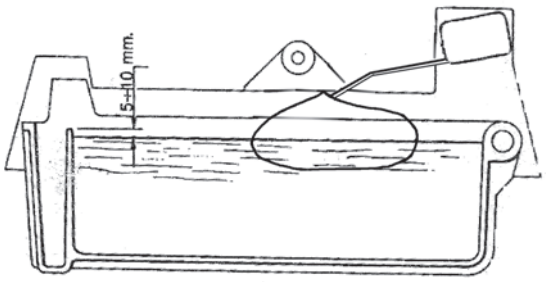
l) Give the owner the name and the complet address of the authorized Service in his area.

OPERATION

OPERATING INSTRUCTIONS

Check that the shut-off valve of the water supply is open, then plug in the machine and swich on the electrical supply; the unit is now ready for automatic operation.

B) Check that water reaches the pan, that float stops water inlet before overflow and that there are no water leaks.
The normal water level inside the pan must not exceed 5 - 10 mm. of its upper part.
The water level can be regulated rotating the microswitch in the slit of the ralative support, after having removed the fixing screws “1” (see sketch).
This operation must be done after having disconnected the electricity supply.



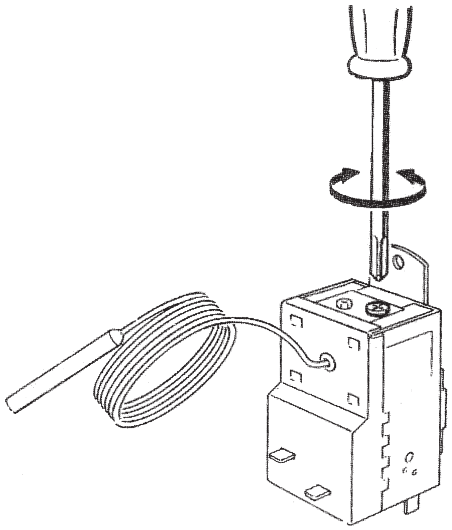
Check that there is no abnormal vibrations due to loose bolts and screws.

Observe safety practice, disconnect machine from electricity supply before rectifying water leaks or tightening screws and bolts.

E) Check an ice production cycle ensuring that the cubes are conveyed into the storage bin.

F) Check the thermostat by putting a cube in contact with the thermostat bulb inside the storage bin; it must stop in 1 Minute and it will automatically resume (in a time a little bit higher) after having removed it.

ATTENTION
In the event the icemaker is installed with altitude higher than 500 m. from sea level, it is required a different thermostat calibration, as due to barometric pressure decrease, it is less sensitive and therefore the icemaker continues to operate even if the storage bin is full.
Access to the thermostat is gained by removing the top of the wiring case; tighten clockwise the regulating scew (see sketch). As it is not possible to quantify the turns according to the altitude being them different for any thermostat, we suggest regulation by checking if the ice cube in contact with the thermostat bulb stop the ice-maker not later than 1 minute.



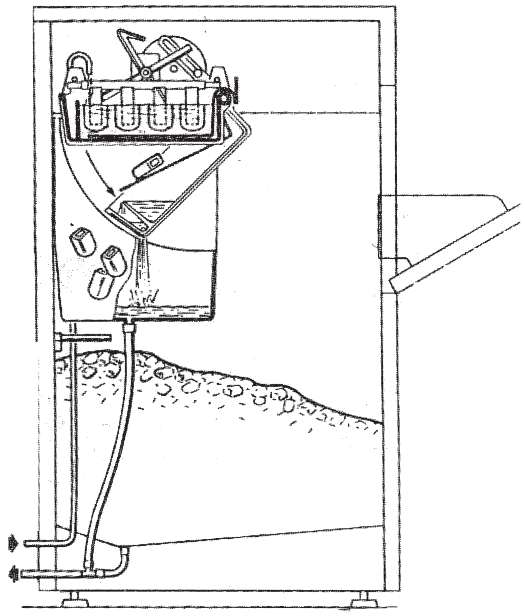
ICE-FORMING CYCLE

The ice cubes form around the fingers of the evaporator, inside of a pan filled with water which is continuosly moved by revolving paddies.
The water level is kept constant by a float connected to a microswitch that controls a water inlet electrovalve.
Dimensions of cubes can be regulated by operating on the microswitch inclination that controls the water level inside the pan.
When the ice cubes have reached the required dimensions they get in contact with the revolving paddles that swings the relative paddle motor which operates a microswitch that by means of a relay it causes simultaneously:

– Delivery of hot gas to the evaporator by the opening of an electrovalve, with the consequent fall of cubes from the evaporator.
– The tilting of the water pan controlled by a lever of the harvest motor.

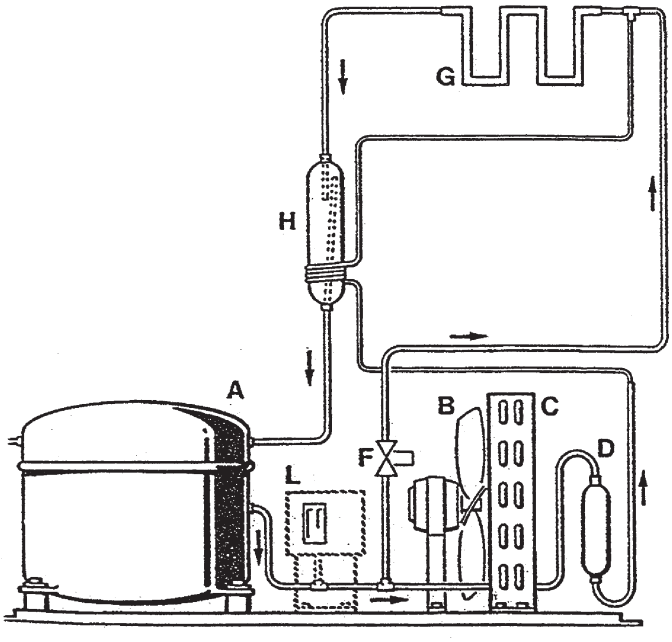
The formed cubes fall on a slanting grid inside the pan and are conveyed in to the storage bin underneath.
The remaining water, collected in a pan placed on one side of the bin, is then conveyed to the drain.

The tilting pan automatically returns to its horizontal position after a minute about and then it fills of water until the selected level is reached.
In the meantime the hot gas valve il closes and the ice formingcycle starts again; the time of a complete cycle can vary from about 15' to about 25' according to water and ambient temperature.
The ice quantity inside the bin is controlled through a termostat bulb fixed on one inside of the storage bin, when the cubes of ice come in contact with the bulb, the production of ice is automatically discontinued. Only after enough ice has been removed from the storage bin so as to free the bulb from the cubes, will the production resume.



ELECTRICAL AND REFRIGERATION SYSTEMS

The "N" series machines operate on standard electrical supply 220 volts, 50 Hz, single phase. (The tolerance limit is ± 6 % of the rated base). Special voltages are eventually on specific request.
Therefore, almways check nameplate for electrical information before proceeding with electrical wiring connections to the ice-cubers.
The rifregerant expansion system on the cube machines is the capillary. On N25S-N25L model the condensing unit electric fan operates continuously during the ice forming cycle and stops during the defrosting cycle, therefore the head pressure change on different ambient temperatures. While on N35S, N55S, N55L, N50BI, N70S, N90S, N90L, N140 there is a pressure switch that starts and stops the electric fan so to keep the head pressure constant. On water-cooled versions the head pressure is kept constant by means of an automatic valve that regulates the quantity of water cooling the condenser. (N45SW, N55SW, M50BIW, N70SW, N90SW, 140W models)
On the smallest models instead, the head pressure is kept constant by a pressure switch that opens and closes a water inlet solenoid valve which supplies a metered amdint of water to the condenser in order to limit its temperature.



REFRIGERATING SYSTEM

A) Compressor
B) Eletric fan
C) Condenser
D) Drier
F) Hot gas valve
G) Evaporator
H) Heat exchanger

MACHINE MAIN PARTS DESCRIPTION

B. BIN THERMOSTAT

The bin thermostat, which has its sensing bulb downward into the storage bin, shuts-OFF automatically the icemaker when the ice storage bin is filled and ice contacts its bulb.

Lighting of the proper led paints out that the storage bin is full.

HI PRESSURE CONTROL

(N35S, N55S, N55L, N50BI, N70S, N90S, N90L, N140)

On water cooled ice makers it functions to mainlain the head pressure within the present values of 8 and 10 bars, by intermittently activating the water inlet valve to the condenser (in the water cooled models).

On air cooled ice-makers it keeps the head pressure within 2 preset values (8/10 bar) by starting the electric fan of the condensing unit.

HI TEMPERATURE SAFETY THERMOSTAT

(All water cooled model)

Fastened directly onto the rifregerant liquid line and electrically connected upstream all other controls, this safety thermostat shut-off the icemakers when senses that the temperature at the liquid line has rised to the limit of 65°C.

FEEDING WATER INLET SOLENOID VALVE

The water inlet solenoid valve is activated only at the end of the defrosting cycle. When energized it allows a metered amant of incoming water to flow into the tilting pan untill the float closes the inlet circuit.

I. THE HOT GAS SOLENOID VALVE

The hot gas solenoid valve consists basically in two parts: the valve body and the valve coil.

Located on the hot gas line. During the defrost cycle the hot gas valve coil is activated so to attract the hot gas discharged from compressor to flow directly into the evaporator serpentine to defrost the formed ice cubes.

L. FAN MOTOR (Air cooled version)

The fan motor, operates during the freezing cycle to draw cooling air through the condenser fins so to keep the condensing pressure between the 9/7 bars values.

COOLING WATER INLET SOLENOID VALVE

(N25SW, N35SW)

A second water inlet solenoid valve, operating through an automatic hi-pressure control, is used on water cooled versions to supply water to the condenser.

When activated it supplies a metered amount of water to the condenser in order to limit its temperature and the refriferant operating high pressure.

N. WATER REGULATING VALVE

(N45SW, N55SW, N50BIW, N70SW, N90SW, N140W)

This valve controls the head pressure in the refrigerant system by regulating the flow of water going to the condenser.

As pressure increases, the water regulating valve opens to increases, the water regulating valve opens to increase the flow of cooling water.

O. COMPRESSOR

The hermetic compressor is the heart of the refrigerant system and it is used to circulate and retrieve the refrigerant throughout the entire system. It compresses the low pressure refrigerant vapor causing its temeprature to rise and become high pressure hot vapor which is then released through the disharge valve.

MAXIMUM PRESSURE SWITCH

(N45SW, N55SW, N50BIW, N70SW, N90SW, N140W)

Fastened directly on to the refrigerant liquid line and electrically connected upstream all other controls, it shut off the ice-maker when senses that the head pressure reaches 15 bars.

TROUBLE - SHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Unit will not run	a) Electricity supply disconnected.	Check the electricity supply; replace fuse if necessary and ckeck for cause.
	b) Loose electrical connection.	Check wiring.
	c) Damaged storage bin thermostat.	Replace thermostat.
Machine runs but makes no ice	a) Loss or undercharge of refrigerant circuit	Check for leaks, repair, evacuate all the gas and recharge with R134A by weight (see nameplate).
	b) Water continuously entering into evaporator chamber.	Check float ball, float ball microswich and water inlet valve. Replace, if necessary, the defective components.
	c) Moisture in the regrigerant system.	Remove refrigerant charge, raplace drier, evacuate first, and then recharge.
Low ice production	a) Under-charge of gas.	Check for leak, repair, evacuate all the gas and recharge.
	b) Dirty condenser.	Clean condenser with a non-metal brush or with a vacuum cleaner.
	c) Damaged fan.	Repair and replace fan.
	d) Exceedingly warm ambient with low ventilation.	Move unit to proper location.
	e) Partial restriction in drier.	Replace drier, evacuate and recharge.
	f) High water level in the reservoir and water overflows.	Adjust level of float ball microswitch assy.
	g) Scale deposit on evaporator.	Polish evaporator.
	h) Partial restriction in the capillary tube.	Remove refrigerant charge, evacuate first and the recharge.
Fan doesn't run even if the delivery pressure is over 10 atms	Detective pressure switch.	Remplace.
Compressor cycles intermittently	a) Low voltage.	Check electrity supply.
	b) Dirty condenser.	Clean.

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	c) Air circulation blocked.	Move unit to cooler location.
	d) Non-condensable gases in system.	Purge-off.
	e) Detective compressor electrical components.	Replace electrical components.
	f) Mechanical or electrical failure inner compressor.	Remplace compressor.
Icecubes are too low	a) Water level in the pan is too low.	Adjust level by raising the float ball micro-swicht assy.
Icecubes are too long	a) Water level in the pan is too high.	Adjust level by lowering the float ball micro-swicht assy.
	b) Water solenoid valve is not water-tight.	Check the valve in order to remove eventual obstructions, or replace defective parts.
Unproper shape and/or irregular dimension of cubes	a) Incorrect position of revolving paddles.	Center the paddles in accordance with the evaporator components.
	b) Unit is not properly levelled.	Check the machine level by working with the adjustable feet.
Deposits in the pan	a) Impure water.	Clean the water inlet filter.
	b) Calcareous water.	Install a water softener.
Water leaks	a) Detective water seal.	Check and repair.

MAINTENANCE

PERIODICAL

MAINTENANCE AND CLEANING

N.B.: Cleaning and maintenance especially will vary, depending upon ambient and use conditions.
In particular affect: hard water, ice volume produced and location requirements.
The following maintenance procedures should be scheduled once per year al least from the local service Agency.
Be sure the electrical power supply of the machine is OFF, before starting any maintenance and cleaning procedure.

a) Close the water supply, shut-off valve, disconect the water inlet pipe and remove the strainer from its seat in the water inlet elettrovalve withdrawing it bay means of pilers. Clean the strainer under running water and reassemble.

b) Check that the ice maker cabinet is levelled in side-to-side and front-to-rear directions.

c) Check paddle shaft motor and harvest motor operation.

d) If you think it opportune, check by means of a gauges the delivery pressure and the evaporator temperature.

e) Clean the air-cooled condenser using a nonmetal brush or a vacuum cleaner.

f) Check that fan blades move freely and are not touching any sourfaces.

g) Check for refrigerant leaks.

h) Check for water leaks. Pour water down bin drain to be sure that drain line is open and clear.

i) Check operation of the bin thermostat.

ICEMAKER CLEANING

a) Remove the top panel.

b) Remove all ice from the storage bin.

c) Close the water supply shut-off valve.

d) Fill tilting pan with a solution of water and citric acid (200-400 grs. of citric acid in one litre of water) and by means of a brush clean the inside of the tilting pan and the evaporator fingers. Start the icemaker to tilt the pan, rinse with clean water in abudance and repeat cleaning three times.

e) Add hot water to the ice storage bin and thoroughly wash and rinse all surfaces within the bin.

f) Clean and sanitize the ice storage bin frequently.

PARTS REPLACEMENT PROCEDURES

A) ADJUSTABLE LEGS FOR N55S÷N90L MODELS
Using the couplings and adjustable feet supplied and screwing them on the base nipples the icemaker can be placed at 9,5 cm. abt. from ground level.
Extended feet are available on request to adjust the icemaker at 16 cm. about from ground level. A kit of extension feet can be supplied on request also for the N35S model.
The adjustment should be performed during initial installation of the cabinet and any time the cabinet is moved from the original location to another site.
N.B.: (WARNING) Be sure the electrical power supply and the water supply are OFF, before starting any removal and replacement procedures, as a precaution to prevent possible personal injury or damage to equipment.

B) COMPRESSOR REPLACEMENT

a) Remove the rear panel on the N25S-N25L model and the rear panel grid on N35S model

On N45S÷N140 models remove the rear panel grid and the side panels.

Remove the cover and disconnect the electrical leads from the compressor junction box.

Bleed off or blow the refrigerant charge through the valve.

Unsolder and disconnect both the suction line and the discharge line (from the compressor).

Remove compressor mounting bolts and the compressor from the unit base.

Always install a replacement drier, anytime the sealed refrigeration system is open. Do not replace the drier until all other repairs or replacements have been completed.

To install the replacement compressor follow previous steps in reverse.

Thoroughly evacuate the system to remove moisture

and non-condensables after compressor replacement.

Before proceeding with the refrigerant charge check nameplate for specific refrigeration charge for individual cuber.

C) AIR COOLED CONDENSER REPLACEMENT

Remove the rear panel grid on N25S, N25L and N35S models. On N45S÷N140 and upper models remove the front panel grid and the side panels.

Remove the screws which attach the condenser to the unit base.

Bleed off or blow the refrigerant from the system.

Unsolder the refrigerant lines from condenser and remove it from the unit.

Install the replacement condenser following previous steps in reverse.

Thoroughly evacuate the system to remove moisture and non condensables; then proceed with the charge of FREON R134a.

D) DRIER REPLACEMENT

Remove the rear panel grid on N25S, N25L and N35S Models. On N45S÷N140 models remove the side panel grids.

Bleed off or blow the refrigerant charge through the Henrytype valve.

Unsolder the capillary tube from one end of the drier and the refrigerant line from the other end.

To install a replacement drier remove factory seals.

Thoroughly evacuate the refrigerant system.

Charge the system with refrigerant by weight (see nameplate) and check for leaks.

E) FAN MOTOR REPLACEMENT

Remove the rear panel grid on N25S, N25L and N35S models. On N45S÷N140 models remove the side panel grids.

Trace the electric wire leads of fan motor and disconnect the same.

Remove the bolts securing the fan motor assembly to the cabinet base and the remove the assembly.

Install the replacement fan motor following previous steps in reverse anc check that the fan blade do not touch any sourface and move freely.

F) EVAPORATOR ASSEMBLY REPLACEMENT

a. Remove the top cover.

b. Remove six screws securing the paddle shaft supports (two) and the paddle motor support; then remove the paddle motor/paddle shaft/supports assembly.

c. Remove the bolts securing the evaporator supports (two) to the cabinet.

d. Sideways remove the evaporator supports.

e. Unsolder the capillary tube, the hot gas solenoid valve tube and the suction line.

f. To install the replacement evaporator assembly follow previous steps in reverse.

g. Install the replacement drier; thoroughly evacuate the system and proceed with the refrigerant charge.

G) WATER RESERVOIR/TILTING LEVER/SUPPORT ASSEMBLY REPLACEMENT

a. Remove screws and top cover.

b. Remove the gear motor/paddle shaft/support assembly.

c. Remove the screws securing the evaporator supports (two).

d. Sideways remove one evaporator support support as well as one reservoir gudgeon support.

e. Slightly lift the evaporator and remove the water reservoir assembly.

f. To install the replacement water reservoir assembly follow previous steps in reserve.

H) WATER INLET ELECTROVALVE REPLACEMENT

a. Remove the rear panel.

b. Check that water supply is closed.

c. Disconnect the water supply connection pipe from the valve and that of the electrovalve from the reservoir.

d. Break contact from the electrovalve and remove the screws (two) securing the electrovalve to the relevant frame.

e. To install the replacement electrovalve follow previous steps in reverse; before installing the water supply pipe check that the gasket is not defective.

I. PADDLE MOTOR REPLACEMENT

a. Remove the top cover.

b. Remove six screws securing the paddle shaft supports (two) and the paddle motor support.

c. Trace the electric wire leads of paddle motor and disconnect the same; then remove the paddle shaft motor assy.

d. Remove the paddle shaft assy from the paddle motor gudgeon (or guide pin).

e. To install the replacement paddle motor follow previous steps in reverse.

L) HARVEST MOTOR REPLACEMENT

a. Remove the top cover.

b. Remove the screws securing the harvest motor to the cabinet base.

c. Remove the seeger from the cam pin.

d. Trace the electric wire leads of harvest motor and disconnect the same; then remove the harvest motor/cam/support assembly.

e. Remove the lock pin securing the cam to the motor shaft and the screws joining the harvest notor to the relative support.

f. Install the replacement harvest motor on the support and apply the cam; make a Ø 3 mm hole on the motor shaft and to do it take as a guide the hole already existing on the cam.

g. To install the replacement harvest motor assy follow previous steps in reverse.

M) THERMOSTAT OR RELAY REPLACEMENT

a. Remove the rear panel on N25S model.
On N35S÷N140 models remove the top cover.

b. Remove the terminal box cover.

c. Remove the screws securing the terminal box to the cabinet.

d. Slightly lift the terminal box and remove the screws securing the thermostat or the Relay to the box same.

e. Remove the Relay or the Thermostat; in this last case remove the supports securing the bulb in the storage bin first, the lift it from the storage bin through the proper slit.

f. To install the replacement thermostat or relay follow previous steps in reverse.

□N□ TECHNICAL DATA FOR ICE CUBES MACHINE

MEDIUM AND MAXIMUM ABSORBTION ON THE "N" LINE MACHINES AT 32°C ROOM TEMPERATURE
CONDENSING PRESSURE AND EVAPORATOR TEMPERATURE AT STARTING AND END CYCLE AT 32°C ROOM TEMPERATURE

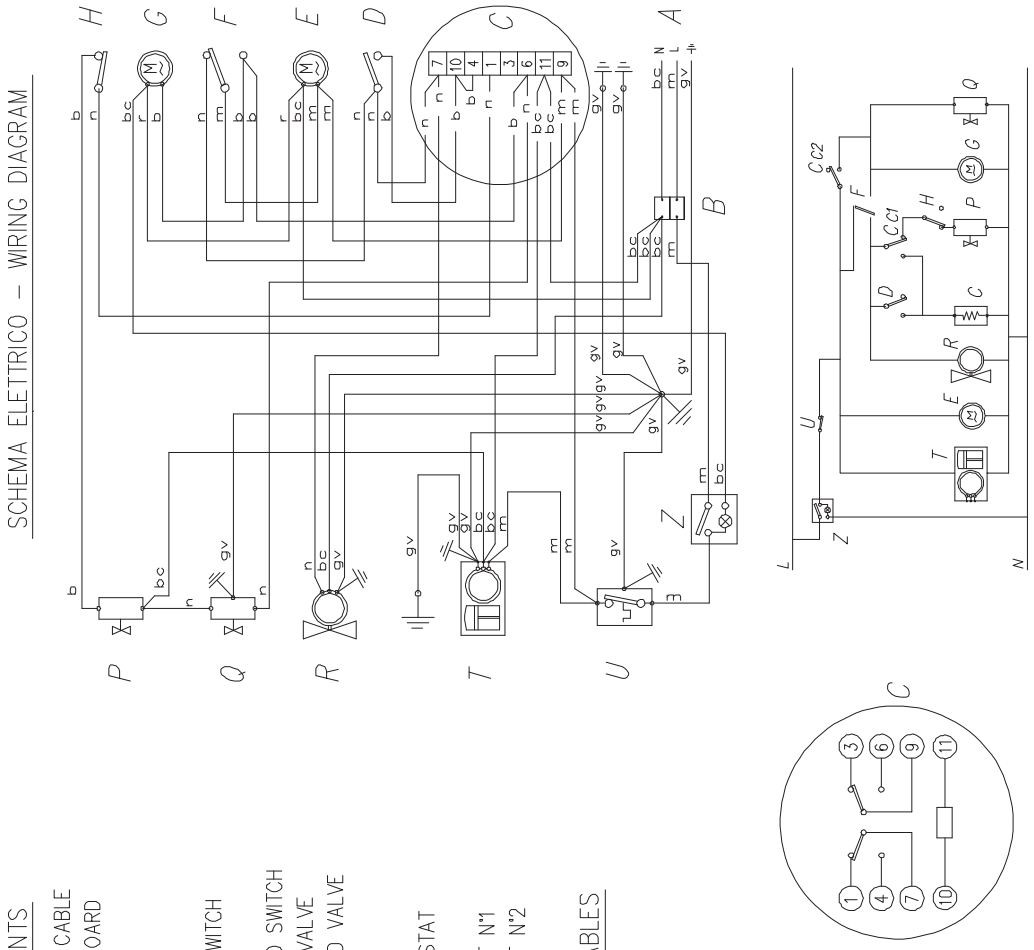
MACHINE	GAS	TYPE COMPRESSOR	COMPRESSOR POWER IN WATT *	MAX. AMPER	MEDIUM AMPERE	CONDENSING PRESSURE STARTING CYCLE (BARS)	EVAPORATION TEMPERATU-RE STARTING CYCLE (°C)	CONDENSING PRESSURE END CYCLE (BARS)	EVAPORATION TEMPERATURE END CYCLE (°C)	ELECTR. CONSUMPTION ON 24 HRS/KW	CUBES FOR CYCLES AND WEIGHT SINGLE CUBES IN GRAM	WATER CONSUMPTION **
N21S A	134A	ELECTROLUX GL60TB 220/50HZ	160	2A	1,8A	11,5	-3,3	9	-17	7,5	15/19G	6
N21S W	134A	ELECTROLUX GL60TB 220/50HZ	160	2A	1,8A	9,5	-8	9	-17	7,5	15/19G	21
N25S A	134A	ELECTROLUX GL45TB 220/50HZ	140	1,6A	1,4A	11	-2	9	-13	5.8	15/17g	2,8
N25S W	134A	ELECTROLUX GL45TB 220/50HZ	140	1,4A	1,2A	8-10	0	8-10	-13	5.3	15/17g	15
N25L A	134A	ELECTROLUX GL45TB 220/50HZ	140	1,4A	1,2A	8-10	0	8-10	-13	5.3	15/17g	2,8
N25L W	134A	ELECTROLUX GL45TB 220/50HZ	140	1,4A	1,2A	8-10	0	8-10	-13	5.3	15/17g	15
N35S A	134A	ELECTROLUX GL90TB 220/50HZ	220	2,7A	2,1A	14	-2	10	-15	8.6	20/17g	4,7
N35S W	134A	ELECTROLUX GL90TB 220/50HZ	220	2,5A	2.0A	10	-4	8-10	-16	8.2	20/17g	22
N45S A	134A	ELECTROLUX GL90TB 220/50HZ	220	2,4A	2,1A	12	-4	9	-13	8.0	35/17g	5,5
N45S W	134A	ELECTROLUX GL90TB 220/50HZ	220	3,6A	2A	9	-6	9	-14	7.8	35/17g	30
N45L A	134A	ELECTROLUX GL90TB 220/50HZ	220	2,4A	2,1A	12	-4	9	-13	8.0	35/17g	5,5
N45L W	134A	ELECTROLUX GL90TB 220/50HZ	220	3,6A	2A	9	-6	9	-14	7.8	35/17g	30
N55S A	134A	UNITE' HERMETIQUE CAE4448Y 220/50HZ	360	3,6A	3A	12.5	-6	9	-16	12	35/17g	7
N55S W	134A	UNITE' HERMETIQUE CAE4448Y 220/50HZ	360	3,6A	2,8A	9	-8	11	-18	11.5	35/17g	37
N55L A	134A	UNITE' HERMETIQUE CAE4448Y 220/50HZ	360	3,6A	3A	12.5	-6	9	-16	12	35/17g	7
N55L W	134A	UNITE' HERMETIQUE CAE4448Y 220/50HZ	360	3,6A	2,8A	9	-8	11	-18	11.5	35/17g	37
N50BI A	134A	UNITE' HERMETIQUE GP14TB	340	3,7A	3,3A	13	-5	9	-16	14.5	35/17g	7
N50BI W	134A	UNITE' HERMETIQUE GP14TB	340	3.6A	3A	9	-8	9	-16	13.5	35/17g	37
N70S A	134A	UNITE' HERMETIQUE CAE4448Y 220/50HZ	360	3,6A	3,3A	13.5	-4	11	-12	12.5	60/17g	9
N70S W	134A	UNITE' HERMETIQUE CAE4448Y 220/50HZ	360	3,6A	3A	9	-6	9	-12	12.2	60/17g	40
N90S A	134A	UNITE' HERMETIQUE CAJ4461Y 220/50HZ	410	4,7A	4A	15	-3	11	-13	16	60/17g	11
N90S W	134A	UNITE' HERMETIQUE CAJ4461Y 220/50HZ	410	4,2A	3,8A	9	-5	9	-14	15.5	60/17g	48
N140 A	134A	UNITE' HERMETIQUE CAJ4511Y 220/50HZ	640	5,2A	4,5A	11.5	-8	9.5	-17	23.5	90/17g	19
N140 W	134A	UNITE' HERMETIQUE CAJ4511Y 220/50HZ	640	4,8A	4A	9	-10	9	-18	22.5	90/17g	84

*ABSORVED POWER AT EVAPORATION TEMPERATURE OF -15°C

** EXPRESSED IN LITRES FOR HOUR WITH WATER TEMPERATURE OF 15°C AND AMBIENT TEMPERATURE OF 21°C

WIRING DIAGRAMS

N25S AIR



LEGENDA COMPONENTI

A=CAVO DI ALIMENTAZIONE
B=MORSETTIERA INGRESSO
C=RELE'
D=MICRO IMPULSI
E=MOTORIDUTTORE PALETTE
F=MICRO RIBALTAMENTO
G=MOTORIDUTTORE RIBALTAMENTO
H=MICRO GALLEGGIANTE
P=ELETTROVALVOLA ACQUA
Q=ELETTROVALVOLA GAS
R=ELETTROVENTILATORE
T=COMPRESSORE
U=TERMOSTATO DEPOSITO PIENO
Z=INTERRUTTORE GENERALE
CC1=RELE' CONTATTO N°1
CC2=RELE' CONTATTO N°2

LEGENDA COMPONENTS

A= ELECTRICAL INLET CABLE
B= INPUT TERMINAL BOARD
C= RELAY
D= MICRO SWITCH
E= PADDLE MOTOR
F= HARVEST MICRO SWITCH
G= HARVEST MOTOR
H= FLOAT BALL MICRO SWITCH
P= WATER SOLENOID VALVE
Q= HOT GAS SOLENOID VALVE
R= FAN MOTOR
T= COMPRESSOR
U= FULL BIN THERMOSTAT
Z= MAIN SWITCH
CC1= RELAY CONTACT N°1
CC2= RELAY CONTACT N°2

COLORI CONDUTTORI

gv= giallo–verde
bc= blu chiaro
m= marrone
n= nero
b= bianco
r= rosso

COLOUR OF THE CABLES

gv= yellow–green
bc= light blue
m= brown
n= black
b= white
r= red

SEZIONE CAVI / CABLE SECTIONES

1 mmq
1.5 mmq

19262719.0 rev.01

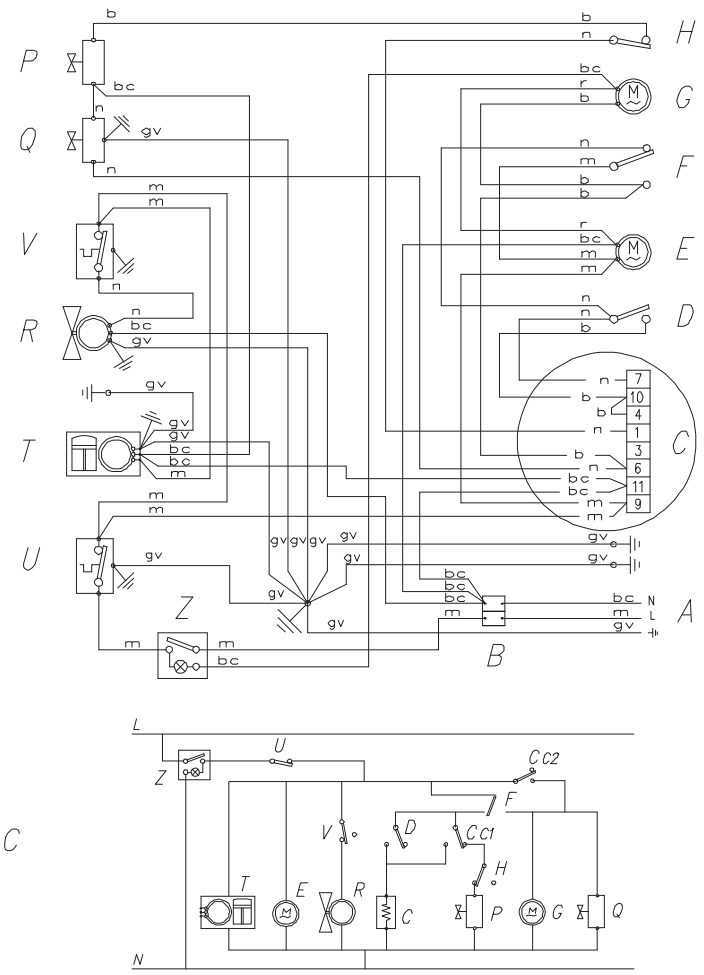
LEGENDA COMPONENTI

A = CAVO DI ALIMENTAZIONE
B = MORSETTIERA INGRESSO
C = RELE'
D = MICRO IMPULSI
E = MOTORIDUTTORE PALETTE
F = MICRO RIBALTAMENTO
G = MOTORIDUTTORE RIBALTAMENTO
H = MICRO GALLEGGIANTE
P = ELETTROVALVOLA ACQUA
Q = ELETTROVALVOLA GAS
R = ELETTROVENTILATORE
T = COMPRESSORE
U = TERMOSTATO DEPOSITO PIENO
V = TERMOSTATO VENTILATORE
Z = INTERRUTTORE GENERALE
Cc1 = RELE' CONTATTO N°1
Cc2 = RELE' CONTATTO N°2

LEGENDA COMPONENTS

A = ELECTRICAL INLET CABLE
B = INPUT TERMINAL BOARD
C = RELAY
D = MICRO SWITCH
E = PADDLE MOTOR
F = HARVEST MICRO SWITCH
G = HARVEST MOTOR
H = FLOAT BALL MICRO SWITCH
P = WATER SOLENOID VALVE
Q = HOT GAS SOLENOID VALVE
R = FAN MOTOR
T = COMPRESSOR
U = FULL BIN THERMOSTAT
V = THERMOSTAT FAN CONTROL
Z = MAIN SWTCH
Cc1 = RELAY CONTACT N°1
Cc2 = RELAY CONTACT N°2

SCHEMA ELETTRICO – WIRING DIAGRAM



COLORI CONDUTTORI

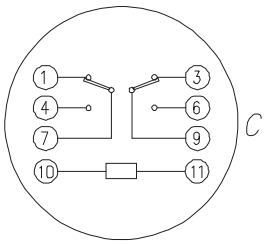
gv= giallo–verde
bc= blu chiaro
m = marrone
n = nero
b = bianco
r = rosso

COLOUR OF THE CABLES

gv= yellow–green
bc= light blue
m = brown
n = black
b = white
r = red

SEZIONE CAVI / CABLE SECTIONES

——————— 1 mmq
——————— 1.5 mmq



19262721.0 rev.01

N25S - N25L - N35S WATER

LEGENDA COMPONENTI

A = CAVO DI ALIMENTAZIONE
B = MORSETTIERA INGRESSO
C = RELE'
D = MICRO IMPULSI
E = MOTORIDUTTORE PALETTE
F = MICRO RIBALTAMENTO
G = MOTORIDUTTORE RIBALTAMENTO
H = MICRO GALLEGGIANTE
O = ELETTROVALVOLA CONDENSAZIONE
P = ELETTROVALVOLA ACQUA
Q = ELETTROVALVOLA GAS
R = TERMOSTATO DEPOSITO PIENO
S = PRESSOSTATO CONDENSAZIONE
T = COMPRESSORE
U = TERMOSTATO DI SICUREZZA
V = SPIA LUMINOSA ALLARME
Z = INTERRUTTORE GENERALE
Cc1 = RELE' CONTATTO N°1
Cc2 = RELE' CONTATTO N°2

LEGENDA COMPONENTS

A = ELECTRICAL INLET CABLE
B = INPUT TERMINAL BOARD
C = RELAY
D = MICRO SWITCH
E = PADDLE MOTOR
F = HARVEST MICRO SWITCH
G = HARVEST MOTOR
H = FLOAT BALL MICRO SWITCH
O = WATER COOLING SOLENOID VALVE
P = WATER SOLENOID VALVE
Q = HOT GAS SOLENOID VALVE
R = FULL BIN THERMOSTAT
S = WATER COOLED PRESSURE CONTROL
T = COMPRESSOR
U = SAFETY THERMOSTAT
V = MAX PRESSURE SIGNAL
Z = MAIN SWITCH
Cc1 = RELAY CONTACT N°1
Cc2 = RELAY CONTACT N°2

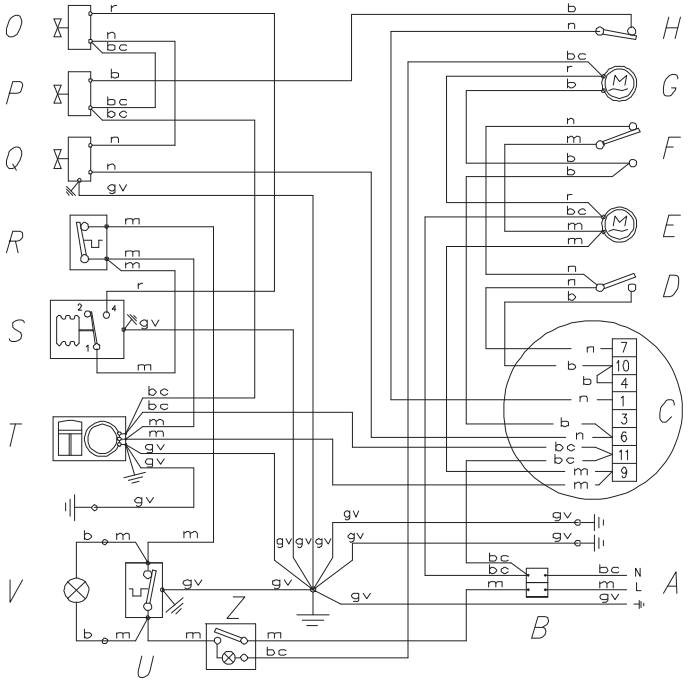
COLORI CONDUTTORI

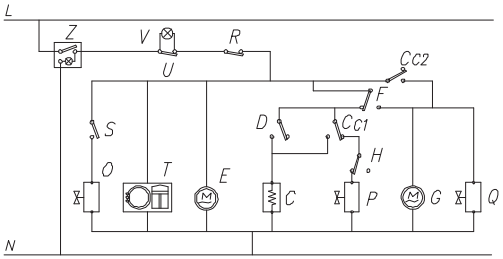
gv= giallo–verde
bc= blu chiaro
m = marrone
n = nero
b = bianco
r = rosso

COLOUR OF THE CABLES

gv= yellow–green
bc= light blue
m = brown
n = black
b = white
r = red

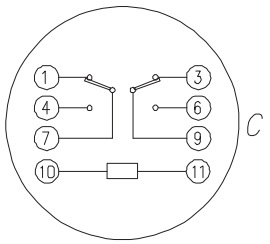
SCHEMA ELETTRICO – WIRING DIAGRAM





SEZIONE CAVI / CABLE SECTIONES

1 mmq
1.5 mmq



19262720.0 rev.01

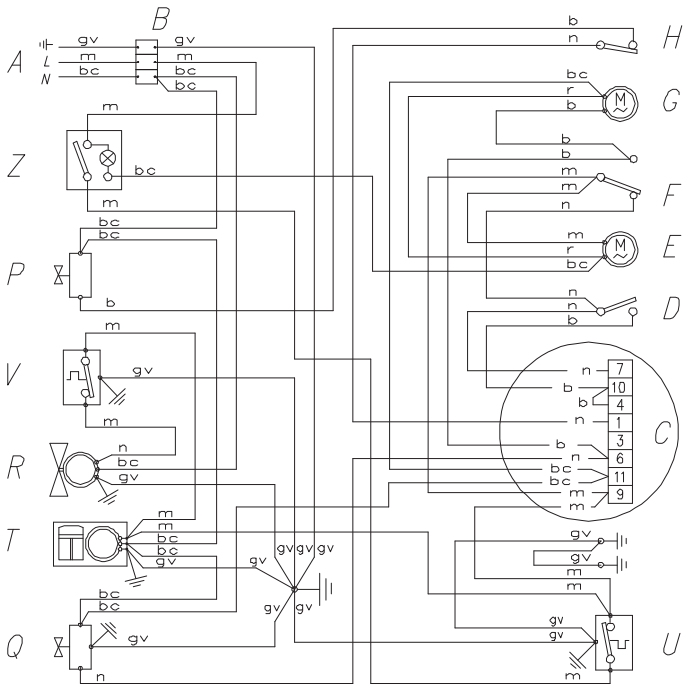
LEGENDA COMPONENTI

A = CAVO DI ALIMENTAZIONE
B = MORSETTIERA INGRESSO
C = RELE'
D = MICRO IMPULSI
E = MOTORIDUTTORE PALETTE
F = MICRO RIBALTAMENTO
G = MOTORIDUTTORE RIBALTAMENTO
H = MICRO GALLEGGIANTE
P = ELETTROVALVOLA ACQUA
Q = ELETTROVALVOLA GAS
R = ELETTROVENTILATORE
T = COMPRESSORE
U = TERMOSTATO DEPOSITO PIENO
V = TERMOSTATO VENTILATORE
Z = INTERRUTTORE GENERALE
Cc1 = RELE' CONTATTO N°1
Cc2 = RELE' CONTATTO N°2

LEGENDA COMPONENTS

A = ELECTRICAL INLET CABLE
B = INPUT TERMINAL BOARD
C = RELAY
D = MICRO SWITCH
E = PADDLE MOTOR
F = HARVEST MICRO SWITCH
G = HARVEST MOTOR
H = FLOAT BALL MICRO SWITCH
P = WATER SOLENOID VALVE
Q = HOT GAS SOLENOID VALVE
R = FAN MOTOR
T = COMPRESSOR
U = FULL BIN THERMOSTAT
V = THERMOSTAT FAN CONTROL
Z = MAIN SWTCH
Cc1 = RELAY CONTACT N°1
Cc2 = RELAY CONTACT N°2

SCHEMA ELETTRICO – WIRING DIAGRAM



COLORI CONDUTTORI

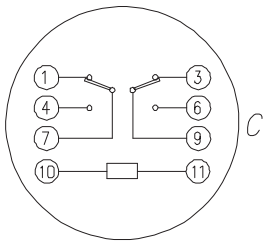
gv= giallo–verde
bc= blu chiaro
m = marrone
n = nero
b = bianco
r = rosso

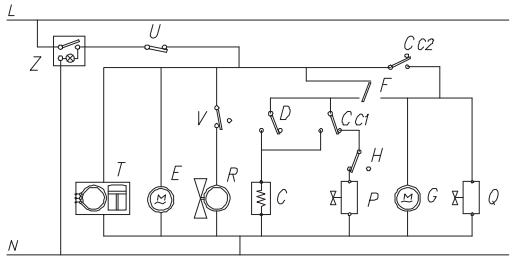
COLOUR OF THE CABLES

gv= yellow–green
bc= light blue
m = brown
n = black
b = white
r = red

SEZIONE CAVI / CABLE SECTIONES

1 mmq
1.5 mmq





N45S–N55S–N70S–N90S 19262722.0 rev.00

LEGENDA COMPONENTI

A = CAVO DI ALIMENTAZIONE
B = MORSETTIERA INGRESSO
C = RELE'
D = MICRO IMPULSI
E = MOTORIDUTTORE PALETTE
F = MICRO RIBALTAMENTO
G = MOTORIDUTTORE RIBALTAMENTO
H = MICRO GALLEGGIANTE
O = ELETTROVALVOLA CONDENSAZIONE
P = ELETTROVALVOLA ACQUA
Q = ELETTROVALVOLA GAS
R = TERMOSTATO DEPOSITO PIENO
S = PRESSOSTATO CONDENSAZIONE
T = COMPRESSORE
U = TERMOSTATO DI SICUREZZA
V = SPIA LUMINOSA ALLARME
Z = INTERRUTTORE GENERALE
Cc1 = RELE' CONTATTO N°1
Cc2 = RELE' CONTATTO N°2

LEGENDA COMPONENTS

A = ELECTRICAL INLET CABLE
B = INPUT TERMINAL BOARD
C = RELAY
D = MICRO SWITCH
E = PADDLE MOTOR
F = HARVEST MICRO SWITCH
G = HARVEST MOTOR
H = FLOAT BALL MICRO SWITCH
O = WATER COOLING SOLENOID VALVE
P = WATER SOLENOID VALVE
Q = HOT GAS SOLENOID VALVE
R = FULL BIN THERMOSTAT
S = WATER COOLED PRESSURE CONTROL
T = COMPRESSOR
U = SAFETY THERMOSTAT
V = MAX PRESSURE SIGNAL
Z = MAIN SWITCH
Cc1 = RELAY CONTACT N°1
Cc2 = RELAY CONTACT N°2

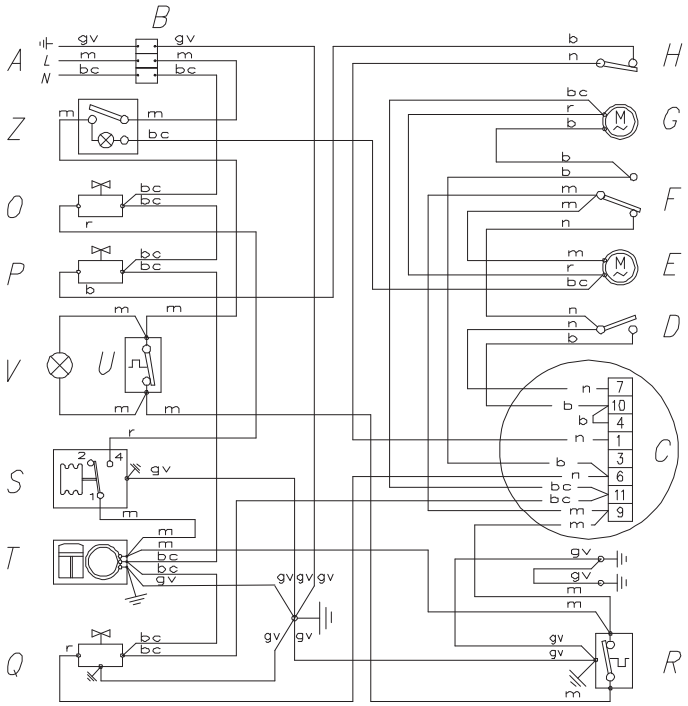
COLORI CONDUTTORI

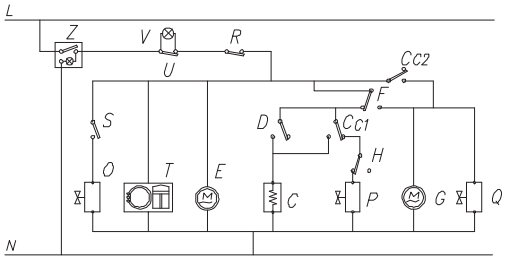
gv= giallo–verde
bc= blu chiaro
m = marrone
n = nero
b = bianco
r = rosso

COLOUR OF THE CABLES

gv= yellow–green
bc= light blue
m = brown
n = black
b = white
r = red

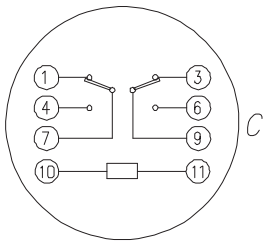
SCHEMA ELETTRICO – WIRING DIAGRAM





SEZIONE CAVI / CABLE SECTIONES

——— 1 mmq
——— 1.5 mmq



N45SW – N55SW 19262723.0 rev.00

N50 B.I. AIR

LEGENDA COMPONENTI

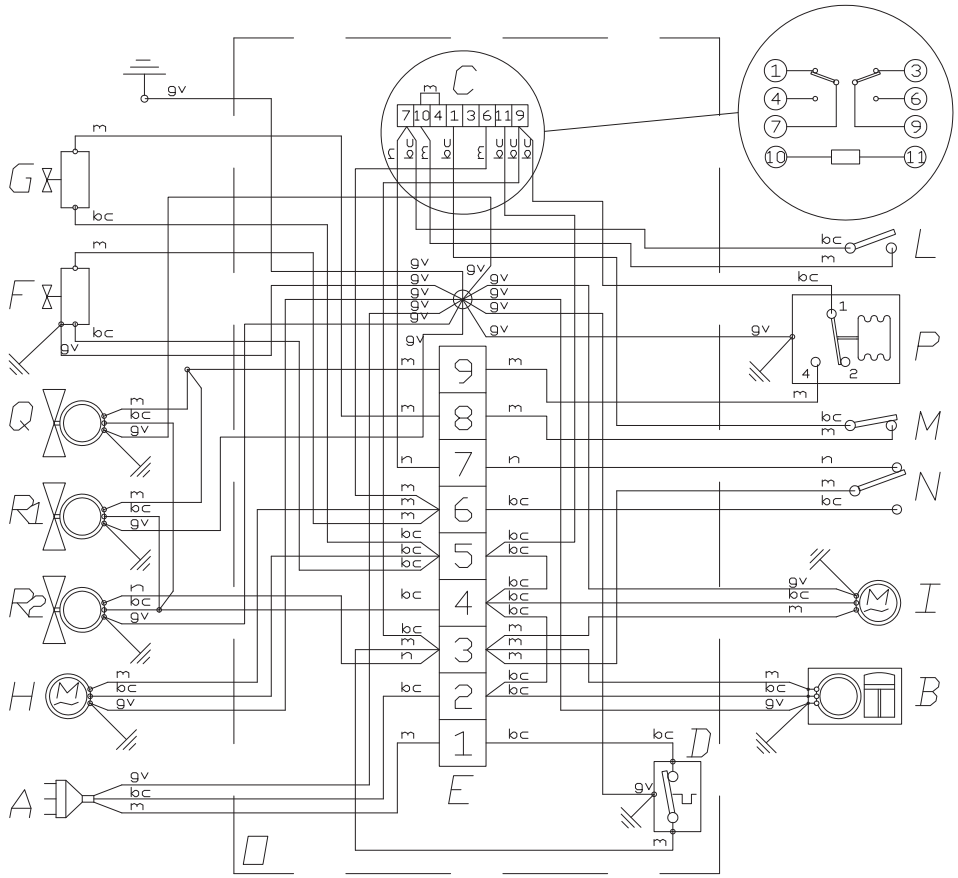
A = CAVO DI ALIMENTAZIONE
B = COMPRESSORE
C = RELE'
D = TERMOSTATO
E = MORSETTIERA
F = ELETTROVALVOLA GAS
G = ELETTROVALVOLA ACQUA
H = MOTORIDUTTORE RIBALTAMENTO (*)
I = MOTORIDUTTORE PALETTE (*)
L = MICRO IMPULSI
M = MICRO GALLEGIANTE
N = MICRO RIBALTAMENTO
O = SCATOLA CABLAGGIO
P = PRESSOSTATO
Q = ELETTROVENTILATORE ASPIRAZIONE
R1 = ELETTROVENTILATORE 1 CONDENSATORE
R2 = ELETTROVENTILATORE 2 CONDENSATORE
Cc1 = RELE' CONTATTO N.1
Cc2 = RELE' CONTATTO N.2

LEGENDA COMPONENTS

A = ELECTRICAL INLET CABLE
B = COMPRESSOR
C = RELAY
D = THERMOSTAT
E = ELECTRICAL JUNCTION BOX
F = GAS SOLENOID VALVE
G = WATER SOLENOID VALVE
H = HARVEST MOTOR (*)
I = PADDLE MOTOR (*)
L = MICRO SWITCH
M = FLOAT BALL MICRO SWITCH
N = HARVEST MICRO SWITCH
O = TERMINAL BOX
P = PRESSOSTAT
Q = SUCTION FAN MOTOR
R1 = COOLED CONDENSER FAN MOTOR 1
R2 = COOLED CONDENSER FAN MOTOR 2
Cc1 = RELAY CONTACT N.1
Cc2 = RELAY CONTACT N.2

(*) Motore non collegato alla messa a terra nella versione a doppio isolamento (CLASSE II)

(*) Motor not connected to the grounding cable in the double insulation version (CLASS II)



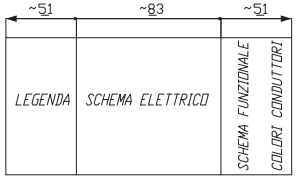
COLORI CONDUTTORI

gv = giallo-verde
bc = blu chiaro
m = marrone
n = nero

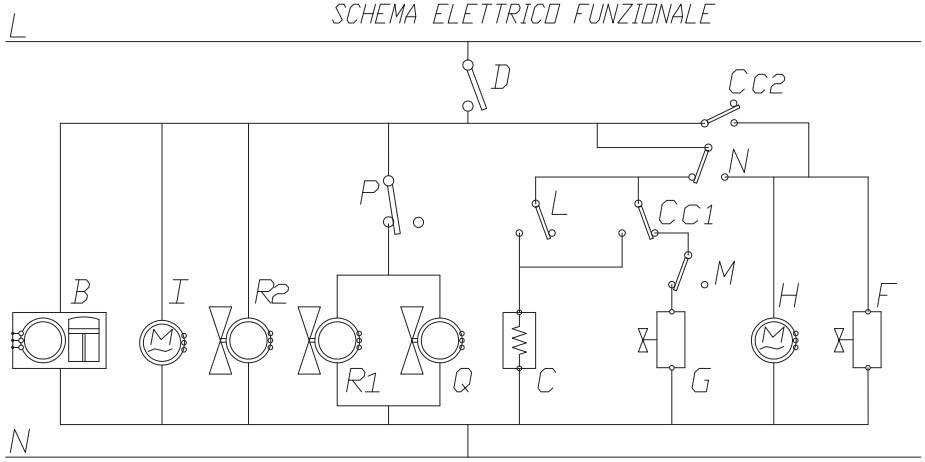
COLOUR OF THE CABLES

gv = yellow-green
bc = light blue
m = brown
n = black

IMPAGINAZIONE ETICHETTA



SCHEMA ELETTRICO FUNZIONALE



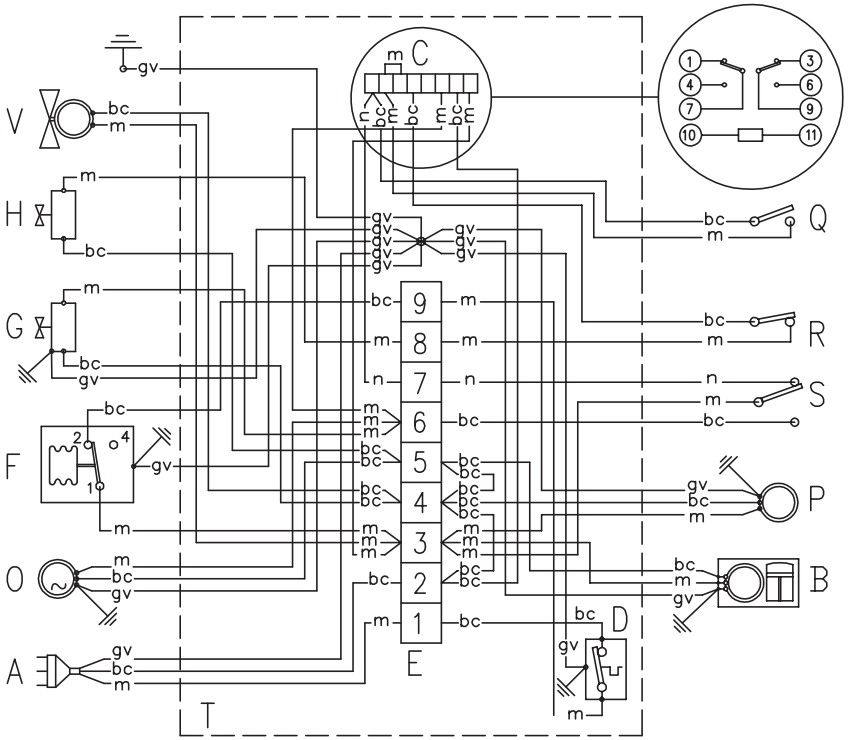
SEZIONE CAVI / CABLE SECTIONES

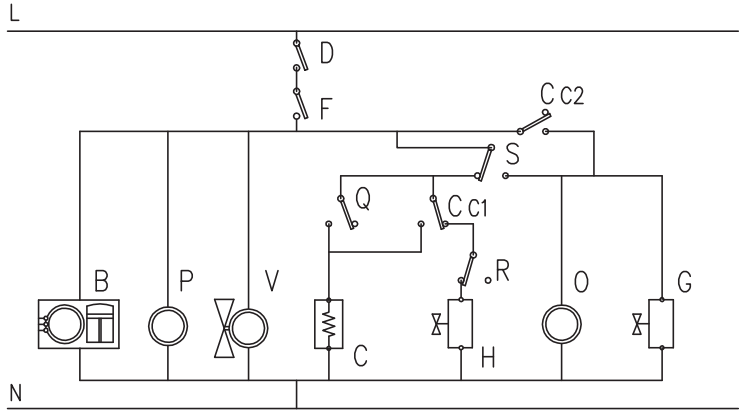
1 mmq
1.5 mmq

GB

A = CAVO DI ALIMENTAZIONE
B = COMPRESSORE
C = RELE
D = TERMOSTATO
E = IMORSETTIERA
F = PRESSOSTATO MAX
G = ELETTROVALVOLA GAS
H = ELETTROVALVOLA ACQUA
O = MOTORIDUTTORE RIBALTAMENTO ☆
P = MOTORIDUTTORE PALETTE ☆
Q = MICRO IMPULSI
R = MICRO GALLEGGIANTE
S = MICRO RIBALTAMENTO
T = SCATOLA CABLAGGIO
V = ELETTROVENTILATORE
Cc1 = RELE' CONTATTO n°1
CONTATTO n°2

☆ MOTORE NON COLLEGATO ALLA MESSA A TERRA NELLA VERSIONE A DOPPIO ISOLAMENTO CLASSE II





m = marrone
bc = blu chiaro
gv = giallo–verde
n = nero

N45W–N55W–N50

LEGENDA COMPONENTS

A = ELECTRICAL INLET CABLE
B = COMPRESSOR
C = RELAY
D = THERMOSTAT
E = ELECTRICAL JUNCTION BOX
F = MAX PRESSURE CONTROL
G = GAS SOLENOID VALVE
H = WATER SOLENOID VALVE
O = HARVEST MOTOR ☆
P = PADDLE MOTOR ☆
Q = MICRO SWITCH
R = FLOAT BALL MICRO SWITCH
S = HARVEST MICRO SWITCH
T = TERMINAL BOX
V = FAN MOTOR
Cc1 = RELAY CONTACT n°1
Cc2 = RELAY CONTACT n°2

☆ MOTOR NOT CONNECTED TO THE ROUNDING CABLE IN THE DOUBLE INSULATION VERSION CLASS II

COLOUR OF THE CABLE

m = brown
bc = light blue
gv = yellow–green
n = black

N50 B.I. WATER

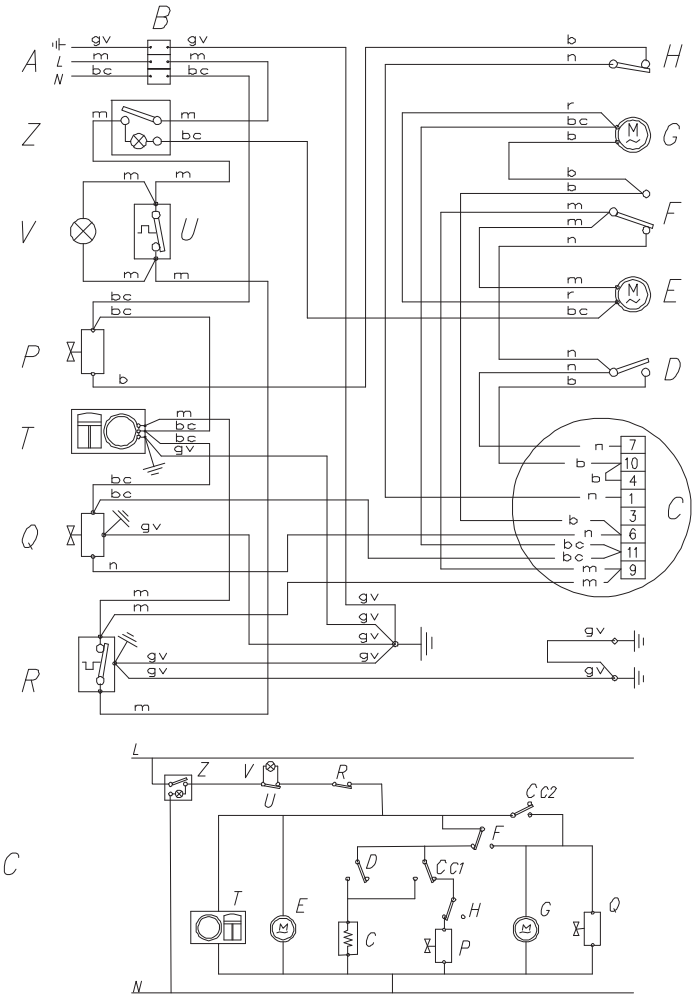
LEGENDA COMPONENTI

A = CAVO DI ALIMENTAZIONE
B = MORSETTIERA INGRESSO
C = RELE'
D = MICRO IMPULSI
E = MOTORIDUTTORE PALETTE
F = MICRO RIBALTAMENTO
G = MOTORIDUTTORE RIBALTAMENTO
H = MICRO GALLEGGIANTE
P = ELETTROVALVOLA ACQUA
Q = ELETTROVALVOLA GAS
R = TERMOSTATO DEPOSITO PIENO
T = COMPRESSORE
U = TERMOSTATO DI SICUREZZA
V = SPIA LUMINOSA ALLARME
Z = INTERRUTTORE GENERALE
Cc1 = RELE' CONTATTO N°1
Cc2 = RELE' CONTATTO N°2

LEGENDA COMPONENTS

A = ELECTRICAL INLET CABLE
B = INPUT TERMINAL BOARD
C = RELAY
D = MICRO SWITCH
E = PADDLE MOTOR
F = HARVEST MICRO SWITCH
G = HARVEST MOTOR
H = FLOAT BALL MICRO SWITCH
P = WATER SOLENOID VALVE
Q = HOT GAS SOLENOID VALVE
R = FULL BIN THERMOSTAT
T = COMPRESSOR
U = SAFETY THERMOSTAT
V = MAX PRESSURE SIGNAL
Z = MAIN SWITCH
Cc1 = RELAY CONTACT N°1
Cc2 = RELAY CONTACT N°2

SCHEMA ELETTRICO – WIRING DIAGRAM



COLORI CONDUTTORI

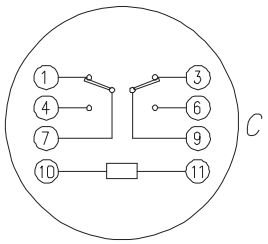
gv= giallo–verde
bc= blu chiaro
m = marrone
n = nero
b = bianco
r = rosso

COLOUR OF THE CABLES

gv= yellow–green
bc= light blue
m = brown
n = black
b = white
r = red

SEZIONE CAVI / CABLE SECTIONES

1 mmq
1.5 mmq



N70SW – N90SW 19262724.0 rev.00

Castel MAC SpA

Via del Lavoro, 9 C.P. 172
I - 31033 Castelfranco Veneto (TV) Italy
Tel. (0423) 738452 - Fax (0423) 722811
E-mail: icematic@castelmac.it
Web-site: www.castelmac.it

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