

metos

CRUSHED ICE MAKER WITHOUT BIN

AIR-CONDENSED
WATER-CONDENSED

TYPE: G250A, G500A, G1000A

Installation and Operation Manual



Dear Customer,

Congratulations on deciding to choose a Metos appliance for your kitchen activities. You made an excellent choice. We will do our best to make you a satisfied Metos customer like thousands of customers we have around the world.

Please read this manual carefully. You will learn correct, safe and efficient working methods in order to get the best possible benefit from the appliance. The instructions and hints in this manual will give you a quick and easy start, and you will soon note how nice it is to use the Metos equipment.

All rights are reserved for technical changes.

You will find the main technical data on the rating plate fixed to the equipment. When you need service or technical help, please let us know the serial number shown on the rating plate. This will make it easier to provide you with correct service.

For your convenience, space is provided below for you to record your local Metos service contact information.

METOS TEAM

Metos service phone number:.....

Contact person:.....

1. General	1
1.1 Symbols used in the manual	1
1.2 Symbols used on the appliance	1
1.3 Checking the relation of the appliance and the manual	1
2. Safety instructions	2
2.1 Safe use	2
2.1.1 Modifications	2
2.2 Safety instructions in case of malfunction	2
2.3 Disposal of appliance	2
3. Functional description	3
3.1 General	3
3.2 Designed use of appliance	3
3.2.1 Other than instructed use	3
3.3 Structure	3
3.4 Functioning principle	3
3.4.1 Switches and signal lights	4
4. Use instructions	5
4.1 Before use	5
4.1.1 Preparations	5
4.2 Use	5
4.3 After use	6
4.3.1 Cleaning	6
4.3.2 Scheduled maintenance	6
4.3.3 Layup	6
5. Installation	7
5.1 General	7
5.1.1 Using conditions	7
5.2 Possible disturbances from environment (to environment)	7
5.3 Storage	7
5.4 Preparing installation	7
5.5 Unpacking	8
5.6 Disposal of packaging	8
5.7 Installation	9
5.8 Placing of appliance	10

5.9 Connection to power supply mains	10
5.10 Connection to water mains	11
5.10.1 Connection to the cold water	11
5.10.2 Connection to water drain pipe	12
5.11 Distance of other fixtures	12
5.12 The probe in the bin	13
6. Main causes of operating failure	14
7. Technical specifications	15

1. General

Carefully read the instructions in this manual as they contain important information regarding proper, efficient and safe installation, use and maintenance of the appliance.

Keep this manual in a safe place for eventual use by other operators of the appliance.

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and following local regulations. The connection of the appliance to the electric and water supply must be carried out by qualified persons only.

Persons using this appliance should be specifically trained in its operation.

Switch off the appliance in the case of failure or malfunction. The periodical function checks requested in the manual must be carried out according to the instructions. Have the appliance serviced by a technically qualified person authorized by the manufacturer and using original spare parts.

Not complying with the above may put the safety of the appliance in danger.

1.1 Symbols used in the manual



This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.



This symbol informs about the right way to perform in order to prevent bad results, appliance damages or hazardous situations.



This symbol informs about recommendations and hints that help to get the best performance out of the appliance.

1.2 Symbols used on the appliance



This symbol on a part informs about electrical terminals behind the part. The removal of the part must be carried out by qualified persons only.

1.3 Checking the relation of the appliance and the manual

The rating plate of the appliance indicates the serial number of the appliance. If the manuals are missing, it is possible to order new ones from the manufacturer or the local representative. When ordering new manuals it is essential to quote the serial number shown on the rating plate.

2. Safety instructions

2.1 Safe use

To guarantee the efficiency of the crushed ice maker and to ensure its proper operation, it is essential to adhere to the directions provided by the manufacturer and to make sure that any maintenance work is carried out exclusively by professionally qualified staff. The appliance is designed to be used by adult persons. Prevent any children to gain access to it, for example playing with it.

2.1.1 Modifications

Modifying or trying to modify this appliance, in addition to rendering any form of warranty null and void, is extremely dangerous.

2.2 Safety instructions in case of malfunction

Under no circumstances, try to repair the appliance yourself, since any intervention on the part of persons who are not competent, in addition to being dangerous, may cause serious damage to it. In the event of a failure, contact the dealer who sold you the appliance; he will be able to give you the address of your nearest Authorized Technical Service Centre. We recommend that you insist on having always and exclusively original spares.

2.3 Disposal of appliance

Should you decide to scrap your crushed ice maker, first disconnect the power supply cable from the mains, and then cut the cable off. In addition, proceed as follows:

- Break and remove the door in order to prevent the possible danger of a child getting trapped inside.
- Make sure not to disperse the coolant gas and oil contained in the compressor into the environment.
- Dispose of or recover the various materials according to the requirements of current regulations valid in your country.



This appliance does not contain coolant that damages the ozone layer.

3. Functional description

3.1 General

In making crushed ice use only cold, pure drinking water. Because crushed ice is mainly used for cooling of beverages for internal use, shall the quality of water in making crushed ice be considered as important as the pureness and good storage of any other food products.

3.2 Designed use of appliance

Your crushed ice maker is designed only for the production of crushed ices.

3.2.1 Other than instructed use

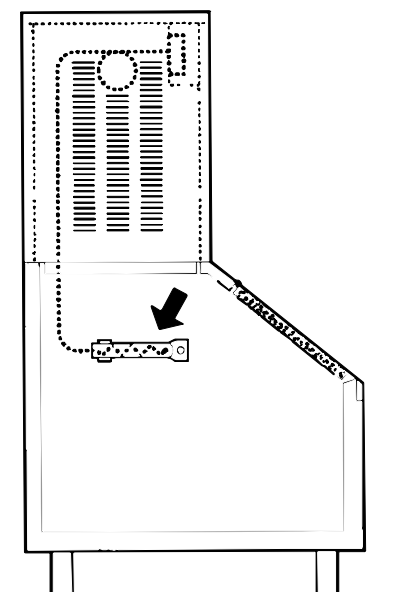
Any use of the crushed ice maker other than for the production of crushed ices, from cold drinking water, is to be considered as improper use.

3.3 Structure

The supporting structure of the crushed ice maker is of steel and the outer panels are of stainless steel.

3.4 Functioning principle

The coolant in the cooling system freezes the evaporator to a temperature of -15°C. A water pump sprays an even jet of water into the cylinder shaped evaporator. When the ice is formed into the walls, the auger crushes the ice, looser from the walls of the evaporator and pushes the ice crushes down to the basin. When the ice crushes reach the level of a probe in the basin, the ice forming terminates. When the level of ice crush falls under the level of the probe, then ice forming restarts automatically.



3.4.1 Switches and signal lights

A switch on the front panel switches ON and OFF the appliance.

4. Use instructions

4.1 Before use

4.1.1 Preparations

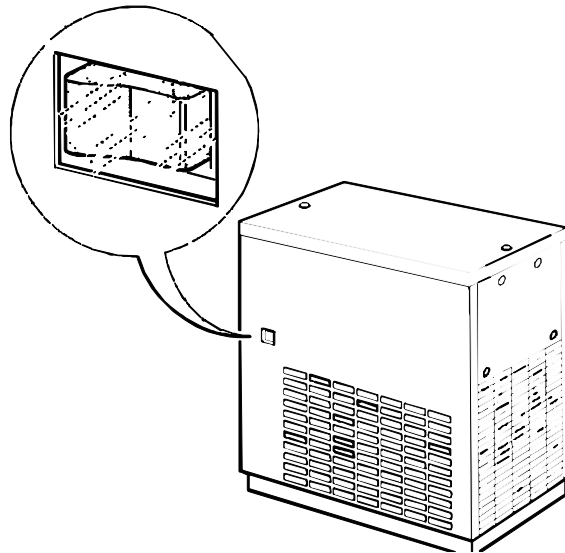
Check, that the appliance has been correctly connected to the electric supply mains, to the water supply mains and to the water drainage system.

Turn on the water supply tap, switch on the power by means of the relative switch fitted during the installation phase.

For appliances that are connected permanently to the electricity main, turn on by means of the switch on the outside of the appliance, fitted during the installation phase.

4.2 Use

Start the appliance by pressing the switch on the front panel.



After about 15 min. in startups, the crushed ice maker start function.

Use instructions

In the normal daily use the crushed ice maker functions until the crushed ice reach a probe in the container. When any ice is taken from the container and the level of crushed ice falls under the probe level, then ice production restarts automatically.

In making crushed ice use only cold, clean drinking water. Because crushed ice are mainly used for cooling of beverages for internal use, shall the quality of water in making crushed ices be considered as important as the pureness and good storage of any other food products.

4.3 After use

4.3.1 Cleaning



Unplug the power cable from the socket, before you start cleaning operations.

For cleaning operations from surface, including subsequent ones, use an ordinary detergent for washing dishes or a solution of water and 10 % of vinegar. It's recommended not to use abrasive detergents or powders, since these might damage the surfaces.



All cleaning operations must be carried out only after the power and water supply have been disconnected as described previously.



For cleaning operations from the inside and disinfection of the appliance must be carried out by professionally qualified and authorized staff.

4.3.2 Scheduled maintenance

We recommend that you ask your dealer to draw up a scheduled maintenance contract which will cover the following:

- cleaning the condenser every two months
- cleaning the filter located on the water inlet solenoid valve every two months
- cleaning the ice-box 2 x year
- checking the charge of the coolant gas 2 x year
- checking the operating cycle 2 x year
- disinfection of the crushed ice maker 2 x year.

4.3.3 Layup

If you do not intend using the crushed ice maker for a certain period of time, proceed as follows:

- Unplug the power cable from the socket.
- Shut off the water supply by turning off the tap provided during installation.
- Carry out all the operations, which include for regular maintenance of the appliance.

5. Installation

5.1 General

The crushed ice maker is delivered attached to a special wooden pallet and protected with cardboard packaging.



Installation must be carried out exclusively by qualified and authorized staff, in compliance with current national standards and following the manufacturer's instructions.

5.1.1 Using conditions

The best performance of the crushed ice maker is achieved at a room temperature of between 15°C and 35°C and a water supply temperature of between 15°C and 25°C. Avoid installing the appliance where it may be exposed to direct sunlight or near to heat sources, such as radiators, stoves, dish-washers, etc.



This appliance must not be used outside, must not be installed in damp places or where it is liable to be sprayed with water. The appliance must be positioned at a distance of at least 5 cm from the side walls.

5.2 Possible disturbances from environment (to environment)

If installation is carried out incorrectly, damage and/or injury may ensue to the environment, persons, animals or things. The manufacturer declines all responsibility for any such damage or injury.

5.3 Storage

The net weight and the weight including packaging of the crushed ice maker are given on the cover of the packaging. In order to prevent the oil contained in the compressor from flowing into the coolant circuit, make sure to transport, store, and handle the crushed ice maker always keeping it standing upright. Follow the instructions given on the packaging.

5.4 Preparing installation

Make sure, that the crushed ice maker will be installed on an perfectly level. Avoid installing the appliance near heat sources. A floor drain should be found near of the place of installation. The maximum distance being 5 m. Make sure that the meltwater pipe presents a slope of at least 5 % throughout its entire length.

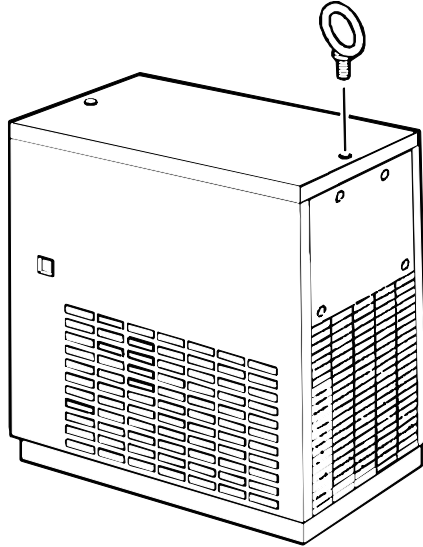
5.5 Unpacking

Remove the packaging according to the instructions on the box.



Once you have removed the packaging, make sure that the crushed ice maker is in perfectly good condition. If you are in any doubt, do not use it and contact immediately the dealer who sold it to you.

Some models are equipped with special threaded holes for the attachment of eyebolts.



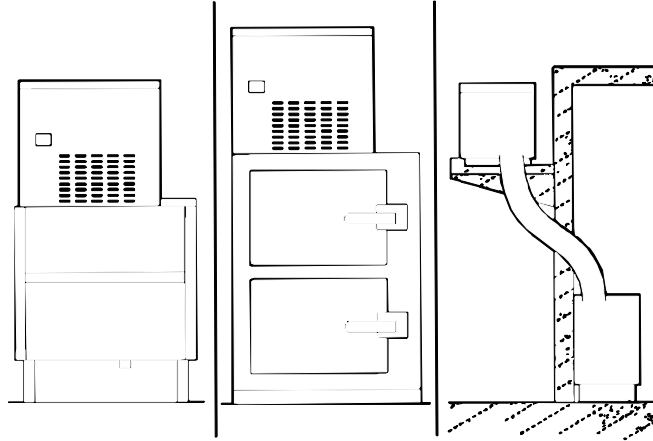
Lift the appliance using equipment fit to bear its weight and remove the appliance from the wooden pallet.

5.6 Disposal of packaging

All the packaging items (plastic bags, cardboard, polystyrene foam, nails, etc.) must not be left within reach of children, in that they are potential sources of danger.

5.7 Installation

The crushed ice maker can be install on a shelves or on a container.



If the crushed ice maker installing on the pre-existing structure (platforms, shelves), it's recommended to have the structure examined by a technical expert to make sure it is stable.

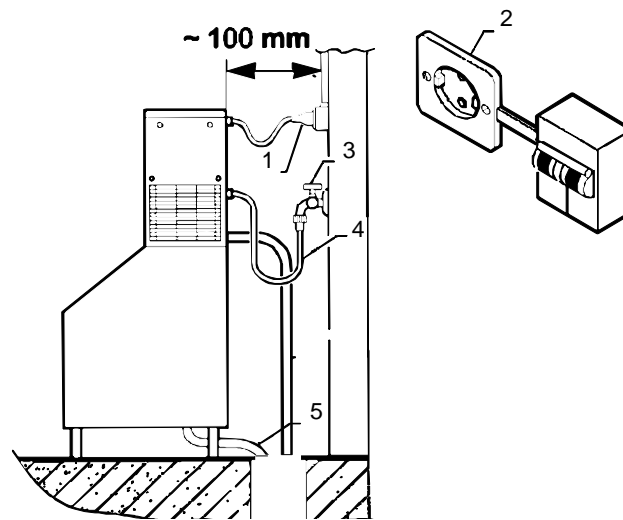
If the crushed ice maker installing on a container on our production, the direction be found along the container.



The manufacturer declines all responsibility for installations made on containers not produced by our company

Use a spirit level to check that the crushed ice maker is standing perfectly level.

5.8 Placing of appliance



1. Plug
2. Socket with switch
3. Water tap
4. Water supply pipe
5. Water outlet pipe

5.9 Connection to power supply mains

The wiring diagram is stuck on the outside of the back panel of the appliance.

Electric safety of the crushed ice maker is achieved solely when the appliance is properly connected to an efficient earthing system made in compliance with current national safety standards. Make sure that this fundamental safety requirement is respected and, if you are in any doubt, ask for a thorough check of the electric system by professionally qualified and authorized staff. The manufacturer declines all responsibility for damage and/or injury that might ensue from any failure to earth the system properly. It is essential that the electrical wiring system where the appliance is to be installed should have adequate current carrying capacity for the maximum power of the appliance, as shown on the data plate. To achieve a proper and safe installation of the crushed ice maker, it is necessary to provide an appropriate earthed socket, with a contact-opening gap of no less than 3 mm, in accordance with current national safety standards. This switch must moreover be equipped with fuses (see fig.).

Make sure to unroll the power supply cable to its entire length and check that it is not squeezed in any way.

5.10 Connection to water mains

5.10.1 Connection to the cold water

The crushed ice maker is designed solely for producing ice and must be fed exclusively with cold water for human consumption (drinking water).

The running pressure must be between 1 and 6 Bar.

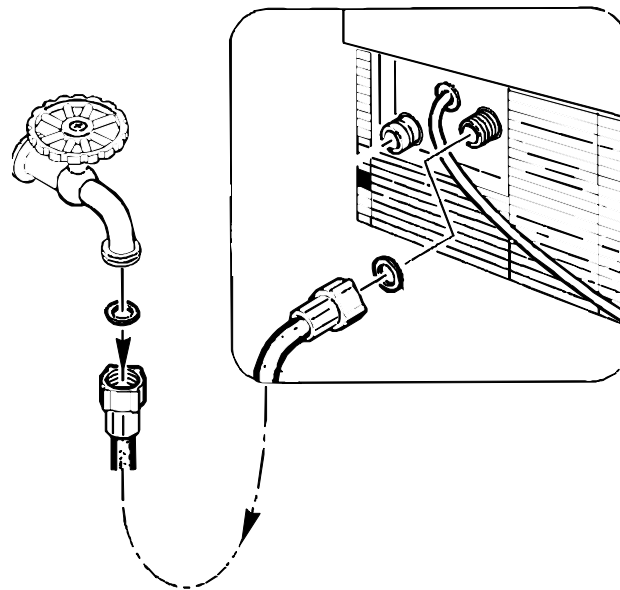
Connection to the water mains must be made following the manufacturer's instructions by professionally qualified staff.

Between the water mains and the charge pipe of the crushed ice maker, a tap must be installed so that the water supply may be shut off if need be.



Never turn the water supply tap off when the appliance is working.

Where the feed water is particularly hard, you are advised to install a softener. Any solid particles (e.g., sand) may be eliminated by installing a mechanical filter, which must be periodically inspected and cleaned. These filters must be in compliance with the relevant national standards in force.

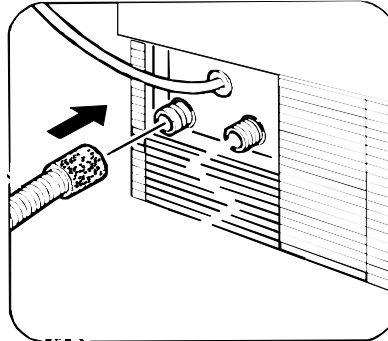


Insert the special seals provided in the two threaded ring nut of the water feed pipe supplied with the appliance.

Without exerting excessive force in order not to risk cracking the unions, firmly tighten one of the threaded ring nut on the outlet of the solenoid valve located in the back of the appliance. The other threaded ring nut must be screwed to the water tap, this must be provided with a thread too.

5.10.2 Connection to water drain pipe

Fix the water draining pipe in the housing provided on the back of the appliance.



Make sure that

- The internal diameter of the pipe is 22 mm.
- The water drain pipe is not throttled in any point throughout its length.
- The drain pipe present a slope of at least 5 % on its entire length and there are no air pockets in the pipe.
- Direct the water drain pipe into an open drain trap, head of the pipe must stay over on drain trap.

5.11 Distance of other fixtures

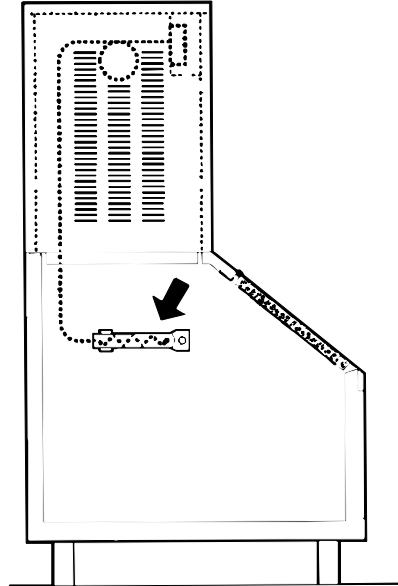


Do not obstruct the ventilation and heat-dissipation grills, since poor aeration, in addition to reducing efficiency and causing poor operation, may also cause serious damage to the appliance.

Leave distance at least 50 mm from the sides and 100 mm from the back of the crushed ice maker, to make sure that air conditioning is sufficient.

5.12 The probe in the bin

Loosen the probe cautiously down from the machine. Attach the capillary tube into the wall of the bin and attach the probe into the probe bracket.



6. Main causes of operating failure

Should the appliance fail to produce ice, before calling on the Authorized Technical Service Center, first check carefully that:

- The water supply tap provided in the installation phase is open.
- The electric power is reaching the appliance, the plug is properly inserted, and the corresponding switch is in the “on” position.
- In the event of excessive noise, check that the appliance does not come into contact with furniture or sheet metal that may cause noise or vibrations.
- Should any traces of water appear, check that the discharge pipe of the container is not obstructed, that the water supply and discharge pipes are correctly connected up and do not present any throttling or damage.

Once the above checks have been made, if the appliance were still to present malfunctioning, switch off the power supply via the switch provided during the installation phase, pull out the plug from its socket, close the tap connecting the appliance up to the water supply, and call the nearest Authorized Technical Service Center.

In order to obtain a faster and more efficient intervention, when you call the Center, indicate the model of the appliance precisely, and its serial number. These can be read on the matriculation label stuck on the rear of the appliance or on the cover of this manual

MALFUNCTION	Possible cause	Operation
Safety thermostat for overheating stops the appliance	The water condenser is obstructed	Clean the water condenser (slime removal)
	The appliance receives no water	Check the water supply
Lack of water Ice-cube production reduces	Plastic drain water coupler is broken	Check, fix/change
	The water does not exit from the ice container	Drain water pipe is throttled/ blocked
Gearmotor functions unevenly or leaks oil	Leaking gearmotors oil cup	Fix/change oil cup

7. Technical specifications

Electric diagram G250, G500 (valid from 2004 07 22)

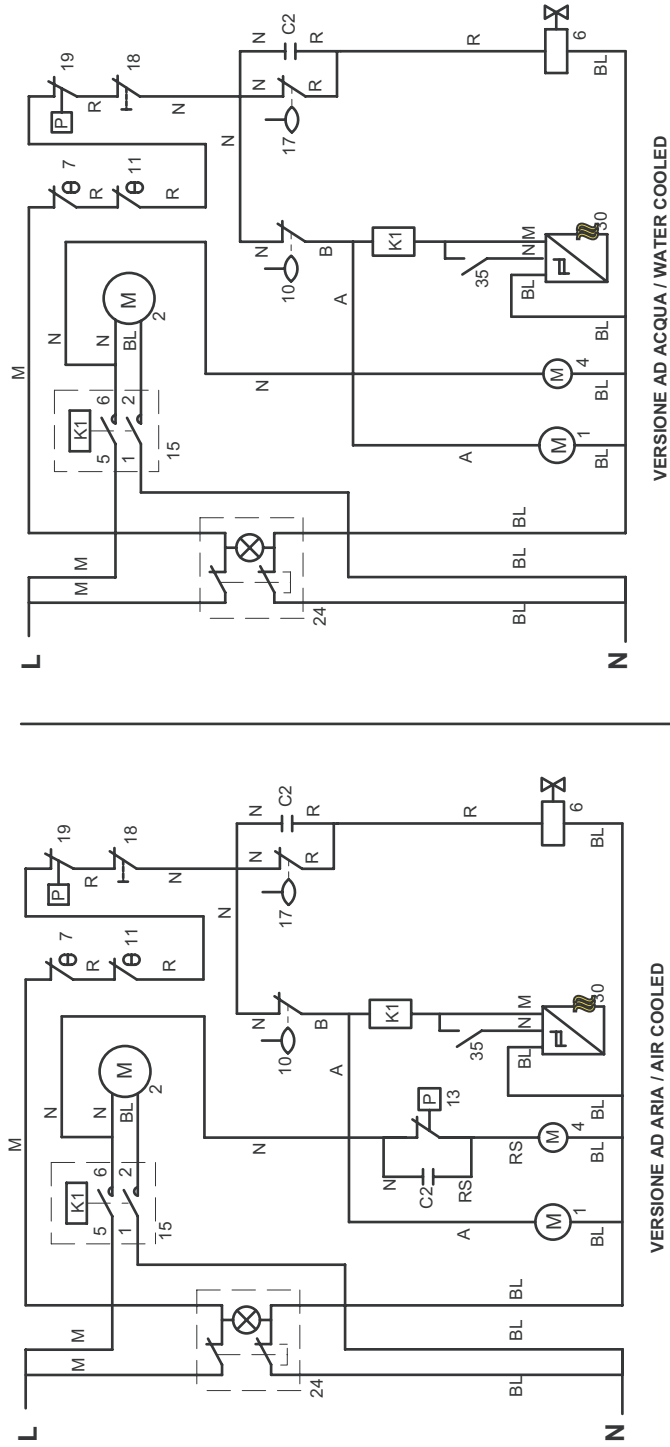
Electric diagram G1000 (valid from 2006 05 26)

Installation drawing G 500A

Installation drawing G 1000A

Installation on bin

SCHEMA ELETRICO / ELECTRIC DIAGRAM

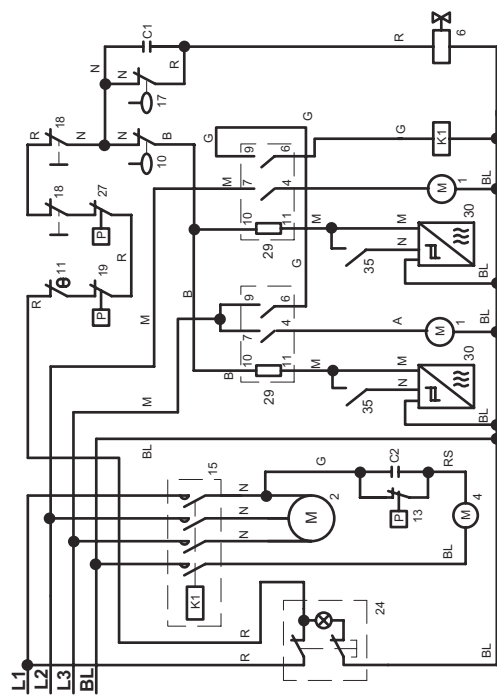


1. MOTORE DEL RIDUTTORE GEAR REDUCTION MOTOR	11. TERMOSTATO CONTENITORE BIN THERMOSTAT	24. INTERRUTTORE LUMINOSO SWITCH ON - OFF (GREEN LIGHT)
2. COMPRESSORE COMPRESSOR	13. PRESSOSTATO CONTROLLO CONDENSAZIONE CONDENSER CONTROL PRESSURE SWITCH	30. SENSORE DI ROTAZIONE ROTATION SENSOR
4. MOTOVENTILATORE FAN MOTOR	15. TELERUTTORE CONTACTOR	35. BY-PASS ESCLUSIONE ATTESA WAITING CUTTING OUT BY-PASS
6. ELETTROVALVOLA INGRESSO ACQUA BACINELLA BASIN'S WATER INLET VALVE	17. MICRO CONTROLLO LIVELLO ACQUA BACINELLA BASIN WATER'S LEVEL MICRO SWITCH	DA UTILIZZARE SOLO DAL MANUTENTORE TO BE USED BY THE MAINTENANCE PERSONNEL ONLY
7. TERMOSTATO DI SICUREZZA EVAPORATORE EVAPORATOR SAFETY THERMOSTAT	18. CONTROLLO CONTENITORE PIENO STORAGE BIN CONTROL	
10. MICRO CONTROLLO MANCANZA ACQUA BACINELLA BASIN'S WATER'S LACK MICRO SWITCH	19. PRESSOSTATO DI SICUREZZA SAFETY PRESSURE SWITCH	

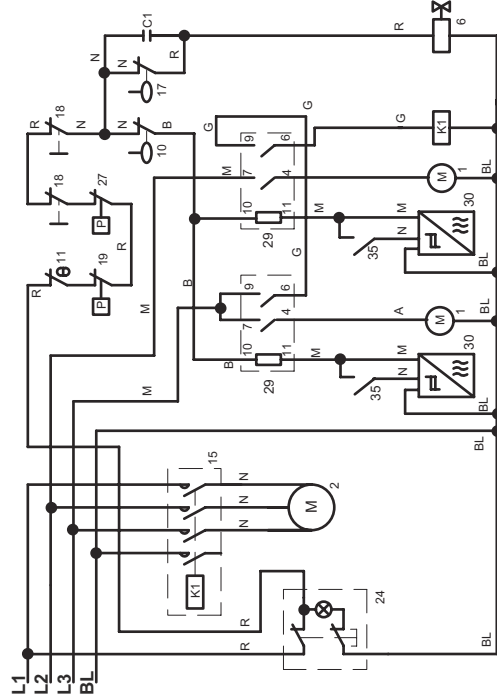
A = ARANCIO / ORANGE
 B = BIANCO / WHITE
 BL = BLU / BLUE
 M = MARRONE / BROWN
 N = NERO / BLACK
 R = ROSSO / RED
 RS = ROSA / PINK

Cod. 24583 - Rev. 03

SCHEMA ELETTRICO / ELECTRIC DIAGRAM



VERSIONE AD ARIA / AIR COOLED



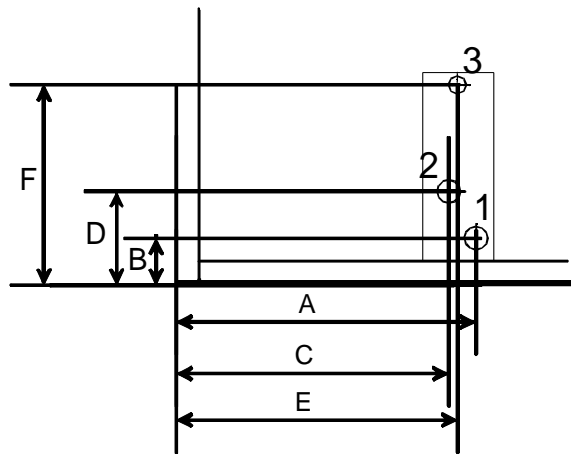
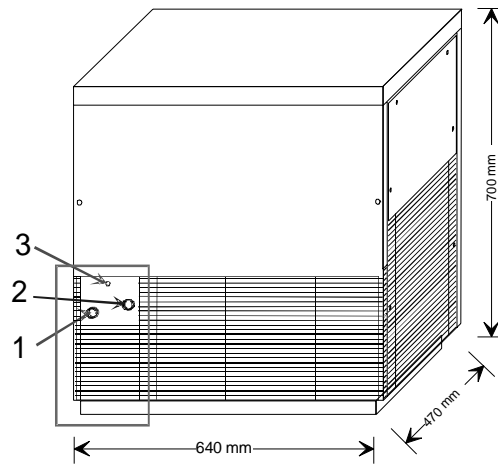
VERSIONE AD ACQUA / WATER COOLED

1. MOTORE DEL RIDUTTORE GEAR REDUCTION MOTOR	13. PRESSOSTATO CONTROLLO CONDENSAZIONE CONDENSER CONTROL PRESSURE SWITCH	27. PRESSOSTATO DI SICUREZZA BASSA PRESSIONE SAFETY PRESSURE SWITCH FOR LOW PRESSURE
2. COMPRESSORE COMPRESSOR	15. TELERUTTORE CONTACTOR	29. RELE' RELAY
4. MOTOVENTILATORE FAN MOTOR	17. MICRO CONTROLLO LIVELLO ACQUA BACINELLA BASIN WATER'S LEVEL MICRO SWITCH	30. SENSORE DI ROTAZIONE ROTATION SENSOR
6. ELETTROVALVOLA INGRESSO ACQUA BACINELLA BASIN'S WATER INLET VALVE	18. CONTROLLO CONTENITORE PIENO STORAGE BIN CONTROL	35. BY PASS ESCLUSIONE ATTESA DA UTILIZZARE SOLO DAL MANUTENTORE TO BE USED BY THE MAINTENANCE PERSONNEL ONLY
10. MICRO CONTROLLO MANCANZA ACQUA BACINELLA BASIN'S WATER'S LACK MICRO SWITCH	19. PRESSOSTATO DI SICUREZZA SAFETY PRESSURE SWITCH	
11. TERMOSTATO CONTENITORE BIN THERMOSTAT	24. INTERRUITTORE LUMINOSO SWITCH ON - OFF (GREEN LIGHT)	

A = ARANCIO / ORANGE
B = BIANCO / WHITE
BL = BLU / BLUE
G = GRIGIO / GREY
M = NERO / BLACK
N = MARRONE / BROWN
R = ROSSO / RED
RS = ROSA / PINK
BN = BIANCO-NERO / WHITE-BLACK

Cod.24584 - Rev. 02

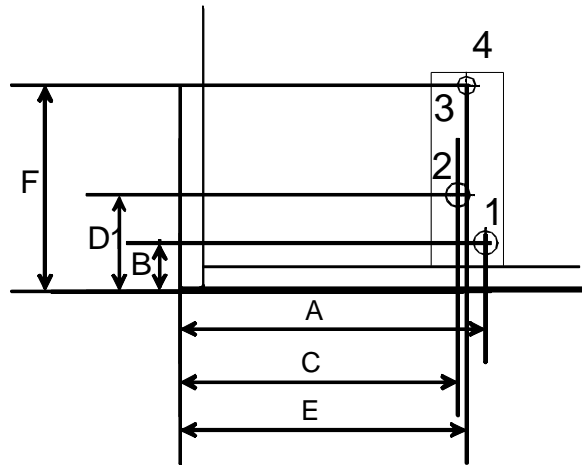
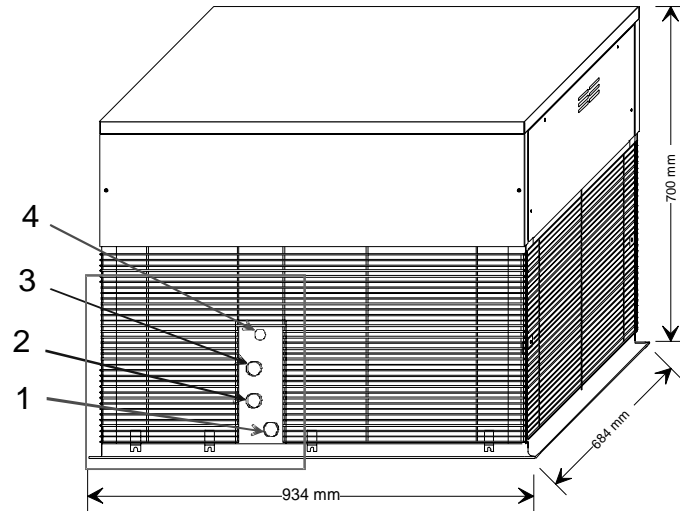
G 500



A	34 mm
B	228 mm
C	116 mm
D	282 mm
E	58 mm
F	292 mm

1. Water OUT, diam. 24mm
2. Water IN, diam. 3/4"
3. Power cable

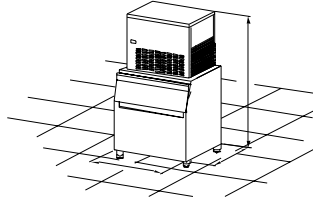
G 1000



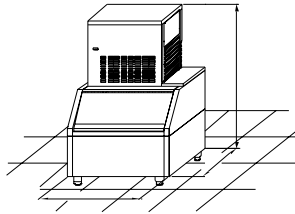
A	337 mm
B	60 mm
C	372 mm
D	187 mm
E	358 mm
F	257 mm

1. Water OUT, diam. 24mm
2. Water IN, condensator, diam 3/4"
3. Water IN, basin, diam. 3/4"
4. Power cable

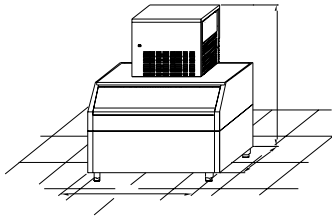
BIN 160 PL
G250/G500



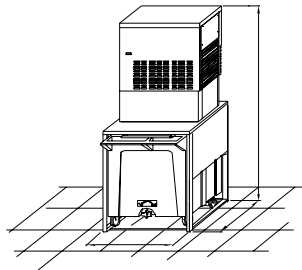
BIN T120
G250/G500



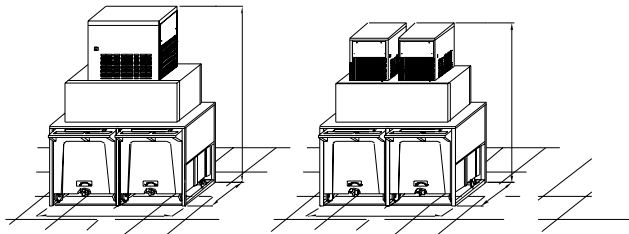
BIN T280
G250/G500



ROLLER BIN 100
G250/500



DOUBLE ROLLER
BIN 100 G250/500 G250/500



Technical specifications

Item	Model	Type	Specification
Production in 24h, till		250	250 kg
Production in 24h, till		500	500 kg
Production in 24h, till		1000	1000 kg
Cooling system		250	A,W
Cooling system		500	A,W
Cooling system		1000	A,W
Fluid refrigerant		250	R404A
Fluid refrigerant		500	R404A
Fluid refrigerant		1000	R404A
Useable bin		250	T120, T280
Useable bin		500	T120, T280
Useable bin		1000	
Standard voltage		250	220-240/1/50
Standard voltage		500	220-240/1/50
Standard voltage		1000	220-240/1/50
Input power		250	3700W
Input power		500	3700W
Input power		1000	3700W
Water consumption	A	250	1 l/kg
Water consumption	A	500	1 l/kg
Water consumption	A	1000	1 l/kg
Water consumption	W	250	5,2 l/kg
Water consumption	W	500	5,3 l/kg
Water consumption	W	1000	5,3 l/kg
Size (WxDxH)		250	640x470x700 mm
Size (WxDxH)		500	640x470x700 mm
Size (WxDxH)		1000	934x684x700 mm
Size (with packing) (WxDxH)		250	695x540x940 mm
Size (with packing) (WxDxH)		500	695x540x940 mm
Size (with packing) (WxDxH)		1000	1000x770x940 mm
Weight net		250	82 kg
Weight net		500	104 kg
Weight net		1000	172 kg
Weight gross		250	93 kg
Weight gross		500	113 kg
Weight gross		1000	195 kg

Technical specifications

A=AIR-CONDENSED, W=WATER-CONDENSED
250=G250A, 500=G500A, 1000=G1000A

A=3/N/PE~400/230V 50Hz, B=~250V 16A 50Hz