



INSTRUCTION MANUAL

CHILLING EQUIPMENT

COOLING MODULE

DM-99006

ISO 9001: 2000





This indicates information of particular importance for the user's safety and correct use of the device.

Before operating the device, please read and understand this instruction manual.

RULES OF CORRECT AND SAFE OPERATION

To ensure work safety and long-year and reliable operation of the device, follow the rules below:

- ***Make sure the personnel in charge of operation of the device is familiarized with rules of use of electrical devices, safe work, and first aid in case of emergency***
- ***Make sure the personnel in charge of operation of the device receive proper practical training***
- ***It is forbidden to connect the device to the mains which checking beforehand for correct installation of shock protection***
- ***It is forbidden to connect the device to a wall socket without ground pin***
- ***It is forbidden to wash, clean and repair the device when plugged to the mains***
- ***Any repairs of the device can be carried out by personnel holding adequate qualifications and following rules of correct replacement of damaged parts to identical ones***
- ***The manufacturer cannot be held responsible for use of the device for purposes other than intended/not in accordance with the instructions or recommendations***
- ***It is forbidden to cover shutter of condensing unit chamber as this could affect correct operation of the device. A minimum space in front of the shutter should be at least 1m***
- ***The equipment should be operated at temperatures of up to 25°C and up to 55% r.h. (Climatic class 3). Rooms where display cabinets operate should be dry and aired.***
- ***Exceeding of recommended work parameters can cause outdropping of water vapour on external surfaces, failure to reach the lowest declared work temperatures and an increase in electrical energy consumption***
- ***If the device reaches its end of life, please remember to dispose of the device in an environmentally safe manner. When performing works related to disposal and scrapping, please follow specific local regulations in force. Before scrapping the device make sure to cut its power cord.***
- ***The device should not be used to store any explosive substances such as spray cans containing flammable gases***
- ***It is forbidden to store the device in rooms where subzero temperatures may occur.***
- ***Please retain this manual for future reference, and make sure to hand it to any new user of the device***

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INTENDED USE

Cooling module manufactured by DORA METAL is within a group of professional chilling equipment. It is designed to be mounted under a granite plate to cool its surface which used for a short-term display of cold snacks, desserts, etc. and products in GN containers, and keeping them at cooling temperatures.

Note: The cooling module is not intended for mounting in products designed for display of products on ice.

It can be used in restaurants, salad bars, pizzerias, etc. where it is necessary to display chilled foods to retain their taste, aroma and appearance.

OPERATION OF REFRIGERATION SYSTEM.

The device works in a single compression refrigeration cycle. The refrigeration system is filled with environmentally-friendly refrigerant approved for use by the regulations in force (see data plate). The expanding element as a capillary tube is used.

SETTING CHAMBER TEMPERATURE

Control and readout of work parameters is possible by means of a digital controller with display. The controller is programmed so the device reaches work temperature as given in technical data.

LAE CONTROLLER



BASIC OPERATION

Depending on version of the cooling device, the power can be switched on using key switch found on control panel of the device, or by pressing button on the controller. When the device is turned on, the display of the device will show air temperature in the chamber.

To set a required temperature in the chamber:

- Short press the button to display the set temperature.
- By holding the button, and using & buttons, set a desired parameter value (the value must be within SPL & SPH values)
- Once the button is released, a newly set value is saved.

ADDITIONAL INFORMATION

Defrosting:

During operation of the device, at regular time intervals "DEF" message is displayed, which means that the device operates in cooler defrosting mode. The defrosting cycle and its duration is defined by the manufacturer of the device and user cannot modify this parameter. If additional defrosting of cooler caused by difficult working conditions is needed, press and hold the button for 2 seconds. The display will show "DEF". Defrosting will end automatically once time or temperature set by the manufacturer is reached.

Alarms:

Meaning of messages which can be appear on the display:

- E1** - Damage of chamber temperature sensor.
- E2** - Damage of evaporator temperature sensor.
- DEF** - Enabled defrosting cycle (see **Defrosting**)
- CL** - Warning on the need to clean the condenser

Attention! CL message

Turning off **CL** reminder on the need to clean the condenser (every 4 weeks):

- press the button until **CND** message is displayed,
- then, while holding the button, press the button.



After this the CND parameter will be reset, and the cycle will start again.

ATTENTION! Key lock

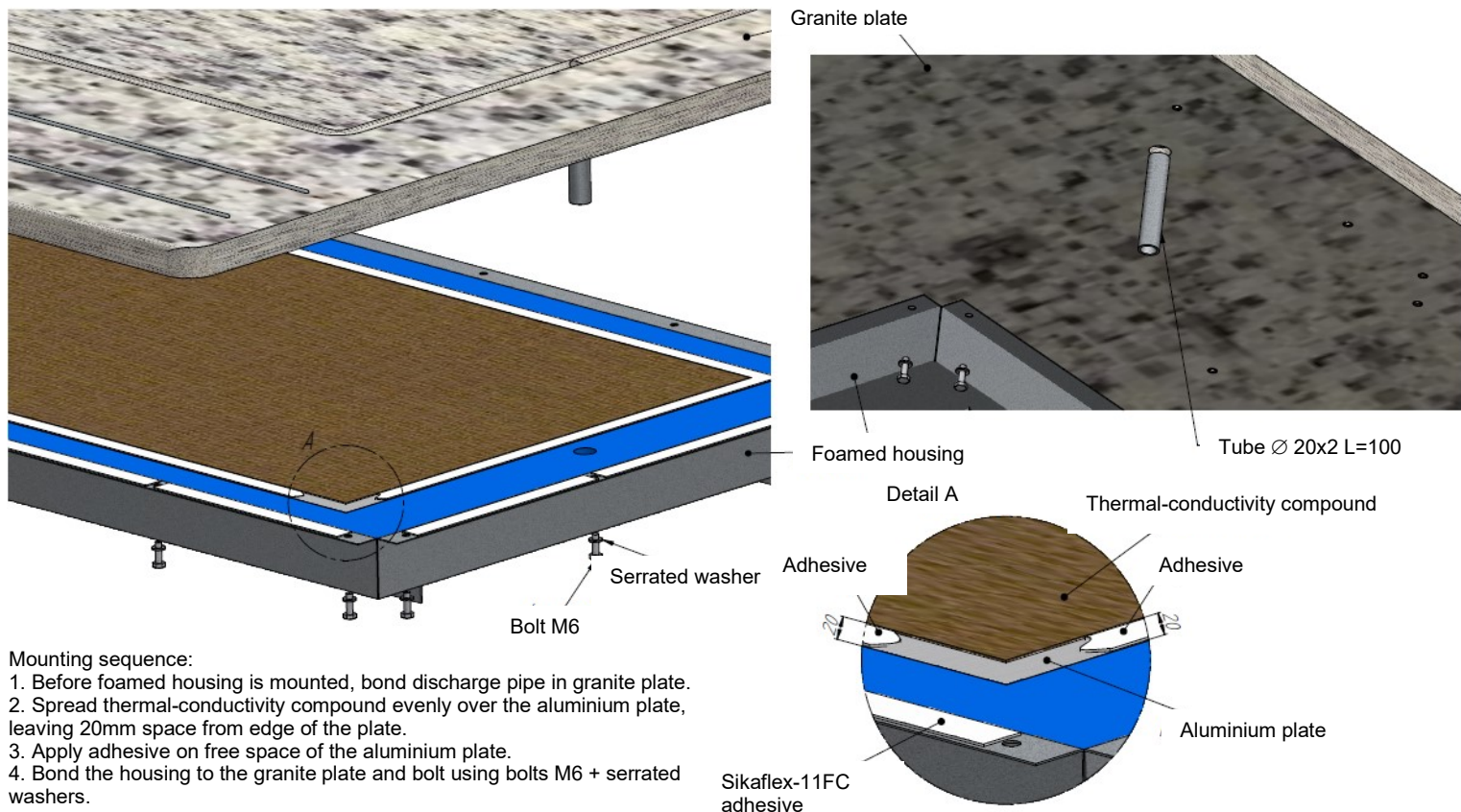
A very common mistake made by users, is to cause an **unintended key lock**, which makes menu of the controller inaccessible. Failure to check setting of the key lock option results in sending the controller to the dealer as "damaged".

While key lock allows the user to avoid any undesired and potentially hazardous tempering with, if the controller is installed in a publicly accessible place. To disable key lock, in INFO menu, set LOC=YES parameter. **To activate the keyboard again, set LOC parameter to NO.**

Unlock keyboard

- press the  button until **LOC** message is displayed,
- then, while holding the  button, press the  button.
- to exit this menu, press the  button or wait 10 seconds.

MOUNTING PRODUCT



Place the granite plate with cooling module mounted on a support structure (framing, cabinet, etc.)
Control panel of the device is suitable to be mounted in a support structure or decorative structures. Dimensions of mounting hole for control panel: 125x75. Make sure to install control panel cover on the inside.

When encasing devices make sure that adequate ventilation of the unit is provided. In the encasing, opposite the condenser, drill ventilation (through) holes to ensure free movement of cooling air for the condenser. The area of holes ensuring free movement of cooling air should not be smaller than the area of outline of the condenser. Make sure to position the unit at least 25cm from the wall.

PREPARATION FOR STARTUP. CLEANING AND MAINTENANCE

Commissioning and maintenance can be carried out by personnel in charge on condition the below recommendations are strictly followed. The manufacturer will decline all responsibility for any operations performed on the device without following recommendations herein.



Before any maintenance works, make sure the device is disconnected from power supply. Do not remove any protection systems.

Before commissioning remove protective foil. Clean external and internal surfaces using warm water with degreaser for washing kitchenware, with a soft cloth, following the polished direction, rather than in

rotary movements. Remove the protective foil slowly to make sure no glue is left. However, if any glue is left, remove it using an appropriate non-corrosive solvent, and then rinse with water and wipe dry.

For daily cleaning, use neutral soap, glass cleaners or liquid bio-degradable 90% detergent (to minimise the amount of pollutions removed to the environment), and a soft cloth, following the polished direction, rather than in rotary movements.



Do not use scouring agents, materials with steel wool which could scratch the surface and agents containing aggressive acids. When washing, use a damp cloth, rather than water stream.

Once washed leave the device to dry before plugging it to the mains.




The device should be placed away from any sources of heat, in location not exposed to direct sunlight.

CONNECTING TO WIRING SYSTEM

The device is constructed in accordance with corresponding directives and harmonized standards:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- PN-EN 60335-2-89, PN-EN 60335-1 Standards
- PN-EN 55014-1, PN-EN-55014-2, PN-EN 61000-3 Standards

The device is suitable for connection to the mains 230V 50Hz and should be powered from a separate low-voltage circuit. A grounded wall socket must be fitted with shock protection selected in accordance with requirements of local standards and regulations based on parameters on the data plate. Parameters of residual current circuit breaker (RCD) should be selected according to the current value shown on data plate of the device. The devices are fitted with flexible power cord type HO5VV-F (3x1.5mm², including protective conductor). If the power cord is found damaged, have it replaced by a service technician or a qualified person holding adequate qualifications

The devices are fitted with a terminal for connection of external equipotential bonds marked with . Before the device is connected, check for correct connection and function of equipotential bonds in accordance with PN-IEC-60364-4-41



The device can be started only after the function of shock protection is confirmed based on measurement results taken in accordance with regulations in force.

The device can be connected to the wiring system only after the system is found to meet the above requirements. To connect the device, put the power cord plug to a wall socket. The device prepared in such manner is ready for operation.



When in transport the device can be tilted from the vertical by an angle greater than 30°; therefore before it is connected to the mains, please wait about 3-4 hours. Otherwise condensing unit can be damaged.

USAGE

The device is designed for cooling of surface for display of products chilled beforehand.

Display time of products depends on their initial temperature and ambient temperature which should not exceed +25°C.

After operation is over, make sure to turn off the device, and put the products in undercounter refrigerators.

Before operation wipe dry the display surface with a cloth or sponge to remove water being result of defrosting, and then chill the chamber, and put the chilled products afterwards.

All settings necessary for a normal operation of the device have been carried out by the manufacturer.

Temperature of the chilled space and work cycle of the unit are subject to change. They depend on ambient temperature, amount of fresh products placed, and external heat flow. Therefore it is necessary to avoid putting warm foods with temperatures exceeding storage temperatures considerably. Since, it can extend time of chilling of products considerably.



Make sure to fill the chilled space for the first time only after it is chilled to a work temperature. Also follow this rule in the case of a longer shutdown.

Periodically it is recommended to have a shutdown of the device to clean its interior, ensure a natural defrosting of the condenser and clean the condensing unit.

Before the above operations are carried out, make sure to turn off the device with power switch and unplug the power cord from the wall socket.

To clean the condensing unit, remove ventilation grille from the encasing or the support structure.



Do not use water stream to clean the device

Make sure to clean the condensing unit **no less than once a month**. This should be carried out using a soft brush or a vacuum.

The manufacturer cannot be held responsible for damage of the condenser resulting from failure to keep the condenser clean!

All settings necessary for a normal operation of the device have been carried out by the manufacturer.



It is strictly forbidden to tamper with system parameters of the controller as this can have very serious consequences, including damage of products and failure of chilling device.

The device is equipped with automatic condensate evaporation.

TRANSPORT

The manufacturer ships the device on a pallet, protected with card-board angles and foil. Make sure to protect the device against moving before transport.

Transport the device in target working position. After reception of shipment (before unpacking) check if there are no transport damages. If any damages are found, report them to the carrier immediately. In no case should the damaged device be returned to the manufacturer without notice, and without his written consent.




The manufacturer shall not be held responsible for the device damage during transport.


TECHNICAL DATA**Table 1. Cooling module DM-99006**

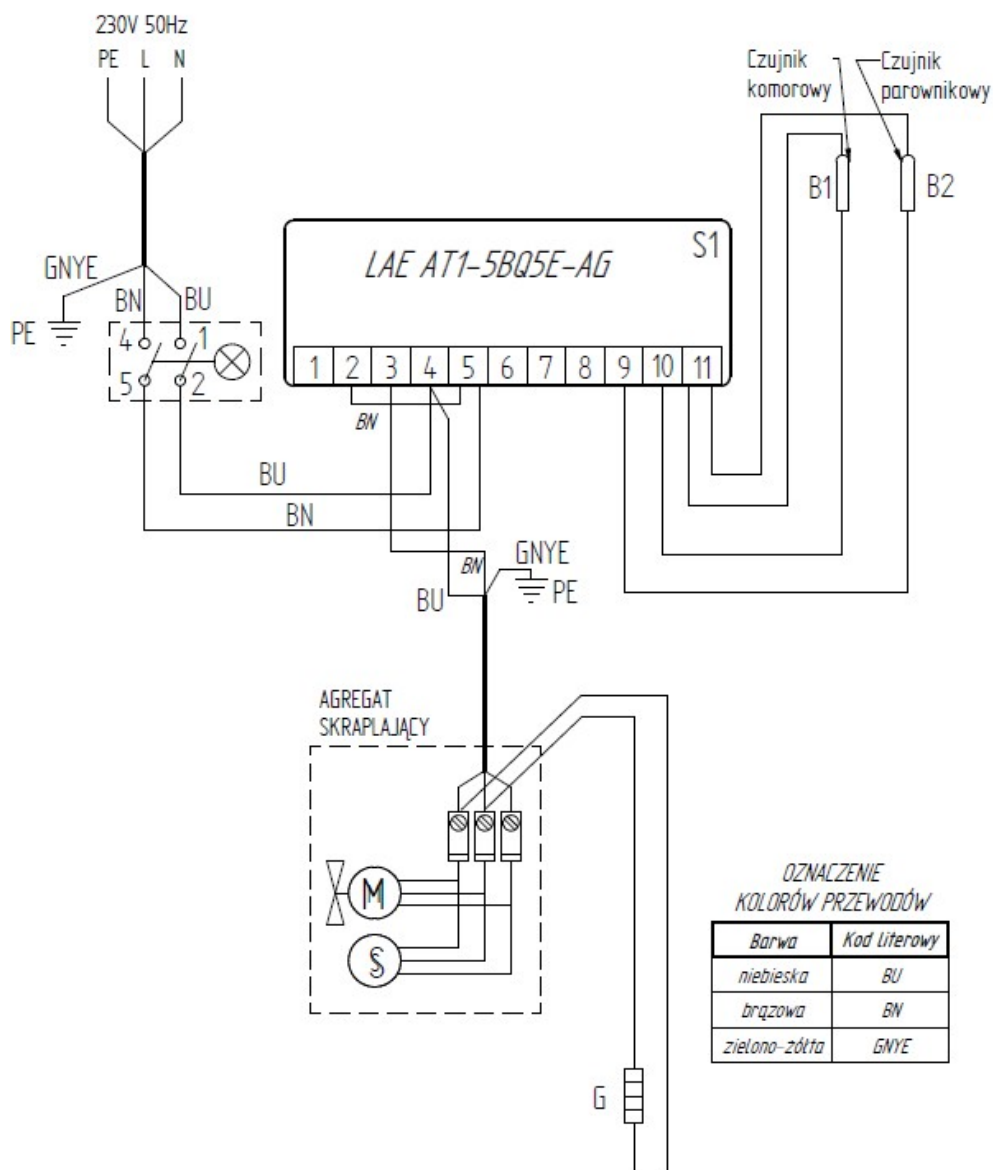
Data			Catalogue Number
			DM-99006
Dimensions	width	mm	718 ÷ 1968
	depth	mm	530 ÷ 680
	height	mm	590
Temperature adjustment		°C	0...+10
Cooling			gravitation
Power supply		V/Hz	230 / 50
Power			Data on data plate
Type of refrigerant			
Amount of refrigerant			
Climatic class			
Compressor type			

DATA PLATE and F-GASES LABELS

		Manufacturer data		Product designation	
Product name and type <input type="text"/>					
Factory no./year of manufacture <input type="text"/>		Rated voltage <input type="text"/>		<input type="text"/>	
Weight <input type="text"/>		Current frequency <input type="text"/>		<input type="text"/>	
Climatic class <input type="text"/>		Rated current <input type="text"/>		<input type="text"/>	
Unit type <input type="text"/>		Max illumination <input type="text"/>		<input type="text"/>	
Refrigerant <input type="text"/>		Heating system power <input type="text"/>		<input type="text"/>	
Weight of refrigerant <input type="text"/>		Temperature range <input type="text"/>		<input type="text"/>	

Data plate for Cooling Module DM-99006

ATTENTION: CONTAINS FLUORINATED GREENHOUSE GASES Device/ product containing or relying on fluorinated greenhouse gases In accordance with (EU) No. 517/2014 and (EU) No. 2015/2068			
Refrigerant:	R134a	GWP / ODP:	1430 / 0
Amount of factory filled refrigerant:	0.3 kg	CO₂ equivalent:	0.43
Added amount of refrigerant:	___ kg	CO₂ equivalent:	___ t
Total amount of refrigerant in the circuit:	___ kg	CO₂ equivalent:	___ t
Hermetically sealed device:	Yes		
Hazard statements: H280: Contains gas under pressure; may explode if heated. H314: Causes severe skin burns and eye damage. Precautionary statements: P273: Avoid release to the environment. P403: Store in a well ventilated place. P502: After recovery deliver the contents to the PROZON Foundation for Climate Protection.			

WIRING DIAGRAM

Czujnik komorowy - Chamber sensor

Czujnik parownikowy - Evaporator sensor

AGREGAT SKRAPLAJĄCY - CONDENSING UNIT

OZNACZENIE KOLORÓW PRZEWODÓW - WIRING COLOURS

Barwa - Colour

niebieska - blue

brązowa - brown

zielono-żółta - green-yellow

Kod literowy - Letter code

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