

## ***Adiabatic Evaporative Coolers***

# **STAY-COOL**

**13,000 – 20,000 – 27,000 m<sup>3</sup>/h**



## ***Installation Instructions Operation and Maintenance***

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## GENERAL INFORMATION

### PREFACE

All rights reserved. No part of this instruction manual may be reproduced or transmitted by any electronic or mechanical means, including photocopying, recording or any other storage and retrieval system, for any purpose other than the purchaser's exclusively personal use, without the Manufacturer's express written permission.

The Manufacturer shall in no way be held liable for the consequences of any incorrect operations carried out by the user.

The data and information contained in this manual may be subject to modification or updating without further notice or obligation.

### GENERAL CONSIDERATIONS

The **SIABS SRL** air cooler delivers excellent operating performance, provided that all operating instructions, recommendations and maintenance procedures described in this manual are followed.

To achieve the best results, **SIABS SRL** recommends keeping the system in optimal condition in terms of cleanliness and efficiency at all times. These operations must be carried out regularly on an annual basis by highly qualified personnel, using original **SIABS SRL** spare parts.

**SIABS SRL** encourages the user to keep a carefully maintained service logbook, recording all maintenance work carried out.

This will ensure that the system's history is kept up to date at all times and will enable the Technical Support team to provide a more accurate service based on the machine's history.

### STRUCTURE OF THE MANUAL

This manual has been structured in such a way as to enable the user to find the information required for the operation and maintenance of the system quickly and easily. This manual uses a series of symbols to enable the user to quickly identify the most important points to be observed. To make it easier to find a specific topic, a table of contents is provided at the beginning. The user must read the entire manual very carefully and ensure that all the information has been fully understood. The manual should also be used as a reference document whenever it is necessary to recall a procedure or operation. Therefore, it is advisable to keep a copy of the manual available to staff and operators at all times so that it can be consulted at any time.

### UPDATING OF THE MANUAL

Only the Manufacturer may update the technical manual and make design modifications to the product in question.

The end user shall under no circumstances alter the structural or operating conditions of the product, as doing so will void all warranties.

## WARRANTY AND LIABILITY



**SIABS SRL** provides a warranty for its new products from the date of installation, in accordance with the applicable regulations and/or the terms of the sales contract. When commissioning the cooler for the first time, check that it is intact and complete.

Failure to comply with the instructions in this manual, operational negligence, incorrect installation or the performance of unauthorised modifications shall result in the voiding of the warranty provided by **SIABS SRL** for the air cooler.

In particular, warranty and liability claims shall be void in the event of damage to persons and/or property if such damage is attributable to one or more of the following causes:

- Incorrect installation, commissioning, operation or maintenance of the cooler;
- Improper, incorrect or unreasonable use of the cooler;
- Work carried out by unauthorised personnel;
- Performance of unauthorised modifications to the appliance;
- Use of the cooler with defective, incorrectly fitted and/or inoperative safety devices;
- Installation of untested additional components on the cooler;
- Powering the cooler with unsuitable materials;
- Defects in the cooler's power supply system;
- Continued use of the cooler even after an error and/or fault has occurred;
- Repairs and/or servicing carried out incorrectly;
- Inadequate and inappropriate monitoring and maintenance of the cooler components most susceptible to wear and tear;
- Use of non-original SIABS SRL components, whether spare parts, kits, accessories or optional items;
- Force majeure.

Furthermore, **SIABS SRL** accepts no liability whatsoever for failure to comply with the information provided in this manual.

## DECLARATION OF CONFORMITY:

Manufacturer:	<b>SIABS SRL</b>
Address:	Viale Del Lavoro, 7 20007 Casorezzo (MI)
Product:	Evaporative cooler
Model:	ST-COOL131P ST-COOL131T ST-COOL202P ST-COOL202T ST-COOL302T
These products comply with the following EU Directives:	<ul style="list-style-type: none"><li>• 2006/42/EC – Machinery Directive</li><li>• 2009/125/EC – ERP Directive</li><li>• 2014/35/EU – Low Voltage Directive</li><li>• 2014/30/EU – EMC Directive</li></ul>

Casorezzo, 01/06/2025

Technical Department

SIABS SRL



## 1 – FUNCTION OF THE EVAPORATIVE COOLER

### 1.1 Evaporative Cooler

An evaporative cooler is the ideal solution for improving the indoor climate conditions and quality in a room (whether industrial, commercial, etc.), in terms of temperature and comfort.

Through its operation, the cooler continuously draws air from outside into the room. The air entering the room is first cooled by evaporative pads that, when adequately moistened by a pipe inside the cooler, facilitate the flow of cool, moist air into the room.

The evaporative cooler represents the ideal solution for cooling large spaces, owing to its lower electricity consumption compared to other air-conditioning systems.

### 1.2 Warnings



As stated in the “WARRANTY AND LIABILITY” section, SIABS SRL accepts no liability in the event of failure to comply with the instructions in this manual, operational negligence, incorrect installation or the performance of unauthorised modifications to the machine.



Caution! The machine must be installed by an authorised contractor employing qualified personnel.

Once installation is complete, the installation company must issue the owner/client with a declaration certifying that the system has been installed in accordance with best practice, in compliance with current national and local regulations and the Manufacturer's instructions/specifications.

**Improper use:**

The machine must be used solely for the purpose for which it was designed. Any other use is to be considered hazardous. Improper use may adversely affect the operation, service life and safety of the equipment.

**Hazardous situations:**

- Do not start the appliance under hazardous conditions:
  - problems with the electrical system;
  - parts disassembled or damaged;
  - malfunction;
  - control and safety devices disabled or bypassed.
- In the event of a hazard:
  - Request assistance from qualified personnel.
  - Disconnect the power supply.
- With the machine in operation:
  - Caution! Guards must not be removed while the machine is in operation.
  - Do not touch moving parts until the power supply has been disconnected.
- Risk of electric shock:
  - Disconnect the power supply before carrying out any work on the equipment's components.
  - For electrical connections, use only components that comply with the relevant standards and the specifications provided by the Manufacturer.
  - Ensure that the appliance cannot be switched on again inadvertently.
- Do not use water to extinguish any fires. Use powder or carbon dioxide fire extinguishers.
- Do not use water to clean electronic equipment.



***Electrical safety depends on an effective earthing system, correctly connected to the appliance and installed in accordance with current regulations.***

## 2 – TRANSPORT AND HANDLING

### 2.1 Warnings

The Manufacturer shall not be held liable for any damage occurring during the transport and installation of the appliance; therefore, upon delivery of the goods, please check that the product is undamaged.

SIABS SRL accepts no liability for any damage to or malfunction of the evaporative coolers caused by transport, loading, unloading or incorrect positioning.

Avoid anything that could, upon contact, compromise the integrity of the cooler.

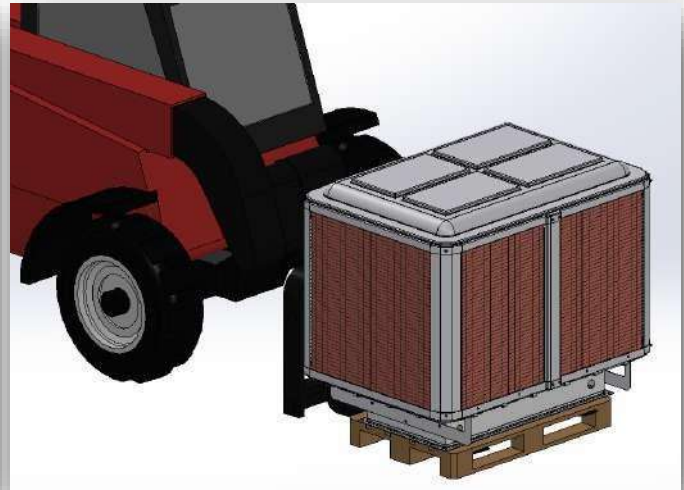
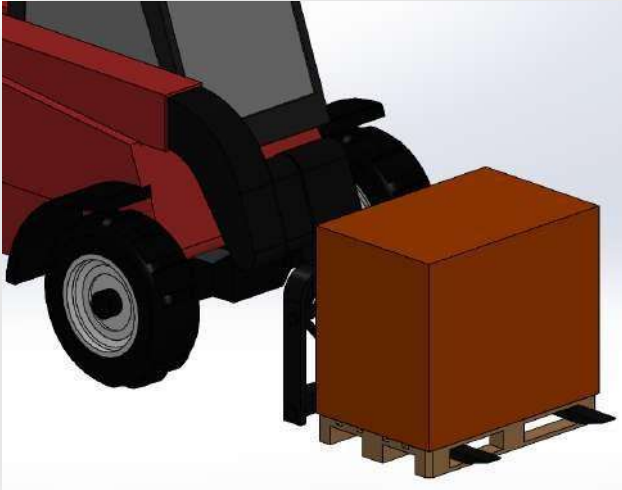
The goods must be handled in the best possible manner, so as to avoid any loss of load or sudden movements that could adversely affect the product.

It is not permitted to stand within the handling area, nor under the suspended load.

For handling, use equipment suitable for moving the machine, in accordance with Directive 89/391/EEC, as amended, and depending on the weight to be handled.

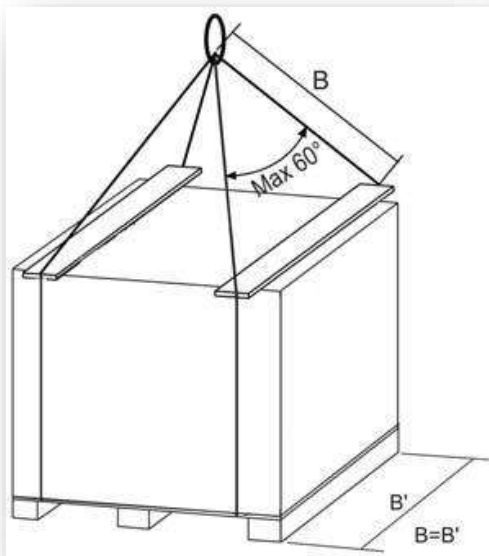
## 2.2 Lifting method

Lifting using handling equipment:  
Forklift trucks / forklifts



It is recommended that the forks be spread apart in order to better balance the load.

➤ Lifting using ropes:



It is recommended to use the lifting methods shown in the figure, placing spacers of a suitable length to prevent the ropes from rubbing against each other.

- Next, unpack all the components and dispose of the packaging in accordance with the regulations in force in the country where the evaporative coolers are to be used.
- If it is necessary to store the evaporative coolers, certain environmental conditions must be met: the temperature must be between  $-10$  and  $50$  °C, and the humidity must be between 5% and 90%.

## 3 – POSITIONING AND INSTALLATION

### 3.1 Warnings

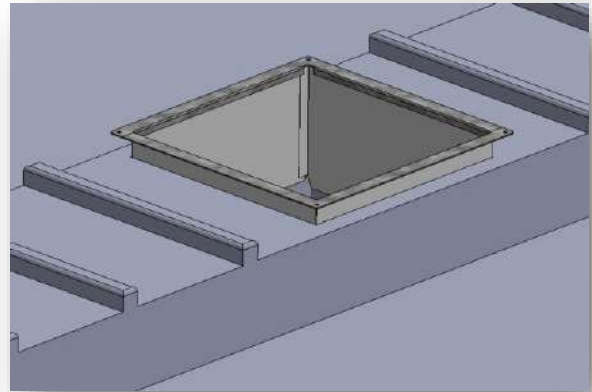
Once you have unpacked all the components of each evaporative cooler and checked that each part is in good condition, you can proceed with the installation.

As with all steps involving the evaporative cooler, installation is a particularly important stage; it must be carried out by competent personnel who are authorised to perform these operations. Any stage of the process may adversely affect the integrity of the components, so please pay particular attention to all product handling operations.

### 3.2 Rooftop installation

For optimal rooftop installation:

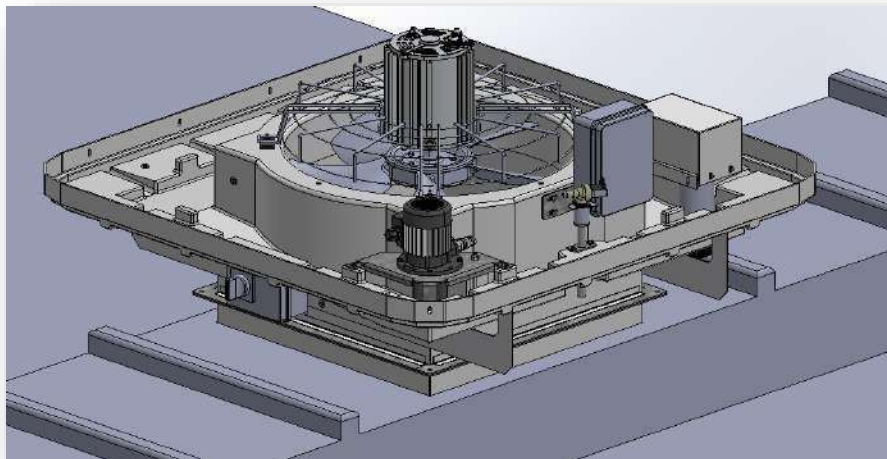
- Create an access opening.
- Secure the flanged duct for air flow.  
Full information on the sizing of the air ducts already fitted on all cooler models can be found in the “DRAWINGS” section.



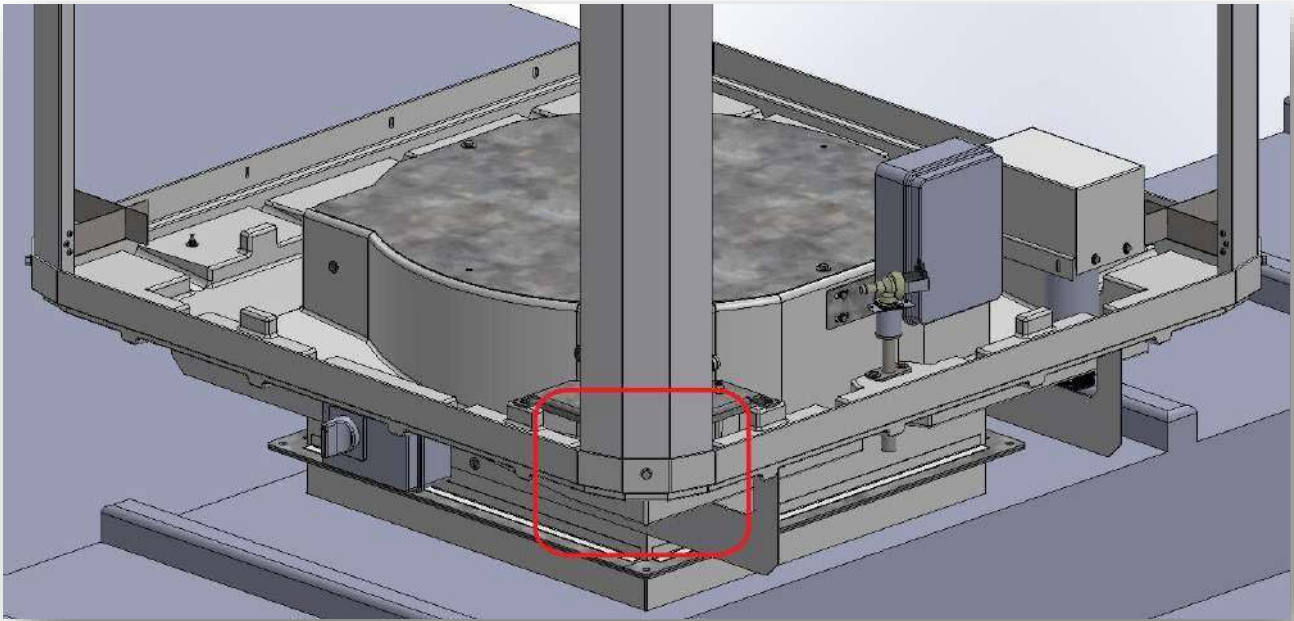
All the steps for installing the coolers are described in detail in the manual corresponding to the product code.

The main steps for correct installation are outlined below in schematic form:

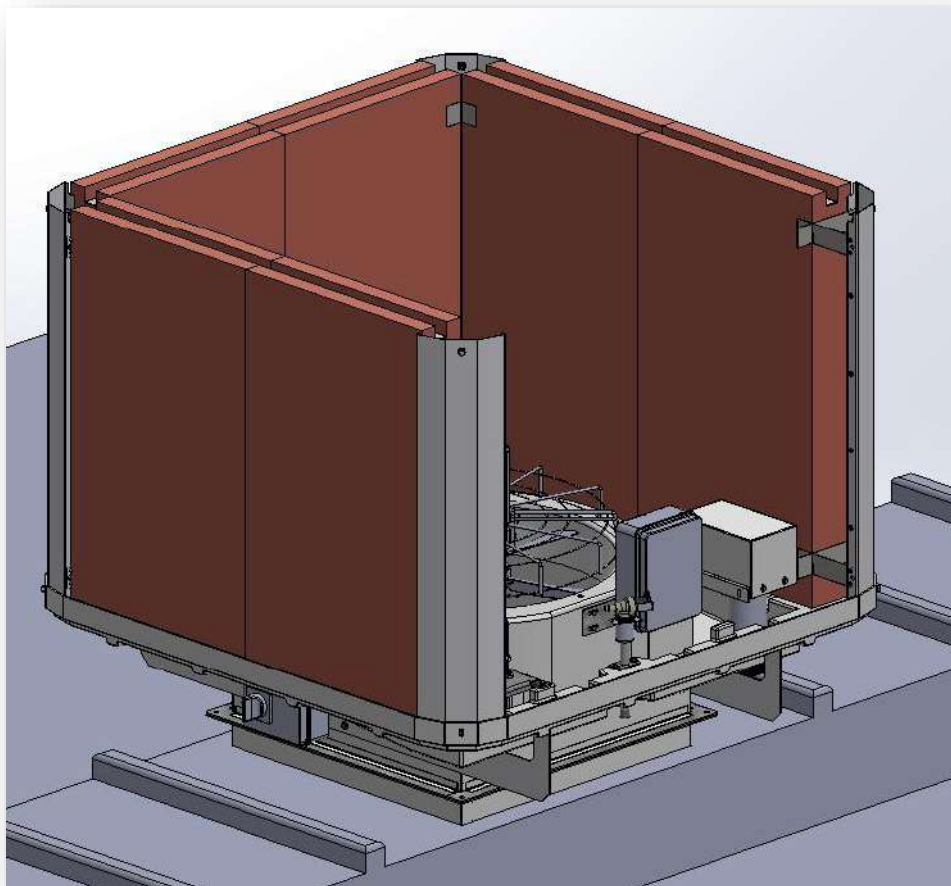
- Place the lower housing of the cooler onto the flanged air duct that has already been installed.
- Bolt the two flanges together.



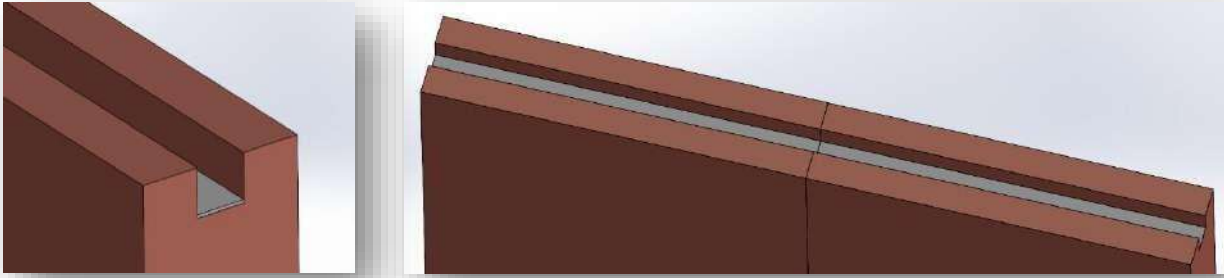
- Position the uprights and secure them to the lower housing of the cooler.



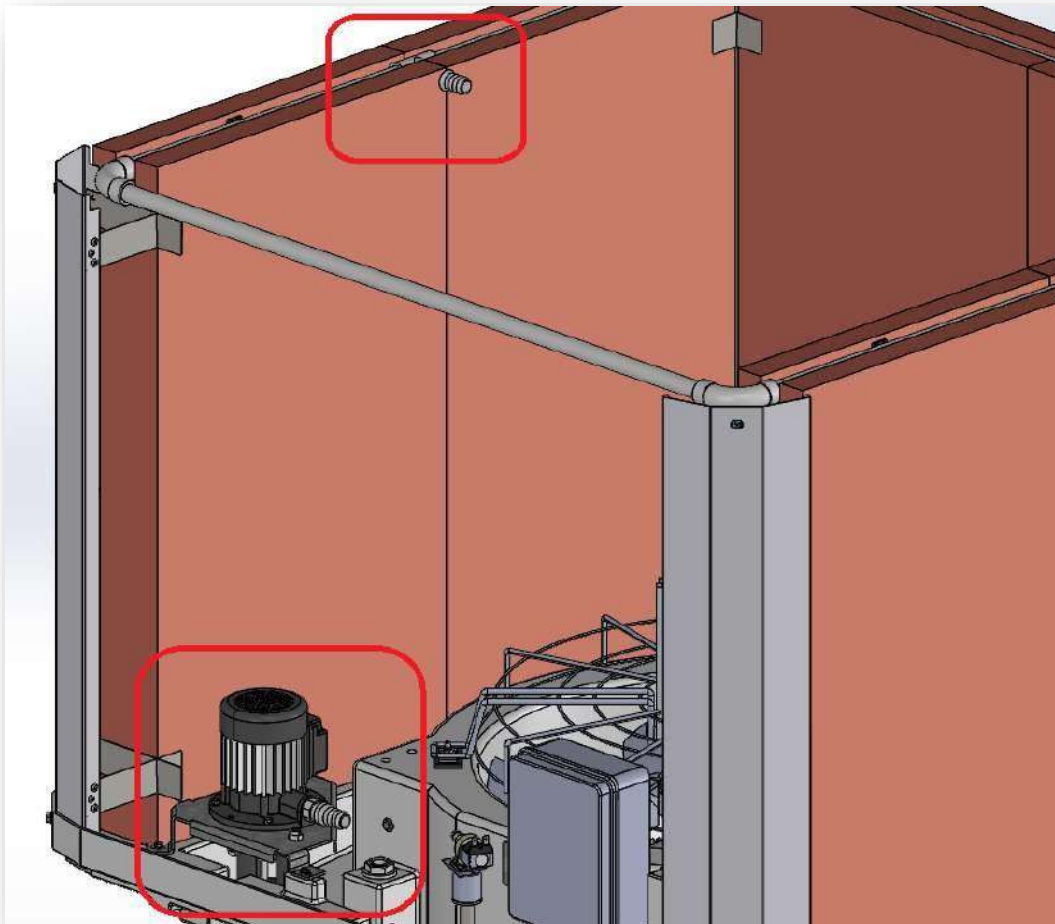
- Position the filters so that the side with all the instrumentation remains open; this opening must be left in place to allow the water pipe and its connecting hose to be fitted in the subsequent steps.



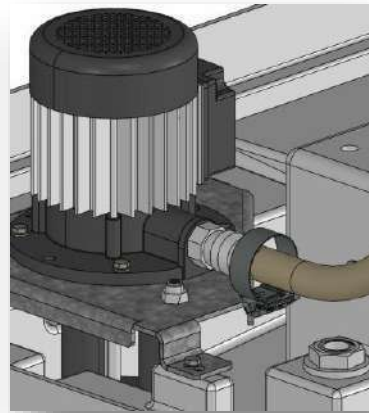
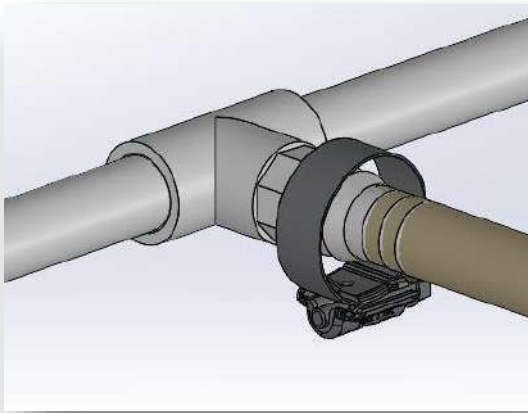
- There are cut-outs in the pads to accommodate the water distribution plates; ensure that these are positioned flush against the inner lower edge.



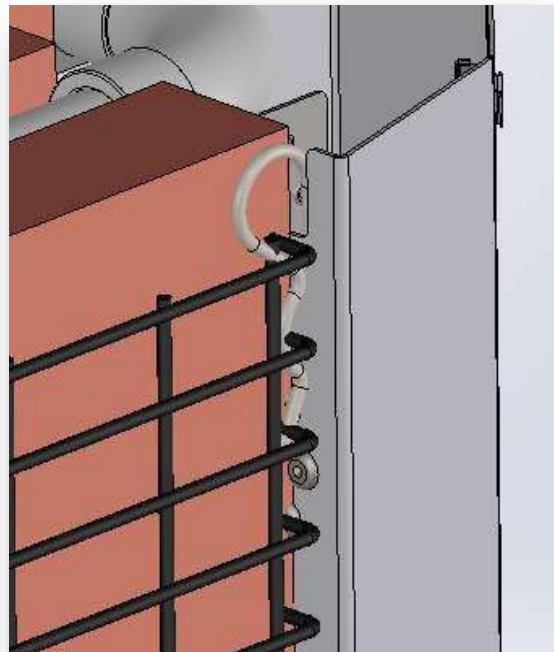
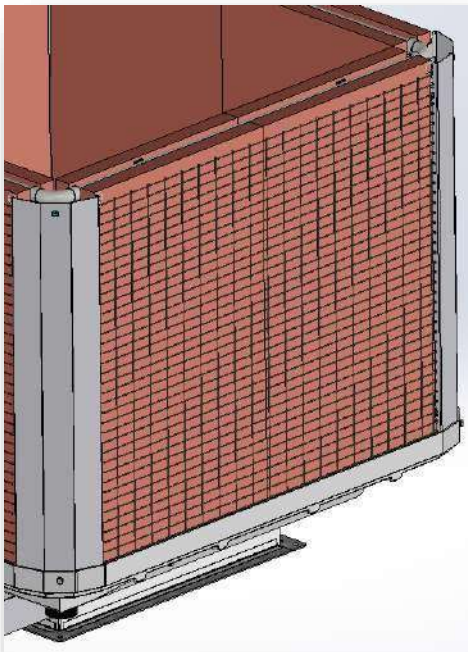
- Position the pipe in the recesses in the pads (remember to fit the water distribution plates); the hose connector must be positioned on the side where the pump is located.



- Before fitting the remaining filters (and their water distribution plates), connect and secure the flexible hose from the pipe's hose connection to the pump's hose connection in the lower housing.

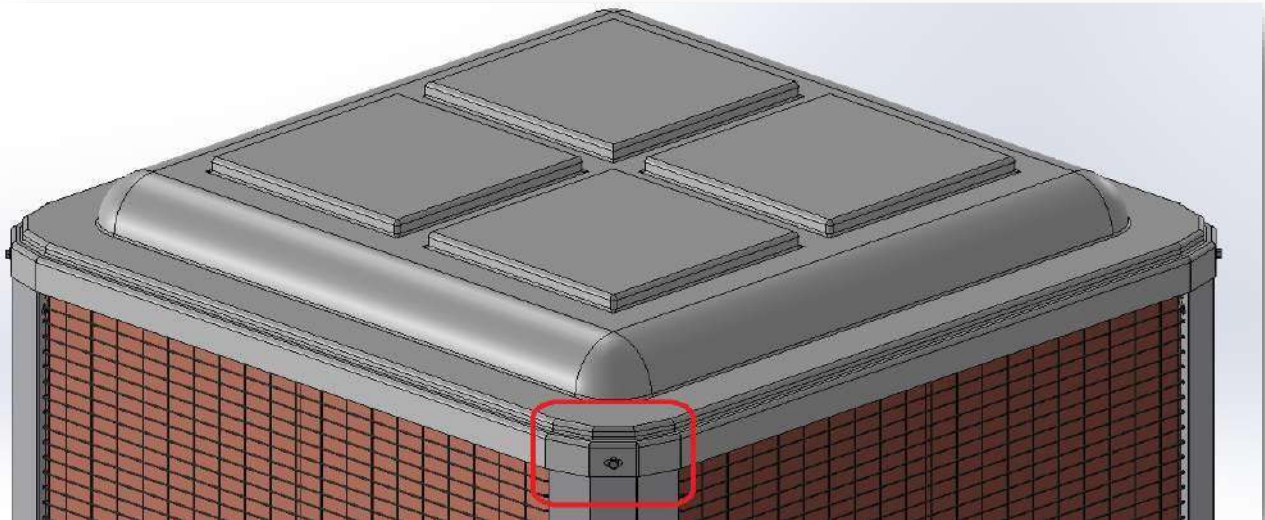


- Insert the protective grilles and fit the cotter pins (supplied) to prevent them from moving.



**N.B. Do not fit the cotter pins on the side where the instrumentation is located, in order to facilitate quick disassembly for maintenance work.**

- Position the upper housing and secure it to the uprights.

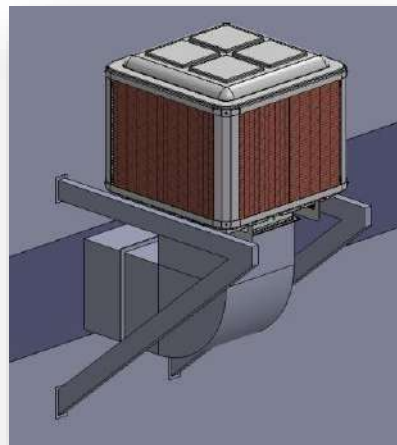
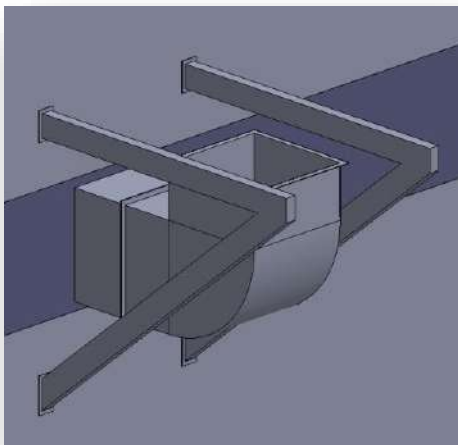


### 3.3.2 Installation of cooler with bottom air outlet

For wall installation, a support structure for the cooler must be provided. This structure must be designed to support the weight of the cooler without any problems, must not generate unwanted vibrations, and must be level.

In addition to the support frame, a flanged duct must be installed, to which the cooler (fitted with a flanged duct) will subsequently be attached.

Once everything is in place, move the cooler into position, align the holes in the flanges and secure them. We recommend applying silicone sealant between the two flanges to ensure protection against the elements and to ensure a tight seal.



### 3.3.3 Installation of cooler with side air outlet

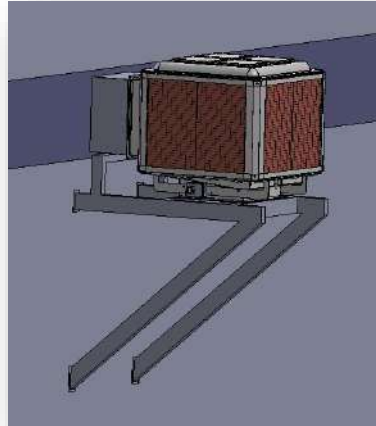
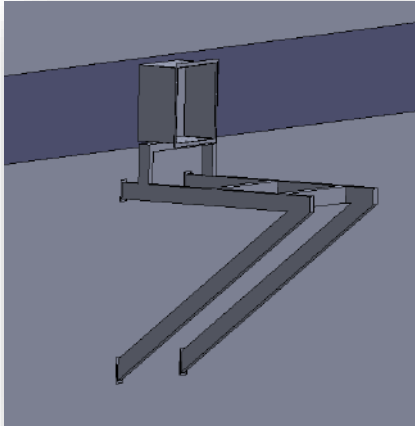
For wall installation, a support structure for the cooler must be provided. This structure must be designed to support the weight of the cooler without any problems, must not generate unwanted vibrations, and must be level.

In addition to the support frame, a flanged duct must be installed, to which the cooler (fitted with a flanged duct) will subsequently be attached.

Once everything is in place, move the cooler into position, align the holes in the flanges and secure them.

We recommend applying silicone sealant between the two flanges to ensure protection against the elements and to ensure a tight seal.

Consider using flexible couplings on the water connections if necessary.



### 3.4 Concluding the installation

To complete the installation, the incoming air must be ducted within the building. These ducts must be sized according to the specifications of the machine to which they will be fitted. The ducts must be sized in such a way as to prevent any loss of flow or excessive power consumption that could lead to malfunctions in the operation of the system.

The next step involves securing and supporting the air ducts.

Using chains for support may be a good option, but care must be taken to ensure that the force exerted by the chains on the duct is not excessive and does not cause damage to or deformation of the sheet metal, which would adversely affect the direction and path of the air flow.

For both methods of securing the units (ceiling and wall mounting), only anchoring material that is certified and tested for the intended use may be used, which must also be selected based on the weight that these supports are required to bear and which must have guaranteed safety margins, as specified in the regulations governing these operations.



Once installation is complete, you will be able to adjust the flaps at the end of the ductwork to optimise the airflow direction.

### 3.5 Utility connections: mains electricity

The installation must comply with the applicable regulations in force, depending on the country and location of installation, with regard to the safety, design, construction and maintenance of electrical installations.

The installation must also comply with the Manufacturer's specifications.

Once the appliance has been placed in its final position, before making the electrical connections, ensure that you are not working on live components.

An important requirement is earthing, which must be carried out in accordance with current regulations. It is not permitted to use conduits that are not suitable for earthing and for electrical connections in general.

Keep power cables physically separated from signal cables.

All installation and connection work must be carried out by personnel who are qualified and authorised to work in the relevant circumstances.

The wiring diagrams can be found in the “WIRING DIAGRAMS” section.

### 3.6 Utility connections: mains water

SIABS evaporative coolers are equipped with a 3/8” male water inlet and a 60 mm male outlet.

We recommend installing a connection with a shut-off valve/tap, to be used before the winter season to completely drain the entire system in order to prevent the water from freezing. Carry out this step in addition to the end-of-season maintenance.

A sand filter must be provided and installed; a water softener must be provided if the water hardness in the system is below 7 °f and above 27 °f. Do not use demineralised water.

The water supply line feeding the machine system must have a minimum flow rate of between 5 and 10 l/minute at a pressure of between 1.5 and 3 bar. We recommend installing this pipework inside the building to prevent damage from external factors; it must be adequately insulated to ensure that there are no leaks.



## 4 – USING THE EVAPORATIVE COOLER

### 4.1 Initial start-up and commissioning of the evaporative cooler

Before switching on the machine, and once the installation phase has been completed, operators must carry out the following checks:

- The electrical system is suitable for the required current ratings and equipped with all safety and control devices in accordance with current regulations.
- The power supply is compatible with and suited to the specifications of the evaporative cooler.
- The machine is correctly positioned in accordance with the installation manual.
- The system is installed in accordance with best practice and in compliance with current national

and local regulations. Unfavourable conditions that preclude initial start-up:

- Environmental/technical conditions that do not allow the machine to be accessed and maintained in complete safety.
- If the machine has been switched on/off using the main power switch and not using the remote control device.
- Any defect, malfunction or failure of one or more components of the evaporative cooler caused by one or more stages of its handling (transport, assembly, etc.).
- If the safety conditions required for commissioning are not met.
- Non-compliant installation and system requiring remedial action.

To ensure that the evaporative cooler operates correctly and optimally throughout its service life, it is essential that, during the initial commissioning phase (in cooling mode), the fan is set to the minimum speed and that this speed is maintained for at least one day of operation.

Failure to carry out this start-up procedure may result in a malfunction of the evaporative pads, potentially resulting in water droplets leaking from the ducts.

It is possible that, during the initial commissioning of the cooler, you may notice an unusual odour.

When the evaporative pads start to become wet, they may emit a distinctive odour for a few hours, but this odour is not harmful.

The fan motor may also emit an unpleasant odour for a short period, caused by the initial heating-up process and by residues of oil or paint on the motor's surface.

An evaporative cooler operates on the basis of a key principle:

Namely, to introduce large volumes of cool air into the room and to remove warm, stale air through the usual openings (doors, windows, etc.).

The inflow of cool air into the room facilitates the outflow of warm, stale air.

4.2 Controls and devices

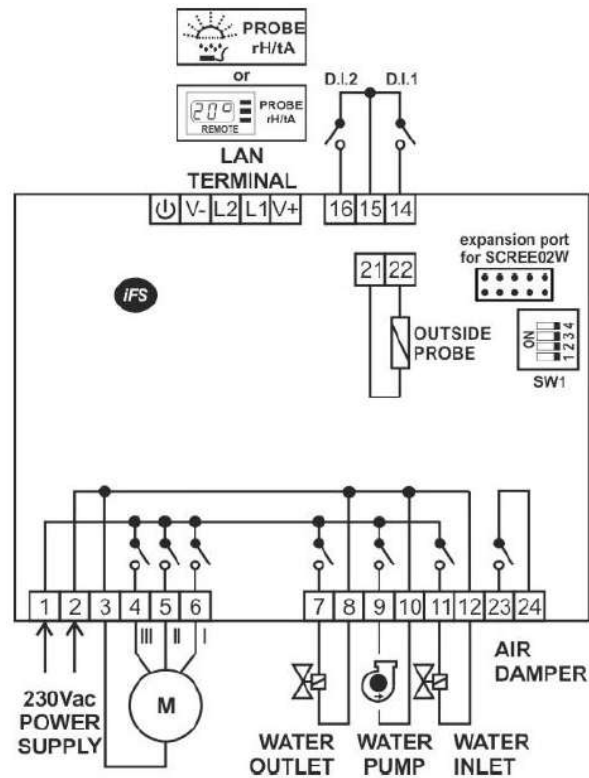
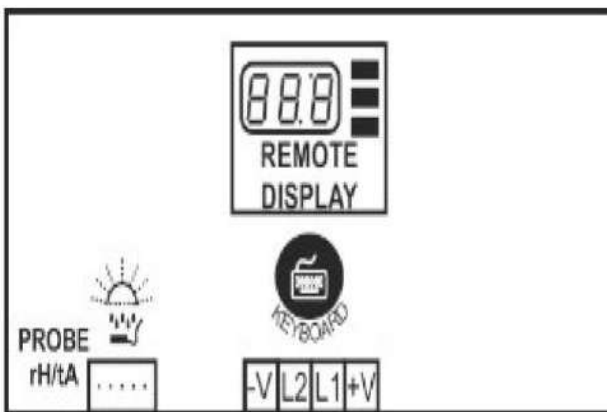
The control module used in STAY-COOL evaporative coolers is the **SCRE10A-Y0111**, which is a complete control unit that includes the temperature and humidity sensor.


4.2.1 Device wiring diagrams

The wiring diagrams for the control module and the board are shown below.

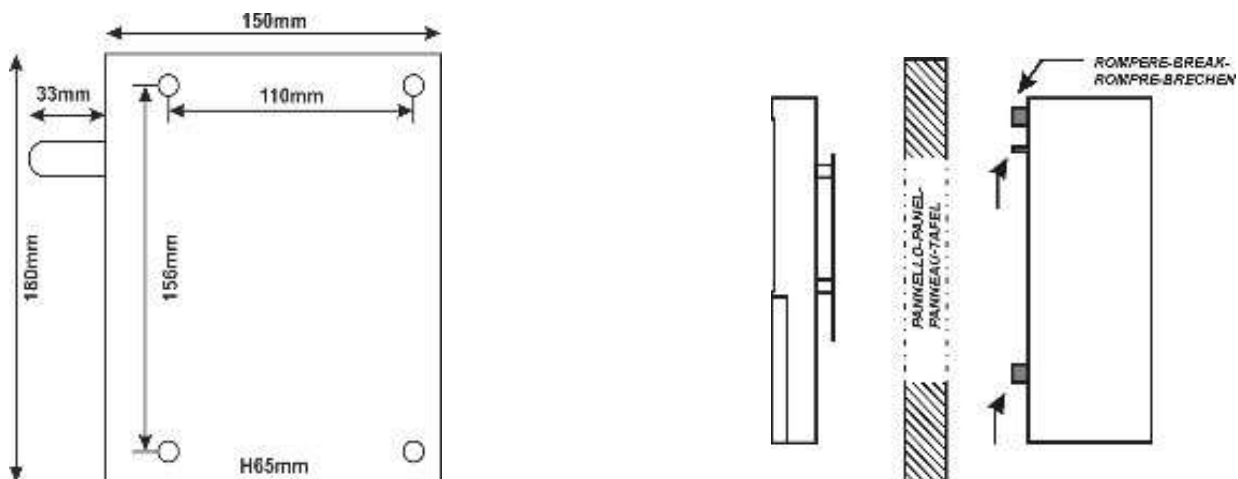
**SCRE10A-Y0111**

**SCRE55D-E0011**

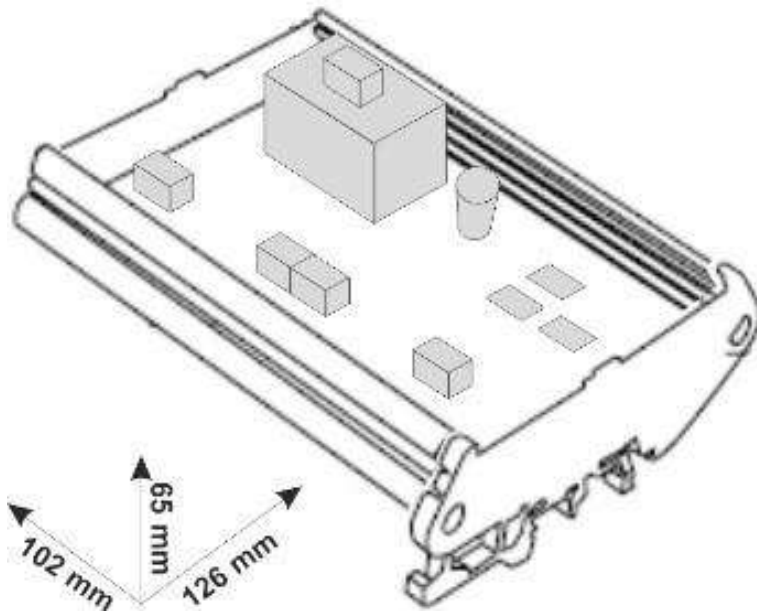


KEY	
SCRE55D-E0011	
POWER SUPPLY	
1 - 2	Power supply input: 230 VAC $\pm$ 10%, 50/60 Hz; protect the input with a 6.3 A T-type fuse
FAN CONTROL	
3 - 6	Fan control (230 VAC), speed I
3 - 5	Fan control (230 VAC), speed II
3 - 4	Fan control (230 VAC), speed III
WATER MANAGEMENT	
7 - 8	Water drain control (230 VAC)
9 - 10	Pump control (230 VAC)
11 - 12	Water fill control (230 VAC)
EXTRACTOR OR AIR DAMPER CONTROL	
23 - 24	Extractor or air damper control
CONNECTION TO THE KEYPAD OR TO THE PROBE	
V- L2 L1 V+	Communication from the terminal to the keypad or temperature-humidity sensor
 v-	Digital input for BMS control
FLOAT SWITCH INPUTS	
14 - 15	D.I.1: Float switch input for full tank, filling stop threshold. Level sensor no. 1
15 - 16	D.I.2: Float switch input for empty tank, stop
OUTSIDE PROBE INPUT	
21 - 22	Outdoor temperature sensor input or flow sensor input
DIP SWITCH SW1. SCRE55 CONFIGURATION	
SW1	See Instrument Configuration section

#### 4.2.2 Securing



The SCRE10A interface, equipped with a T/RH probe, must be positioned at a location that is both easily accessible to the operator and representative of the microclimatic conditions in the cooled area.

**SCRE55D**

## 4.2.3 Installation

➤ **Warnings**

PLEASE READ THE INSTRUCTIONS IN THIS MANUAL CAREFULLY AND FOLLOW THEM BEFORE OPERATING THE INSTRUMENT.

This equipment has been designed to operate safely for its intended purposes, provided that the following guidelines are observed:

- Installation, operation and maintenance must be carried out in accordance with the instructions provided herein;
- The power supply and environmental conditions comply with the specifications on the product nameplate.

**ELECTRICAL CONNECTIONS**

THE DEVICE IS NOT PROTECTED AGAINST OVERLOADS. WE RECOMMEND THAT YOU:


- Avoid crossing cables by separating the extra-low-voltage connections from those connected to loads;
- When connecting to the cooling unit, follow the Manufacturer's specifications.
- Protect the instrument's power supply and the probe inputs from electrical interference;
- Disconnect all electrical connections before carrying out any maintenance;
- Then fit the necessary safety devices to the outputs;
- Never open the instrument.

➤ **Technical Specifications**

Power supply (SCRE55D)	230 VAC ±10%. Protect the power supply with a 6.3 A T-type fuse
Guaranteed isolation from the 230 V power supply	With regard to extra-low voltage: reinforced; With regard to the relay outputs: functional insulation.
Power consumption	5 VA
Lambda enclosure	SCRE10A: plastic, dimensions: 180 x 150 x 65 mm
DIN rail profile	SCRE55D: plastic, dimensions: 125 x 93 x 65 mm
Lambda mounting	wall-mounted
Profile mounting	OMEGA rail
Data storage	on EEPROM memory
Front panel protection	SCRE10A, lambda box: IP54; SCRE55, open board or DIN rail profile: IP00;
Use conditions	Ambient temperature: -10 to 60 °C; Storage temperature -20 to 70 °C
Ambient relative humidity	20/80%, non-condensing
Connections	Power supply / fan: screw terminals for wires with a maximum cross-section of 4 mm <sup>2</sup> . Other terminals: screw terminals with a maximum cross-section of 2.5 mm <sup>2</sup> and a minimum of 1 mm <sup>2</sup>
Display	4-digit display + 10 icons
Inputs: (SCRE10A)	Input for temperature and humidity sensor. (0...99 rH; accuracy at 25 °C: ±3% of full scale)
Inputs: (SCRE55)	“FAN” relay: K1-K2-K3 SPST 16(5)A 250 VAC; “WATER” relay: K4-K5-K6 SPST 5(1)A 250 VAC, “AIR DAMPER” relay, dry contact: K7 SPST 5(1)A 250 VAC
Relay output isolation	With regard to extra-low voltage: reinforced; With regard to relays: functional insulation.
Data output:	<b>iFS</b> serial TTL interface
Keypad and sensor connection	LAN-TERMINAL port, V+ L1 L2 V-, for SCRE10A keypad or SCAPH03 temperature/humidity sensor. The maximum permitted length for the LAN-TERMINAL connection is 25 metres.

➤ **Instrument configuration**

Single board, keypad selection

	<ul style="list-style-type: none"> <li>- Keypad/display: SCRE10A;</li> <li>- Temperature/humidity sensor mounted on the SCRE10A keypad;</li> <li>- SCBus network communication not present.</li> </ul>
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➤ **Manufacturer parameter configuration**

THE MANUFACTURER PARAMETERS MAY ONLY BE MODIFIED BY QUALIFIED PERSONNEL. INCORRECT PROGRAMMING OF THESE PARAMETERS WILL RESULT IN THE EVAPORATIVE COOLER NOT FUNCTIONING PROPERLY.

<b>/0</b>	Type of temperature/humidity sensor connected to the SCRE55 board. Only if DIP switches 2 and 3 are in the ON position
<b>0C2</b>	Drain cycle. During this cycle, the cooler: - opens the water drain - deactivates the ventilation, water supply and pump outputs - checks that the tank is emptying and monitors the status of the float switch(es)
<b>0C3</b>	Waiting for drain valve to close
<b>0CP</b>	Delay in activating wash cycle after stand-by
<b>FC</b>	Fan speed level
<b>Hi</b>	Polarity of the float switch(es)
<b>Hd2</b>	Presence of float switch for empty tank / pump stop
<b>HE</b>	Polarity of the drain output: normal or inverted

➤ **Operation – Instrument Front Panel**






SCRE10A-Y0111

KEY	ACTION / RESULT
	<b>Esc / STAND-BY:</b> pressed for 1 sec.: switches the instrument on/off. Pressed for 3 seconds: temporarily unlocks the keypad if it is locked. Pressed briefly during: - the programming phases, it functions as the Esc key. - a float switch alarm ( <b>EA</b> ), it clears the alarm message.
	<b>FAN:</b> pressed briefly, it displays the speed of the fan in use / provides access to the fan speed adjustment screen.
	<b>TEMPERATURE:</b> pressed briefly, it displays the measured temperature. Pressed for 5 seconds: it provides access to the temperature setpoint.

	<b>HUMIDITY:</b> pressed briefly, it displays the measured humidity. Pressed for 5 seconds: it provides access to the humidity setpoint.
	<b>DAY:</b> pressed briefly during the TIMER/CLOCK programming phases, it changes the days shown on the display. Pressed for 1 second: displays the outside temperature, only if /P2= 1.
	<b>UP-HOUR:</b> pressed briefly: - during the programming phases, it increases the value shown on the display. - during clock programming: it sets the hour; - when programming a timer programme, it sets the programme time. Pressed simultaneously with the <b>DOWN-MIN</b> key for more than 2 seconds: this provides access to the parameters menu.
	<b>DOWN-MIN:</b> pressed briefly: - during the programming phases, it decreases the value shown on the display. - during clock programming: it sets the minutes; - when programming a timer programme, it sets the programme minutes. Pressed simultaneously with the <b>UP-HOUR</b> key for more than 2 seconds: it provides access to the parameters menu.
	<b>COOLER OPERATION:</b> pressed for 1 second: changes the cooler's operating mode: - ventilation only; - automatic; - cooling only. Pressed briefly when programming a timer programme, it sets the timer programme type: ventilation/cooling/switch-off.
	<b>PRG/ENTER:</b> pressed briefly: - during the programming phases, it functions as the Enter/Confirm key. - during normal device operation, it provides access to the timer programmes. - when programming timer programmes, it allows the user to move to the next timer programme.
	<b>TIME:</b> pressed briefly, it displays the set time.

ICON	DESCRIPTION	OFF	ON / FLASHING
	MANUAL COOLING	-	Manual cooling mode active
	AUTOMATIC MODE	-	Automatic mode active. The unit runs the timer programmes set in the weekly timer.
	MANUAL VENTILATION	-	Manual ventilation mode active
	FILL		Water filling in progress
	DRAIN		Water draining in progress
	DAY OF THE WEEK 1 = MONDAY 2 = TUESDAY		
	Cooler ON/OFF	OFF	Cooler ON, ventilation ON, timer ON
	COOLER ON/OFF	OFF	Cooler switched on manually or timer ON
	Only during timer programming		Cooling timer schedule

 AUTO	Only during timer programming		Ventilation timer programme
	PROGRAMMING IN PROGRESS		Steady light: display / edit parameter value
	ALARM	No alarm	Alarm in progress – see code on the display


### ➤ Keypad Lock / Unlock

To lock the keypad, set the parameter HL= **YES**.



When the keypad is locked, it is not permitted to:

- modify/read the temperature and humidity setpoints;
- modify/read the parameters;
- read the measured temperature and humidity;
- modify/read the fan speed;
- modify/read the time/timer;
- modify/read the timer programmes;
- modify/read the machine's operating mode.

When the keypad is locked, each time a key is pressed, the message **Loc** is displayed.


To temporarily unlock the keypad, press and hold the  key for at least 3 seconds until the message **UnL** is displayed. The keypad locks automatically 15 seconds after the last key is pressed.

### ➤ Switching the instrument on / to stand-by

To switch the instrument on or put it on stand-by, press the  key for at least 1 second or open/close the BMS contact,  V- if **HE2** = 2 or 3.

When the instrument is in stand-by mode, the display shows the message **OFF**; the discharge status depends on parameter **OCn**.

If the SCRE10A or SCRE04 keypad displays **SbY**, this means that the BMS contact is closed and the instrument is in stand-by mode.


 **WARNING:** the control unit remains powered even when in stand-by mode.

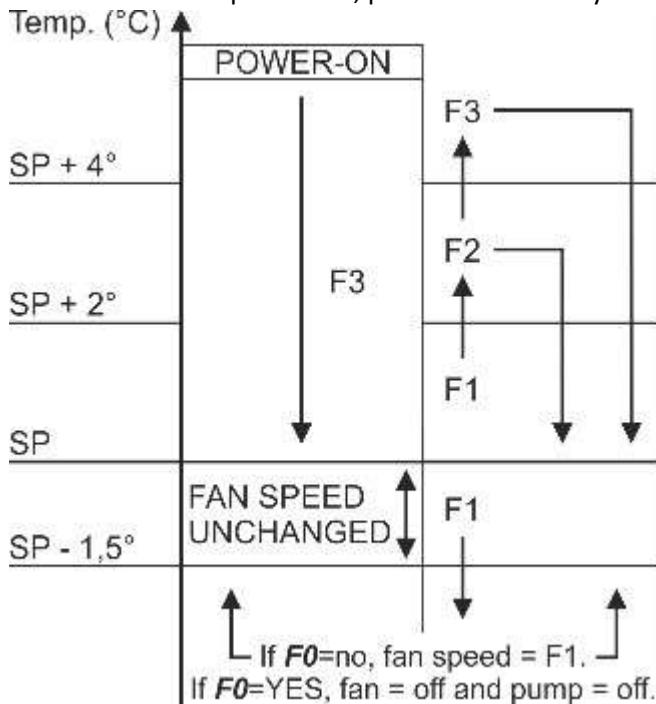
### ➤ Fan speed

If the board is connected to an SCRE10A-Y0111 keypad, to view/modify the fan speed, proceed as follows:

- press the **FAN** key; the display will now show the fan speed;

- to adjust the fan speed, use the **UP** or **DOWN** keys;

- to exit the procedure, press the  key or wait 10 seconds without using the keypad.




The selectable speed levels are:







- **AUTO**: automatic speed. The fan speed varies according to the temperature deviation, as shown in the image opposite;
- **F1**: minimum fan speed;
- **F2**: medium fan speed;
- **F3**: maximum fan speed; (if FC = 3)

NOTE: It is not possible to select the automatic speed "**AUTO**" if the probe is faulty or not present. If the probe fails, the fan remains at the speed it was operating at before the probe failure or at the fixed value set.

### ➤ Cooler operating mode: AUTO / MANUAL / OFF

The power module of the evaporative cooler can operate in various modes. The modes vary depending on the type of keypad connected to the SCRE55 board:

**SCRE10A**: Press the  key for 1 second to change the machine's operating mode. The device can be set to operate in:

-   manual mode: ventilation only;
-   manual mode: cooling only;
-  AUTO +  AUTO automatic mode: the unit runs the set timer programmes.

NOTE: In ventilation-only mode, the water drain is always open.

➤ **Free cooling function**

The cooler's power module incorporates the free cooling function. This function enables the cooler to take advantage of favourable outdoor temperature conditions to cool the rooms outside the cooling/ventilation timer programmes. This function activates ventilation only at times when the outdoor conditions are such that they can lower the indoor temperature if it exceeds the SP setpoint. This function can be enabled or disabled for each day of the week, from 00:00 to 23:59.

The free-cooling function is activated only if:

- **A-M = AUTO** and the cooling unit is running a timer-OFF shut-down programme;
- there is a valid external sensor value; the external sensor can be connected directly to the cooler board;
- the free cooling function is enabled for the current day; see parameters **tC1, tC2, tC3, tC4, tC5, tC6, tC7**;
- the difference between the ambient temperature and the outdoor temperature is greater than **OCA**,  $(T_{ambient} - T_{outdoor}) \geq OCA$ .
- $T_{ambient} > SP$
- Free-cooling switches off when the outdoor temperature reaches and exceeds the ambient

temperature; when the free cooling function is active, the cooler operates in ventilation-only mode, the fan

speed during free cooling is **F6**, and the PUMP icon flashes on the network terminal







➤ **Pump CUT-OFF function**



This function enables water saving in situations where the outside temperature is low enough to cool the room without the need to introduce filtered air through wet pads.

If the external sensor is connected directly to the cooler board, the parameter **OCb = YES** disables the pump control whenever the outdoor temperature:  $T_{outdoor} \leq (T_{room} - 3\text{ C} - OCc)$ . The pump is reactivated when  $T_{outdoor} \geq (T_{ambient} - 3\text{ C})$ .





➤ **SETPOINT**



Temperature SETPOINT:

- Press the  key until the display shows the message "SP";
- Release the  key; the display will now show the setpoint temperature;
- To adjust this value, use the  or  keys;

To exit the procedure and save the changes, press the  or  key, or wait 3 seconds without using the keypad. The temperature setpoint can be set to a value within a range of 10.0 to 40.0 °C. The automatic fan speed varies according to the temperature deviation from the setpoint.


If **FO = YES**, the cooler pump remains off for temperatures below SP – 1.5 °C. Humidity SETPOINT:  
The humidity setpoint is the maximum ambient humidity level permitted during the cooling phase. If the relative humidity measured by the sensor exceeds the setpoint, the pump stops.


- Press the  key until the display shows the message “rH”;
- Release the  key; the display will now show the humidity setpoint value;
- To adjust this value, use the  or  keys;

To exit the procedure and save the changes, press the  or  key, or wait 3 seconds without using the keypad. The humidity setpoint can be set to a value within a range of 10 to 99.9%.

If the probe is faulty or not connected to the SCRE10A keypad, it is not possible to access the temperature and humidity setpoint menus.




## ➤ Setting the time


To display the set time, press the  key until the display shows the message “*tiME*”.

Release the key; the display will now show the set time, and the configuration icon  will light up.

The display shows the time for 5 seconds or until the  key is pressed.

To change the set time, go to the time display and press the following keys:













-  to set the current hour;
-  to set the current minutes;
-  to enter the day of the week: 1 = Monday, 2 = Tuesday, [...], 7 = Sunday;



To return to the device's normal display, wait 5 seconds without using the keypad, or press .

## ➤ TIMER programmes

TIMER PROGRAMMES ARE A SERIES OF EVENTS FOR SWITCHING THE CONTROLLER/FAN OUTPUTS ON OR OFF; THE DEVICE SEQUENCES THEM ACCORDING TO THE SET DAY AND TIME AND EXECUTES THEM CYCLICALLY. THE SCRE55 HAS 28 TIMER PROGRAMMES.



To access/read/modify the timer programmes, proceed as follows:


- press the  key until the display shows **PtiM**; release the key when the first memory slot appears on the display and the  icon starts to flash;
- to read/scroll through the stored timer programmes, press the  key;
- to modify the timer programme shown on the display, press the , , ,  keys directly;
- To enter a new timer programme, press the  key repeatedly until the display shows the first free memory slot “--:--”;
- press the  key to enter the desired day;
- press the  or  keys to set the output switching time;
- press the  key to select whether the set event is a programme to start cooling, fan-only operation, or to switch off the board;


 +  AUTO = SCRE55 enabled in cooling mode;

 +  AUTO = SCRE55 enabled in fan-only mode;

LED  off = SCRE55 in StOP mode;

- to save the programme and select the next free memory slot, press the  key;
- to exit and return to the previous display, press the  key.

To delete only the timer programme shown on the display, press and hold the  key for approximately 3 seconds until the display shows the message “--:--”;

To delete all the memory slots that have been entered, press and hold the  key until the display shows the message “EALL”;

➤ **Instrument parameters: View / Edit**

THE INSTRUMENT HAS 3 PARAMETER LISTS: “USER”, “INSTALLER” AND “MANUFACTURER”. ACCESSING/MODIFYING THE “USER” PARAMETER LIST DOES NOT REQUIRE THE ENTRY OF A SPECIFIC PASSWORD; HOWEVER, FOR THE “INSTALLER” AND “MANUFACTURER” PARAMETERS, THE CORRECT PASSWORD MUST BE ENTERED.

If the SCRE55 is connected to an SCRE10A keypad, to access the parameter list, proceed as follows:

- with the device switched on, in cool/fan/auto mode, press the and keys for at least 2 seconds;
- the display will now show the message “PA”, password required:
  - press to access the password value, which is usually 00; the password entered remains in the memory for 4 minutes or until the user accesses the display/editing of the thermostat setpoint (SP);
  - press the and keys to enter the desired password; see the table at the end of this section;
  - press ; if the correct password has been entered, the display will now show the first parameter in the enabled list; otherwise, only “user” parameters can be viewed/edited;
- press the or key to search for the parameter to be modified;
- press the key to display the parameter value;
- press the or key to modify the value;
- press the key again to return to the parameter list;
- to exit the procedure and save the changes, press the key briefly or wait 30 seconds without using the keypad.

When you scroll through the parameter list and enter the parameter adjustment screen, the configuration icon is illuminated.

Code	Parameter	Type	Range	UoM	Def.
/	<b>Controller parameters</b>				
/0	Sensor selection: (only with DIP switches 2 and 3 in the ON position) 0 = Temperature/humidity sensor; 1 = 0–10 V sensor; (for future use)	C	0...1	-	0
/C1	Temperature sensor calibration. (/C1 is irrelevant if the global sensor is used)	U	- 12.0..12.0	°C	0.0

<b>/CU</b>	Humidity sensor calibration. (/CU is irrelevant if the global sensor is used)	U	- 12.0..12.0	%	0. 0
<b>/C2</b>	External sensor calibration. (/C2 is irrelevant if the global external sensor is used)	U	-12.0..12.0	°C	0. 0
<b>/P2</b>	External sensor or flow sensor connected directly to the SCRE55 board. 0 = External or flow sensor not connected directly to the SCRE55 board. 1 = external sensor connected to terminals 21–22; 2 = flow sensor connected to terminals 21–22. The presence of the external sensor, whether connected directly to the SCRE55 board or network-connected, enables the free cooling and pump cut-off functions. The flow temperature does not affect the cooling cycle; its value is for information purposes only.	I	0..2	-	0
<b>/H1</b>	Data logger variable assignable to channel X: <b>0</b> = None; <b>1</b> = fan speed; <b>2</b> = flow sensor;	C	0..2	-	0
<b>/H2</b>	Data logger variable assignable to channel Y: <b>0</b> = None; <b>1</b> = fan speed; <b>2</b> = flow sensor;	C	0..2	-	0
<b>OC</b>	<b>Cooling control parameters</b>				
<b>OC0</b>	Delay for starting cooling, pump and water filling	I	10..250	S	30
<b>OC1</b>	Cooling period. <b>WARNING:</b> if <b>OC1</b> = 0: - the cooling period is infinite; - if the SCRE55 is operating in cooling mode, it never drains the water and never applies the <b>OC2</b> and <b>OC3</b> periods.	I	0..500	Min	180
<b>OC2</b>	Drain cycle, drain valve opening time.	C	30..250	S	60
<b>OC3</b>	Drain valve closing period	C	2..250	S	30
<b>OC4</b>	Pad wash cycle duration During the washing process, only the recirculation pump is activated so that the water can remove any impurities deposited on the evaporative pads.	I	250..999	S	300
<b>OC5</b>	Fan speed during OC0 and OC6. -1 = fan off; 0 = unchanged from the previous cycle; 1 = F1; 2 = F2; 3 = F3.	I	-1..3	-	-1
<b>OC6</b>	Pad wetting period. 0 ...249 = duration in seconds; 250 = fixed cycle of 15 minutes. Time after which the fan is activated. The delayed activation of the fan ensures that the evaporative pads are properly moistened,	I	0..250	S	60

	thereby maximising the cooling effect from the very start of the cooling cycle. Set this value according to the available water flow rate; increase the OCA time as the flow rate decreases.				
<b>OCA</b>	Free cooling function activation differential	I	1...10	°C	3
<b>OCb</b>	Pump cut-off enabled. NO = no; YES = yes;	U	NO...YES	S	no
<b>OCc</b>	Cut-off function activation differential	I	1...10	°C	3
<b>OCd</b>	Pad drying in stand-by mode or when the timer is off. 0 = function disabled. Drying the pads at the end of a cooling cycle helps to prolong their service life and to ensure that the unit remains in good working order. During this period, only the fan will run at the speed defined in <b>F6</b> .	I	0...30	Min	5
<b>OCF</b>	Maximum interval between two washing cycles, after which the pads are automatically washed. 0 = function disabled; 1 = 8 hours; 2 = 16 hours; 3 = 32 hours; 4 = 48 hours; 5 = 72 hours; The purpose of pad cleaning is to remove any impurities that have been deposited on the surface of the pads. Before the pads are washed, the water in the tank is drained. The <b>OCF</b> interval is counted regardless of the cooler's operating mode.	I	0...5	-	2
<b>OCL</b>	Pad wash cycle in stand-by mode after operation: <b>0</b> = NO post-FAN washing, YES post-COOL washing; <b>1</b> = YES post-FAN washing, YES post-COOL washing; <b>2</b> = NO post-FAN washing, NO post-COOL washing; <b>3</b> = YES post-FAN washing, NO post-COOL washing;	I	0...3	-	0
<b>OCn</b>	Water draining in stand-by mode: 0 = NO – water drain closed; 1 = YES – water drain open.	I	0...1	-	0
<b>OCp</b>	Pad washing cycle delay time in stand-by mode	C	2...250	S	15
<b>OCt</b>	Water draining in Timer-OFF mode: 0 = NO – water drain closed; 1 = YES – water drain open.	I	0...1	-	1
<b>OCH</b>	Monitoring of digital inputs / slave board float switches. 0 = no; 1 = yes; (NOT MODIFIABLE)	I	0...0	-	0
<b>OCU</b>	Humidity plus function 0 = function disabled; 1 = function active with 10% bandwidth; 2 = function active with 15% bandwidth; 3 = function active with 20% bandwidth; 4 = function active with 25% bandwidth; 5 = function active with 30% bandwidth;	C	0...5	-	0
<b>OCU1</b>	Pump start-up time with humidity plus function enabled	C	60...250	s	120
<b>OCU2</b>	Pump shut-down time with humidity plus function enabled	C	60...250	s	180

<b>F</b> Fan parameters					
<b>F0</b>	Fan and pump shutdown when SP is exceeded. NO = no; YES = yes; This parameter determines the device's behaviour when the ambient temperature falls below the value of SP – 1.5 °C.	I	NO...YES	-	YES
<b>FC</b>	Fan speed level	C	1...3	-	3
<b>F6</b>	Fan speed during the drying cycle and free cooling.	I	1... <b>FC</b>	-	1
<b>A</b> Alarm parameters					
<b>A6E</b>	Delay for tank-filling float switch alarm. 0 = Alarm disabled. Time within which the tank must be filled. Set this value according to the available water flow rate; increase the <b>A6E</b> time as the available flow rate decreases.	I	0...999	S	0
<b>A7E</b>	Delay for tank-emptying float switch alarm. 0 = Alarm disabled. If <b>A7E</b> ≠ 0, <b>A7E</b> < <b>OC2</b> . Time within which the tank must be emptied. Unless there are specific impediments or obstructions in the drain, the tank will empty within a few tens of seconds when the drain is open.	I	0...999	S	0
<b>AS</b>	Cooling stop in the event of a float switch alarm: <b>0</b> = no. The device continues the cycle even in the event of an alarm; <b>1</b> = yes, filling and pump stop. The device keeps ventilation only running; <b>2</b> = yes, water filling, pump and fan are stopped. The device stops all operations. The float switch alarm is triggered if: - the tank is not filled within time <b>A6E</b> ; - the tank is not emptied within time <b>A7E</b> .	U	0...2	-	1
<b>t</b> Timer parameters					
<b>tc1</b>	Enable free cooling function on Mondays. NO = no; YES = yes	U	NO...YES	-	no
<b>tc2</b>	Enable free cooling function on Tuesdays. NO = no; YES = yes	U	NO...YES	-	no
<b>tc3</b>	Enable free cooling function on Wednesdays. NO = no; YES = yes	U	NO...YES	-	no
<b>tc4</b>	Enable free cooling function on Thursdays. NO = no; YES = yes	U	NO...YES	-	no
<b>tc5</b>	Enable free cooling function on Fridays. NO = no; YES = yes	U	NO...YES	-	no
<b>tc6</b>	Enable free cooling function on Saturdays. NO = no; YES = yes	U	NO...YES	-	no
<b>tc7</b>	Enable free cooling function on Sundays. NO = no; YES = yes	U	NO...YES	-	no
<b>H</b> Other parameters					
<b>Hi</b>	Polarity of the float switch input(s) 0 = N.O.: float switch active when closed;	C	0...1	-	0

	1 = N.C.: float switch active when open;				
<b>Hd2</b>	Presence of float switch for pump stop / minimum level <b>0</b> = no; <b>1</b> = yes;	C	0...1	-	1
<b>H2t</b>	Pump protection when tank is empty, only if <b>Hd2</b> = 0	I	2...59	S	30
<b>HE</b>	Normal or inverted drain output. <b>0</b> = direct, drain closed/relay off; <b>1</b> = reverse, drain closed/relay on;	C	0...1	-	1
<b>HE2</b>	Enabling air damper output and BMS input: <b>0</b> = both disabled; <b>1</b> = only air damper/extractor output enabled. The damper output, terminals 23 and 24, is a dry contact and is activated if at least one ventilation output is active;  <b>2</b> = only BMS input enabled, terminals  and V-. When closed, it prevents the unit from operating. The BMS input takes priority over the device's programming; <b>3</b> = both enabled;	A	0...3	-	0
<b>Hdb</b>	Factory reset: This parameter enables a factory reset of the device parameters. To initiate factory resets, see the end of the table.	C	0...1	-	0
<b>HH</b>	Firmware release (read-only)	U	-	-	-
<b>HHb</b>	Firmware build (read-only)	U	-	-	-
<b>HL</b>	SCRE10A keypad lock. NO = no; YES = yes;	U	NO...YES	-	no



The "FACTORY RESET" function restores the device to its factory settings. The settings for almost all device parameters will revert to their default values.




To reset the parameter list, go to the **PAr** menu and set the "**Hdb**" parameter to "1".

#### KEY: Parameter Type and Corresponding Password

TYPE	DESCRIPTION	PA
<b>U</b>	USER parameters	<b>any</b>
<b>I</b>	INSTALLER parameters. Read the instructions carefully before modifying the value.	<b>95</b>
<b>C</b>	MANUFACTURER parameters. These parameters are typically set by the Manufacturer; the default values may differ from the recommended values. Any modification may cause the connected equipment to malfunction. These parameters can only be viewed by entering the correct password.	<b>59</b>

#### ➤ Display Messages / Alarms

Display	Meaning
<b>EE</b>	EEPROM fault; try switching the instrument off and on again
<b>--:--</b>	Free memory slot
<b>E2</b>	External sensor error  See parameter <b>/P2</b> . External sensor short-circuited or not connected, or temperature outside the instrument's operating range. The alarm clears once the sensor starts operating normally.
<b>EA</b>	Float switch error  See parameters <b>A6E</b> , <b>A7E</b> and <b>AS</b> . The float switch alarm is triggered if:

	<p>- the tank is not filled within time <b>A6E</b>;          - the tank is not emptied within time <b>A7E</b>.          To clear the alarm message on the display, disconnect and reconnect power to the board</p> <p>or press the  key briefly.</p> <p>NOTE: if the float switch error message is cleared during the:</p> <ul style="list-style-type: none"> <li>- tank cooling/filling phase (period 0C1), the alarm may occur again;</li> <li>- tank emptying phase (period 0C2), then the alarm will not occur again until the next tank emptying cycle.</li> </ul>
<b>Loc</b>	Keypad locked.
<b>OFF</b>	<p>Device in stand-by mode / switched off.          WARNING: the SCRE55 board is also powered in stand-by mode.</p> <p>The message on the display is continuously illuminated if the SCRE55 is switched off using the  key or via <b>P-on=0</b>.          The message on the display flashes if the SCRE55 is switched off via <b>H-C=HEAt</b> or <b>A-M=off</b>.</p>
<b>En</b>	Communication error between the keypad and the SCRE55 board. Check for any faults in the V-, L2, L1 and V+ connections.
--	Temperature/humidity sensor not connected.
<b>Etc</b>	Clock error. The controller does not have the time set. When this occurs, the device automatically sets the time to 08:10 on Monday. Until the time is set, the device will continue to display this message and, every time it is switched on, it will reset the clock to 08:10 on Monday. Set the current time.
<b>Er8</b>	Network sensor P1 or P2 not connected or short-circuited. The error is shown on the display after the alarm condition has persisted for 10 minutes. The alarm clears once the network sensor starts operating normally. If the network probe is disconnected, the temperature displayed is 50.9 and the relative humidity is 109.
<b>Er9</b>	Network clock error. Error Er9 is shown on the display if there is no time-related communication between the network master module and the slave module for more than 30 minutes. If an Er9 alarm occurs, the machine automatically switches to a timer-OFF programme. The machine returns to its normal operating state once proper serial/time communication is restored.
<b>COOL</b>	Cooling in progress.
<b>FAn</b>	Ventilation only in progress;
<b>F-C</b>	Free cooling in progress
<b>StOP</b>	TIMER off programme in progress;
<b>PAU</b>	Delay in activating wash cycle
<b>drY</b>	Pad drying in progress;
<b>CLn</b>	Pad washing in progress;
<b>tiME</b>	Clock menu
<b>PtiM</b>	Timer programme menu
<b>PA</b>	Password required
<b>SbY</b>	<p>Device in stand-by mode / switched off by input  V- closed.          WARNING: the board is also powered in stand-by mode.</p>

➤ **Float switch alarms**

Parameter **A6E** is used to set the delay for the tank-full alarm signal; if float switch 1 (the tank-full float switch) does not change its status within time **A6E**, this indicates that there is a problem with tank filling, and an alarm event is therefore signalled. To disable the alarm, set **A6E**= 0.

Parameter **A7E** is used to set the delay for the tank-empty alarm signal; if float switch 2 (the tank-empty float switch, if enabled) does not change its status within time **A7E**, this indicates that there is a problem with tank emptying, and an alarm event is therefore signalled. To disable the alarm, set **A7E**= 0.

Parameter **AS** is used to enable or disable the cooling cycle stop in the event of a float switch alarm.

NOTE: If **Hd2**= 0, the tank emptying alarm is linked to the status of float switch 1.



The tank emptying delay cannot exceed the tank emptying time, **A7E** < **OC2**.

Parameter **AS** is used to enable or disable the cooling and ventilation cycle stop in the event of a float switch alarm.

NOTE: If **AS** = 1 or 2, and in the case of master/slave boards connected to each other via a bidirectional router, when a float switch alarm occurs on any of the devices, all the boards are blocked.

If the cause of the alarm cannot be rectified quickly, in order to avoid shutting down the entire system, it is recommended that the slave unit experiencing the problem be disconnected from the power supply until the problem is resolved, thereby allowing the other units to continue operating.



To clear the float alarm, press the ,  key briefly.

➤ **“Drying” function**

To improve the efficiency of the cooler and prevent deterioration of the cellulose pads, it is possible to set a pad drying cycle to run when the unit is in stand-by mode or at the end of a timer cycle.

Parameter **OCd** allows you to set the pad drying period when the machine is in stand-by mode or at the end of a timer cycle.

- If **OCd** = 0: function disabled;
- If **OCd** = x > 0, where x ∈ [1, 30]: function enabled for x minutes.

➤ **Optimised start-up, cooling start delay, pad wetting**

Parameter **OC0** is used to set the cooling start delay, i.e. the closing time of the drain valve. Pump and water supply solenoid valve not active.

Parameter **OC6** is used to set a pad wetting period with the fan off. If **OC6** = 0, pad wetting is not performed.

During the **OC0** and **OC6** periods, the fan status depends on parameter **OC5**; if **OC5** is set to:

- -1 = fan always off;
- 0 = fan operation unchanged from the previous cycle;
- 1 = F1; 2 = F2; 3 = F3;

When a cooling cycle starts during period **OC0**, only the drain is closed; during period **OC6**, the feed and the water pump are also activated; the fan is activated only according to the value of **OC5**.

➤ **Pad washing – anti-limescale function –**

To prevent the build-up of limescale and dirt on the cellulose pads, it is possible to set a pad washing cycle to run when the unit is in stand-by mode after cooling, or after 8, 16, 32, 48 or 72 hours of machine operation without a wash having been performed.

To set the pad washing cycle, refer to the following parameters:

- **OC4**: pad wash cycle duration;
- **OCL**: pad wash cycle after the device enters stand-by mode during ventilation;
- **OCP**: delay in starting the wash cycle after the device enters stand-by mode;
- **OCF**: Maximum interval between two washing cycles, after which the pads are automatically washed.

➤ **Anti-Legionella function – tank emptying**

To prevent the water in the cooler tank from stagnating and thereby becoming an ideal habitat for the growth of bacteria such as Legionella, it is possible to set the tank to be partially drained during the cooling cycle (parameter **OC2**) or to be completely drained when the timer is off or when the unit is in stand-by mode (parameters **OCn** and **OCt**).

➤ **Pump protection when tank is empty, ONLY IF Hd2= 0.**

For control boards with a single float switch (**Hd2=0**), it is possible to set a maximum pump running time when the tank is not completely full; see parameter **H2t**.

When the control board operates with a single float switch, the pump activates when the tank is filled and remains active as long as the tank is full (float switch 1 active), or for a maximum time **H2t**.

➤ **Humidity plus function**

To prevent the cooler, when operating in cooling mode, from introducing too much humidity into the room, it is possible to enable the humidity plus function, which temporarily restricts the pump's start-up when the measured humidity level approaches the humidity setpoint value (**rU**). This makes it possible to “modulate” the pump's operation as the ambient humidity rises, without switching the pump off completely.

Using the parameters:

- **OCU** enables or disables the humidity plus function and sets the function's activation range, defined as the difference from the **rU** setpoint within which the pump operates at reduced capacity;

- **OCU1** sets the pump output start-up time with the humidity plus function enabled;
- **OCU2** sets the pump output shut-down time with the humidity plus function enabled;

Example: If  $rU = 75$ ,  $OCU = 3$ ,  $OCU1 = 120$  and  $OCU2 = 180$ , then for humidity values between 55% and 75%, the pump output, when enabled, will switch on cyclically for 120 seconds and then remain off for a further 180 seconds.

➤ **Operating cycles**

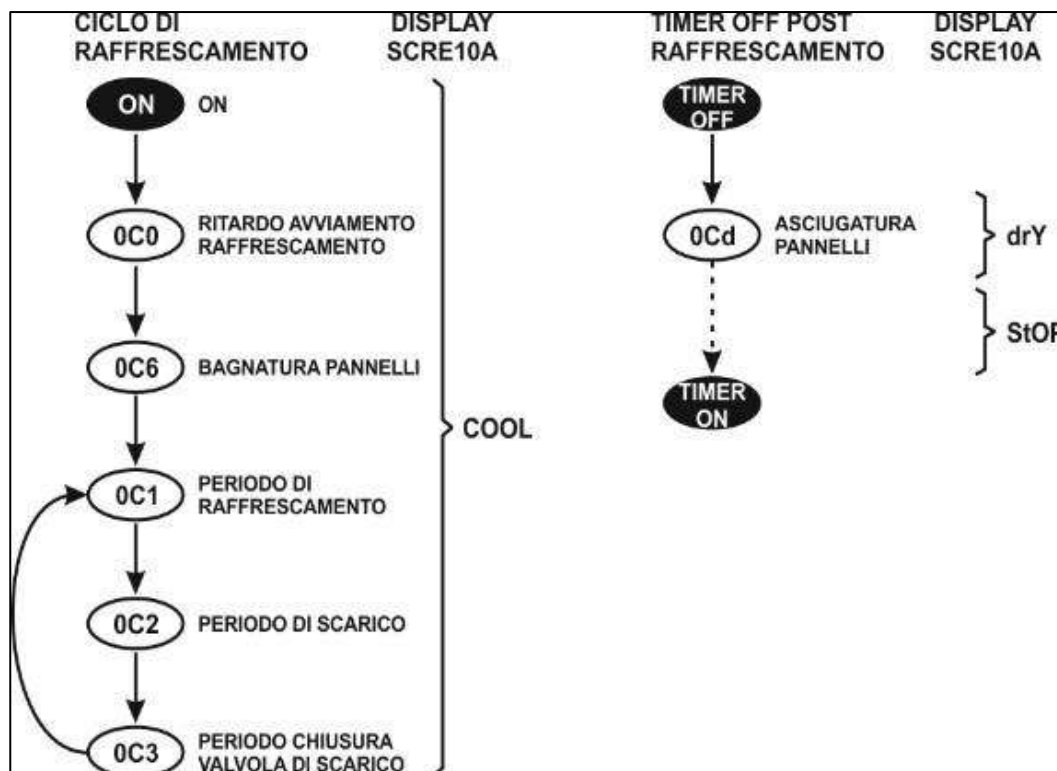
<b>COOL</b>	Cooling in progress.
<b>FAn</b>	Ventilation only in progress;
<b>F-C</b>	Free cooling in progress
<b>StOP</b>	TIMER off programme in progress;
<b>PAU</b>	Delay in activating wash cycle
<b>drY</b>	Pad drying in progress;
<b>CLn</b>	Pad washing in progress;
<b>SbY</b>	Device in stand-by mode / switched off by input  V- closed. WARNING: the board is also powered in stand-by mode.

Preliminary disambiguation:

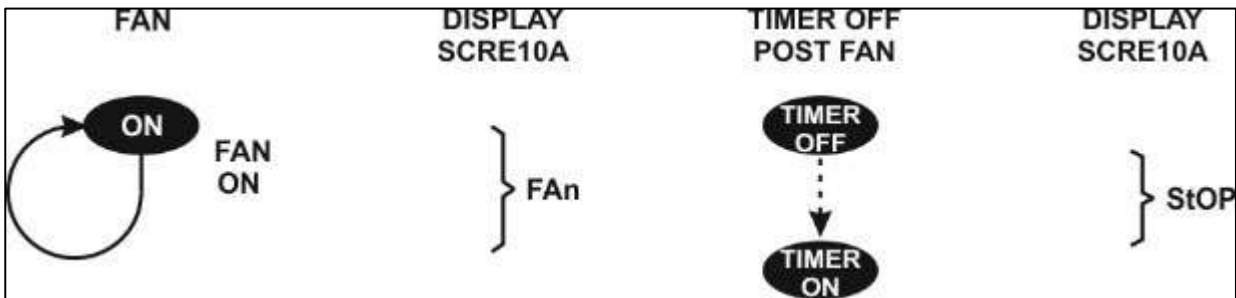
**SbY (Stand-by/OFF)** = The cooler is forcibly switched off and remains in this state until a subsequent manual command is issued;

**StOP (Timer-OFF)** = The cooler is stopped and is not performing any operating cycles according to the automatic schedule. This is the normal operating mode for times of day during which no cooling is required.

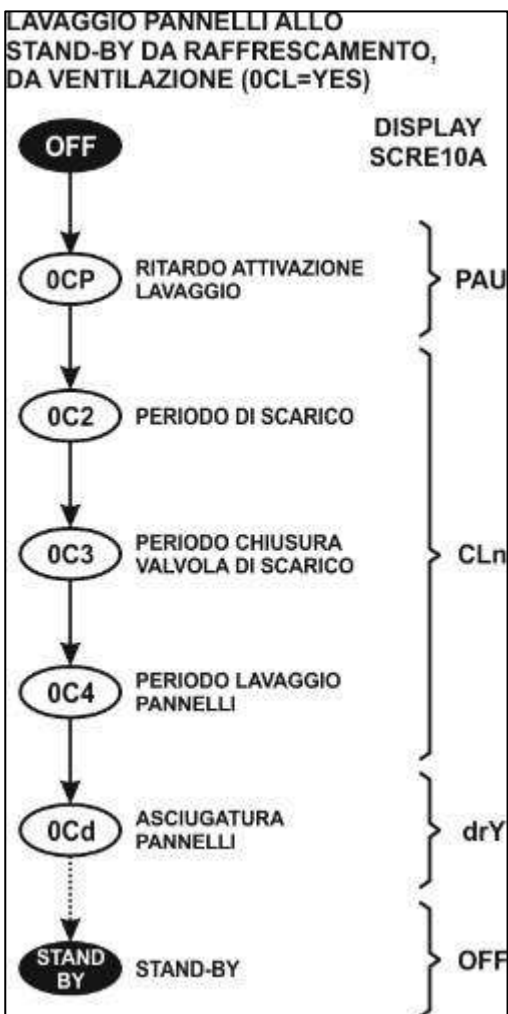
**COOLING**



## VENTILATION / FREE COOLING:





## PAD WASHING ON STAND-BY AFTER COOLING AND VENTILATION, IF 0CL = YES:














### ➤ Testing phase

WARNING: testing/maintenance must be carried out by authorised personnel only. To access the cooler testing phase, proceed as follows:

+ if not already present, connect an SCRE10 keypad to the SCRE55 board;

+ press the  and  buttons for approximately 2 seconds until the display shows the message "PA", password required

- + press  to access the password value;
  - + press the  and  keys to enter the correct password: **234**;
  - + press . If the correct password has been entered, the display will show the first parameter in the test list; otherwise, the message **PA** will be shown again.
  - + press the  or  key to search for the parameter to be modified;
  - + press the  key to display the parameter value;
  - + press the  or  key to modify the value;
  - + press the  key again to return to the parameter list;
- To exit the testing procedure, press the  key for 3 seconds.

**NOTE:** the testing procedure takes a maximum of 30 minutes.

<p><b>C 01:</b> drain relay test  <b>0</b> = relay off/open;  <b>1</b> = relay on/closed;</p>
<p><b>C 02:</b> fill relay test  <b>0</b> = relay off/open;  <b>1</b> = relay on/closed;</p>
<p><b>C 03:</b> pump relay test.            NOTE: check that there is water in the basin  <b>0</b> = relay off/open;  <b>1</b> = relay on/closed;</p>
<p><b>C 04:</b> fan relay test  <b>0</b> = fan relays off/open;  <b>1</b> = relay F1 on/closed;  <b>2</b> = relay F2 on/closed;  <b>3</b> = relay F3 on/closed;</p>
<p><b>C 05:</b> damper/extractor relay test  <b>0</b> = relay off/open;  <b>1</b> = relay on/closed;</p>
<p><b>C 06:</b> status of float switch input D.I.1 for full tank. (READ-ONLY)            Operate float switch 1 to observe the status change.  <b>0</b> = float switch 1 open;  <b>1</b> = float switch 1 closed;</p>
<p><b>C 07:</b> status of float switch input D.I.2 for empty tank. (READ-ONLY)            Operate float switch 2 to observe the status change.  <b>0</b> = float switch 2 open;  <b>1</b> = float switch 2 closed;</p>

**C 08: BMS input status. (READ-ONLY)**

Operate the BMS input to observe the status change.

**0** = BMS open;

**1** = BMS closed;


**C 09: sensor input status, terminals 21–22. (READ-ONLY)**

**110** = upper full scale, sensor input open;

**-50** = lower full scale, sensor input short-circuited;

**value measured by the sensor;**



To exit the testing procedure, press the  key twice, or do not use the keypad for at least 3 minutes, or switch off the instrument. Upon exiting the testing procedure, the cooler resumes the cycle that was previously interrupted.

**➤ Warranty**

Material warranty: 1 year (from the production date indicated on the container, excluding consumable parts).

The Manufacturer shall be obliged to repair or replace only those products whose defects are attributable to the Manufacturer and have been verified by its own technical departments. In the event of defects resulting from exceptional operating conditions, incorrect use and/or tampering, the warranty shall be void. All transport costs for returning the product to the Manufacturer, subject to the Manufacturer's authorisation, and for any subsequent return to the purchaser, shall be borne by the purchaser.

## 5 – ROUTINE MAINTENANCE

Annual servicing of the system is recommended to keep it in perfect working order.

At the start of the period of use, it is necessary to check that the cooler is functioning properly and is undamaged.

### 5.1 End-of-season maintenance

- Disconnect the unit from the power supply using the main power switch.
- Shut off the water supply.
- Drain the water supply system to prevent damage due to freezing.
- Remove the machine cover.
- Check and clean the water pipes and distribution system. Remove any debris from the pump intake. Clean the water inlet filter.
- Thoroughly clean the base of the unit. Do not use solvents that could react with the plastic.
- Check the condition of the filters and the rain guard grille.
- Replace the cover and ensure that it is securely fastened using the appropriate bolts.
- Fit the dedicated winter covers (if included in the delivery). These covers are very easy to fit and are secured using the elastic cords provided.

### 5.2 Pre-season maintenance

- Disconnect the unit from the power supply using the mains disconnect switch on the unit.
- Remove the winter covers (if included in the delivery), check that they are not damaged, clean them, and store them in a safe place. Do not use solvents that could react with the fabric of the covers.
- Remove the machine cover.
- Thoroughly clean the base of the unit, if necessary. Do not use products that could damage the plastic material of the base.
- Inspect the evaporative pads, clean them and replace them if necessary. Repeat the same procedure for all the filters present.
- Check and clean the water pipes and distribution system. Remove any debris from the pump intake. Clean the water drainage system to remove any debris or obstructions.
- Check the condition of the electrical cables.
- Connect the unit to the power supply using the mains connection device on the unit.
- Turn on the water supply. Operate the system in cooling mode and check that the drain valve closes and that the tank fills with water up to the required level.
- Check that the water is distributed evenly across all the evaporative pads.
- Check the operation of the drain valve; ensure that it opens within 5 minutes of switching off the machine.
- Check for any water leaks from the tanks and the supply pipes.
- Replace the cover and ensure that it is securely fastened.

For each maintenance task, record the date, stamp and description of the work carried out in the “maintenance record” section.

5.3 Maintenance record

**DATE and STAMP**

**WORK CARRIED OUT / NOTES**

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**DATE and STAMP**

**WORK CARRIED OUT / NOTES**

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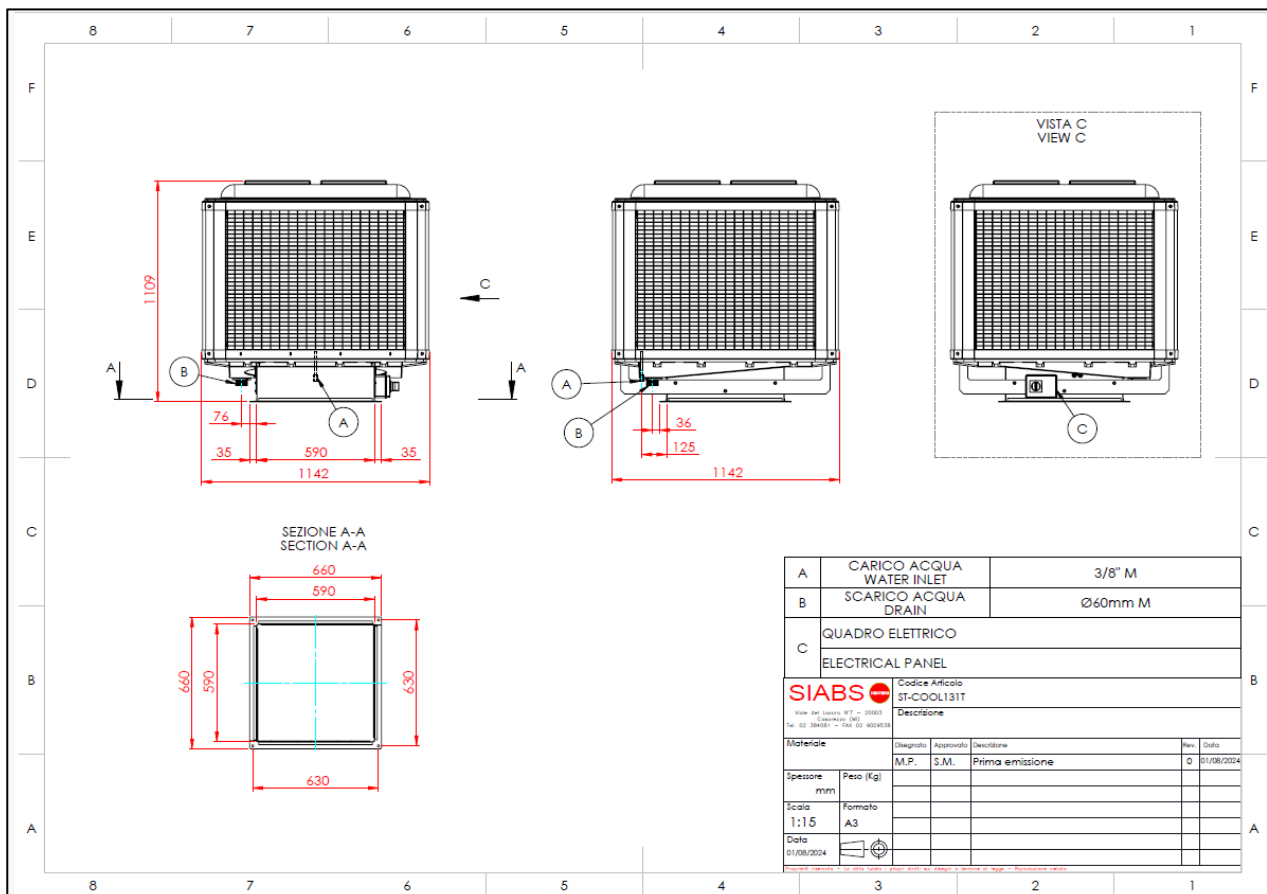
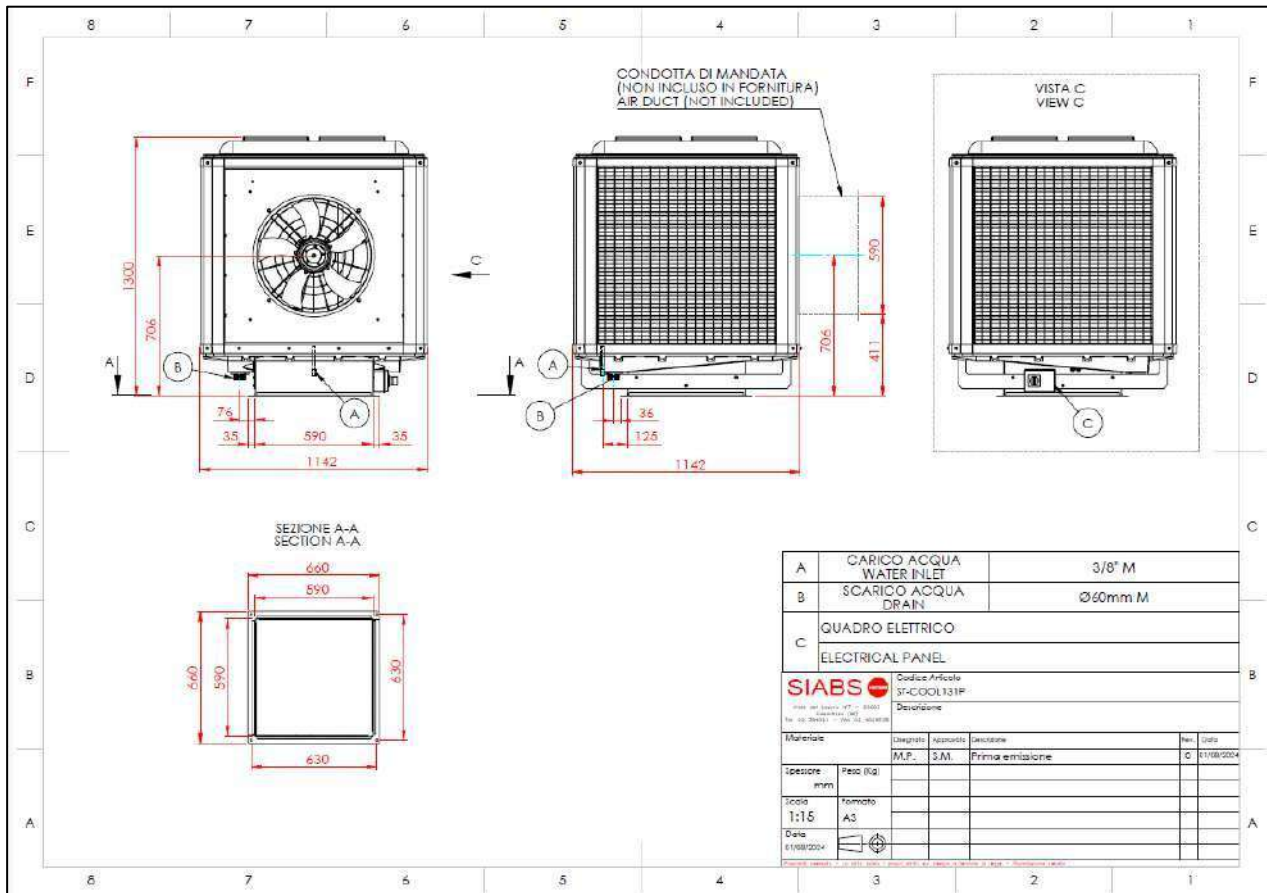
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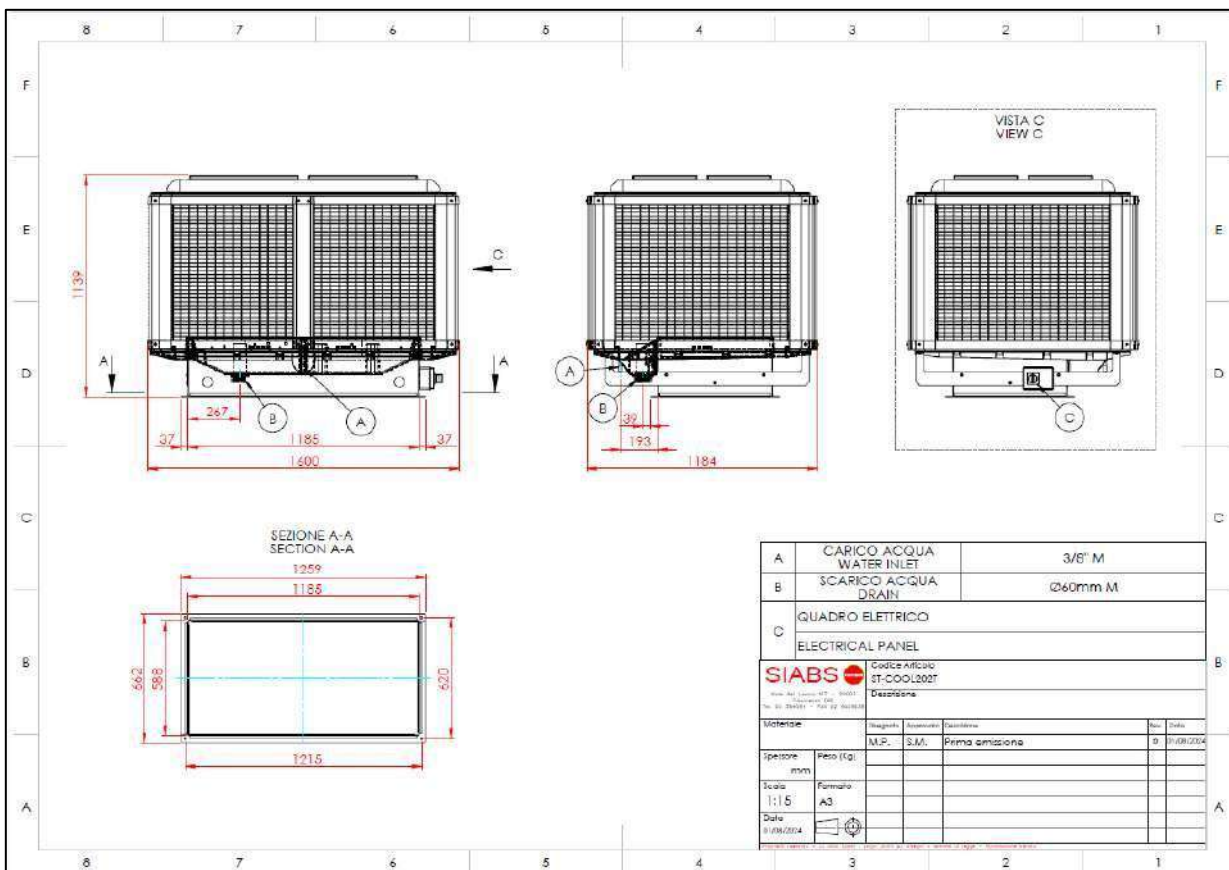
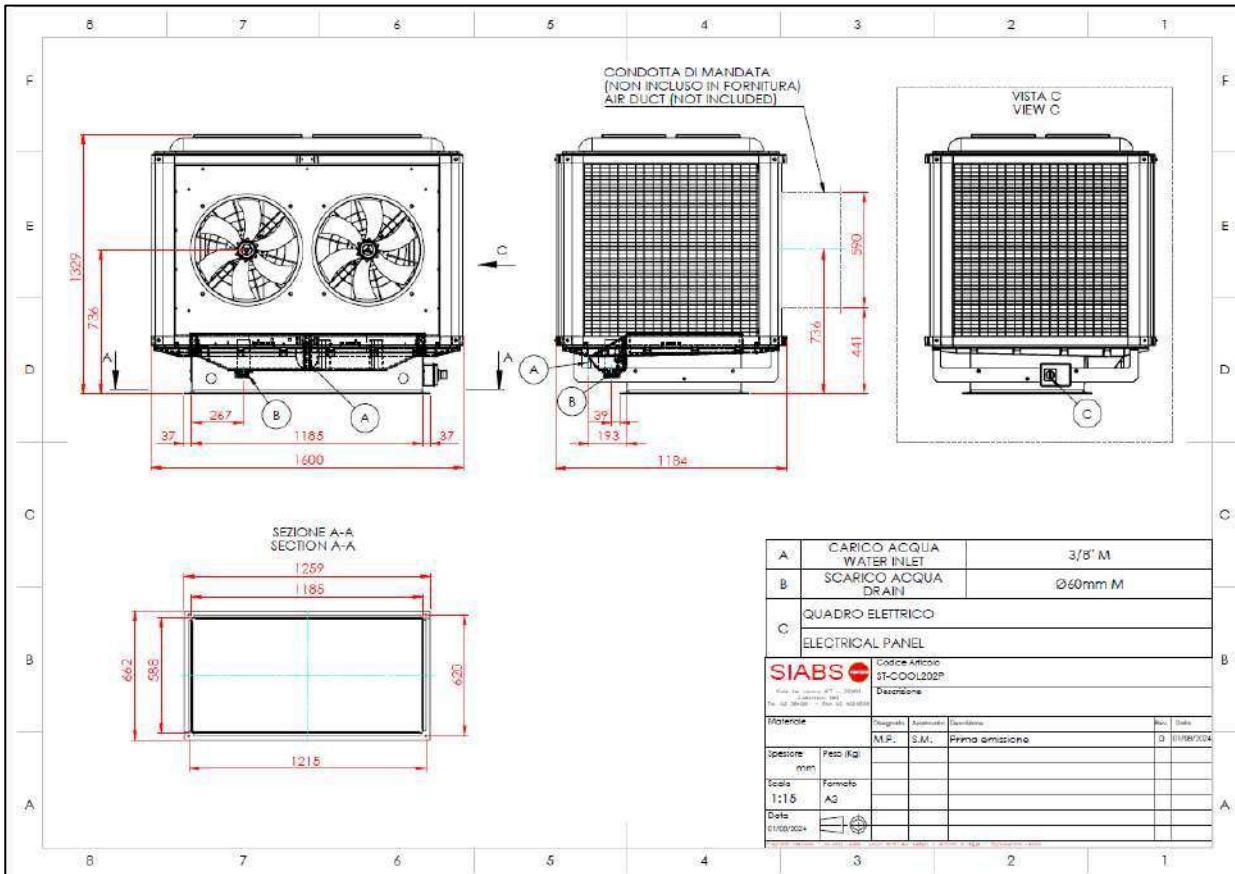
## 6 – TECHNICAL SPECIFICATIONS

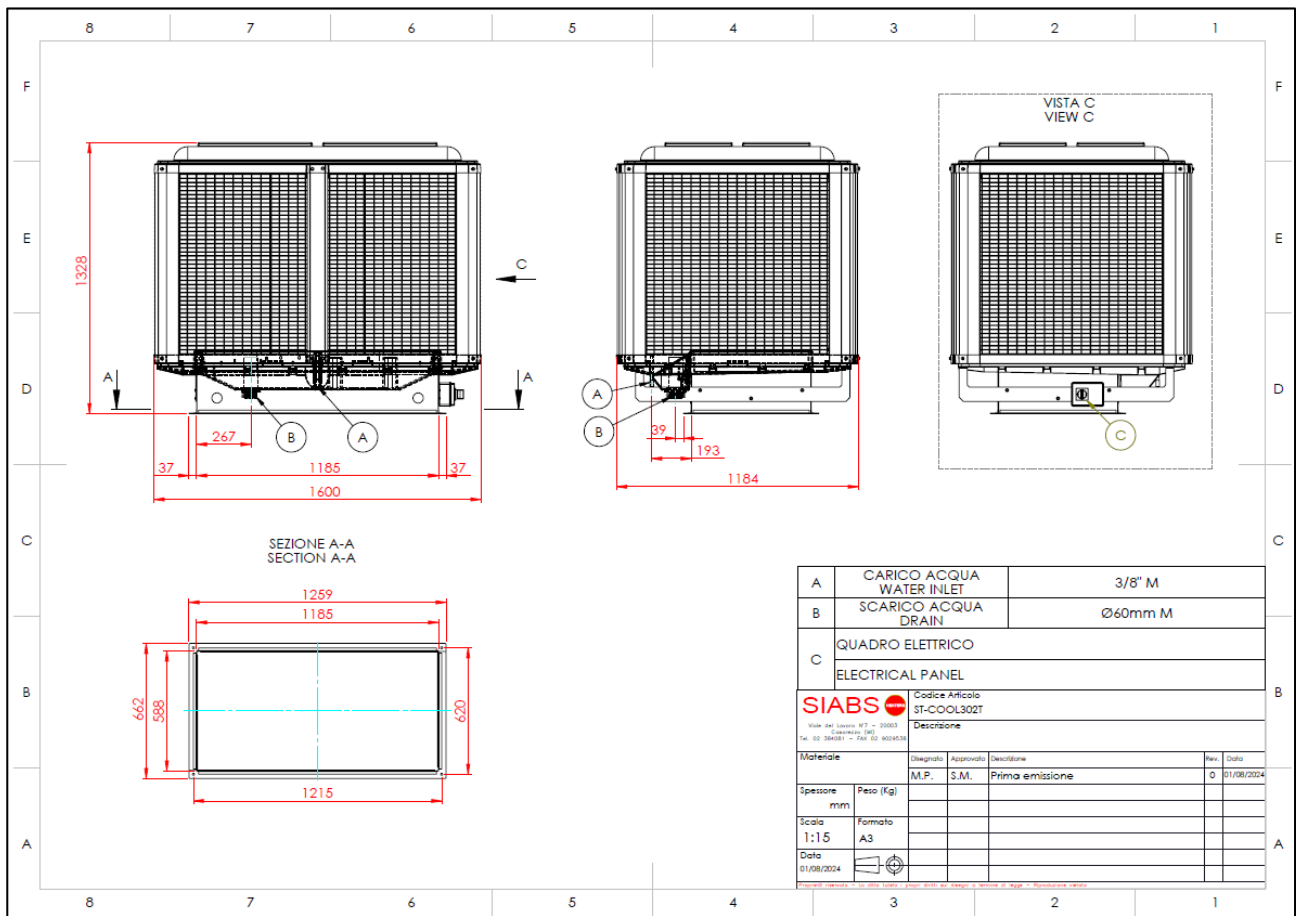
### TECHNICAL SPECIFICATIONS

<b>Model</b>		<b>ST-COOL131P</b>	<b>ST-COOL131T</b>	<b>ST-COOL202P</b>	<b>ST-COOL202T</b>	<b>ST-COOL302T</b>
Power supply (V)	Voltage (V)	230				
	Type	Single-phase				
	Frequency (Hz)	50				
Current drawn (A)		4.8	4.8	7	7	9.3
Electrical power (kW)		1.2	1.2	1.8	1.8	2.2
Air flow rate (m <sup>3</sup> /h)	MAX speed	13,000	13,000	20,000	20,000	27,000
	MED speed	7500	7500	15,000	15,000	19,000
	MIN speed	5000	5000	10,000	10,000	13,500
Ventilation		Axial				
Water consumption (l/h) – (Test phase)		45	43	66	64	75
Water inlet (∅ ")		3/8				
Water drain (∅ mm)		60				
Supply duct (mm)		600x600	600x600	1185x590	1185x590	1185x590
Evaporative pad	Thickness (mm)	100				
	Surface area (m <sup>2</sup> )	2.1	2.9	3.1	3.6	4.4
	Saturation %	88				
Dimensions	L (mm)	1140	1140	1600	1600	1600
	D (mm)	1140	1140	1185	1185	1185
	H (mm)	1300	1110	1330	1140	1330
Weight (empty – full) (kg)		100–115	85–100	130–160	100–126	110–140

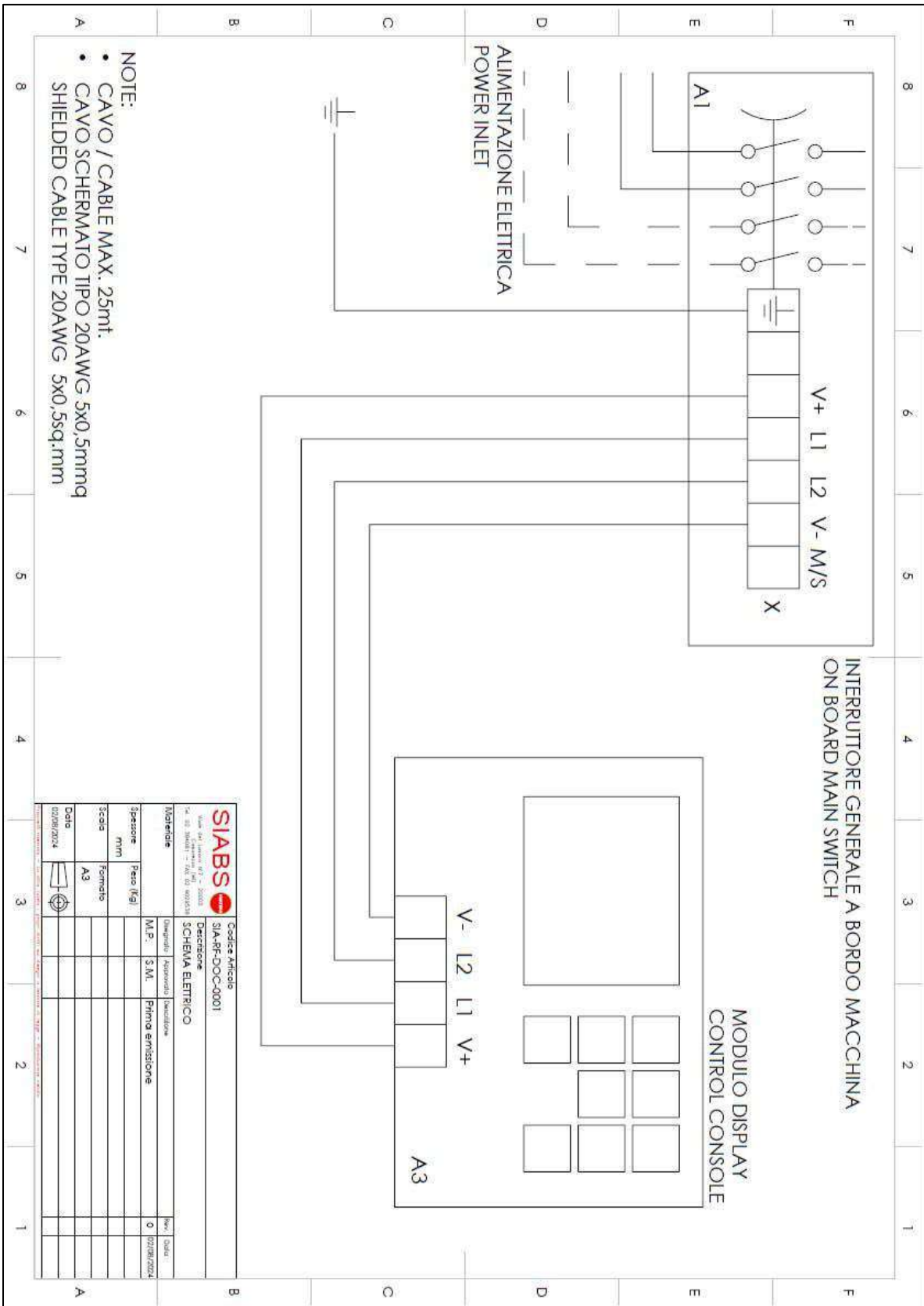
## 7 – DRAWINGS



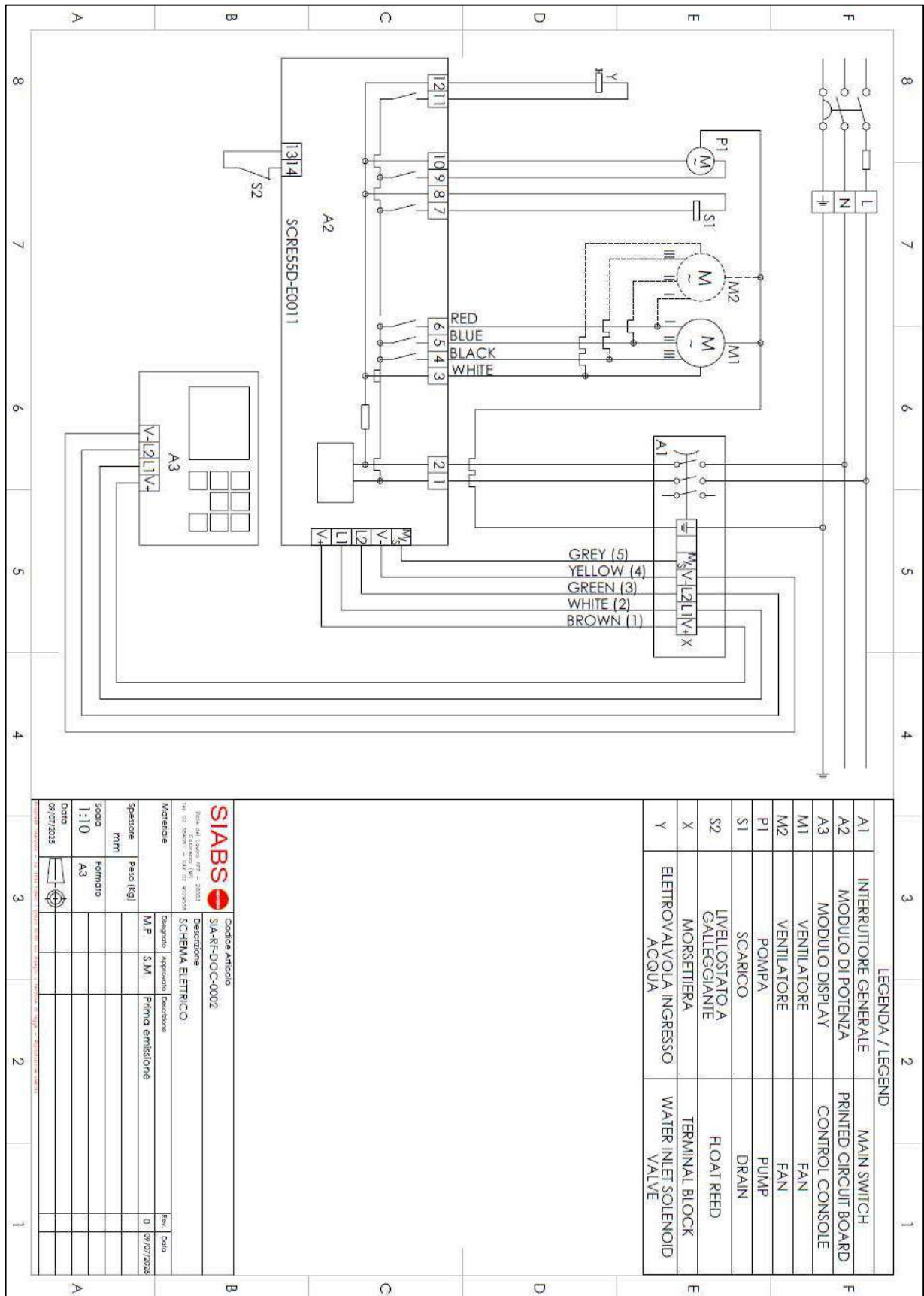




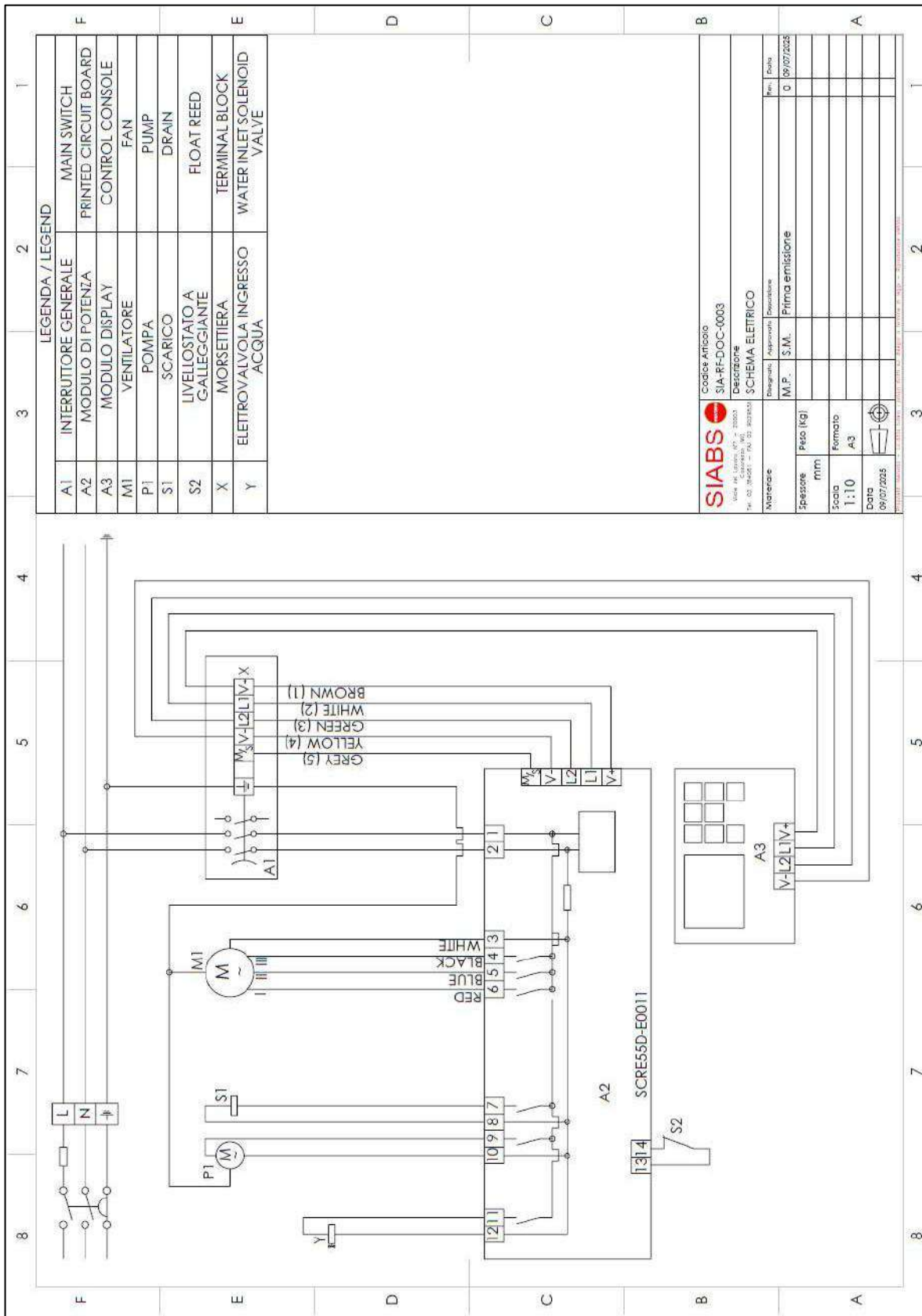
8 – WIRING DIAGRAMS



ST-COOL202P – ST-COOL202T – ST-COOL302T



## ST-COOL131P – ST-COOL131T



## 9 – DECOMMISSIONING AND DISPOSAL

INFORMATION FOR USERS pursuant to Article 13 of Italian Decree-Law No 151 of 25 July 2005

“Implementation of Directives 2002/95/EC, 2002/96/EC and 2003/108/EC on the restriction of the use of hazardous substances in electrical and electronic equipment and on waste disposal”

At the end of its useful life, the product must be collected separately from other waste. Therefore, at the end of its useful life, the user must take the equipment to an appropriate separate collection point for electronic and electrical waste, or return it to the retailer when purchasing a new appliance of an equivalent type, on a one-for-one basis.

Proper separate collection of the disused appliance, followed by recycling, treatment and environmentally compatible disposal, helps to prevent potential negative impacts on the environment and human health and promotes the recycling of the materials from which the appliance is made.

Any unlawful disposal of the product by the holder shall result in the application of the administrative penalties provided for by the legislation in force.



N.B. – Do not dispose of the product as unsorted municipal waste.