

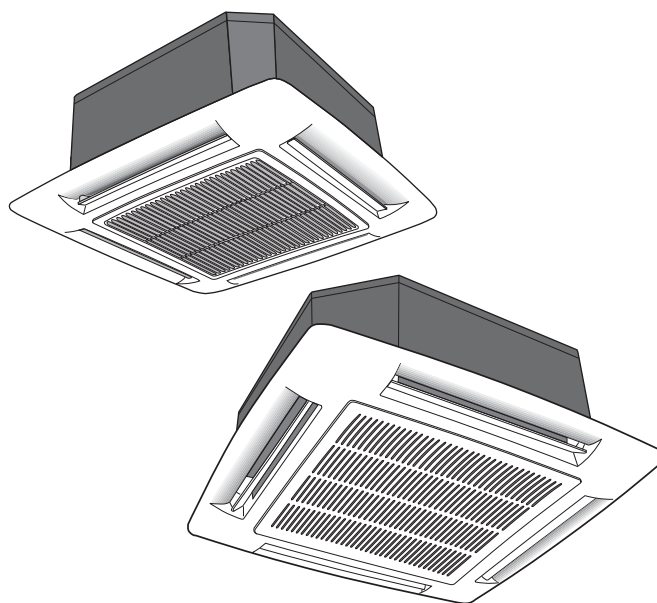


**ISTRUZIONI PER L'USO**  
**INSTRUCTIONS FOR USE**  
**MODE D'EMPLOI**  
**GEBRAUCHSANWEISUNG**  
**INSTRUCCIONES DE USO**



**UTNC-EV**  
**UTNC-I**

**Ventilconvettore**  
**Fan coil**  
**Ventilo convecteur**  
**Klimakonvektoren**  
**Fan coil**



**H57866/A**

**Italiano**

**English**

**Français**

**Deutsch**

**Español**

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## Español



#### Dichiarazione di conformità

La società **RHOSS S.p.A.**  
con sede a Arquà Polesine (RO), via delle Industrie 211, dichiara, sotto la  
propria esclusiva responsabilità, che i prodotti della serie

**UTNC-EV 26 - 41 - 51 - 61 - 86 - 111**

sono conformi ai requisiti essenziali di sicurezza di cui alla Direttiva  
Macchine 2006/42/CE.

La macchina è inoltre conforme alle seguenti direttive:

- 2006/95/CE (Bassa Tensione).
- 2004/108/CE (Compatibilità Elettromagnetica).



#### Statement of conformity

**RHOSS S.p.A.**

located in Arquà Polesine (RO), via delle Industrie 211, hereby states on  
its own exclusive responsibility that the products in the

**UTNC-EV 26 - 41 - 51 - 61 - 86 - 111**

are compliant with the essential safety requirements as set forth in  
Machine Directive 2006/42/CE.

The machine is also compliant with the following directives:

- 2006/95/CE (Low Voltage).
- 2004/108/CE (Electromagnetic Compatibility).



#### Déclaration de conformité

La société **RHOSS S.p.A.**

dont le siège se trouve à Arquà Polesine (RO), via delle Industrie 211,  
déclare, sous sa responsabilité exclusive, que les produits de la série

**UTNC-EV 26 - 41 - 51 - 61 - 86 - 111**

sont conformes aux caractéristiques de sécurité requises par la Directive  
Machines 2006/42/CE.

L'appareil est par ailleurs conforme aux directives suivantes :

- 2006/95/CE (Basse Tension).
- 2004/108/CE (Compatibilité Electromagnétique).



#### Konformitätserklärung

Der Hersteller **RHOSS S.p.A.**

mit Geschäftssitz in Arquà Polesine (RO), via delle Industrie 211, erklärt  
eigenverantwortlich, dass die Geräte der Baureihe

**UTNC-EV 26 - 41 - 51 - 61 - 86 - 111**

den grundsätzlichen Anforderungen an die Sicherheit in Übereinstimmung  
mit der Maschinenrichtlinie 2006/42/EG entsprechen.

Darüber hinaus entspricht die Maschine folgenden Richtlinien:

- 2006/95/EG, (Nieder Spannung).
- 2004/108/EG (Elektromagnetische Verträglichkeit).



#### Declaración de conformidad

La empresa **RHOSS S.p.A.**

con sede en Arquà Polesine (RO), via delle Industrie 211, declara bajo su  
única responsabilidad que los productos de la serie

**UTNC-EV 26 - 41 - 51 - 61 - 86 - 111**

Se encuentran en conformidad con los principales requisitos de  
seguridad indicados en la Directiva de máquinas 2006/42/CE.

La máquina, además, se encuentra en conformidad con las siguientes  
directivas:

- 2006/95/CE, (Baja Tensión).
- 2004/108/CE (Compatibilidad electromagnética).

Codroipo, lì 20 febbraio 2012

Il direttore tecnico / The Technical Director / Le Directeur Technique  
Der Leiter der Technischen Abteilung / El director técnico

Michele Albi eri

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## SYMBOLS USED

| SYMBOL                                                                             | MEANING                                                                                                                                                                         |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>DANGER!</b><br>The DANGER sign warns the operator and maintenance personnel about risks that may cause death, physical injury, or immediate or latent illnesses of any kind. |
|   | <b>DANGER: LIVE COMPONENTS!</b><br>The DANGER: LIVE COMPONENTS sign warns the operator and maintenance personnel about risks due to the presence of live voltage.               |
|   | <b>DANGER: SHARP EDGES!</b><br>The DANGER: SHARP EDGES sign warns the operator and maintenance personnel about the presence of potentially dangerous sharp edges.               |
|   | <b>DANGER: HOT SURFACES!</b><br>The DANGER: HOT SURFACES sign warns the operator and maintenance personnel about the presence of potentially dangerous hot surfaces.            |
|   | <b>DANGER: MOVING PARTS!</b><br>The DANGER: MOVING PARTS sign warns the operator and maintenance personnel about risks due to the presence of moving parts.                     |
|   | <b>IMPORTANT WARNING!</b><br>The IMPORTANT WARNING sign indicates actions or hazards that could damage the unit or its equipment.                                               |
|  | <b>SAFEGUARD THE ENVIRONMENT!</b><br>The environmental safeguard sign provides instructions on how to use the machine in an environmentally friendly manner.                    |

## Reference standards

|                   |                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNI EN 292        | Safety of machinery. Basic concepts, general design principles                                                                                                     |
| UNI EN 294        | Safety of machinery. Safety distances to prevent reaching danger zones with upper limbs.                                                                           |
| UNI EN 563        | Safety of machinery. Temperature of contact surfaces. Ergonomic data to establish limit values for temperatures of hot surfaces.                                   |
| UNI EN 1050       | Safety of machinery. Principles of risk assessment.                                                                                                                |
| UNI 10893         | Product technical documentation. User instructions                                                                                                                 |
| EN 13133          | Brazing. Brazer approval                                                                                                                                           |
| EN 12797          | Brazing. Destructive tests of brazed joints                                                                                                                        |
| EN 378-1          | Refrigeration systems and heat pumps – safety and environmental requirements. Basic requirements, definitions, classification and selection criteria               |
| PrEN 378-2        | Refrigeration systems and heat pumps – safety and environmental requirements. Design, construction, testing, installing, marking and documentation                 |
| IEC EN 60335-2-40 | Safety of electrical equipment for domestic and similar use. Part 2: Specific regulations for electric heat pumps, air conditioners and dehumidifiers.             |
| UNI EN ISO 3744   | Determination of the levels of strength of sound sources by means of sound pressure. Technical design method in an essentially open space on a reflective surface. |
| EN 50081-1:1992   | Electromagnetic compatibility - Generic emission standard Part 1: Residential, commercial and light industry                                                       |

## I SECTION I: USER

### I.1 DESCRIPTION OF THE MACHINE

UTNC-EV is a Box-type air handling terminal unit, to be installed in false ceilings, with air flow and return directly into the room.

#### I.1.1 DECLARED CONDITIONS OF USE

UTNC-EV is a fan coil intended for the treatment of air (summer and winter air-conditioning) inside buildings used for domestic or similar purposes. The unit is not designed for installation in rooms used for laundry purposes (IEC EN 60335-2-40 Standard).

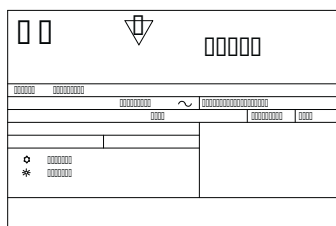
The units comply with the following Directives:

- Machinery Directive 2006/42/EC (MD);
- Low Voltage Directive 2006/95/EC (LVD);
- Electromagnetic Compatibility Directive 2004/108/EC (EMC);

|  |                                                                                                                                                                                                                                                                           |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>DANGER!</b><br>The machine is designed for indoor installation only, for use in domestic or similar environments.                                                                                                                                                      |
|  | <b>DANGER!</b><br>Do not introduce objects through the air intake or delivery grilles.                                                                                                                                                                                    |
|  | <b>IMPORTANT!</b><br>The unit will function correctly only if the instructions for use are scrupulously followed, if the specified clearances are complied with during installation and if the functioning restrictions indicated in this manual are strictly adhered to. |
|  | <b>IMPORTANT</b><br>If clearance distances are not maintained at installation, it could cause maintenance difficulties and reduction in performance.                                                                                                                      |

#### I.1.2 MACHINE IDENTIFICATION

The units have a serial number plate affixed to the inside, which is visible by removing the air filter.



#### I.1.3 STRUCTURAL FEATURES

- The self-supporting structure is made of galvanised sheet steel complete with a device that raises the condensate from the tray to the drain level tray, a buffer ceiling with manually adjustable flow fins, return grid and regenerable filter.
- Finned coil heat exchanger.
- 3-speed fan UTNC-EV.
- Brushless fan UTNC-I.

##### I.1.3.1 Versions

- UTNC-EV 2-pipe fan coil
- UTNC-EV/V2-V3 2-pipe fan coil with installed valve 2/3 way.
- UTNC-EV B4 4-pipe fan coil
- UTNC-EV/V2-V3B4 4-pipe fan coil with installed valves 2/3 way.
- UTNC-EV REL 2-pipe fan coil + electric resistance
- UTNC-I 2-pipe fan coil
- UTNC-I/V2-V3 2-pipe fan coil with installed valve 2/3 way.
- UTNC-I B4 4-pipe fan coil
- UTNC-I/V2-V3B4 4-pipe fan coil with installed valves 2/3 way.
- UTNC-I REL 2-pipe fan coil + electric resistance

### I.1.4 FUNCTIONING LIMITS

|  |                                                                                                                                                                                 |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>IMPORTANT!</b><br>RHOSS S.p.A. shall not be held liable for damage to persons or property caused by a connection that does not comply with the indicated functioning limits. |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Water Circuit

- Water side maximum pressure: 1400 kPa (142 mwc)
- Minimum temperature of the input water: + 4°C
- Maximum temperature of the input water: + 80°C

#### Environment air

- Minimum temperature: 5°C <sup>(1)</sup>
- Maximum temperature: 32°C

|  |                                                                                                                                                                                                         |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Note:</b> (1) If the room temperature is thought to drop below 0°C, it is recommended to empty the water system so as to prevent possible breakage due to frost (see "Water Connections" paragraph). |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Electric power supply unit

- Single-phase nominal voltage 230V ~ 50Hz

### I.1.5 INFORMATION REGARDING IMPROPER USE

|  |                                                                                                                                                                                                                                                 |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>IMPORTANT!</b><br>The machine has been designed and constructed solely and exclusively to function as an air handling terminal unit; any other use is strictly PROHIBITED. Installing the machine in an explosive environment is prohibited. |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### I.1.6 INFORMATION ABOUT RESIDUAL RISKS THAT CANNOT BE ELIMINATED

|  |                                                                                                         |
|--|---------------------------------------------------------------------------------------------------------|
|  | <b>IMPORTANT!</b><br>Pay the utmost attention to the symbols and instructions located on the appliance. |
|--|---------------------------------------------------------------------------------------------------------|

If any risks remain in spite of the provisions adopted, or if there are any potential or hidden risks, these are indicated by adhesive labels attached to the machine in compliance with standard ISO 3864.

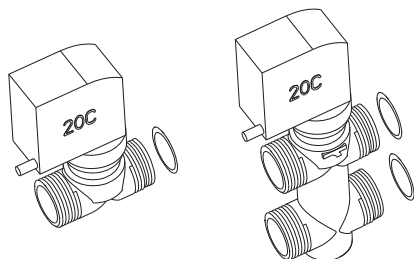
### I.2 ACCESSORIES AND SPARE PARTS

|  |                                                                                                                                                                                                                                                                      |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>IMPORTANT!</b><br>Only use original spare parts and accessories. RHOSS S.p.A. shall not be held liable for damage caused by tampering or work carried out by unauthorised personnel or malfunctions caused by the use of non-original spare parts or accessories. |
|  | <b>IMPORTANT!</b><br>In the case of a water supply with a particularly high content of hard water salts, it is advisable to fit a water softener.                                                                                                                    |

**KV2 - KV3 (supplied separately)** – 2/3-way electrovalve for 2-pipe systems complete with an insulation covering (the accessory does not come with the auxiliary condensate drain tray).

**V2 - V3 (installed)** – 2/3-way electrovalve for 2-pipe systems complete with an insulation covering (the accessory does not come with the auxiliary condensate drain tray).

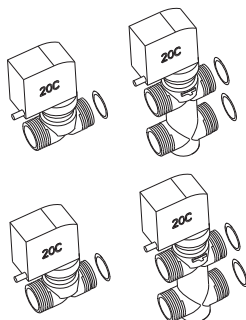
**Models 26-41-51 ( $\frac{3}{4}$ " )**  
**Models 61-86-111 (1" )**



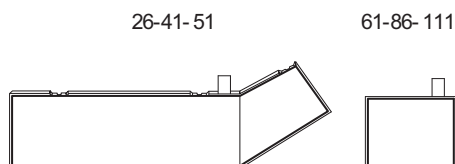
**KV2B4 - KV3B4 (supplied separately)** – 2/3-way electrovalve for 4-pipe systems. The cold side valve is complete with an insulation covering (the accessory does not come with the auxiliary condensate drain tray).

**V2B4 - V3B4 (installed)** – 2/3-way electrovalve for 4-pipe systems. The cold side valve is complete with an insulation covering (the accessory does not come with the auxiliary condensate drain tray).

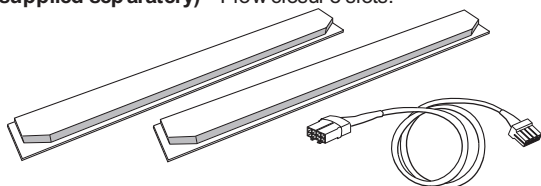
**Models 26-41-51 ( $\frac{3}{4}$ " –  $\frac{1}{2}$ " )**  
**Models 61-86-111 (1" -  $\frac{3}{4}$ " )**



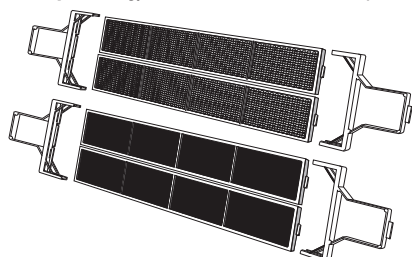
**KVA (supplied separately)** - Auxiliary condensate drain tray.



**KCB (supplied separately)** - Flow closure slots.



**KFFE (supplied separately)** - Passive electrostatic photocatalytic filter.



**KAP (supplied separately)** – Primary air kit.

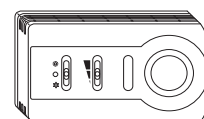


## I.2.1 STANDARD COMMANDS AND CONTROLS (SUPPLIED SEPARATELY)

UTNC-EV has a number of commands and controls that can be supplied separately, on request. Hereunder is the list of commands or controls that can be combined with the UTNC-EV.

### • KCV2 (supplied separately)

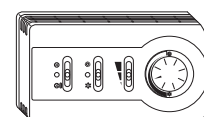
Panel with a 3-speed switch complete with a summer/off/winter switch and the possibility of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x 40 mm)

### • KTCV2 (supplied separately)

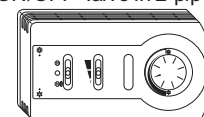
Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electric resistance or 4-pipe systems with the possibility of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x 40 mm)

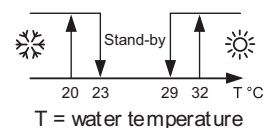
### • KTCVA (supplied separately)

Electronic control panel including: continuous/off/thermostat ventilation switch; 3-speed switch; room thermostat; automatic summer/winter switchover; red/green heating/cooling functioning LED; auxiliary contact (230 Vac) to control the ON/OFF valve in 2-pipe systems. Wall mounted.



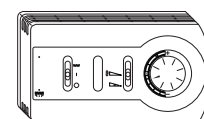
(Dimensions 145 x 82 x 40 mm)

The heating-cooling switchover occurs automatically via detection of the water temperature in the fan coil upstream the valve according to the following logic.



### • KTCVR (supplied separately)

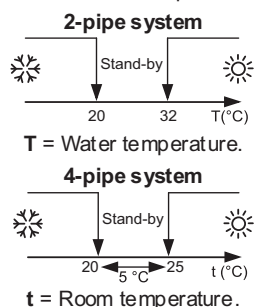
Electronic control panel including: on/off/electric resistance switch; automatic summer/winter switchover; automatic speed/minimum speed switch; comfort  $\pm 5^\circ\text{C}$  adjustment knob; auxiliary contacts (230 Vac) to control the ON/OFF valve in 2-pipe systems, 2-pipe systems with electric resistance or 4-pipe systems. Minimum thermostat function, destratification cycle and dirty filter signal. Wall mounted.



(Dimensions 145 x 82 x 40 mm)



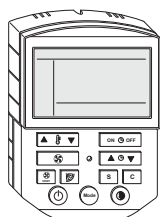
The heating-cooling switchover occurs automatically via detection of the water temperature in the fan coil upstream the valve according to the following logic. If the electric resistance is present, it can be activated.



## I.2.2 ADVANCED COMMANDS AND CONTROLS (SUPPLIED SEPARATELY)

### • KPCM (supplied separately)

Electronic control panel with 11-key LCD, for manual or automatic regulation of all appliance functions according to the pre-set room temperature. The panel is set-up to be wall-mounted.



(Dimensions 70 x 101 x 20 mm)

### • KTCM (supplied separately)

Infrared remote control with LCD, for manual or automatic regulation of all appliance functions according to the pre-set room temperature. The remote control is complete with a support bracket to be wall-mounted.



(Dimensions 50 x 130 x 30 mm)

### • KICM (supplied separately)

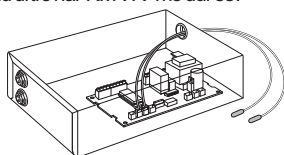
Recessed panel with LCD to control the Fan coil CMS electronically. The panel is set-up to be installed in 3-module recessed wall-mounted boxes.



(Dimensions 65.2 x 44.4 x 27.3 mm)

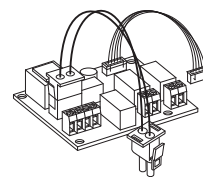
### • KCMS (supplied separately) for UTNC-EV

Electronic board that can be configured as MASTER or SLAVE for manual or automatic regulation of all appliance functions, complete with a container for any additional KMVR modules.



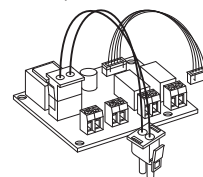
### • KMVR (supplied separately) for UTNC-EV

Module to control the ON/OFF valves in 2 or 4-pipe systems, to be associated with the KCMS electronic board. It has two auxiliary contacts: summer/winter consent and boiler control.



### • KCMVI (supplied separately) for UTNC-I

Electronic board that can be configured as MASTER or SLAVE for manual or automatic regulation of all appliance functions, complete with MVRI module (MVRI module to control the ON-OFF valve in 2 or 4 pipes systems of brushless fan).



### • KSTI (supplied separately)

Temperature sensor for additional water heating coil, to be used in combination with the KCMS-KCMVI electronic card.



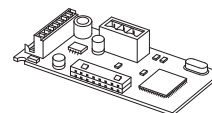
### • KPRI – Extension lead for the receiver for remote control operation.



## I.2.3 SERIAL INTERFACES FOR ADVANCED CONTROLS (SUPPLIED SEPARATELY)

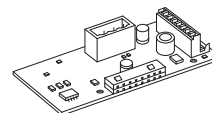
### • KISI (supplied separately)

**IRH055** CAN-bus serial interface (Controller Area Network, indispensable for the network connection of the units and their serial addressing, which are to be associated with the KCMS electronic board (Can-Open Protocol).



### • KRS485 (supplied separately)

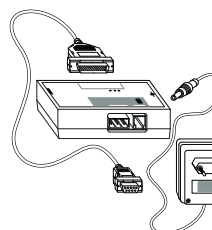
RS485 serial interface for logical dialogue with building automation and supervision systems, which is to be associated with the KCMS electronic board (Supported protocols: proprietary protocol; ModBus® RTU).



## I.2.4 SERIAL CONVERTERS (SUPPLIED SEPARATELY)

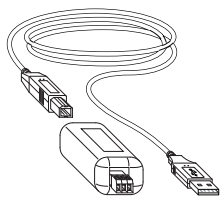
### • KRS232 (supplied separately)

RS485/RS232 serial converter to connect to supervisory systems and must be associated to one or more KRS485 serial interface modules in the case of centralised management of the units.



- **KUSB (supplied separately)**

RS485/USB serial converter to connect to supervisory systems and must be associated to one or more KRS485 serial interface modules in the case of centralised management of the units.



### I.3 INSTRUCTIONS FOR USE

The following operations can be carried out via the control panels:

- Drive/stop the unit.
- Selection from the three fan speeds.
- Regulation of the thermostat and maintaining the desired temperature in the room.
- Switchover of the cooling/heating: functioning cycle.
- Continuous ventilation control.

The specific instructions for use of the controls are provided with the relative controls.

#### I.3.1 PROLONGED SHUTDOWN



**IMPORTANT!**

If the unit is not used during the winter period, the water contained in the system may freeze.

If the machine is going to be out of use for long periods of time, it is necessary to disconnect the unit from the mains by disconnecting the main switch, fitted by the installer.

If the unit is not used during the winter period, the water contained in the system may freeze. To prevent this, all the water contained in the circuit must be emptied before the onset of winter. Alternatively, a suitable quantity of anti-freeze liquid should be mixed with the water.

#### I.3.2 START-UP AFTER PROLONGED SHUTDOWN

Before starting up the unit again:

- Clean or change the air filter.
- Clean the heat-exchanger.
- Clean or unclog the drain of the condensate tray.
- Bleed any air from the water system.
- It is advisable to run the unit at maximum speed for several hours.

### I.4 CLEANING THE UNIT

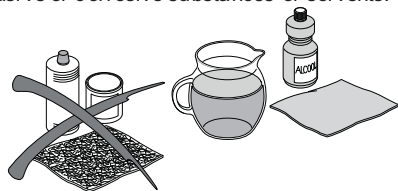


**DANGER!**

Always disconnect the electric power before cleaning or performing maintenance operations. Do not spray water on the unit.

The external surface of the unit can be cleaned.

Clean with a soft cloth dampened with water and alcohol. Do not use hot water, abrasive or corrosive substances or solvents.



#### I.4.1 CLEANING THE AIR FILTER

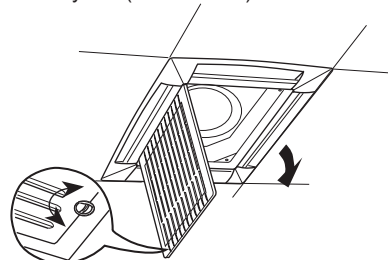
To ensure correct air intake, the air filter must be cleaned at least once a month or more often if the machine is used in very dusty environments. The filter must always be removed from the unit to be cleaned.



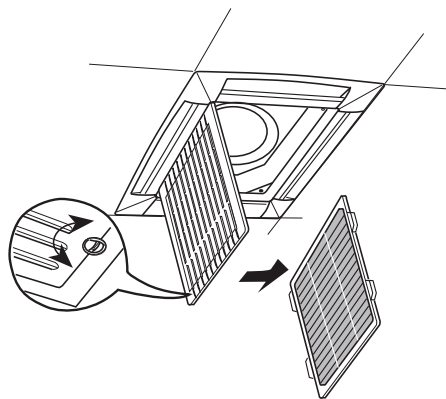
The air filter is made of acrylic fibre, which can be washed with water. The electrostatic activated carbon filters (with which the unit may be equipped) cannot be washed and must be replaced.

##### 1) Opening the grid

Turn the two screws by 90° (1/4 of a turn)

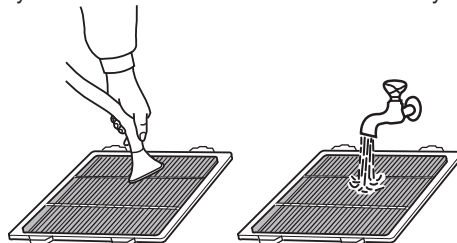


##### 2) Removing the filter



##### 3) Cleaning the filter

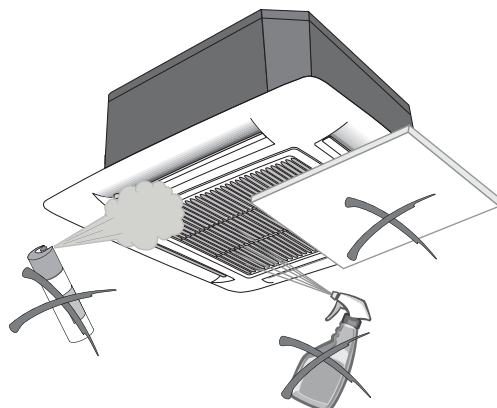
First clean the filter with a vacuum cleaner, then rinse it under running water and dry it. Insert the filter back into its seat correctly.



Before refitting the filter, make sure it is clean and completely dry. If the filter is damaged, it must be replaced with an original **RHOSS S.p.A** filter.

#### I.5 WARNINGS AND SUGGESTIONS

Never obstruct the air flow. The use of water or aerosol spray in proximity to the unit can cause electric shocks and malfunctions.

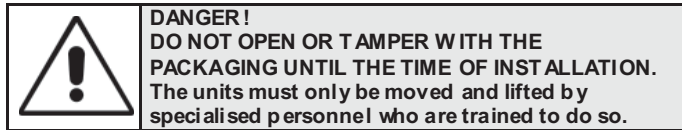




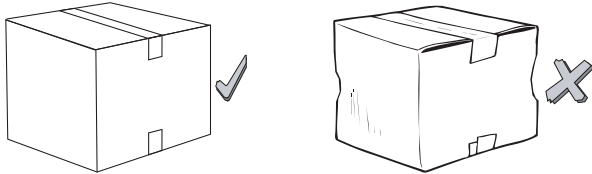
## II SECTION II: INSTALLATION AND MAINTENANCE

### II.1 TRANSPORT INSTRUCTIONS

#### II.1.1 PACKAGING AND COMPONENTS

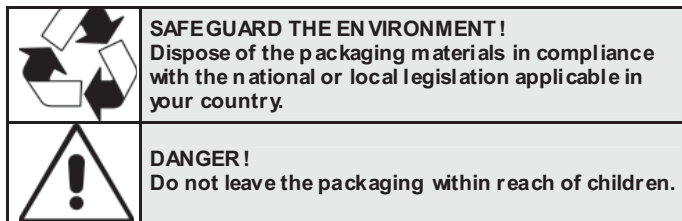


Upon delivery, check that the unit has not been damaged during transport and that it is complete with all its parts. If there is visible damage, immediately take note of the damage and write this on the transport document together with the following statement: "ACCEPTED WITH RESERVATIONS BECAUSE OF EVIDENT DAMAGE TO THE PACKAGING", stating the serial number if there are several machines, since ex-works delivery implies entitlement to compensation under the terms of the insurance, in accordance with the provisions of applicable Laws.

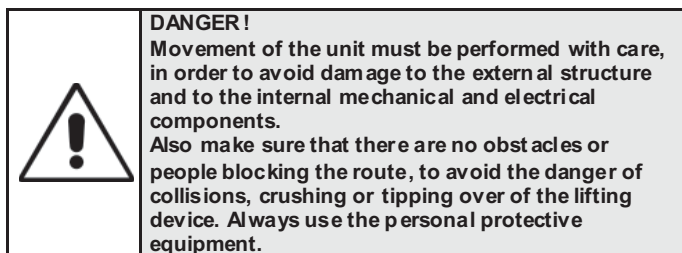


To remove the packaging, follow these instructions:

- Check for visible damage;
- Open the packaging;
- Verify that the envelope containing the use and maintenance manual is present;
- Dispose of the packaging material in accordance with current legislation, at the appropriate waste reception or recycling site.



#### II.1.2 HANDLING INSTRUCTIONS



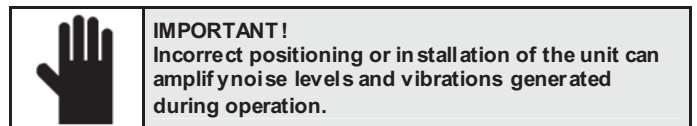
All the operations listed below must be carried out in accordance with current health and safety regulations, with reference to the equipment used as well as the procedures followed. Before commencing handling operations, ensure that the lifting device has the required capacity for the unit in question.

The units can be moved or lifted by hand or by means of a suitable truck. If the unit weighs more than 30 kg and is to be handled manually, this must be carried out by two persons: however, it is recommended to use a truck. If several units need to be moved at the same time, it is advisable to put the machines in a container and lift them by means of a forklift truck or similar means.

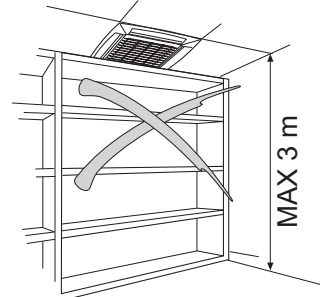
### II.1.3 STORAGE CONDITIONS

Packaged units can be stored by stacking a maximum of four on top of each other and must be stored in a dry area.

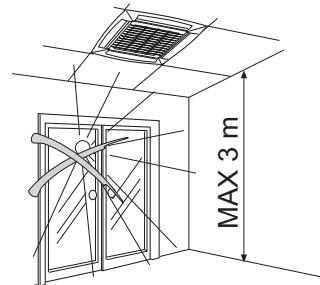
### II.1.4 CLEARANCES AND POSITIONING



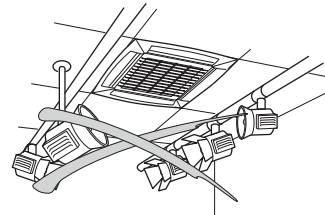
Never obstruct the air flow or return:



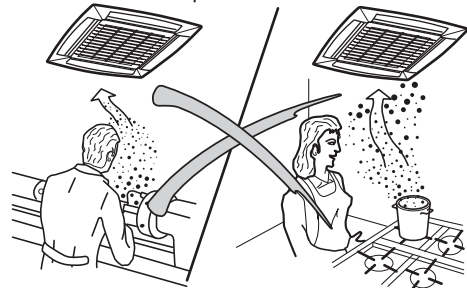
Prevent direct solar radiation into the room (draw the curtains) when operating in cooling mode:



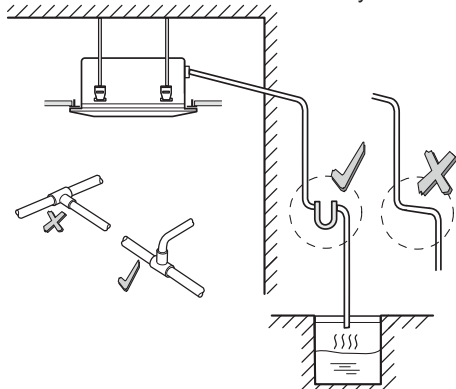
Do not place the unit close to heat sources:



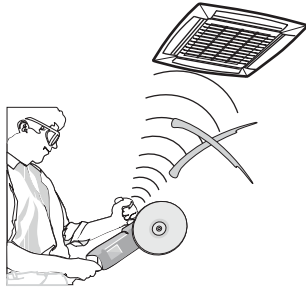
Avoid environments with oil vapours.



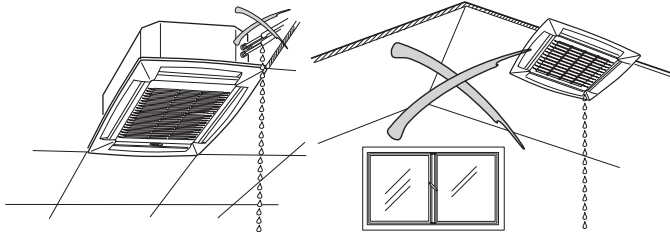
Do not use a condensate drain pipe to the civil drains/sewer without a siphon. The height of the siphon must be according to the water head, which allows the condensate to evacuate correctly.



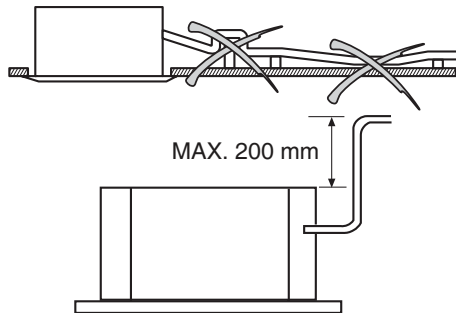
**Avoid** environments with an enhanced presence of high frequencies.



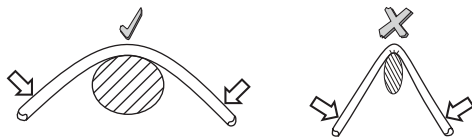
**Avoid** the partial insulation of the pipes and non-level installations as either can cause dripping.



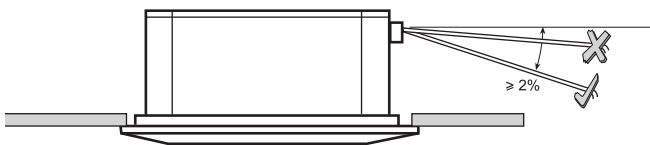
**Avoid** ascending tracts, away from the unit, in the condensate drain pipe. These can only be present near by the unit with a maximum level difference of 200 mm with respect to the upper base.



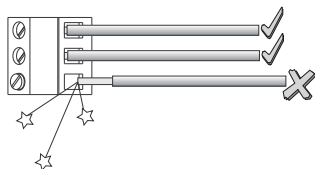
**Do not** crush the connection pipes and the condensate drain pipe.



**Avoid** horizontal tracts and bends of the condensate drain pipe; this must have a minimum slope of 2%.



**Avoid** loose electrical connections.



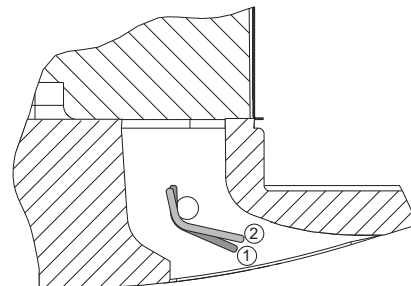
## II.2 INSTALLATION INSTRUCTIONS

|  |                                                                                                                                                                                                                                                                                                                                                                                                 |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>DANGER!</b><br>Installation must only be carried out by skilled technicians, qualified to work on air conditioning and refrigeration systems. In correct installation could cause the unit to malfunction, with a consequent deterioration in performance.                                                                                                                                   |
|  | <b>DANGER!</b><br>The unit must be installed according to national or local regulations applicable at the time of installation. Always use the personal protective equipment.                                                                                                                                                                                                                   |
|  | Check that the voltage and the frequency of the electric system correspond to those required and that the available power installed is sufficient for other household appliances that are connected on the same electric lines to function. Make sure that the electrical supply system complies with current National safety regulations. Make sure that an efficient earth line is available. |
|  | The condensate drain pipe of the inner unit must be extended with a PVC pipe of an internal Ø 16 mm (not supplied), long enough for the installation in question and thermally insulated.                                                                                                                                                                                                       |
|  | The unit is not designed to be installed in rooms used for laundry purposes (IEC EN 60335-2-40).                                                                                                                                                                                                                                                                                                |

Follow the indications below for the installation procedure:

Install the unit in a possibly central position of the room. The air flow direction can be adjusted by manually moving the vents according to the functioning mode (cooling or heating). This optimises the air distribution in the room.

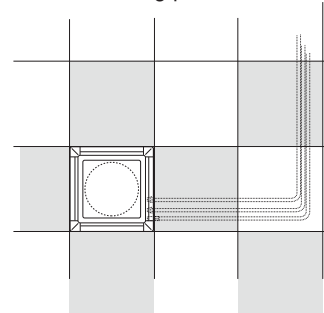
When functioning in cooling mode, the optimal position (2) of the vents is that which blows the air towards the ceiling by Coanda effect. In heating mode, the vents (1) direct the air towards the floor to prevent stratification of hot air in the upper part of the room.



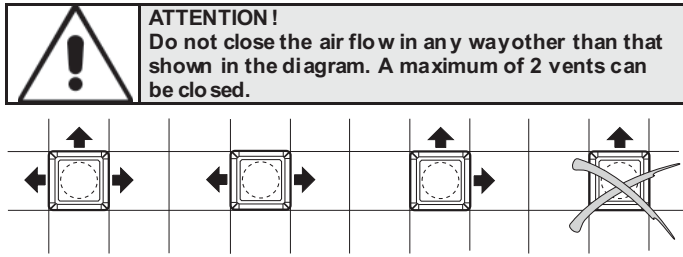
- ① Heating: vents in position to blow the air.
- ② Cooling: vents in position to blow the air.

For quick and easy installation and maintenance, the pre-selected position must allow the ceiling panels to be removed and in the case of masonry ceilings, the unit can be accessed.

In the case of plasterboard ceilings, the unit housing dimensions must not exceed 660x660 mm (models 26-41-51) and 900x900 mm (models 61-86-111). In rooms with high humidity, insulate the fastening brackets with suitable self-adhesive isolating parts.

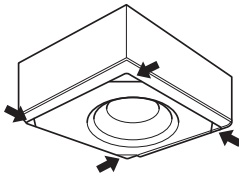
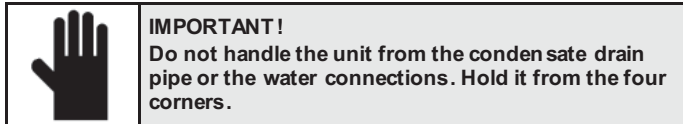
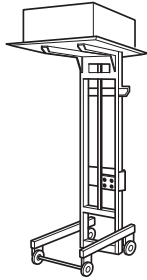


Use the relative KIT (KC B) to close one or two air flow vents.



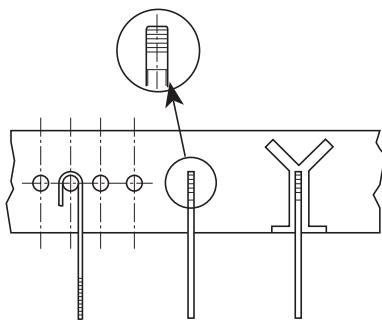
## II.2.1 PRE-INSTALLATION

Transport the packaged unit as close as possible to the installation location. For further protection, the control and the grid are supplied in separate packaging. The unit installation is facilitated when a forklift is used.

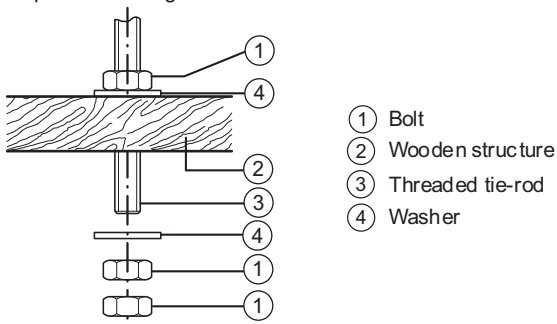


## II.2.2 INSTALLATION

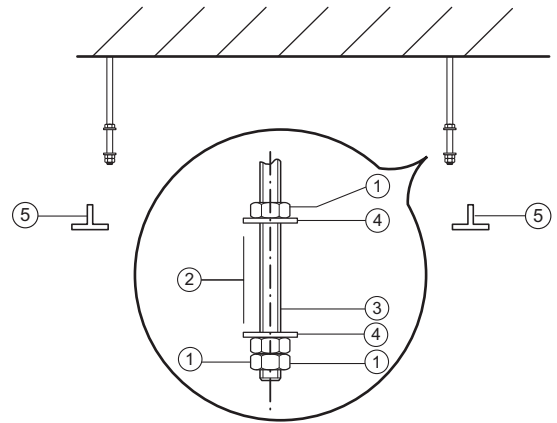
Mark the position of each support, the connection pipes and condensate drain pipe and the electric supply and control cables (see dimensions). The supplied cardboard template can be useful for this purpose. The tie-rods can be installed as indicated in the figure, depending on the type of ceiling.



An example of fastening to a wooden structure:



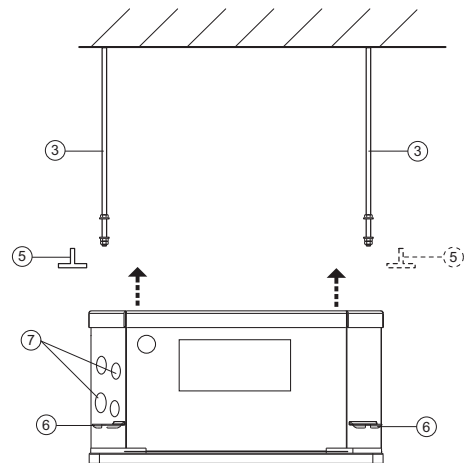
Once the four tie-rods are installed, screw in the bolts without tightening and insert the washers as indicated in the figure:



- 1 Bolt
- 2 Gap for fastening bracket
- 3 Threaded tie-rod
- 4 Washer
- 5 T-profile

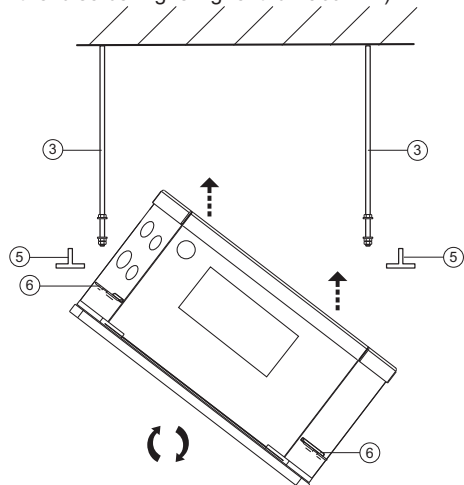
First position the connection pipes as described in the "Water Connections" paragraph and remove a T-profile for a quicker and simpler installation.

Carefully lift the unit (without the frame), grabbing it from the four fastening brackets (or the four corners) and insert it into the false ceiling.

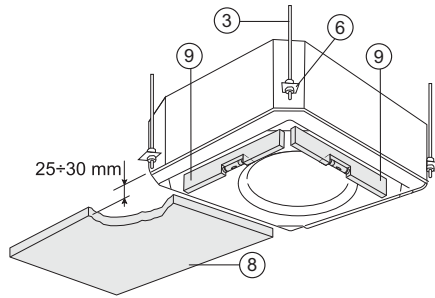


- 3 Threaded tie-rod
- 5 T-profile
- 6 Fastening bracket
- 7 Water connections

If a T-profile cannot be removed, the unit must be tilted (this can only be carried out if the false ceiling is higher than 300 mm).

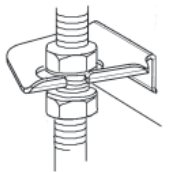


Level the unit using a spirit-level, adjusting the bolts and lock-nuts of the threaded tie-rods, keeping a distance of 25-30 mm between the sheet steel casing and the lower surface of the false ceiling.



- ③ Threaded tie-rod
- ⑥ Fastening bracket
- ⑧ False ceiling
- ⑨ Level

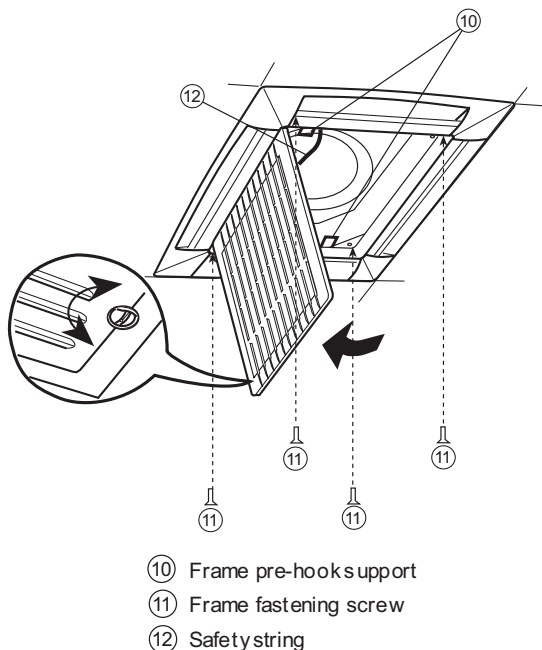
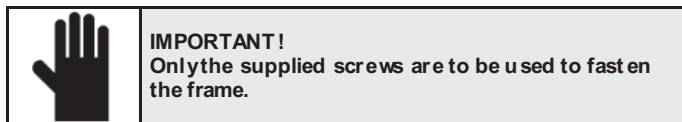
Re-mount the previously removed T-profile and align the unit with respect to the profiles, tightening the bolts and lock-nuts.



Lastly, after having implemented the condensate drain pipe and water connections, check that the unit is still level.

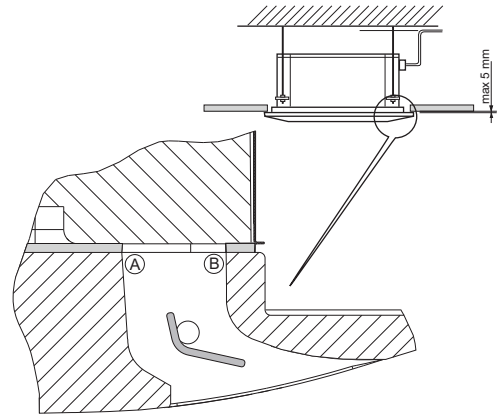
### II.2.3 ASSEMBLY OF THE FRAME/GRID ASSEMBLY

Unpack the frame/grid assembly and check that this has not been damaged during transport. Apply the assembly to the unit by hooking it to the two fastening supports and tighten the four fastening screws.



- ⑩ Frame pre-hook support
- ⑪ Frame fastening screw
- ⑫ Safety string

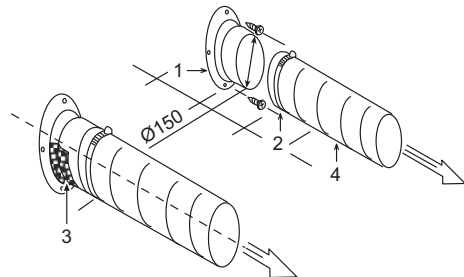
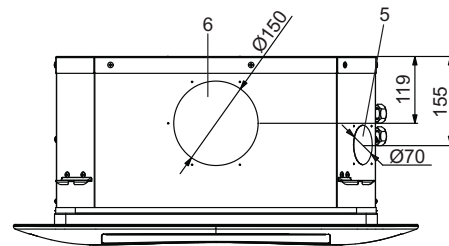
The frame must not be deformed caused by excessive traction; it must be centred with respect to the false ceilings and it must especially guarantee tightness between the air intake and flow. The figure indicates the seal gaskets (A-B) that prevent the air from being by-passed (A) and the treated air from escaping (B) inside the false ceiling. Once the assembly is installed, verify that the gap between the frame and the false ceiling is less than 5 mm.



### II.2.4 Outdoor fresh air and treated air flow into an adjacent room

The side openings allow a separate intake duct to be implemented for the **outdoor fresh air** and the **air flow into an adjacent room**.

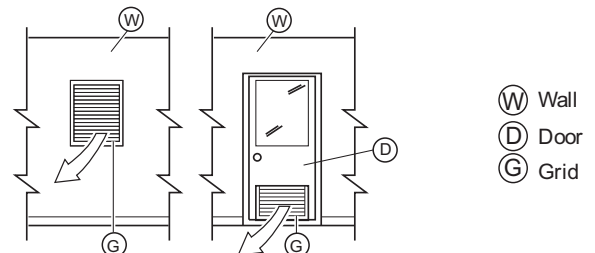
Remove the outer anti-condensate insulation, defined by the die, and remove the pre-sheared sheet steel panels using a punch.



- ① Connection inlet
- ② Pipe clamp
- ③ 6 mm neoprene gasket
- ④ Insulated pipe duct
- ⑤ Outdoor air inlet
- ⑥ Air distributed into an adjacent room

#### II.2.4.1 Air flow into an adjacent room

The air flow into the adjacent room requires the duct vent to be closed using the relative flow vents obstruction kit. The kit cannot be used with units that have an electric resistance. An air return grid must be installed (as close as possible to the ground) between the air-conditioned room (in which the unit is installed) and the adjacent room.

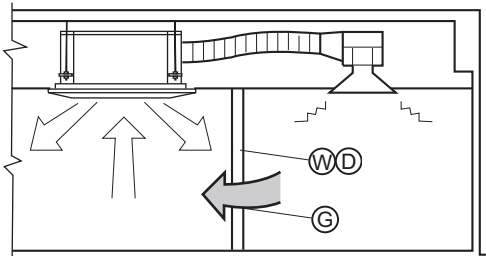


- Ⓜ Wall
- ⓓ Door
- ⓖ Grid



**IMPORTANT!**  
DO NOT electrostatic or activated carbon filter kits in presence of ducting towards the adjacent room.

Use a pencil to trace the inner Polystyrene along the perimeters of the previously sheared sheet steel, then use a cutter to cut the Polystyrene, paying attention not to damage the coil of the heat exchanger at the back.

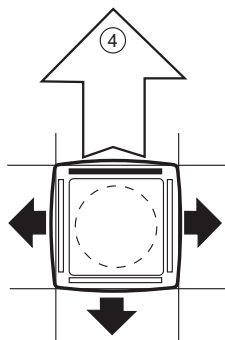
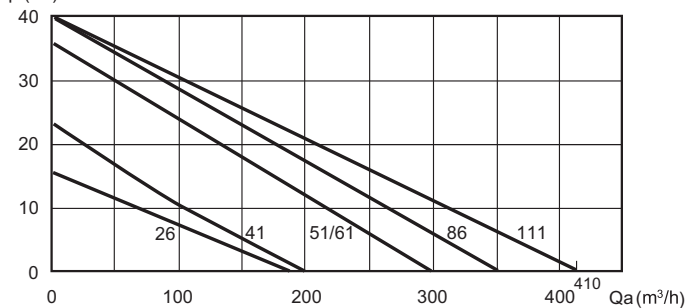


- (W) Wall
- (D) Door
- (G) Grid

It is not permitted to use the two pre-sheared side openings on the unit simultaneously for the air flow into the adjacent room. The "air flow into the adjacent room diagram" helps determine the length of the flow ducts (also considering the drop in pressure by means of air flow diffusers, external air filters) and the increase in noise due to these channels.

#### Air flow into the adjacent room diagram (one closed vent)

If two vents are closed, the air flow rate towards the adjacent room is 50% higher than that generated with 1 closed vent (equal static counter pressure)



- p Static pressure available
- Qa Air flow rate
- (4) Flow channel into the adjacent room

#### II.2.4.2 Outdoor fresh air

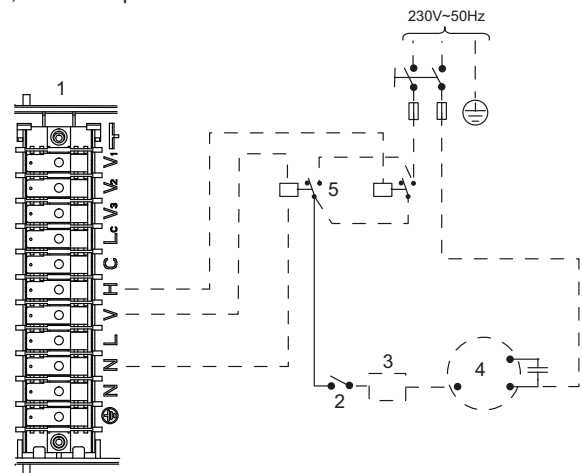
Remove the pre-cut sheet metal and install the air control device by fixing it to the unit frame.

Use material (purchased locally) that is suitable for a continuous temperature of 60 °C. The ducts can be made of polyester pipe (with a steel spiral core) or made of corrugated aluminum, covered externally with anti-condensate material (fiberglass 12 - 25 mm thick). Once installation is complete, the non-insulated surfaces of the ducts must be covered with anti-condensate insulating material (e.g. 6 mm expanded neoprene).



**IMPORTANT!**  
Failure to comply with these instructions can cause dripping due to the condensation. The Manufacturer cannot be held liable for any damage.

An additional fan for the intake of outdoor air (installed by the installer) must be connected to the terminal board as shown in the attached diagrams. The fan functions in parallel to the electrothermal adjustment valve, for it to stop when the valve closes.



- (1) Electrical board
- (2) Antifreeze thermostat
- (3) Speed controller
- (4) Outdoor fan motor
- (5) 230 V relay

For winter functioning with outdoor air intake, it is recommended to install an anti-freeze thermostat calibrated to 2°C, with the bulb placed on the water outlet pipes, which intercepts the additional fan. The outdoor air flow rate must be 10% less than the total air flow rate in order to prevent problems pertaining to the functioning or noise. The fresh air flow must be less than 10% of the total air flow, to avoid operating problems or excessive noise. For higher air flow a "primary air kit" KAP is available which uses the prepunched hole for air ducting to an adjacent room and a baffle so that the fresh air is introduced into the room through a diffuser. Install an intake grid with an inspection filter-holder frame on the outside so as to prevent dust and leaves from irreparably blocking the heat exchanger coil of the unit. If this filter is installed, a channel closing damper does not need to be installed during the shutdown periods.



## II.2.5 WATER CONNECTIONS



**IMPORTANT!**  
It is very important for the water connections to be implemented with great care by specialised personnel.

### II.2.5.1 Connection to the System

Use threaded gaskets and suitable material for the water connections to the heat exchanger or the valves in order to guarantee a perfect seal. The unit is equipped with female input and output fittings for the 2-pipe and 4-pipe configurations. The unit is also equipped with an air bleed valve that can be handled with an 8 mm wrench.

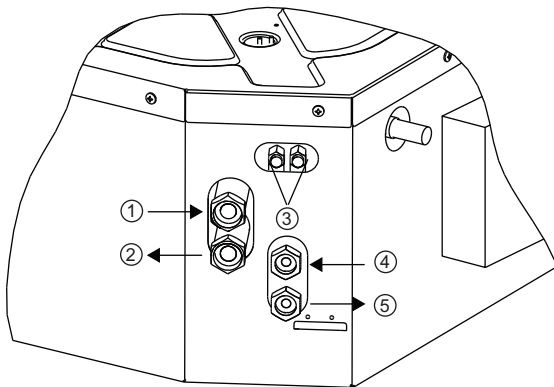


**IMPORTANT!**  
The coil can only be partially drained. To drain it completely, blow air through the coil.

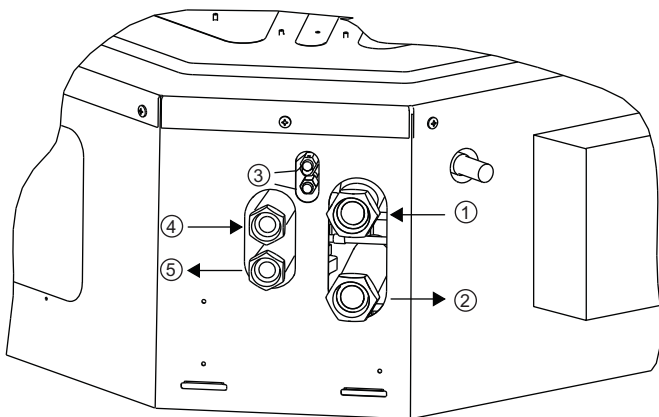
| Model   | Ø of fittings |
|---------|---------------|
| 26      | 3/4"          |
| 41      | 3/4"          |
| 51      | 3/4"          |
| 26 (*)  | 1/2"          |
| 41 (*)  | 1/2"          |
| 51 (*)  | 1/2"          |
| 61      | 1"            |
| 86      | 1"            |
| 111     | 1"            |
| 111 (*) | 3/4"          |

(\*) Hot circuits in the 4-pipe version

**26 - 41 - 51**



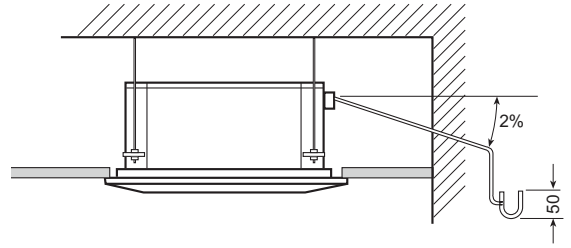
**61 - 86 - 111**



- 1 Cold water circuit inlet
- 2 Cold water circuit outlet
- 3 Air bleed valve
- 4 Hot water circuit inlet
- 5 Hot water circuit outlet

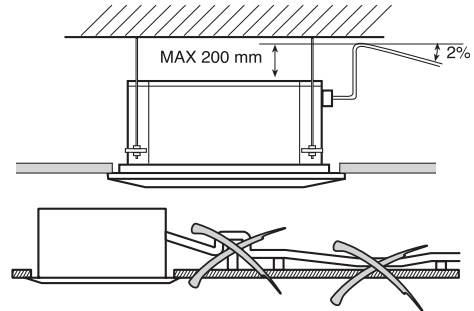
### II.2.5.2 Setting up the condensate drain

For the condensate to flow correctly, the drain pipe must have a downward 2% inclination with no bottlenecks. Furthermore, set up a siphon that can be inspected and is at least 50 mm deep so as to prevent odours from returning into the room.

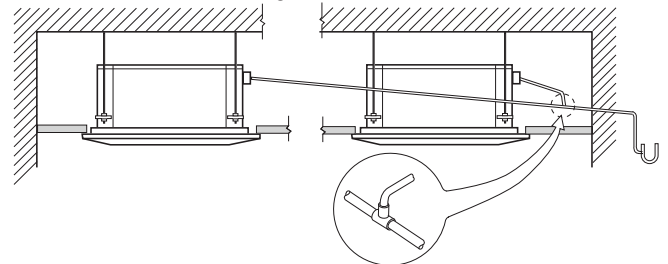


The water can be drained to a level that is 200 mm higher than (max) the unit, as long as the tract of the ascending pipe is vertical and positioned in line with the drain flange.

To drain the water to a higher level than that allowed, install an auxiliary condensate drain pump with a collection tray and level regulator. We recommend models with a safety float that stops the water flow if the pump malfunctions.

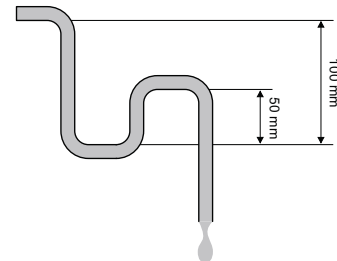


The pipes must be covered with anti-condensate material, e.g. polyurethane, polypropylene, neoprene or 5-10 mm expanded material. If several units are installed in a room, the condensate drain pipes must be installed as shown in the figure.



### II.2.5.3 Setting up the water siphon

The condensate drain system must be set up with an adequate siphon so as to prevent the infiltration of odours. The diagram below shows how a water siphon is installed.



Always set up or install a plug in the lower part of the siphon so as to allow a rapid disassembly for the cleaning operations.

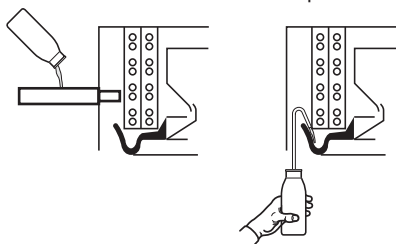


**IMPORTANT!**  
Position the drain pipes so as not to mechanically stress the drain fitting of the unit.

### II.2.5.4 Inspections

When installation is complete, it is necessary to:

- Bleed the air contained in the circuit.
- Ensure that there are no water leaks.
- Carefully cover the valve and connection on pipes with 10 mm anti-condensate material or install the auxiliary trays.
- Pour water into the condensate drain tray and check that the liquid drains properly, following it right through to the outlet of the drain-tube. If it does not, check the inclination and look for possible blockages.



### II.2.5.5 Assembly of the motorised electrothermal valve

The unit control circuit only allows opening of the motorized valve when the fan motor is working.

When a lower temperature is required by the thermostats, the outlet V and H (terminal blocks) is powered at 230V and the corresponding chilled water or hot water valve is energized.



#### ATTENTION !

The pump control circuit stops water supply to the cold valve if an irregular increase of the condensate water level is detected into the drain pan.

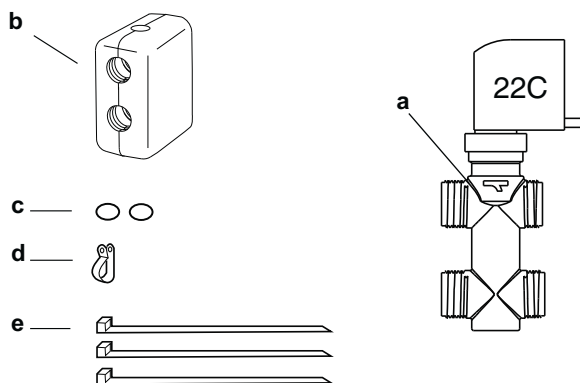
If an irregular increase of the condensate water level is detected into the drain pan (for example: possible defective drain, pump malfunction, fan motor not working) the contact of the "safety level 2" float switch opens to close the regulation valve, stopping the cold water flow towards the coil and avoiding further condensation.

#### Regulation

The water flow rate must be checked:

- install the motorised valves supplied as accessories
- or:
- install the motorised valves supplied by the installer

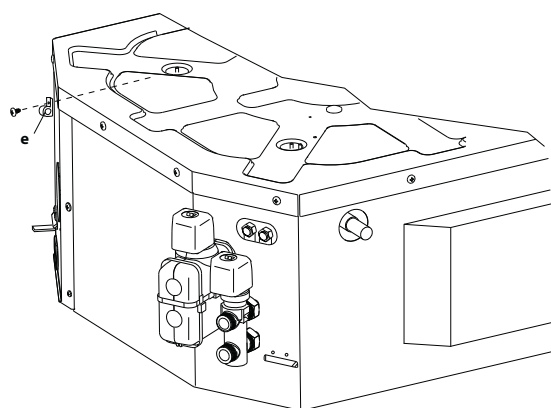
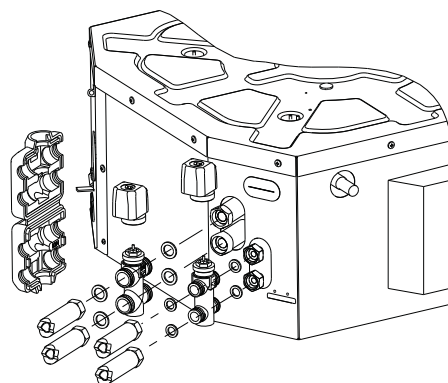
#### List of components



| Ref. | Description    | 2-PIPE |      | 4-PIPE |      |
|------|----------------|--------|------|--------|------|
|      |                | Q.ty   | Q.ty | Q.ty   | Q.ty |
| a    | 1" Gas Valve   | -      | 1    | -      | 1    |
|      | 3/4" Gas Valve | 1      | -    | 1      | 1    |
|      | 1/2" Gas Valve | -      | -    | 1      | -    |
| b    | Shell          | 1      | 1    | 1      | 1    |
| c    | O-ring         | 2      | 2    | 2      | 2    |
| d    | Clip           | 1      | 1    | 1      | 1    |
| e    | Clamp          | 3      | 3    | 3      | 3    |

### II.2.5.6 Instructions to install the motorised electrothermal valve

The electrothermal valve unit must be assembled on to the unit once the latter has been installed, following the diagrams and according to the model.



#### ATTENTION !

Lightly grease the O-Rings before placing them into their seats.

The valve unit for a cold coil must be installed first in the 4-pipe models. Connect the valve unit to the coil and fasten it by applying a torque of:

| Type of gasket | Nm     |
|----------------|--------|
| Rubber         | 10/ 12 |
| FabriFibra     | 25/30  |

Install the actuator on to the valve body.

When connecting the steel pipes of the system, ensure these are aligned and supported so as not to exert abnormal force on the unit. When the system is filled with water, verify the tightness of all the fittings. If the KVA accessory is present, install the auxiliary tray below the valve unit, inserting the drain pipe into the relative hole; level and fasten it to the previously assembled clip with the three screws supplied. Insulate the three screws and the lower border of the tray with insulating material.



#### NOTE:

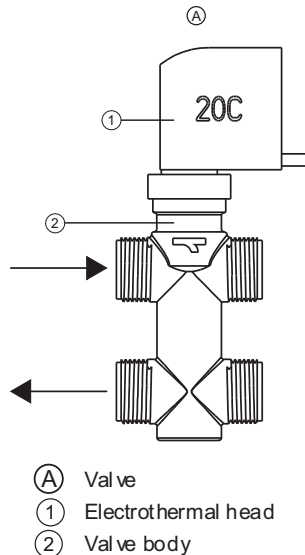
The tightness efficiency of the valve unit is factory-tested. Any leaks in the system are therefore due to an incorrect installation.

Cover the valve with the shell (b), blocking it with the clamps (e) and ensure that all the cold parts are insulated.

Fit the actuator on the valve body, route the valve cable through the box and connect it to the terminal block as shown in fig. To connect the steel pipes to the system, ensure they are aligned and supported to avoid excess strain on the unit. If the system is filled with water, check all fitting seals. After ending the hydraulic connections, make sure there are no leaks. Insulate the valve using the shell, fix it by means of the clips and make sure that all cold parts are insulated. For 4-pipe hot water, repeat all the operations with gas adaptors, as per the table.

### II.2.5.7 Functioning of the motorised electrothermal valve

This 2-3-way valve is of the OPEN/CLOSE type with very slow travel. It is not a modulating valve so it has no PTC. This valve is driven, as a sensible element, by the ambient thermostat of the "cassette" unit. The 2-way valve is normally closed to the coil with no powered actuator side. The 3-way valve is normally closed to the coil with no powered actuator side while is open to the bypass wayside. When the room temperature does not satisfy the thermostat, the valve opens after about 3 minutes about to allow water to circulate in the coil. If the room temperature satisfies the thermostat or if the electric power has been switched off, the valve is closed after about 3 minutes towards the coil and is opened towards the bypass.



**In an emergency, the valve can be opened manually by loosening the nut and removing the electric actuator. Once the emergency is resolved, remember to restore the automatic function of the valve by re-positioning the electric actuator. Failure to do so can cause condensation due to the passage of water, even if not powered.**

### II.2.5.8 Instructions to be followed if valves supplied by the installer are used

#### Water connections

Use flat-end valves with a 40 mm interaxis for sizes 26-41-51 and a 74 mm interaxis for sizes 61-86-111. Install the valves following the manufacturer instructions; refer to the relative figures for the connections to the unit. Carefully insulate the pipes, the valve units and the coil fittings (cold water side) so as to prevent the condensation that can form on them from dripping on to the false ceiling. When the system is filled with water, verify the tightness of all the fittings.

**RHOSS S.p.A. cannot guarantee tightness efficiency of the valve units supplied by the installer as these are not factory-tested. Therefore, the Company shall not be held liable for any malfunctioning valve unit and damage caused by dripping.**

#### Electrical connections

Connect the room control following the instructions relative to the control used.

**ATTENTION !**  
Route the cables through the electrical box as shown in fig.

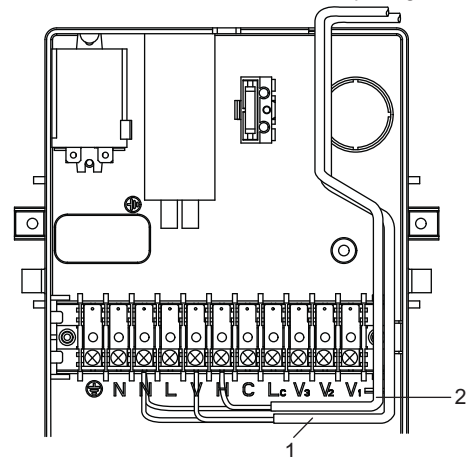
Connect the valves according to the following instructions, using the relative wiring diagrams. The type of valves used must close the water inlet to the unit in the event of a power cut.

#### 2-position (ON-OFF) 230V valves for UTNC-EV

In this case the chilled water valve must be piloted by the 230V ON-OFF signal from clamp V, and the hot water valve from clamp H.

#### 2-position (ON-OFF) valves with a voltage other than 230V for UTNC-EV

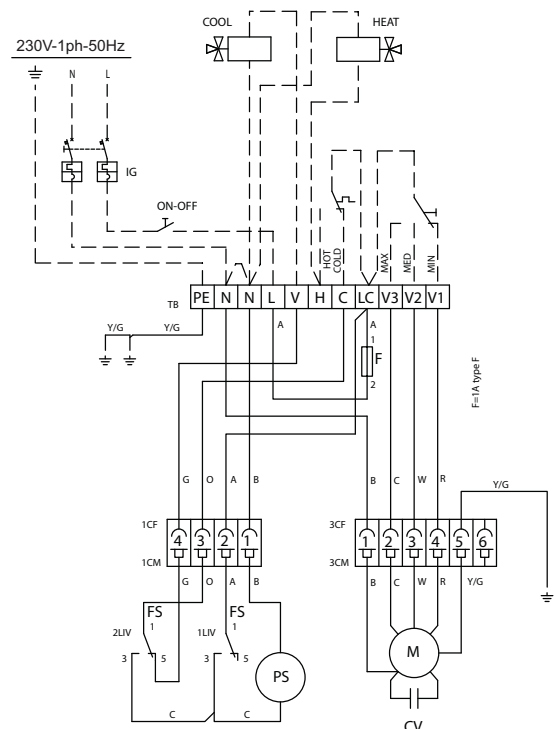
If a room control listed in the accessories table is used, follow the instructions in the previous paragraph, installing two 230V relays to clamps V-N and H-N that will control the valve opening.



#### Control connection for UTNC-EV

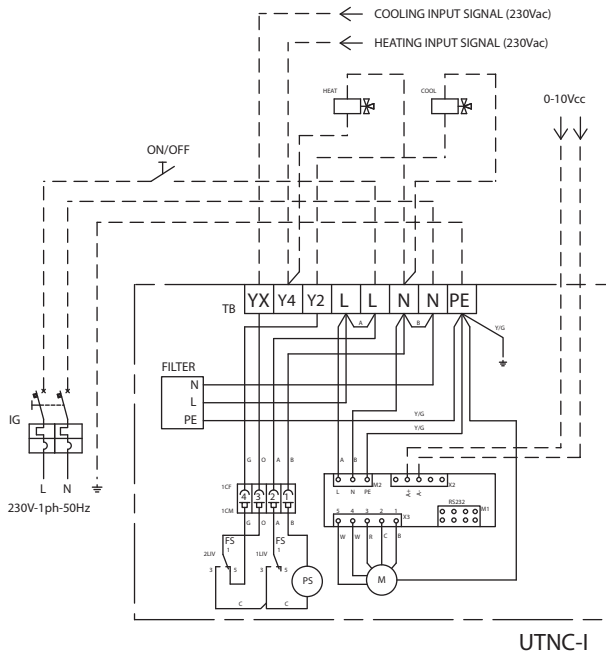
If a low-voltage control is used or the room control installed is not included in the accessories table, the connections must be implemented on the terminal board of the unit.

**ATTENTION !**  
Failure to comply with these connections can cause the condensation water to overflow from the tray.



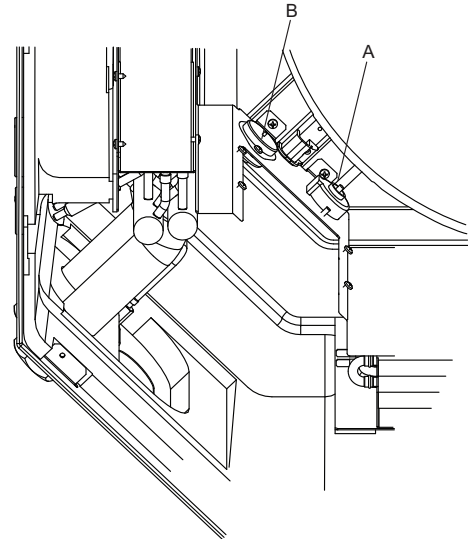
**UTNC-EV**  
HOT Hot  
COLD Cold

The valves must only open when the fan is functioning, i.e. when one of the clamps V1, V2 or V3 is energized by LC mains supply. Any electric heater, which must only be of the type installed in the factory, must only be powered when a fan is functioning.



The connections must be implemented in accordance with the diagrams supplied with the machine. Use a H05VV-F-type, flexible, double-insulated, bipolar + earth cable with a 1.5 mm<sup>2</sup> section to connect the unit to the mains (2.5 mm<sup>2</sup> in case of electrical heater).

**IMPORTANT:** the unit with the electric heater is equipped with two thermostats; one with automatic rearm and one with manual rearm that can be reactivated. Il riscaldatore elettrico è installato esclusivamente in fabbrica. È assolutamente vietato l'uso supplementare di altri riscaldatori montati in loco. L'inosservanza di questa norma causa il danneggiamento dell'unità e comporta l'immediato annullamento della garanzia. The electric heater is factory installed. The use of other electric heaters is absolutely prohibited. Failure to follow this safety requirement causes unit damage and voids the warranty.



A Thermostat with manual reset  
B Thermostat with automatic reset

### II.2.5.9 Anti-freezing protection

|  |                                                                                                                                                                   |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>IMPORTANT!</b><br>When the unit is out of service, drain all the water from the circuit.                                                                       |
|  | <b>IMPORTANT!</b><br>Mixing the water with glycol modifies the performance of the unit. Pay attention to the safety instructions on the package regarding glycol. |

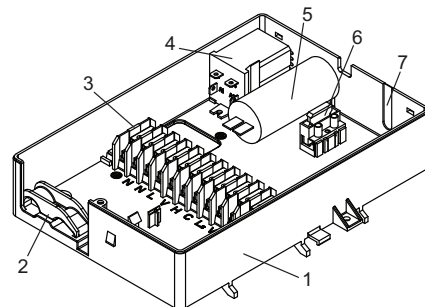
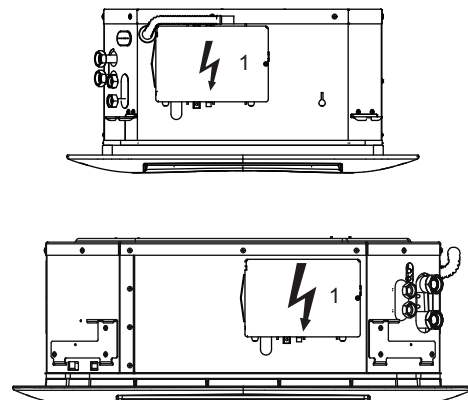
If the unit is not used during the winter period, the water contained in the system may freeze. To prevent this, all the water contained in the circuit must be emptied before the onset of winter. However, if the operation of draining the system seems too laborious, a suitable quantity of anti-freeze liquid can be mixed with the water instead. If the system needs to be emptied, remember that a water head always remains into the coil and it may freeze in case temperature goes below 0° thus causing the heat exchanger failure. The heat exchanger can be totally emptied by opening the valves and blowing in air in each valve for 90 seconds at a minimum pressure of 6 bar.

### II.2.6 ELECTRICAL CONNECTIONS

|  |                                                                                                                                                                                                                                                                                                                                                   |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>IMPORTANT!</b><br>The electrical connection of the unit must be carried out by qualified personnel, in compliance with the regulations applicable in the country where the unit is installed. RHOSS S.p.A. shall not be held liable for damage to persons or property caused by a non-compliant electrical connection.                         |
|  | <b>DANGER!</b><br>Always install a general automatic switch in a protected area near the machine, which has a characteristic delayed curve, sufficient capacity and breaking power. There must be a minimum distance of 3 mm between the contacts.<br>An earth connection is compulsory by law to ensure user safety while the machine is in use. |

Check that the voltage and the frequency of the electrical system correspond to 230V (±10%) single phase at 50 Hz (±7% in case of units with electric resistance); that the available installed power is sufficient for running the equipment and that the supply cables are of adequate section for the maximum current required.

Make sure that the electrical supply system complies with current national safety regulations.



#### UTNC-EV

- 1 Electrical box
- 2 Cable holder
- 3 Terminal block
- 4 Electric heater relay
- 5 Capacitor
- 6 Fusible
- 7 Valve cable inlet

## A1 TECHNICAL DATA

|                                                      |       | UTNC-EV / UTNC-EV REL<br>UTNC-I / UTNC-I REL |          |       |       |       |       | UTNC-EV B4<br>UTNC-I B4 |       |       |       |       |
|------------------------------------------------------|-------|----------------------------------------------|----------|-------|-------|-------|-------|-------------------------|-------|-------|-------|-------|
| Model                                                |       | 26                                           | 41       | 51    | 61    | 86    | 111   | 26                      | 41    | 51    | 111   |       |
| Nominal cooling capacity<br>(total heat) (*)         | kW    | MAX                                          | 2,40     | 4,00  | 4,70  | 6,30  | 7,20  | 9,60                    | 2,20  | 3,50  | 4,10  | 9,10  |
|                                                      |       | MED                                          | 1,80     | 2,90  | 3,50  | 4,50  | 5,50  | 6,60                    | 1,65  | 2,70  | 3,25  | 6,80  |
|                                                      |       | MIN                                          | 1,55     | 1,90  | 2,85  | 3,40  | 3,70  | 4,05                    | 1,45  | 2,00  | 2,60  | 3,80  |
| Heating capacity<br>(incoming water 50°C) (**)       | kW    | MAX                                          | 3,20     | 5,00  | 6,20  | 8,11  | 10,00 | 13,00                   | -     | -     | -     | -     |
|                                                      |       | MED                                          | 2,50     | 4,00  | 4,60  | 6,00  | 7,40  | 9,30                    | -     | -     | -     | -     |
|                                                      |       | MIN                                          | 2,20     | 2,50  | 3,70  | 4,50  | 4,60  | 5,20                    | -     | -     | -     | -     |
| Heating capacity<br>(incoming water 70°C) (***)      | kW    | MAX                                          | 5,33     | 8,39  | 12,87 | 13,63 | 16,89 | 21,87                   | -     | -     | -     | -     |
| Nominal heating capacity<br>additional coil B4 (***) | kW    | MAX                                          | -        | -     | -     | -     | -     | -                       | 1,90  | 6,37  | 6,80  | 16,00 |
|                                                      |       | MED                                          | -        | -     | -     | -     | -     | -                       | 1,44  | 5,10  | 5,80  | 11,50 |
|                                                      |       | MIN                                          | -        | -     | -     | -     | -     | -                       | 1,24  | 3,60  | 5,00  | 7,30  |
| Electrical heater<br>230V-1ph-50Hz                   | kW    |                                              | 1,50     | 2,50  | 2,50  | 3,00  | 3,00  | 3,00                    | -     | -     | -     | -     |
| Air flow                                             | m³/h  | MAX                                          | 660      | 735   | 900   | 980   | 1160  | 1600                    | 660   | 735   | 900   | 1600  |
|                                                      |       | MED                                          | 450      | 505   | 625   | 720   | 825   | 1080                    | 450   | 505   | 625   | 1080  |
|                                                      |       | MIN                                          | 360      | 320   | 485   | 530   | 500   | 600                     | 360   | 320   | 485   | 600   |
| Sound power                                          | dB(A) | MAX                                          | 47       | 52    | 57    | 47    | 53    | 61                      | 47    | 54    | 57    | 61    |
|                                                      |       | MED                                          | 37       | 44    | 48    | 40    | 46    | 52                      | 37    | 45    | 48    | 52    |
|                                                      |       | MIN                                          | 32       | 32    | 42    | 34    | 37    | 40                      | 32    | 33    | 42    | 40    |
| Sound pressure (****)                                | dB(A) | MAX                                          | 38       | 43    | 48    | 38    | 44    | 52                      | 38    | 45    | 48    | 52    |
|                                                      |       | MED                                          | 28       | 35    | 39    | 31    | 37    | 43                      | 28    | 36    | 39    | 43    |
|                                                      |       | MIN                                          | 23       | 23    | 33    | 25    | 28    | 31                      | 23    | 24    | 33    | 31    |
| Cleanable filter (a x b)                             | mm    |                                              | 43x41    | 43x41 | 43x41 | 43x41 | 43x41 | 43x41                   | 61x59 | 61x59 | 61x59 | 61x59 |
| Power supply V-ph-Hz                                 |       |                                              | 230-1-50 |       |       |       |       |                         |       |       |       |       |
| Max absorbed power UTNC-EV                           | W     |                                              | 58       | 54    | 94    | 63    | 85    | 185                     | 58    | 54    | 94    | 185   |
| Max absorbed power UTNC-I                            | W     |                                              | 23       | 33    | 57    | 25    | 46    | 115                     | 23    | 32    | 57    | 115   |

(\*) In the following conditions: ambient temperature 27°C D.B.; 19°C W.B.; incoming water temperature 7°C with  $\Delta t$  5°C.

(\*\*) In the following conditions: ambient temperature 20°C; incoming water temperature 50°C with water flow as (\*).

(\*\*\*) In the following conditions: ambient temperature 20°C; incoming water temperature 70°C with  $\Delta t$  10°C.

(\*\*\*\*) Sound level pressure expressed in dB(A), in reference to a measurement at a distance of 1 m from the air outlet (with directionality factor Q=2).

### Power input

| Model                                         | Unit     | Cooling |      | Heating |       |
|-----------------------------------------------|----------|---------|------|---------|-------|
|                                               |          | V-ph-Hz | W    | A       | W     |
| UTNC-EV 26 - 2 pipes                          | 230-1-50 | 70      | 0,33 | 61      | 0,28  |
| UTNC-EV 41 - 2 pipes                          | 230-1-50 | 66      | 0,29 | 57      | 0,28  |
| UTNC-EV 51 - 2 pipes                          | 230-1-50 | 106     | 0,46 | 97      | 0,42  |
| UTNC-EV 61 - 2 pipes                          | 230-1-50 | 66      | 0,32 | 57      | 0,27  |
| UTNC-EV 86 - 2 pipes                          | 230-1-50 | 97      | 0,52 | 88      | 0,48  |
| UTNC-EV 111 - 2 pipes                         | 230-1-50 | 197     | 0,91 | 188     | 0,86  |
| UTNC-EV B4 26 - 4 pipes                       | 230-1-50 | 73      | 0,34 | 64      | 0,30  |
| UTNC-EV B4 41 - 4 pipes                       | 230-1-50 | 69      | 0,31 | 60      | 0,27  |
| UTNC-EV B4 51 - 4 pipes                       | 230-1-50 | 109     | 0,48 | 100     | 0,44  |
| UTNC-EV B4 111 - 4 pipes                      | 230-1-50 | 200     | 0,92 | 191     | 0,88  |
| UTNC-EV REL 26 - 2 pipes + Electrical heater  | 230-1-50 | 70      | 0,33 | 1570    | 6,83  |
| UTNC-EV REL 41 - 2 pipes + Electrical heater  | 230-1-50 | 66      | 0,29 | 2566    | 11,16 |
| UTNC-EV REL 51 - 2 pipes + Electrical heater  | 230-1-50 | 106     | 0,46 | 2606    | 11,33 |
| UTNC-EV REL 61 - 2 pipes + Electrical heater  | 230-1-50 | 66      | 0,32 | 3066    | 13,33 |
| UTNC-EV REL 86 - 2 pipes + Electrical heater  | 230-1-50 | 97      | 0,52 | 3097    | 13,47 |
| UTNC-EV REL 101 - 2 pipes + Electrical heater | 230-1-50 | 197     | 0,91 | 3197    | 13,90 |

### Technical data of electric heaters (if installed)

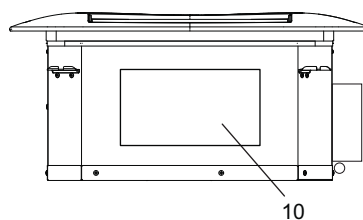
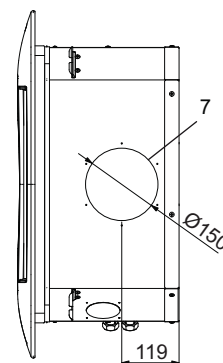
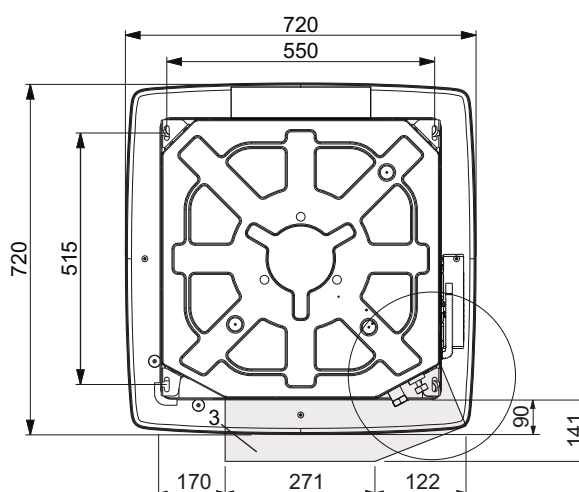
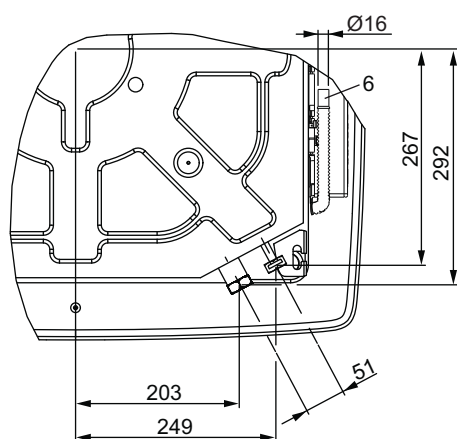
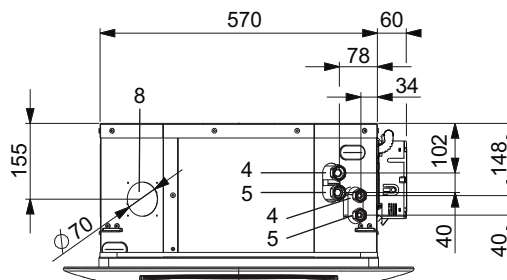
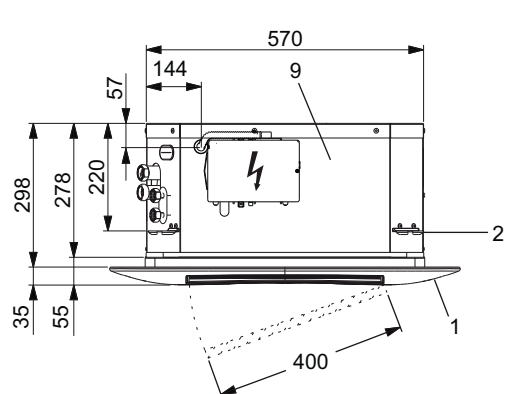
|                            | Model                                                                                            | 26      | 41      | 51      | 61      | 86      | 111     |
|----------------------------|--------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|
| Electric heater capacity   | kW                                                                                               | 1,5     | 2,5     | 2,5     | 3       | 3       | 3       |
| Supply voltage             | V-ph                                                                                             | 230-1   |         |         |         |         |         |
| Max. current input         | A                                                                                                | 6,50    | 10,8    | 10,8    | 13      | 13      | 13      |
| Safety thermostat          | N° 1 Thermostat with automatic reset ST 1S 60°C<br>N° 1 Thermostat with manual reset ST 2S 100°C |         |         |         |         |         |         |
| Power supply cables        | mm²                                                                                              | 3 x 2,5 | 3 x 2,5 | 3 x 2,5 | 3 x 2,5 | 3 x 2,5 | 3 x 2,5 |
| Recommended fuse (Type gL) | A                                                                                                | 8       | 12      | 12      | 16      | 16      | 16      |



## A2 DIMENSIONI/DIMENSIONS/DIMENSIONS/ABMESSUNGEN/DIMENSIONES

UTNC-EV / UTNC-EV B4 / UTNC-EV REL: 26 – 41 – 51

UTNC-I / UTNC-I B4 / UTNC-I REL: 26 – 41 – 51



- |    |                                          |                                          |
|----|------------------------------------------|------------------------------------------|
| 1  | Assieme cornice-griglia<br>(Plafonatura) | Grille/frame assembly                    |
| 2  | Staffa di appensione                     | Fastening bracket                        |
| 3  | Vaschetta ausiliaria<br>(accessorio KVA) | Auxiliary condensate<br>drain tray (KVA) |
| 4  | Attacchi idraulici – entrata             | Water connections – inlet                |
| 5  | Attacchi idraulici – uscita              | Water connections – outlet               |
| 6  | Tubo di scarico condensa                 | Condensate drain pipe                    |
| 7  | Distribuzione aria in<br>locaie attiguo  | Air distributed into an<br>adjacent room |
| 8  | Presa aria esterna                       | Outdoor air inlet                        |
| 9  | Quadro elettrico                         | Electrical box                           |
| 10 | KCMS-KCMI                                | KCMS-KCMI                                |

- |                                                            |
|------------------------------------------------------------|
| Grille de soufflage<br>et de reprise d'air                 |
| Etrier de support                                          |
| Bac auxiliaire de récupération<br>de la condensation (KVA) |
| Raccords hydrauliques - entrée                             |
| Raccords hydrauliques - sortie                             |
| Tuyau d'évacuation de<br>la condensation                   |
| Distribution air dans la<br>pièce attenante                |
| Prise d'air neuf                                           |
| Armoire électrique                                         |
| KCMS-KCMI                                                  |

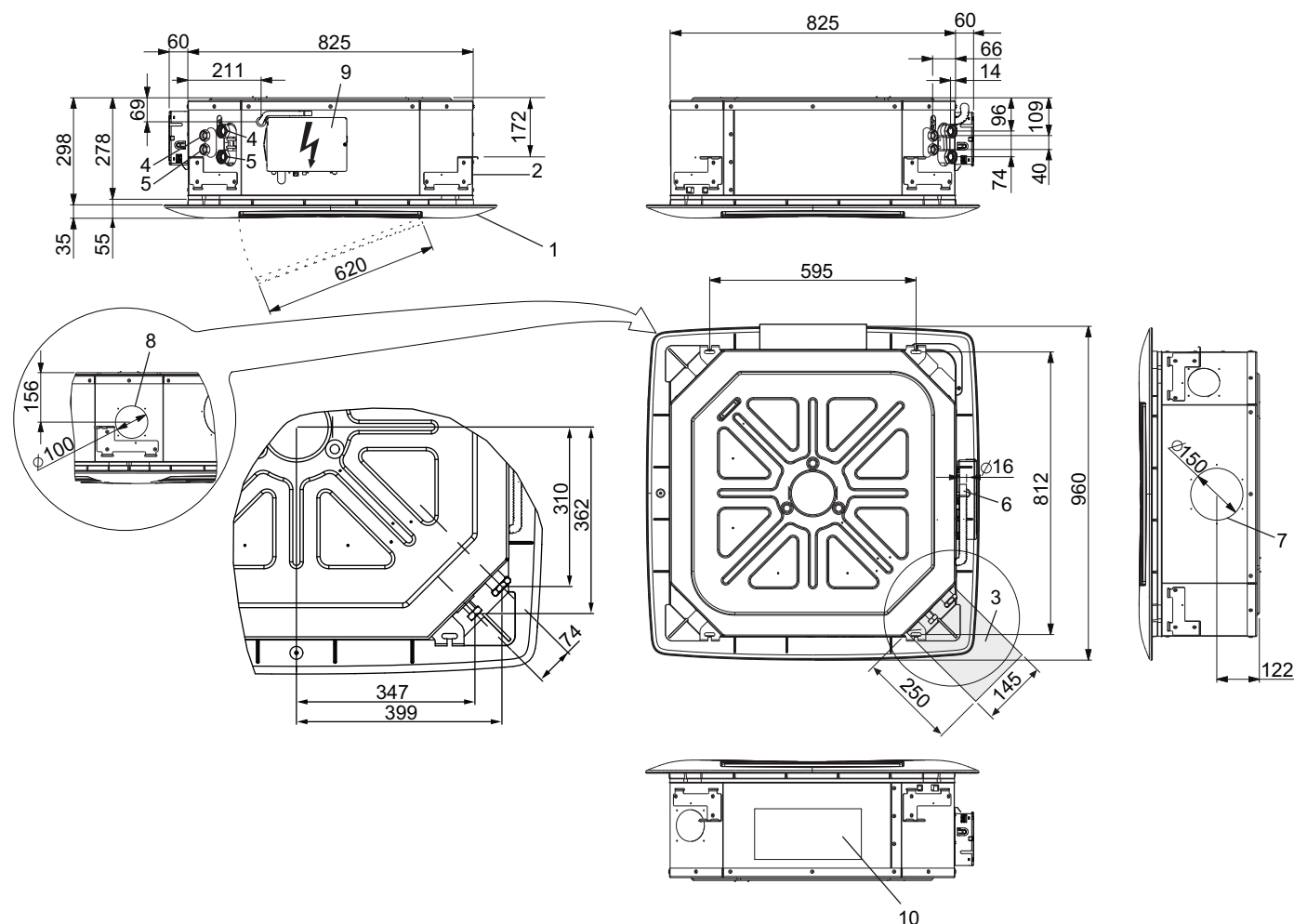
- |                                                   |
|---------------------------------------------------|
| Gitter/Luftansaug-Baugruppe                       |
| Montagewinkel                                     |
| Zusätzliche                                       |
| Kondensatwanne (KVA)                              |
| Wasseranschlüsse - Eintrag                        |
| Wasseranschlüsse - verlassen                      |
| Kondenswasserablassrohrs                          |
| Verteilung der Luft in einen<br>angrenzenden Raum |
| Frischluftsaugung                                 |
| Schalttafel                                       |
| KCMS-KCMI                                         |

- |                                                          |
|----------------------------------------------------------|
| Rejilla/toma de aire                                     |
| Abrazadera de suspensión                                 |
| Bandeja auxiliar de recogida<br>de la condensación (KVA) |
| Conexiones hidráulicas - entrada                         |
| Conexiones hidráulicas - salida                          |
| tubo de descarga de<br>la condensación                   |
| Distribución del aire en el<br>local adyacente           |
| Toma de aire exterior                                    |
| Quadro eléctrico                                         |
| KCMS-KCMI                                                |

|                                      |    | 26   | 41   | 51   |
|--------------------------------------|----|------|------|------|
| Unità/Unit/Unité/Gerät/Unidad        | Kg | 14,5 | 16,5 | 16,5 |
| Cornice/Frame/Grille/Rahmen/Bastidor | Kg | 3    | 3    | 3    |

UTNC-EV / UTNC-EV B4 / UTNC-EV REL: 61 – 86 – 111

UTNC-I / UTNC-I B4 / UTNC-I REL: 61 – 86 – 111

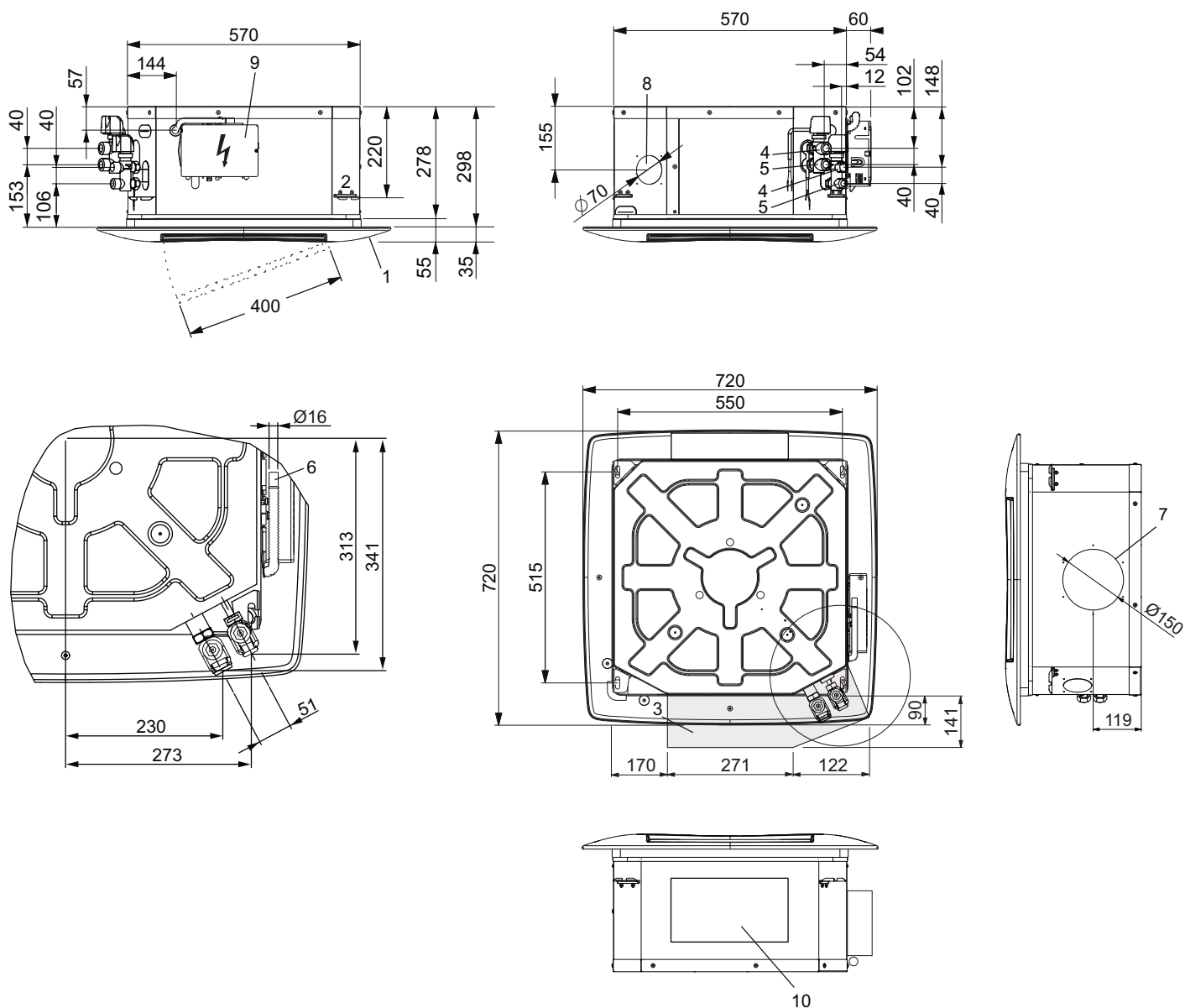


|    |                                       |                                       |                                                         |                                                |                                                       |
|----|---------------------------------------|---------------------------------------|---------------------------------------------------------|------------------------------------------------|-------------------------------------------------------|
| 1  | Assieme cornice-griglia (Plafonatura) | Grille/frame assembly                 | Grille de soufflage et de reprise d'air                 | Gitter/Luftansaug-Baugruppe                    | Rejilla/toma de aire                                  |
| 2  | Staffa di appensione                  | Fastening bracket                     | Etrier de support                                       | Montagewinkel                                  | Abrazadera de suspensión                              |
| 3  | Vaschetta ausiliaria (accessorio KVA) | Auxiliary condensate drain tray (KVA) | Bac auxiliaire de récupération de la condensation (KVA) | Zusätzliche Kondensatwanne (KVA)               | Bandeja auxiliar de recogida de la condensación (KVA) |
| 4  | Attacchi idraulici – entrata          | Water connections – inlet             | Raccords hydrauliques - entrée                          | Wasseranschlüsse - Eintrag                     | Conexiones hidráulicas - entrada                      |
| 5  | Attacchi idraulici – uscita           | Water connections – outlet            | Raccords hydrauliques - sortie                          | Wasseranschlüsse - verlassen                   | Conexiones hidráulicas - salida                       |
| 6  | Tubo di scarico condensa              | Condensate drain pipe                 | Tuyau d'évacuation de la condensation                   | Kondenswasserablassrohr                        | tubo de descarga de la condensación                   |
| 7  | Distribuzione aria in locale attiguo  | Air distributed into an adjacent room | Distribution air dans la pièce attenante                | Verteilung der Luft in einen angrenzenden Raum | Distribución del aire en el local adyacente           |
| 8  | Presa aria esterna                    | Outdoor air inlet                     | Prise d'air neuf                                        | Frischluftsaugung                              | Toma de aire exterior                                 |
| 9  | Quadro elettrico                      | Electrical box                        | Armoire électrique                                      | Schalttafel                                    | Cuadro eléctrico                                      |
| 10 | KCMS-KCMI                             | KCMS-KCMI                             | KCMS-KCMI                                               | KCMS-KCMI                                      | KCMS-KCMI                                             |

|                                      |    | 61   | 86   | 111  | 111 B4 |
|--------------------------------------|----|------|------|------|--------|
| Unità/Unit/Unité/Gerät/Unidad        | Kg | 37,1 | 37,1 | 39,6 | 40,6   |
| Cornice/Frame/Grille/Rahmen/Bastidor | Kg | 5    | 5    | 5    | 5      |

UTNC-EV / UTNC-EV B4 / UTNC-EV REL: 26 – 41 – 51

UTNC-I / UTNC-I B4 / UTNC-I REL: 26 – 41 – 51

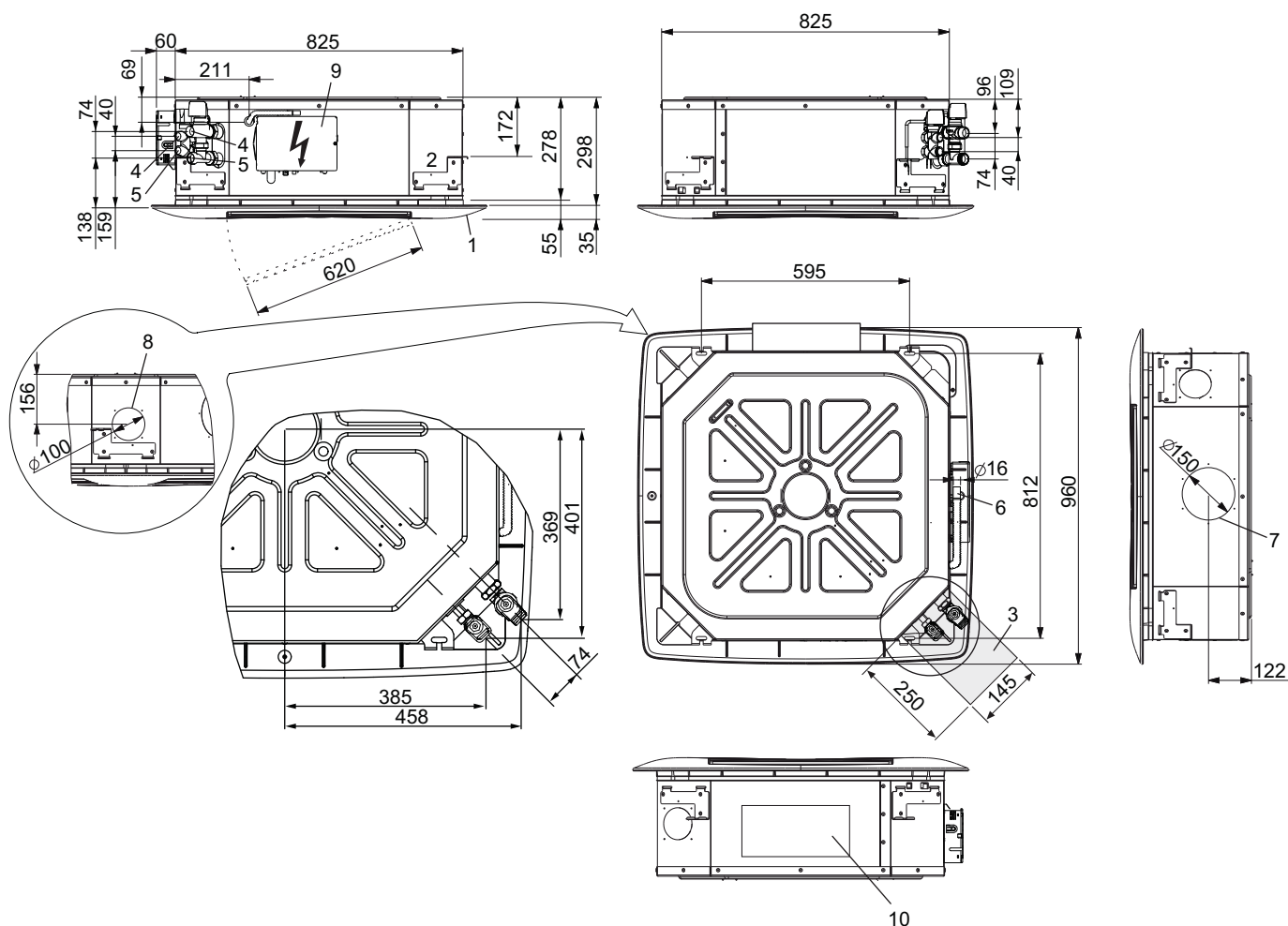


- |    |                                       |                                       |                                                         |                                                |                                                       |
|----|---------------------------------------|---------------------------------------|---------------------------------------------------------|------------------------------------------------|-------------------------------------------------------|
| 1  | Assieme cornice-griglia (Plafonatura) | Grille/frame assembly                 | Grille de soufflage et de reprise d'air                 | Gitter/Luftansaug-Baugruppe                    | Rejilla/toma de aire                                  |
| 2  | Staffa di appensione                  | Fastening bracket                     | Etrier de support                                       | Montagewinkel                                  | Abrazadera de suspensión                              |
| 3  | Vaschetta ausiliaria (accessorio KVA) | Auxiliary condensate drain tray (KVA) | Bac auxiliaire de récupération de la condensation (KVA) | Zusätzliche Kondensatwanne (KVA)               | Bandeja auxiliar de recogida de la condensación (KVA) |
| 4  | Attacchi idraulici – entrata          | Water connections – inlet             | Raccords hydrauliques – entrée                          | Wasseranschlüsse – Eintrag                     | Conexiones hidráulicas – entrada                      |
| 5  | Attacchi idraulici – uscita           | Water connections – outlet            | Raccords hydrauliques – sortie                          | Wasseranschlüsse – verlassen                   | Conexiones hidráulicas – salida                       |
| 6  | Tubo di scarico condensa              | Condensate drain pipe                 | Tuyau d'évacuation de la condensation                   | Kondenswasserablassrohr                        | tubo de descarga de la condensación                   |
| 7  | Distribuzione aria in locale attiguo  | Air distributed into an adjacent room | Distribution air dans la pièce attenante                | Verteilung der Luft in einen angrenzenden Raum | Distribución del aire en el local adyacente           |
| 8  | Presa aria esterna                    | Outdoor air inlet                     | Prise d'air neuf                                        | Frischlufsaugung                               | Toma de aire exterior                                 |
| 9  | Quadro elettrico                      | Electrical box                        | Armoire électrique                                      | Schalttafel                                    | Cuadro eléctrico                                      |
| 10 | KCMS-KCMI                             | KCMS-KCMI                             | KCMS-KCMI                                               | KCMS-KCMI                                      | KCMS-KCMI                                             |

|                                      | 26      | 41   | 51   |
|--------------------------------------|---------|------|------|
| Unità/Unit/Unité/Gerät/Unidad        | Kg 14,5 | 16,5 | 16,5 |
| Cornice/Frame/Grille/Rahmen/Bastidor | Kg 3    | 3    | 3    |

UTNC-EV / UTNC-EV B4 / UTNC-EV REL: 61 – 86 – 111

UTNC-I / UTNC-I B4 / UTNC-I REL: 61 – 86 – 111

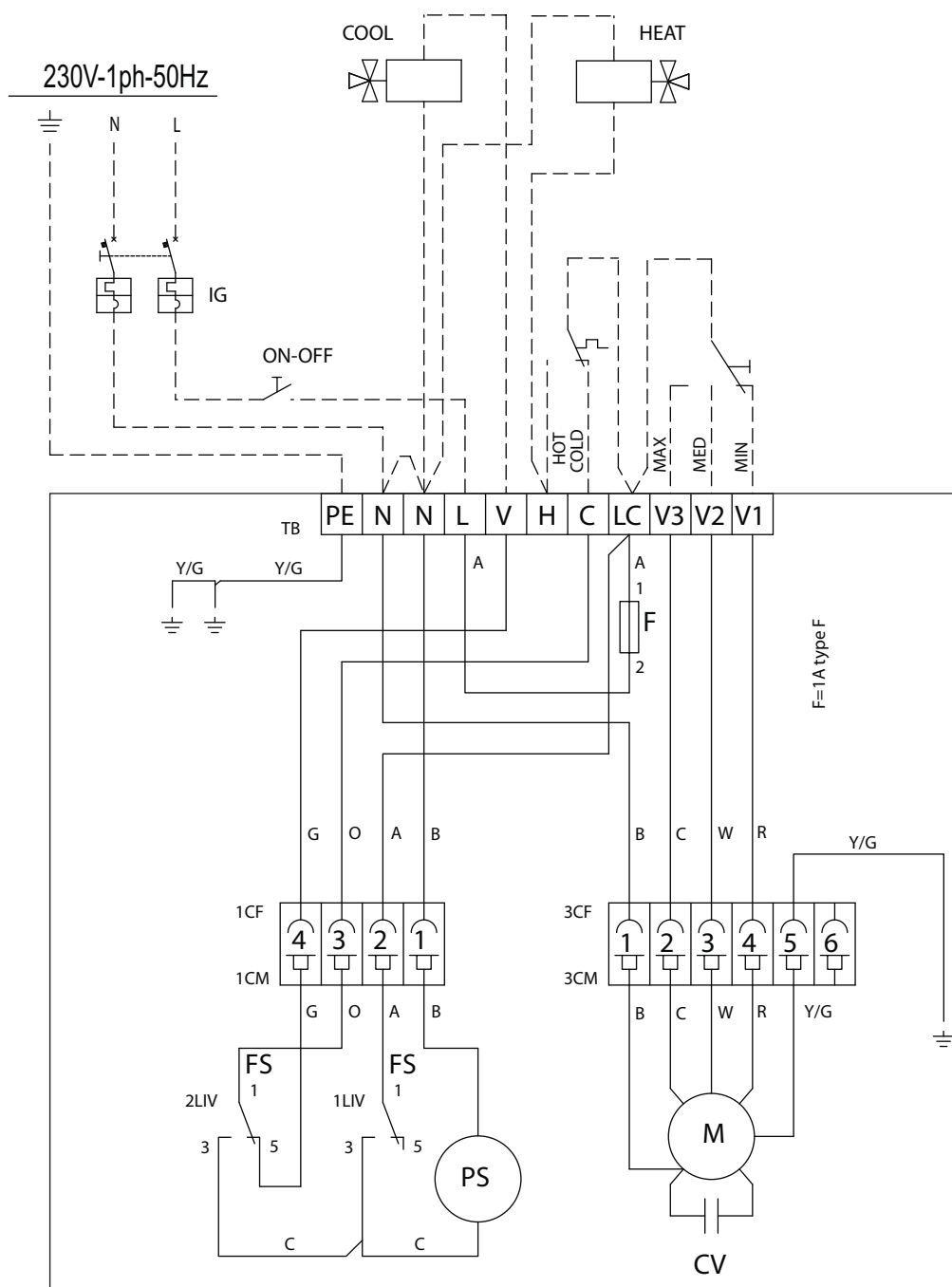


|    |                                          |                                          |                                                            |                                                   |                                                          |
|----|------------------------------------------|------------------------------------------|------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------|
| 1  | Assieme cornice-griglia<br>(Plafonatura) | Grille/frame assembly                    | Grille de soufflage<br>et de reprise d'air                 | Gitter/Luftansaug-Baugruppe                       | Rejilla/toma de aire                                     |
| 2  | Staffa di appensione                     | Fastening bracket                        | Etrier de support                                          | Montagewinkel                                     | Abrazadera de suspensión                                 |
| 3  | Vaschetta ausiliaria<br>(accessorio KVA) | Auxiliary condensate<br>drain tray (KVA) | Bac auxiliaire de récupération<br>de la condensation (KVA) | Zusätzliche<br>Kondensatwanne (KVA)               | Bandeja auxiliar de recogida<br>de la condensación (KVA) |
| 4  | Attacchi idraulici – entrata             | Water connections – inlet                | Raccords hydrauliques - entrée                             | Wasseranschlüsse - Eintrag                        | Conexiones hidráulicas - entrada                         |
| 5  | Attacchi idraulici – uscita              | Water connections – outlet               | Raccords hydrauliques - sortie                             | Wasseranschlüsse - verlassen                      | Conexiones hidráulicas - salida                          |
| 6  | Tubo di scarico condensa                 | Condensate drain pipe                    | Tuyau d'évacuation de<br>la condensation                   | Kondenswasserablassrohrs                          | tubo de descarga de<br>la condensación                   |
| 7  | Distribuzione aria in<br>locale attiguo  | Air distributed into an<br>adjacent room | Distribution air dans la<br>pièce attenante                | Verteilung der Luft in einen<br>angrenzenden Raum | Distribución del aire en el<br>local adyacente           |
| 8  | Presa aria esterna                       | Outdoor air inlet                        | Prise d'air neuf                                           | Frischlufsaugung                                  | Toma de aire exterior                                    |
| 9  | Quadro elettrico                         | Electrical box                           | Armoire électrique                                         | Schalttafel                                       | Cuadro eléctrico                                         |
| 10 | KCMS-KCMI                                | KCMS-KCMI                                | KCMS-KCMI                                                  | KCMS-KCMI                                         | KCMS-KCMI                                                |

|                                      |    | 61   | 86   | 111  | 111 B4 |
|--------------------------------------|----|------|------|------|--------|
| Unità/Unit/Unité/Gerät/Unidad        | Kg | 37,1 | 37,1 | 39,6 | 40,6   |
| Cornice/Frame/Grille/Rahmen/Bastidor | Kg | 5    | 5    | 5    | 5      |

# **A3 SCHEMI ELETTRICI DI ABBINAMENTO / CONNECTION WIRING DIAGRAMS / SCHEMAS ELECTRIQUES DE BRANCHEMENT / ANSCHLUSS-SCHALTPLÄNE / ESQUEMAS ELECTRICOS DE COMBINACION**

**COLLEGAMENTO ELETTRICO STANDARD / STANDARD ELECTRICAL CONNECTION / BRANCHEMENT  
ÉLECTRIQUE STANDARD / ELEKTRISCHER ANSCHLUSS STANDARD / CONEXIÓN ELÉCTRICA STANDARD**





**Legenda schema collegamento elettrico standard / wiring diagram legend / légende branchement électrique standard / Schaltschema legende elektrischer anschluss standard / leyenda conexión eléctrica standard**

| IT                                                                                | EN                                | FR                            | DE                               | ES                              |                                      |
|-----------------------------------------------------------------------------------|-----------------------------------|-------------------------------|----------------------------------|---------------------------------|--------------------------------------|
| —                                                                                 | Cablaggio del costruttore         | Factory wiring                | Câblage d'usine                  | Werksseitige Verdrahtung        | Cableado del fabricante              |
| ----                                                                              | Cablaggio dell'installatore       | Field wiring                  | Câblage de l'installateur        | Bauseitige Verdrahtung          | Cableado del instalador              |
|  | Connettore                        | Connector                     | Connecteur                       | Anschluss                       | Conector                             |
|  | Punto collegamento morsetti       | Terminal connection point     | Point de raccordement des bornes | Klemme an Klemmleiste           | Punto de conexión de los bornes      |
|   | Contatto normalmente chiuso       | Normally closed contact       | Contact normalement fermé        | Öffnerkontakt                   | Contacto normalmente cerrado         |
|   | Contatto normalmente aperto       | Normally open contact         | Contact normalement ouvert       | Schliesser kontakt              | Contacto normalmente abierto         |
| <b>F</b>                                                                          | Fusibile 1A tipo F                | Fuse 1A type F                | Fusible 1A type F                | Verschmelzen 1A Typ F           | Fusionar 1A tipo F                   |
| <b>CV</b>                                                                         | Condensatore motore ventilatore   | Fan capacitor                 | Condensateur moteur ventilateur  | Ventilator motor-Kondensator    | Condensador del motor del ventilador |
| <b>FS</b>                                                                         | Micro galleggiante di sicurezza   | Floating safety switch        | Microflotteur de sécurité        | Mikro-Schwimmerschalter         | Microflotador de seguridad           |
| <b>M</b>                                                                          | Motore ventilatore unità          | Unit fan motor                | Moteur ventilateur unité         | Ventilator motor der Einheit    | Motor del ventilador de la unidad    |
| <b>PS</b>                                                                         | Pompa scarico                     | Drain pump                    | Pompe d'évacuation               | Kondensatpumpe                  | Bomba de desagüe                     |
| <b>CF/CM</b>                                                                      | Connettori                        | Connectors                    | Connecteurs                      | Anschluss                       | Conectores                           |
| <b>KV2</b>                                                                        | Elettrovalvola acqua calda/fredda | Hot/cold water solenoid valve | Electrovanne (chaude/froid)      | Magnetventil (Heizung /Kühlung) | Electroválvula agua caliente/fría    |
| <b>KV2B4</b>                                                                      | Elettrovalvola acqua calda+fredda | Hot+cold water solenoid valve | Electrovanne (chaud+froid)       | Magnetventil (Heizung+Kühlung)  | Electroválvula agua caliente+fría    |
| <b>REL</b>                                                                        | Riscaldatore elettrico            | Electric heater               | Réchauffeur électrique           | Elektroheizung                  | Calentador eléctrico                 |
| <b>ST</b>                                                                         | Termostato sicurezza              | Safety thermostat             | Thermostat de sécurité           | Sicherheitsthermostat           | Termostato de seguridad              |
| <b>TB</b>                                                                         | Morsettiera                       | Terminal board                | Bornier                          | Klemmleiste                     | Bornera                              |
| <b>V1</b>                                                                         | Bassa velocità                    | Low speed                     | Vitesse basse                    | Niedrige Drehzahl               | Velocidad baja                       |
| <b>V2</b>                                                                         | Media velocità                    | Medium speed                  | Vitesse moyenne                  | Mittlere Drehzahl               | Velocidad media                      |
| <b>V3</b>                                                                         | Alta velocità                     | High speed                    | Vitesse haute                    | Hohe Drehzahl                   | Velocidad alta                       |
| <b>LC</b>                                                                         | Linea alimentazione               | Power supply line             | Alimentation de ligne            | Versorgungsleitung              | Línea de alimentación                |
| <b>H</b>                                                                          | Selezioni riscaldamento           | Heating selections            | Sélection chauffage              | Heizungswahl                    | Selección calefacción                |
| <b>C</b>                                                                          | Selezioni raffrescamento          | Cooling selections            | Sélection rafraîchissement       | Kühlungswahl                    | Selección refrigeración              |
| <b>H</b>                                                                          | Uscita riscaldamento              | Heating output                | Sortie chauffage                 | Ausgang, Heizung                | Salida calefacción                   |
| <b>V</b>                                                                          | Uscita raffrescamento             | Cooling output                | Sortie froid                     | Ausgang, Kühlung                | Salida enfriamiento                  |
| <b>L</b>                                                                          | Fase linea                        | Line phase                    | Phase ligne                      | Phasenleiter                    | Fase de línea                        |
| <b>N</b>                                                                          | Neutro                            | Neutral                       | Neutre                           | Nullleiter                      | Neutro                               |

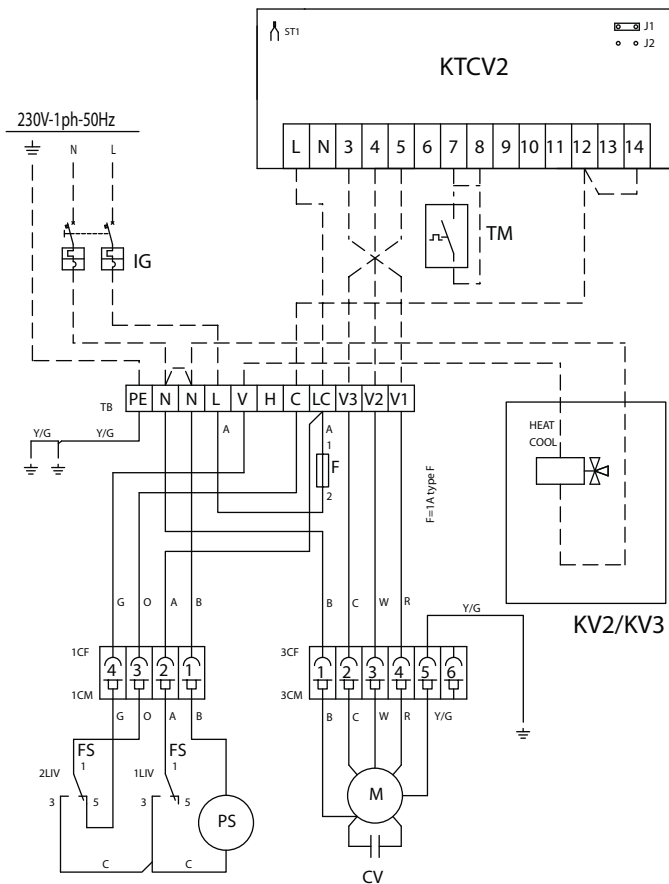
**C colore cavi / Cables colour / Colours des fils / Verdrahtungsfarben / Colores de los cables**

|            |              |              |            |           |                |
|------------|--------------|--------------|------------|-----------|----------------|
| <b>C</b>   | Nero         | Black        | Noir       | Schwarz   | Negro          |
| <b>W</b>   | Bianco       | White        | Blanc      | Weiss     | Blanco         |
| <b>A</b>   | Marrone      | Brown        | Marron     | Braun     | Marrón         |
| <b>R</b>   | Rosso        | Red          | Rouge      | Rot       | Rojo           |
| <b>G</b>   | Grigio       | Grey         | Gris       | Grau      | Gris           |
| <b>B</b>   | Blu          | Blue         | Bleu       | Blau      | Azul marino    |
| <b>V</b>   | Viola        | Purple       | Violet     | Violett   | Violeta        |
| <b>Y</b>   | Giallo       | Yellow       | Jaune      | Gelb      | Amarillo       |
| <b>O</b>   | Arancione    | Orange       | Orange     | Orange    | Naranja        |
| <b>Y-G</b> | Giallo-verde | Yellow/Green | Jaune/Vert | Gelb/Grün | Amarillo/Verde |

[illegible]

**Note:**  Calentamiento  
 Enfriamiento

# UTNC-EV / UTNC-EV B4 26÷111 + KTCV2



|                |                                       |
|----------------|---------------------------------------|
| <b>KTCV2</b>   | Pannello di comando                   |
| <b>IG</b>      | Interruttore automatico generale      |
| <b>ST1</b>     | Sonda temperatura aria                |
| <b>TM</b>      | Termostato di minima                  |
| <b>KV2/KV3</b> | Valvola calda/fredda                  |
| <b>KV2B4</b>   | Valvola calda + fredda                |
| <b>KV3B4</b>   | Valvola calda + fredda                |
| ----           | Collegamento a cura dell'installatore |

**Note:** Jumper J1 Chiuso = Sonda Aria ST1 Interna  
Jumper J2 Chiuso = Sonda Aria ST1 Esterna  
☀ Riscaldamento  
❄ Raffreddamento

|                |                                |
|----------------|--------------------------------|
| <b>KTCV2</b>   | Control panel                  |
| <b>IG</b>      | Automatic general switch       |
| <b>ST1</b>     | Air temperature probe          |
| <b>TM</b>      | Minimum temperature thermostat |
| <b>KV2/KV3</b> | Hot/cold valve                 |
| <b>KV2B4</b>   | Hot + cold valve               |
| <b>KV3B4</b>   | Hot + cold valve               |
| ----           | Connection by the installer    |

**Notes:** Jumper J1 closed = Internal ST1 air sensor  
Jumper J2 closed = External ST1 air sensor  
☀ Heating  
❄ Cooling

|                |                                                      |
|----------------|------------------------------------------------------|
| <b>KTCV2</b>   | Panneau de commande                                  |
| <b>IG</b>      | Interrupteur automatique général                     |
| <b>ST1</b>     | Sonde de température de l'air                        |
| <b>TM</b>      | Thermostat de température minimale                   |
| <b>KV2/KV3</b> | Vanne chaude/froide                                  |
| <b>KV2B4</b>   | Vanne chaude + froide                                |
| <b>KV3B4</b>   | Vanne chaude + froide                                |
| ----           | Raccordement devant être effectué par l'installateur |

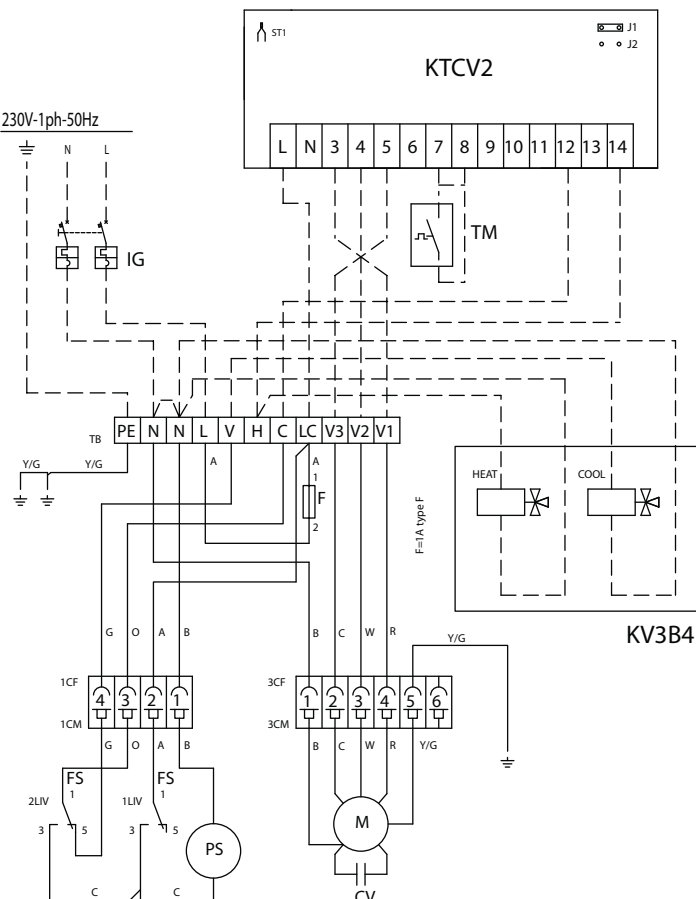
**Rem. :** Jumper J1 Fermé = Sonde Air ST1 Interne  
Jumper J2 Fermé = Sonde air ST1 Externe  
☀ Chauffage  
❄ Refroidissement

|                |                                           |
|----------------|-------------------------------------------|
| <b>KTCV2</b>   | Bedientafel                               |
| <b>IG</b>      | Automatischer Hauptschalter               |
| <b>ST1</b>     | Lufttemperaturfühler                      |
| <b>TM</b>      | Mindesttemperaturregler                   |
| <b>KV2/KV3</b> | Warm-/Kaltwasserventil                    |
| <b>KV2B4</b>   | Warm+Kaltwasser ventil                    |
| <b>KV3B4</b>   | Warm+Kaltwasser ventil                    |
| ----           | Vom Installateur auszuführender Anschluss |

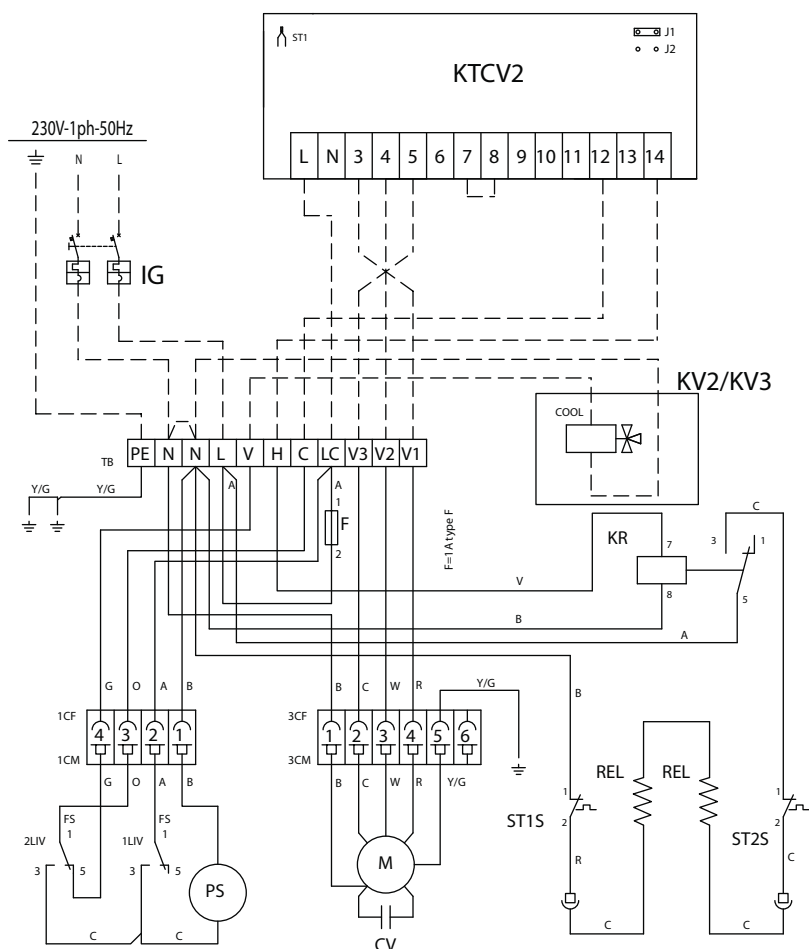
**Hinweise:** Jumper J1 geschlossen = Interner Luftfühler ST1  
Jumper J2 geschlossen = Externer Luftfühler ST1  
☀ Heizungs  
❄ Kühlungs

|                |                                 |
|----------------|---------------------------------|
| <b>KTCV2</b>   | Panel de control                |
| <b>IG</b>      | Interruptor automático general  |
| <b>ST1</b>     | Sonda de temperatura del aire   |
| <b>TM</b>      | Termostato de mínima            |
| <b>KV2/KV3</b> | Válvula caliente/fría           |
| <b>KV2B4</b>   | Válvula caliente + fría         |
| <b>KV3B4</b>   | Válvula caliente + fría         |
| ----           | Conexión a cargo del instalador |

**Notas:** Puente J1 cerrado = sonda de aire ST1 interna  
Puente J2 cerrado = sonda de aire ST1 externa  
☀ Calentamiento  
❄ Enfriamiento



## UTNC-EV REL 26+111 + KTCV2



|                |                                                      |
|----------------|------------------------------------------------------|
| <b>KTCV2</b>   | Pannello di comando                                  |
| <b>REL</b>     | Resistenza elettrica                                 |
| <b>KR</b>      | Relè resistenza elettrica                            |
| <b>IG</b>      | Interruttore automatico generale                     |
| <b>ST1</b>     | Sonda temperatura aria                               |
| <b>ST1S</b>    | Termostato sicurezza resistenza 60°C                 |
| <b>ST2S</b>    | Termostato sicurezza resistenza 100°C                |
| <b>KV2/KV3</b> | Valvola calda/fredda                                 |
| ----           | Collegamento a cura dell'installatore                |
| <b>KTCV2</b>   | Control panel                                        |
| <b>REL</b>     | Electric heater                                      |
| <b>KR</b>      | Electric heating element relay                       |
| <b>IG</b>      | Automatic general switch                             |
| <b>ST1</b>     | Air temperature probe                                |
| <b>ST1S</b>    | Safety thermostat electric heater 60°C               |
| <b>ST2S</b>    | Safety thermostat electric heater 100°C              |
| <b>KV2/KV3</b> | Hot/cold valve                                       |
| ----           | Connection by the installer                          |
| <b>KTCV2</b>   | Panneau de commande                                  |
| <b>REL</b>     | Résistance électrique                                |
| <b>KR</b>      | Relais de résistance électrique                      |
| <b>IG</b>      | Interrupteur automatique général                     |
| <b>ST1</b>     | Sonde de température de l'air                        |
| <b>ST1S</b>    | Thermostat de sécurité résistance 60°C               |
| <b>ST2S</b>    | Thermostat de sécurité résistance 100°C              |
| <b>KV2/KV3</b> | Vanne chaude/froide                                  |
| ----           | Raccordement devant être effectué par l'installateur |
| <b>KTCV2</b>   | Bedientafel                                          |
| <b>REL</b>     | Heizwiderstand                                       |
| <b>KR</b>      | Relais Heizwiderstand                                |
| <b>IG</b>      | Automatischer Hauptschalter                          |
| <b>ST1</b>     | Lufttemperaturfühler                                 |
| <b>ST1S</b>    | Sicherheitsthermostat Heizwiderstand 60°C            |
| <b>ST2S</b>    | Sicherheitsthermostat Heizwiderstand 100°C           |
| <b>KV2/KV3</b> | Warm-/Kaltwasserventil                               |
| ----           | Vom Installateur auszuführender Anschluss            |

|                |                                           |
|----------------|-------------------------------------------|
| <b>KTCV2</b>   | Panel de control                          |
| <b>REL</b>     | Resistencia eléctrica                     |
| <b>KR</b>      | Relé de la resistencia eléctrica          |
| <b>IG</b>      | Interruptor automático general            |
| <b>ST1</b>     | Sonda de temperatura del aire             |
| <b>ST1S</b>    | Termostato de seguridad resistencia 60°C  |
| <b>ST2S</b>    | Termostato de seguridad resistencia 100°C |
| <b>KV2/KV3</b> | Válvula caliente/fría                     |
| ----           | Conexión a cargo del instalador           |

**Note:** Jumper J1 Chiuso = Sonda Aria ST1 Interna  
Jumper J2 Chiuso = Sonda Aria ST1 Esterna  
In presenza della resistenza elettrica non montare il TM.

- ☀ Riscaldamento
- ❄ Raffreddamento

**Notes:** Jumper J1 closed = Internal ST1 air sensor  
Jumper J2 closed = External ST1 air sensor  
If there is an electrical heater do not install the TM.

- ☀ Heating
- ❄ Cooling

**Rem. :** Jumper J1 Fermé = Sonde Air ST1 Interne  
Jumper J2 Fermé = Sonde air ST1 Externe  
En présence de la résistance électrique, ne pas monter le TM.

- ☀ Chauffage
- ❄ Refroidissement

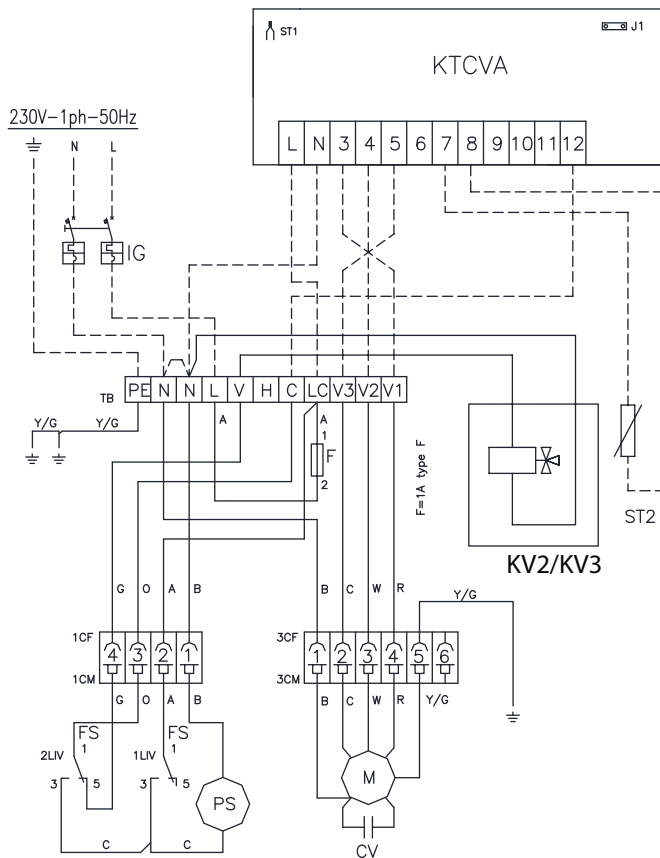
**Hinweise:** Jumper J1 geschlossen = Interner Luftfühler ST1  
Jumper J2 geschlossen = Externer Luftfühler ST1  
Den TM nicht montieren, wenn ein Heizwiderstand vorhanden ist.

- ☀ Heizungs
- ❄ Kühlungs

**Notas:** Puente J1 cerrado = sonda de aire ST1 interna  
Puente J2 cerrado = sonda de aire ST1 externa  
Si está presente la resistencia eléctrica, no montar el TM.

- ☀ Calentamiento
- ❄ Enfriamiento

## UTNC-EV 26+111 + KTCVA



|                |                                       |
|----------------|---------------------------------------|
| <b>KTCVA</b>   | Pannello di comando                   |
| <b>IG</b>      | Interruttore automatico generale      |
| <b>ST1</b>     | Sonda temperatura aria                |
| <b>ST2</b>     | Sonda temperatura acqua               |
| <b>KV2/KV3</b> | Valvola calda/fredda                  |
| ---            | Collegamento a cura dell'installatore |

**Note:** Jumper J1 Chiuso = Sonda Aria ST1 Interna  
Jumper J1 Aperto = Sonda Aria ST1 Esterna  
☀ Riscaldamento  
❄ Raffreddamento

La sonda ST2 è compresa nell'imballo del termostato.

In caso di presenza della valvola ON/OFF, la sonda acqua ST2 deve essere posta a monte della valvola stessa.

|                |                             |
|----------------|-----------------------------|
| <b>KTCVA</b>   | Control panel               |
| <b>IG</b>      | Automatic general switch    |
| <b>ST1</b>     | Air temperature probe       |
| <b>ST2</b>     | Water temperature probe     |
| <b>KV2/KV3</b> | Hot/cold valve              |
| ---            | Connection by the installer |

**Notes:** Jumper J1 closed = Internal ST1 air sensor  
Jumper J1 open = External ST1 air sensor  
☀ Heating  
❄ Cooling

The sensor ST2 is included in the thermostat package.

In the case of the ON/OFF valve, the ST2 water sensor must be installed upstream of the valve itself.

|                |                                                      |
|----------------|------------------------------------------------------|
| <b>KTCVA</b>   | Panneau de commande                                  |
| <b>IG</b>      | Interrupteur automatique général                     |
| <b>ST1</b>     | Sonde de température de l'air                        |
| <b>ST2</b>     | Sonde de température de l'eau                        |
| <b>KV2/KV3</b> | Vanne chaude/froide                                  |
| ---            | Raccordement devant être effectué par l'installateur |

**Rem. :** Jumper J1 Fermé = Sonde Air ST1 Interne  
Jumper J1 Ouvert = Sonde air ST1 Externe  
☀ Chauffage  
❄ Refroidissement

La sonda ST2 est comprise dans l'emballage du thermostat.

En présence de la vanne ON/OFF, la sonde eau ST2 doit être placée en amont de la vanne.

|                |                                           |
|----------------|-------------------------------------------|
| <b>KTCVA</b>   | Bedientafel                               |
| <b>IG:</b>     | Automatischer Hauptschalter               |
| <b>ST1</b>     | Lufttemperaturfühler                      |
| <b>ST2</b>     | Wassertemperaturfühler                    |
| <b>KV2/KV3</b> | Warm-/Kaltwasserventil                    |
| ---            | Vom Installateur auszuführender Anschluss |

**Hinweise:** Jumper J1 geschlossen = Interner Luftfühler ST1  
Jumper J1 geöffnet = Externer Luftfühler ST1  
☀ Heizungs  
❄ Kühlungs

Der Fühler ST2 liegt der Verpackung des Thermostats bei.

Bei vorhandenem Ventil ON/OFF muss der Wasserfühler ST2 vor dem Ventil installiert sein.

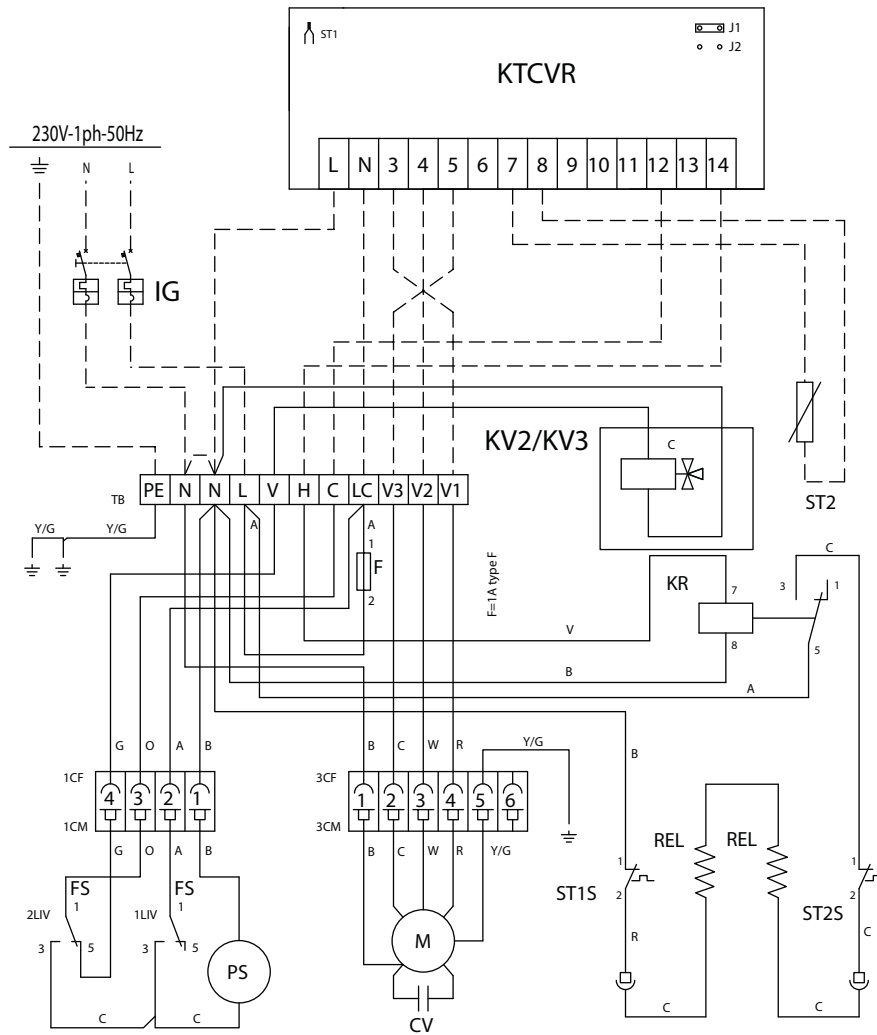
|                |                                 |
|----------------|---------------------------------|
| <b>KTCVA</b>   | Panel de control                |
| <b>IG</b>      | Interruptor automático general  |
| <b>ST1</b>     | Sonda de temperatura del aire   |
| <b>ST2</b>     | Sonda de temperatura del agua   |
| <b>KV2/KV3</b> | Válvula caliente/fría           |
| ---            | Conexión a cargo del instalador |

**Notas:** Puente J1 cerrado = sonda de aire ST1 interna  
Puente J1 abierto = sonda de aire ST1 externa  
☀ Calentamiento  
❄ Enfriamiento

La sonda ST2 se incluye en el embalaje del termostato.

Con la válvula ON/OFF, la sonda de agua ST2 debe instalarse antes de la válvula.

# UTNC-EV REL 26+111 + KTCVR



|                |                                       |
|----------------|---------------------------------------|
| <b>KTCVR</b>   | Pannello di comando                   |
| <b>REL</b>     | Resistenza elettrica                  |
| <b>KR</b>      | Relè resistenza elettrica             |
| <b>IG</b>      | Interruttore automatico generale      |
| <b>ST1</b>     | Sonda temperatura aria                |
| <b>ST2</b>     | Sonda temperatura acqua               |
| <b>ST1S</b>    | Termostato sicurezza resistenza 60°C  |
| <b>ST2S</b>    | Termostato sicurezza resistenza 100°C |
| <b>KV2/KV3</b> | Valvola calda/fredda                  |
| ----           | Collegamento a cura dell'installatore |

|                |                                |
|----------------|--------------------------------|
| <b>KTCVR</b>   | Control panel                  |
| <b>REL</b>     | Electric heater                |
| <b>KR</b>      | Electric heating element relay |
| <b>IG</b>      | Automatic general switch       |
| <b>ST1</b>     | Air temperature probe          |
| <b>ST2</b>     | Water temperature probe        |
| <b>ST1S</b>    | Safety thermostat heater 60°C  |
| <b>ST2S</b>    | Safety thermostat heater 100°C |
| <b>KV2/KV3</b> | Hot/cold valve                 |
| ----           | Connection by the installer    |

**Note:** Jumper J1 Chiuso = Sonda Aria ST1 Interna  
Jumper J1 Aperto = Sonda Aria ST1 Esterna  
Jumper J2 Chiuso = Impianto a 4 tubi  
Jumper J2 Aperto = Impianto a 2 tubi (2 tubi + resistenza)  
☀ Riscaldamento  
❄ Raffreddamento

In presenza della resistenza elettrica non montare il TM.

Impianto a 2 tubi (2 tubi + REL) Jumper J2 aperto e sonda acqua ST2 a monte valvola (se presente).

Impianto a 4 tubi Jumper J2 chiuso e sonda acqua ST2 a valle valvola calda (se presente).

**Notes:** Jumper J1 closed = Internal ST1 air sensor  
Jumper J1 open = External ST1 air sensor.  
Jumper J2 closed = 4 pipe system  
Jumper J2 open = 2 pipe system (2 pipes + heating element).  
☀ Heating  
❄ Cooling

If there is an electrical heater do not install the TM.

2 pipe system (2 pipes + REL) Jumper J2 open and ST2 water sensor upstream from valve (if present).

4-pipe system Jumper J2 closed and water sensor ST2 downstream from hot valve (if present).



|                |                                                      |
|----------------|------------------------------------------------------|
| <b>KTCVR</b>   | Panneau de commande                                  |
| <b>REL</b>     | Résistance électrique                                |
| <b>KR</b>      | Relais de résistance électrique                      |
| <b>IG</b>      | Interrupteur automatique général                     |
| <b>ST1</b>     | Sonde de température de l'air                        |
| <b>ST2</b>     | Sonde de température de l'eau                        |
| <b>ST1S</b>    | Thermostat de sécurité résistance 60°C               |
| <b>ST2S</b>    | Thermostat de sécurité résistance 100°C              |
| <b>KV2/KV3</b> | Vanne chaude/froide                                  |
| - - - -        | Raccordement devant être effectué par l'installateur |

|                |                                            |
|----------------|--------------------------------------------|
| <b>KTCVR</b>   | Bedientafel                                |
| <b>REL</b>     | Heizwiderstand                             |
| <b>KR</b>      | Relais Heizwiderstand                      |
| <b>IG</b>      | Automatischer Hauptschalter                |
| <b>ST1</b>     | Lufttemperaturfühler                       |
| <b>ST2</b>     | Wassertemperaturfühler                     |
| <b>ST1S</b>    | Sicherheitsthermostat Heizwiderstand 60°C  |
| <b>ST2S</b>    | Sicherheitsthermostat Heizwiderstand 100°C |
| <b>KV2/KV3</b> | Warm-/Kaltwasserventil                     |
| - - - -        | Vom Installateur auszuführender Anschluss  |

|                |                                           |
|----------------|-------------------------------------------|
| <b>KTCVR</b>   | Panel de control                          |
| <b>REL</b>     | Resistencia eléctrica                     |
| <b>KR</b>      | Relé de la resistencia eléctrica          |
| <b>IG</b>      | Interruptor automático general            |
| <b>ST1</b>     | Sonda de temperatura del aire             |
| <b>ST2</b>     | Sonda de temperatura del agua             |
| <b>ST1S</b>    | Termostato de seguridad resistencia 60°C  |
| <b>ST2S</b>    | Termostato de seguridad resistencia 100°C |
| <b>KV2/KV3</b> | Válvula caliente/fría                     |
| - - - -        | Conexión a cargo del instalador           |

**Rem. :** Jumper J1 Fermé = Sonde Air ST1 Interne  
 Jumper J1 Ouvert = Sonde air ST1 Externe  
 Jumper J2 Fermé = Installation à 4 tuyaux  
 Jumper J2 Ouvert = Installation à 2 tuyaux  
 (2 tuyaux + résistance).

 Chauffage

 Refroidissement

En présence de la résistance électrique, ne pas monter le TM.

Installation à 2 tuyaux (2 tuyaux + REL), Jumper J2 ouvert et sonde eau ST2 en amont de la vanne (si présente).

Installation à 4 tuyaux Jumper J2 fermé et sonde eau ST2 en aval de la vanne chaude (si présente).

**Hinweise:** Jumper J1 geschlossen = Interner Luftfühler ST1  
 Jumper J1 geöffnet = Externer Luftfühler ST1  
 Jumper J2 geschlossen = 4-Rohr-Anlage  
 Jumper J2 geöffnet = 2-Rohr-Anlage (2 Rohre + Heizwiderstand)

 Heizungs

 Kühlungs

Den TM nicht montieren, wenn ein Heizwiderstand vorhanden ist.

2-Rohr-Anlage (2 Rohre + REL) Jumper J2 geöffnet und Wasserfühler ST2 vor dem Ventil installiert (falls vorhanden)

4-Rohr-Anlage Jumper J2 geschlossen und Wasserfühler ST2 nach dem Warmwasserventil (falls vorhanden) montiert.

**Notas:** Puente J1 cerrado = sonda de aire ST1 interna  
 Puente J1 abierto = sonda de aire ST1 externa  
 Puente J2 cerrado = instalación de 4 tubos  
 Puente J2 abierto = instalación de 2 tubos (2 tubos + resistencia)

 Calentamiento

 Enfriamiento

Si está presente la resistencia eléctrica, no montar el TM.

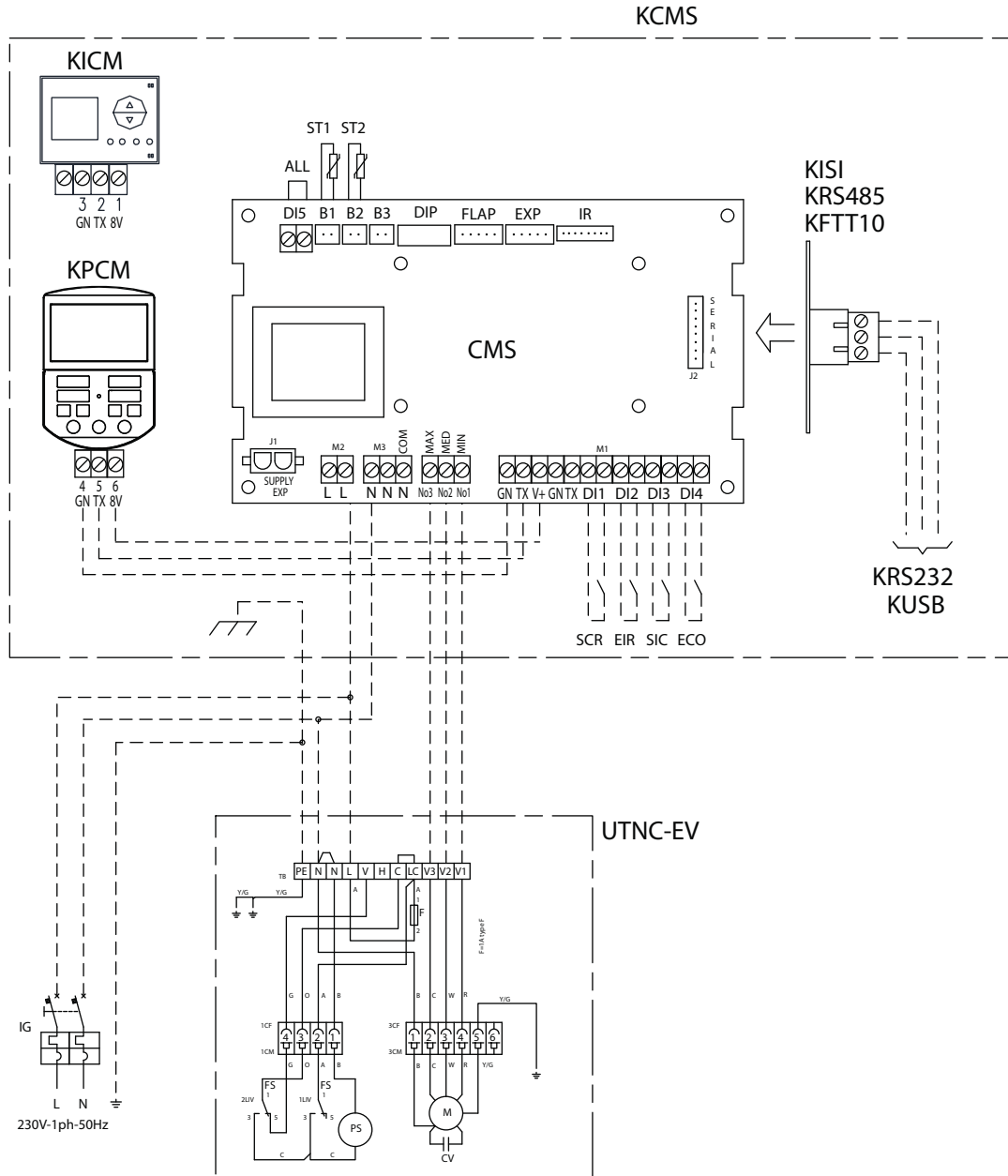
Instalación de 2 tubos (2 tubos + REL): puente J2 abierto y sonda de agua ST2 antes de la válvula (si está presente).

Instalación de 4 tubos: puente J2 cerrado y sonda de agua ST2 después de la válvula de agua caliente (si está presente).

**COLLEGAMENTO ELETTRICO CONTROLLI EVOLUTI: KCMS + KPCM**  
**EVOLVED CONTROLS ELECTRICAL CONNECTION: KCMS + KPCM**  
**BRANCHEMENT ÉLECTRIQUE DES CONTRÔLES ÉVOLUÉS: KCMS + KPCM**  
**ELEKTRISCHER ANSCHLUSS FORTSCHRITTLICHE STEUERUNGEN: KCMS + KPCM**  
**CONEXIÓN ELÉCTRICA DE LOS CONTROLES EVOLUCIONADOS: KCMS + KPCM**



UTNC-EV 26÷111

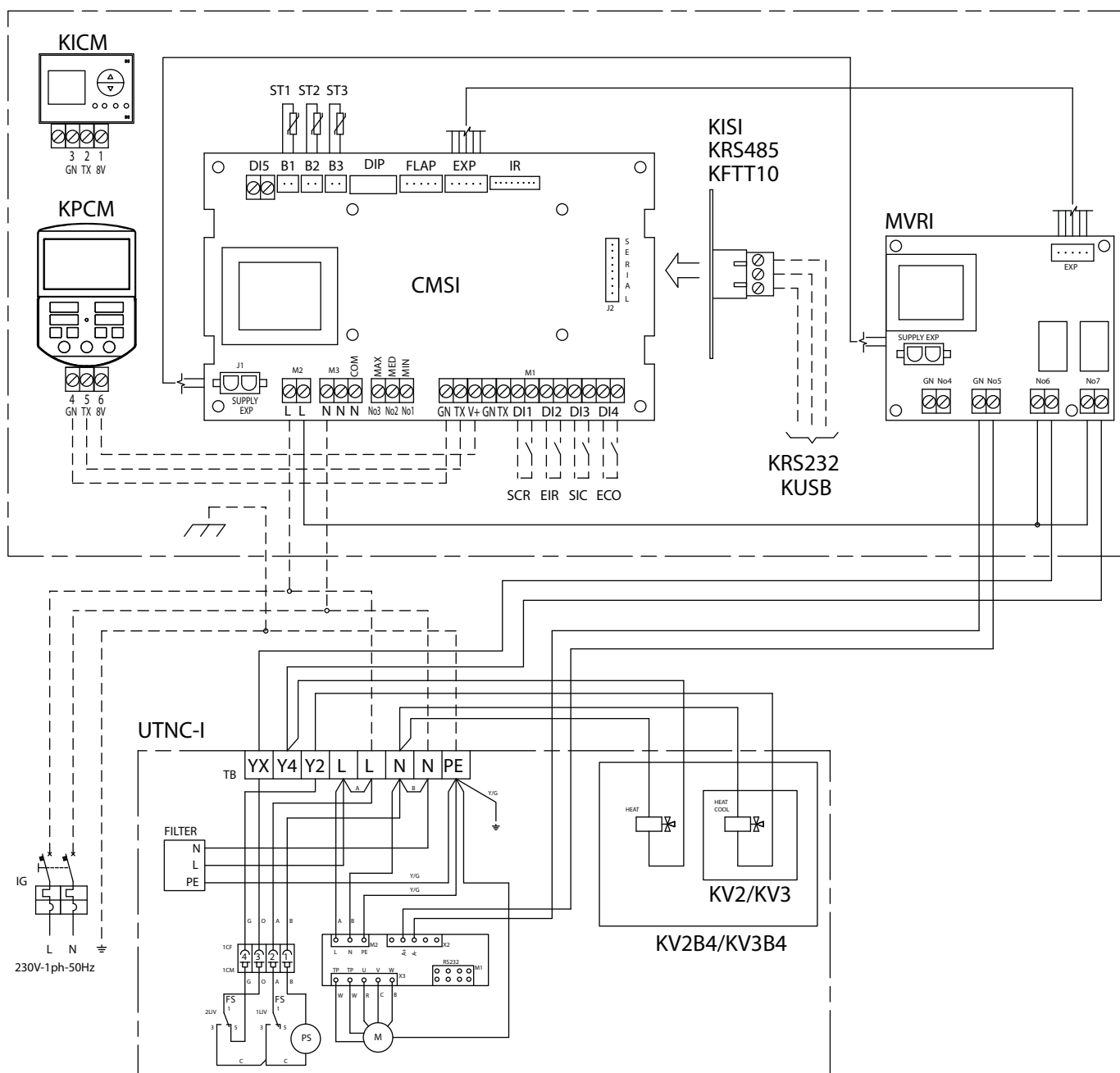






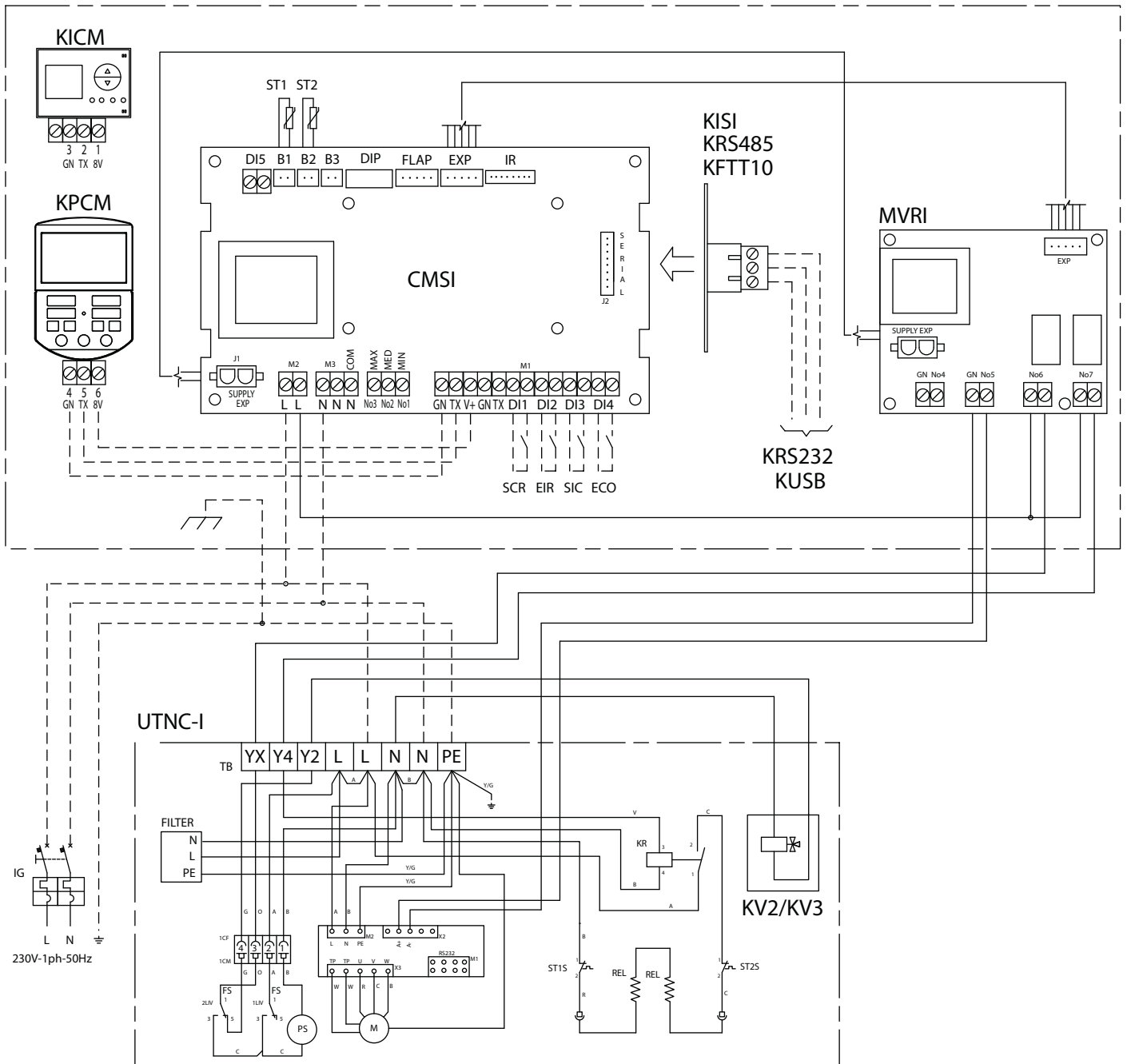
## UTNC-I 26÷111

## KCMVI



# UTNC-I REL 26÷111

## KCMVI





|                    |                                           |
|--------------------|-------------------------------------------|
| <b>KCMS/KCMVI</b>  | Controllo elettronico                     |
| <b>CMSI</b>        | Controllo elettronico                     |
| <b>KPCM/KICM</b>   | Pannello comando                          |
| <b>IG</b>          | Interruttore generale                     |
| <b>REL</b>         | Resistenza elettrica                      |
| <b>ALL</b>         | Ingresso allarme                          |
| <b>L</b>           | Linea                                     |
| <b>N</b>           | Neutro                                    |
| <b>SCR</b>         | Selettore comando remoto                  |
| <b>SIC</b>         | Sicurezza esterna                         |
| <b>EIR</b>         | Selettore estate/inverno remoto           |
| <b>ECO</b>         | Selettore funzione Economy                |
| <b>CCA</b>         | Termostato ambiente caldaia (consenso)    |
| <b>CCH</b>         | Consenso chiller                          |
| <b>ST1</b>         | Sonda temperatura aria                    |
| <b>ST2</b>         | Sonda temperatura acqua                   |
| <b>ST3</b>         | Sonda temperatura acqua (accessorio KSTI) |
| <b>ST1S</b>        | Termostato sicurezza resistenza 60°C      |
| <b>ST2S</b>        | Termostato sicurezza resistenza 100°C     |
| <b>KMVR/MVRI</b>   | Modulo valvole-resistenza                 |
| <b>KISI</b>        | Modulo interfaccia seriale Can-bus        |
| <b>KRS485</b>      | Modulo interfaccia seriale RS485          |
| <b>KFTT10</b>      | Modulo interfaccia seriale LON            |
| <b>KV2-KV3</b>     | Accessorio valvola calda/fredda           |
| <b>KV2B4-KV3B4</b> | Accessorio valvola calda + fredda         |
| <b>KRS232</b>      | Convertitore RS485-RS232                  |
| <b>KUSB</b>        | Convertitore RS485-USB                    |
| ---                | Collegamenti a cura dell'installatore     |

|                    |                                           |
|--------------------|-------------------------------------------|
| <b>KCMS/KCMVI</b>  | Electronic control                        |
| <b>CMSI</b>        | Electronic control                        |
| <b>KPCM/KICM</b>   | Control panel                             |
| <b>IG</b>          | Main switch                               |
| <b>REL</b>         | Electric heater                           |
| <b>ALL</b>         | Alarm input                               |
| <b>L</b>           | Line                                      |
| <b>N</b>           | Neutral                                   |
| <b>SCR</b>         | Remote control selector                   |
| <b>SIC</b>         | External safety device                    |
| <b>EIR</b>         | Remote summer/winter selector             |
| <b>ECO</b>         | Economy function selector                 |
| <b>CCA</b>         | Boiler room thermostat (consensus)        |
| <b>CCH</b>         | Chiller consent                           |
| <b>ST1</b>         | Air temperature sensor                    |
| <b>ST2</b>         | Water temperature sensor                  |
| <b>ST3</b>         | Water temperature sensor (KSTI accessory) |
| <b>ST1S</b>        | Safety thermostat electric heater 60°C    |
| <b>ST2S</b>        | Safety thermostat electric heater 100°C   |
| <b>KMVR/MVRI</b>   | Heating element - valve module            |
| <b>KISI</b>        | Can-bus serial interface module           |
| <b>KRS485</b>      | RS485 serial interface module             |
| <b>KFTT10</b>      | LON serial interface module               |
| <b>KV2-KV3</b>     | Hot/cold valve accessory                  |
| <b>KV2B4-KV3B4</b> | Hot + cold valve accessory                |
| <b>KRS232</b>      | RS485-RS232 converter                     |
| <b>KUSB</b>        | RS485-USB converter                       |
| ---                | Connections provided by the installer     |

|                    |                                                       |
|--------------------|-------------------------------------------------------|
| <b>KCMS/KCMVI</b>  | Contrôle électronique                                 |
| <b>CMSI</b>        | Contrôle électronique                                 |
| <b>KPCM/KICM</b>   | Panneau de commande                                   |
| <b>IG</b>          | Interrupteur général                                  |
| <b>REL</b>         | Résistance électrique                                 |
| <b>ALL</b>         | Alarme entrée                                         |
| <b>L</b>           | Ligne                                                 |
| <b>N</b>           | Neutre                                                |
| <b>SCR</b>         | Sélecteur commande à distance.                        |
| <b>SIC</b>         | Sécurité externe                                      |
| <b>EIR</b>         | Sélecteur été/hiver à distance                        |
| <b>ECO</b>         | Sélecteur fonction Economy                            |
| <b>CCA</b>         | Thermostat ambiant de la chaudière (validation)       |
| <b>CCH</b>         | Validation chiller                                    |
| <b>ST1</b>         | Sonde de la température de l'air                      |
| <b>ST2</b>         | Sonde de la température de l'eau                      |
| <b>ST3</b>         | Sonde de température de l'eau (accessoire KSTI)       |
| <b>ST1S</b>        | Thermostat de sécurité résistance 60°C                |
| <b>ST2S</b>        | Thermostat de sécurité résistance 100°C               |
| <b>KMVR/MVRI</b>   | Module des vannes-résistance                          |
| <b>KISI</b>        | Module d'interface série Can-bus                      |
| <b>KRS485</b>      | Module d'interface série RS485                        |
| <b>KFTT10</b>      | Module d'interface série LON                          |
| <b>KV2-KV3</b>     | Accessoire vanne chaude/froide                        |
| <b>KV2B4-KV3B4</b> | Accessoire vanne chaude + froide                      |
| <b>KRS232</b>      | Convertisseur RS485-RS232                             |
| <b>KUSB</b>        | Convertisseur RS485-USB                               |
| ---                | Raccordements devant être effectué par l'installateur |

|                    |                                             |
|--------------------|---------------------------------------------|
| <b>KCMS/KCMVI</b>  | Elektronische Steuerung                     |
| <b>CMSI</b>        | Elektronische Steuerung                     |
| <b>KPCM/KICM</b>   | Bedientafel                                 |
| <b>IG</b>          | Hauptschalter                               |
| <b>REL</b>         | Heizwiderstand                              |
| <b>ALL</b>         | Alarm Eingang                               |
| <b>L</b>           | Leitung                                     |
| <b>N</b>           | Nullleiter                                  |
| <b>SCR</b>         | Wahlschalter Fernsteuerung                  |
| <b>SIC</b>         | Externe Sicherheit                          |
| <b>EIR</b>         | Externer Wahlschalter Sommer/Winter         |
| <b>ECO</b>         | Wahlschalter Funktion Economy               |
| <b>CCA</b>         | Raumthermostat Heizkessel (Freigabe)        |
| <b>CCH</b>         | Freigabe heizkessel                         |
| <b>ST1</b>         | Lufttemperaturfühler                        |
| <b>ST2</b>         | Wassertemperaturfühler                      |
| <b>ST3</b>         | Wassertemperaturfühler (Zubehör KSTI)       |
| <b>ST1S</b>        | Sicherheits thermostat Heizwiderstand 60°C  |
| <b>ST2S</b>        | Sicherheits thermostat Heizwiderstand 100°C |
| <b>KMVR/MVRI</b>   | Modul Ventile-Heizwiderstand                |
| <b>KISI</b>        | Modul serielle Schnittstelle Canbus         |
| <b>KRS485</b>      | Modul serielle Schnittstelle RS485          |
| <b>KFTT10</b>      | Modul serielle Schnittstelle LON            |
| <b>KV2-KV3</b>     | Zubehör Warm-/Kaltwasserventil              |
| <b>KV2B4-KV3B4</b> | Zubehör Warm- + Kaltwasserventil            |
| <b>KRS232</b>      | Konverter RS485-RS232                       |
| <b>KUSB</b>        | Konverter RS485-USB                         |
| ---                | vom Installateur vorzunehmende Anschlüsse   |

|                   |                                              |
|-------------------|----------------------------------------------|
| <b>KCMS/KCMVI</b> | Control electrónico                          |
| <b>CMSI</b>       | Control electrónico                          |
| <b>KPCM/KICM</b>  | Panel de control                             |
| <b>IG</b>         | Interruptor general                          |
| <b>REL</b>        | Resistencia eléctrica                        |
| <b>ALL</b>        | Entrada alarma                               |
| <b>L</b>          | Línea                                        |
| <b>N</b>          | Neutro                                       |
| <b>SCR</b>        | Selector del mando a distancia               |
| <b>SIC</b>        | Seguridad exterior                           |
| <b>EIR</b>        | Selector de verano/invierno remoto           |
| <b>ECO</b>        | Selector de función Economy                  |
| <b>CCA</b>        | Termostato ambiente de la caldera (consenso) |
| <b>CCH</b>        | Consenso enfriadora                          |

|                    |                                                 |
|--------------------|-------------------------------------------------|
| <b>ST1</b>         | Sonda de temperatura del aire                   |
| <b>ST2</b>         | Sonda de temperatura del agua                   |
| <b>ST3</b>         | Sonda de temperatura del agua (accessorio KSTI) |
| <b>ST1S</b>        | Termostato de seguridad resistencia 60°C        |
| <b>ST2S</b>        | Termostato de seguridad resistencia 100°C       |
| <b>KMVR/MVRI</b>   | Módulo de válvulas-resistencia                  |
| <b>KISI</b>        | Módulo de interfaz serial Can-bus               |
| <b>KRS485</b>      | Módulo de interfaz serial RS485                 |
| <b>KFTT10</b>      | Módulo de interfaz serial LON                   |
| <b>KV2-KV3</b>     | Accesorio de válvula caliente/fría              |
| <b>KV2B4-KV3B4</b> | Accesorio de válvula caliente + fría            |
| <b>KRS232</b>      | Conversor RS485-RS232                           |
| <b>KUSB</b>        | Conversor RS485-USB                             |
| ---                | Conexiones a cargo del instalador               |

|             |                                     |
|-------------|-------------------------------------|
| <b>CMS</b>  | Controllo elettronico               |
| <b>KTCM</b> | Telecomando (fornito separatamente) |
| <b>PL</b>   | Cornice                             |
| <b>RI</b>   | Scheda ricevitore                   |

|             |                                 |
|-------------|---------------------------------|
| <b>CMS</b>  | Electronic control              |
| <b>KTCM</b> | Remote control (supplied loose) |
| <b>PL</b>   | Frame                           |
| <b>RI</b>   | Receiver                        |

|             |                                   |
|-------------|-----------------------------------|
| <b>CMS</b>  | Contrôle électronique             |
| <b>KTCM</b> | Télécommande (fourni s'éparément) |
| <b>PL</b>   | Grille                            |
| <b>RI</b>   | Récepteur                         |

|             |                                |
|-------------|--------------------------------|
| <b>CMS</b>  | Elektronische Steuerung        |
| <b>KTCM</b> | Fernbedienung (lose beigelegt) |
| <b>PL</b>   | Rahmen                         |
| <b>RI</b>   | Empfänger                      |

|             |                                            |
|-------------|--------------------------------------------|
| <b>CMS</b>  | Control electrónico                        |
| <b>KTCM</b> | Mando a distancia (entregado por separado) |
| <b>PL</b>   | Bastidor                                   |
| <b>RI</b>   | Receptor                                   |