

EN7521261-04

07 - 2023

COADIS LINE™ 600

Instruction manual



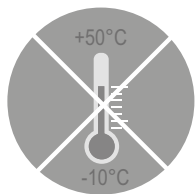


Fig. 1

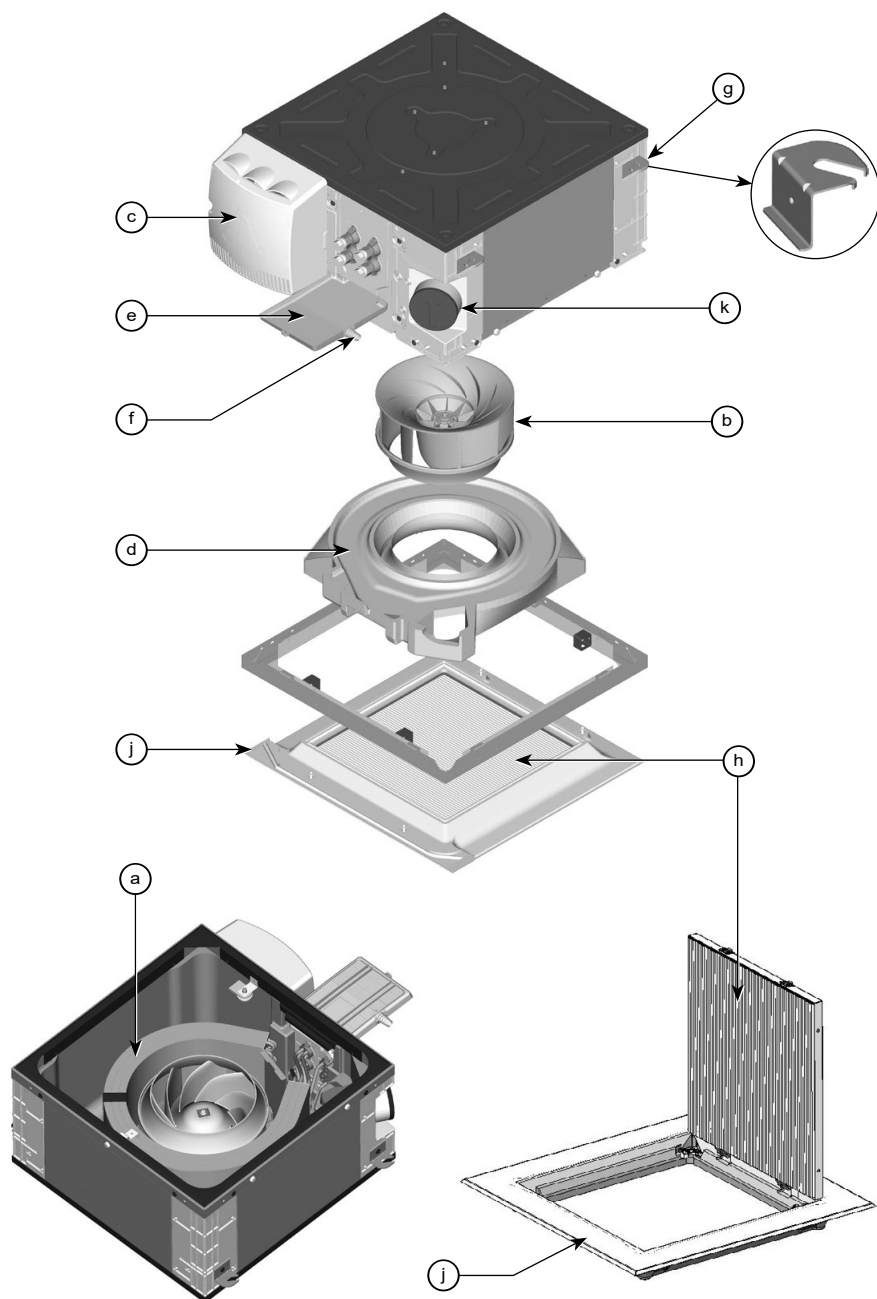


Fig. 2

| Ref. produit/Item Ref. | | Designation/Description | |
|------------------------|----------------------------|-------------------------|-------------|
| 7465791.344701 | | CDL 634T PMS | |
| An/Year | N° série/Serial Nbr | Composants/Components | Repère/Part |
| 2022 | 02230837/0000 | ... | ~ |
| Moteur/Motor (Ph/Hz/V) | Batterie/Hydro. coil | Fluide/Fluid | |
| 1+N 50/60HZ 230V+T | 4T | EAU | |
| P. moteur/Motor P. (W) | Elec Element (Ph/Hz/V) | Maxi pressure | |
| 102 | 1+N50HZ/60HZ 230V | 1600000 PA (16BAR) | |
| I. moteur/Motor I. (A) | Elec Element P. (W)/I. (A) | Cablage/Wiring | |
| 0.458 | SANS | 134 | |
| tr. mn - 1/r.p.m. | Elec Diagram | N° Declaration CE | |
| | 7301651 | 7341384.09 | |

Fig. 3

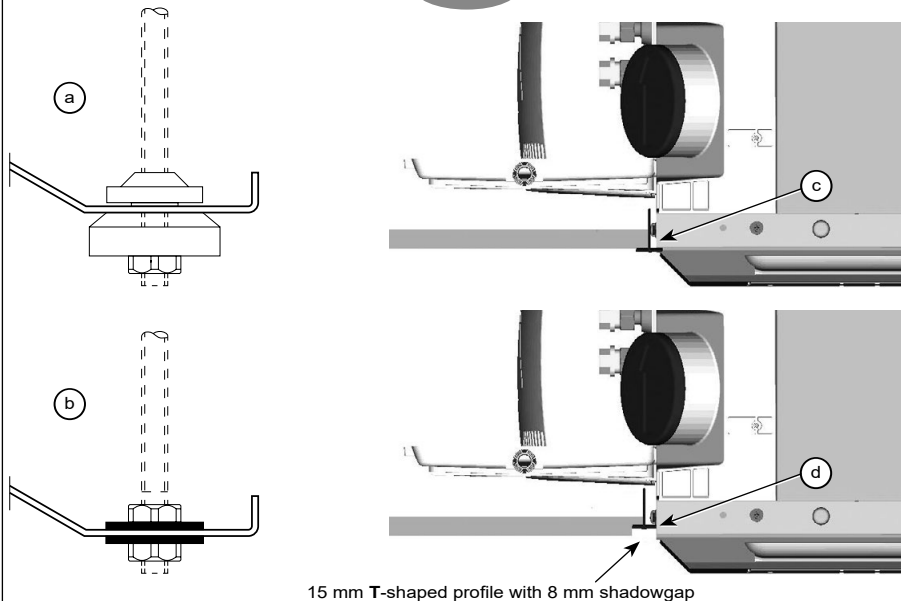
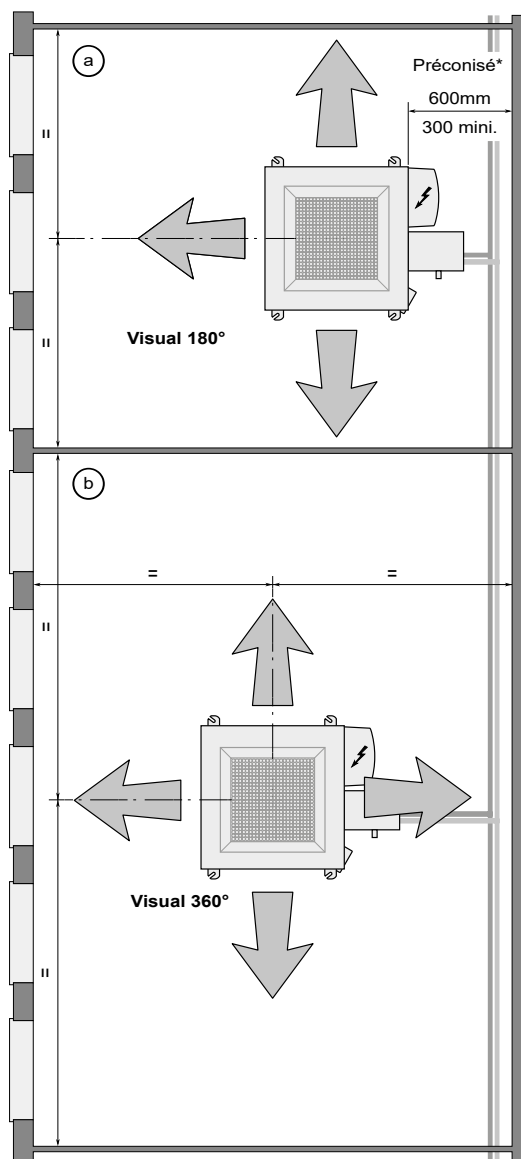


Fig. 4



* Recommended

Fig. 5

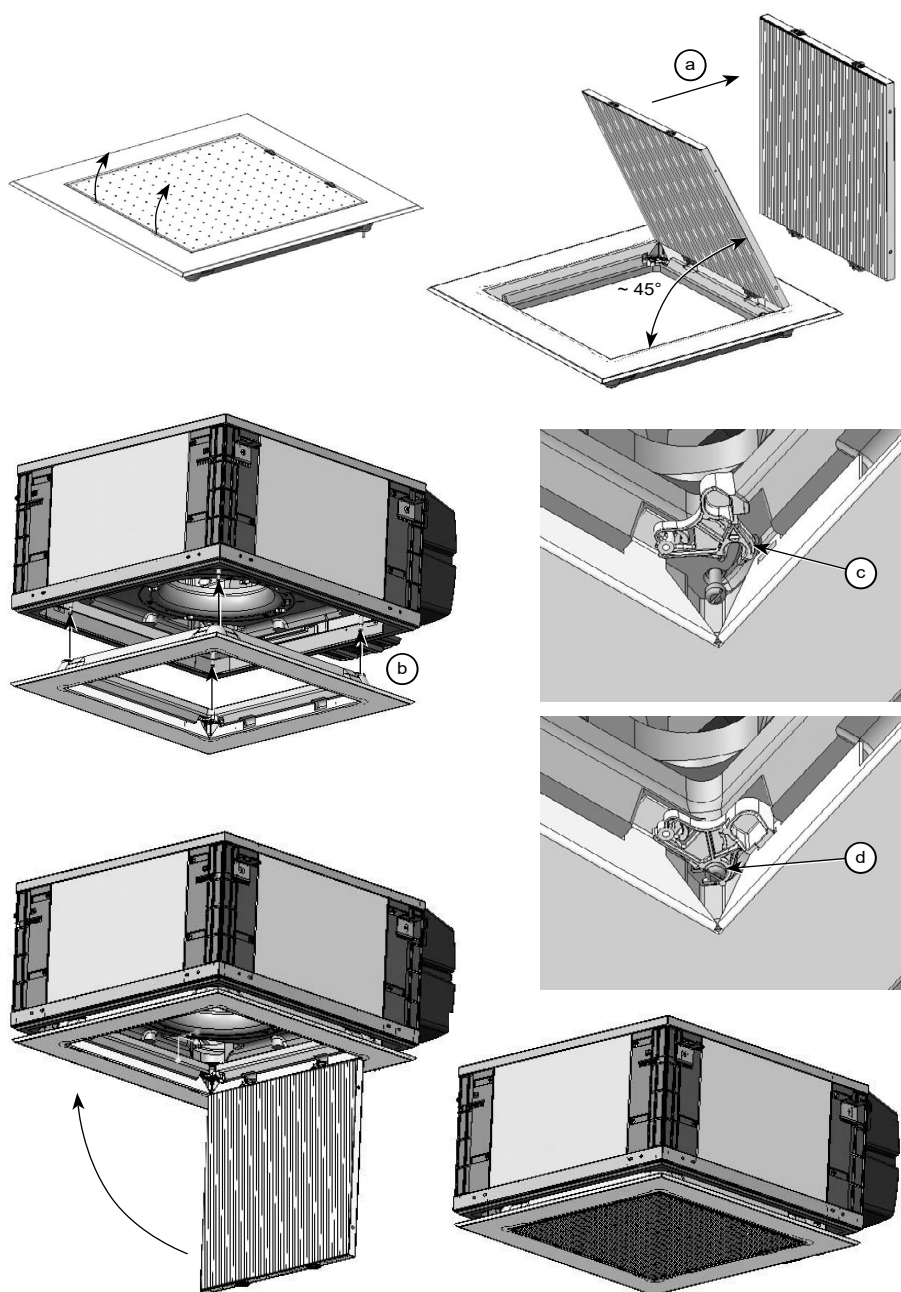


Fig. 6

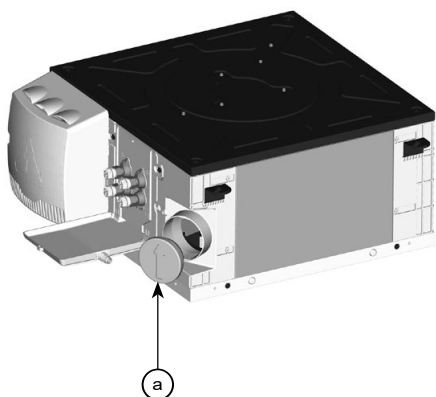


Fig. 7

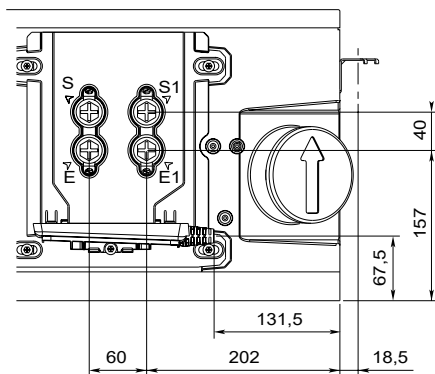


Fig. 8

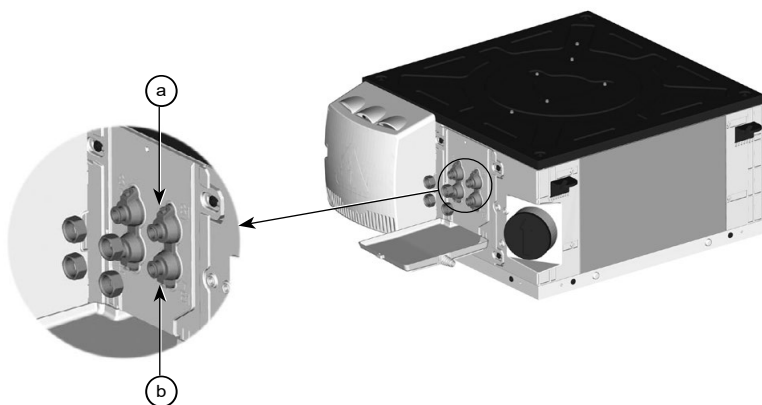


Fig. 9

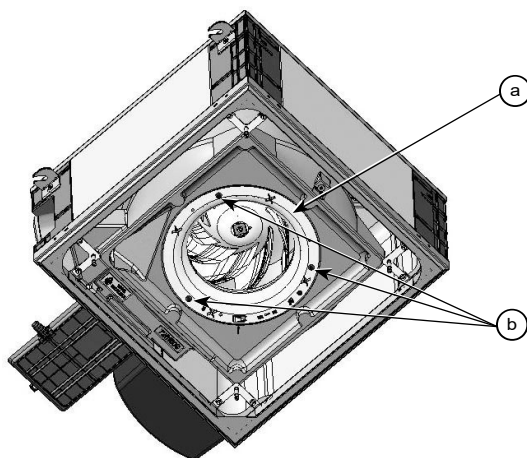


Fig. 10

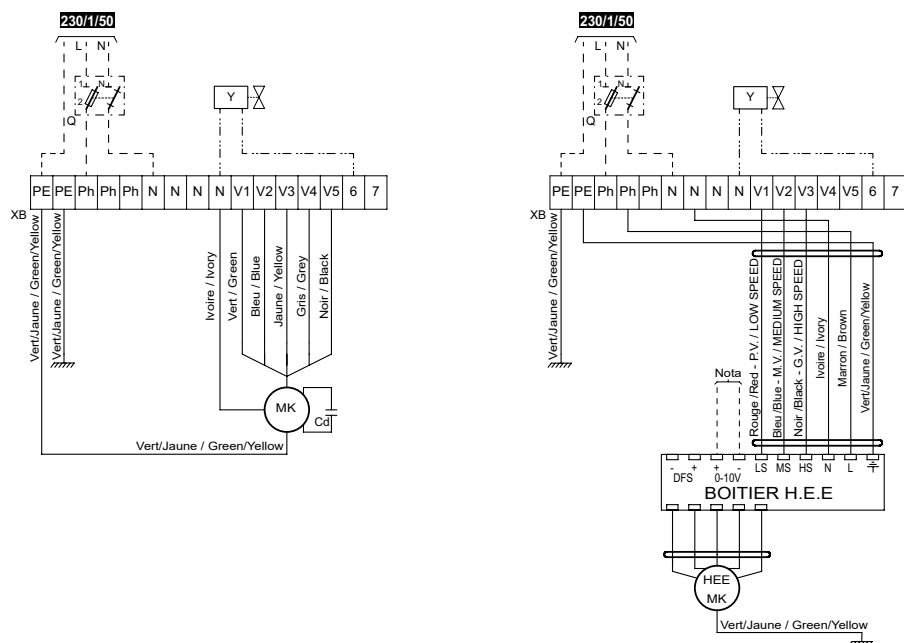


Fig. 11

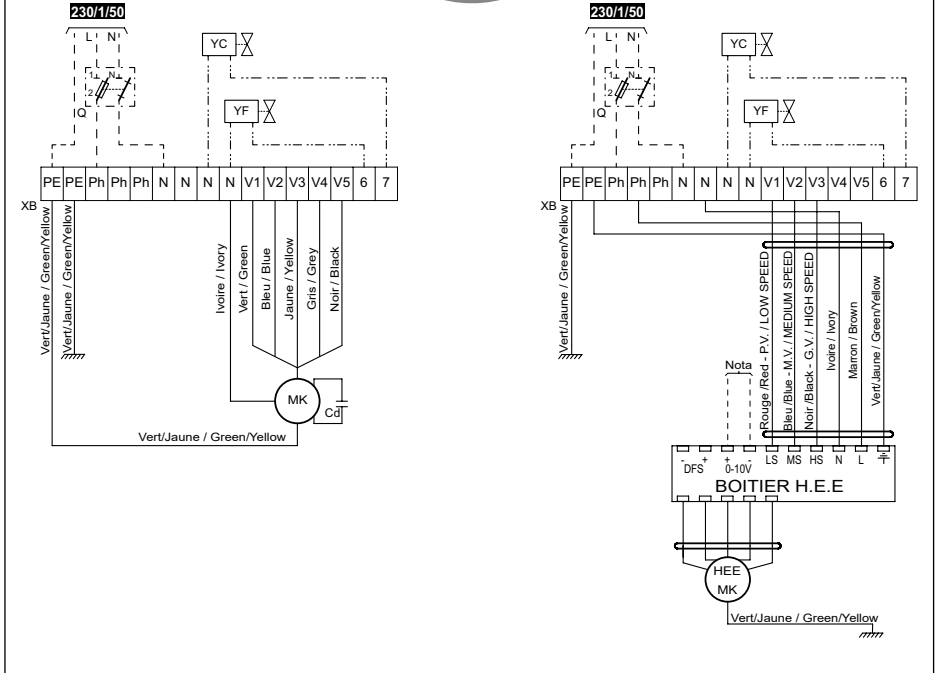


Fig. 12

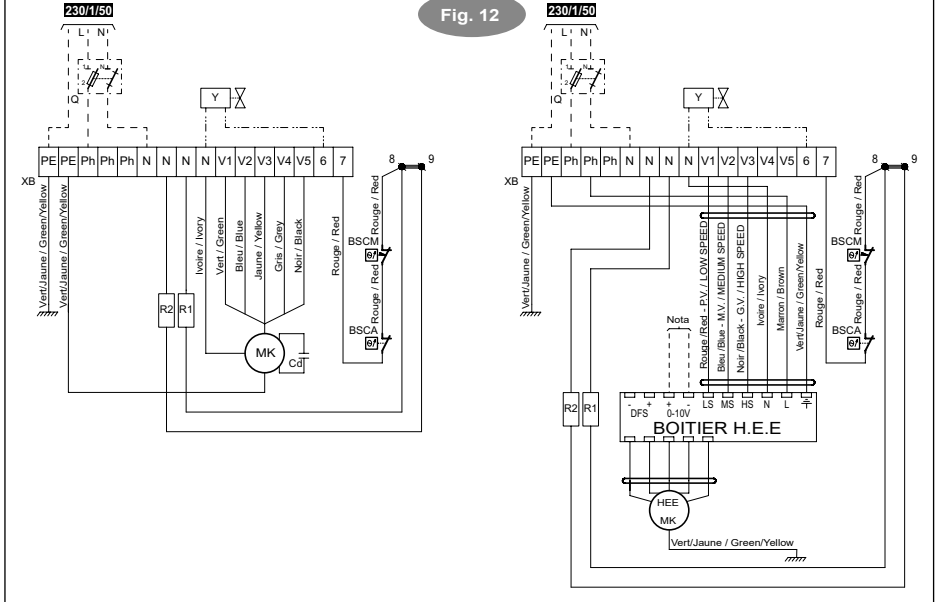


Fig. 13

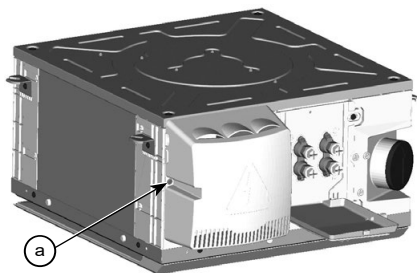


Fig. 14



Fig. 15

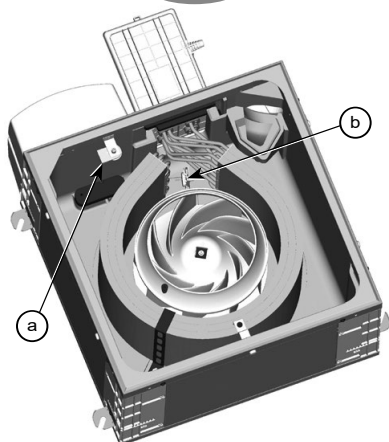


Fig. 16

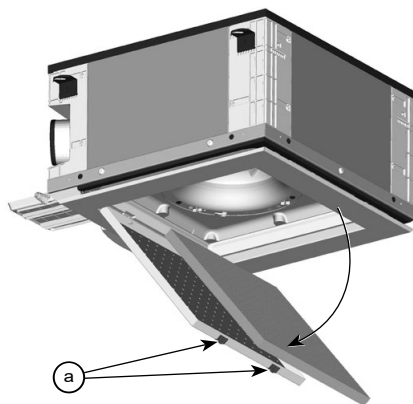


Fig. 17

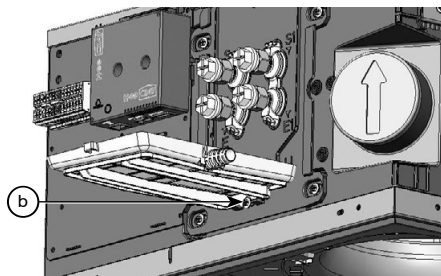
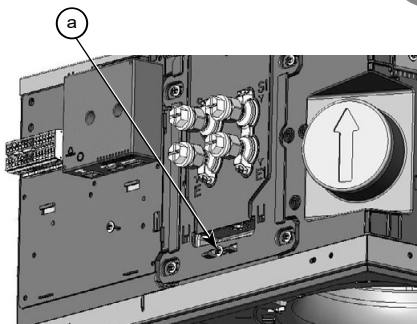


Fig. 18

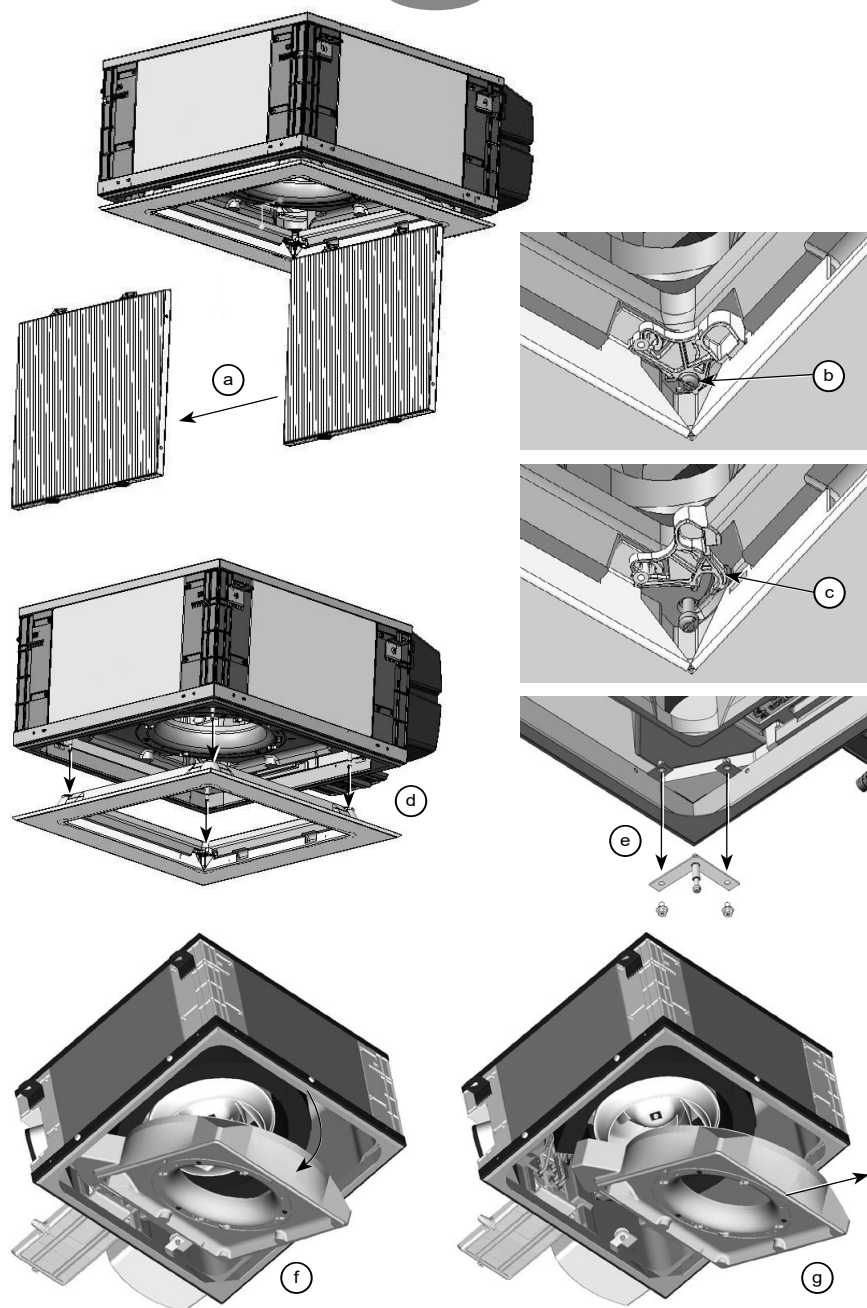


Fig.19

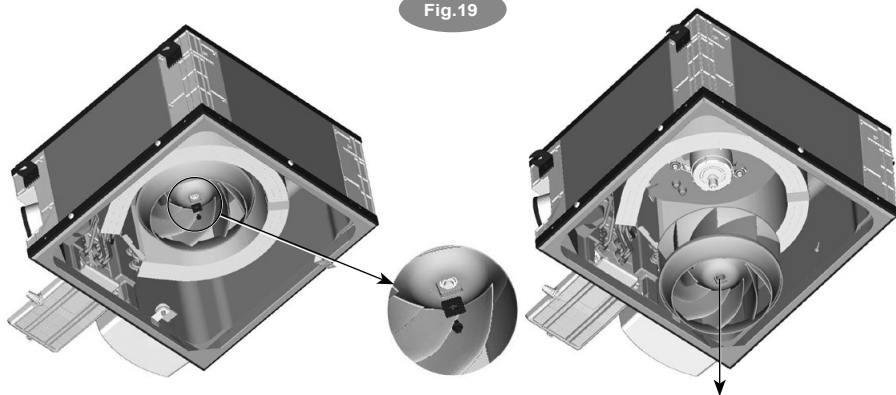


Fig.20

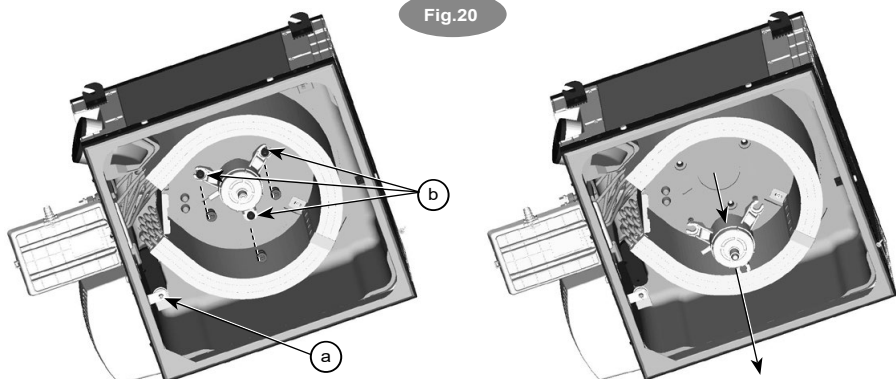
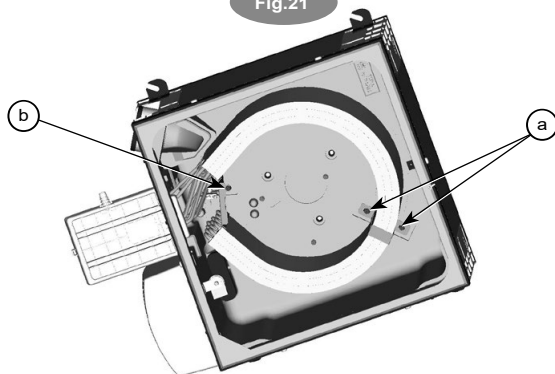


Fig.21



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1 - UNPACKING THE UNIT, CHECKING AND STORING

Thank you for purchasing a **CIAT** unit. We trust that this unit will give you complete satisfaction.

To ensure correct operation, all connections (electrical, hydraulic, etc.) must be made in accordance with industry practice and the regulations in force in the country of use.

Your unit must be maintained as recommended in this manual.

The unit is delivered in two separate packages.

- An air handling box,
- A return/discharge panel,

With a label on the packaging giving all its specifications to allow you to identify it. (type, model, etc.)

Each unit bears a data plate. Include the reference number shown on the data plate in all correspondence.

It is the recipient's duty to inspect the contents of the packages upon receipt:

- In the event of missing items, the customer must provide the exact number of parcels delivered.
- If any damage is found upon delivery, report it on the delivery receipt in the presence of the delivery driver before the delivery note is signed.



In accordance with Article 133 of the French Code of Commerce, these claims must be reported to the carrier by registered letter within three business days of receipt. The terms "conditional" and "pending unwrapping" shall have no value. The client must unwrap the goods in the presence of the driver. Claims must be made at the time of delivery and be described in detail.

2 - HANDLING



For your safety, wear protective gloves!



The unit must be handled with care and preferably laid flat. Impacts may cause damage to the frame or the body of the unit and adversely affect its main functions and its appearance.

The unit should preferably be lifted using the brackets. It is possible to carry out the installation using a fork-lift truck, as long as care is taken not to damage the unit.

The unit is placed inside the suspended ceiling. The unit must be fixed to the ceiling using the 4 threaded rods (not supplied) on the 4 support brackets.

3 - DESCRIPTION OF THE UNIT (FIG. 1)

The **COADIS LINE** (CDL) unit that you have just purchased is part of a range of comfort units designed for integration into a suspended ceiling. It is used for heating, cooling, dehumidification and air filtration. It includes a coil with one or two hot water or cold water supply circuits and may include an electrical heater for heating.

- | | |
|------------------------------------|--------------------------------|
| a - Heat exchange coil | f - Condensate drain |
| b - Fan motor assembly | g - Support brackets |
| c - Electrics box | h - Air filter |
| d - Main condensate drain pan | j - Air return/discharge panel |
| e - Auxiliary condensate drain pan | k - Fresh air inlet |

3.1 - Data plate (Fig. 2)

- | | |
|-----------------------------|--|
| 1 - Code | 7 - Wiring diagram reference |
| 2 - Serial number | 8 - Motor speed wiring |
| 3 - Description of the unit | 9 - Maximum service pressure |
| 4 - Rated motor output | 10 - Electric heater specifications (if fitted). |
| 5 - Motor rotation speed | 11 - EC declaration number |
| 6 - Coil type | |

The data plate contains all the information required to identify the unit and its configuration. This plate is positioned on the technical face containing all the connections, above the fresh air inlet.

Before contacting us, please note the serial no. and the designation.



This device may be used by children aged eight and over, and by persons with limited physical, sensory or mental capabilities, or by persons with insufficient experience or knowledge, provided that they are being correctly supervised or provided they have received instructions on how to use the device in complete safety, ensuring that they have a full understanding of any risks involved. Children must not be allowed to play with the device. User cleaning and maintenance must not be performed by children.

During normal use, this device is intended to operate under the following site conditions:

- Maximum altitude: 2000 m,
- Minimum and maximum storage temperatures; -20°C + 65°C,
- Minimum and maximum operating temperatures; 0°C +40°C,
- Indoor return air maximum humidity level: 27°C DB (dry bulb) at 65% RH (relative humidity),
- Clean interior environment (no oxidizing agents present).

The device requires protection from any form of impact during use. Protection rating IP 20 IK02.

This device is designed to operate in an over-voltage category II and pollution degree 2 environment, in accordance with IEC standard 664-1.

To ensure a pollution degree 2 environment, the device must be protected from water and oil splashes, and the dust allowed to settle on it must be limited.

4 - INSTALLATION AND CONNECTIONS



To prevent injury or damage to the unit or room, the hydraulic connections must only be made by qualified personnel.

4.1 - Mechanical connections

Ensure there are no obstacles in order to guarantee optimal air distribution.

An electrostatic film applied to the air intake prevents dust from entering the unit during assembly and can be left in place until the diffuser is fitted in its final position.

The air handling box is placed inside the suspended ceiling, at the edge of the room with the air discharge opposite windows and the electrical box facing the interior of the building for models with a Visual 180° return/discharge panel (Fig. 4 - a).

For Visual 360° models, position the box in the centre of the room (Fig. 4 - b), with the electrics box oriented towards the building's interior. Ensure that the neighbouring suspended ceiling panels can be easily removed to allow maintenance and servicing operations to be carried out. To facilitate positioning of the unit, we recommend that you remove one of the T-shaped profiles. The **COADIS LINE** must be suspended from the ceiling using 4 threaded rods (not supplied) either 6 mm or 8 mm in diameter, which are fixed to the unit's 4 support brackets using antivibration resilient mounts (optional, Fig. 3 - a) or a nut/washer assembly positioned on either side of the mounting bracket (Fig. 3 - b).

Note: To enable access to the auxiliary condensate drain pan and to the electrical and hydraulic connections, a flap must be provided or access must be possible via adjacent panels in the suspended ceiling.

CIAT strongly recommends the use of antivibration resilient mounts when securing the unit, in order to reduce the transmission of vibrations through the building structure during operation.

The fitting template found in the air handling box packaging is used to trace the anchoring points for the threaded rods onto the ceiling.

Insert the threaded rods in the notches on the support brackets.

The unit must be level and rest gently on the base of the T-shaped profiles in the suspended ceiling (Fig. 3 - c) or between the profiles depending on the type of fitting (Fig. 3 - d).



- Check that the impeller rotates freely and that there is no friction. If necessary, readjust the plastic inlet (Fig. 9, a) fitted to the air intake under the main pan, by gently loosening the 3 mounting bolts (Fig. 9, b). This check must be performed each time the main condensate drain pan is disassembled and before the unit is switched back on.
- The unit must be perfectly level in relation to the suspended ceiling to prevent condensate draining problems.
- For configurations with a Visual 180°, return/discharge panel, the rear of the unit must be a sufficient distance from the wall (at least 300 mm, recommended 600 mm) to allow suitable access to the hydraulic, electrical and air connections.
- Reminder: the air discharge is always directed towards glass partitions in order to minimise heat flow due to radiation.
- If a room thermostat is fitted, place it on an inside wall (not behind a door) and at a height of 1,50 m from the floor. Keep it away from sunlight and all sources of heat.

4.2 - Air connections

Air quality

Comfort units are not designed to control the humidity of outside air. Fresh air handling must be provided by an independent system in accordance with accepted engineering practice (see **CIAT** air handling unit ranges).

4 - INSTALLATION AND CONNECTIONS

Fitting the Visual 180 ° or Visual 360 ° return/discharge panel:

We recommend fitting this component only when the box is already installed in the suspended ceiling to prevent damage to the panel or clogging of the filter during tests when switching on for the first time.

- Remove the electrostatic film applied to the box's air intake.
- Open and remove the intake grille on the nozzle (Fig. 5, a).
- Fit the panel (Fig. 5, b). Warning: for improved efficiency, direct the Visual 180° nozzle towards the glass walls.
- Pivot the 4 bolts to hold the nozzle in position (Fig. 5, c).
- Tighten the 4 bolts (Fig. 5, d).
- Refit and close the intake grille again.



Do not press hard on the corners of the panel as this could deform them. Check that the panel is securely affixed.

The **COADIS LINE** has a directly integrated return/discharge interface which is able to isolate the flow of air handled by the unit from the suspended ceiling. The use of a connecting air duct between the air return and discharge is therefore not necessary.

The **COADIS LINE** has an inlet for clean fresh air equipped with a 100 mm diameter connection sleeve integrated in the frame, with a removable plug (Fig. 6 - a). Recommended max fresh air flow 90 m³/h.

When using the **COADIS LINE** with fresh air, as a filtration cassette according to standard VDI 6022, the air handling unit must fulfil the criteria for this standard and must be equipped with an F7 filter as a minimum.

The ducts used may be coated with an anti-condensation material. (Fibreglass 12-25 mm thick)

- Remove the plug from the fresh air inlet.
- Position the duct on the connection sleeve.
- Place a retaining clamp around the duct in contact with the connection sleeve.
- Tighten the clamp and check the integrity of the connection.



To protect itself effects of condensation (no open valve when the ventilation is cut).

4.3 - Hydraulic connections

Water always flows into the bottom of the coil and exits at the top.

The pipes are positioned in the suspended ceiling as shown in Fig. 7.

The coils are equipped with a header coupling with flat face swivel nuts with a female thread, diameter G $\frac{1}{2}$ " and sealing gaskets (supplied by **CIAT**).

The header coupling is equipped with an air bleed valve (Fig. 8 - a) at the high point with partial draining at the low points (Fig. 8 - b) that can be manoeuvred using a 7 mm Allen key or a flat-blade screwdriver.



Recommendations for venting or draining the unit

Before carrying out work on the unit, check that the power supply is cut off and locked.

Only experienced, qualified technicians may perform installation and maintenance work on the machine. They must be provided with personal protective equipment (PPE).

The technician must take all the necessary precautions to recover the water drained during venting or draining procedures.

4 - INSTALLATION AND CONNECTIONS

He must pay particular attention to the risks of overflowing and splashes.

- **To vent the air**, loosen the drain screw (Fig.8, rep. a) by a maximum of 3 turns.
- **To drain the unit**, ensure the unit is hydraulically isolated from the network and loosen the drain screw (Fig.8, rep. b) by a maximum of 3 turns.



The coil can be partially drained, however precautions must be taken during winter if the installation is shut down. To drain completely, air must be blown through the circuit.

If the hydraulic connections are completed, it is not necessary to insulate the valves to prevent condensation (unless they are specific valves). A naturally inclined ABS auxiliary condensate drain pan is supplied with the unit. This recovers condensate from the valves and coil (from the main pan) and drains it via gravity or using a condensate drain pump supplied as an option.

Installation

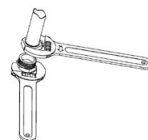
CIAT recommends a default tightening torque of 7 N.m (max. 18 N.m) to avoid any damage to the couplings and the exchanger.

During connection, always use a holding wrench on the component being connected to ensure the header is not twisted.

Ensure that the fluid flow direction indicated on the valve body is respected.

The maximum allowable differential pressure for our valves (open or closed) is 100 kPa. We recommend not exceeding 60 kPa. Refer to the valve manual for specific supplies.

For a unit pre-fitted with control valves, check the tightness of the couplings/valves before/after connecting to the network.



Design

The positioning of the hydraulic networks is crucial to the correct operation of the system. Drain valves should therefore be placed at the appropriate points and in sufficient number. In addition, strainers should be fitted, as well as drains at circuit high points, balancing tees and shut-off valves on each coil and, if necessary, discharge valves.

Pressure safety:

The installation must be protected against any risk of overpressure. Special care must be taken to protect against the risks linked to expansion of the energy transfer fluid and to the total hydrostatic pressure.

Filtration:

An efficient filtration system (recommended efficiency of 0,5 mm) should be fitted on the supply water and return water lines.

Flushing:

The system must be flushed completely and filled with treated water to prevent the build-up of scale or sludge in the circuit. When flushing the system, open the thermo or modulating valve on the unit to prevent any sludge or impurities from entering the coil:

- **Opening the valve:**
 - If the power has not yet been switched on, the valve will be open.
 - If the control has already been switched on, the valve will switch to "normally closed" operation. The valve must be opened either via the control device or by removing the valve actuators.

Filling

Drain the coils during commissioning.

4 - INSTALLATION AND CONNECTIONS

Water quality recommended for water coils

It is recommended to carry out a bacteriological analysis (detection of ferrobacteria, bacteria producing H₂S and reducing sulphates) and a chemical analysis (to avoid problems with scaling and corrosion) of the water.

| | |
|---|--------------------------------|
| ■ Total hardness (French scale) | 10 < TH < 15 |
| ■ Chloride [CL ⁻] | < 10 mg/l |
| ■ Sulphate [SO ₄ ²⁻] | < 30 mg/l |
| ■ Nitrate [NO ₃ ⁻] | = 0 mg/l |
| ■ Dissolved iron | < 0,5 mg/l |
| ■ Dissolved oxygen | 4 < [O ₂] < 9 mg/l |
| ■ Carbon dioxide [CO ₂] | < 30 mg/l |
| ■ Resistivity | 2000 < Resistivity < 5000 Ωcm |
| ■ pH | 6,9 < pH < 8 |

Operating limit recommendations:

- Cooling coil inlet minimum water temperature: **6°C**
- Heating coil inlet maximum water temperature (2-tube application without electrical heaters): **70°C**
- Heating coil inlet maximum water temperature (2-tube application without electrical heaters): **55°C** (min. air flow rate = 200 m³/h)
- Heating coil inlet maximum water temperature (4-tube application): **80°C**
- Maximum operating pressure: **16 Bar**
- Interior return air min./max. temperature: **+0°C / +40°C**
- Indoor return air maximum humidity level: **27°C DB** (Dry Bulb) at **65% RH** (Relative Humidity).
- Recommended supply air temperature: **< 65°C**

Operating recommendations:

To prevent any inopportune opening of the thermo-actuators on control valves with thermal motors, the temperature of the air surrounding the thermo-actuators should not exceed 50°C. This is especially important for units installed in confined spaces (e.g. in suspended ceilings).

CIAT shall not be liable for damage to valves caused by faulty design of the hydraulic supply network or incorrect commissioning.

To protect against the risk of condensation when using chilled water, lagging should be placed along the entire lengths of pipes and completely sealed at its ends. When using the water coil and electric heater, we advise against using cross-linked polyethylene (PEX) pipes to supply water to the unit. This is because overheating of the electric heater could cause the water temperature to rise briefly. This could cause the rapid deterioration of the PEX pipe near the unit and cause it to burst.

We recommend using stainless steel braided (or equivalent) hoses for hydraulic connections.

4 - INSTALLATION AND CONNECTIONS

4.4 - Condensate pan draining connection

A naturally inclined ABS auxiliary condensate drain pan, with no water retention, is supplied with the unit.

To install this auxiliary pan, proceed as follows:

- Remove the bolt (Fig. 17, a)
- Tilt the auxiliary pan upwards to allow it to be clipped in place.
- Refit the bolt and tighten it (Fig. 17, b).

The condensate is drained via the drain hole in the pan (drain height 70 mm); This hole can receive tubes with an internal diameter of 15 to 20 mm. Ensure that the drainage bushing is the lowest point on the auxiliary pan so that water does not accumulate in the pan. The drain pipe can be separate for each unit or connected to a main drain pipe sized to allow the condensates from all the units to flow through at the same time. Use a clear flexible and/or rigid drain pipe for a minimum slope of 1 cm/m, with a constant gradient along its whole length and no low points. Thus the drain pan will remain dry after the end of the coil's condensation process. Install a trap measuring at least 5 cm to prevent unpleasant gases or odours exiting the hose.

4.5 - Connecting the condensate drain pump (option)

The condensate drain pump can be supplied mounted on the unit as an option.

Its technical specifications are as follows:

- Maximum flow of 8,5 l/h for a head height of 2 metres and a maximum pipe length of 5 metres.
- Maximum flow of 7 l/h for a head height of 4 metres and a maximum pipe length of 5 metres.

The operation points are provided in the table below.

Connect a clear drain pipe (not supplied) with an internal diameter of 6 mm between the pump outlet and the wastewater pipe.

4 - INSTALLATION AND CONNECTIONS

Table of actual flow rates for the DE05UCC pump with Ø 6 mm PVC internal pipe:

| Discharge height | TABLE OF ACTUAL FLOW RATES (l/h) | | | |
|------------------|--------------------------------------|------|------|------|
| | Total pipe length (internal Ø, 6 mm) | | | |
| | 5 m | 10 m | 20 m | 30 m |
| 1 m | 10,4 | 9,1 | 8,3 | 7,3 |
| 2 m | 8,5 | 7,8 | 7 | 6,4 |
| 3 m | 7,9 | 7,1 | 6,3 | 5,8 |
| 4 m | 7 | 6 | 5,3 | 4,9 |

Under operating conditions outside the recommended temperature and relative humidity range (page EN-2), the discharge pipe must be insulated to prevent condensation, which could damage the installation and the pump. We recommend using a transparent colourless PVC type pipe with internal diameter 6 mm/external diameter 9 mm. It is essential to ensure that the pump connections are sealed. A clamp can be used for this purpose.



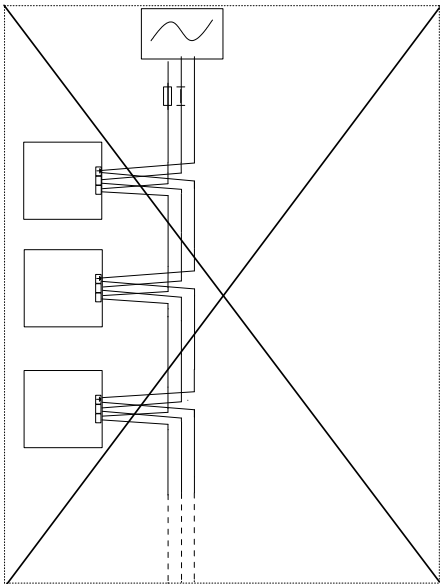
Check the unit selection data to determine the maximum condensate flow rate.

Note: This accessory must always be used with a valve control device, to ensure valve control of the high safety device when the valve is closed (closure of the condensate drains).

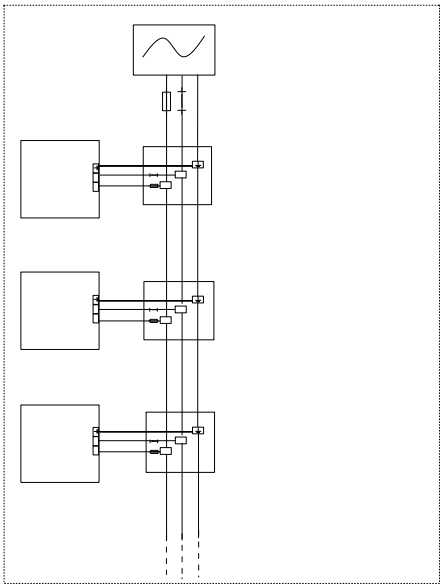
4.6 - Electrical connections

Wiring diagram for connecting several units

Incorrect wiring for several units



Correct wiring for several units



4 - INSTALLATION AND CONNECTIONS



- Disappearance of the causes of the stoppage may pose the risk of danger during restarting.
- Disconnect the electrical supply to the unit before carrying out any work.
- Only personnel qualified to perform electrical work may carry out installation and maintenance work.

Before connecting the unit to the network, ensure that the voltage matches that indicated on the data plate (230 V/1-ph/50-60 Hz).

| COADIS LINE | | AC Asynchronous Motor (230V/50Hz) | | | | | | HEE Brushless Motor (230V/50Hz) | | | | | |
|-------------|----|------------------------------------|------|-----------|------|-----------|------|----------------------------------|------|-----------|------|-----------|------|
| | | 612 | | 622 - 624 | | 632 - 634 | | 612 | | 622 - 624 | | 632 - 634 | |
| | | Input power | | | | | | | | | | | |
| | | W | A | W | A | W | A | W | A | W | A | W | A |
| Motor code | V5 | 75 | 0,33 | 75 | 0,33 | 98 | 0,43 | 35 | 0,18 | 36 | 0,18 | 57 | 0,40 |
| | V4 | 45 | 0,20 | 45 | 0,20 | 73 | 0,32 | 15 | 0,09 | 14 | 0,09 | 32 | 0,28 |
| | V3 | 38 | 0,16 | 38 | 0,16 | 59 | 0,26 | 11 | 0,07 | 10 | 0,07 | 22 | 0,17 |
| | V2 | 28 | 0,12 | 28 | 0,12 | 48 | 0,21 | 7 | 0,04 | 7 | 0,04 | 15 | 0,13 |
| | V1 | 19 | 0,08 | 19 | 0,08 | 35 | 0,15 | 5 | 0,02 | 5 | 0,02 | 9 | 0,10 |

An earth connection is compulsory. CIAT shall not be liable for incidents resulting from faulty or non-existent earthing. Always follow the circuit diagram delivered with unit.

Circuit diagrams for customer applications should be based on the diagrams supplied:

- Unit wiring for 2-tube systems, without condensate pump (Fig. 10).
- Unit wiring for 4-tube systems, without condensate pump (Fig. 11).
- Unit wiring for 2-tube systems with an electric heater using 2 heating elements, without condensate pump (P=900 or 1200W max) (Fig. 12).

Note: if necessary, the output of the 300W electric heater can be reduced by removing the shunt positioned between terminals 8 and 9.

CIAT recommends using a system that controls the unit in relation to the temperature of the water (to actuate the valve(s) and the use of an electric heater.

All electrical connections are fed into the electrics box marked with the symbol .

The electrics box is equipped with a cable grommet to facilitate the routing of the cables to the terminal block.

To access the electrical terminal block:

Disconnect the device from the electrical power supply. Use a screwdriver to undo, but not remove, the lateral retaining screw on the electrical box casing (Fig. 13 - a).

Modifying the motor speeds:

Always use a screwdriver when performing cabling operations.

COADIS LINE offers a choice between two types of motor technology:

Asynchronous and Brushless (low consumption).

■ The asynchronous motor:

To optimise the unit's performance and depending on the type of control used. The unit has five speeds numbered V1 to V5 connected to the terminal block in the electrics box (V1= low speed and V5= high speed).

The customer must cable the speeds for the thermostat at the top of the terminal block between V1 and V5.

4 - INSTALLATION AND CONNECTIONS

To open a connection point and change the cabling (Fig. 14):

- Place the end of a flat-blade screwdriver in the hole located just below the cable to be removed.
- Release the cable and move it to the marker for the desired speed.
- Place the screwdriver again in the hole just below the desired speed, insert the cable and remove the screwdriver; this ensures a secure contact.

Repeat the procedure for the remaining customer speeds.



The wires coming from the motor and connected to terminals v1 to v5 must never be interconnected. It is essential to refit the electrical box casing once all the cabling and adjustment operations are complete.

■ The (HEE) brushless motor:

This has a motor speed electronic control unit which uses a 0-10V control signal or 3-speed on/off control (to be selected by the customer depending on the controller or thermostat used with the unit).

- Controller or thermostat for 3-speed on/off control:
 - Switch on the unit and select the ventilation speed to be modified using the thermostat.
 - Use the "CIAT speed control unit" accessory supplied as an option to adjust each speed (rpm) in accordance with the instructions included with the unit.
- Controller managing a 0-10V control signal:
 - The 0-10V setpoint voltage information is issued by the controller itself. Refer to the operating and configuration instructions supplied by the manufacturer.



If electric heaters are used, the lowest speed setting should never be below 400 rpm.

To prevent any risk of damage, never connect several asynchronous or brushless motors for different units in parallel on the same thermostat.

IMPORTANT NOTE: (HEE) Brushless motor

The electrical connection for **CIAT** Comfort Units must be made in compliance with international standard IEC 60364 (Electrical Installations for Buildings).

The leakage current on all our comfort units conforms to the requirements of IEC 60335-2-40 (Safety of household and similar electrical appliances):

- Complete comfort unit (with electric heating elements) equipped with a multi-speed motor: maximum leakage current = 2 mA.
- Complete comfort unit (with electric heating elements) equipped with an HEE motor (brushless technology): maximum leakage current = 4,5 mA.

Electromagnetic compatibility in accordance with Emission Standard 61000-6-3 (EN55014-1, Tool class) and Immunity 61000-6-1 (Residential, commercial and light industry class).



The unit's compliance with the above standards does not guarantee the compliance of the installation as a whole (several other factors not relating to the unit may be involved). As a result, the installer must observe the applicable recommendations in order to guarantee compliance.

Electrical safety:

To ensure user safety, earthing is compulsory.

The installation must be equipped with a device to protect against earth faults.

A disconnect device must be built into the installation between the supply and the 230 VAC power network, and must be easy to access. The disconnect device must simultaneously disconnect the two poles (phase and neutral), and have a distance of at least 3 mm between the contacts, in compliance with the installation instructions.

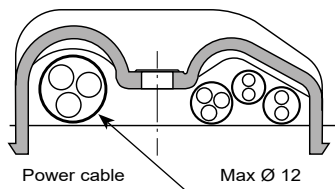
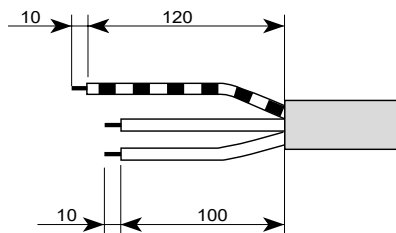
The mains power cable must have 3 conductors (blue, brown, green/yellow) and its cross section and type must comply with the specifications set out by the applicable EN or IEC standard. Refer to the selection sheet or the name plate to determine the maximum input current. The cable must be fed into the box via the circular hole fitted with a protective grommet and secured in the dedicated strain relief.

Its maximal diameter must be 12 mm. It must be clamped at low speed with a torque not exceeding 0.8 Nm.

4 - INSTALLATION AND CONNECTIONS

Connection

Connect the electrical connections to the connectors as per the wiring diagram below, and lock the wires using the special cable grommets.



Connect the earth before making any other connections.

Check that the stripped section of the GREEN/YELLOW cable is longer than the others.

The power cables must be type H05 VVF with PVC insulation in accordance with the standard EN 60335-2-40.

The power cable must have a minimum cross section of 1,5 mm².

Make sure the mains power supply goes through a circuit breaker which can cut power to all the poles.

The earthing system must be TN or TT.

Use short circuit protection devices (circuit breaker or fuses) and magnetic switches that conform to the applicable EN or IEC standard



General safety instructions for units with electric elements:

- The rotation speed of the HEE motor must never be below 400 rpm.
- The operation of the heating coil must be fan-controlled.
- Power to the electric heating elements should be cut whenever the fan motor assembly is stopped intentionally or unintentionally.
- When the system is completely shut down, ensure that the type of control chosen allows post ventilation of the comfort unit to ensure no serious damage is caused to it. (recommended post ventilation of at least 2 minutes)
- Units equipped with heating elements are protected against accidental overheating by 2 temperature limiting thermostats (Fig. 15), one with manual reset (a) and one with automatic reset (b).

Do not reset these thermostats until the potential causes of the overheating have been checked:

- Powering up without the fan.
- Filter partially clogged
- Coil and fan stopped simultaneously by control.

5 - SERVICING AND MAINTENANCE

The unit must be serviced periodically between the heating and cooling seasons. In particular, components prone to clogging (filter, condensate drain pan, coil, etc.) must be checked.

Disconnect the electrical supply to the unit before carrying out any work. The hydraulic circuit must also be closed.

5.1 - Air filter

The **COADIS LINE** is equipped as standard with an "EPURE" high-efficiency pleated filter.

The filter is crucial to the correct operation of the unit. Without it the heat exchange coil would become clogged, the performance drop and the unit's sound level rise.

CIAT recommends regular inspections of the filter's appearance in order to define the frequency with which it should be replaced, which varies depending on the premises and the operating conditions (replacement at least every two years). If maintenance is carried out more frequently, the filter can be cleaned by running a vacuum attachment (in the opposite direction to the flow of air). The above recommendations are for information only.

To guarantee optimal thermal, acoustic and air purification efficiency throughout the unit's life, **CIAT** recommends the use of an "EPURE" filter. Using a different type of filtration system could compromise the performance of the unit and be detrimental to users.

Accessing the filter:

- Mark the two retaining lugs (Fig. 16, a) positioned on the micro perforated return air grille
- Push the two lugs to release the return air grille.
- Lower the hinge-mounted return air grille until it is at right angles to the diffuser.
- Release the filter from its housing.
- After fitting a new filter, refit the return air grille. Lock it near to the panel by simultaneously pushing the two lugs sharply upwards.
- Check that the grille is securely affixed.

Note: the micro perforated return air grille must never be pushed in beyond the discharge panel.

5.2 - Condensate drain pans

The main and auxiliary condensate drain pans must be kept clean. The pans and drainage fittings may be completely cleaned using non-abrasive, water-based detergents. Also check periodically that the drain pipe is not blocked.

When using the **COADIS LINE** as a filtration cassette, according to standard VDI 6022, it is essential to clean the drain pan. See section 6 for authorized cleaning agents and disinfectants.

Removing the pans:

- To remove the auxiliary pan:
 - Unscrew the bolt under the pan (Fig. 17, b).
 - Then unclip it from its location.
 - Refit the bolt on the cassette (Fig. 17, a).
- To remove the main pan.
 - Open and remove the intake grille on the nozzle (Fig. 18, a).
 - Loosen the 4 bolts (Fig. 18, d).
 - Pivot the 4 bolts holding the nozzle in position (Fig. 18, c).
 - Remove the panel (Fig. 18, d).
 - Remove the 4 brackets (8 bolts) (Fig. 18, e)
 - Swivel the pan (approximately 30°) downwards (Fig. 18, f) and release it from its retaining lugs. (Fig. 18, g)

To refit, perform the operation in reverse order.

5 - SERVICING AND MAINTENANCE

5.3 - Fan motor assembly

From time to time, check that the turbines and the motor are clean. If necessary, clean them using a vacuum cleaner, taking care to ensure they are not damaged.

The electric motor's bearings are lubricated for life and do not require specific maintenance.

Removing the fan motor assembly:

- Open the electrics box
- Disconnect the wires which form the fan motor assembly bundle.
- Follow the same procedure as for disassembling the main pan (Fig. 18) (see section 5.2 Condensate drain pans)
- Use a screwdriver to undo the screw securing the turbine and its foolproofing device (Fig. 19), and remove the turbine
- Remove the grommet cap (Fig. 20, a)
- Pull the fan motor assembly bundle towards the interior of the box
- Undo the 3 motor retaining screws and remove the motor (Fig. 20, b).

To refit, perform the operation in reverse order.

5.4 - Heat exchange coil

A clean coil is crucial to the efficiency of the unit. If necessary, clean the coil with a vacuum cleaner.

If the coil must be disassembled on account of a leak:

Disconnect the electrical supply to the unit before carrying out any work.

Removing the coil:

- Insulate the unit hydraulically from the network and drain the coil.
- Disconnect the coil inlets and outlets
- Next, follow the same procedure as for disassembling the main pan (Fig. 18) and the fan motor assembly (Fig. 20) (see sections 5.2 Condensate drain pans and 5.3 Fan motor assembly)
- Undo the 2 screws on the coil retaining clamp (Fig. 21, a) and the coil connecting plate screw (Fig. 21, b).
- Remove the coil.

To refit, perform the operation in reverse order, remembering to bleed the coil before refilling with water.

5.5 - Return/discharge panel

Wipe the walls with a damp, slightly soapy sponge and buff them using a soft, dry cloth.

Never use abrasive products.

6 - HYGIENIC REQUIREMENTS AND INFORMATION

Authorized cleaning agents and disinfectants:

- Soap and detergents
- Bleaching agents (hypoclorites, bleach, hydrogen peroxide)

Filter information

- The "Epure" filter class is ePM10 50% following DIN EN ISO 16890

Specific requirements related to VDI 6022

- Maintenance and cleaning measures will be necessary performed by qualified staff having passed VDI 6022 training courses at least on a bi-annual basis.
- An Initial hygiene inspection should be performing according to VDI 6022 specification.
- The operator shall maintain an operations log and shall keep it available to building manager. All hygiene checks shall be documented and shall be archived by the incumbent operators. Essential details to be included in the documentation are:
 - Name of person performing the check
 - Name of the laboratory, if applicable
 - Date of check
 - Result of check
 - Qualification of inspector
 - Any measures taken
- Checklist for operation and maintenance on air terminal unit **COADIS LINE 600** :

| Component | Activity | Action (if required) | Periodicity |
|-----------------|--|--|-------------|
| Air filters | Check for unacceptable contamination and damage (leaks) and odours | Change air filter if required. | 3 months |
| | Maximum interval until filter is to be changed | | 12 months |
| Fan | Check for contamination, damage and corrosion | Clean and repair. Check water drain | 6 months |
| Heat exchangers | Visual inspection | Clean, repair | 6 months |
| Air ducts | If cooling mode: Check condensate tray for contamination, corrosion and tightness. | Clean, repair | 3 months |
| | Check air duct sections | Repair if damage | 12 months |

7 - CE CERTIFICATE OF CONFORMITY



Declaration of Conformity UE

This unit complies with the provisions of European Directives:

- 2006/42/EC (Machinery)
- 2014/30/EU (EMC)
- 2011/65/EU (RoHS)
- 2009/125/EC (Eco Design) and regulation 327/2011/EU
- REGULATION (EC) No 1907/2006 (REACH)



UK Declaration of Conformity

This unit complies with the requirements of:

- Supply of Machinery (Safety) Regulations 2008
- Electromagnetic Compatibility Regulations 2016
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
- The Ecodesign for Energy-Related Products and Energy Information Regulations 2019, and following amendments
- UK REACH Regulations 2019

UK Importer:

- Toshiba Carrier UK Ltd, Porsham Close, Roborough, Plymouth, PL6 7DB

VDI 6022 Certification :

COADIS LINE conforms to the criteria of VDI 6022 Part 1.

The guidelines of the VDI 6022 standard provide the criteria for maximum hygiene in HVAC systems



8 - TESTING & WARRANTY

All our units are tested and proven before leaving the factory.

They are guaranteed against all manufacturing defects. **CIAT** shall not be held liable for any type of corrosion. **CIAT's** warranty does not cover damage resulting from incorrect electrical wiring, inadequate electrical or thermal protection or failure to use a filter.

CIAT's warranty on motors is limited to the terms of warranty extended by its supplier.

Work performed on the motor by the installer will invalidate the corresponding warranty.

9 - SAFETY CONSIDERATIONS RELATING TO FINAL SHUT-DOWN

Separate the units from their energy sources, allow them to cool down and then drain completely.

DISMANTLING

Never work on a unit that is still powered on.

Respect the local environmental laws and regulations.

Presence of waste electrical and electronic equipment (WEEE): At the end of its life, units must be disassembled, with any contaminated fluids removed by professionals, and then processed via approved channels for waste electrical and electronic equipment (WEEE).

Check whether any part of the unit can be recycled for another purpose.

Sort the components according to their material for recycling or disposal, in accordance with regulations in force.

Materials to be recovered for recycling - Steel - Copper - Brass - Aluminium - Plastics - Insulation.

The proportions of materials for each unit are listed in the Product Environmental Profile (PEP) available at the following website: <http://www.pep-ecopassport.org/fr/consulter-les-pep/> or on request from our departments.

Any contaminated fluids must be disposed of by specialist professionals.

The quality management system of this product's assembly site has been certified in accordance with the requirements of the ISO 9001 standard (latest current version) after an assessment conducted by an authorized independent third party.

The environmental management system of this product's assembly site has been certified in accordance with the requirements of the ISO 14001 standard (latest current version) after an assessment conducted by an authorized independent third party.

The occupational health and safety management system of this product's assembly site has been certified in accordance with the requirements of the ISO 45001 standard (latest current version) after an assessment conducted by an authorized independent third party.

Please contact your sales representative for more information.

Carrier S.C.S, Rte de Thil - 01120 Montluel, s France.

The manufacturer reserves the right to change the product specifications without notice.

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