



**INSTALLATION, OPERATION AND
MAINTENANCE INSTRUCTIONS**



COANDA EFFECT CASSETTE

42KY

**Nominal cooling capacity: 1 to 6 kW
50/60 Hz**

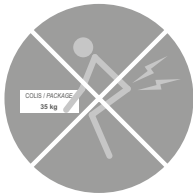
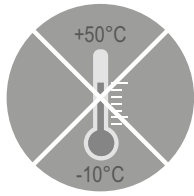
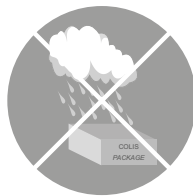
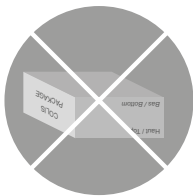


Fig. 1

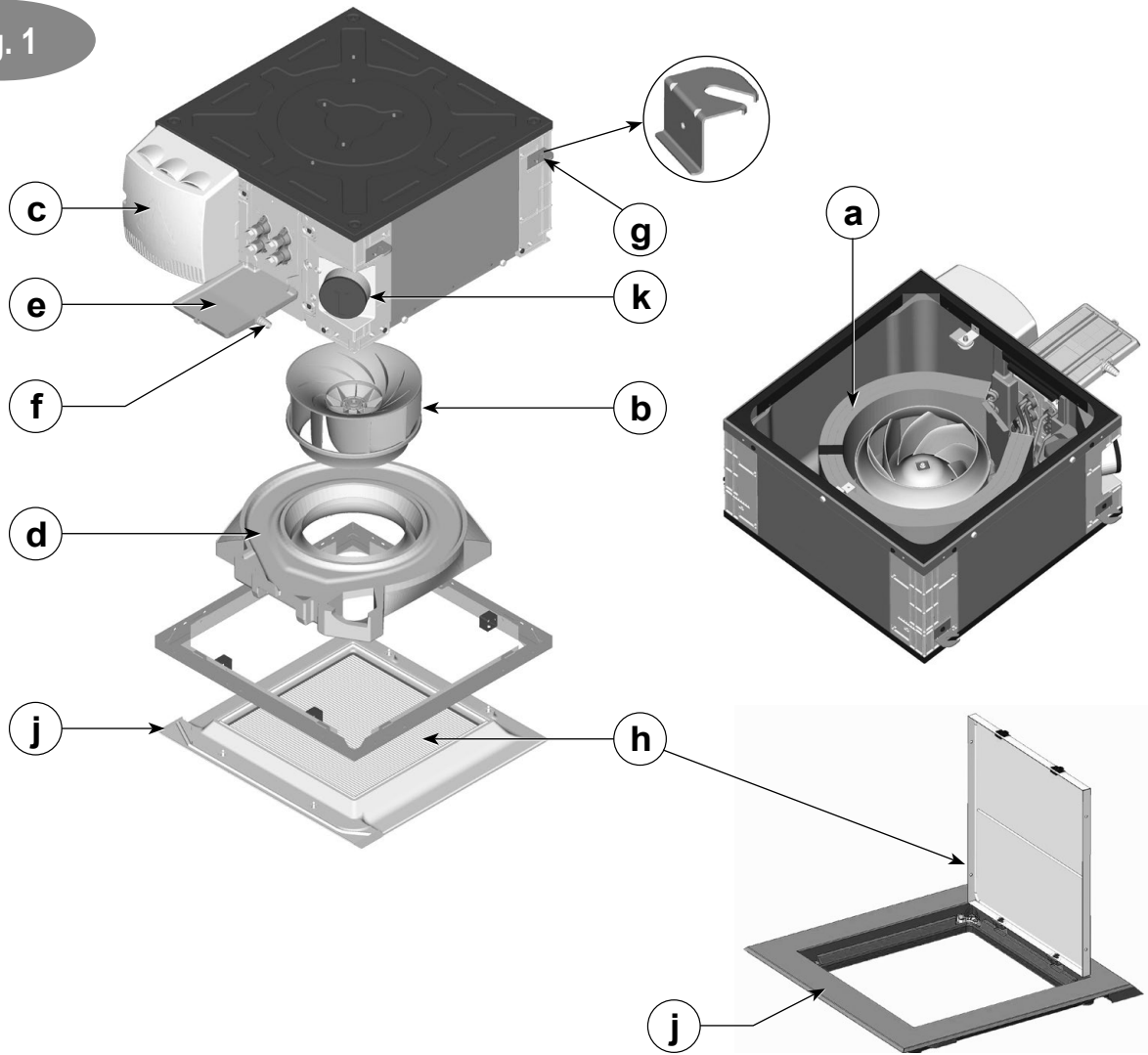


Fig. 2

Ref. produit/Item Ref.	Designation/Description
An/Year	N° série/Serial Nbr
2014	02230837/0001
Moteur/Motor (Ph/Hz/V)	Batterie/Hydro. coil
1+N 50/60HZ 230V+T	4T
P. moteur/Motor P. (W)	Fluide/Fluid
102	EAU
I. moteur/Motor I. (A)	Élec Element (Ph/Hz/V)
0.458	1+N50HZ/60HZ 230V
tr. mn - 1/r.p.m.	Élec Element P. (W)/I.(A)
	SANS
	Elec Diagram
	730165
	N° Declaration CE
	7341384.00

Fig. 3

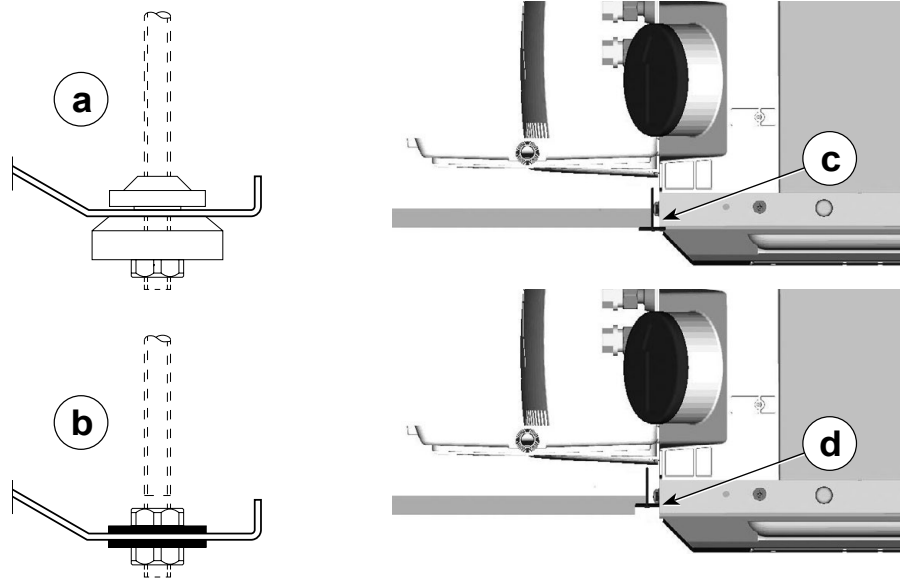


Fig. 4

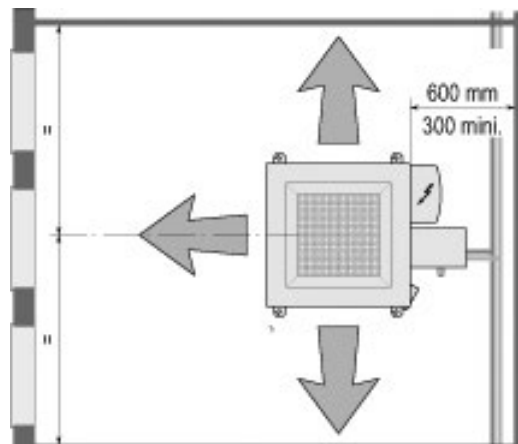


Fig. 5

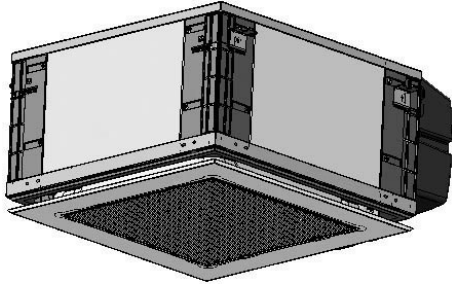
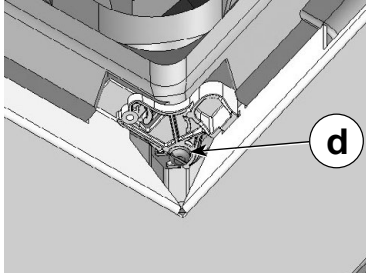
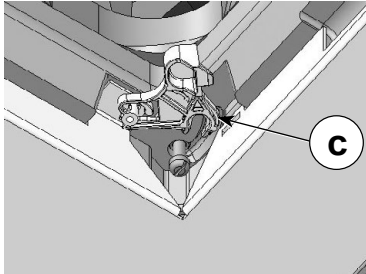
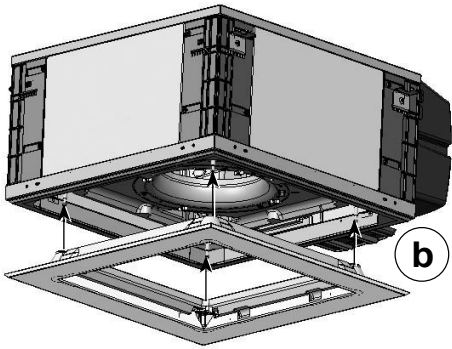
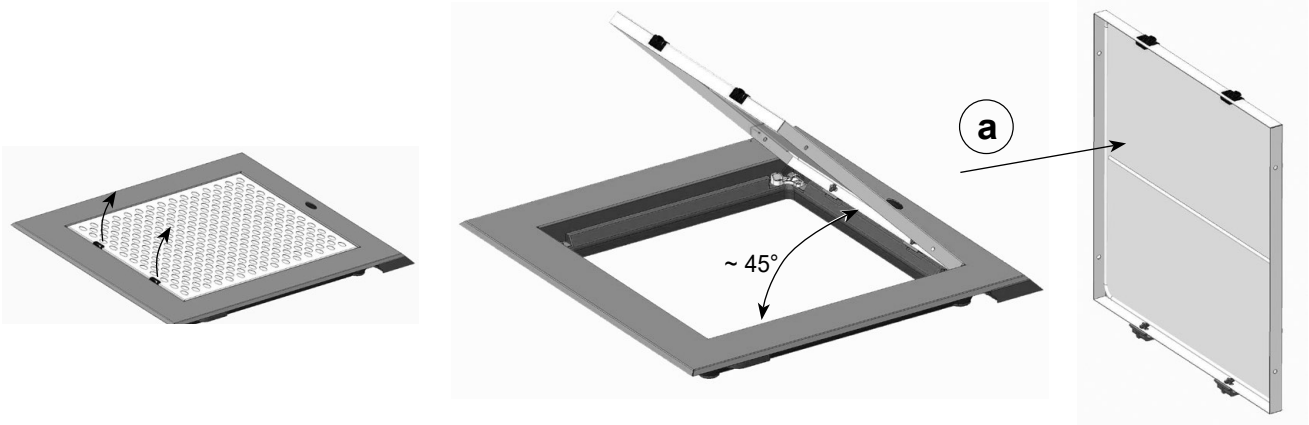


Fig. 6

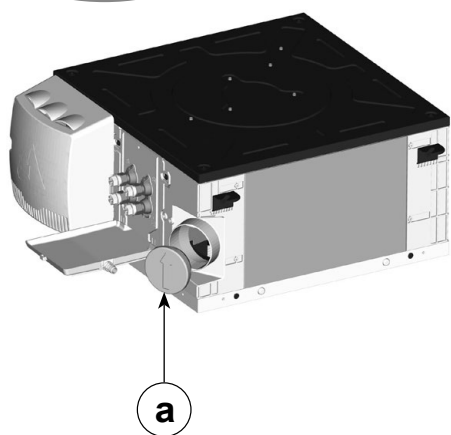


Fig. 7

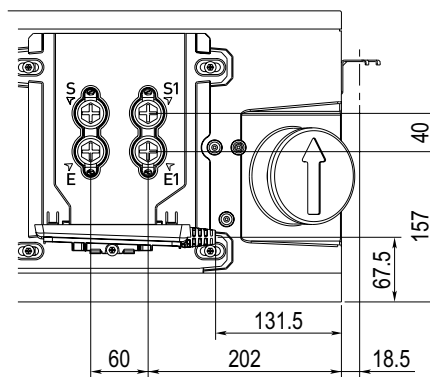


Fig. 8

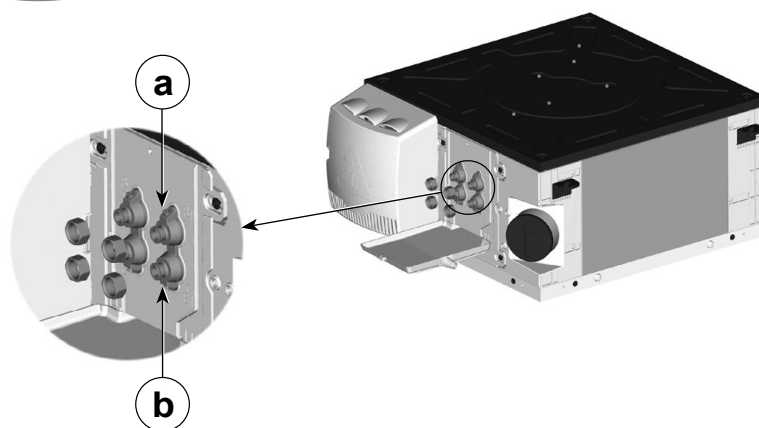


Fig. 9

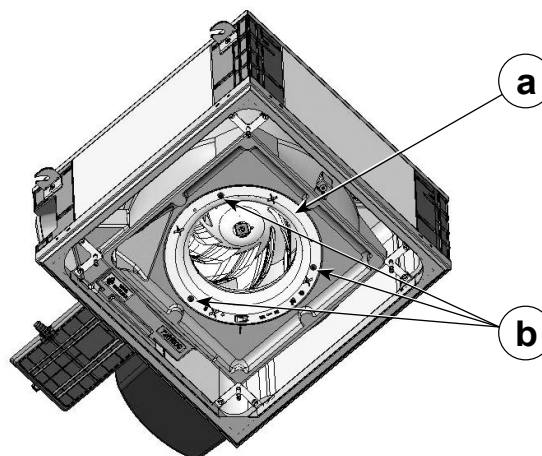


Fig. 10

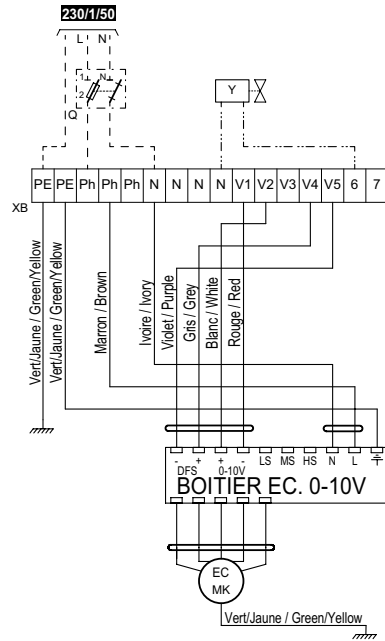
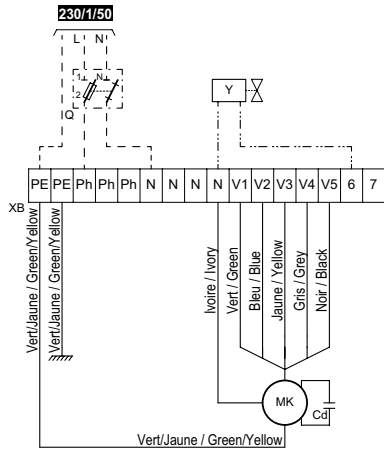


Fig. 11

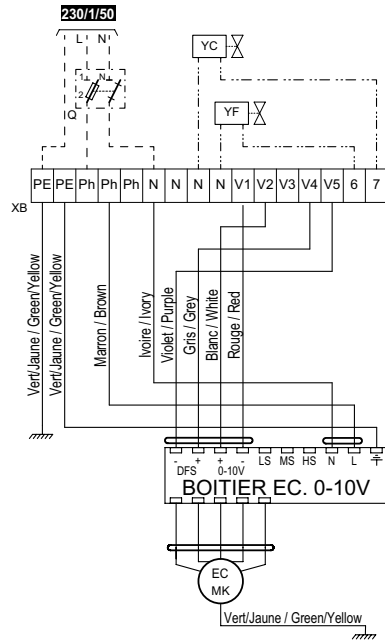
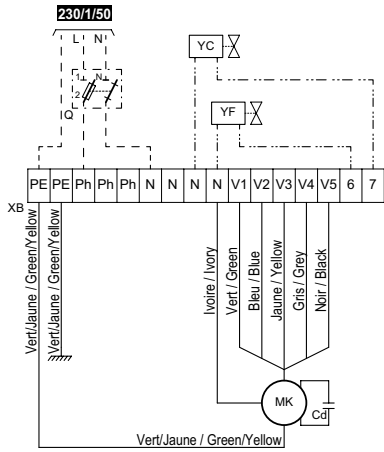


Fig. 12

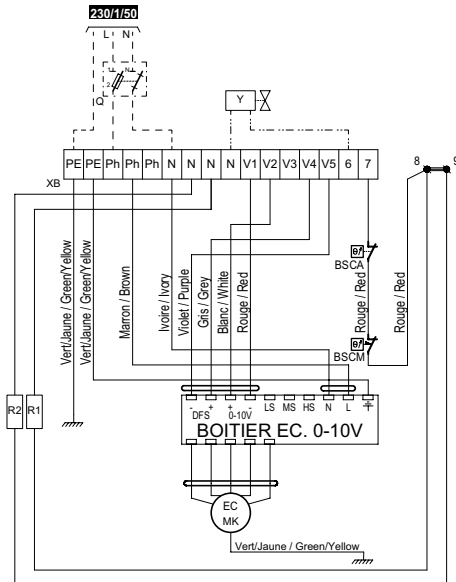
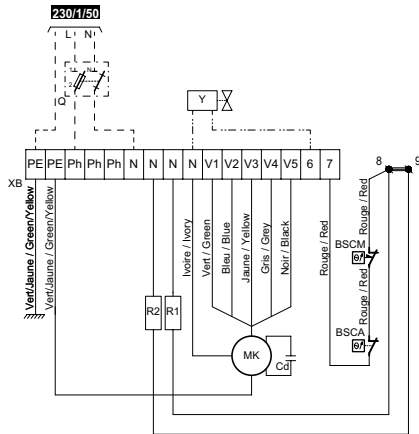


Fig. 13

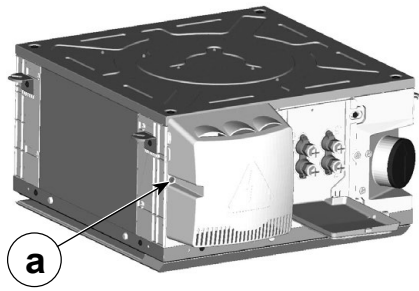


Fig. 14

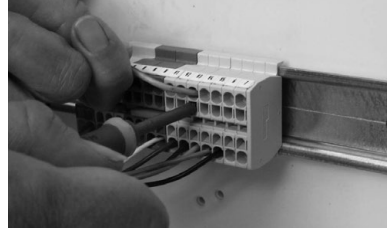


Fig. 15

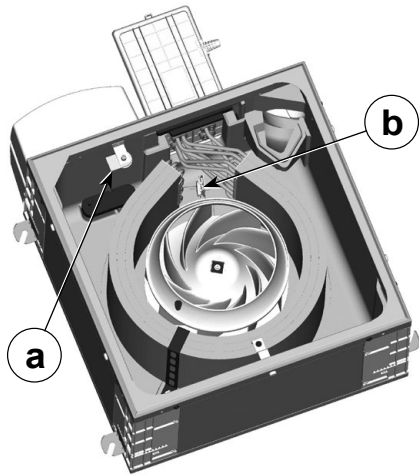
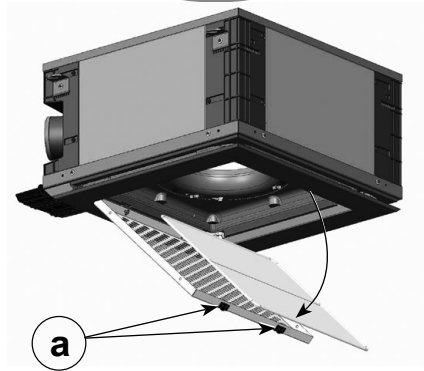


Fig. 16



a

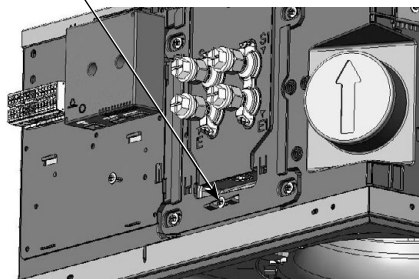


Fig. 17

b

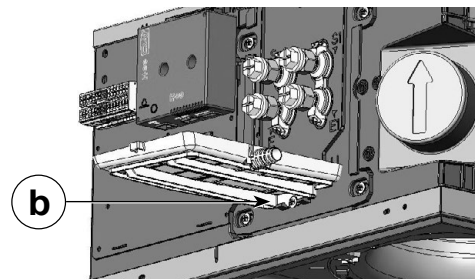


Fig. 18

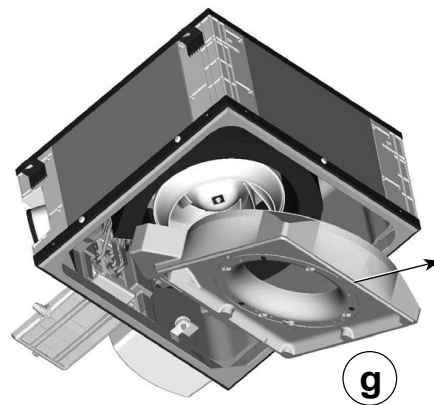
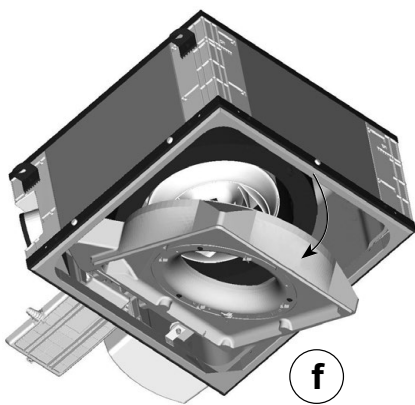
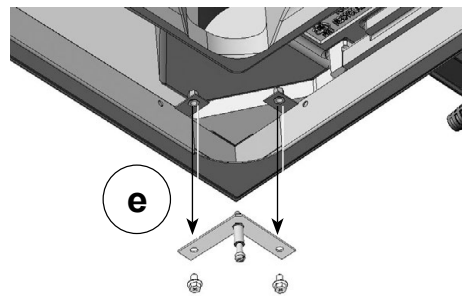
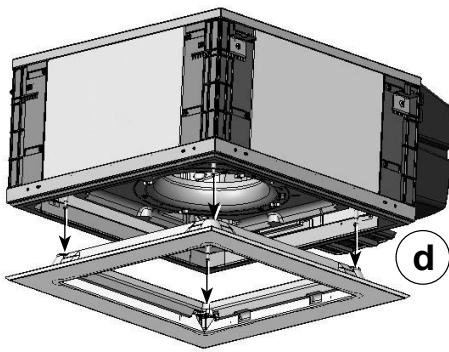
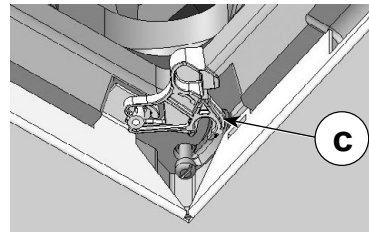
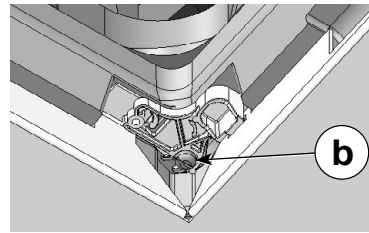
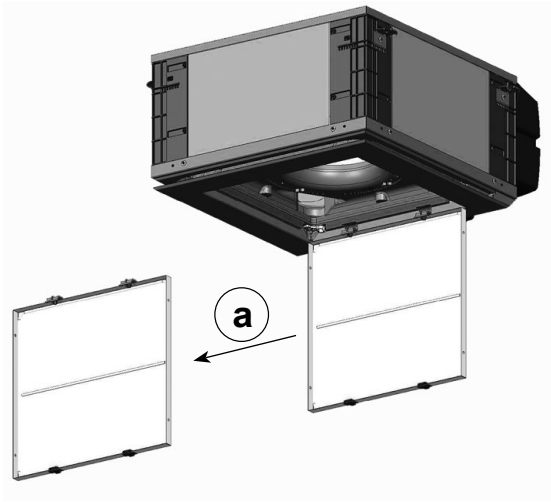


Fig. 19

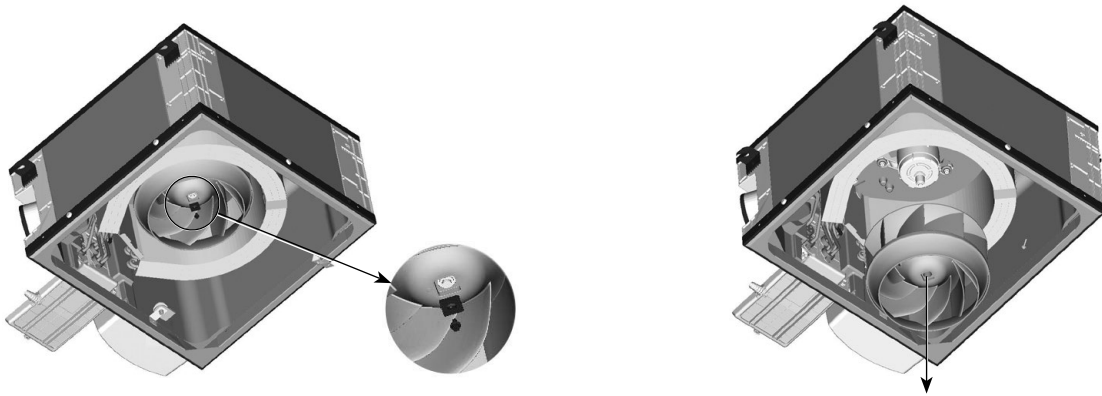


Fig. 20

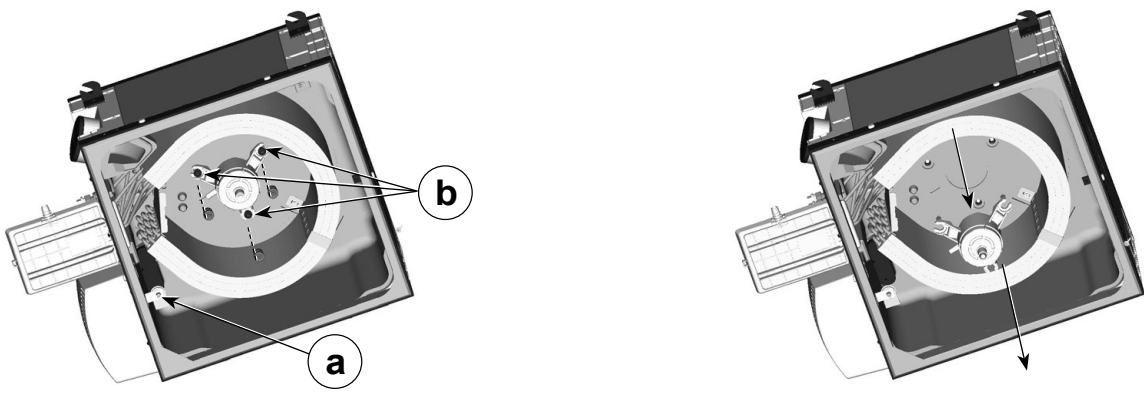
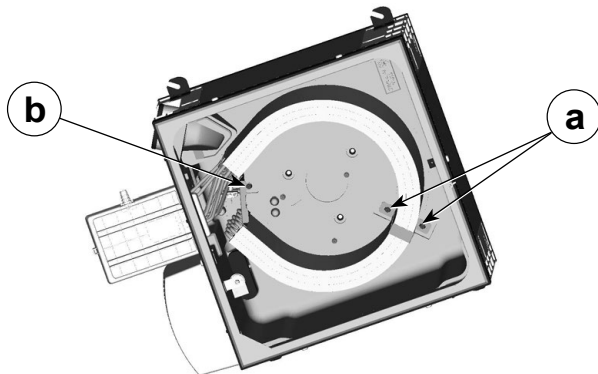


Fig. 21



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1. UNPACKING THE UNIT, CHECKING AND STORING

Thank you for purchasing a CARRIER 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 best 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 treatment module,
- An air supply / return grille,

A label on the packaging describes the unit specification. (type, model, etc.)

Each device 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 on delivery, report it on the delivery receipt in the presence of the delivery driver before the delivery note is signed.

IMPORTANT: Claims for shortages or damage must be reported within three business days of receipt. The client must inspect the goods in the presence of the driver. Damage / shortages must be noted at time of delivery and described in detail.

2. HANDLING



For your safety, wear protective gloves when handling.

Important: the unit must be handled with care and stored 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 4 threaded rods (not supplied) on the 4 support brackets.

3. DESCRIPTION OF THE UNIT (Fig. 1)

The 42KY 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 - Electrical box | h - Air filter |
| d - Main condensate drain pan | j - Air supply / return grille |
| e - Auxiliary condensate drain pan | k - Fresh air inlet |

3.1. Name 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 power | 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 side containing all the connections, above the fresh air inlet.

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

Important:

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 corrosive substances present)

The device is designed for indoor use and 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 & CONNECTION



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

4.1. Mechanical connections

Ensure there are no obstructions which could prevent optimal air distribution.

A protective 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 treatment box is placed inside the false ceiling, on the edge of the room, blowing facing the glazing and if possible an electric box directed towards the inside of the building (Fig. 4, a). If necessary the diffuser can be oriented in different positions. Ensure that the adjacent 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 ceiling support profiles. The unit must be suspended from the ceiling using 4 threaded rods either 6 mm or 8 mm in diameter (not supplied), which are fixed to the unit's 4 support brackets using anti-vibration resilient mounts (optional, Fig. 3, a) or a nut/washer assembly positioned on either side of the mounting bracket (Fig. 3, b). The unit can also be suspended using steel cables (not supplied) equipped with end-pieces adapted to the support brackets.

If using a 24mm ceiling support profile, the cassette will just touch the edge of the support.

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

We strongly recommend the use of anti-vibration 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 unit 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 profiles in the suspended ceiling (Fig. 3, c) or between the profiles depending on the type of fitting (15 mm T with 8 mm shadowgap) (Fig. 3, d).

Caution:

- Check that the fan 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 drainage problems.
- The rear of the device must be at a sufficient distance from the wall (600 mm recommended, min. 300 mm) to enable access to the hydraulic, electrical and air connections. Reminder: the air discharge is always directed towards glass windows 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 should be treated by an independent system in accordance with industry standards.

• Mounting the supply / return grille:

We recommend fitting this component only when the unit body 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 protective film applied to the air intake on the unit.
- Open and remove the intake grille (Fig. 5, a).
- Fit the panel (Fig. 5, b). Warning: for improved efficiency, direct the Visual 180° diffuser towards the glass walls.
- Rotate the 4 clips to hold the diffuser in position (Fig. 5, c).
- Tighten the 4 bolts (Fig. 5, d).
- Refit and close the intake grille.

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

The unit has an integrated supply / return air path which isolates the airflow through the unit from the ceiling void. The use of a connecting air duct between the air return and discharge is therefore not necessary.

The unit 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 unit 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 should be insulated to prevent condensation. (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.



Guard against condensation (no valves open when the ventilation is switched off).

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 Carrier).

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



Recommendations for air-bleeding or draining the unit.

Before working on the unit, make sure that the power supplies are switched off and locked.

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

The technician must take all necessary precautions to recover any water drained during the bleeding or draining operations.

Particular attention must be paid to the risk of overflowing and splashing.

- **To bleed the air**, undo the bleed screw by no more than three turns (Fig. 8, a).
- **To drain**, hydraulically isolate the unit from the network and undo the drain screw by no more than 3 turns (Fig. 8, b).

IMPORTANT:

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.

Once the hydraulic connections are completed, it is not necessary to insulate the valves to prevent condensation (unless specifically required for the particular 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

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

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

The maximum allowable differential pressure for factory fitted 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 installation of the hydraulic system 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 vents at circuit high points, balancing tees and shut-off valves on each coil and, if necessary, pressure relief 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 heat-transfer fluid and to the total hydrostatic pressure.

• Filtration:

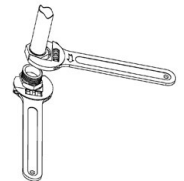
An efficient filtration system (recommended mesh size of 0.5 mm) should be fitted on the supply water and return water lines.

• 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, **set the unit thermostatic or modulating valves to 'bypass'** to prevent any sludge or impurities from entering the coil:

- Valve opening:

- 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**

Vent the coils during commissioning.

- **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 [SO₄²⁻] < 30 mg/l
- Nitrate [NO₃⁻] = 0 mg/l
- Dissolved iron < 0.5 mg/l
- Dissolved oxygen 4 < [O₂] < 9 mg/l
- Carbon dioxide [CO₂] < 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-pipe application without electrical heaters): **70°C**
- Heating coil inlet maximum water temperature (2-pipe application with electrical heaters): **55°C** (min. air flow rate = 200 m³/h)
- Heating coil inlet maximum water temperature (4-pipe application): **80°C**
- Maximum operating pressure: **16 Bar**
- Indoor 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 accidental 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).

Carrier cannot be held responsible if the valves are damaged due to an error in the design of the hydraulic supply network or a commissioning error.

To protect against the risk of condensation when using chilled water, lagging should be installed along the entire pipe-run and vapour sealed at its ends. When using the water coil and electrical heater, we advise against using cross-linked polyethylene (PEX) pipes to supply water to the unit. This is because overheating of the electrical 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.

4.4. Auxiliary 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 drain connector will accept pipes with an internal diameter of 15 to 20 mm. Ensure that the drain connector 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 device or connected to a main drain pipe sized to allow the condensate from all the units to flow through at the same time. Use a clear flexible and/or rigid drain pipe with a minimum slope of 1 cm/m, with a constant gradient along its whole length and no low points. Install a trap measuring at least 5 cm to prevent unpleasant gases or odours venting from the drain.

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.

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

TABLE OF ACTUAL FLOW RATES (l/h)				
Discharge height	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
4 m	7,9	7,1	6,3	5,8
10 m	7	6	5,3	4,9

Under operating conditions outside the recommended temperature and relative humidity range (page Fr-1), 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.

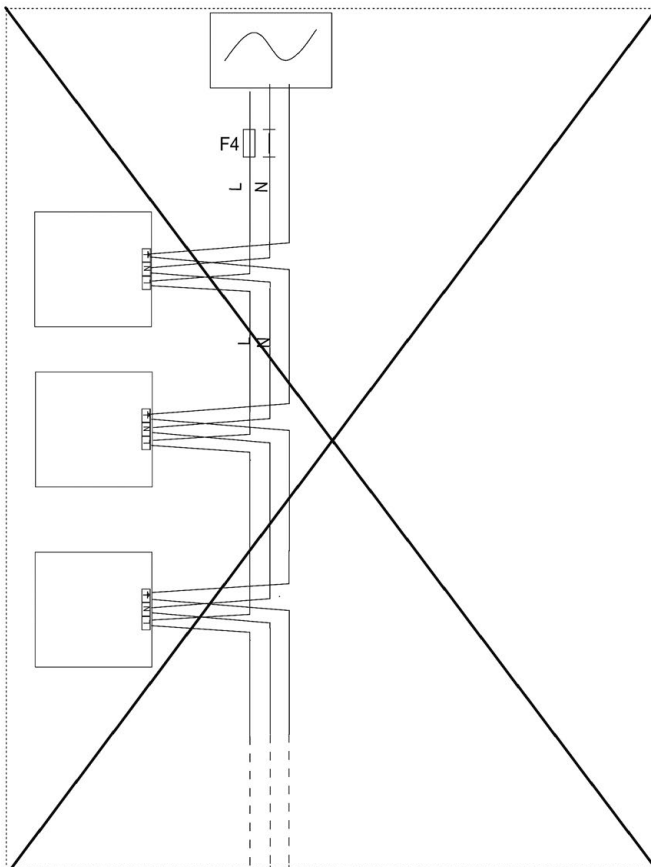
Important: Check the unit selection data to determine the maximum condensate flow rate.

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).

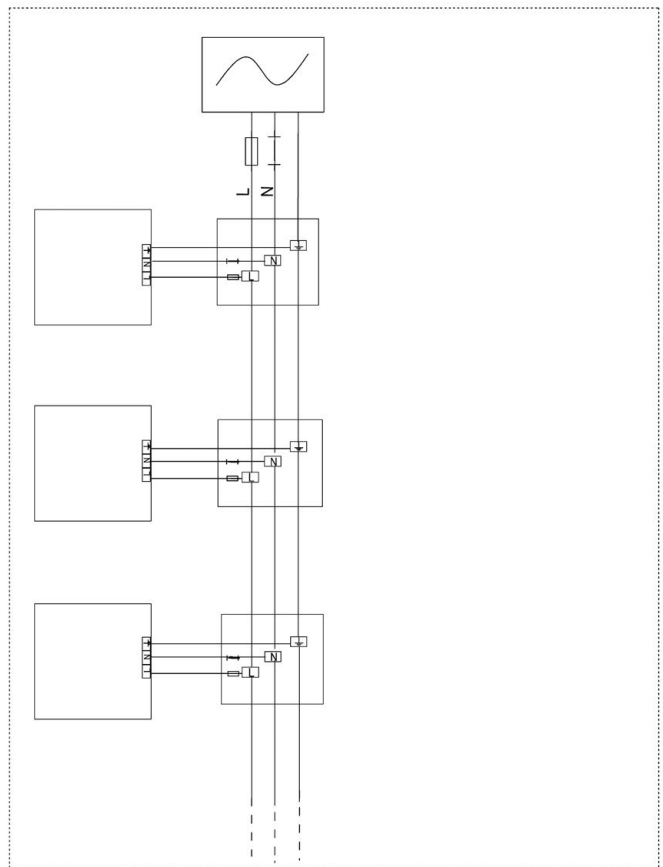
4.6. Electrical connections

Wiring diagram for multiple units installation

Incorrect wiring for several units



Correct wiring for several units





- 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).

42KY		AC Asynchronous Motor (230V/50Hz)						EC brushless motor (230V/50Hz)					
		10/		20		30		19		29		39	
		Puissance absorbée											
		W	A	W	A	W	A	W	A	W	A	W	A
Motor reference	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 earthing connection is compulsory. Carrier will not accept liability for the consequences of 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-pipe systems, without condensate pump (Fig. 10).
- Unit wiring for 4-pipe systems, without condensate pump (Fig. 11).
- Unit wiring for 2-pipe systems with an electrical heater using 2 heating elements, without condensate pump (P=900 or 1200W max) (Fig.12).

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

We recommend using a system that controls the device in relation to the temperature of the water (to actuate the valve(s), used with an electrical heater.



All electrical connections are made in the electrical box marked with the symbol . The electrical 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 unit 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.

42KY 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 electrical box (V1= low speed and V5= high speed).

The customer must select and wire the required speeds for his thermostat on the fan terminal block (from V1 to V5).

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.

IMPORTANT: the wires coming from the motor and connected to terminals V1 to V5 must never be interconnected.

IMPORTANT: it is essential to refit the electrical box casing once all the cabling and adjustment operations are complete.

- The brushless motor (EC):

This has a motor speed electronic.

- Controller providing a 0-10 V 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.

Caution: 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: Brushless motor (EC)

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

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

- Complete cassette unit (with electrical heaters) equipped with a multi-speed motor: maximum leakage current = 2 mA
- Complete cassette unit (with electrical heaters) equipped with an EC 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).

Important: 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.

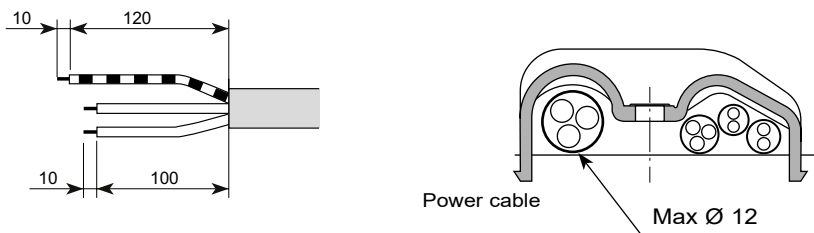
The installation must be equipped with a device to protect against earth faults.

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

Connections

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



Important: 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 connection cables must be type H05 VVF with PVC insulation in accordance with 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 electrical heaters:

- The rotation speed of the EC motor must never be below 400 rpm.
- The operation of the heating coil must be fan-controlled.
- Power to the electrical heaters should be cut whenever the fan motor assembly is stopped intentionally or unintentionally.
- When the system is completely shut down, ensure that the controls provide at least 2 minutes over-run of the fan to dissipate any residual heat in the electric heater.
- Units equipped with heaters 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:

- Fan failure.
- Filter partially clogged
- Coil and fan stopped simultaneously by the 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 unit must also be isolated from the hydraulic circuit(s).

5.1. Air filter:

Our device is equipped with a G3 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.

We recommend regular visual inspection of the filter in order to define the frequency with which it should be replaced, which varies depending on the premises and the operating conditions (replace at least once a year). If maintenance is carried out more frequently, the filter can be cleaned with a vacuum cleaner (vacuum in the opposite direction to the normal airflow).

Using a different type of filtration system could compromise the performance of the unit and be detrimental to users.

The above recommendations are for information only.

• Accessing the filter:

- Identify the two retaining lugs (Fig. 16, a) positioned on the 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 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.

• 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 diffuser (Fig. 18, a).
 - Loosen the 4 bolts (Fig. 18, d).
 - Pivot the 4 bolts holding the diffuser 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.

5.3. Fan motor assembly

From time to time, check that the fan-blades 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 electrical box
- Disconnect the wires in the fan motor wiring loom from the terminal strip.
- 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 fan wheel and its foolproofing device (Fig. 19), and remove the fan wheel.
- Remove the grommet cap (Fig. 20, a)
- Pull the fan motor assembly wiring loom towards the interior of the casing
- 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:

- Isolate 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 with a damp, slightly soapy sponge and buff them using a soft, dry cloth.

Never use abrasive products. We shall not be held liable for any type of corrosion.

6. 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/UE
- 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

7 - 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.

Order No.: EN7521263-05, 07.2023. Supersedes order No.: EN7521263-04, 05.2022.
Manufacturer reserves the right to change any product specifications without notice.

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