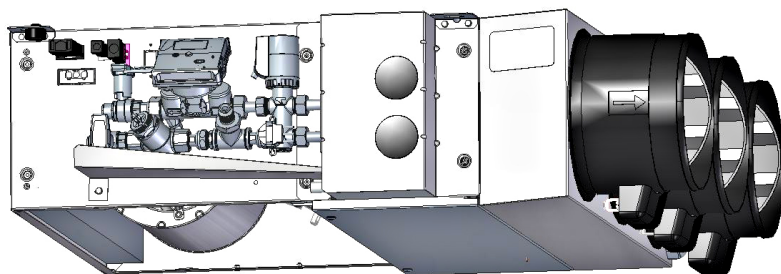


Installation instructions

cPIA^{EC} 6 and 8 rSMART – 2 pipes

(optional: 2 pipes, 2 wires)

Ceiling version



We invite you to read these instructions very carefully before installing the cPIA^{EC} 6 or cPIA^{EC} 8 unit.

Failure to comply with all or part of these instructions may result in malfunctions, short-circuits, leaks or irreversible damage to the entire system.

Any work on the unit must be carried out by a qualified person who has undergone thorough and adequate training in the product concerned. No damage caused to the cPIA^{EC} 6 or cPIA^{EC} 8 unit will be taken into account under the manufacturer's warranty if the instructions in this manual are not observed.

If in doubt, please contact EUREVIA's Technical department on:

+33 (0) 4 42 70 70 30

The cPIA^{EC} 6 or cPIA^{EC} 8 unit is delivered by carrier, wrapped in film on a pallet. It must be handled with utmost care from unpacking and handling to installation and operation. Any impact, even a minor one, may not only damage the bodywork but may also cause malfunctions or temporarily and/or permanently alter the operation of the motorised fans, hydraulic coils and/or electric batteries and/or the equipment.

The recipient is solely responsible for checking the condition of the goods received. Any damage or defects found must be noted in precise detail on the delivery note (DN) in the presence of the delivery driver. The DN should only be signed after this thorough inspection has been carried out, and after the aforementioned reservations have been noted.

These reservations must be confirmed to the transport company by registered letter within 48 hours of delivery, with a copy sent to EUREVIA's Sales department

The words "subject to unpacking" have no legal value.

If the cPIA^{EC} 6 or cPIA^{EC} 8 unit is not installed immediately upon receipt, we strongly recommend keeping the unit protected in its packaging and storing it in a clean, dry place.

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1. General precautions

1.1 Operating environment

The cPIA^{EC} unit must be installed in a clean, well-ventilated environment.

It is designed to operate in a non-corrosive, non-marine, non-acidic, non-alkaline indoor atmosphere, free from dust and without any flammable gases in the immediate vicinity.

1.2 Operating limits

The temperature of the supply air must not exceed 60 °C, as this may damage the unit's plastic components, nor must it be less than 12 °C for an ambient (dry bulb) temperature of 27 °C and 65% (relative) humidity in order to prevent excessive condensation in the unit.

1.3 Water quality

The service life of the hydraulic components making up the cPIA^{EC} unit essentially depends on the composition of the water in the network, how it is treated and how often the hydraulic installation is serviced.

Before filling the cPIA^{EC} unit with water for the first time, we strongly recommend that you have the water from the network analysed and, depending on the results, that you install the necessary treatment devices in accordance with VDI 2035 (filters, sludge collectors, additives, etc.).

Regular and appropriate maintenance of the entire heating and/or cooling system is required in order to prevent clogging and corrosion problems. EUREVIA's warranty does not cover damage caused by limescale or corrosion.

1.4 Power supply

All electrical devices must be installed by a qualified person in accordance with current standards and regulations.

Ensure that the power supply corresponds to the unit's nominal power supply. If necessary, refer to the identification plate on the side of the unit or contact EUREVIA's Technical department.

The cPIA^{EC} unit mandatorily requires a power cut-off device and a suitable safety fuse (not supplied by EUREVIA).

EUREVIA's warranty does not cover damage caused by failure to comply with the above electrical instructions, or by electrical modifications undertaken voluntarily without prior written agreement.

2. Installation tips



Caution: make sure that the power supply has been switched off before carrying out any work on the cPIA^{EC} unit.

The installation, commissioning and maintenance of all EUREVIA heating and/or cooling systems must be carried out by qualified personnel who have received specific training in these products. The system comprises electrical parts and hydraulic components. It can be dangerous for anyone who has not received adequate and thorough training.

We recommend installing the unit using a lifting platform.



Caution: never lift the cPIA^{EC} unit by the hydraulic part, as this may deform the copper pipes and other hydraulic components and cause water to leak.

In order to anticipate any accessibility issues or lack of clarity, we strongly recommend that you install the accessories on the cPIA^{EC} unit before fastening the cPIA^{EC} unit permanently in place*:

- Taps and air connections on the supply air and/or extract air connection box (see section 2 - Air connections)
- Hydraulic system (see section 3 - Hydraulic connections)
- Controller inside the device

The cPIA^{EC} unit should preferably be secured using threaded rods and anti-vibration mounts (mounts available as an option on request). It can be placed:

- In a false ceiling, with the option of open extract air or a ducted connection
- In the attic, the return system must be ducted to prevent the filter from getting clogged up each time it is first used.

For the open extract air in false ceilings, a distance of 30 cm between the rear of the unit and the wall must be maintained to enable the air to be drawn in easily.

- Despite the fact that the main condensate drip tray inside the unit is already sloping, we strongly recommend also installing the unit at a gradient of between 0 and 3° in relation to the horizontal ceiling so that condensate can drain out easily through the spout (see diagram 1), as well as with a rear gradient of between 0 and 1.5° (see diagram 2).

* If the unit is not pre-assembled at the factory

- The condensate drain pipe must also be installed with a constant slope of 2° without any bends or horizontal siphoning. In addition, install an odour trap of at least 50 mm to prevent unpleasant odours from penetrating into the room.

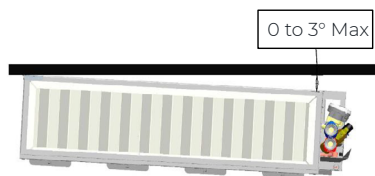


Diagram 1

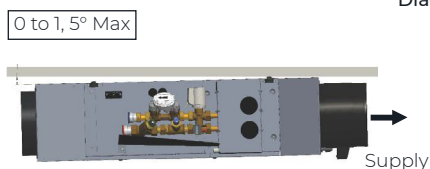


Diagram 2

Before filling with water, carry out a test to ensure that the condensate flows to the collection tray.

Installing mounts:

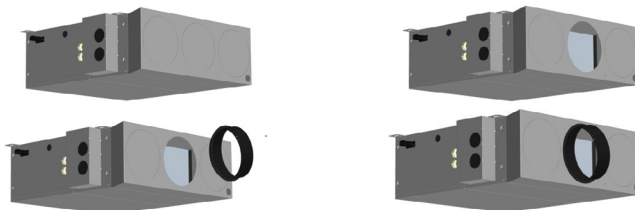
- Fit the washer into the mount
- Insert the mount into the hole in the mounting bracket, as shown in the diagram
- Secure the mount with the rubber washer



3. Air connections (installing taps*)

The cPIA^{EC} unit is equipped with pre-cuts (Ø 200 mm) specifically designed for attaching plastic taps.

The pre-cut is held in place by fasteners and can be easily removed with a screwdriver. However, care must be taken to cut out the foam on the inside beforehand to avoid damaging the insulation.



3.1 Extract air connection box *

In the case of a ducted connection, use the extract air connection box provided, attaching it to the rear of the cPIA^{EC} unit with 4 self-tapping screws. Ensure that you remove the pre-cuts from the panel beforehand.

The extract air connection box features pre-cuts (Ø 200 mm): 3 pre-cuts on the cPIA^{EC} 6 version and 4 pre-cuts on the cPIA^{EC} 8 version.

The taps must be installed on the connection box by following the same instructions specified above.

** If the unit is not pre-assembled at the factory*

3.2 Double-skin flexible acoustic duct

The ductwork must be equally balanced to ensure optimal airflow in each zone. To ensure this, you must make sure that the lengths of the ducts and the number of bends are standardised.

To install the ducts, respect the following order:

- Remove the insulation
- Connect the duct to the air vent or reducer fitting
- Secure this duct using a clamp
- Cover with duct insulation
- Secure in place with a second clamp



Note: the micro-perforated inner sleeve does not guarantee sealing. The volume of each room must be taken into account to ensure a sufficient flow of air.

3.3 Air filter

- Rigid frame
- Pleated filter
- Resistance to temperatures up to 80 °C
- EN 779 efficiency class: G4 or F5



Comparison of EN 779 and ISO 16890 classes:

CLASS	ISO EPM 1	ISO EPM 2.5	ISO EPM 10	ISO GROSSIER
G3	-	-	-	> 80 %
G4	-	-	-	> 90 %
M5	-	-	> 50 %	-
M6	-	50 - 65 %	> 60 %	-
F7	50 - 65 %	65 - 80 %	> 85 %	-
F8	65 - 80 %	> 80 %	> 90 %	-
F9	> 80 %	> 95 %	> 95 %	-

4. Hydraulic connections

All hydraulic connections must be made in accordance with best practice: drain valves, isolation valves, bleed point at the top of the ductwork, filters, sludge pots, pipe insulation to prevent any risk of condensation during operation with chilled water, etc.

Before filling, the person installing the unit must ensure that the quality of the water complies with VDI 2035. Before starting up the unit, you must position the filters correctly, flush the hydraulic system thoroughly and treat the water to prevent the circuit from getting clogged up.

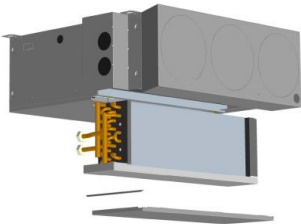
Caution: *apply a tightening torque of 15 N.m to the hydraulic connections on the cPIA unit.*

 **Do not exceed a torque of 30 N.m under any circumstances. In the event of a leak or when replacing the hydraulic components, the seal must be replaced with a new one.**

4.1 Hydraulic coil

The hydraulic coil is equipped with a 1/2" connector on the cPIA^{EC} 6 version and a 3/4" connector on the cPIA^{EC} 8 version with a swivel nut-type female thread. Water enters the coil from the bottom and exits from the top.

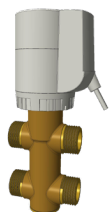
The hydraulic coil has a drain valve at the top, just above the water outlet. The latter is visible and can be accessed without having to dismantle the unit.



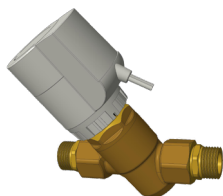
4.2 Hydraulic system

Different pre-assembled hydraulic systems are connected to the cPIA^{EC} unit depending on the version. These are ½" female for the cPIA^{EC} 6 and ¾" female for the cPIA^{EC} 8.

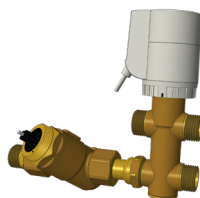
Examples of hydraulic systems:



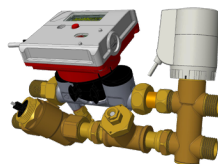
Pdc 1



Pdc 2



Pdc 3



Pdc 4

4.3 Recovering condensate - internal drip tray

- The sloping tray is equipped with a drain that has an external diameter of 13.5 mm.
- Type of connection pipe: 12/14 PVC drainage pipe; it must have a constant slope of at least 2%.

4.4 Characteristics of hydraulic components

4.4.1 Technical specifications for circulating water

- Water quality: compliant with standard VD I2035
- Maximum glycol content: 30%
- Minimum temperature: 5 °C
- Maximum temperature: 70 °C
- Maximum operating pressure: 10 bar PN 16

4.4.2 4-way valve (3-way + bypass)

- Valve body material: nickel-plated cast brass
- Authority (kvs): 1.6 on DN 10 system and 2.5 on DN 10/15 system Leakage flow rate A - AB: 0.05% of kvs
- Stroke: 2.9 mm
- Non-powered position: normally closed



4.4.3 Valve motor

- Motor type: thermal motor with switching output (2 points)
- Compatible controller: all or nothing
- Power supply: 230 V ~ +/- 15%, 50 - 60 Hz
- Power consumption during operation: 2.5 W
- Power consumption at start-up: 36 W
- Inrush current: 150 mA
- Spring tension: 125 N



4.4.4 Automatic balancing valves (dynamic)

- Two types of dynamic balancing valves can be fitted to the cPIA units
- FlowCon type
- Frese type
- These valves are factory-set according to the home selection table and therefore do not require any action.

	cPIA 6		cPIA 8	
	Flowcon	Frese	Flowcon	Frese
DN	15	15	20	20
ΔP (kPa)	10 - 200	15 - 600	15 - 400	16 - 600



EUREVIA accepts no responsibility for damage to the hydraulic equipment caused by problems with the design of the hydraulic network or human error during commissioning.

4.5 Electrical connections

Connecting cables to a WAGO connector:

- Stripping length = 30 mm (2 poles), 37 mm (3 poles), 45 mm (4 and 5 poles)
- Wire stripping length = 9 mm
- Ground wire advance = 8 mm



Actuate the tension spring using a handling tool with a blade width of 2.5 mm, and insert the stripped wire as far as it will go to connect the flexible conductors. The rigid cables are connected by direct insertion.



Snap the wired connector into the lower part of the strain relief housing. Snap the strain relief clip into place by hand.



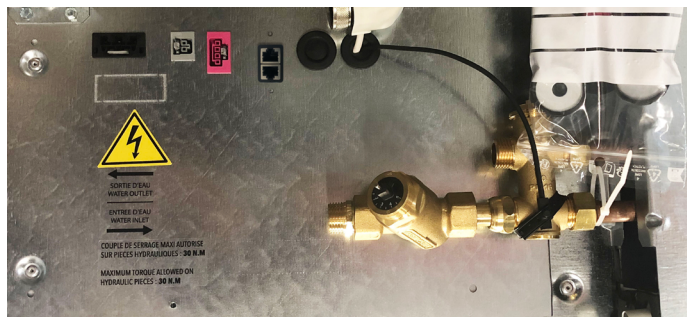
Snap the strain relief clip into place by hand.

Press the strain relief clip down on both sides using a screwdriver (blade width 2.5 mm).

Snap the top part of the strain relief housing into place.



CPIA wiring diagram – Plug & Play principle



Pink: Modbus/grey: +24 V DC output/black: 230 V AC

Presence of a bag containing the connectors for connecting the machine to the WAGO connectors integrated by Eurevia.

230 V power supply on black connector:



24 V DC output on grey connector:

- Terminal 1: 24 V
- Terminal 2: GND



Modbus via Lycy shielded cable 0.75 mm 2 on pink connector:

- Terminal 1: A +
- Terminal 4: B -



Double RJ 45 socket *

** In the case of a cPIA equipped with a réGATE without a screen*



4.5.1 Electrical protection

It is essential that the cPIA^{EC} is earthed.

The cable supplying the cPIA^{EC} must have a 30 mA differential device.

For the cPIA^{EC} without an electrical heater, a 2 A circuit breaker must be installed. The minimum cable cross-section is 1.5 mm².

If an electrical heater is present, a 16 A circuit breaker must be installed. The minimum cable cross-section is 2.5 mm².

4.5.2 EC motorised fan

- Ball bearing
- Power supply 230 V ~ 50/60 Hz
- Class F winding
- IP 44 protection
- Temperature range from -20 °C to +50 °C
- Dual-blade turbine, diameter 146 mm



4.5.3 Safety thermostat

Reset	Automatic	Manual
Cut-off temperature range	80 - 86 °C	89 - 95 °C
Safety	positive	positive
Central attachment	by nut	by nut
Contact	unipolar	unipolar
Breaking capacity	16 (3) A	16 (3) A
Total length of capillary	500 mm	500 mm
Capillary termination	wound	wound
Insulated capillary length	350 mm	350 mm



Automatic



Manual

EUREVIA cannot be held liable for any problems arising from incorrect or non-existent earthing.

4.5.4 Electrical heater (2 pipes, 2 wires option)

As an option, the cPIA rSMART unit can be equipped with a single-pipe electrical heater made of 304 stainless steel, onto which silicone cables are moulded to ensure optimal sealing. The heater is inserted into the set of fins of the hydraulic coil. In the event of overheating, the installation is secured by a first safety stage with automatic reset, followed by a second stage with manual reset.

cPIA 6 electrical heating kit
Power
750 W

cPIA 8 electrical heating kit
Power
1250 W

5. Getting started

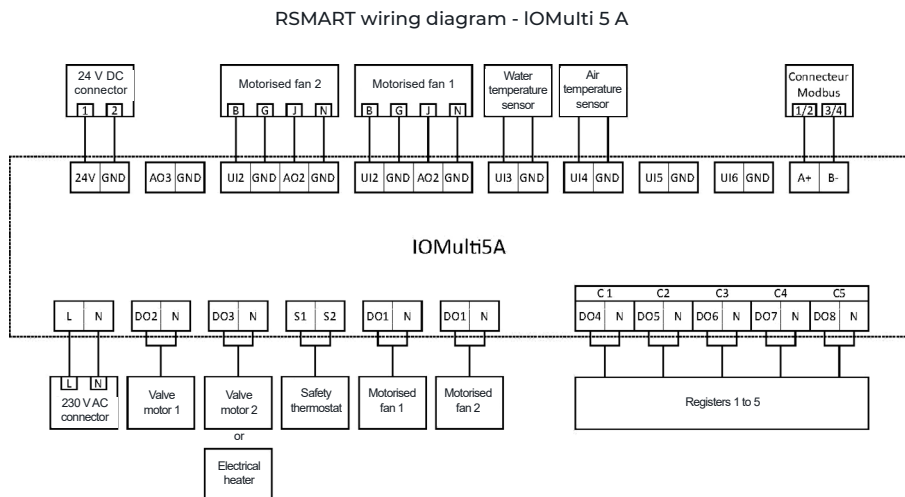
5.1 Functional test

- Ensure that the unit is correctly secured (see section 2) and that the drainage pipe is not blocked.
- Ensure that the water connections (to the coil and water drainage) are properly connected
- Ensure that the electrical wiring is properly installed and completely watertight
- Ensure that the coil has been properly drained.
- Close all covers (if necessary)
- Connect the power supply and check that the unit is working properly

5.2 Use

Refer to the instructions in the controller's installation manual for programming the controls and using the system.

Example of internal wiring diagram for the 2-pipe cPIA 6:



**Please note: no action on the machine controller is required
Call Customer Service.**

6. Troubleshooting

If the cPIA^{EC} unit is not working properly, please refer to the listed check-points. If the problems persist, please contact Customer Service.

Problem	Possible causes	Corrective actions
The unit is not functioning at all	Power failure	Restore the power supply
	The hot water temperature is not hot enough	Check the hydraulic installation and/or the production unit
	The chilled water temperature is not cold enough	Check the hydraulic installation and/or the production unit
	Power cable not properly connected	Connect the power cable correctly
	Problem with the controller	Contact Customer Service
	Motor failure	Contact Customer Service
	Safety thermostat activated due to overheating	Contact Customer Service
Heating or cooling performance is limited	Water temperature is limited	Check that the production system is running smoothly. Set the recommended temperature for use
	Clogged filter	Replace the filter
	Air leak in the ductwork	Check that the unit and air distribution network (duct, air connection) are airtight
	Undersized system	Contact Customer Service
The unit is noisy	Presence of air in the hydraulic system	Drain the hydraulic coil
	Vibration between the unit and the ceiling	Install the anti-vibration mounts
	Obstruction in the air distribution network	Remove the obstruction
	Insulation problem in the false ceiling	Improve the insulation of the false ceiling
No heating *	Heater incorrectly connected, or disconnected	Check the wiring of the heater
	Heater not operating	Replace the heater

* Electrical heater option (2 wires)

7. Servicing and maintenance

Equipment	To do	Recommendation
Motorised fan	Check the cleanliness of the housing	Depending on the operating conditions
	(Visually) inspect the turbines or rotating parts	
	(Visually) check the various fasteners	
	Check for corrosion	
	Check the bearings (noise)	
	(Visually) check the various fasteners	
	Check the connections	
Filters	Check for clogging at regular intervals	
	Check the system for leaks	
	Replace	
Coil	Check for cleanliness	
	Check the antifreeze protection level	
	Drain the coil	

For safety reasons, before carrying out maintenance work, it is essential to switch off the main power supply.

7.1 Changing the motorised fan

- Switch off the main power supply to the unit

7.1.1 Removing the power cable

- Remove the 2-wire quick connector from the motor connecting the controller
- Remove the 2 wires using a screwdriver

7.1.2 Removing the control cable

- Remove the quick connector(s) (4 wires) from the motor connecting the controller
- Remove the 4 wires (orange, yellow, white, grey) using a screwdriver

7.1.3 Removing the fixing frame

- Remove the two hexagon head screws located on the metal frame that holds the motor in place
- Remove the 4 hexagon head screws located on either side of the frame

NB: it is essential to keep the mounting frame in order to install the new motor on the unit.

To install the replacement motor, follow the steps in reverse order, paying attention to:

- The polarity of the power cable
- The wiring order for the 4 control wires on the controller (from left to right, with the controller facing you: white - grey - yellow - black) see wiring diagram for more details
- Supporting the power connector (female part) by pressing down on the two tabs that can be seen above the connector

7.2 Replacing the filter

The filter can be replaced in two ways:

- Either from the rear of the unit:
 - > Press the filter at the top to tilt it and take it out
 - > To install the new filter, identify the direction of air flow by means of the arrow on the edge of the frame
- Or via the access hatch provided for this purpose:

Changing the filter via the access hatch



Changing the filter from the rear

NB: we recommend that you replace the filter regularly. A soiled filter can significantly reduce the performance of the unit.

7.3 Replacing the air connection's thermal motort

- Switch off the main power supply to the unit
- Unclip the air connection cover using a screwdriver
- Carefully remove the thermal motor to be replaced
- Insert the replacement motor, ensuring that the piston is correctly integrated into the gear mechanism
- Replace the air connection cover by clipping it into place

7.4 Replacing the electrical heaters

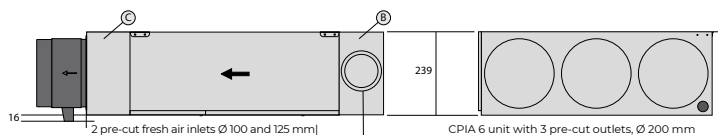
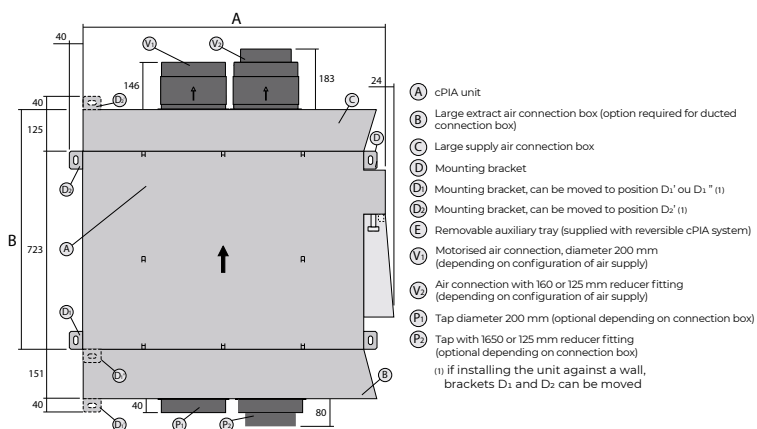
The *(optional)* heaters are stainless steel tubes inserted into the hydraulic coil.

- Switch off the main power supply to the unit
- Remove the black circular covers located on the side of the unit
- Disconnect the power supply to the heaters coming from the controller
- Disconnect the connections to the safety thermostat
- Remove the heaters
- Carry out the reverse procedure to install the new heaters.

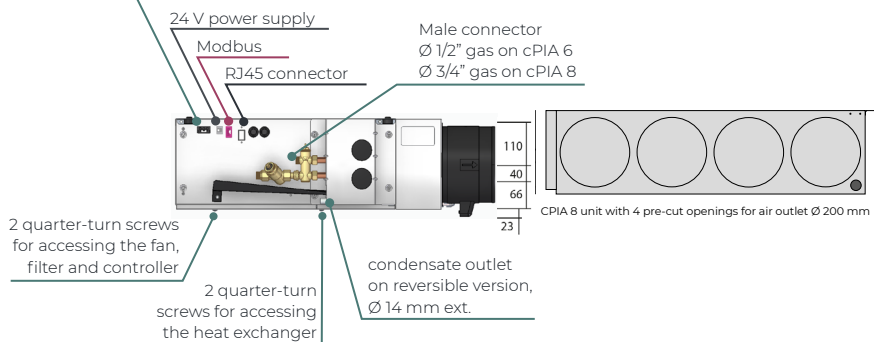
7.5 Replacing the IOmulti 5 A controller

- Switch off the main power supply to the unit
- Check that there is no voltage from the power supply (PWR IN/L - N terminals)
- Locate and disconnect all connectors from the controller
- Unscrew the 2 retaining screws using a 7 mm hex key
- Remove and replace the controller
- Replace and tighten the retaining screws
- Reconnect the connectors (refer to the diagram on p. 14)

8. Space requirements and maintenance

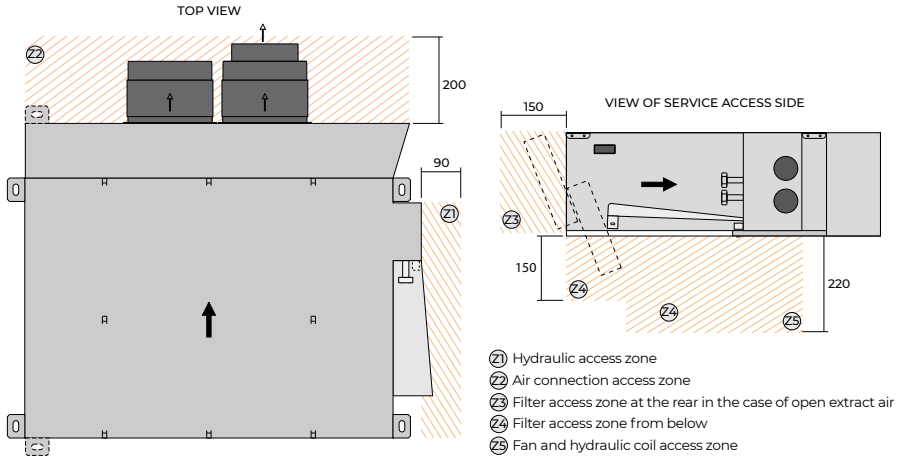


Quick electrical connection

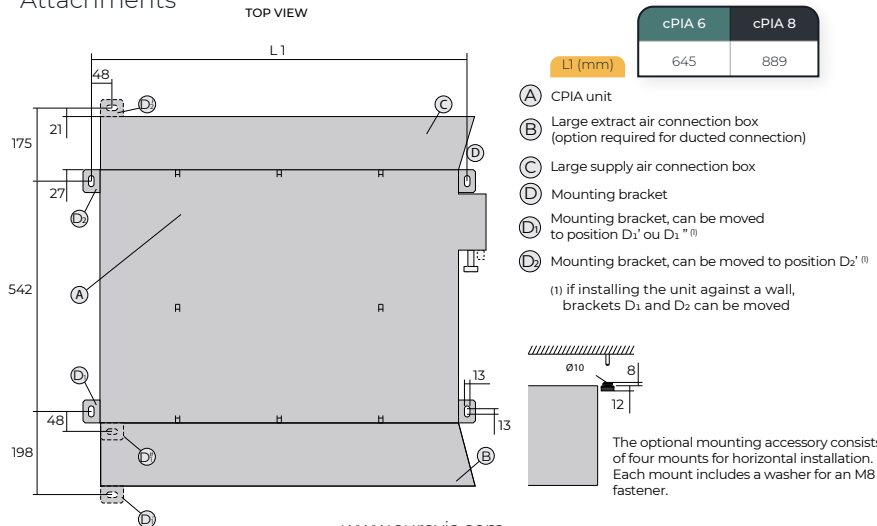


	Thickness	Width L1	Weight with large supply air connection box	Weight with all accessories	Number of return outlets
	mm	mm	kg	kg	
3 outlets cPIA ^{EC} 6	239	666	24	34	3 x Ø 200
3 outlets cPIA ^{EC} 8	239	911	33	44	4 x Ø 200

8.1 Access and maintenance



Attachments



For more information, please contact EUREVIA's head office
or send an email to info@eurevia.com



With a view to constantly improving the quality of its products, EUREVIA reserves the right to modify the characteristics and design of these products without prior notice. The installation and routine maintenance of the equipment described in this manual must only be performed by qualified personnel.

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