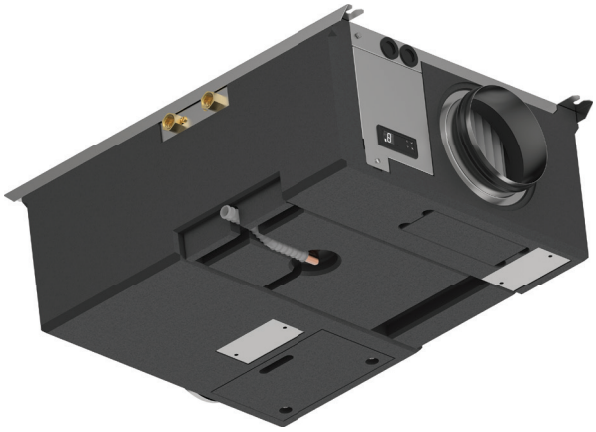
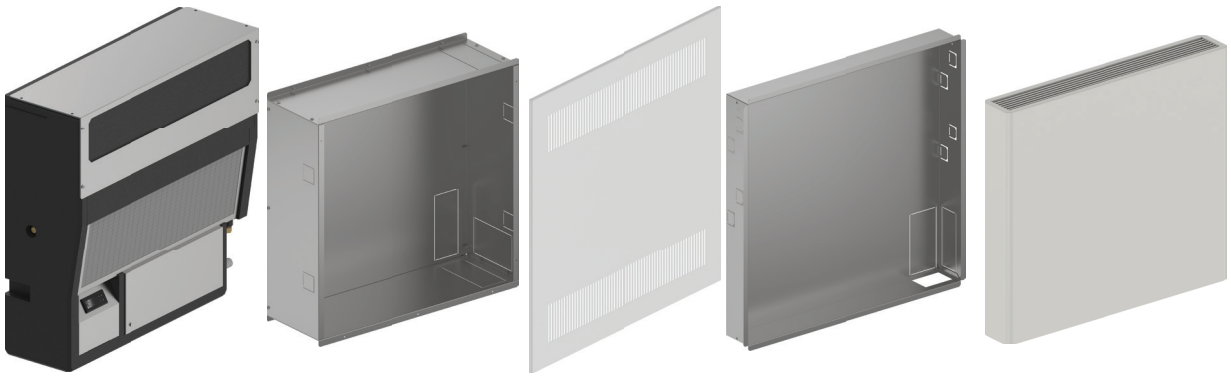
GF Building Flow Solutions

Uponor Ventilation D Dehumidifier
CEI and WAL 200/250/350 m³/h

EN Installation and operation manual





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1 Safety instructions and disclaimer

1.1 System overview

Safety messages used in this document

Warning!
Risk of injury and damage. Ignoring warnings can cause personal injury and/or damage to products and other property.

Caution!
Risk of malfunctions. Ignoring cautions can cause the product to not operate as intended.

Note
Important information to the section in the manual.

Uponor uses safety messages in the document to indicate special precautions required for the installation and operation of any Uponor product.

Safety measures

Note
For safe and proper use, obey the instructions given in this document. Keep them for future reference.

The installer and operator agree to comply with following measures regarding Uponor products:

- Read and obey the instructions and processes in the document.
- The installation must be performed by a qualified installer in accordance with local regulations.
- Uponor is not liable for modifications not specified in this document.
- Switch off all connected power supplies before starting any wiring work.
- Do not expose the Uponor components to flammable vapours or gases.
- Do not use water to clean electrical Uponor products/ components.

Uponor is not liable for damage caused by ignoring the instructions in this document or the applicable building code.

Power

Warning!
Uponor system power supply: 230 V AC, 50 Hz. In case of emergency, immediately disconnect the power.

Technical constraints

Caution!
To avoid interference, keep data cables away from components bearing power of more than 50 V.

1.2 Limitations for radio transmission

Wireless Uponor products use radio transmission for communication. The used frequency is reserved for similar applications, and the risk of interference with other radio sources is very low.

However, in some rare cases, radio communication can be faulty. The transmission range is sufficient for most applications, but certain surroundings affect the radio communication and maximum transmission distance.

If communication disturbances occur, uponor recommends to relocate the antenna to a better position. Preferably, install Uponor radio sources **at least 40 cm** apart to prevent exceptional disturbances.

1.3 Correct disposal of this product (Waste Electrical and Electronic Equipment)

Note
Applicable in the European Union and other European countries with waste separation systems.


This icon on the product, or in the related documents indicates that it should not be disposed with household waste. Please, recycle responsibly to support the sustainable use of resources and prevent possible harm to human health and/or the environment.

Household users should contact the retailer where they purchased this product, or their local government office, for details on where and how they can take it for recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. Do not dispose this product with other commercial waste.

1.3 Copyright and disclaimer

This is a generic, european-wide document version. The document may show products that are not available in your location for technical, legal, commercial, or other reasons.

For any questions or queries, please visit the local Uponor website or speak to your Uponor representative.

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This disclaimer applies to, but is not limited to, the accuracy, reliability, or correctness of the document.

The presumption for the document is that the product related safety instructions are fully obeyed. The following requirements apply to the

Uponor product (including any components) as covered by the document.

- The system (combination of products) is selected and designed by a competent planner. It is installed and put into operation by a licensed and/or competent installer in compliance with the instructions provided by Uponor. Locally applicable building and plumbing codes/regulations have been obeyed.
- Temperatures, pressure and/or voltage limits according to product and design information have not been exceeded.
- The product remains in its originally installed location and is not repaired, replaced, or interfered with, without prior written consent of Uponor.
- The product is connected to potable water supplies or compatible plumbing, heating and/or cooling systems approved or specified by Uponor.
- The product is not connected to or used with third-party products, parts, or components except for those approved or specified by Uponor.
- The product does not show evidence of tampering, mishandling, insufficient maintenance, improper storage, neglect, or accidental damage before installation and being put into operation.

While Uponor has made all effort to ensure that the document is accurate, the company does not guarantee or warrant the accuracy of the information. Uponor reserves the right to change the product portfolio and the related documentation without prior notification, in line with its policy of continuous improvement and development.

Always make sure that the system or product complies with current local standards and regulations. Uponor cannot guarantee the full compliance of the product portfolio and related documents with all local regulations, standards, or working methods.

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Uponor is under no circumstances liable for any indirect, special, incidental, or consequential damage/loss that results from the use or inability to use the product portfolio and relateddocuments.

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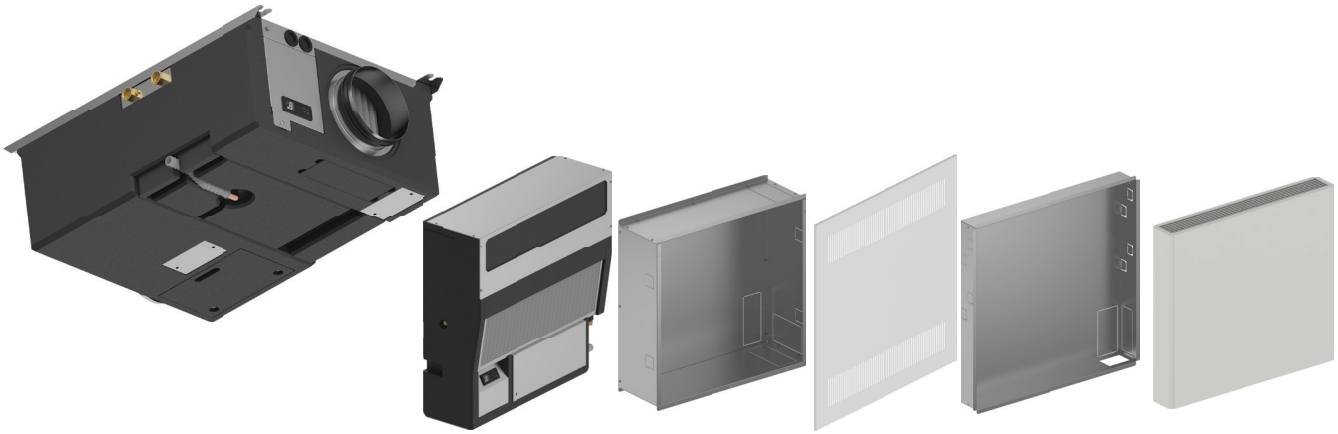
2 System description



2.1 System overview

Uponor dehumidifiers are available for centralized horizontal ceiling (CEI) and vertical wall installations (WAL), suitable for residential environments where space temperature control is managed by radiant systems. CEI dehumidifiers are designed to be ducted and mounted in false ceilings. WAL dehumidifiers are designed to be installed into walls with the possibility of being recessed or semi-recessed without the need of air ducts.

Available models are classified according to maximum air flow rates (200/250/350 m^3/h) and dehumidifcation capacity (25/35 l/day), version (“N”-“I”, neutral and cold integration, respectively).

- The cold-integration version, unlike the neutral version which does not significantly alter the air temperature supplied to the rooms, can operate in heating or cooling mode depending on the season set on the heat pump, functioning as a hydronic fancoil unit when needed for peak heating and cooling scenarios.

Control

Neutral models allow for the control set point of relative humidity in the space. Integrated models allow for control set point of space humidity and temperature for second stage heating or cooling.

CEI - WAL dehumidifiers also offer the ability to be controlled with dry contacts or via modbus by others.

2.2 Sizes and versions

Caution!

With water below 8 °C and above 32 °C, if it is in "summer" season, the unit will activate the alarm until the correct temperature is restored, refer to chapter "Operating limits operation". All units require the presence of water to operate properly. If there is insufficient water flow, an alarm will be reported, refer to chapter "Troubleshooting".

N	I
CEI - WAL 200 N	CEI - WAL 200 I
CEI - WAL 250 N	CEI - WAL 250 I
CEI - WAL 350 N	CEI - WAL 350 I

Models CEI - WAL Dehumidifiers are classified according to air flow rate (m^3/h) and version "N" (Neutral-isothermal air) and "I" (Cold integration)

N - Neutral air isothermal version

Note

A deviation of a few degrees between the intake and supply temperatures should be considered normal.

"N" models (Isothermal units) are equipped with a single battery pack whose purpose is to dehumidify the air while keeping the temperature basically unchanged.

I - Cold integration version

"I" models (cold integration) can dehumidify and control the air temperature, depending on the season and heat pump setpoint, cooling or heating it, functioning as a hydronic fan coil.

2.3 Features and accessories

In this section of the manual we list the accessories and features. We will list the main ones first (below) and refer to chapter "Included functions" the secondary ones. Accessories may be standard or optional, sometimes excluding some accessories in favor of others or requiring others to function. In the following list, under the title of each accessory, we will indicate these specifications

Main features and accessories

Built-in condensate drain trap

CEI units only

CEI units have a built-in siphon connected to the condensate drain. If units are ducted for suction, an external siphon must be incorporated, for more information refer to chapter "Channeling".

Defrosting

The unit performs defrosting independently, based on default settings. It consists of turning off the compressor in favor of ventilation only, so that the coil can be defrosted.

Dry contact

It is possible, with a dry contact and using an external switch, to receive a command for turning ventilation on and off and, for "N" versions only, for switching seasons.

RS485 Modbus serial connection

Standard

CEI/WAL units can be connected to a supervisory system or home automation system via RS485 Modbus connection. For installation and wiring, refer to chapter "Control via modbus", while for configuration, request the "BMS" manual, where all available controls are listed.

Included functions

Space temperature probe (I models only)

Allows you to control the room temperature, without the need for a thermostat. It is a probe placed in the intake that makes available, in the user menu, the possibility of setting a temperature setpoint.

3 Installation

3.1 Overview

Inspection

Upon receipt of the unit, check its integrity, any damage should be reported immediately to the carrier and noted on the delivery note before signing it. The manufacturer or its agent should be informed of the extent of the damage as soon as possible. The customer must complete a written report describing any damage found.

Lifting, transporting and unloading

When unloading and placing the unit, great care should be taken to avoid rough or violent maneuvers. Internal transportation should be done gently, avoiding using machine components as strong points. Packaging should be removed carefully, avoiding any possible damage to the unit, the materials that make up the packaging can be: wood, cardboard, nylon, etc. It is good practice to store them separately and entrust them for disposal or possible recycling to the companies in charge, to reduce their environmental impact.

Unit identification and nameplate identification

Each unit has a nameplate on the chassis where all the data necessary for installation, maintenance and tracking of the machine are listed. Note them in the table below so that you can retrieve the information if the nameplate deteriorates.

Nameplate

Present on the electrical panel (CEI) or on the inspection panel (WAL)

Item	
Model	
Serial number	
Date of manufacture	
Category PED/ CE 2014/68/EU	
Conformity assessment procedure	
Maximum allowable pressure (bar)	
Minimum and maximum allowable temperature	
Maximum storage temperature	
Maximum operating temperature	
Minimum ambient operating temperature	
Refrigerant (ASHRAE 15/1992)	
Refrigerant charge (kg)	
Tons of CO_2 equivalent	
Empty weight (kg)	
Power supply	
Rated power input (kW)	
Rated current (A)	
Maximum current (A)	
Inrush current (A)	
Electrical diagram	

3.2 Positioning of the unit

Prehandling

Warning!

Tilting the unit more than ± 30° and/or overturning it, even temporarily, is prohibited. Danger of compressor failure. Failure to comply with these requirements will result in loss of warranty.

Note

It is extremely important to always provide full access to the unit for routine and extraordinary maintenance and calibration.

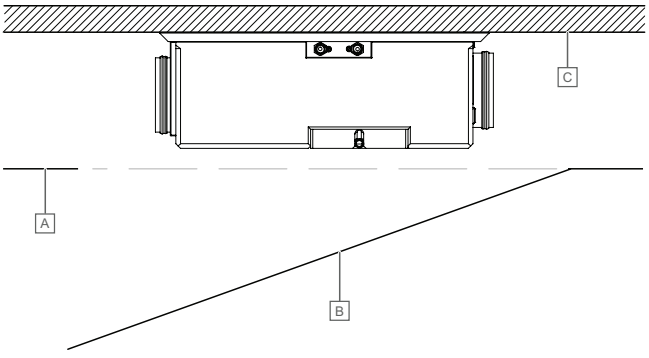
Attention should be paid to the following points to determine the best location where to install the unit, ductwork and wiring (electrical and hydraulic):

- Size and origin of the hydraulic piping.
- Location of the power supply.
- Complete accessibility for maintenance and repair operations.
- Solidity of the fixing point.

Positioning - CEI

Dimensional references and indications

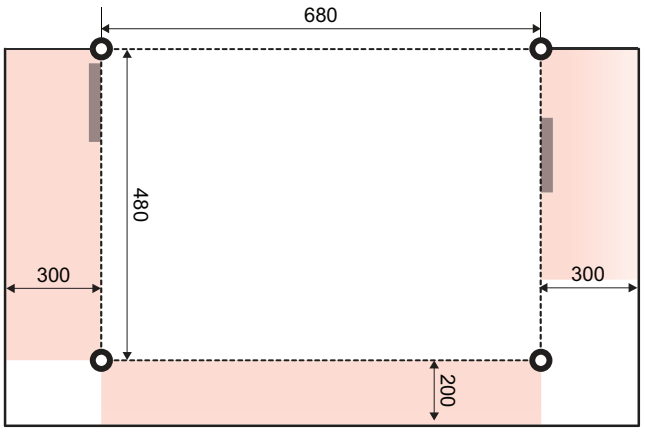
It is mandatory to place the unit inside a suspended ceiling with an access hatch in order to perform routine maintenance operations. The removable panel, whose dimensions must allow access to all sides of the unit, must be wider on the electrical panel side and the air intake/outlet sides. Also, when sizing the panel, it is a good idea to consider any accessories attached to the unit and the possible removal of the unit.

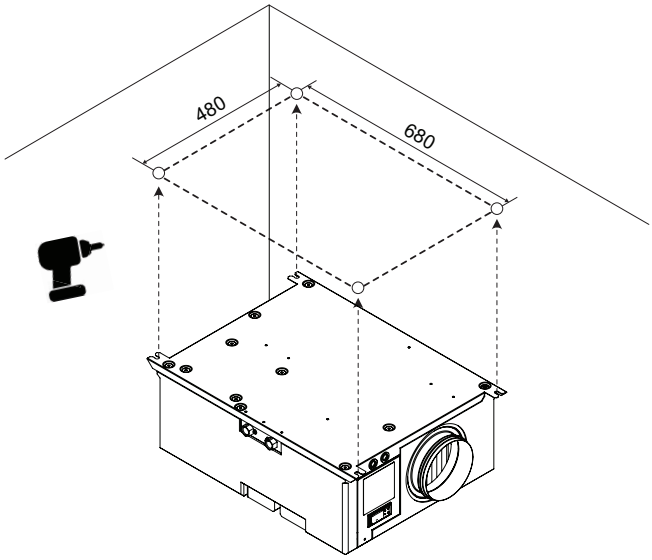


Pos.	Description
A	False ceiling
B	Access hatch
C	Ceiling

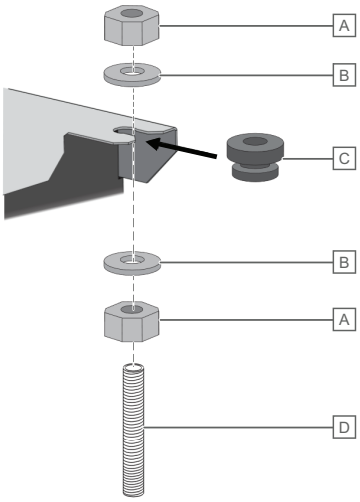
Installation and positioning

This top view shows the locations of the installation holes and Boundries for the unit:





We recommend the following diagram for installation and use of vibration dampers, which are useful for reducing noise propagation.

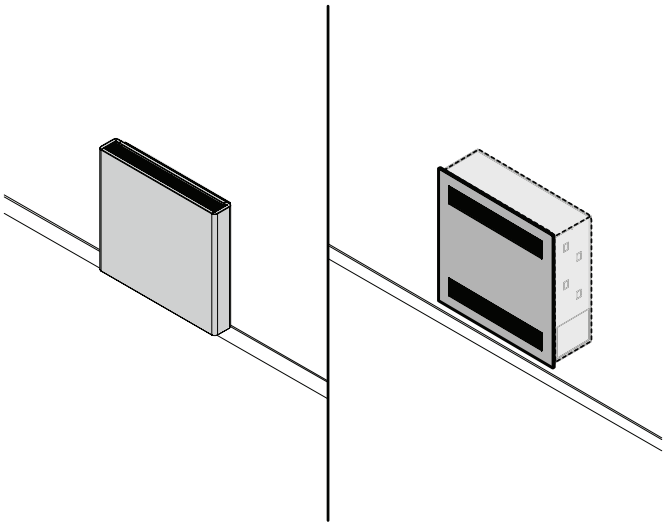


Pos.	Description
A	Nut
B	Washer
C	Anti-vibration grommet
D	Threaded rod

Positioning - WAL

Caution!

Proceed only with the positioning of the units, the installation of the hood will take place at a later stage



WAL units must be matched to their hood, which can be recessed or semi-recessed. Depending on the type you have, you will find an instruction document inside the package containing all the information about positioning, boundries and installation. Before proceeding with the next steps, follow the positioning procedure described in the relevant document.

3.3 Channeling

CEI unit

Caution!

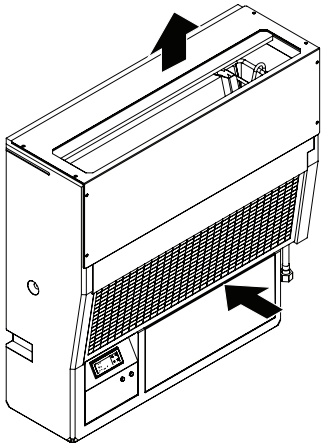
If the installation involves ducting the inlet, it is mandatory to remove the built-in siphon by detaching it from its position, as explained in chapter "Condensate drain".

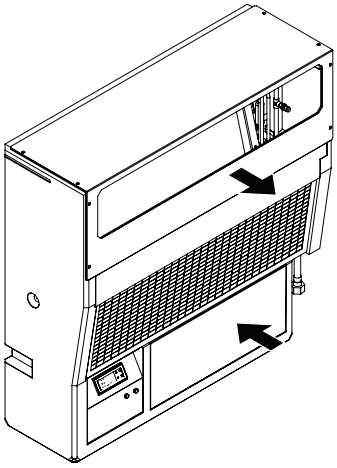
Note

For connections to the outside, the installation of insulating pipes is recommended to avoid thermal exchange of the outside air with the environment

CEI units are equipped with two nozzles for aeraulic connections to rigid or flexible pipes.

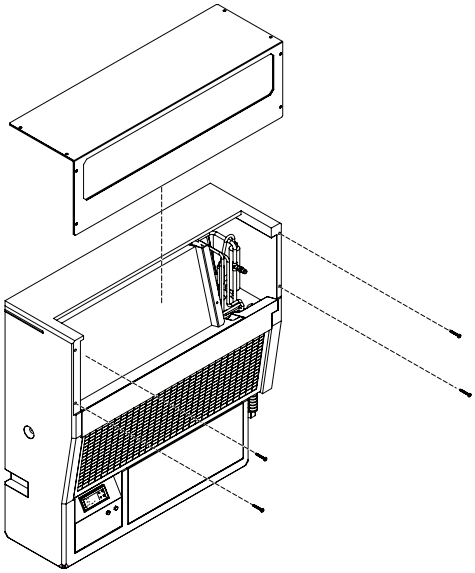
WAL unit



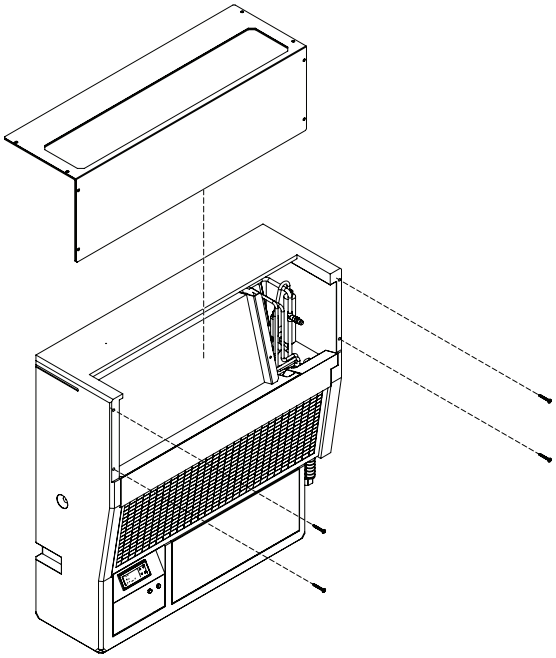


Depending on the enclosure in your possession, the orientation of the supply fan should be set accordingly: if the enclosure is recessed or suspended, the supply orientation should be horizontal, otherwise (if it is semi-recessed) the supply orientation is upward (refer to image below). To change the supply direction, starting from the horizontal orientation, follow these instructions:

1. Locate and remove the screws and raise the air grille



2. Rotate and orient the grille upward and screw in the screws removed earlier



3.4 Plumbing connections

Caution!

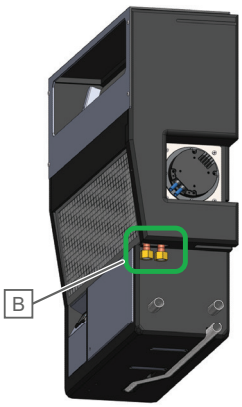
It is essential that water be introduced through the fitting marked "Water Inlet". Otherwise, the reverse flow circuit design could cause potential malfunction, obstruction or even damage to the unit.

Note

For connections to the outside, the installation of insulating pipes is recommended to prevent heat exchange of outside air with the environment.

Note

The hydraulic circuit must be constructed to ensure a constant water flow rate (+/- 15%) under all operating conditions. Regarding CEI units, if the installation of bleed valves is not possible, small manual bleed valves are provided alongside the hydraulic connections (this should be done with the unit de-energized). It is also compulsory to comply with the limits given in the following table in any case it is necessary to use water in our units and therefore also at the first start-up. Exceeding the values given exponentially increases the chances of corrosion of the water system.



Pos.	Description
A	Water connection (CEI)
B	Water connection (WAL)

Connect, by tightening with "Wrench and a counter wrench" as shown in image above, the pipes to avoid transmission of vibration and to compensate for thermal expansion. It is recommended to install the following accessory components:

- Zone valve or dedicated pump: controlled by the pump contact on the electronic board to activate or deactivate water circulation in the unit (if the pump has a current of more than 1 A, insert a power relay).
- Temperature and pressure indicators for maintenance and control of the unit. Pressure monitoring indicates proper operation of the expansion tank and warns of water leakage in advance.
- Shut-off valves (gate valves) to isolate the unit from the hydraulic circuit in case of maintenance work.
- Metal mesh filter (inlet piping) with a mesh size not exceeding 1 mm, to protect the exchanger from impurities. This requirement is necessary at first start-up.
- Vent valves: it is advisable to install vent valves to eliminate any air bubbles in the circuit. Valves should be placed in the highest parts of the hydraulic system to facilitate air bleeding, taking care not to cover accesses with hoses for the hydraulic connection.
- Drain cock and, if necessary, drain tank to allow drainage of the system for maintenance operations or seasonal breaks.

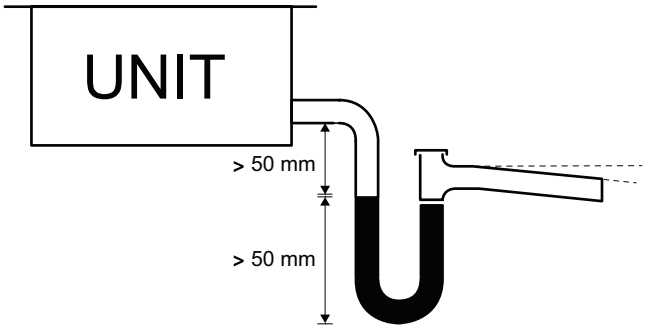
Water specifications for heating systems

Parameter	Value	Unit
Electrical conductivity (@25 °C)	10 - 500	µS/cm
pH	6,5 / 9	
SO_4--	< 100	ppm
HCO_3- / SO_4--	> 1	
Total hardness	4,5 / 8,5	dH
Cl-	< 50	ppm
PO_4^{3}-	< 2	ppm
NH3	< 0,5	ppm
Free active chlorine (CL2)	0,6 / 1,8	ppm
Combine active chlorine	< 2	ppm
Fe^{3+}	< 0,5	ppm
Mn^{++}	< 0,05	ppm
CO_2	< 50	ppm
H_2S	< 50	ppb
Temp	< 65	°C
O_2	< 0,1	ppm
$C_3H_3N_3O_3$	< 75	ppm
SiO_2	< 2	ppm

Condensate drain

Caution!

The slope angle of the drain pipe must be large enough to ensure that water always drains from the unit to the outside. If this is not done, condensation may overflow inside the unit, damaging it.



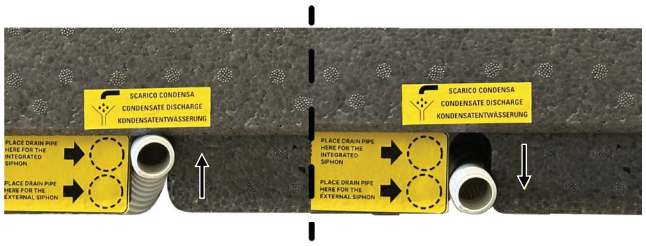
The above image illustrate the location of the condensate drain and the recommended construction of the siphon.

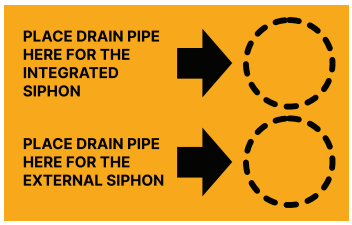
CEI unit

Caution!

If the installation involves ducting the inlet, it is mandatory to remove the built-in siphon as shown in the below image. Then proceed to add a new siphon by connecting it to the termination of the discharge pipe.

CEI units have the option of using a built-in siphon: moving the drain tube to one of two positions (top or bottom, shown on the side label) will either result in a built-in siphon or not, as shown in the following image





If you decide not to use the built-in siphon, you will need to arrange another one, connecting it to the termination of the drain pipe.

WAL unit

The box shows the condensate drain pipe on which to make the siphon.

3.5 Power supply and access to the electrical panel

Warning!

- When the unit is on, the electrical panel must always be closed and only qualified personnel with the appropriate personal protection may access it.
- In case the unit is already turned on, to properly disconnect the power supply, scroll with the "▲" button to "Off" and confirm with "✓". Wait one minute before disconnecting the power supply to allow the unit to properly save all parameters.
- Please remember that it is forbidden to disconnect the power supply to the unit repeatedly over time, as this may cause damage.
- Ground connection is mandatory. Wiring must be done in the absence of voltage - Danger of death.

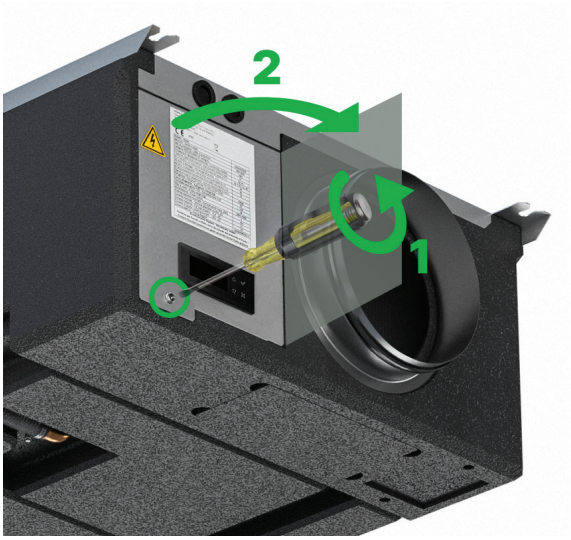
In this chapter we give instructions for accessing and powering the electrical panel.

Access to the electrical panel

Accessing the electrical panel - CEI unit

Caution!

Electrical connection, power cables and protections must be used according to the relevant wiring diagrams, and in accordance with local, and international regulations.



1. Unscrew the screw (indicated by the circle)
2. Open the panel

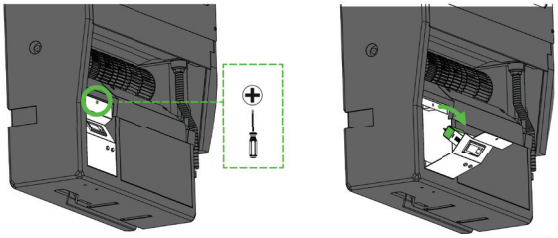
Now you can insert the power cable by drilling through one of the two rubber grommets on top of the door. Remember that the power cables must be separate data cables: these must therefore run through the other available grommet.

Use data cables for Modbus connection, digital inputs, or configurable inputs/outputs. For more information, refer to the relvent chapters.

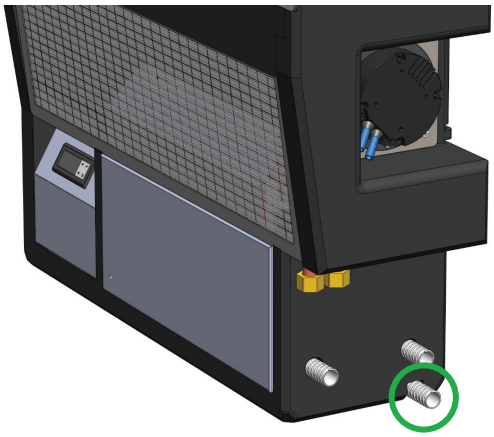
Accessing the electrical panel - WAL unit

Caution!

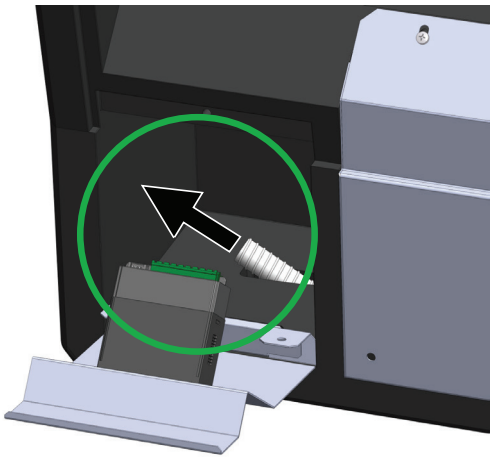
Electrical connection, power cables and protections must be used according to the relevant wiring diagrams and in accordance with local and international regulations.



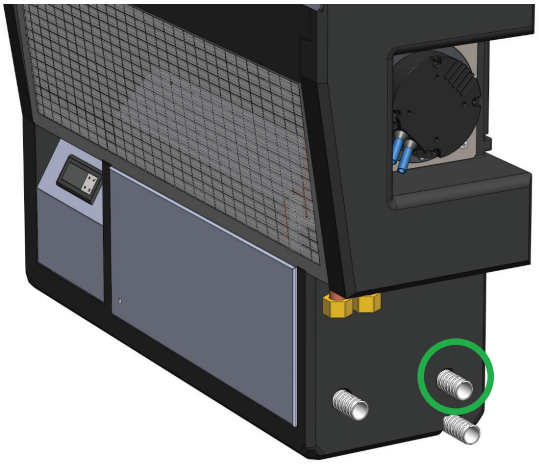
To access the electrical panel, as shown in the image above, unscrew the screw (indicated by the circle) and then open the panel downward. You can now slide the power cord into the side tube shown in the image below



The power cord will come out inside the drawer of the electrical panel, as shown below.



From this point you will be able to proceed with the power supply (refer to chapter). Please note that the power cables must be separate from the data cables, which must then follow a different route, as shown in the following image:



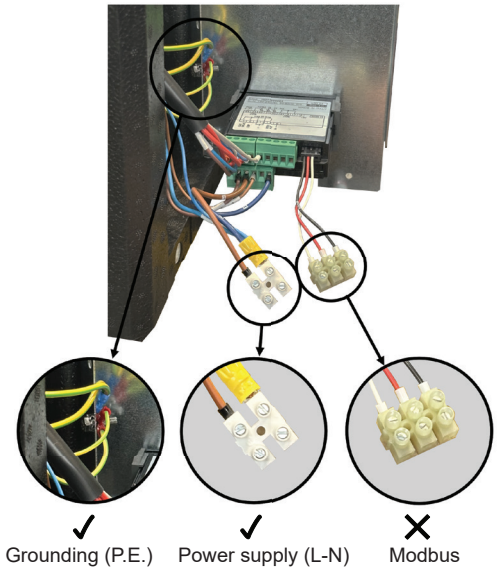
Use data cables for Modbus connection, digital inputs, or configurable inputs/outputs. For more information, refer to the related chapters.

Power connections

Recommended cables, protections and wiring

	CEI 200	CEI 250	CEI 350
Recommended power line	3G1,5	3G1,5	3G1,5
MGT switch recommended to be inserted upstream of the line	C6	C6	C10
Plug-in lugs recommended for power cables (basic control)	Ferrules for phase and neutral, eyelet for P.E		
Recommended plug-in lugs for power cables (touch display)	BF-F608P (Mod: CEMBRE)		

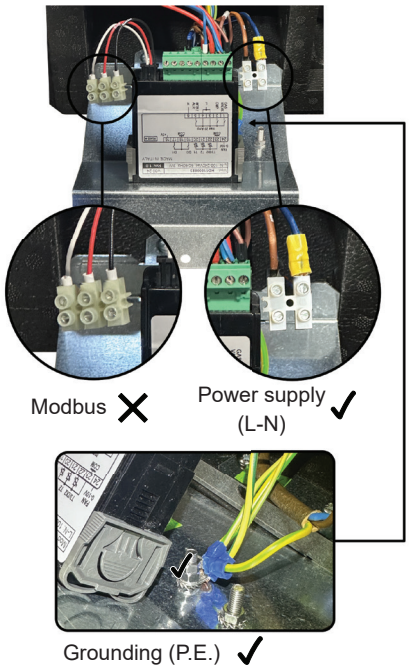
Power connection - CEI



Power connection - WAL

Note

Electrical connection, power cables and protections should be used according to the relevant wiring diagrams and in accordance with local and international regulations.



The image shown above show the connection instruction for CEL and WAL, respectively. Inside each panel of the electrical cabinet, there is a screw terminal with the two power cables (refer to previous image), indicated with labels and colors corresponding to IEC 60446: L (black/brown, phase) and N (blue, neutral) Connect the power supply to this terminal by inserting and tightening the power cable. Also connect the grounding to the points always shown in the above images.

3.6 Unit control wiring

Unit control wiring

The following chapter turns out to be optional.

Caution!

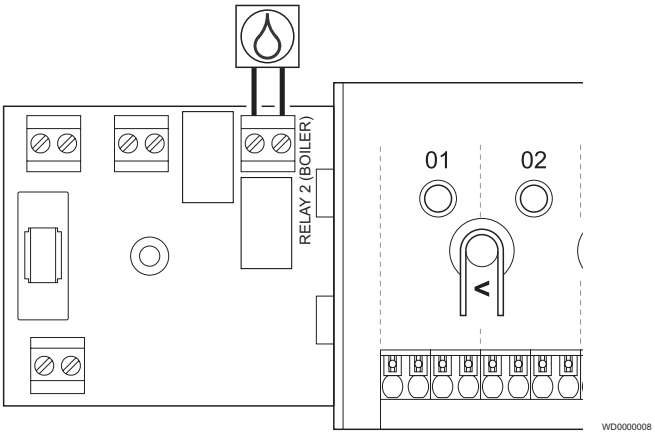
Electrical connections other than those indicated may not guarantee proper operation of the unit. The zone valve must have a stop contact to activate the system pump. For an expanded view of the terminal block, refer to chapter "Electrical panel".

Digital input

- Temperature Input (version I). Uponor Integrated "I" dehumidifiers come equipped with intake temperature probe as standard. If remote room temperature input is required then use digital thermostat input (20-18), disconnect the intake temperature probe and in the installer menu set 'PSA' parameter to "NO" (refer to chapter calibration).
- Humidity input (version N & I).
- Use the humidity input (17-18) for remote wall mounted hygrostats.
- Use the humidity input (17-18) for Smatrix Wave (X-265) controller & relay module (M-161).
- Use the hygrostats input (17-18).
- Enable or disable ventilation on digital input (19-18) or, if version is "I", switch the season (open = summer closed = winter) by configuring parameter "LI3" in the installer menu (refer to chapter Calibration (premise)).

3.7 Control via Smatrix controller X-265

Dehumidifier (requires communication module)



Warning!

Risk of electrical shock! Electrical installation and service behind secured 230 V AC covers must be carried out under the supervision of a qualified electrician.

Note

This connection requires a dry contact sensing input in the dehumidifier.

Note

This relay function requires a communication module, and must be set in **Installer settings** during initial configuration, or in the **System settings** menu.

Note

In systems with a communication module, make sure that room controller, relay 2 (Boiler), is set to **Dehumidifier** in **Installer settings**.

1. Ensure that the power is disconnected from both the room controller and the dehumidifier.
2. Remove the screw and open the cover for the optional connections compartment.
3. Route the cable from/to the dehumidifier via a cable entry.
4. Connect the dehumidifier to the connection labelled **Relay 2 (BOILER).**
5. Secure the cable to/from the dehumidifier with a cable clamp in the enclosure.
6. Close and secure the lid to the optional connections compartment.

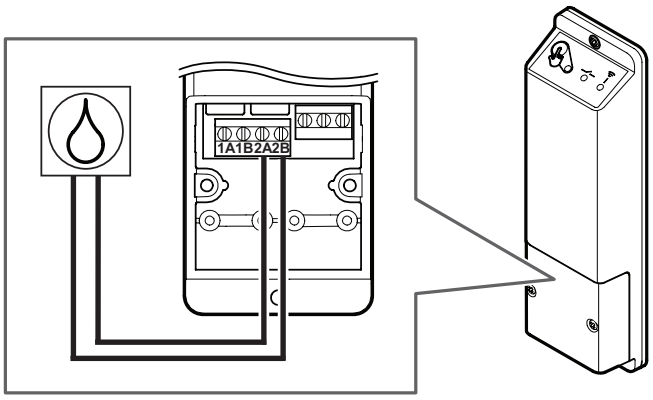
Relay function

The dehumidifier starts (relay closed) when the relative humidity setpoint is reached when in cooling mode. It will stop when the minimum run time of 30 minutes has finalized and when the relative humidity has decreased below the defined RH setpoint - deadzone.

Smatrix M-161 relay module

If boiler/heating & cooling source relay 2 is required on X-265 controller then additional M-161 relay module is required.

Relay 2: Dehumifier



3.8 RS485 - Modbus serial connection

The following chapter turns out to be optional.

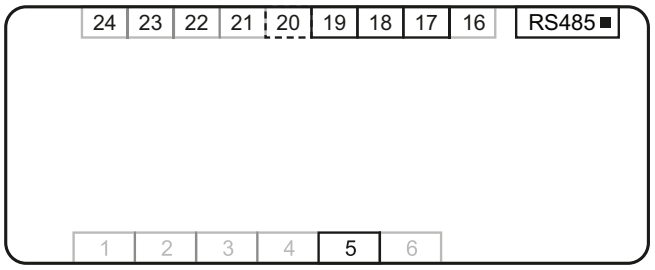
The first step is to bring the cable the Modbus connection cable to the control cabinet as described in chapter "Accessing the electrical panel - CEI unit" depending on the model of the unit (CEI or WAL). In the next chapter we will look at the Modbus connections according to the Type of control.

Modus connection - basic control

Modbus adapter insertion (optional)

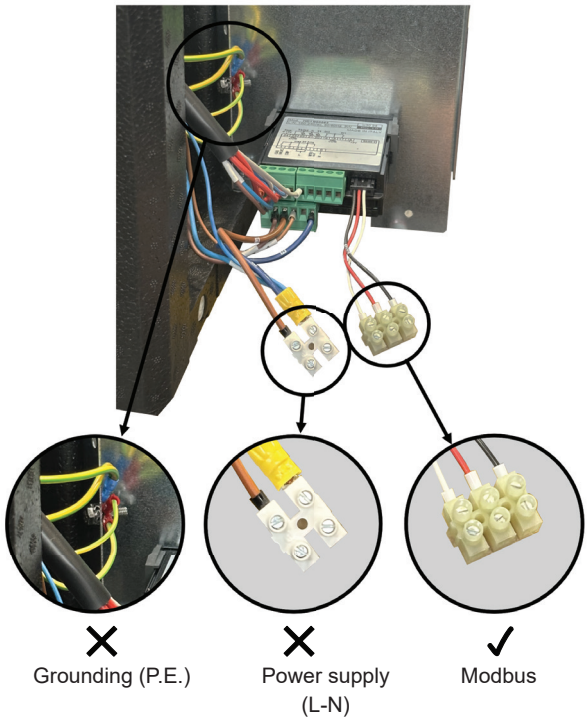
Note

RS485 Modbus adapter to be purchased separately.

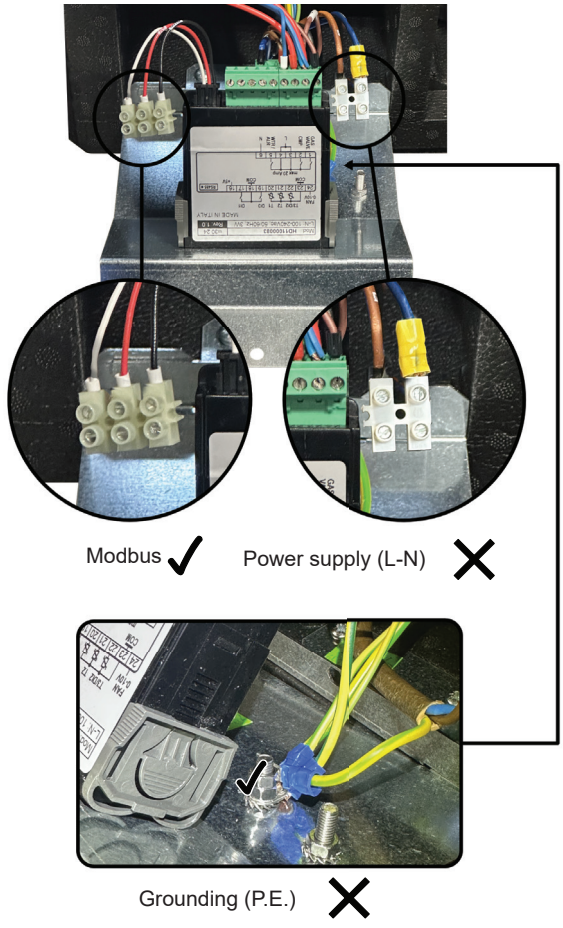


Insert modbus adpater into the RS485 port located at the top right of the board (as shown in the wiring diagram above) to proceed with connection.

Terminal block connection - CEI



Terminal block connection - WAL



After inserting the Modbus cable through the grommet (CEI) or the side hole (WAL and opening the electrical panel (as in chapter "Access to the electrical panel") insert and screw, in the terminal shown in the previous image, the cables:

- To cable A the + (positive pole)
- To wire B the - (negative pole)
- To the GND wire the grid reference common

Once the connections have been made, close the panel of the electrical cabinet again.

3.9 First start-up and configuration

Caution!

Read this chapter in its entirety before calibration. Initial start-up and setup should be done only by qualified personnel: do not improvise, risk of unit malfunction. Before starting, check that all components are in place and tightened with their screws. Check that all plumbing, electrical and aeraulic connections are properly installed. Check that the hydraulic circuit taps, if any, are open and that the hydraulic system has been vented by removing residual air by gradually loading it and opening the vent devices at the top. Pressurize the system and check for waterleaks before using the machine.

Now you can turn on the unit and proceed to setup. A few seconds after the unit is turned on, the display will light up and it will be ready to operate independently. First, let's access the installer menu:

- If the unit is equipped with basic control, refer to chapter "Configuration (basic control)".
- If the unit is equipped with a touch display, proceed to read the next chapter "Configuration and Installer menu paremeters (touch display).

Regarding calibration, please read the next chapter.

Calibration (premise)

Caution!

If calibration is not done correctly or is omitted, airflow rates may differ from the design airflow rates, impairing proper operation of the unit and reducing performance and efficiency. A unit not properly calibrated by unqualified personnel is excluded from warranty.

Note

In some installations, excessively long, narrow or twisted air ducts may be installed, which could cause high pressure losses and obstruct air flows. When calibrating the unit, the fan speed would increase excessively, generating unpleasant noise for the user, please note that a 15% reduction in airflow rate is acceptable.

Since each installation has its own peculiarities, it is essential to measure and correct air flow rates according to actual operating conditions. Units are factory programmed to offer a "fixed" Static pressure, but, almost certainly, this will not be suitable for the installation. It therefore becomes essential to correct air flow rates according to different operating conditions: The use of an anemometer is necessary, and a flush anemometer is strongly recommended.

Configuration

Caution!

For I models with on board temperature probe present, the PV parameter must be equal to 3.

To access the installer menu, scroll to the bottom of the user menu (refer to chapter "User menu"), until "PAS" (Password) is displayed. Enter the password 010 using the "▲" and "▼" buttons and confirm to proceed. In the user menu, there is a list of parameters, both editable and read-only, scrollable using the "▲" and "▼" buttons, as shown in the table "Installer menu parameters".

Calibration

Note

Before reading the calibration instructions, please refer to chapter "Calibration (premise)".

To calibrate the unit, follow the following steps:

- Place the anemometer near the intake nozzle of the unit.
- Enter the installer menu (refer to previous chapter) and scroll down to the "VM" parameter.
- Access and adjust this value with the "+" and "-" keys, considering that the anemometer's air flow rate reading (on suction) must correspond to the nominal air flow rate given in the technical data table (refer to chapter "Technical data table").
- Once the desired calibration is obtained, press the "✓" button to save the configuration.

Installer menu parameters

Caution!

Some parameters may not appear, depending on the version of the unit and/or the presence of certain accessories. In particular, the following parameters will appear only if the conditions (shown in the right column of the table) are met.

u3	With EC or ACF 3 - speed fans
uM	With modulating EC fan
PSA	"I" version
LI3	Modifiable only if version "I"
FC	Version "I"
OAM	"I" version and with suction probe T
OUM	With suction probe RH

Display and abbreviation		(Code) and Short description	Range of values that can be set	Default
u3	V3	3-speed fan speed	B - N - A (low, medium, high)	(B)
uM	VM	Modulating fan speed	The values that can be changed range from a guaranteed minimum to a maximum of 9,9	Minimum value that can be set
PSN	PSA	Presence of T aspiration probe	NO - YESÌ (no - yes)	(NO)
PSU	PSU	Presence of RH aspiration probe	NO - YESÌ (no - yes)	(NO)
LI3	LI3	Logic input "DI3"	ST - UE (season - ventilation)	(ST)
LO3	LO3	Logic output 3	UA - AL (water valve - alarm)	(UA)
u5	VS	Displays % of fan speed	0 to 100 (Readout only, not editable)	
Fu	PV	Fan running without treatment request	0= Fan running continuously at rated flow rate 1= Fan on at compressor startup in summer and, in winter, immediate startup at heating demand 2= In summer, if: - FC (FC) = 0: fan turn-on occurs at any treatment demand - FC (FC) = 1: fan turn-on occurs at dehumidification request - FC (FC) = 2: fan ignition occurs at the cooling request - FC (FC) = 3: fan turn-on occurs if both cooling and dehumidification demand are present In winter: fan turn-on occurs if heating demand is present 3= Same as FC (FC)= 2 but, if there are no demands indicated above, the fan runs at reduced speed (refer to parameter "VVR" in table) Note: If on-board humidity probe is present, the default value is FC (FC) = 3	2 (3^2)
FC	FC	Compressor activation	The compressor and/or pump contact is activated if: 0= dehumidification request present or cooling request present 1= dehumidification request present 2= cooling request present 3= both dehumidification and cooling demand present Note: if there are probes on board the unit and you decide to use either parameter "0" or "2", set the previous parameter PV (PV) = 3	1
MA	MA	Modbus network address	1 to 247	1
Mb	MB	Modbus baud rate	0= 1200, 1= 2400, 2= 4800, 3= 9600, 4= 19200, 5= 38400, 6= 56000, 7= 115000	3
YES	YES	Defrost start temperature	- 35 °C to SF	- 5,0
SF	SF	Defrost end temperature	SI to 45 °C	6
Sd	SD	Maximum defrost time	1 to 240 min	4
SCL	SCL	Drip duration	0 to 60 min	2
St	ST	Time between two defrosts	0 to 999 min	150
OAM	OAM	Room probe offset	- 10 to + 10	0,0
OUM	OUM	Offset humidity probe	- 20 to + 20	0,0
uvr	VVR	Reduced fan speed	1,2 to 9,9	1,5

4 Operation

Controlling the unit can be done in three different ways, each of which has specific advantages and use cases:

- With included control, you can change humidity and temperature setpoints and control basic settings (refer below for more information).
- With switches, thermostats or controllers, more information refer to chapter "Control by external devices".
- With Modbus connection, refer to chapter "Control via Modbus".

4.1 Control via the control panel

Pos.	Description
A	Increases values or scrolls editable parameters
B	Decreases values or scrolls editable parameters
C	Confirm selection
D	Cancel selection

Quick Guide

The main functions of the control are:

- Display whether the unit is on and which air handling types are active (refer to chapter "Flashing icons").
- Access the user menu, change temperature and humidity setpoints, and view the unit's probe readings (refer to chapter "User menu").
- Access the installer menu (editing is only indicated for experienced users or installers).
- Display (and beep) any alarms (refer to chapter Alarms - basic control").

The initial screen of the display is presented with its "On or OFF" status ("On","OFF"). Using the "▼" button, the user menu can be accessed and all its items can be scrolled through.

Otherwise, still from the initial "ON" or "OFF" display, by pressing the "▲" key, you can re-power or re-power the unit: the display will start flashing with the power status which, if confirmed with the "✓" key, will be activated. To exit, press the "✗" key.

Main keys

The functions of the main keys are as follows:

- "▲" button: increases the values or scrolls the editable parameters.
- "▲" button: decreases values or scrolls editable parameters.
- "✓" button: confirmation button.
- "✗" button: "cancel" button.

Each time a button is pressed, a confirmation signal is emitted. Other uses of the buttons are:

- "▼" button: pressed for more than 3 seconds, activates manual defrost (if conditions for activation exist).
- "▼" button: pressed for more than 3 seconds. Stops defrosting (if active).
- "✓" button: if an alarm is present, activates its reset (if possible) or turns off its beep.
- "✗" button: if an alarm is present, deactivates its acoustic signal.

Flashing icons

The icons on the display indicate the following states (from left to right):

1. Dehumidification icon
   - ON: dehumidification is active.
   - OFF: dehumidification is off.
   - Flashing: dehumidification is on.
2. Cooling icon
   - ON: cooling is on.
   - OFF: cooling is off.
   - Flashing: cooling is in activation.
3. Heating icon
   - ON: heating is on.
   - OFF: heating is off.
4. Fan icon
   - ON: the fan is on.
   - OFF: the fan is off.
   - Slow blinking: defrosting in progress.
   - Flashing fast: dripping in progress.
5. Alarm icon
   - OFF: alarm absent.
   - ON: alarm present (possible co-presence of audible alarm).

User menu

Warning!

Some parameters may not appear, depending on the version of the unit and/or the presence of the optional probe. In particular, the following parameters will appear if the conditions in the right column are met.

SEt	Version "I" and T aspiration probe presence
St1	Version "I" and T aspiration probe presence
StH	Presence of the humidity probe
tAC	"I" version and presence of the room probe
tEu	"N" version

To access this menu, simply press the button "▼". From here you can scroll through the following parameters and their values with "▲" and "▼"

(Start)

On or OFF

▼

SEt	Temperature set point setting (Summer)
St1	Temperature set point setting (Winter)
StH	Humidity set point setting
UAn	Ambient humidity display
tAn	Room probe temperature display
tAC	Water probe temperature display
tEu	Evaporation probe temperature display
St	Season display
rEL	Software release

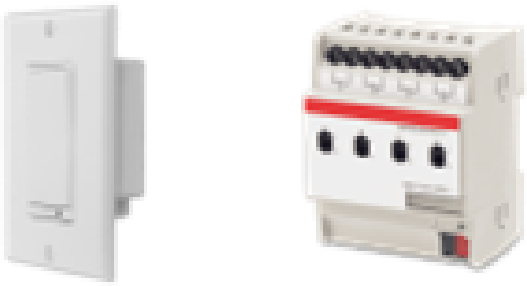
▲

PAS

(end)

In "SET" and "STH" the value can be changed (respective default values are 26.0 ° and 60%) by pressing the "✓" button. Once changed with "▲" and "▼", it can be confirmed or canceled with "✓" or "✗" buttons. The other parameters in the list can be displayed by pressing the "✓" button ("✗" to go back). The last parameter "PAS" provides access to the installer menu, where advanced unit settings can be configured by entering the password (refer to chapter "Configuration (basic control)").

4.2 Control by external devices



CEI and WAL units can be controlled using switches, thermostats and controllers:

- Adjust the temperature with an electronic or mechanical hygrostat.
- Turning the unit off/on and using special functions using wall switches or control units.

To take advantage of these features, depending on the type of control the unit is equipped with, you can use:

- Digital inputs with basic control (for more information on functionality and installation refer to chapter "Unit control wiring - basic control").

4.3 Control via Modbus

Caution!

The use of the modbus connection is intended only for experienced users, please contact specialized personnel. After finishing the relevant installation refer to chapter "RS485 - Modbus serial connection", the installer, by means of a modbus writing software and the BMS manual (inside which are the instructions and the list of available controls - to be requested from your supplier separately) can proceed to configure the controls that can be used via modbus.

By means of the modbus connection, you can delegate control of the unit to a system based on the same communication protocol.

5 Maintenance

Warning!

The inspection must be carried out in the absence of voltage. Do not improvise, danger of injury or death.

Caution!

- If care is not taken, the filters and condensate drip pan may fall out. A ruined, punctured or damaged filter must be replaced.
- Failure to comply with the maintenance operations listed in the table (within the times indicated) will void the warranty.
- Extraordinary maintenance should only be carried out by trained personnel, otherwise it will void the warranty.

The table below shows the maintenance operations and their timing:

Maintenance operation	Period
Air filters (refer to chapter "Air filter cleaning")	Visual inspection and cleaning every 6 months (or more frequently in case of dirty environments) and replacement at least every 12 months
Checking for proper condensate drainage (refer to chapter "Cleaning the condensate drip tray")	Every 6 months
Check the cleanliness of the external vents	Every 6 months
Visual and acoustic check (verification of noise input from the unit and integrity of the unit)	Every 6 months
• Visual inspection of the refrigeration and hydraulic circuit (Oil, Refrigerant and/or water leaks) • To inspect the CEI refrigeration circuit, disassemble the condensate drain pan (as in the following related instructions) and access from below • To access the refrigeration circuit for WAL, adjacent to the electrical panel will be the compressor inspection panel, unscrew the screws and removethe panel	Every 12 months
Visual inspection of the electrical panel, wiring and cables (refer to chapter "Condensate tray cleaning WAL")	Every 12 months
Cleaning of condensate drip pans (refer to chapter "Cleaning the condensate drip tray")	Every 4 years
Check the condition and repair the fans	Every 4 years
Cleaning of heat exchange coil (refer to chapter "Heat exchange coil cleaning") (by qualified personnel only)	Every 4 years

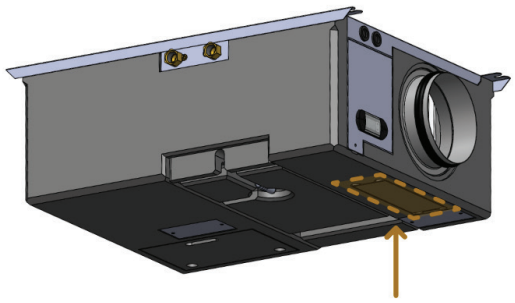
5.1 Air filter cleaning

Air filters should be inspected and cleaned every 6 months (or more frequently in dirty environments) and replaced at least every 12 months. Disassembly instructions for both CEI and WAL Disassembly instructions for CEI and WAL units follow.

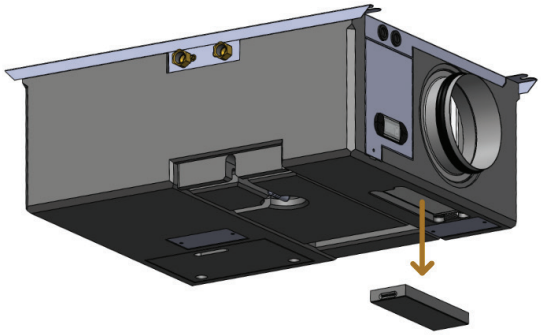
Disassembly and cleaning of air filters (CEI)

Cleaning the air filters involves two main steps: First locate and remove the filters, then clean and reassemble them. The filters are located inside the caps shown in the following images. To access them, simply remove the caps and pull out the filters.

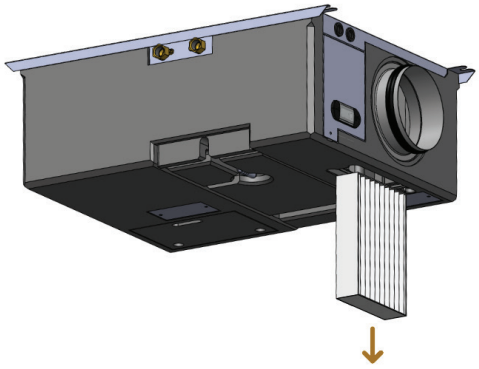
1. Locate the caps and filters



2. Removing the cap



3. Extracting the air filter

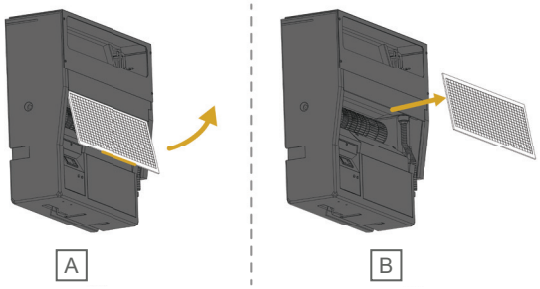


To clean the air filters: use a vacuum cleaner gently and manually remove any impurities that might affect the smooth flow of air. To reassemble, reinsert the filter and then the cap.

Disassembly and cleaning of air filters (WAL)

To access the air filters, depending on the unit you have, remove the corresponding hood, following the instructions in the package. Once the unit is open, simply locate the air filter, lift it from the underside and slide it off.

Step 1: Lift the air filter from the underside and slide it off its housing

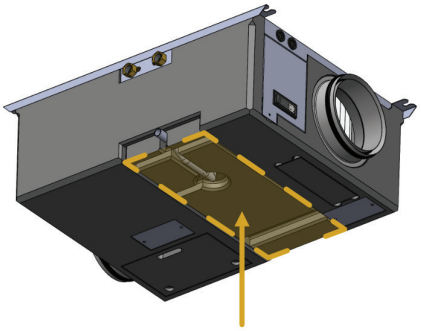


To clean the air filters: gently use a vacuum cleaner and manually remove any impurities that might affect the smooth flow of air. For reassembly, simply perform the assembly operations in reverse starting from the end.

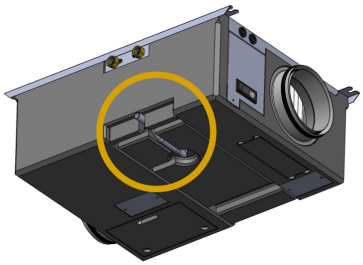
5.2 Cleaning the condensate drip tray

Cleaning of air filters (CEI)

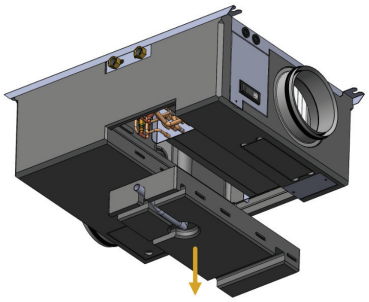
1. Locating the condensate drain pan and draining the condensate



2. Remove the condensate drain connection



3. Removal of the tray



Once the condensate drain pan is removed, simply rinse it with water and dry it with a cloth. For reassembly, simply perform the assembly steps in reverse, starting from the end.

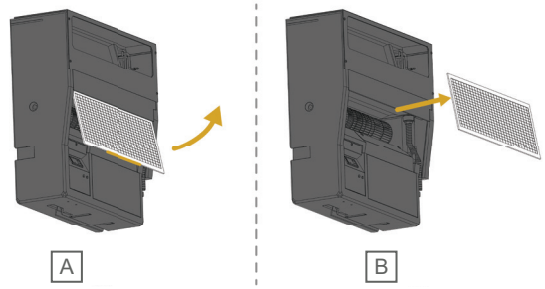
Condensate tray cleaning (WAL)

To access the condensate tray, depending on the unit in your possession, you must remove the hood, following the instructions in the packaged. Once the unit has been opened, proceed as follows:

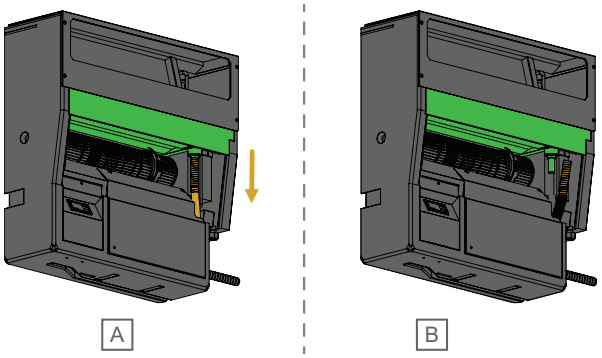
Condensate tray cleaning (WAL)

To access the condensate tray, depending on the unit in your possession, you must remove the hood, following the instructions in the packaged. Once the unit has been opened, proceed as follows:

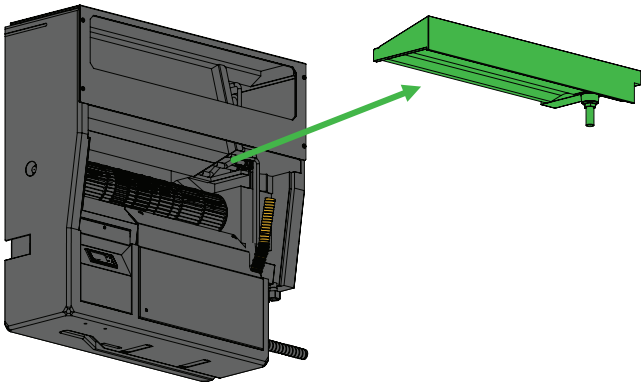
1. Lift the air filter from the underside and side and remove the air filter



2. Disconnect (downward) the corrugated pipe from the condensate drain pan



3. Pull out the condensate drain pan



To clean the condensate drain pan, vacuum it gently, manually removing any impurities that might affect smooth operation. To reassemble, simply perform the assembly steps in reverse, starting from the end.

5.3 Checking the electrical circuit

To Access the electrical panel refer to chapter "Power supply and access to the electrical panel" Check that all terminals are properly secured, if not, tighten screws better or tighten plug connectors. Verify that all power contactors or relays, if any are functional and not blocked or oxidized. If not, their replacement becomes mandatory.

5.4 Heat exchange coil cleaning

To access the heat exchange coil (CEL unit), disassemble the condensate drain pan, as in ("Cleaning the condensate drip tray"). From here you can see the coil pack. Then remove dust accumulations and any fouling on the finned coil pack. To access the heat exchange coil (WAL unit), disassemble the machine cover hood. From here it is possible to see the coil pack. Then remove dust accumulations and any fouling on the finned pack.

6 Troubleshooting

Warning!

If alarms related to the water probe occur, the unit must be compulsorily turned off and a qualified technician contacted. If the unit is left on, there is a risk of serious damage and the warranty provided will be voided.

Warning!

Be very careful in performing the steps suggested to solve various problems: excessive carelessness may cause injury or damage, even serious damage.

Note

It is recommended that once the anomaly is identified, contact the manufacturer or a qualified technician.

Regarding alarms:

- If base control is present: should an alarm occur (sound signal and/or alarm code indication on screen) refer to chapter "Alarms - basic control".

6.1 Common problems

The following table lists the most common causes that can cause the unit to malfunction and their solutions:

Alarm	Cause	Solution
Unit will not start	No power supply to the unit	Check the connections on the power terminals
	The user terminal is "OFF"	Press the "▲" button (on the base control) or one of the modes (on the touch display) to activate
	There are alarms present	Check on the display, and eliminate the cause by following the on-screen instructions
	The unit was recently started and the compressor starts late	Wait a few minutes
Compressor does not start	Internal thermal protector tripped	Turn off power to the unit, wait for the compressor to cool down, and verify by reconnecting power that it starts again. Identify the cause of the tripping and eliminate it
	Tripping of the high pressure protection on the refrigerant circuit	Refer to the "High pressure alarm" anomaly
Isothermal operation due to low water flow. (Alarm automatically resets when dehumidification and cooling demand fails)	Presence of high pressure abnormality for insufficient water flow (version I (hybrid) only)	Check for proper functionality of the hydraulic circuit
		Check inlet water temperature refer to chapter "Sizes and versions"
		Check the static pressure of the unit's service pump
		The correct water flow rate
		The metal mesh filter inserted in the inlet hydraulic piping
High pressure alarm High pressure alarm can be mild (as it can resolve itself) or severe (requires manual intervention to reset). After four mild high pressure alarms, the severe high pressure alarm is automatically activated	Presence of high pressure abnormality due to insufficient air flow rate	Check for correct air flow rates and cleanliness status of heat exchange coils and filters
	Presence of high pressure abnormality for insufficient water flow (version I (hybrid) only	Check the correct functionality of the hydraulic circuit
		Check the temperature of the water entering the unit, refer to chapter "Sizes and versions"
		Check the static pressure of the pump serving the unit
		Check the correct water flow rate
		Check the metal mesh filter inserted in the inlet water line
	Water temperature probe failure (errors may be caused by short circuit or probe interruption)	Check the status of the water temperature probe. If the problem persists, replace the probe
"Room temperature probe alarm" or "room humidity probe alarm	Probe failure (errors may be caused by short circuit or probe interruption)	Check the status of the probe If problem persists replace display or other probes (if present) from installer menu
	The probe in use selected is not physically present	Verify that the probe set in the installer menu is correct (Probes) refer to chapter Calibration premise
Water temperature probe alarm	Probe failure (errors may be caused by short circuit or probe interruption)	Check the status of the water temperature probe. If the problem persists, replace the probe.
Flow temperature probe alarm	Probe failure (errors may be caused by short circuit or probe interruption)	Check the status of the water temperature probe. If the problem persists, replace the probe
Low water temperature abnormality	Low temperature detected by the probe water	Increase the temperature of the water supplied to the unit (Check the temperature of the water entering the unit refer to chapter "Sizes and versions")
High water temperature abnormality	High temperature detected by water probe	Decrease the temperature of the water supplied to the unit (Check the temperature of the water entering the unit refer to chapter "Sizes and versions"
Filter cleaning warning on the main Screen	Periodic filter maintenance reporting countdown has expired	Proceed with filter cleaning refer to chapter "Air filter cleaning"
Water coil freezing risk abnormality	The temperature Water or antifreeze has detected a temperature below 6 °C with risk of freezing and damage to the water coil	Check the correct operation of the extraction fan.

6.2 Alarms

Code	Name	Explanation and solution
EC (EC)	Mild compressor high pressure	It is caused by high pressure in the refrigeration circuit It is caused by insufficient airflow, check whether the rated airflow rate is met
EMA (EMA)	Lack of water	For version "I" only: the water temperature and/or flow does not allow the integration operation (refer to chapter Operating limits Operation). When this alarm is triggered, the unit terminates integration operation: check and, if necessary, reset the temperature and water flow to the unit. Then turn the unit off and on again to reset the alarm
ECS (ECS)	Severe compressor high pressure	At the occurrence of 4 EC "Mild compressor high pressure" alarms, the unit stops operation. Check and reset the temperature and water flow to the unit. Then, reset the alarm by pressing "✓". Note: It is common for the code "EMA" to appear for a few moments
EAC (EAC)	Water probe	Probe malfunction, check probe status and wiring
EVA (EVA)	Evaporation probe	Probe malfunction, check probe status and wiring
EAM (EAM)	Room probe	Probe malfunction, check probe status and wiring
ESU (ESU)	Humidity probe	Probe malfunction, check probe status and wiring
EL (EL)	Water probe minimum temperature alarm	If the set season is summer and an incoming water temperature below 7 °C is detected, this error is triggered. Bring the water temperature back within the limits of operating conditions
EH (EH)	Maximum water probe temperature alarm	If the set season is summer and an incoming water temperature above 35 °C is detected, this error is activated. Bring the water temperature back within the limits of operating conditions

7 Remove the unit from service

Warning!

Should the unit, or any part of it, be taken out of service, it must be secured to avoid creating any danger to persons.

Note

Disassembly and demolition operations must be carried out by qualified personnel.

When the unit needs to be removed and replaced, please follow the following directions:

- The refrigerant gas in it should be recovered by trained personnel and sent to collection centers.
- The compressor lubricating oil should also be recovered and sent to collection centers.
- The structure and the various components, if unusable, should be demolished and sorted according to their commodity type: this applies in particular to the copper and aluminum present in discrete quantities in the machine.

All this is done to facilitate collection, disposal and recycling centers and to minimize the environmental impact that such an operation requires.

With each replacement of any part of the unit that is subject to selective disposal, reference should always be made to the relevant local law provisions in force. Please note that it is mandatory to record the loading and unloading of special and toxic-harmful waste. Collection of special and toxic-harmful wastes must be carried out by appropriately licensed companies. Disposal of special waste and toxic-harmful waste must be carried out in accordance with the legal provisions in the user's country. When dismantling the unit, follow the requirements imposed by the laws in force in the user's country. Prior to dismantling, request the inspection of the relevant agency and the resulting record. Finally, proceed to scrapping in accordance with the legal requirements of the user's country.

7.1 Environmental protection

Caution!

Special care is recommended during maintenance operations in order to reduce refrigerant leakage as much as possible.

The regulation (EC® 2037/00) of the use of stratospheric ozone depleting substances and greenhouse gases stipulates the prohibition of dispersing refrigerant gases into the environment and obliges their holders to recover them and return them, at the end of their operational life, to the retailer or to appropriate collection centers.

Refrigerants R513A and R410A, while not harmful to the ozone layer, are mentioned among the substances responsible for the greenhouse effect and must therefore comply with the above obligations.

7.2 Management of Waste Electrical and Electronic Equipment (WEEE)

This product falls under the scope of Directive 2012/19/EU on the management of waste electrical and electronic equipment (WEEE). The equipment should not be disposed of with household waste as it is composed of different materials that can be recycled at the appropriate facilities. Inquire through the municipal authority regarding the location of ecological platforms suitable to receive the product for disposal and its subsequent proper recycling.

Also note that upon purchase of equivalent appliance, the distributor is required to take back the product for disposal free of charge.

The product is not potentially hazardous to human health and the environment, as it does not contain harmful substances as per Directive 2011/65/EU (RoHS), but if abandoned in the environment it negatively impacts the ecosystem.

Please read the instructions carefully before using the device for the first time. Absolutely do not use the product for other than its intended use, as there is a danger of electric shock if used improperly.

8 Technical data

8.1 Technical data table

Caution!

Values will vary, potentially significantly as they deviate from nominal conditions. Units equipped with ACF are outside the above values, and noise is affected by the air distribution system in operation.

Item	Unit	CEI - WAL 200		CEI - WAL 250		CEI - WAL 350	
		N	I	N	I	N	I
Dehumidification capacity - CEL[1)]	l/24h	16	16	25	25	32	32
Dehumidification capacity - WAL[1)]	l/24h	16	16	25	25	30	30
Dehumidif. Capacity w/o cool water - CEL[1)4)]	l/24h	9	-	12	-	18	-
Dehumidif. Capacity w/o cool water - WAL[1)4)]	l/24h	9	-	12	-	18	-
Nominal air flow rate	m³/h	200	200	260	260	350	350
Useful discharge static pressure - CEL 3V	Pa	40	40	40	40	40	40
Useful discharge static pressure - CEL Mod.	Pa	260	260	230	230	170	170
Useful discharge static pressure - WAL	Pa	40	40	30	30	10	10
Total cooling capacity[1)]	W	0	1356	0	1818	0	2425
Total heating capacity[5)]	W	750	750	910	910	1150	1150
Sound pressure - CEL[2)]	dB(A)	37	37	39	39	42	42
Sound pressure - WAL[3)]	dB(A)	35	35	37	37	40	40
Supply fan	nr	1					
Refrigeration Cicuits / Compressor	nr	1		1		1	
Compressor	type	Alternative		Alternative		Alternative	
Refrigerant name, class, GWP		R513A, A1, 631		R513A, A1, 631		R513A, A1, 631	
Refrigerant charge - CEL	gr	150	150	155	140	170	180
$C0_2$ equivalent charge - CEL	t	0,09	0,08	0,1	0,09	0,11	0,11
Refrigerant charge - CEL	gr	180	130	150	150	240	240
$C0_2$ equivalent charge - CEL	t	0,11	0,08	0,09	0,09	0,15	0,15
Water coil nominal flow rate	l/h	150	150	175	175	220	220
Water pressure drop	kPa	15	18	20	23	30	34
Cooling capacity supplied by the chiller	W	520	790	720	990	1150	1540
Power supply	V/ph/Hz	230/1/50					
Electrical power consumption	W	305	285	320	290	470	420
Electrical power consumption - w/o cool water	W	310	-	330	-	490	-
Compressor electrical power	W	290	270	300	270	440	390
Maximum input power	W	501	501	668	668	765	765
Absorbed current	A	1,4	1,3	1,6	1,4	2,5	2,2
Absorbed current - w/o cool water	A	1,5	-	1,7	-	2,5	-
Maximum absorbed corrent	A	3,7	3,7	3,2	3,2	5,9	5,9
Inrush corrent	A	15	15	19	19	19	19
Storage temperature limits	°C	- 10/ + 43					
Storage humidity limits	%	90					
Dimensions (A x B x H) - CEL	mm	710 x 520 x 250					
Packaging dimensions (A x B x H) - CEL	mm	800 x 600 x 270					
Dimensions (A x B x H) - WAL	mm	640 x 230 x 660					
Packaging dimensions (A x B x H) - WAL	mm	700 x 300 x 700					
Empty weight	kg	24	26	24	26	26	28
Weight with packaging	kg	26	28	26	28	28	30

1) Ambient conditions 26 °C/ 65% RH water 15 °C in total recirculation.

2) Sound pressure measured in free field at 2 m with correction factor Q= 2 according to ISO 9614, ducted (min. 2 m) with pressure of 30 Pa at factory settings (3- speed EC fan).

3) Sound pressure measured in free field at 2 m with correction factor Q= 2 according to ISO 9614, ducted (min. 2 m) with pressure of 30 Pa at factory settings (modulating EC fans).

4) "Dehumidification capacity without chilled water": "N" units can operate without cool water. Under such circumstances, however, the air coming out of the unit will be warmer than the air entering, and the dehumidifier's performance will decrease. This option is particularly useful during mid-seasons.

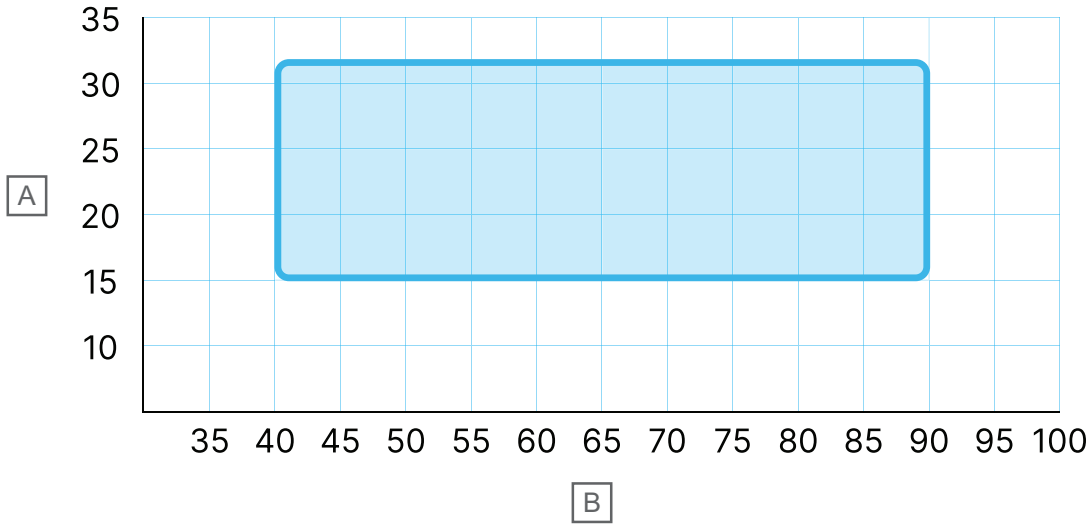
5) Winter season ambient conditions 20 °C/50% RH and water 35 °C for units version “N” and ‘I’ and nominal airflow rate.

8.2 Operating limits operation

Operating conditions

Note

These operating limits apply to both the air entering the unit and the environment in which the unit is located.



Pos.	Description
A	Indoor air temperature (°C)
B	Air humidity (%)

Inlet water temperature

Caution!

The temperature and humidity conditions of the installation site must comply with the limits indicated above In addition, dehumidifiers cannot operate without chilled water, which must meet the nominal flow rate of l/hr refer to table "Technical data table". In the event that this is not done, unit lockout will occur.

Season		
Version	**Summer**	**Winter**
N - I	8 °C - 32 °C	7 °C - 60 °C

1. For version "N" and "I":
   - If the set season is "summer" with water below 8 °C and above 32 °C, the unit will activate an alarm until the correct temperature is restored.
   - If the set season is "winter" with water below 7 °C and above 60 °C the unit will activate an alarm until the correct temperature is restored.

Failure to comply with these limits may result in damage to the unit.

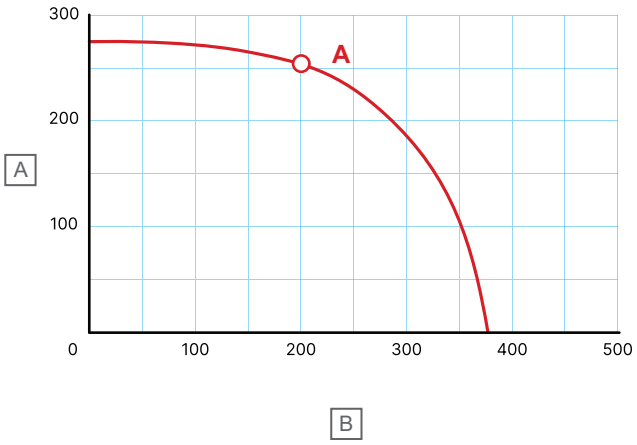
8.3 Performance curves chapter

CEI EC fan - modulating

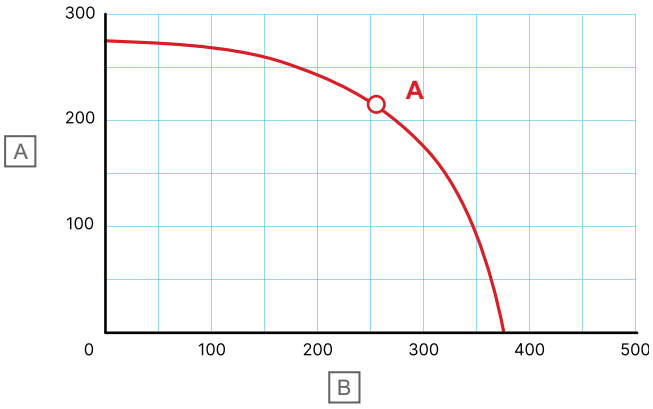
Uponor CEI Dehumidifiers are equipped with a modulating EC fan, are factory set to the average speed, which can be changed in the check this following graphs show the curves by size:

Curve "A" = Maximum limit

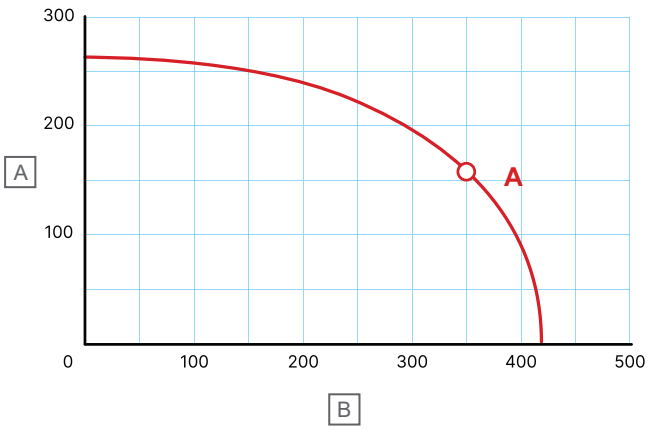
CEI 200



CEI 250



CEI 350



Pos.	Description
A	Static pressure (Pa)
B	Flow rate (m³/h)

WAL EC fan - 3 speeds

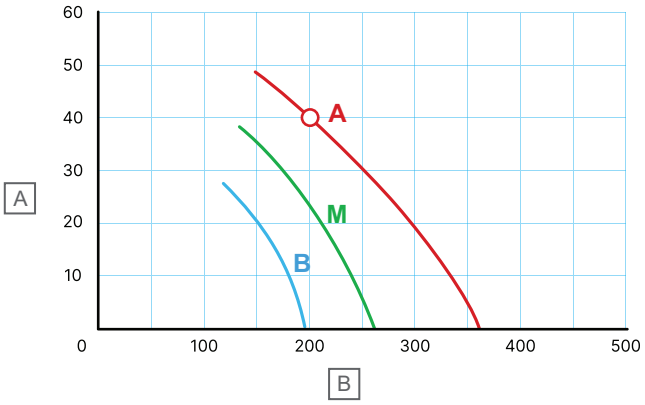
Uponor WAL units, equipped with a 3-speed EC fan, are factory set to medium speed. (Can be changed in the installer menu). The following graphs show the curves by size:

Curve "A" = High speed

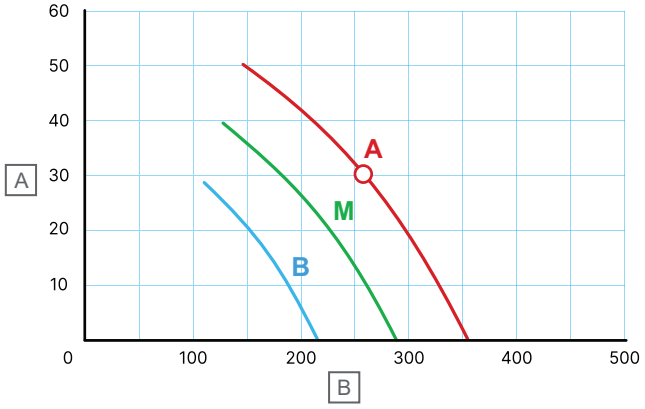
Curve "M" = Medium speed

Curve "B" = Low speed

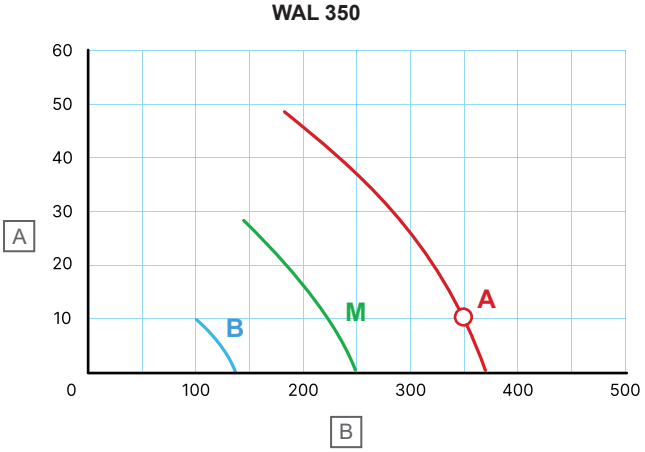
WAL 200



WAL 250



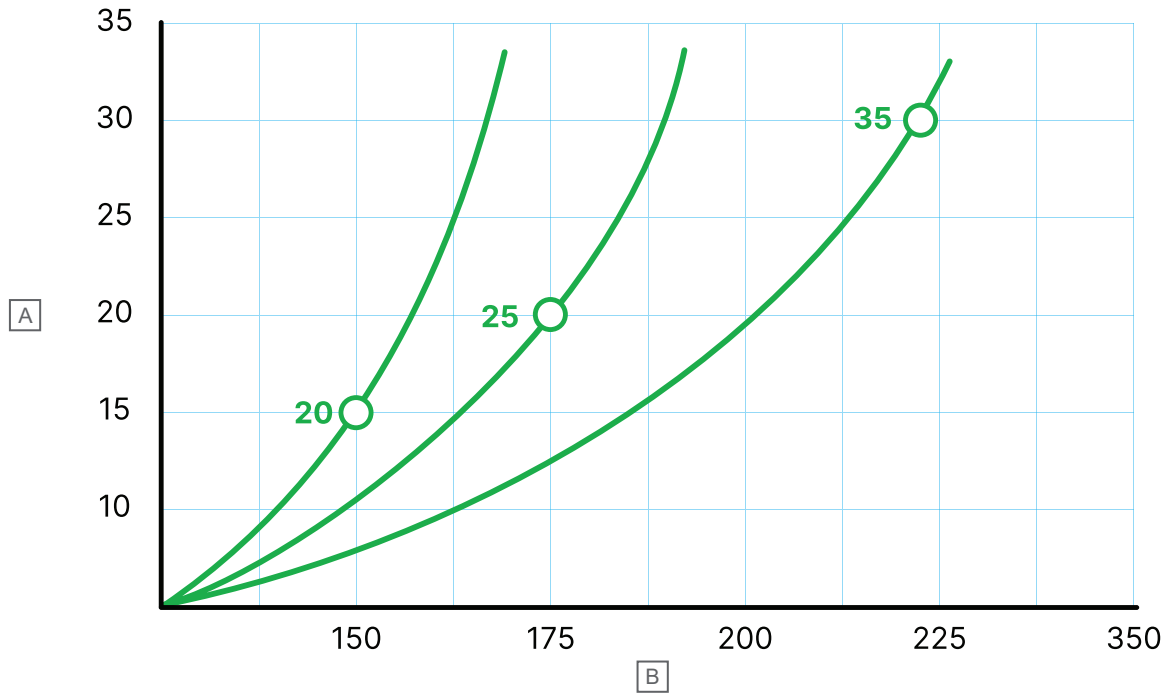
WAL 350



Pos.	Description
A	Static pressure (Pa)
B	Flow rate (m³/h)

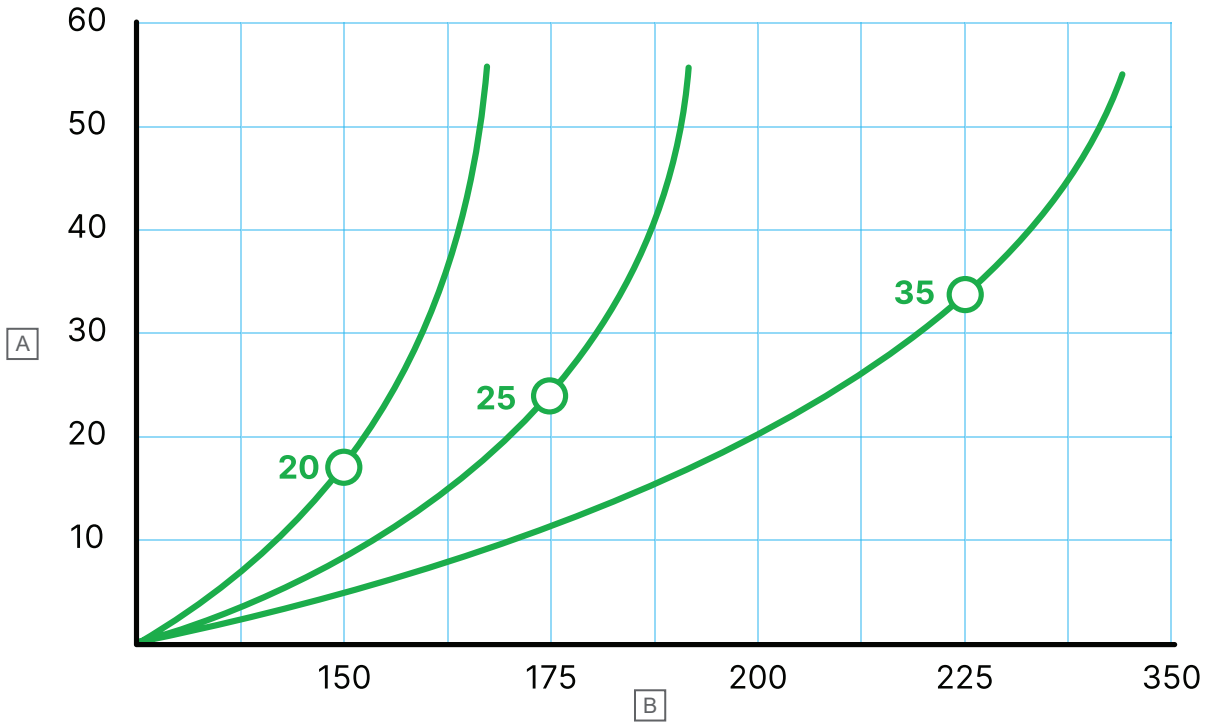
Hydraulic circuit

Neutral isothermal version - N



Pos.	Description
A	Hydraulic circuit pressure drop (kPa)
B	Water flow rate (l/h)

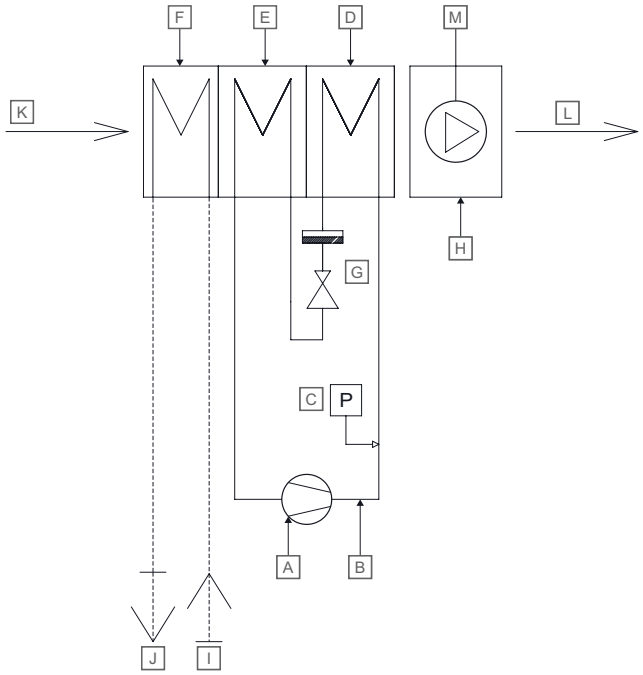
Cold-integrated version - I



Pos.	Description
A	Hydraulic circuit pressure drop (kPa)
B	Water flow rate (l/h)

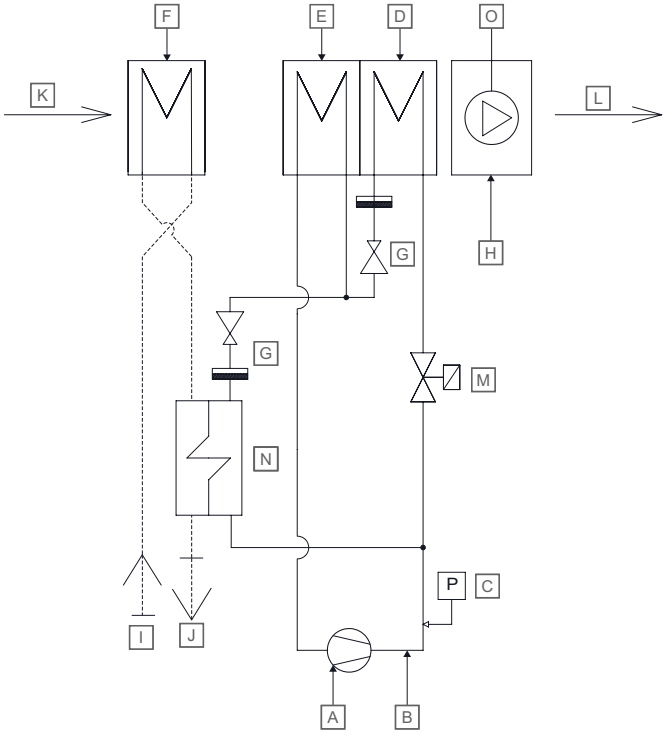
8.4 Hydraulic scheme

Functional diagram isothermal version - N



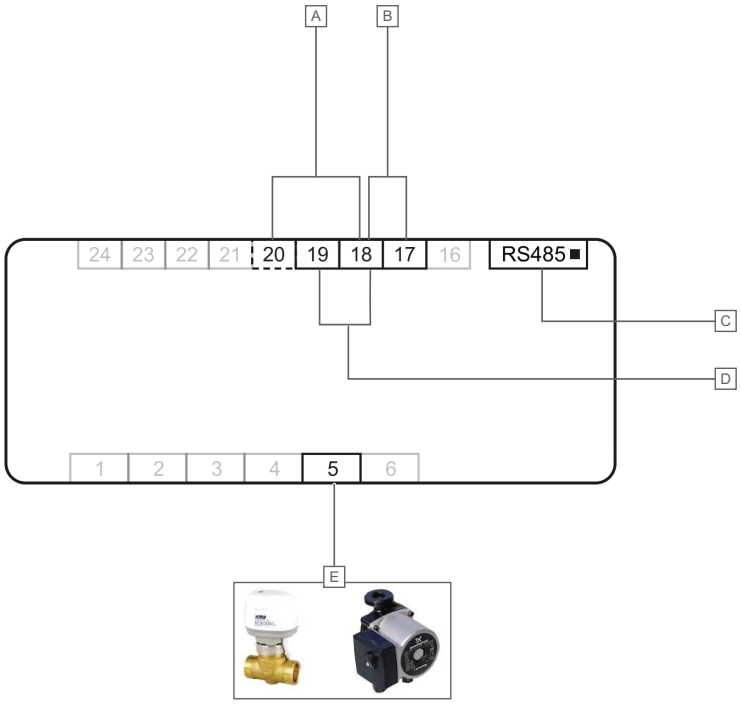
Pos.	Component
A	Compressor
B	Charging socket
C	Pressure switch
D	Condensing battery
E	Evaporating coil
F	Water pre-cooling coil
G	Filter dryer
H	Laminating organ
I	Water inlet
J	Water outlet
K	Air inlet
L	Air outlet
M	Fan

Functional diagram version with cold integration - I



Pos.	Component
A	Compressor
B	Charging socket
C	Pressure switch
D	Condensing battery
E	Evaporating coil
F	Water pre-cooling coil
G	Filter dryer
H	Laminating organ
I	Water inlet
J	Water outlet
K	Air inlet
L	Air outlet
M	Solenoid valve
N	Plate heat exchanger
O	Fan

8.5 Electrical panel



Pos.	Description
A	Thermostat or inlet air temperature sensor (I version only)
B	Humidistat
C	Modbus connection (RS485 serial adapter required)
D	Ventilation start or season mode (I version only)
E	Water valve or pump (230V, max 1 A)

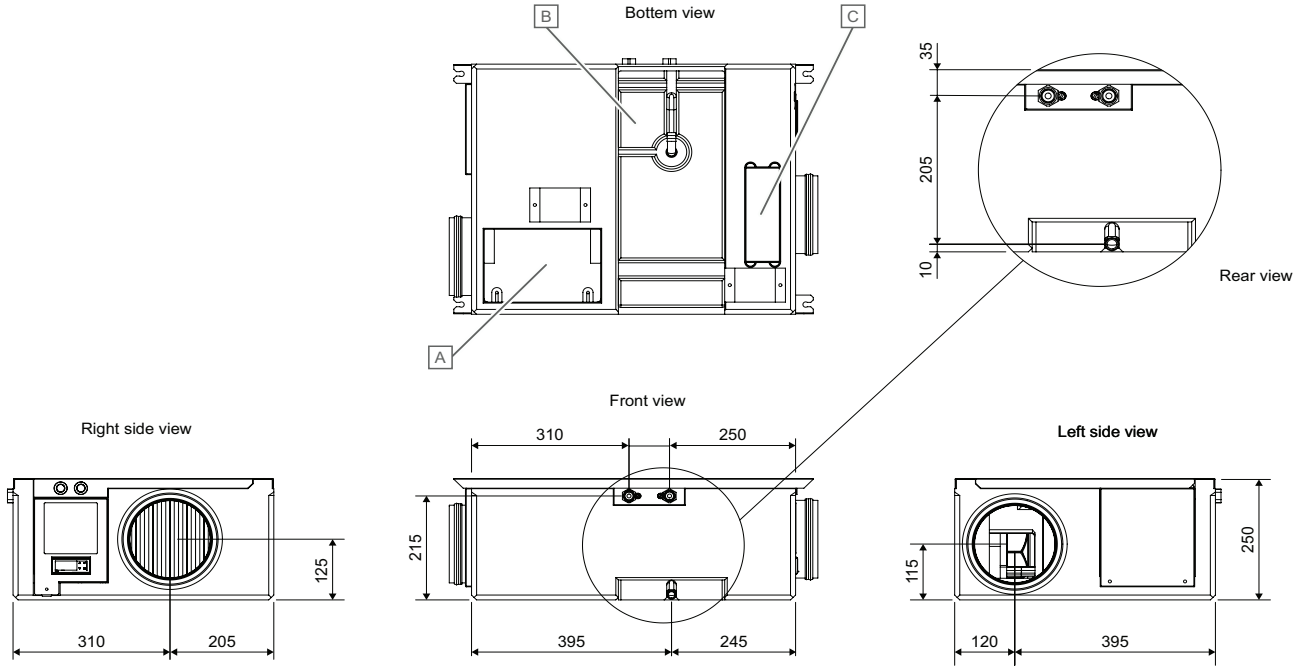
Touch display

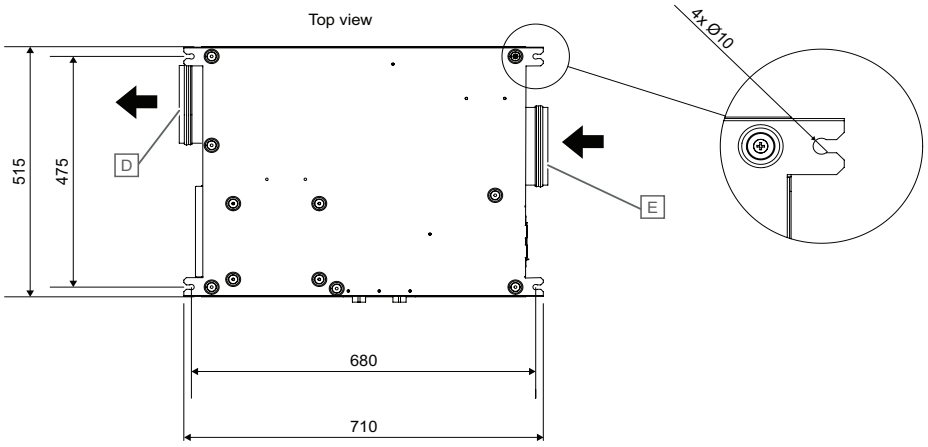
The electrical panel is made and wired in accordance with the regulations indicated in the declaration of conformity.

An overload protection devices shall be installed in the electrical system. All remote controls are made with extra-low voltage signals, powered by an isolation transformer. For more information and installation guide of electrical connections, please refer to chapter Power supply and access to the electrical panel.

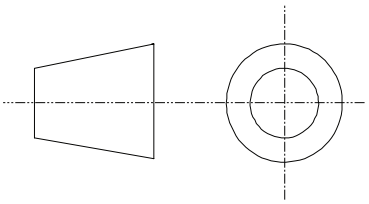
8.6 Dimensional drawings

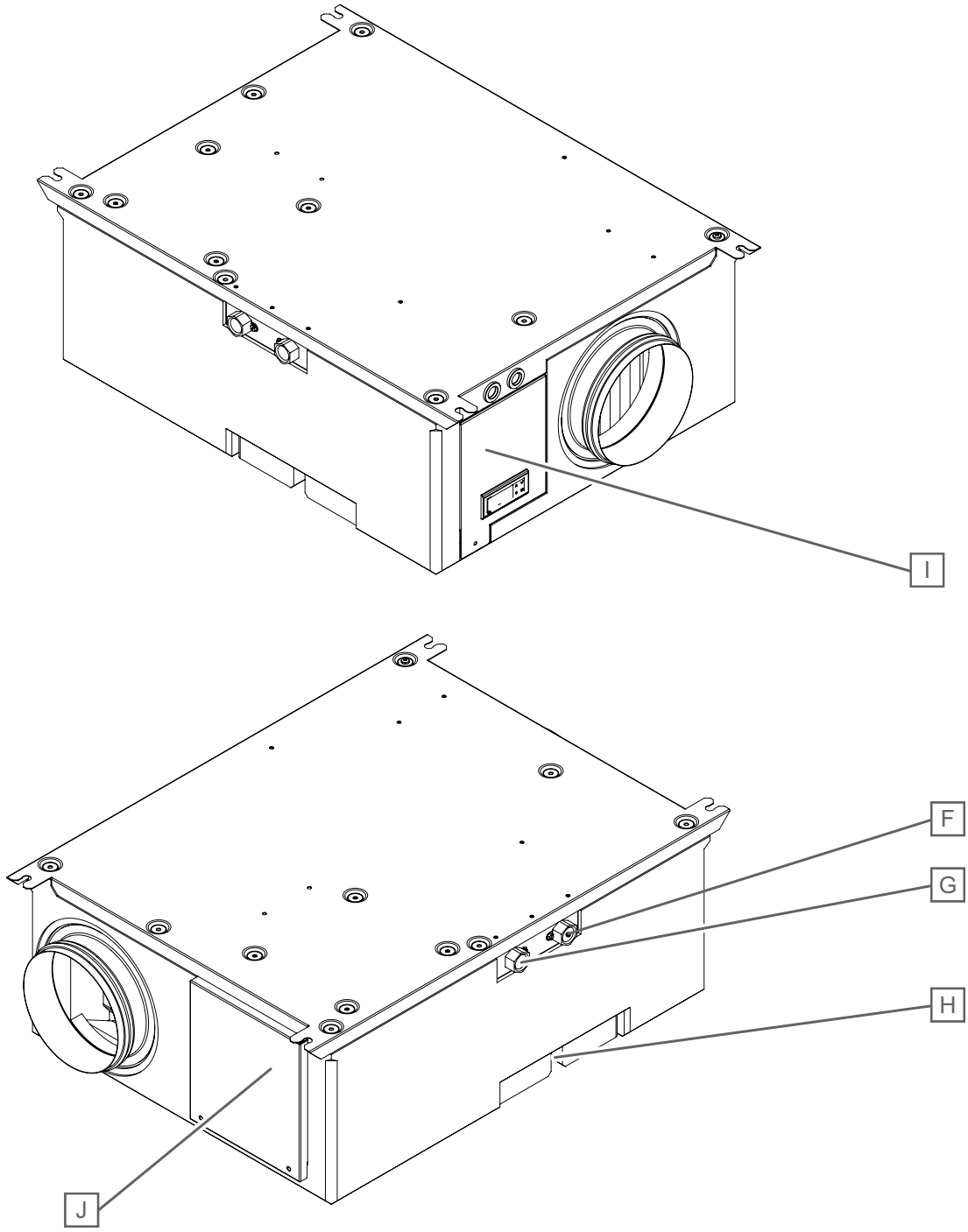
CEI Dehumidifier (Unit only)





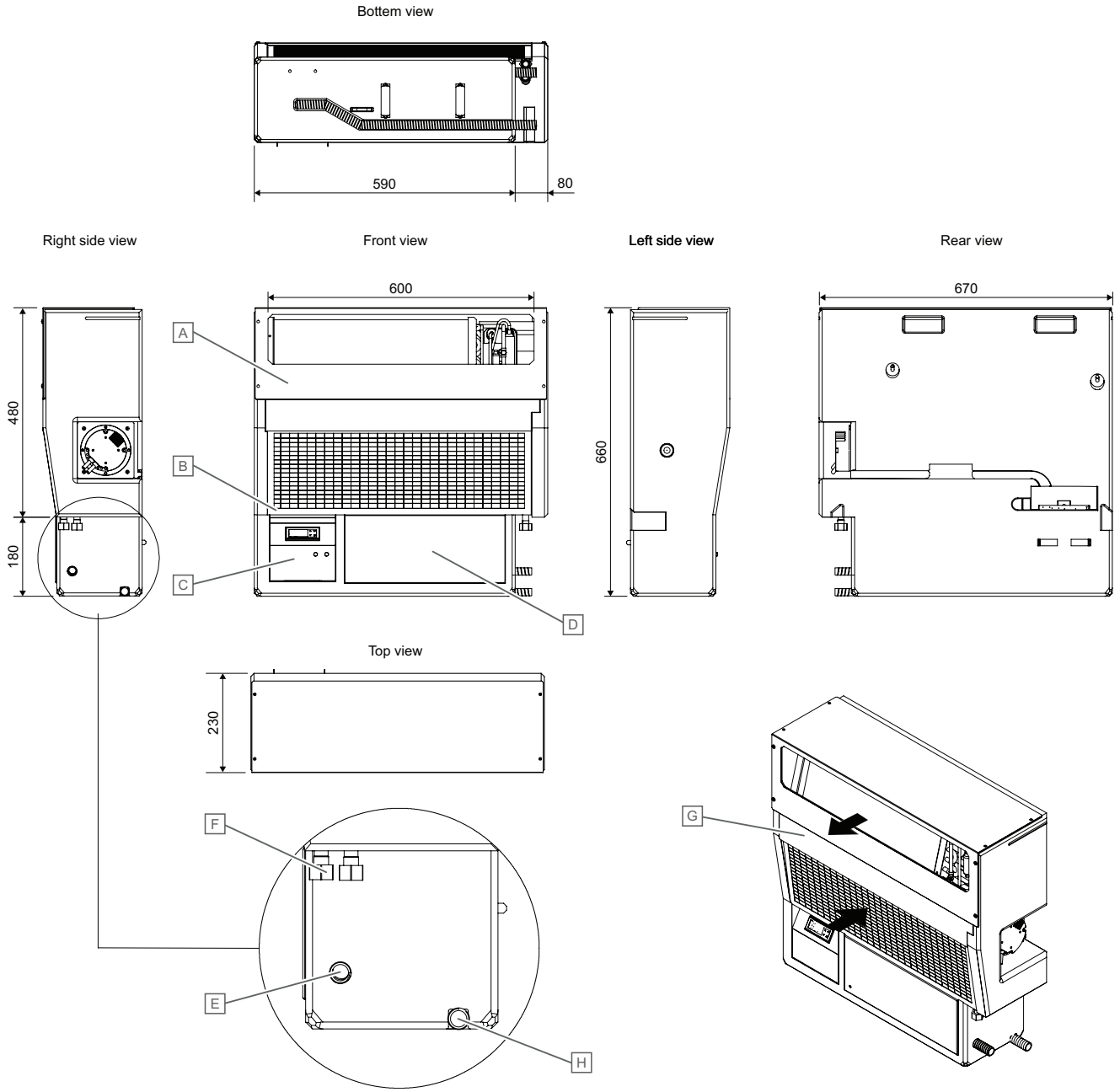
Size nozzles		
Size	**D** **Ø (mm)**	**E** **Ø (mm)**
20	160	160
25	160	160
30	180	180
35	180	180



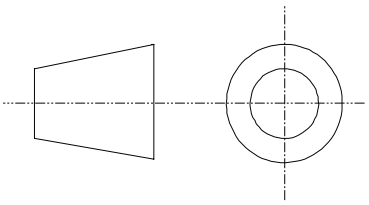


Pos.	Description
A	Inspection/maintenance panel fan
B	Inspection/maintenance panel condensate drain
C	Inspection panel/air filter maintenance
D	Indoor air delivery
E	Fresh air inlet
F	Water inlets from radiant system 1/2" femele BSP thread (N - I)
G	Water outlets to radiant system 1/2" female BSP thread (N - I)
H	Condensate drain
I	Electrical panel
J	Inspection/maintenance panel compressor

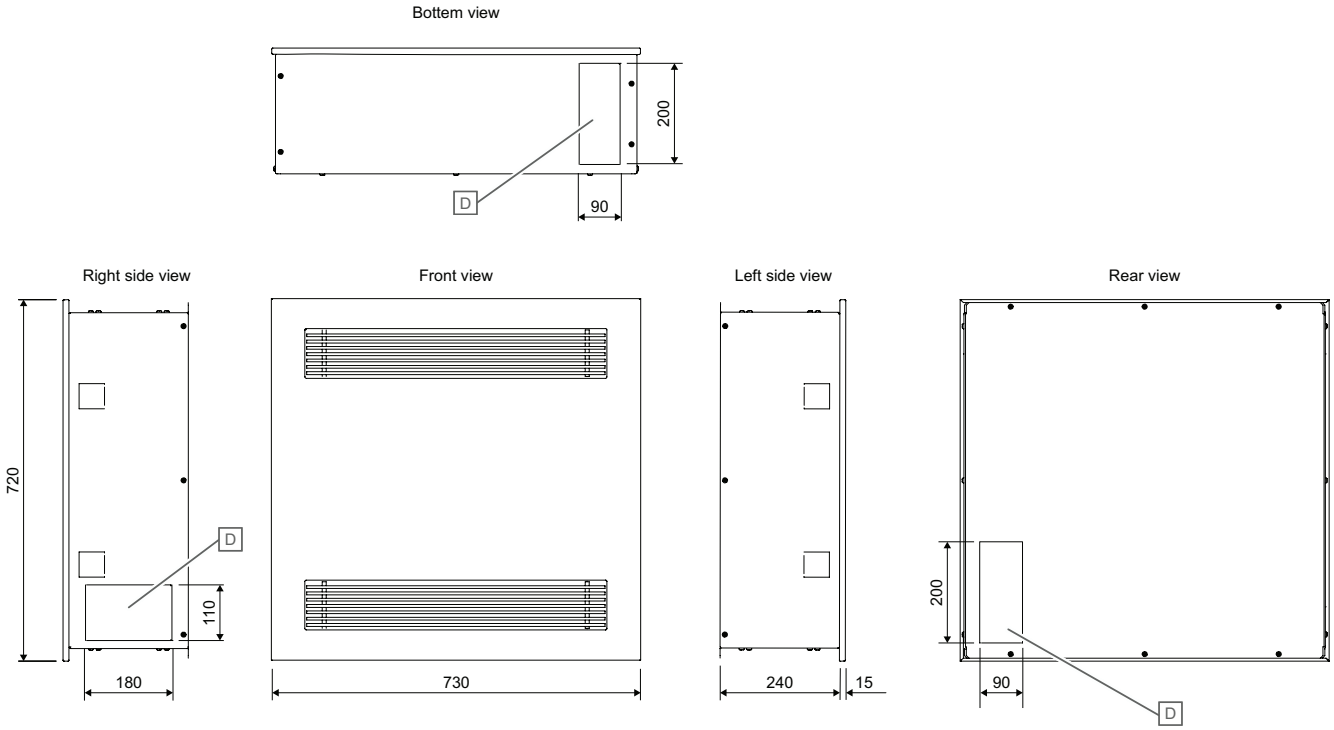
WAL dehumidifier (Unit only)

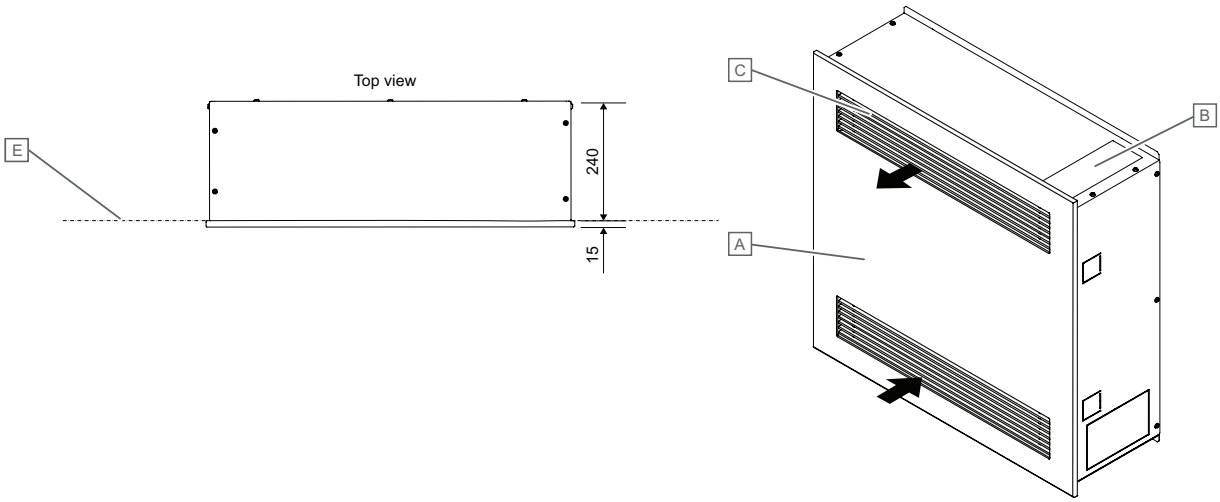


Pos.	Description
A	Air delivery from the enviroment
B	Air filter
C	Electrical panel
D	Inspection/maintenance panel
E	Condensing drain
F	Radiant system connections 1/2" F BPS thred
G	Consensate drain tay
H	Condensate drain

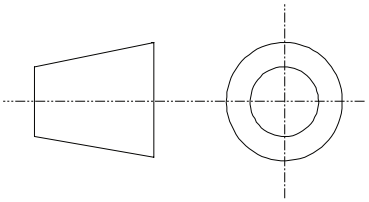


WAL recessed formwork + cabinet

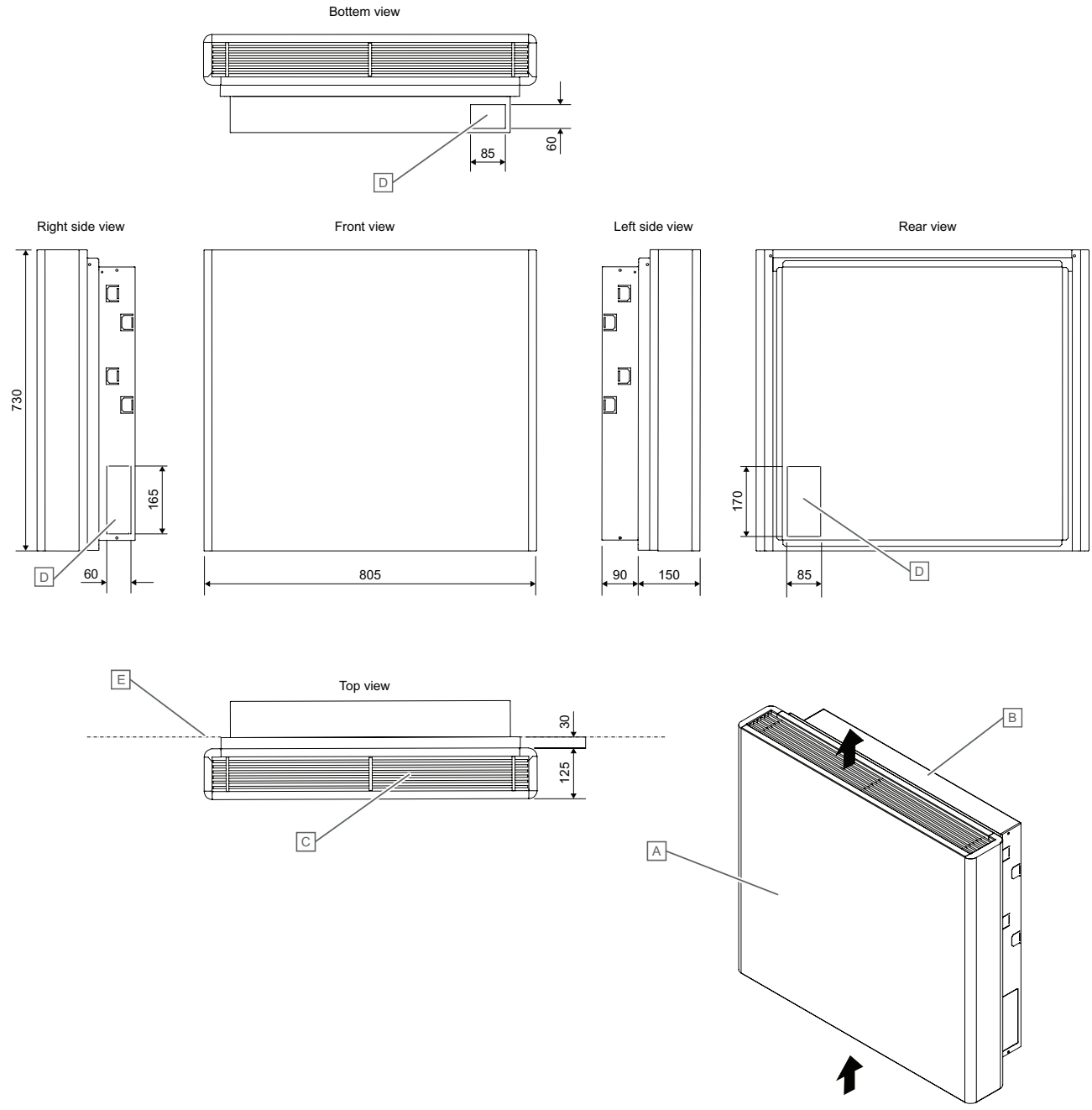




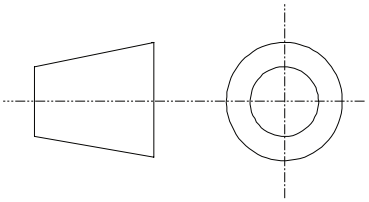
Pos.	Description
A	Cover panel
B	Standard formwork
C	Grid
D	Preparation for external connections
E	Muro wall



WAL semi recessed formwork + cabinet



Pos.	Description
A	Aesthetic slim cover
B	Slim formwork
C	Grid
D	Preparation for external connections
E	Muro wall



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