CASA Climate CCF a

Installation - Commissioning - Maintenance

18/09/2023
Art. 942428064

Contents

The document was originally written in Swedish

Application area

The product is a comfort module, designed to create a comfortable and healthy indoor climate in homes all year round. It can be used for heating, cooling and ventilation.

The product may not be used for anything other than its intended use.

General

Read through this entire document before you install/use the product and save the instructions for future reference. It's not permissible to make changes or modifications to this product other than that specified in this document.

Safety equipment

Always use appropriate personal protective equipment for the work in question, in the form of gloves, respirators, protective glasses and helmets during handling, installation, cleaning and service/maintenance.

Handling

The product must be handled with care. Do not touch the product's coil heat exchanger, as its fins are thin and sensitive.

Installation

- Assemble the product according to this instruction and applicable industry regulations.
- Moist, cold and aggressive environments must be avoided.
- Avoid installing the product near a heat source.
- Check to make sure that the product does not have any visible defects.
- Check that the product is properly secured after it has been installed.
- Check that any accessories, such as actuators, are properly secured in place after installation.

Cleaning

When cleaning the product's grille, avoid aggressive cleaning agents which may harm painted surfaces. A mild soap or alcohol solution is normally fully adequate for cleaning, or a vacuum cleaner nozzle that does not cause scratches.

CASA Climate CCF needs to be inspected once or twice a year, and if necessary cleaned of dust. This is best done at the same time as changing the filters in the air handling unit. When inspecting, check for any obvious dust on the product's coil.

In the case of ceiling installation, perform inspection through the product's grille using a torch. For cleaning, the grille must be unscrewed. The coil can then be dusted using a feather duster, which is then cleaned with a vacuum cleaner. Alternatively, vacuum clean the coil directly.

In the case of floor mounting in a cabinet with a double bottom, remove the upper panel for inspection and possible cleaning of the coil with a vacuum cleaner. At the area around the water pipes, a feather duster can be used to provide better access. See the "Maintenance" section in this manual for further information. The coil is marked in blue in the images in this section.

Service/maintenance

- In connection with a service, mandatory ventilation inspection or cleaning of the ventilation system, check that the general condition of the products looks ok. Pay particular attention to the suspension, cables and that they sit firmly in place.
- It is not permissible to open or repair electrical components.
- If you suspect that the product or a component is defective, please contact Swegon.
- A defective product or component must be replaced by an original spare part from Swegon.

Environment and waste disposal

Help to protect the environment by ensuring correct disposal of the packaging and use the products in accordance with applicable environmental regulations.

Product warranty

The product warranty or service agreement will not be valid/will not be extended if: (1) the product is repaired, modified or changed, unless such repair, modification or change has been approved by Swegon AB; or (2) the serial number on the product has been made illegible or is missing.

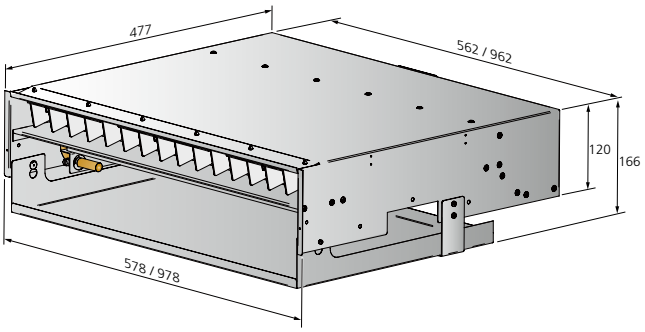
Dimensions and weight

Weight

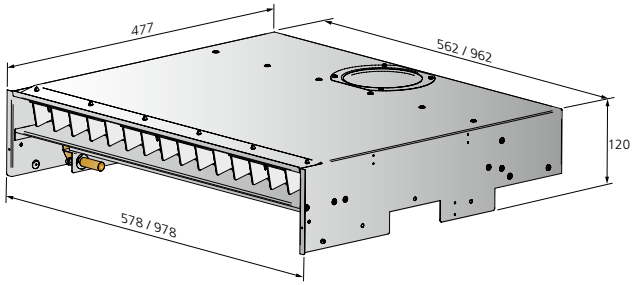
Table 5. Data - water volume & weight

Length	Dim.	Dry weight* (kg)			Water volume
mm	Ø	excl. grille	incl. 166 grille	incl. 196 grille	(l)
600 excl. leakage indicator	100	5.0	5.3	5.4	0.51
600 incl. leakage indicator	100	6.2	N/A	6.6	0.51
1000 excl. leakage indicator	100	8,4	N/A	9,1	0,87
1000 excl. leakage indicator	100	10,4	N/A	11,	0,87

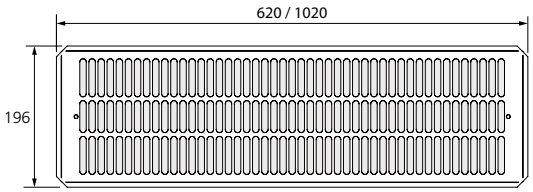
Dimensions



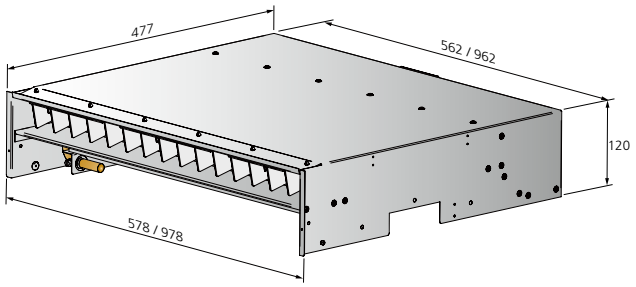
Dimensional drawing excl. grille, incl. leakage indicator, sleeve connection side 2.



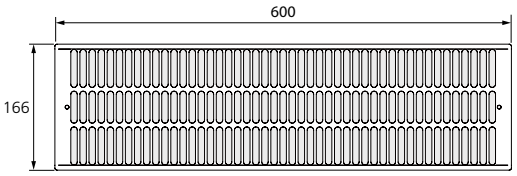
Dimensional drawing excl. grille & leakage indicator, sleeve connection side 5.



Dimensional drawing grille 196.



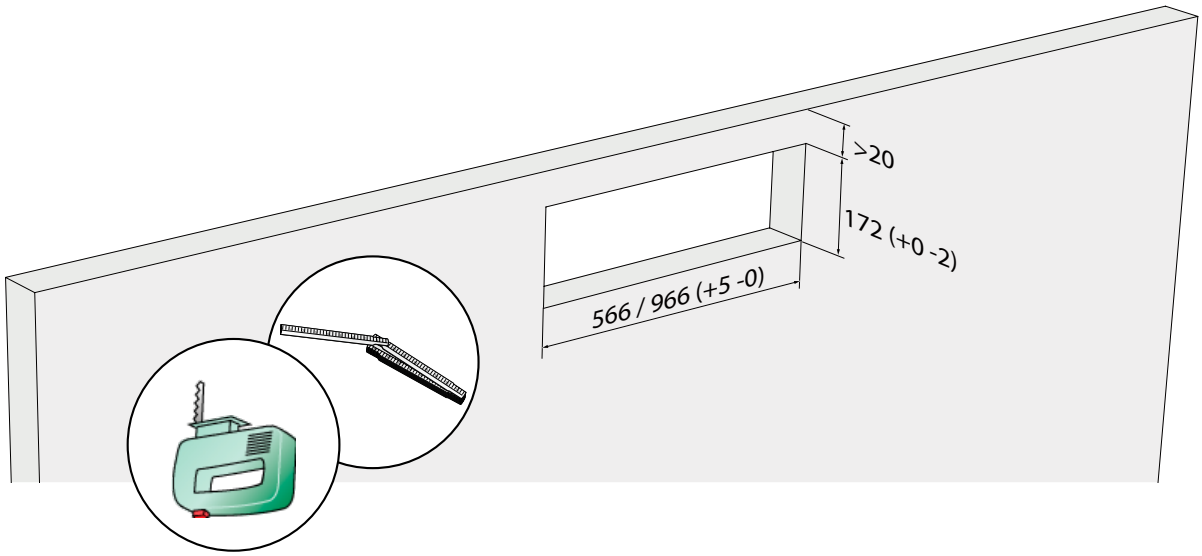
Dimensional drawing excl. grille & leakage indicator, sleeve connection side 2.



Dimensional drawing grille 166.

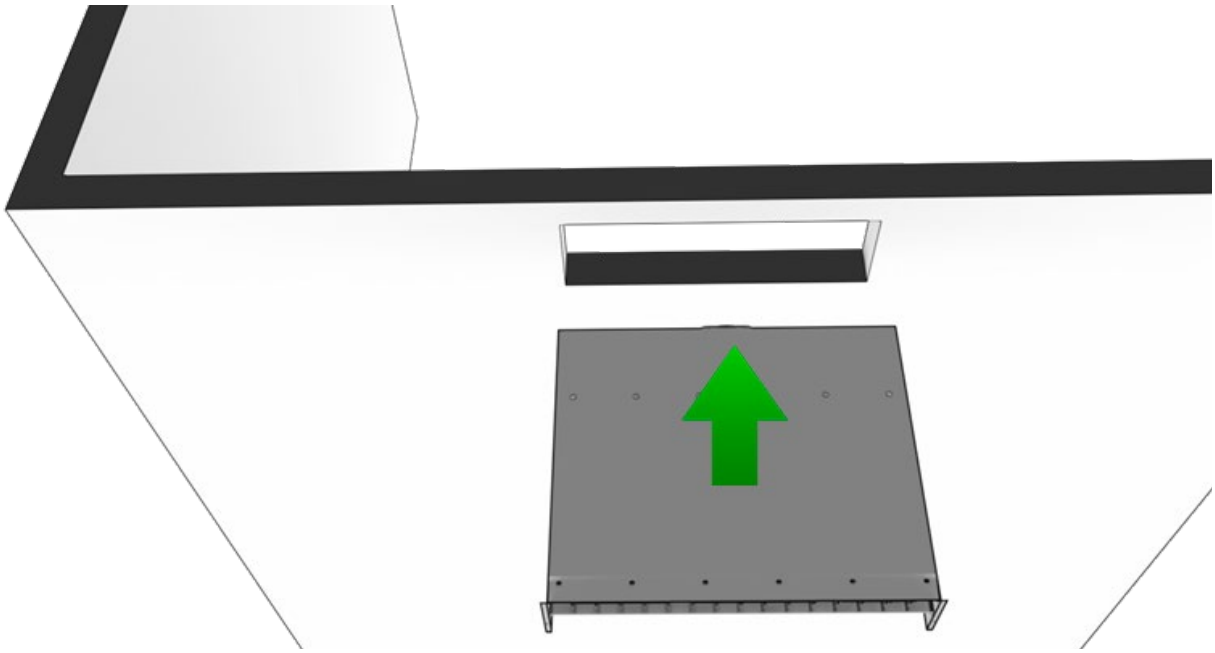
Mounting

Size of needed cutout

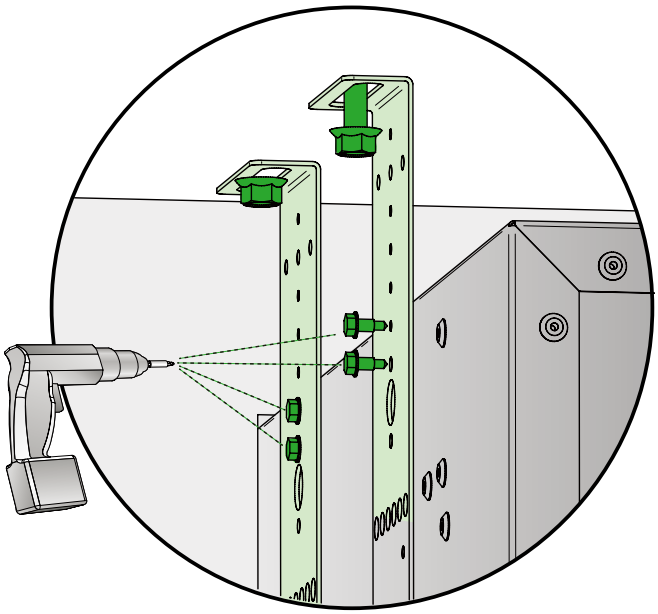


Anchoring, ceiling

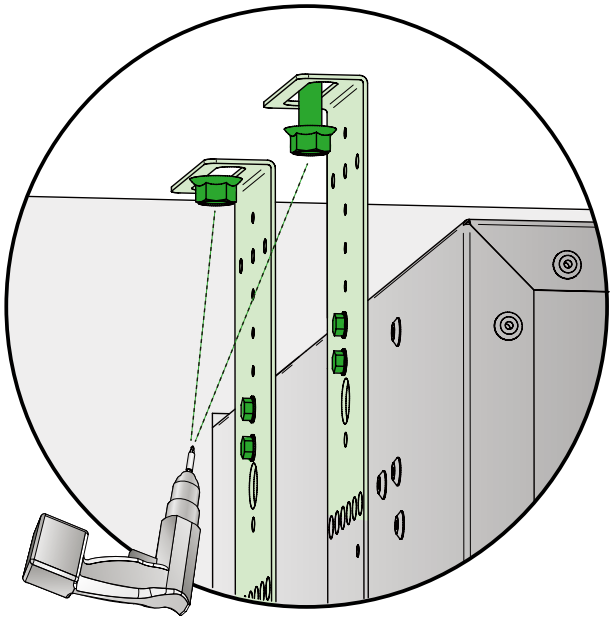
1) Push the product through the wall from the front.

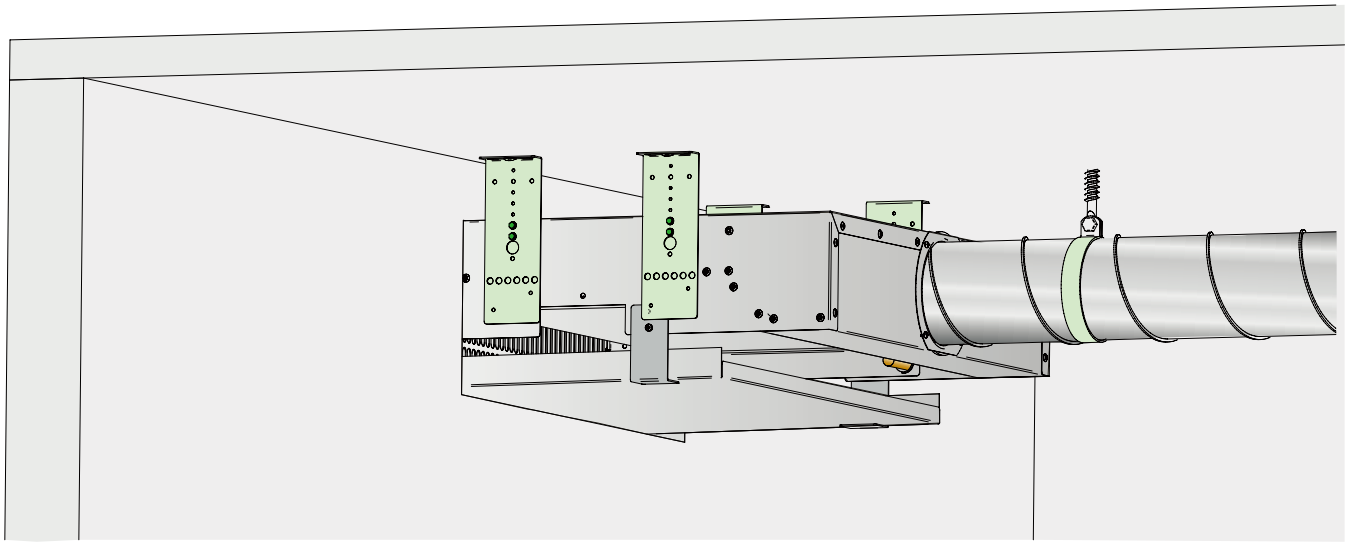


2) Screw the 4 brackets onto the product with the included hexagonal screws, in the pre-punched holes on the sides of the product.

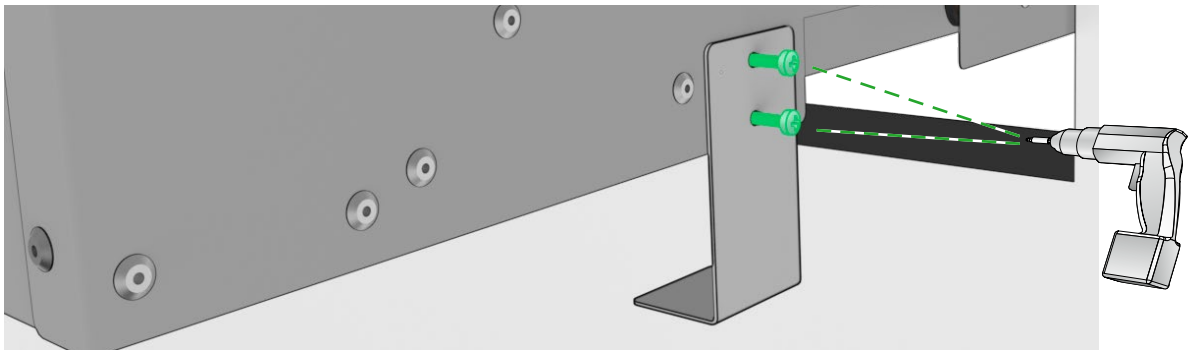


3) Screw the brackets into the overlying ceiling with suitable screws.

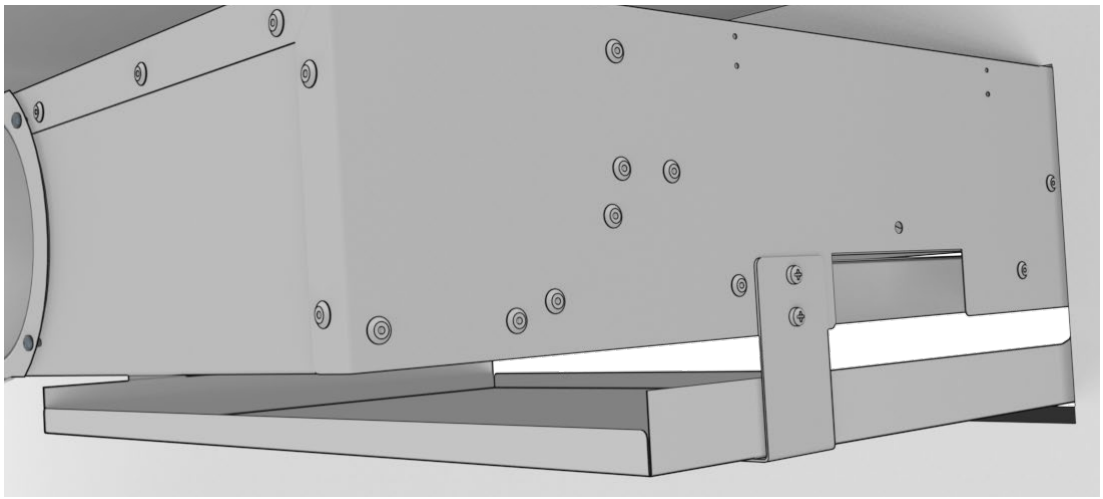




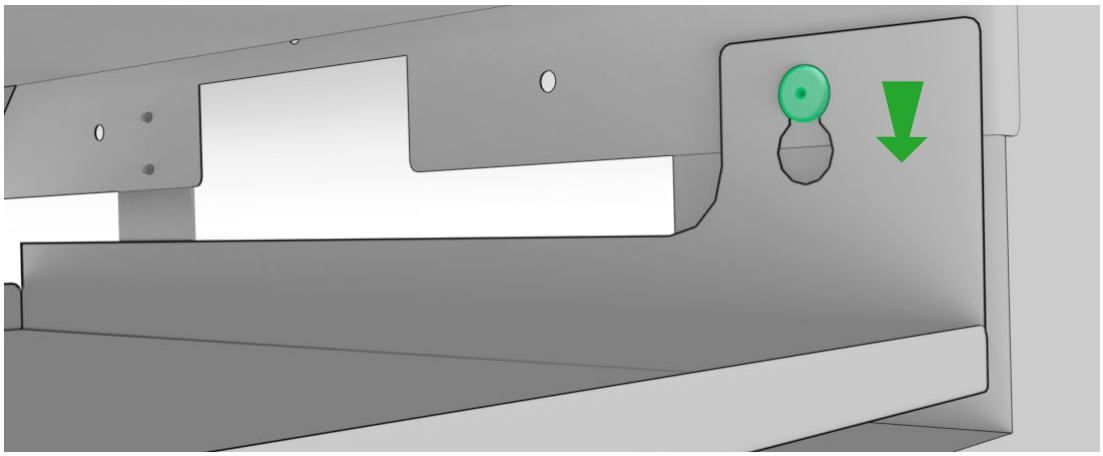
4) If a leakage indicator is to be installed, screw its brackets into place with the included screws, in the pre-punched holes in the product.



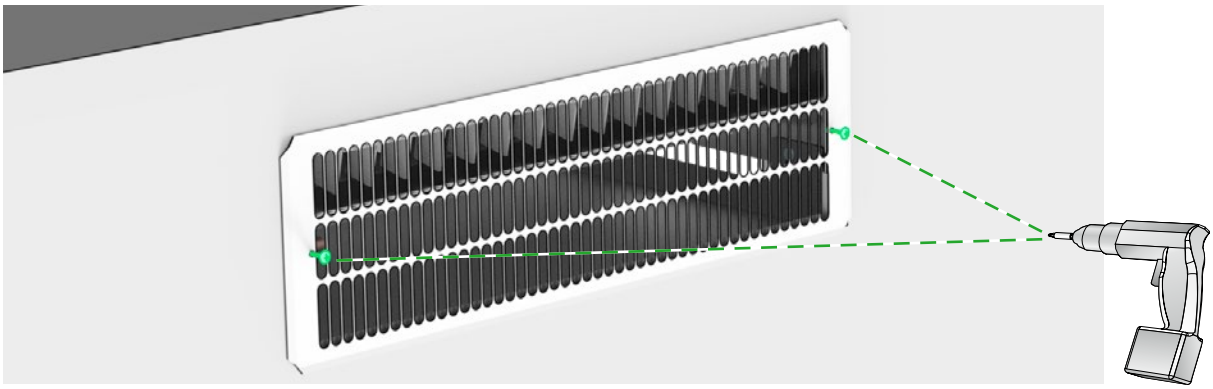
5) Push the leakage indicator into place so that it rests on top of the brackets at the rear edge.



6) Hang the leakage indicator at the front edge with the keyholes and the spacer rivets on the inside of the product.

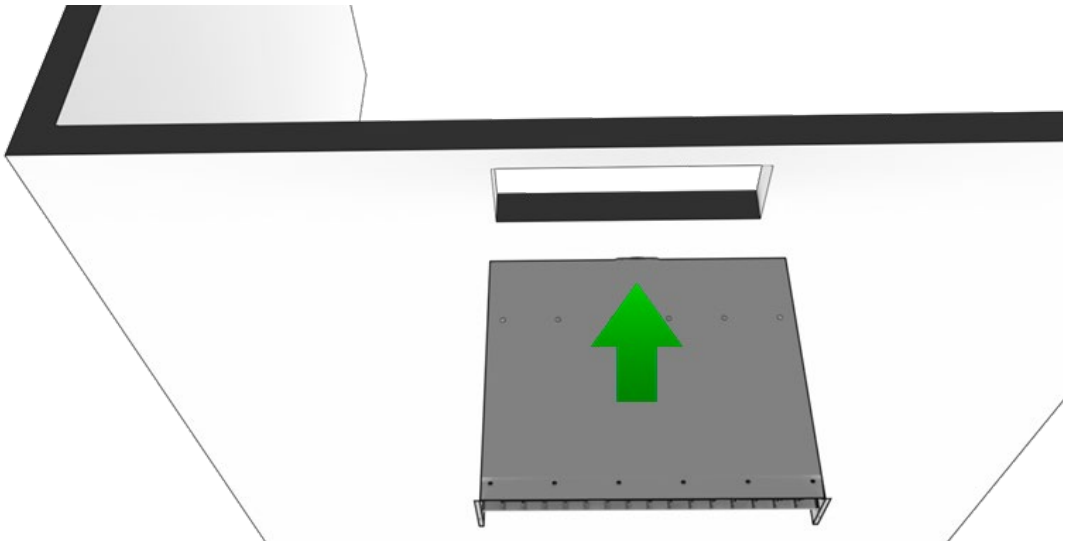


7) Finally install the grille with the 2 included screws (PH2).

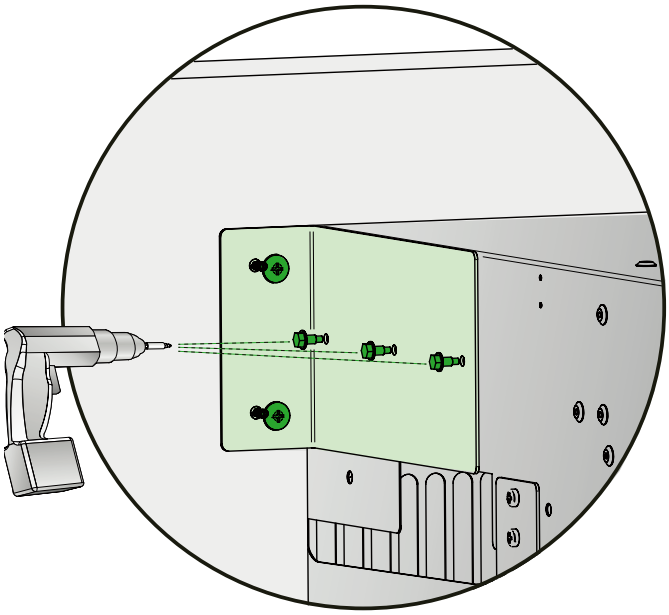


Anchoring, wall

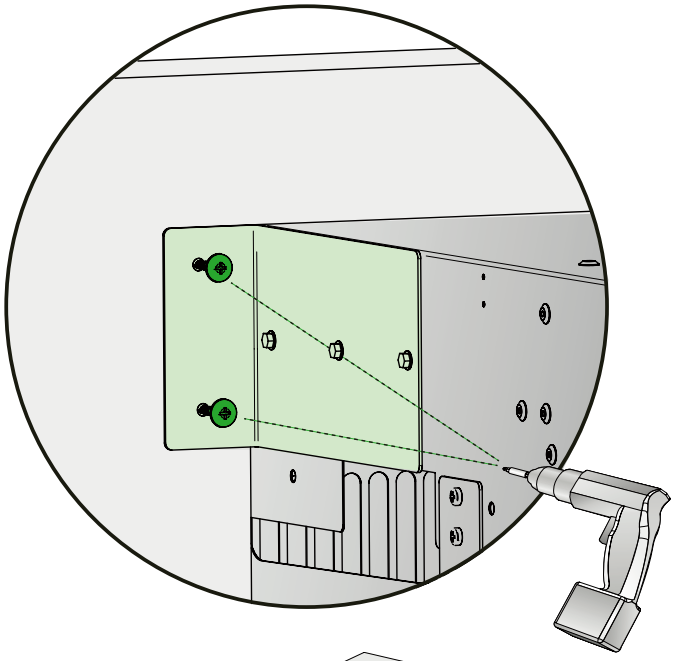
1) Push the product through the wall from the front.

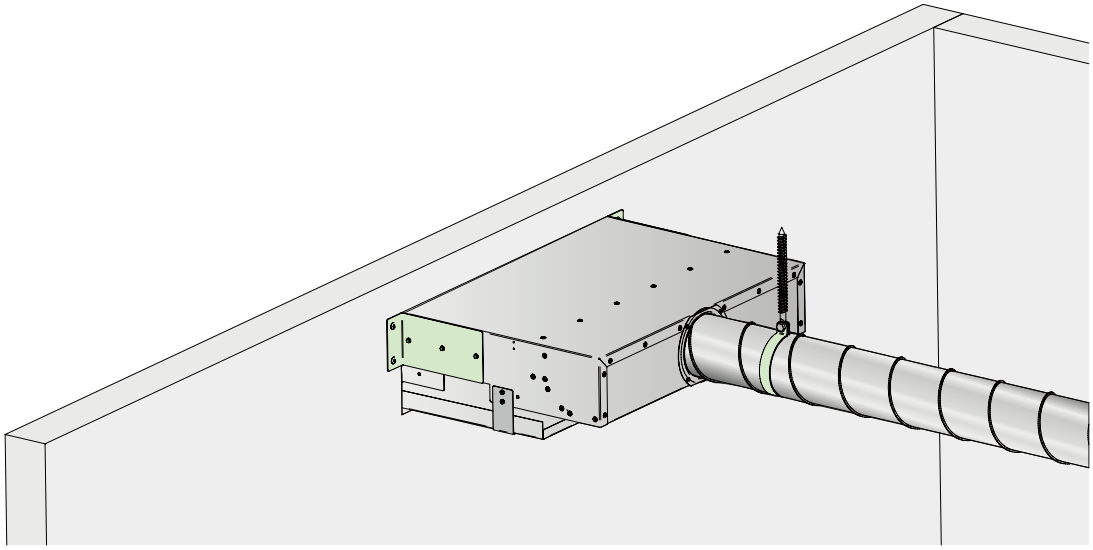


2) Mount the mounting brackets on the product so that their upper edge is level with the upper edge of the product.

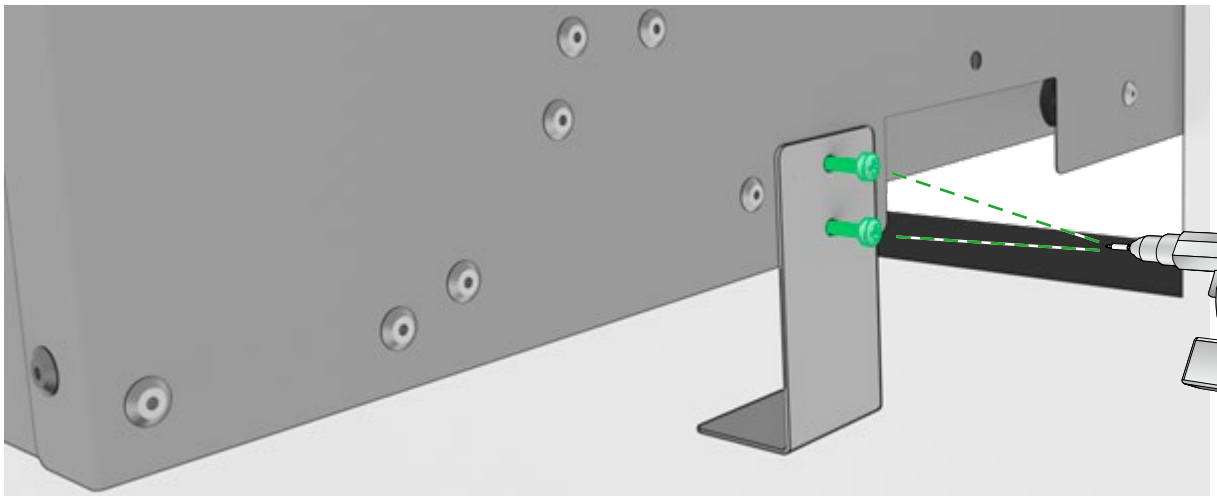


3) Screw the brackets and the product into place in the wall. Use a spirit level to get the product horizontal.

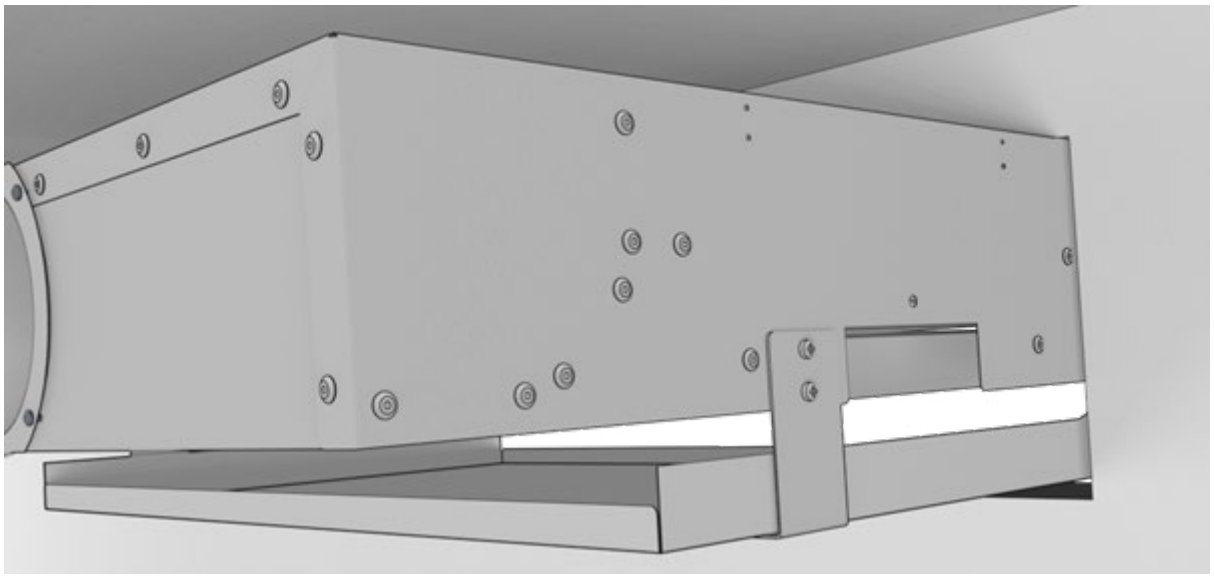




4) If a leakage indicator is to be installed, screw its brackets into place with the included screws, in the pre-punched holes in the product.



5) Push the leakage indicator into place so that it rests on top of the brackets at the rear edge.

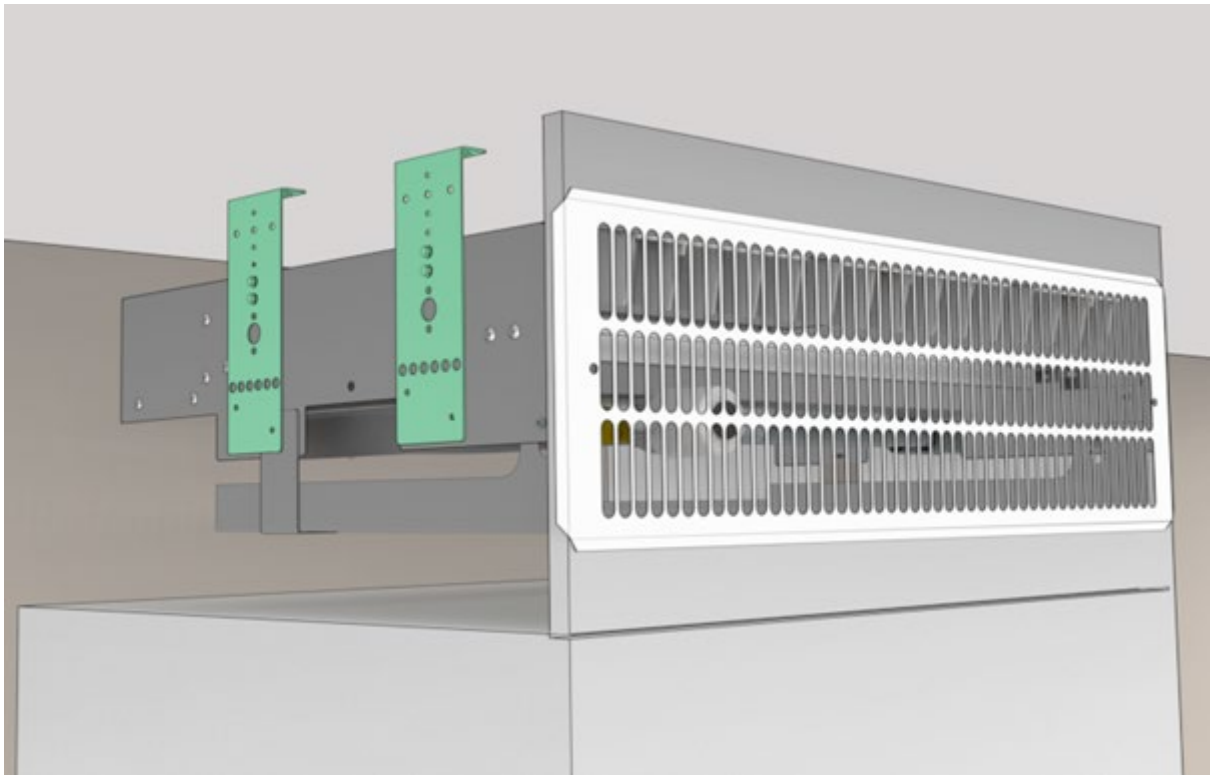


6) Hang the leakage indicator at the front edge with the keyholes and the spacer rivets on the inside of the product.

7) Finally install the grille with the 2 included screws (PH2).

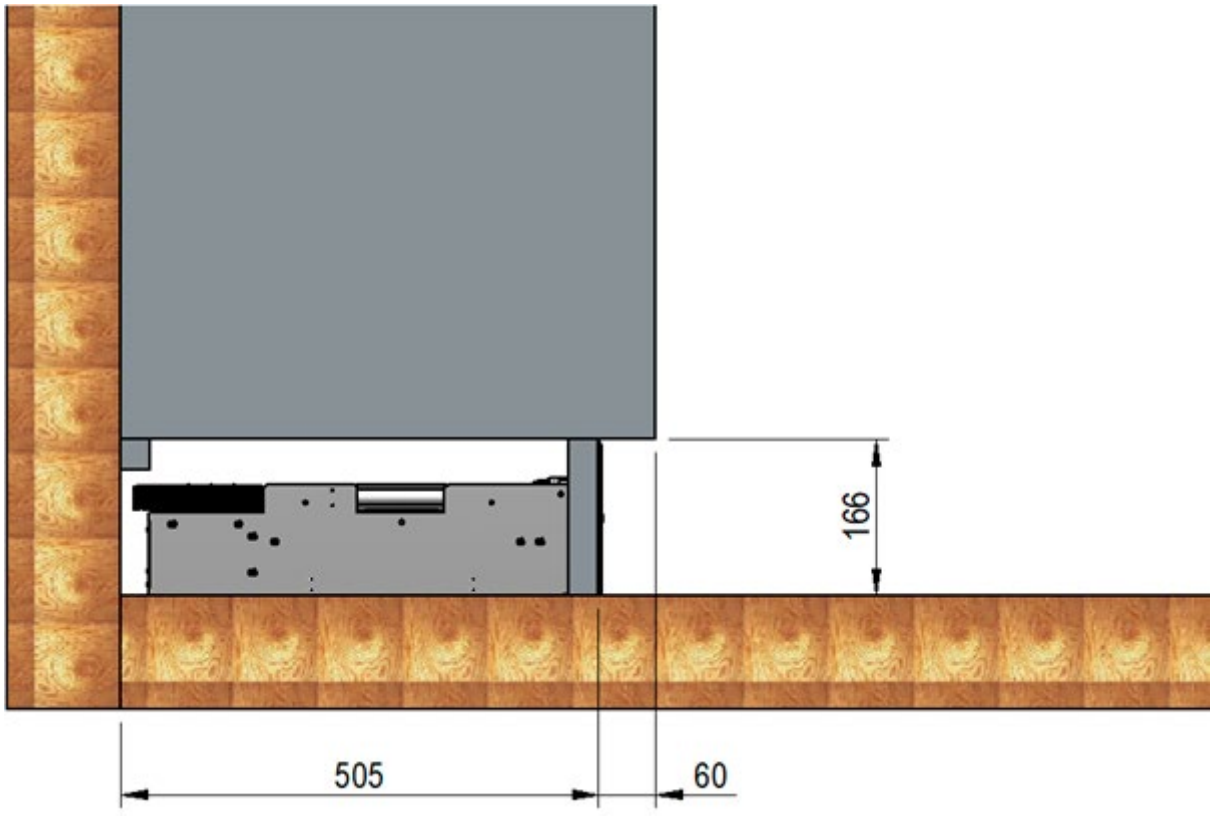
Mounting on top of tall cabinet

When installing on top of a tall cabinet, the ceiling mounting brackets can be used. These must be facing inwards. The product must be turned with the coil heat exchanger facing down. Install an extra, full panel on either side of the tall cabinet, going all the way up to the ceiling to conceal the product. Also cut out a suitable front panel that the product is pushed through, and that the grille lies against.



Floor mounting

When installing in a cabinet base, cut out the bottom cabinet panel for access to the product, and place a new panel on top of the cut out panel (double bottom).

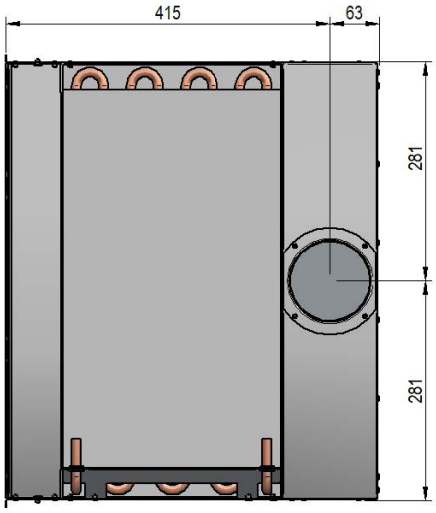


Connections

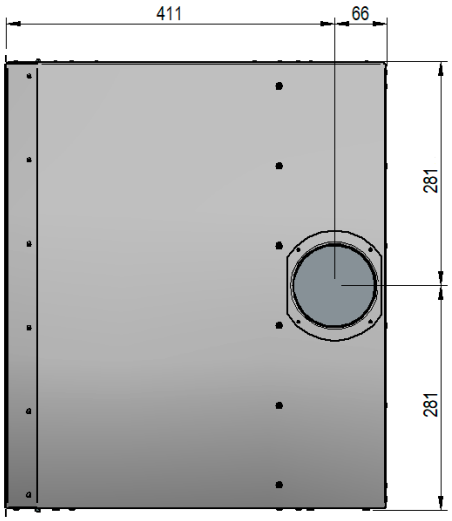
Connection – Air

All variants have air connection Ø 100, and it can be delivered as rear-, top- or bottom connection. The connection is a sleeve and requires that the connecting ventilation pipe has a nipple connection.

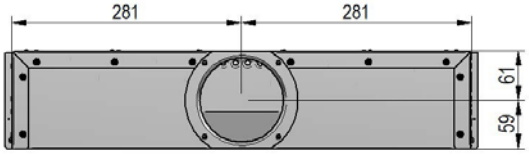
Note that the ventilation duct must not be suspended from the product's connecting sleeve, rather it must be suspended with its own mounting points. The duct must also be in level with the sleeve on the product, to ensure there are no ruptures that can give rise to leaks and noise.



Measurements CASA Climate CCF 600, air connection page 6. For 1000 length, the 281 measurement changes to 481.



Measurements CASA Climate CCF 600, air connection page 5. For 1000 length, the 281 measurement changes to 481



Measurements CASA Climate CCF 600, air connection side 2. For 1000 length, the 281 measurement changes to 481.

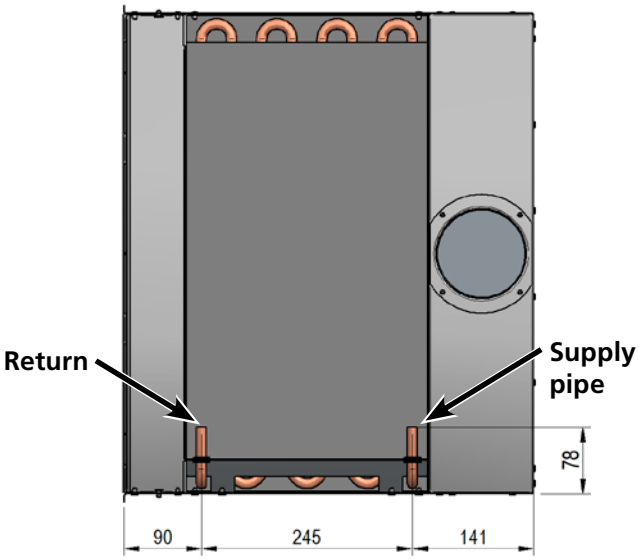
Connection – Water

The product is supplied without any factory-fitted valves or water connections.

The product's connection pipe: Plain pipe ends (Cu) Ø 12 x 1.0 mm

Connect the water pipes using push-on couplings, compression couplings or press couplings. Do not use solder couplings to connect the water pipes. High temperatures can damage the unit's existing soldered joints.

Note that compression couplings require support sockets inside the pipes.



Dimensions CASA Climate CCF, water connection.

Pipes must not apply a load on the product's connection pipe. Consequently, pipes must be suspended from their own anchoring points, as otherwise there is a risk of water leaks. In accordance with AMA VVS & Kyla 19, Table AMA PN/2 and PN/4, the following distances between anchoring points must be maintained:

Table 4. Distance between anchoring points depending on type of pipe.

Type of pipe	Horizontal pipe	Vertical pipe
	(m)	(m)
Steel pipes up to and including DN20	1.25	2.0
Plastic pipes up to and including DN20	0.5	0.5
Copper pipes and thin-walled steel pipes up to and including DN12	0.6	0.8

Before commissioning

The product's dust protection packaging must be removed before commissioning. The system must be pressure tested before commissioning, up to 900 kPa. In the event of a leakage due to defects in the products, Swegon covers the cost of replacement or repair of the product. Any other costs or consequent damage that arises prior to pressure testing or due to pressure testing being neglected or occurred too late will not be reimbursed by Swegon. Remember, pressure testing is a safety precaution to ensure the installation is free from faults and that damage has not occurred during transport, assembly or other handling. Accordingly, the whole installation/circuit and component parts must also be observed during the complete pressure testing.

Water quality

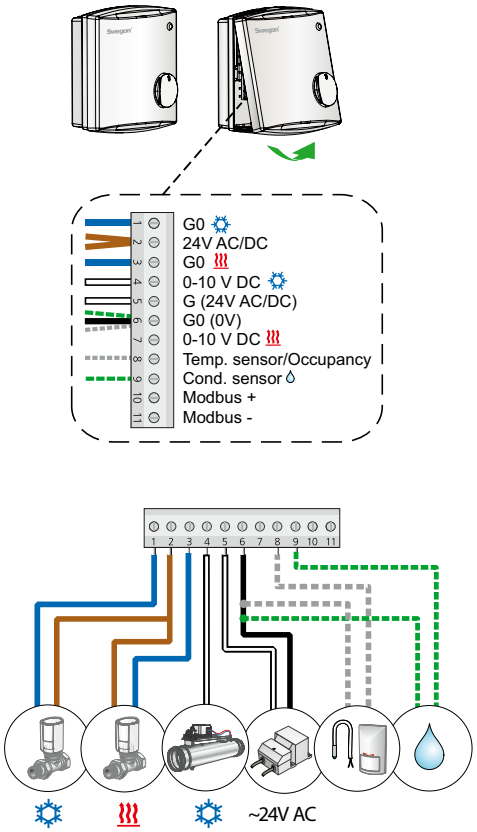
Swegon recommends water quality according to VDI 2035-2 for both the heating and cooling systems. In order to maintain the oxygen content in the water below the levels (<0.1 mg/l) prescribed in VDI 2035-2, it is recommended to install a vacuum degasser, particularly in cooling systems where it is more challenging to get rid of dissolved gas. It is also important that the pre-charge pressure in the expansion vessel is dimensioned according to EN-12828 for both the heating and cooling systems and that regular checks are made of the pre-charge pressure. The cooling and heating systems must be designed to prevent oxygen from entering the system. This is particularly important to consider when selecting flex hoses, pipes and expansion vessels.

When the system is filled with fresh water, it has an oxygen content of approximately 8 mg/l. This oxygen is consumed quickly through corrosion processes, and within a few days the oxygen in the water should be consumed. Nevertheless, it is important to avoid filling the system with fresh water unnecessarily.

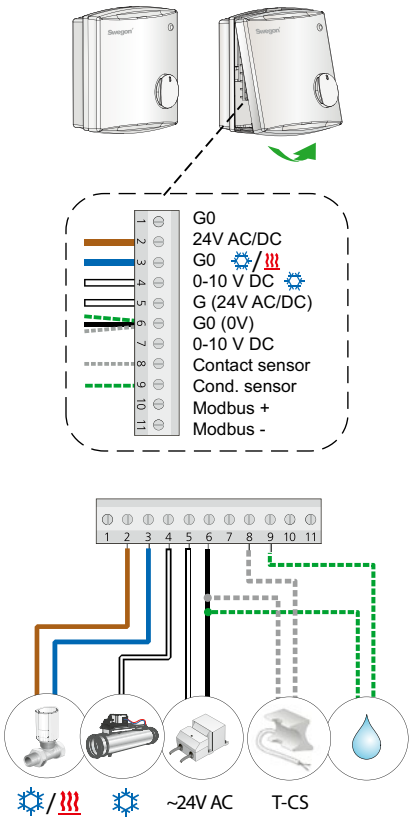
Automatic deaerators are often installed to facilitate filling of the system. It is recommended that the automatic deaerators are turned off once the system has been fully vented to avoid these drawing in air in the system if the pre-charge pressure in the expansion vessel should drop. In low-flow systems, it is particular important for venting to take place via available bleeding screws in all products when commissioning. When using shear valves, these must be set to open for a period to ensure that all air and dirt disappear from the system.

Control equipment

LUNAd RE-S-MB



LUNAd RE-S-CO-MB



Commissioning

If the product's factory-set k-factor needs to be changed, the number of nozzles can be adjusted. This can be performed on site by a technician, using a plugging tool. To do this, the grille must be unscrewed in order to be able to remove or add plugs in the nozzles with the plugging tool, through the front of the product.

To add a plug

Slide the plug onto the tapered side of the tool. Push the plug into the nozzle to be plugged, then remove the tool while simultaneously turning it counterclockwise.

To remove the plug

Use the side of the tool where there is a screw. Puncture and screw through the plug in the nozzle that needs to be removed and then pull out the tool with the plug attached to the screw.

To calculate the flow

Achieved airflow (q) exiting the product can be calculated with the formula in in the green box, to the right. The pressure p_i is the gauge pressure inside the product's box, also known as commissioning pressure. To measure the pressure, a measuring tube of approximately 400 mm is required. The measuring tube is inserted through the front of the product into a nozzle, and the gauge pressure could be read with a manometer.

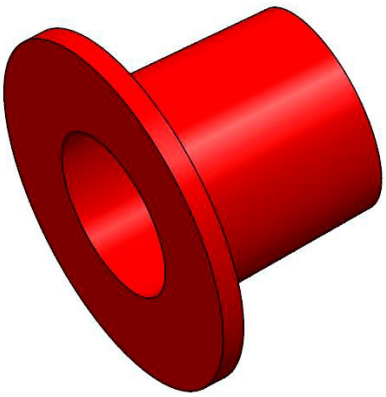
For the size 600, each open nozzle has a k-factor of 0.039. For size 1m there are two rows of nozzles, where one row has small nozzles, the smaller ones are never plugged. The row with smaller nozzles has a total k-factor of 0.94 The following equation is therefore used to calculate the k-factor of the 1m product: 0.94+(0.039*number of larger nozzles open).

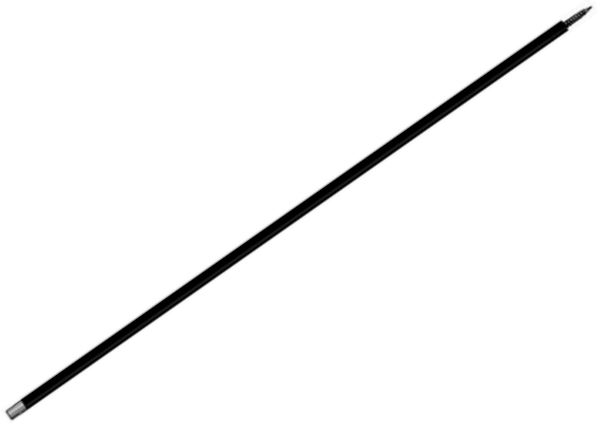
$$q = k \cdot \sqrt{p_i}$$

$q = k \cdot \sqrt{p_i}$ [l/s]

$$\frac{q}{\sqrt{p_i}} = k$$

p_{in} [Pa]
q [l/s]
k = k-factor





Maintenance

The grille is mounted on the product with two screws (PH2), which need to be unscrewed in order to clean the coil heat exchanger, marked in blue in the images below.