

PARAGON d

Installation – Commissioning – Maintenance

07/02/2023
Art. 942428071

Content

Application area.....	2
General.....	2
Contents.....	2
Protective equipment.....	2
Electrical safety.....	2
Handling.....	2
Installation.....	2
Disposal.....	2
Cleaning.....	2
Service/maintenance.....	2
Product warranty.....	2
Dimensions and weight.....	3
Installation.....	4
Cutout dimensions.....	4
Suspension.....	5
Water connection.....	7
Connecting water.....	7
Water quality.....	8
Air connection.....	9
Connection dimensions air.....	9
Air connections.....	10
Mounting grills.....	11
Control equipment.....	12
Terminal block.....	12
PARAGON.....	12
LUNA.....	12
URC1 (VAV).....	13
Commissioning.....	14
K-factor setting.....	14
Maintenance.....	15

Symbols

Warning/Caution!



Application area

The product is a comfort module designed for indoor climate. The product is used to ventilate, cool and heat the room.

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



General

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

Contents

1 PARAGON

1 Instructions for use



Protective 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.



Electrical safety

Permitted voltage, see Electrical data.

It is not permissible to insert foreign objects into the product's contactor connections or ventilation openings; risk for short circuiting.

24 V isolation transformer to be connected should comply with the provisions of IEC 61558-1.

Cable sizing must be carried out for cabling between the product and the power supply source.

Disconnect the power supply when working on products that are not required to run.

Always follow the local/national rules for who shall be permitted to carry out this type of electrical installation.

Handling

Always use appropriate transport and lifting devices when the product is to be handled to reduce ergonomic loads.

The product must be handled with care.

Installation

- Moist, cold and aggressive environments must be avoided.
- Assemble the product according to this instruction and applicable industry regulations.
- Install the product for easy access during service/maintenance.
- 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.
- Secure cables with cable ties.
- Check that all cables are properly secured in place after installation.

Disposal

Waste must be handled according to local regulations.

Cleaning

Ideally the product should be cleaned twice a year by vacuuming the coil to remove loose dust. In fibre dense environments as hotels and ward rooms a first vacuuming after three months is recommended and thereafter an interval of 1-2 times a year. This is due to the fact that new textiles often loose a lot of fibres in the beginning of their life cycle.

A simple visual inspection of connections is recommended when cleaning.

On painted surfaces such as grills: Avoid aggressive cleaning agents which may harm painted surfaces. Normally a mild soap or alcohol solution is fully adequate for cleaning. See also the maintenance section in this instructions for use.

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.

Product warranty

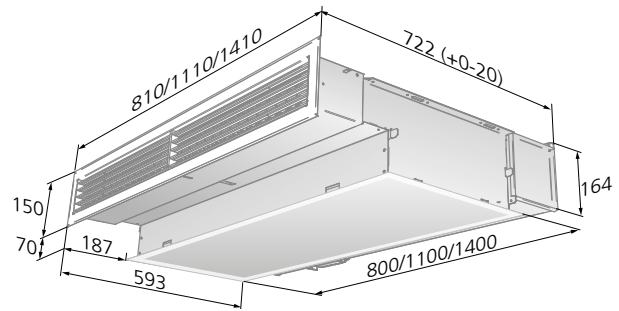
The product warranty or service agreement will not be in effect/will not be extended if: (1) The product is repaired, modified or changed, unless such repair, modification or change has been approved by Swegon AB; or (2) the serial number on the product has been made illegible or is missing.

Dimensions and weight

Weight

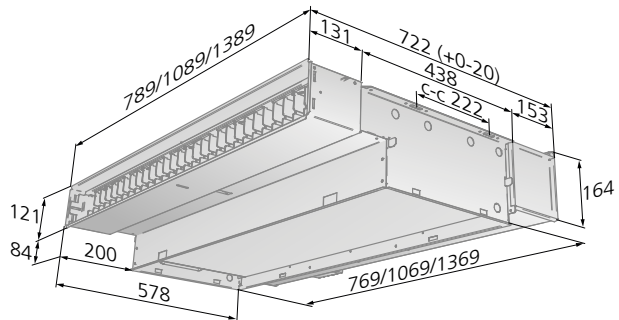
PARAGON d 800

Length	Type	Dim.	Dry weight* (kg)		Water volume (l)	
			without grills	incl. grills	cooling	heating
800 R	A	125	14.0	16.9	1.39	
800 L	A	125	14.0	16.9	1.38	
800 R	B	125	14.0	16.9	1.39	0.38
800 L	B	125	14.0	16.9	1.38	0.37
800 R	X	125	14.0	16.9	1.39	
800 L	X	125	14.0	16.9	1.38	



PARAGON d 1100

Length	Type	Dim.	Dry weight* (kg)		Water volume (l)	
			without grills	incl. grills	cooling	heating
1100 R	A	125	18.8	22.6	1.93	
1100 L	A	125	18.8	22.6	1.92	
1100 R	B	125	18.8	22.6	1.93	0.52
1100 L	B	125	18.8	22.6	1.92	0.51
1100 R	X	125	18.8	22.6	1.93	
1100 L	X	125	18.8	22.6	1.92	



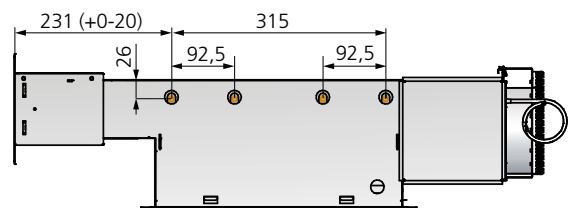
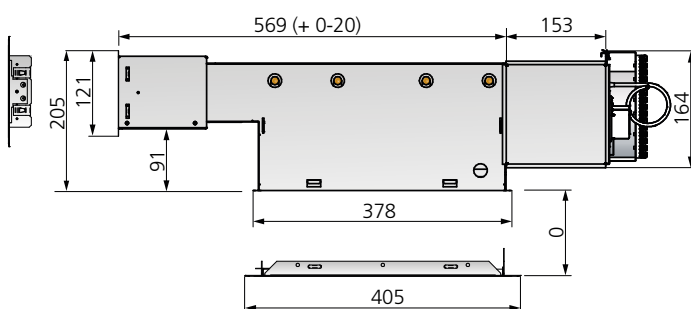
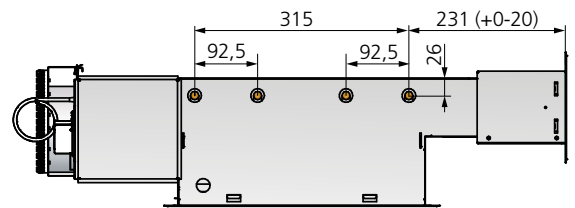
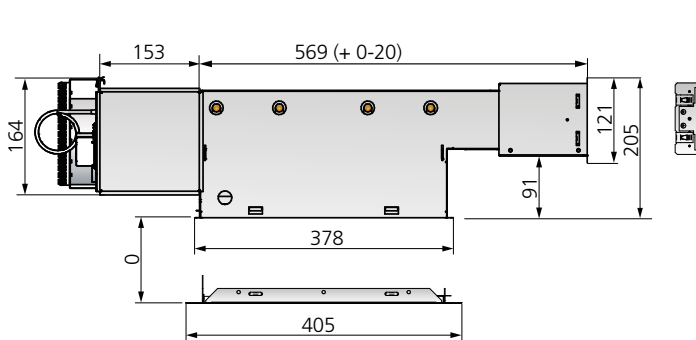
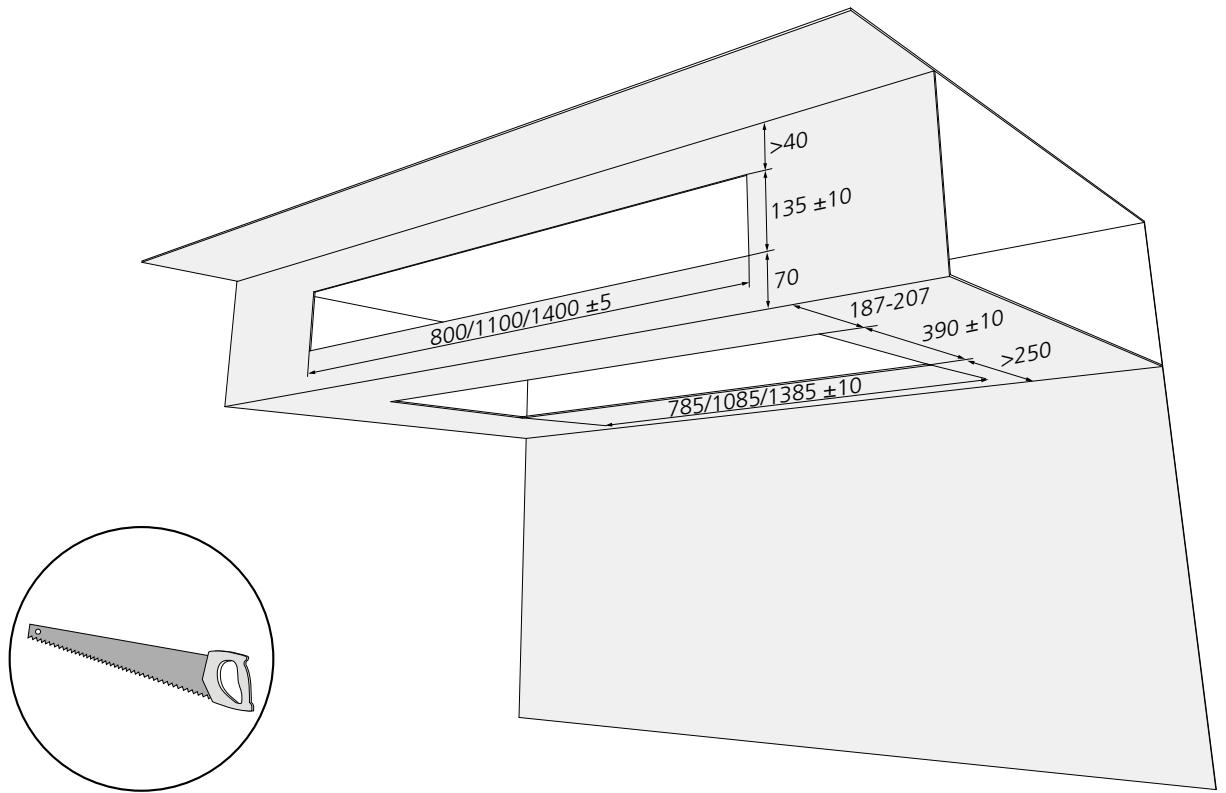
PARAGON d 1400

Length	Type	Dim.	Dry weight* (kg)		Water volume (l)	
			without grills	Incl. grills	cooling	heating
1400 R	A	125	23.0	27.6	2.47	
1400 L	A	125	23.0	27.6	2.46	
1400 R	B	125	23.0	27.6	2.47	0.65
1400 L	B	125	23.0	27.6	2.46	0.64
1400 R	X	125	23.0	27.6	2.47	
1400 L	X	125	23.0	27.6	2.46	

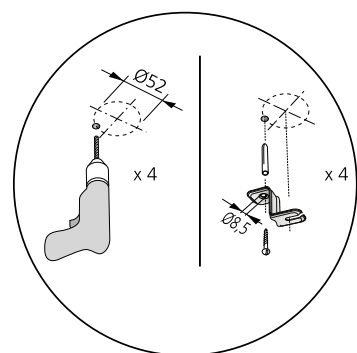
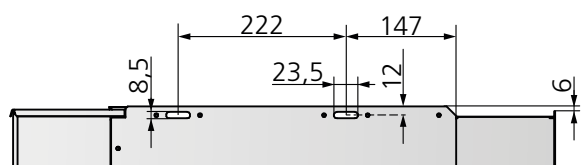
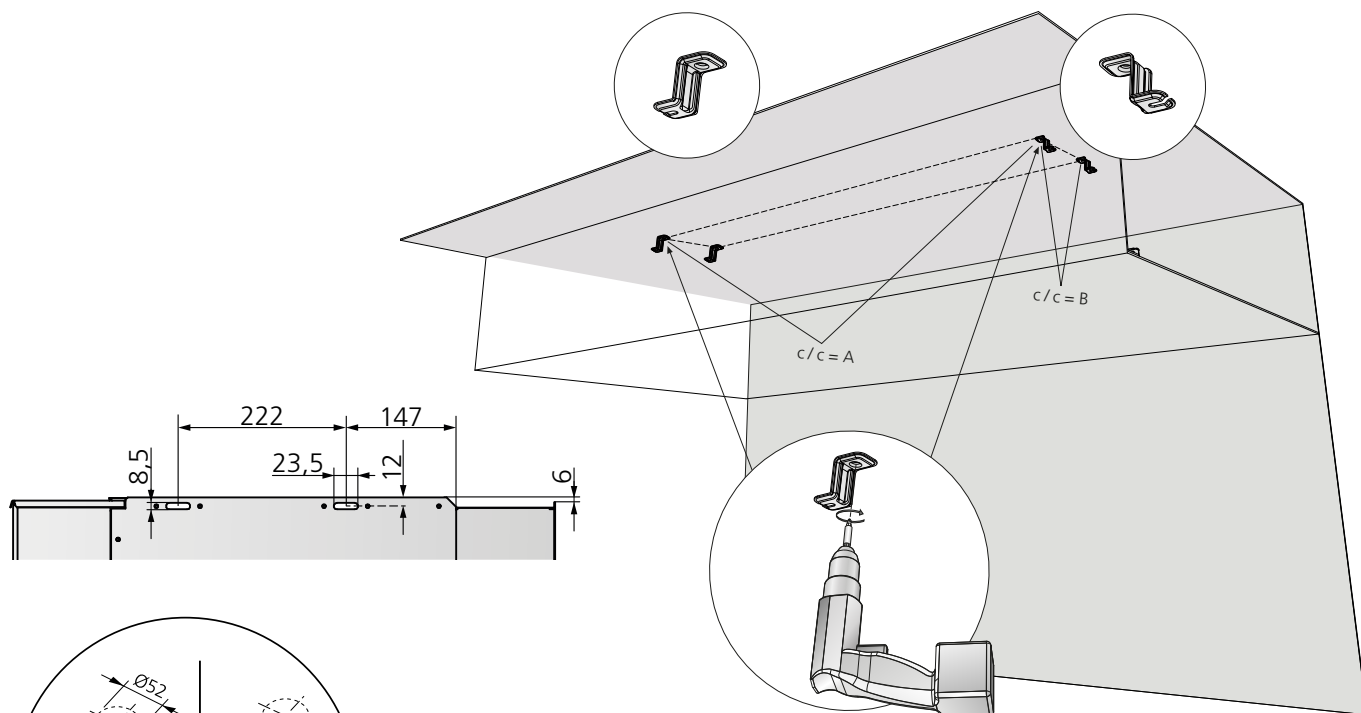
* excl. terminal block: 0,26 kg

Installation

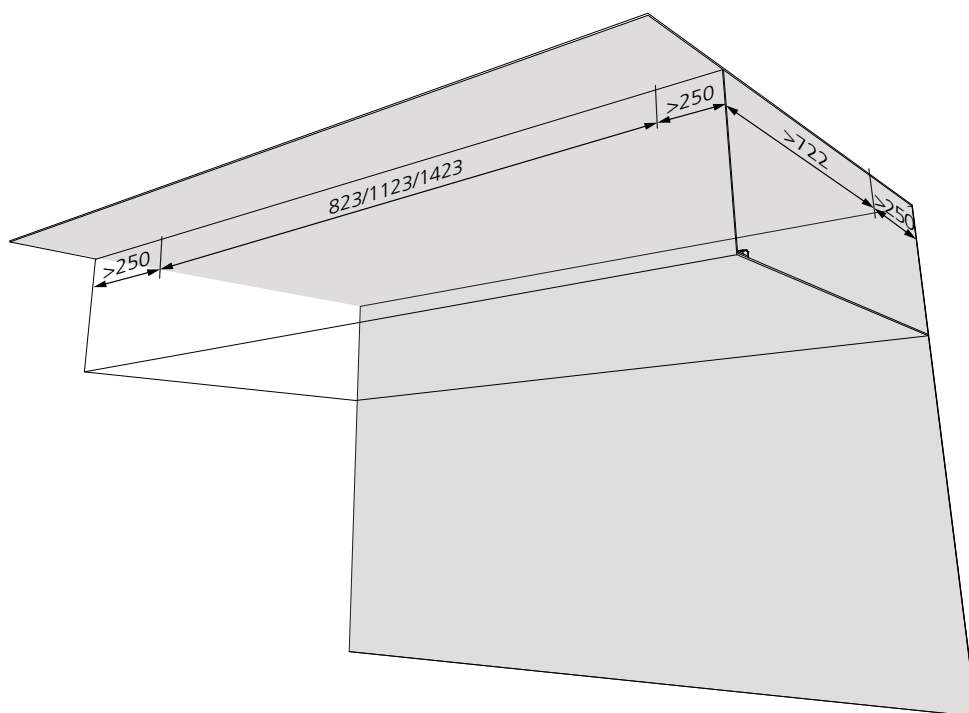
Cutout dimensions

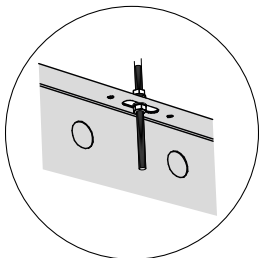
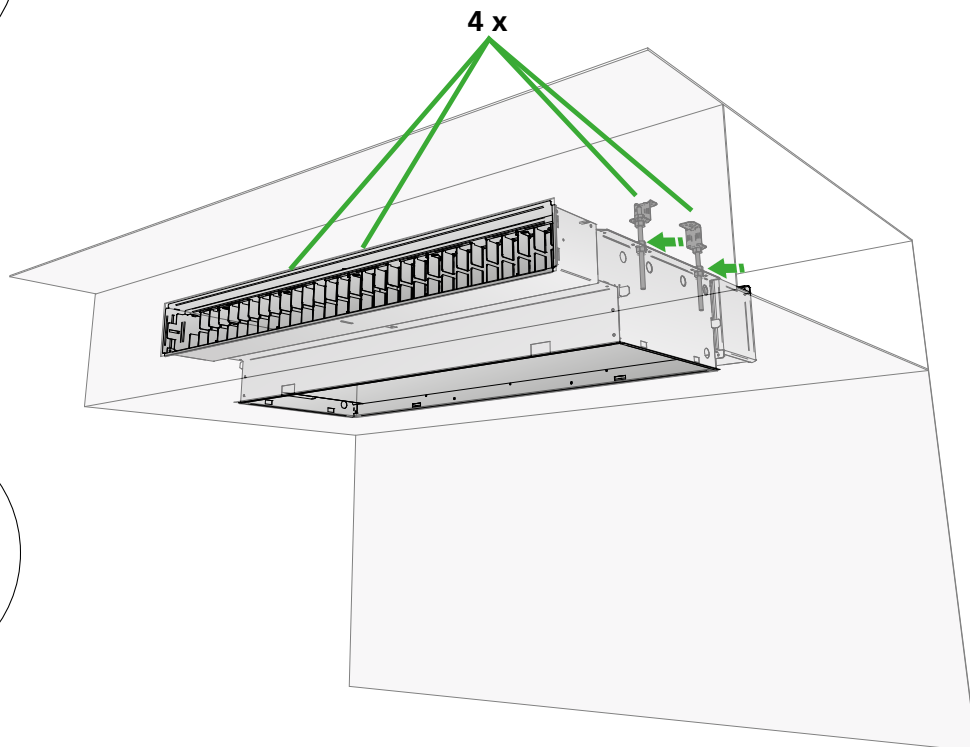
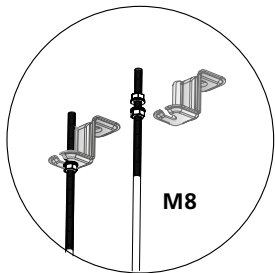
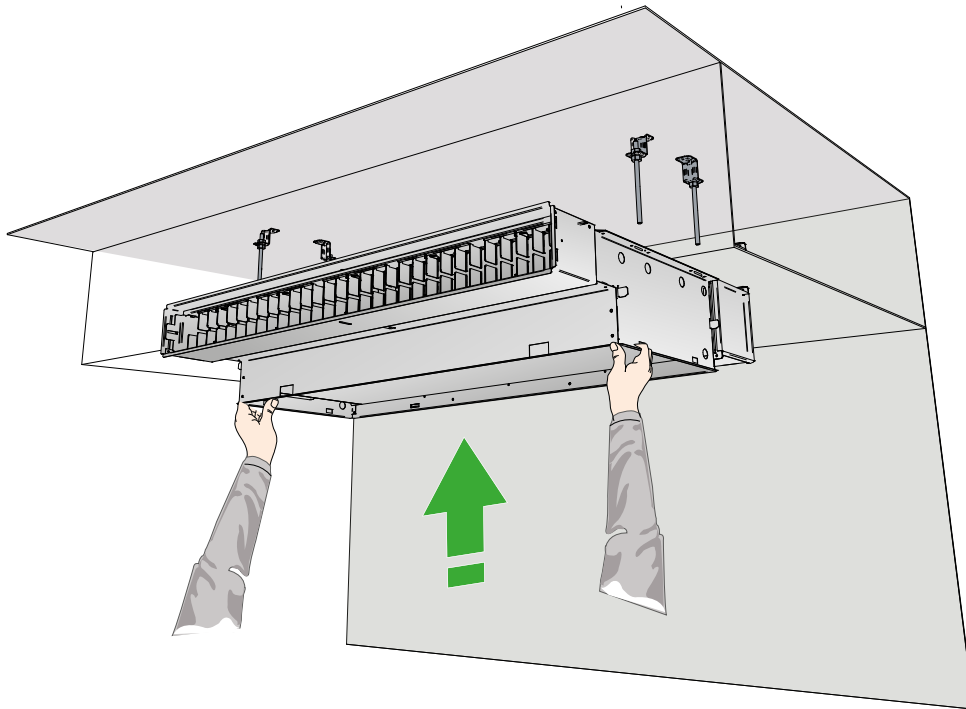


Suspension



L	A	B
800	778	222
1100	1078	222
1400	1378	222





Water connection

Water dimensions

Standard variant with factory fitted valves:

Length (mm)	Cooling Return	Heating Return
800, 1100, 1400	DN15 external thread	DN15 external thread

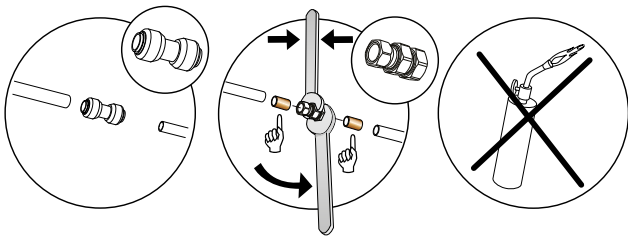
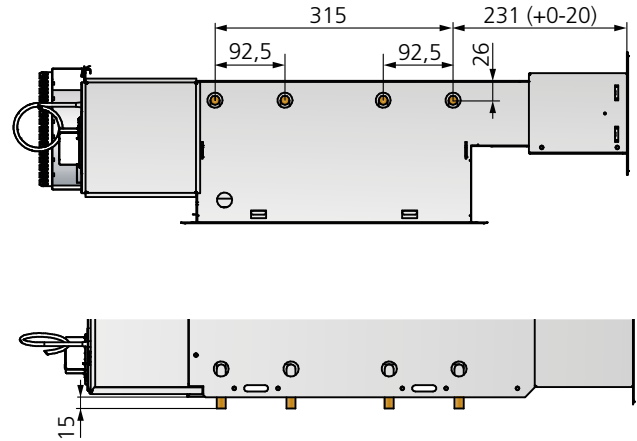
Standard variant without factory fitted valves:

Length (mm)	Cooling Supply and return	Heating Supply and return
800, 1100, 1400	Plain pipe	Plain pipe
	(Cu) Ø 12 x 1,0 mm	(Cu) Ø 12 x 1,0 mm

Connecting water

Connect the water pipes using push-on couplings or compression ring couplings when the product is ordered without valves. Note that compression ring couplings require support sleeves inside the pipes.

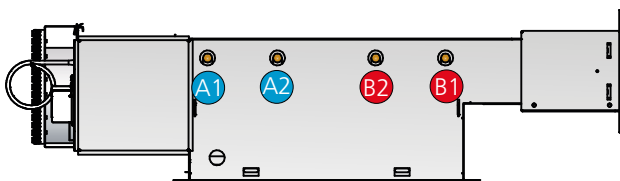
Do not use solder couplings to connect the water pipes. High temperatures can damage the unit's existing soldered joints. Flexible connecting hoses for water are available for flat-end pipes and valves, and can be ordered separately.



Note that compression ring couplings require support sleeves inside the pipes.

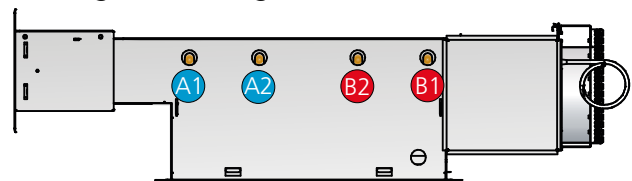
Water connection on right side "R"

Cooling and heating on right side "R", all sizes

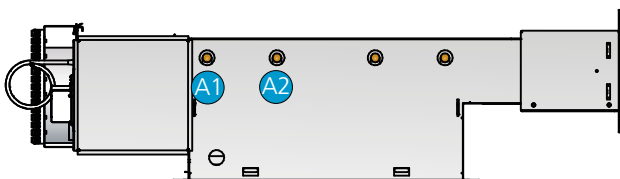


Water connection on left side "L"

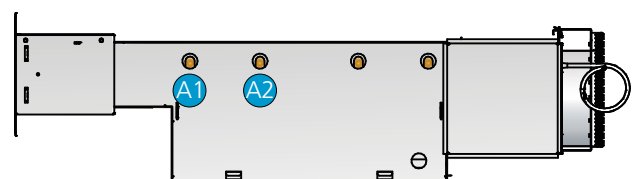
Cooling and heating on left side "L", all sizes



Cooling on right side "R", all sizes



Cooling on left side "L", all sizes



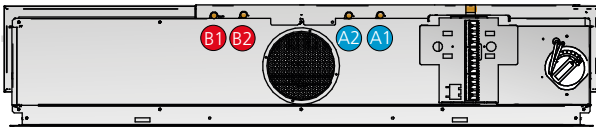
Water connection on right side (R).

- A1 = Cooling water, supply
- A2 = Cooling water, return
- B1 = Heating water, supply
- B2 = Heating water, return

Water connection on left side (L).

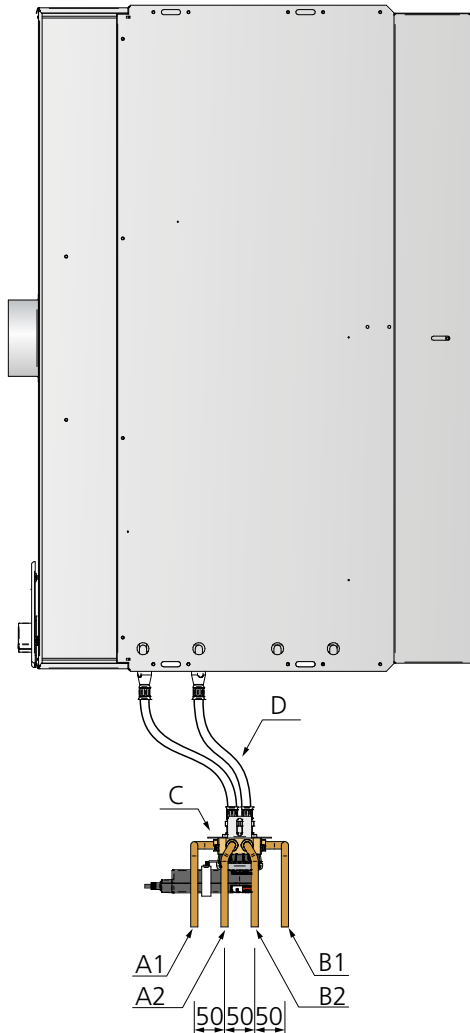
- A1 = Cooling water, supply
- A2 = Cooling water, return
- B1 = Heating water, supply
- B2 = Heating water, return

Water connection on back side "WB"



Water connection on back side "WB".
 A1 = Cooling water, supply
 A2 = Cooling water, return
 B1 = Heating water, supply
 B2 = Heating water, return

Water connection, CCO-valve



Water connection - CCO-valve.
 A1 = Cooling water, supply
 A2 = Cooling water, return
 B1 = Heating water, supply
 B2 = Heating water, return
 C = CCO valve
 D = Flexible hose

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 the cooling system where it's more challenging to dissolved gas. It is also important that the prepressure 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-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 hose, pipes and expansion vessels. When the system is filled with fresh water, it has an oxygen content of approximately 8 mg/l, however, 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-pressure in the expansion vessel should drop.

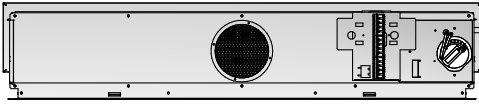
Air connection

All variants have an air connection $\varnothing 125$.

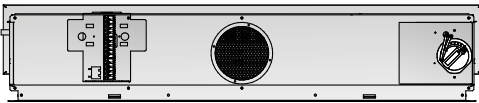
The standard variant has the air connection centered on the back of the product for easy access from both ends and back.

The suite variant, which is only available in length 1400 mm, has two parallel air connections on the back (2x $\varnothing 125$).

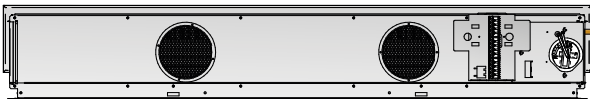
PARAGON standard, view from the back (R)



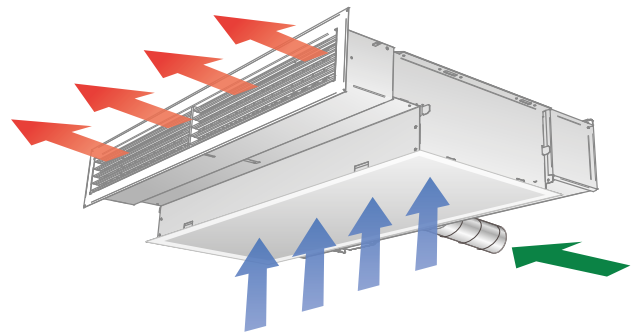
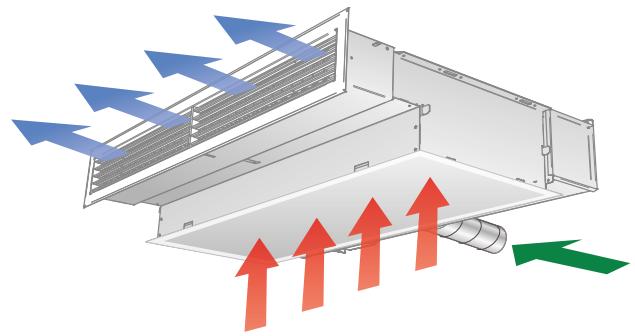
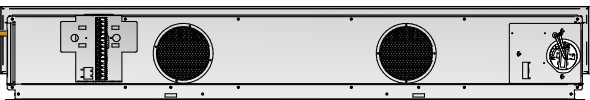
PARAGON standard, view from the back (L)



PARAGON suite, view from the back (R)



PARAGON suite, view from the back (L)

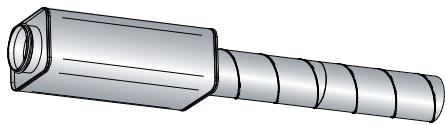


Connection dimensions air

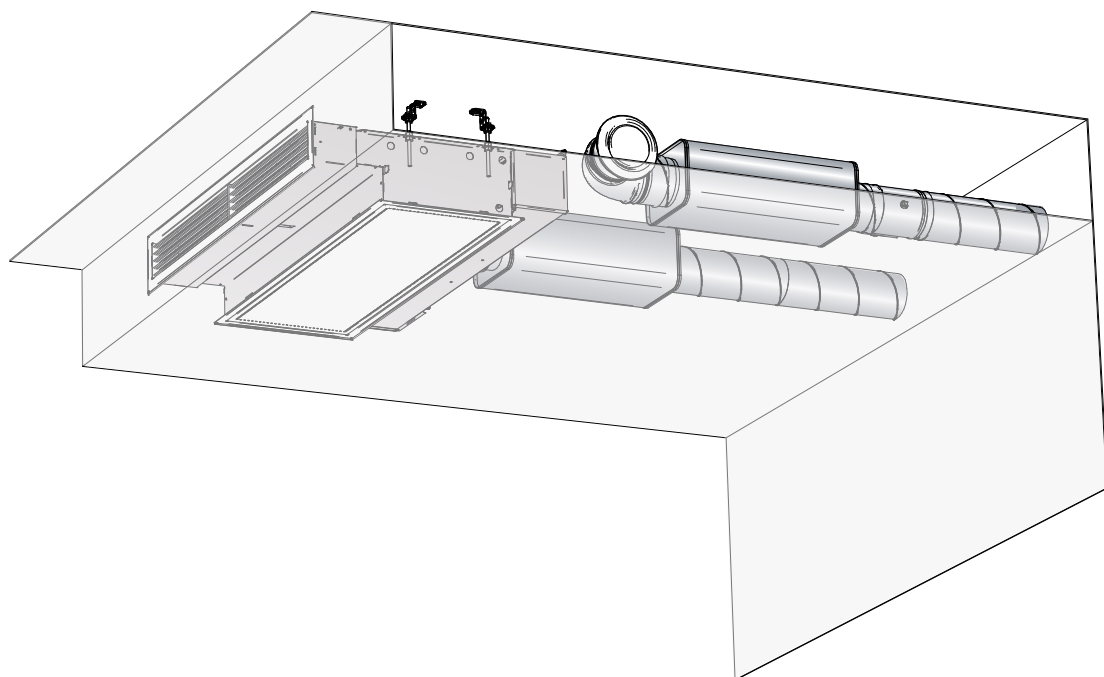
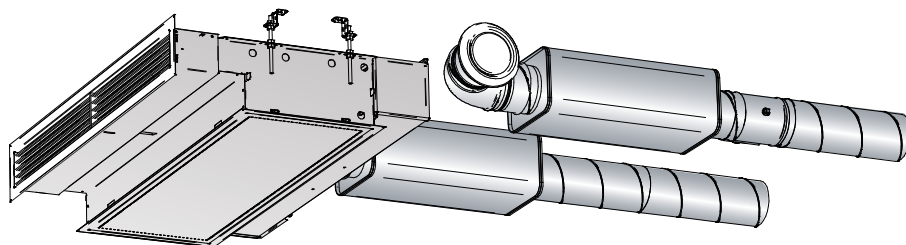
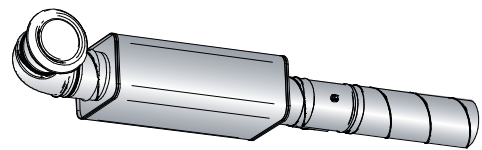
Variant	Length	Air connection	
	(mm)	1 x $\varnothing 125$	2 x $\varnothing 125$
1: Standard	800, 1100, 1400	Yes	No
2: Suite	1400	No	Yes

Air connections

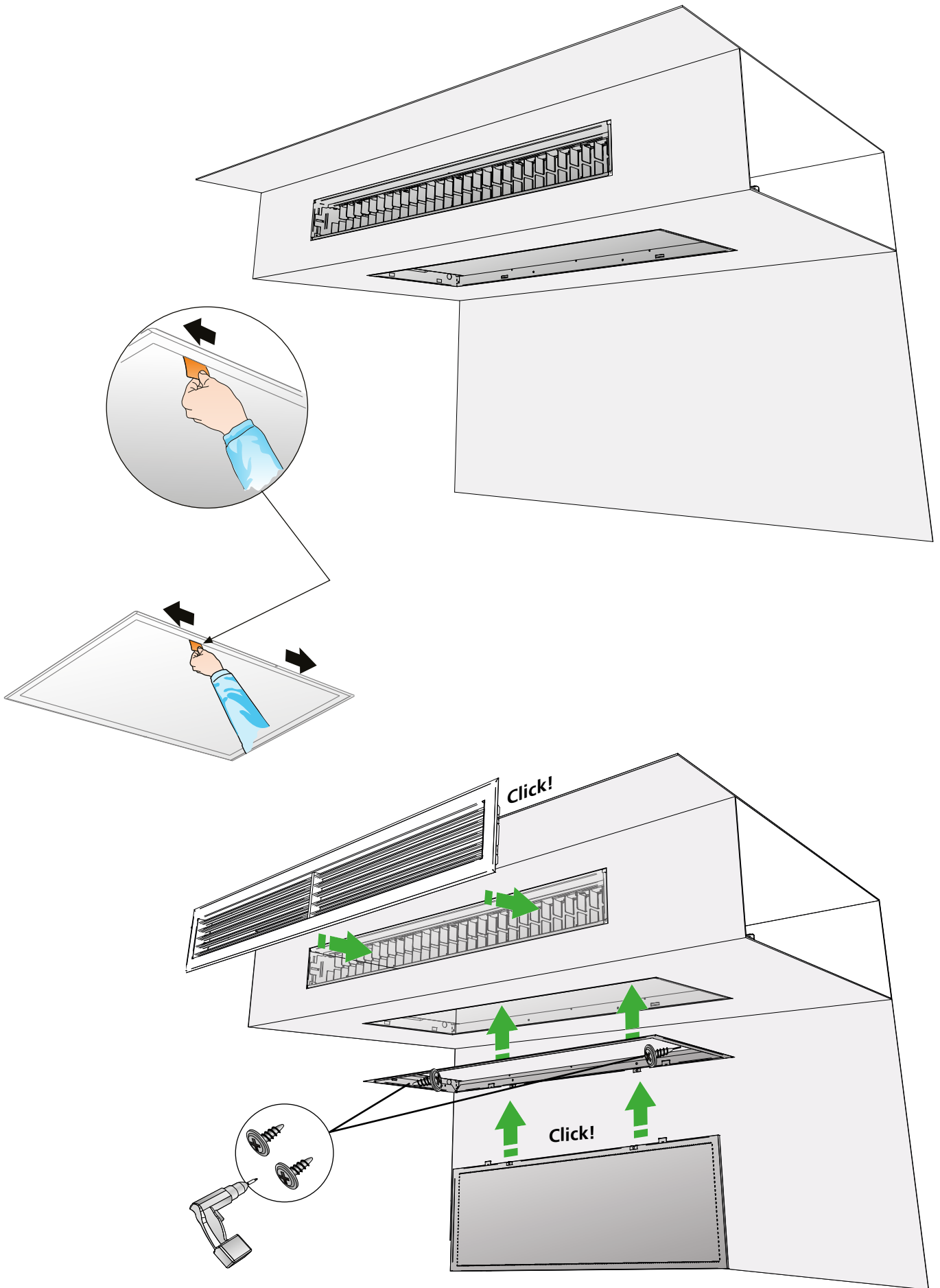
Supply air kit



Extract air kit



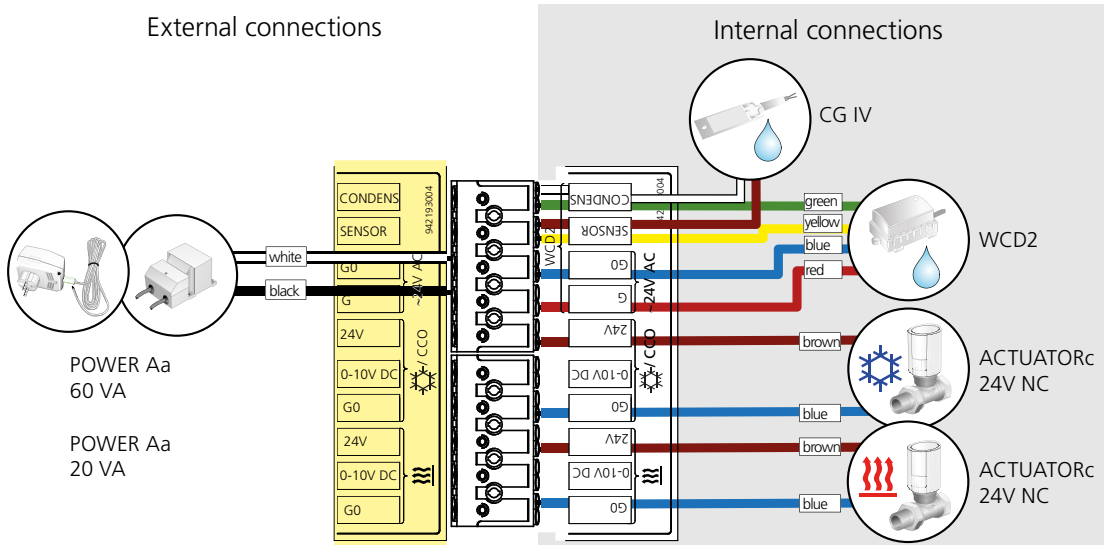
Mounting grills



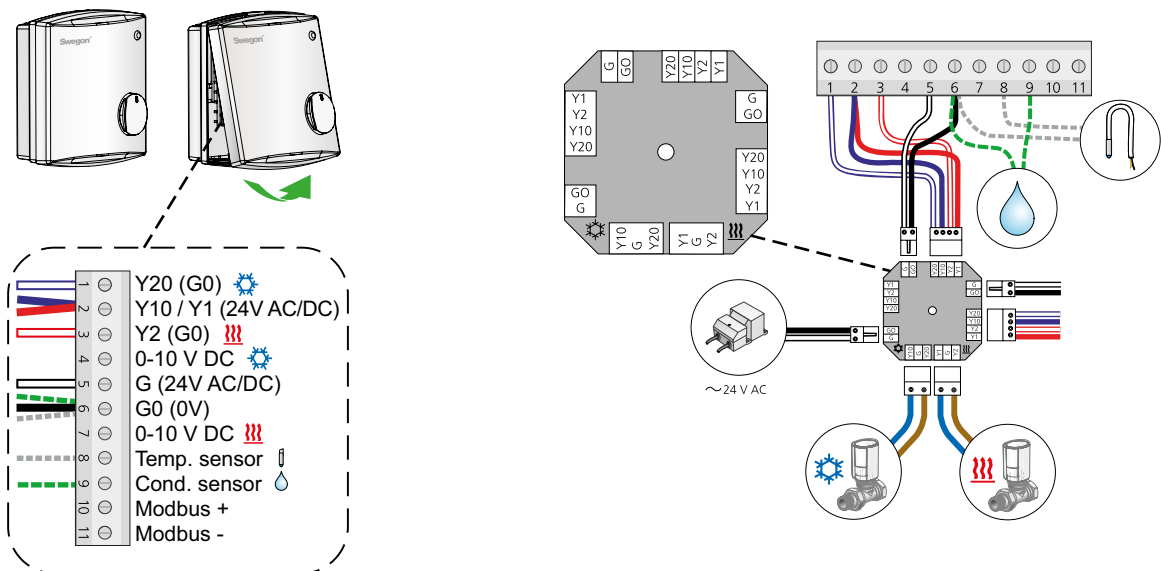
Control equipment

Terminal block

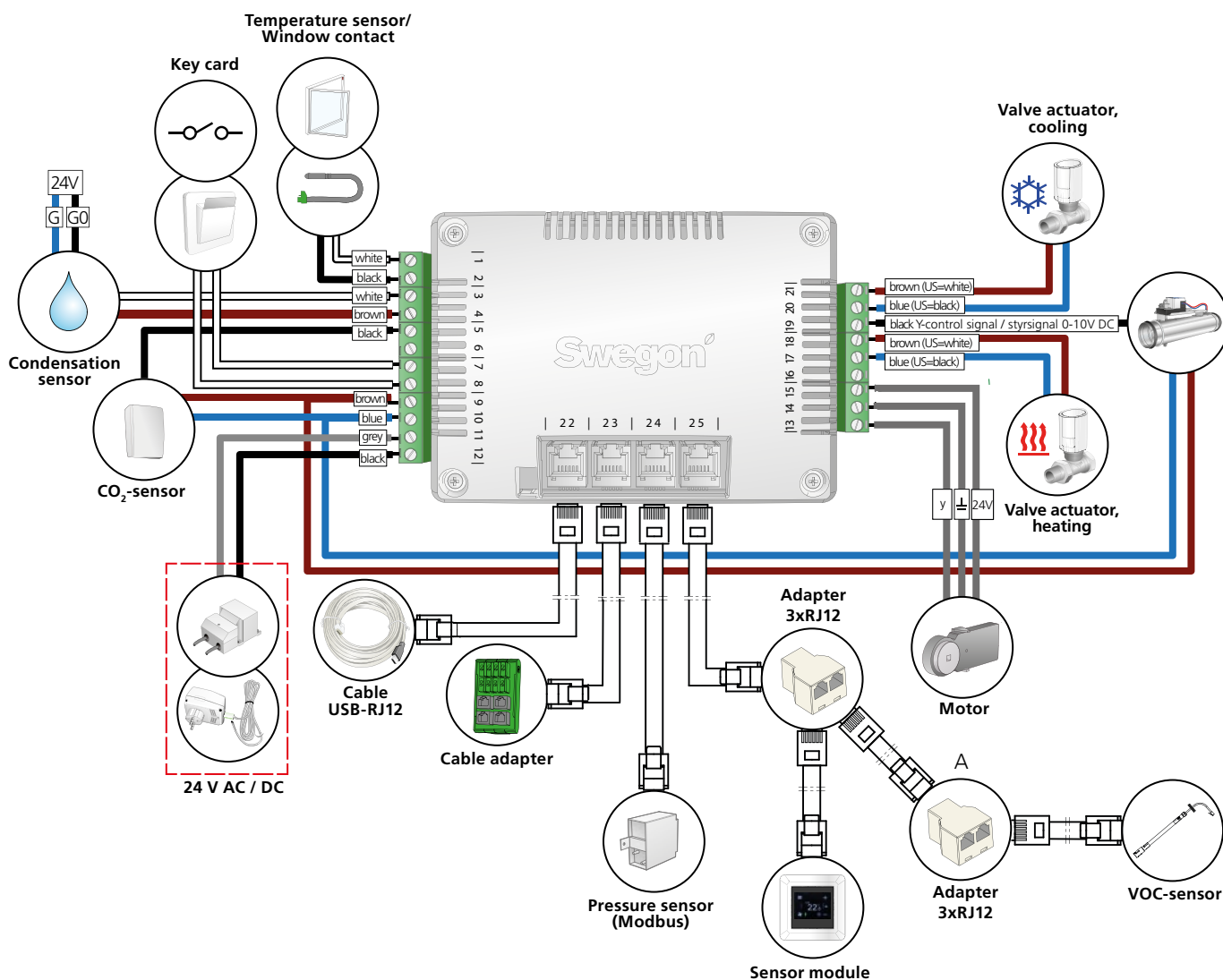
PARAGON



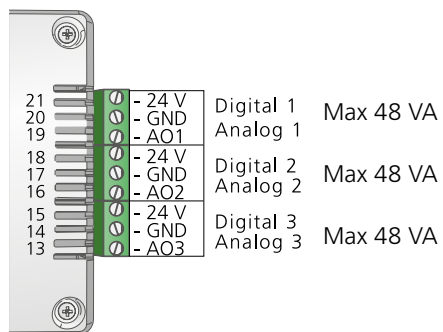
LUNA



URC1 (VAV)



The outputs on the regulator



Commissioning

K-factor setting

$$p_i = \left(\frac{q}{k}\right)^2 \text{ [Pa]}$$

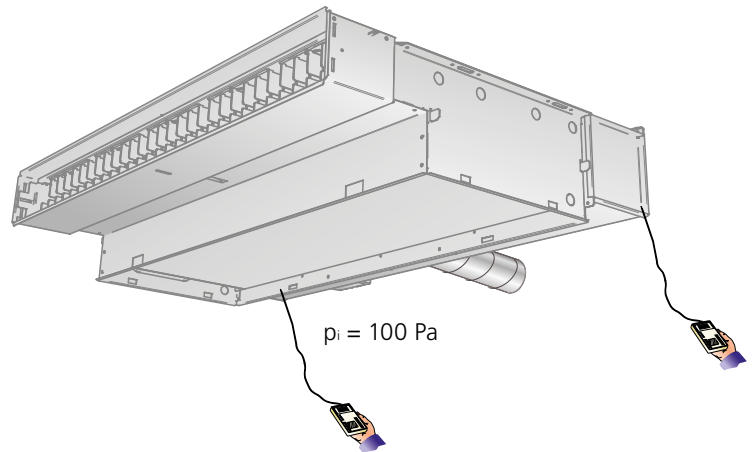
$$q = k \cdot \sqrt{p_i} \text{ [l/s]}$$

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

$$p_i \text{ [Pa]}$$

$$q \text{ [l/s]}$$

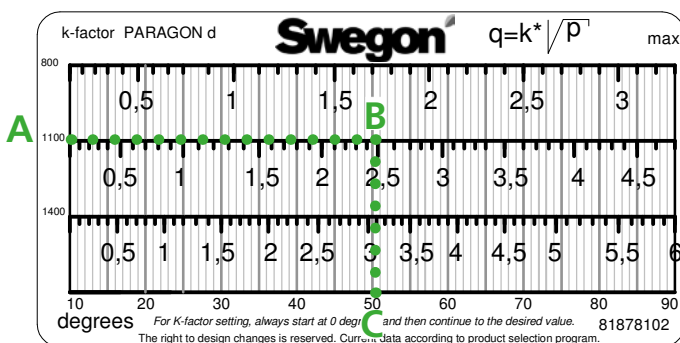
$$k = k\text{-factor}$$



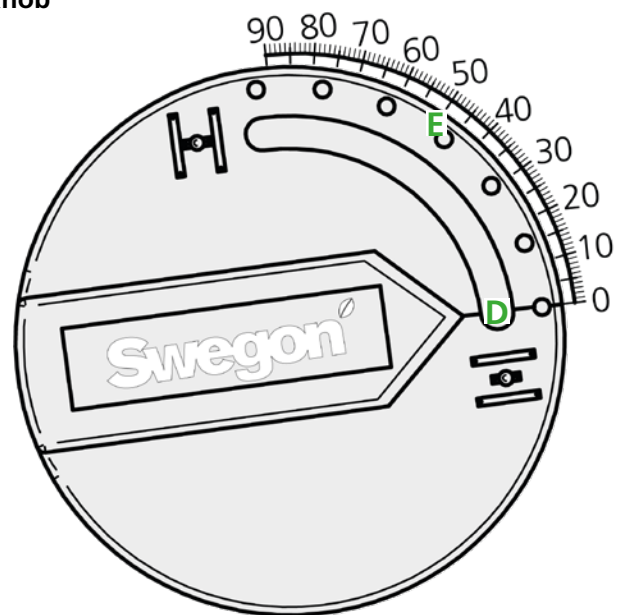
Example: To achieve the required flow of 25 l/s at 100 Pa, requires k-factor 2.5

- A** Find the product’s length from left-hand side of the k-factor table.
- B** Read the required k-factor on the row in question.
- C** Follow the vertical row and read the number of degrees at the bottom.
- D** Loosen the screw located in the knob’s groove. Turn the knob to 0°.
- E** Turn the knob until the mark reaches the desired number of degrees.
In the example from the table for a PARAGON d, length 1100, ø125, k-factor 2,5, turn the knob to 50°.
- F** Tighten the screw when the marking is set on the required number of degrees

K-factor table



Knob



Maintenance

