

PARASOL Zenith AWC

Installation – Commissioning – Maintenance

23/12/2024
Art. 942428090

Content

The document refers to version "e"	1
Symbol explanation.....	1
Dimensions and weights.....	2
Dimensions	2
Weight	2
Installation	3
Suspension bracket	3
Accessory - Quick bracket	4
Accessory - Mounting in concealed T-bars.....	5
Accessory - Fold-out coil	6
Water connection	7
Water quality	7
Wiring diagram.....	8
Room controller, LOCUS.....	11
Air connection	12
Commissioning.....	13
Flow Control	13
ADC	14
Maintenance.....	15

The document refers to version "e"

Symbol explanation

Symbols on the machine

This product complies with applicable EU directives

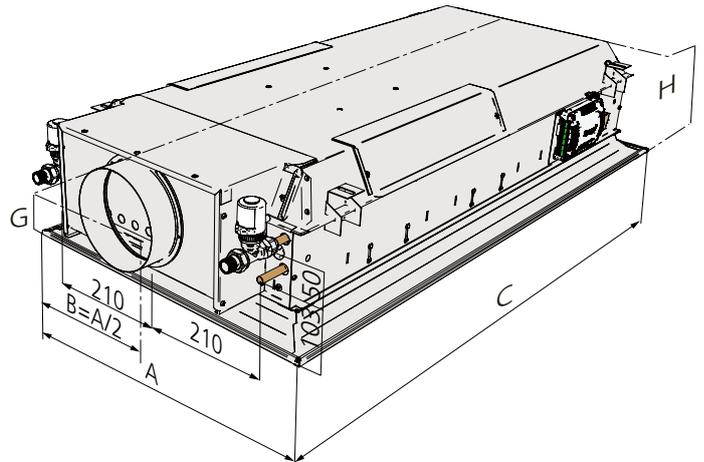
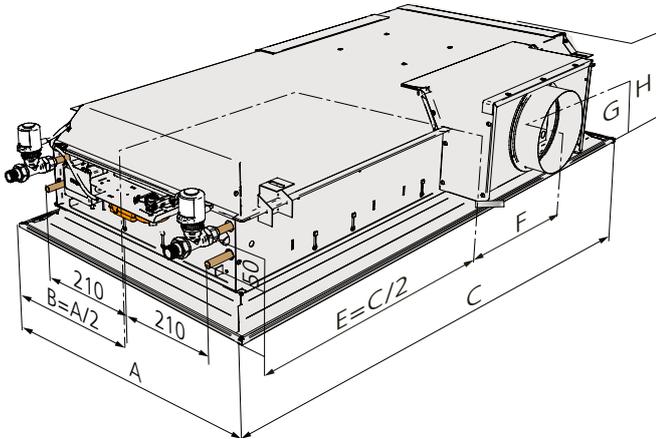


Symbols in this user manual

Warning/Caution!



Dimensions and weights



Dimensions

PARASOL Zenith AWC 600

Dimensions (mm)							
A	B	C	ØD*	E	F	G**	H**
584	292	584	125/160	292	178	137/153	220/250
592	296	592	125/160	296	178	137/153	220/250
598	299	598	125/160	299	178	137/153	220/250
617	308.5	617	125/160	308.5	178	137/153	220/250
623	311.5	623	125/160	311.5	178	137/153	220/250
642	321	642	125/160	321	178	137/153	220/250
667	333.5	667	125/160	333.5	178	137/153	220/250

PARASOL Zenith AWC 1200

Dimensions (mm)							
A	B	C	ØD*	E	F	G**	H**
584	292	1184	125/160	592	178	137/153	220/250
592	296	1192	125/160	596	178	137/153	220/250
598	299	1198	125/160	599	178	137/153	220/250
617	308.5	1242	125/160	621	178	137/153	220/250
623	311.5	1248	125/160	624	178	137/153	220/250
642	321	1292	125/160	646	178	137/153	220/250
667	333.5	1342	125/160	671	178	137/153	220/250

PARASOL Zenith AWC 1800

Dimensions (mm)							
A	B	C	ØD	E	F	G**	H**
584	292	1784	200	892	478	173	290
592	296	1792	200	896	478	173	290
598	299	1798	200	899	478	173	290
617	308.5	1823	200	911.5	478	173	290
623	311.5	1867	200	933.5	478	173	290
642	321	1873	200	936.5	478	173	290
667	333.5	1942	200	971	478	173	290

* Dimensions refer to products with air connection ø125/ø160.

** With a sensor module in the face plate the height measurement G and H increases by 12 mm.

Weight

PARASOL Zenith AWC 600

Length mm	Type	Dim.	Dry weight (kg)	Water volume (l)	
		Ø		cooling	heating
600	A	125	13.1	1.08	
600	B	125	13.3	0.84	0.34
600	A	160	13.7	1.08	
600	B	160	13.8	0.84	0.34

PARASOL Zenith AWC 1200

Length mm	Type	Dim.	Dry weight (kg)	Water volume (l)	
		Ø		cooling	heating
1200	A	125	23.8	2.4	
1200	B	125	23.8	1.8	0.7
1200	A	160	24.6	2.4	
1200	B	160	24.6	1.8	0.7

PARASOL Zenith AWC 1800

Length mm	Type	Dim.	Dry weight (kg)	Water volume (l)	
		Ø		cooling	heating
1800	A	200	35.9	3.8	-
1800	B	200	35.9	2.7	1.1

Weights above are excl.:

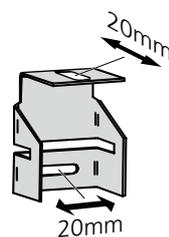
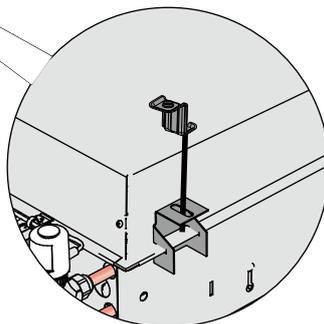
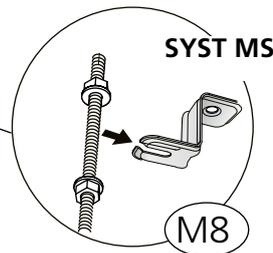
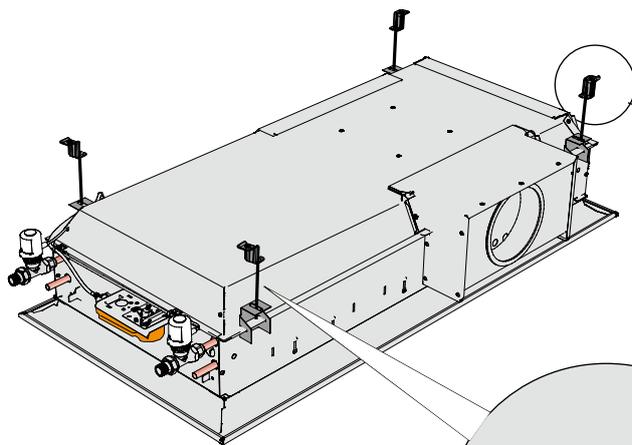
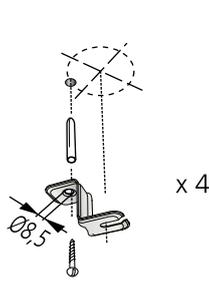
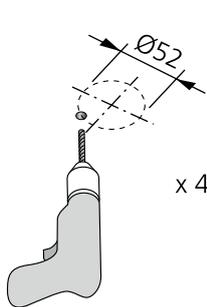
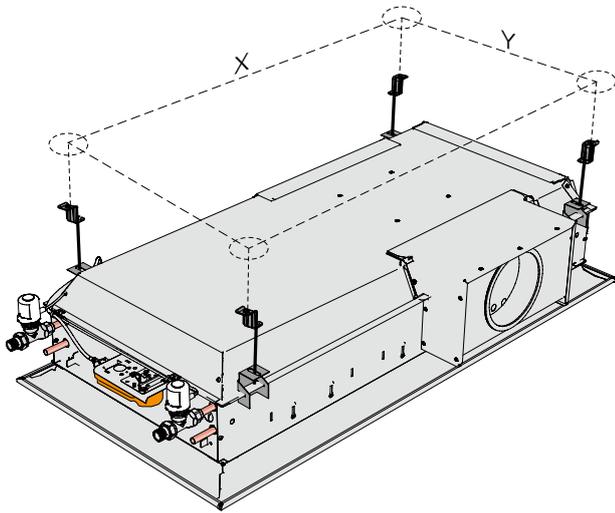
Sensor module (0.1 kg).

Control plate with regulator (0.28 kg).

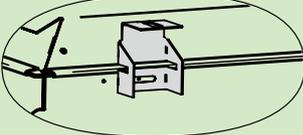
Installation

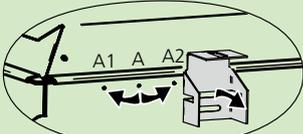
Suspension bracket

To mount the product on the ceiling using standard suspension bracket SYST MS



c - c measurement

Placement of the bracket on delivery		
		
Length of the unit	c - c (mm) X	c - c (mm) Y
600	330 ±10	508 ±10
1200	930 ±10	508 ±10
1800	1530 ±10	508 ±10

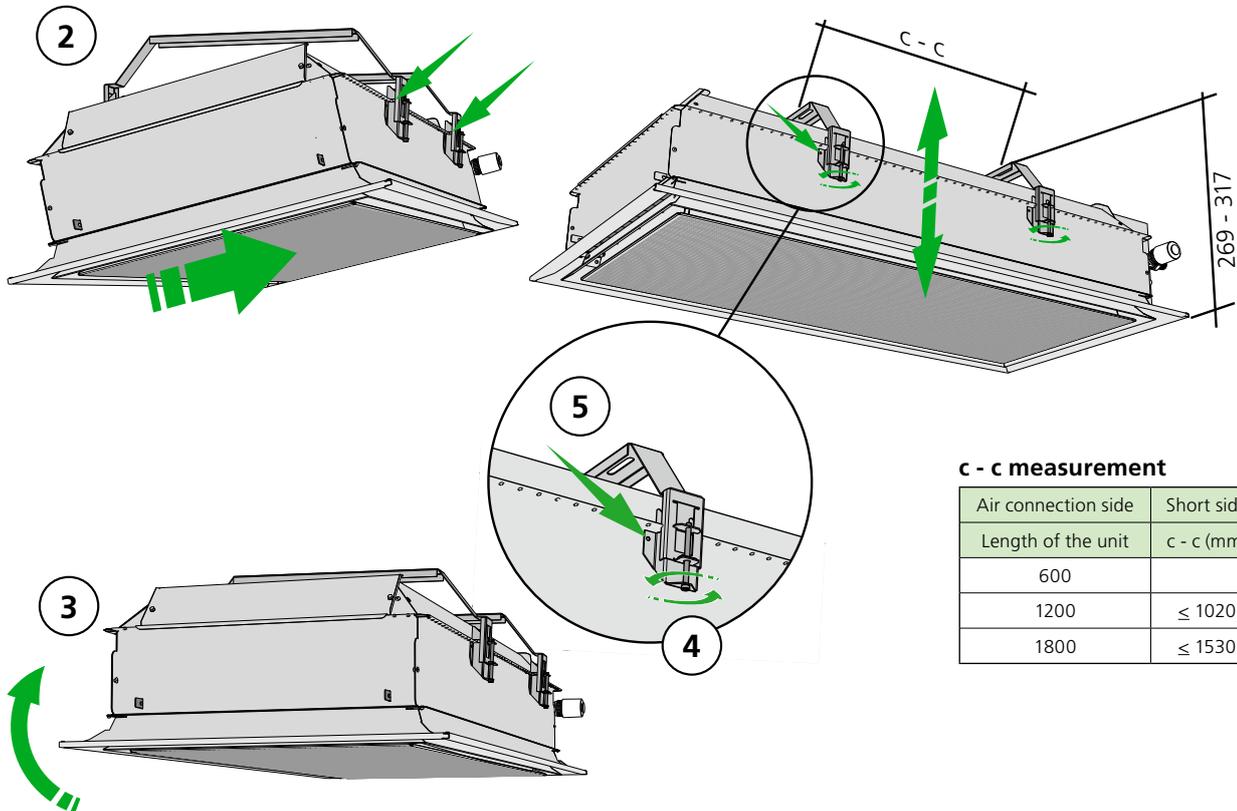
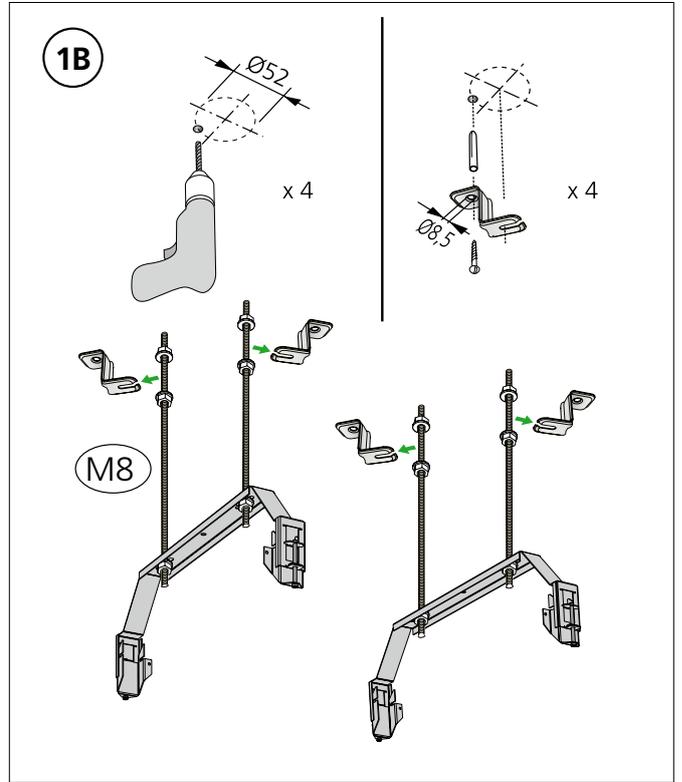
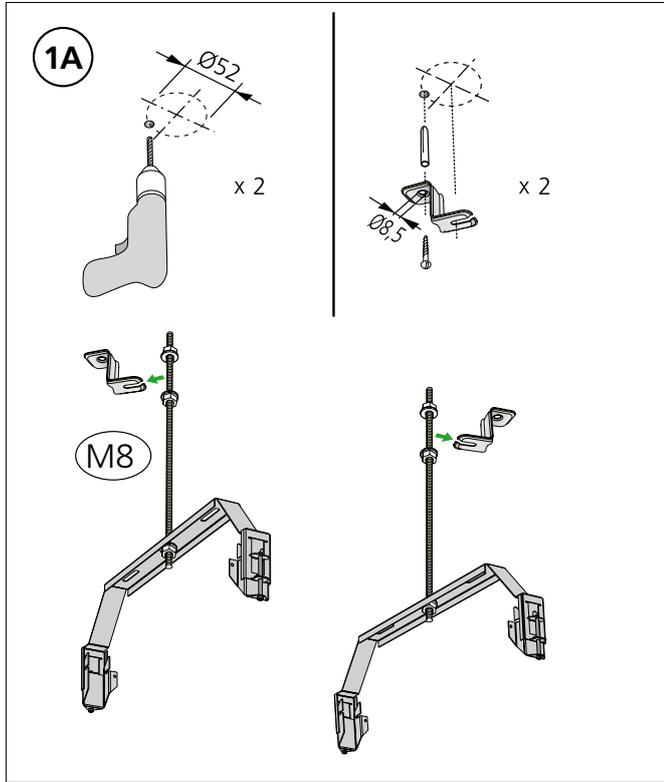
Alternative placement of the suspension bracket		
		
Length of the unit	Out towards the corner	In towards the centre
	c - c (mm) X (A1)	c - c (mm) X (A2)
600	398 ±10	262 ±10
1200	998 ±10	862 ±10
1800	1598 ±10	1462 ±10

Accessory - Quick bracket

To mount the product on the ceiling with the accessory, quick bracket

1A: Installation with one centred threaded rod per quick bracket.

1B: Installation with two threaded rods per quick bracket

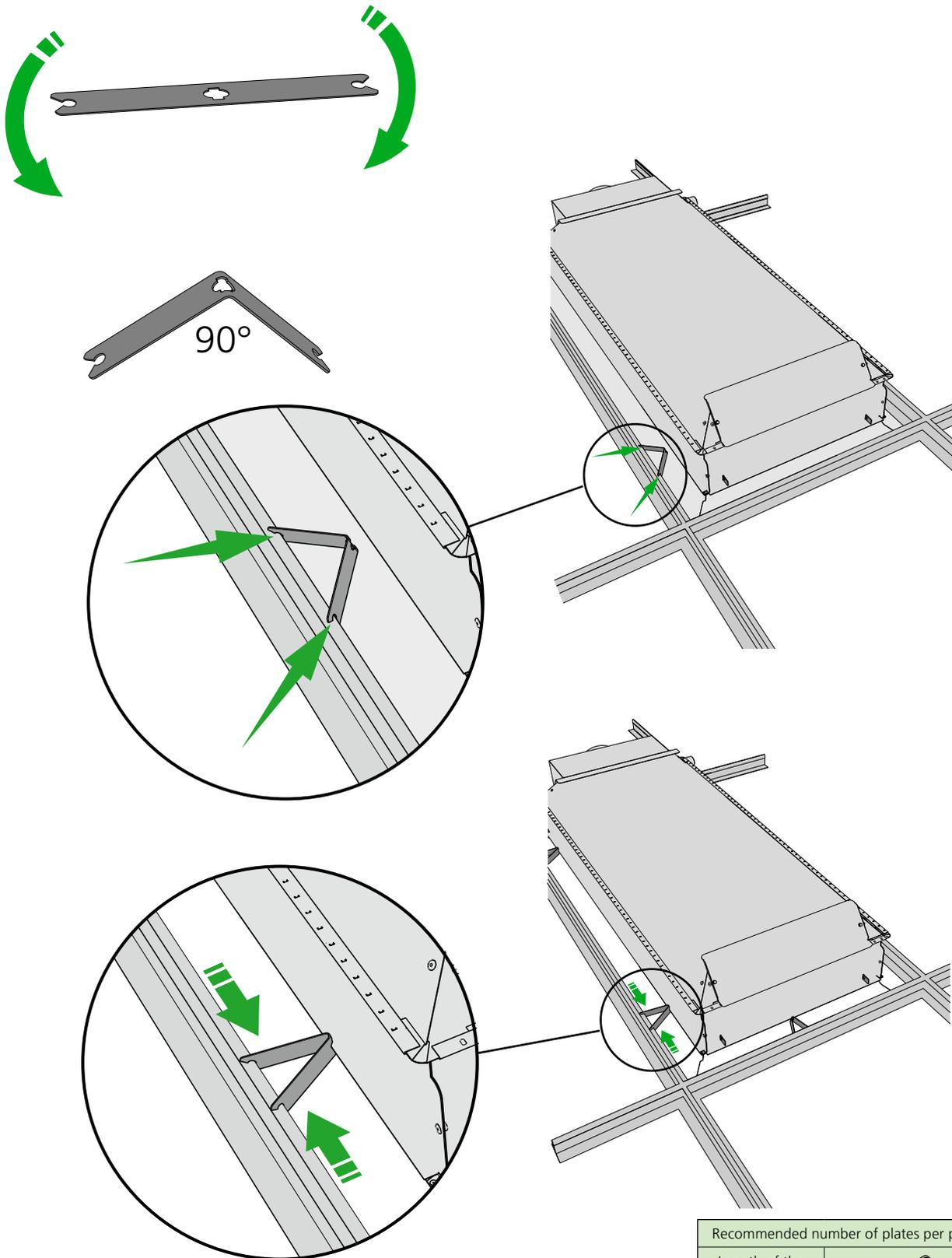


c - c measurement

Air connection side	Short side	Long side
Length of the unit	c - c (mm)	c - c (mm)
600	≤ 320	
1200	≤ 1020	900-1020
1800	≤ 1530	900-1530

Accessory - Mounting in concealed T-bars

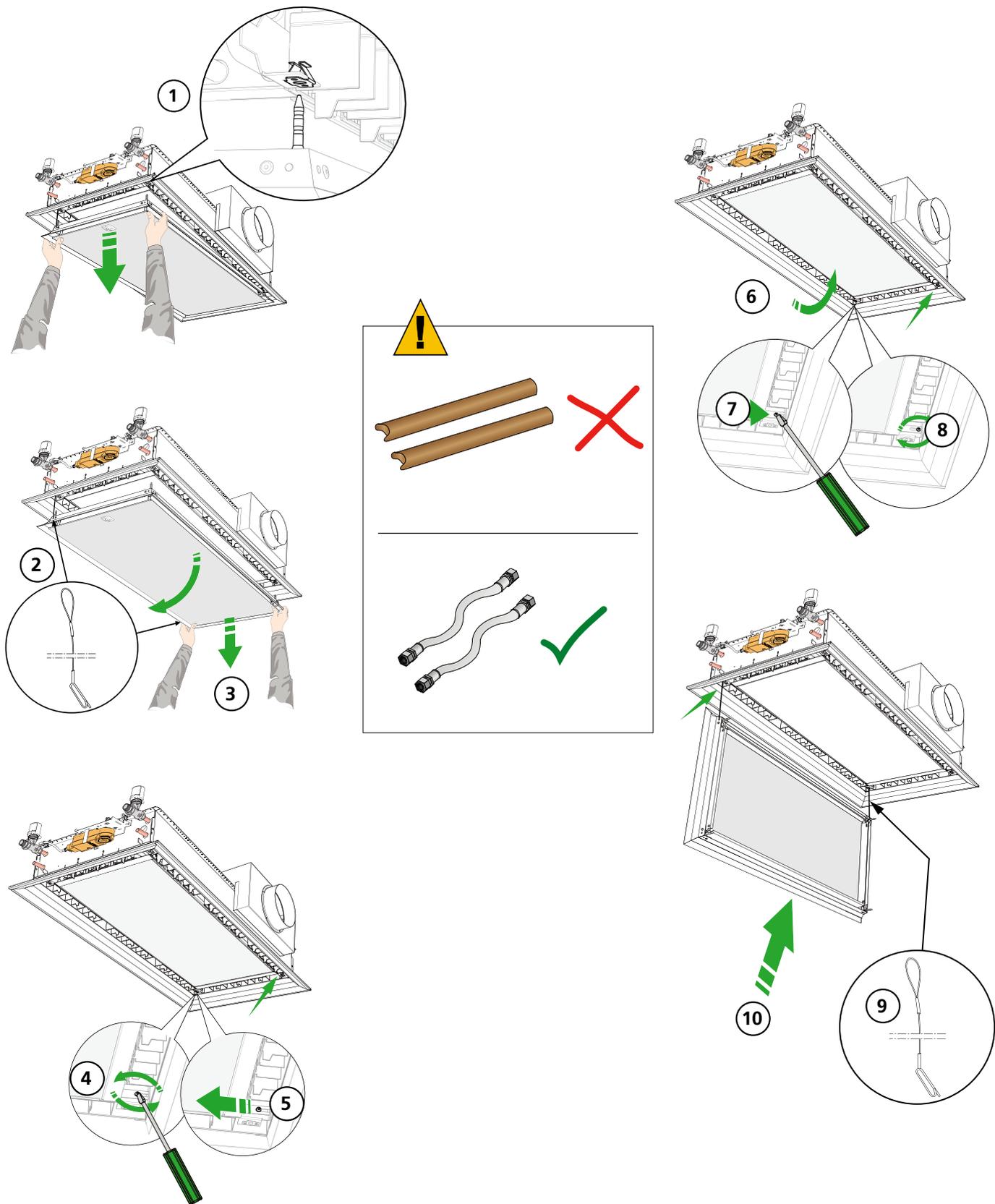
To centre the product when mounting in concealed T-bars.



Recommended number of plates per product.	
Length of the unit	
600	4
1200	6
1800	6-8

Accessory - Fold-out coil

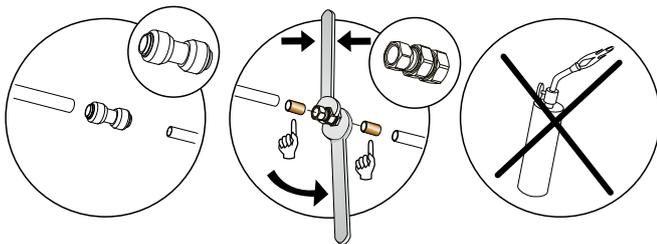
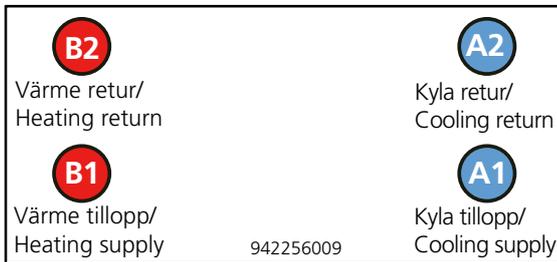
PARASOL Zenith AWC with fold-out coil (accessory) for easy access and cleaning when stringent demands are made on hygiene. The accessory, fold-out coil, requires flexible connecting hoses on the water side.



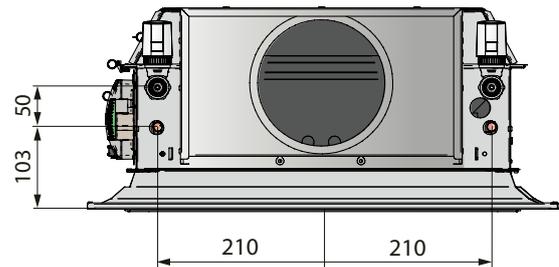
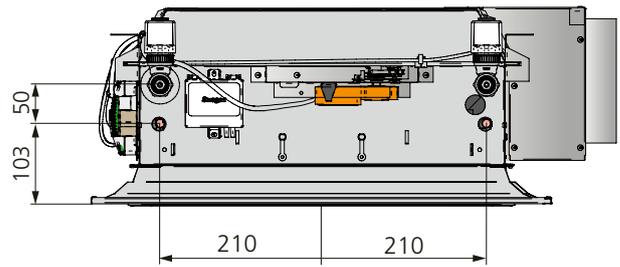
Water connection

PARASOL Zenith AWC 600 / 1200 / 1800

 **Important!**



 **NOTE!**
Use support sleeves inside the pipes together with compression ring couplings.



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.

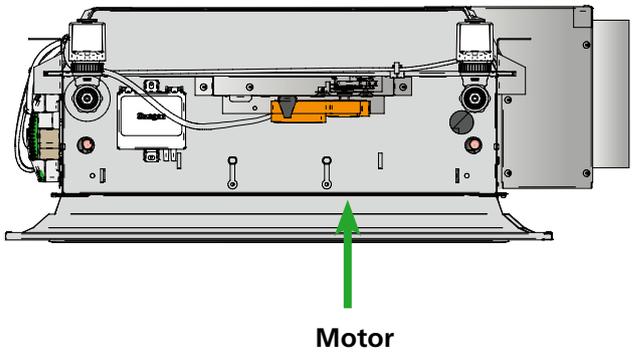
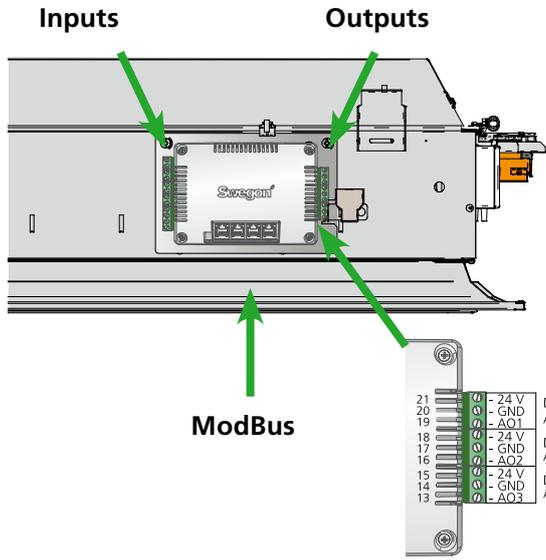
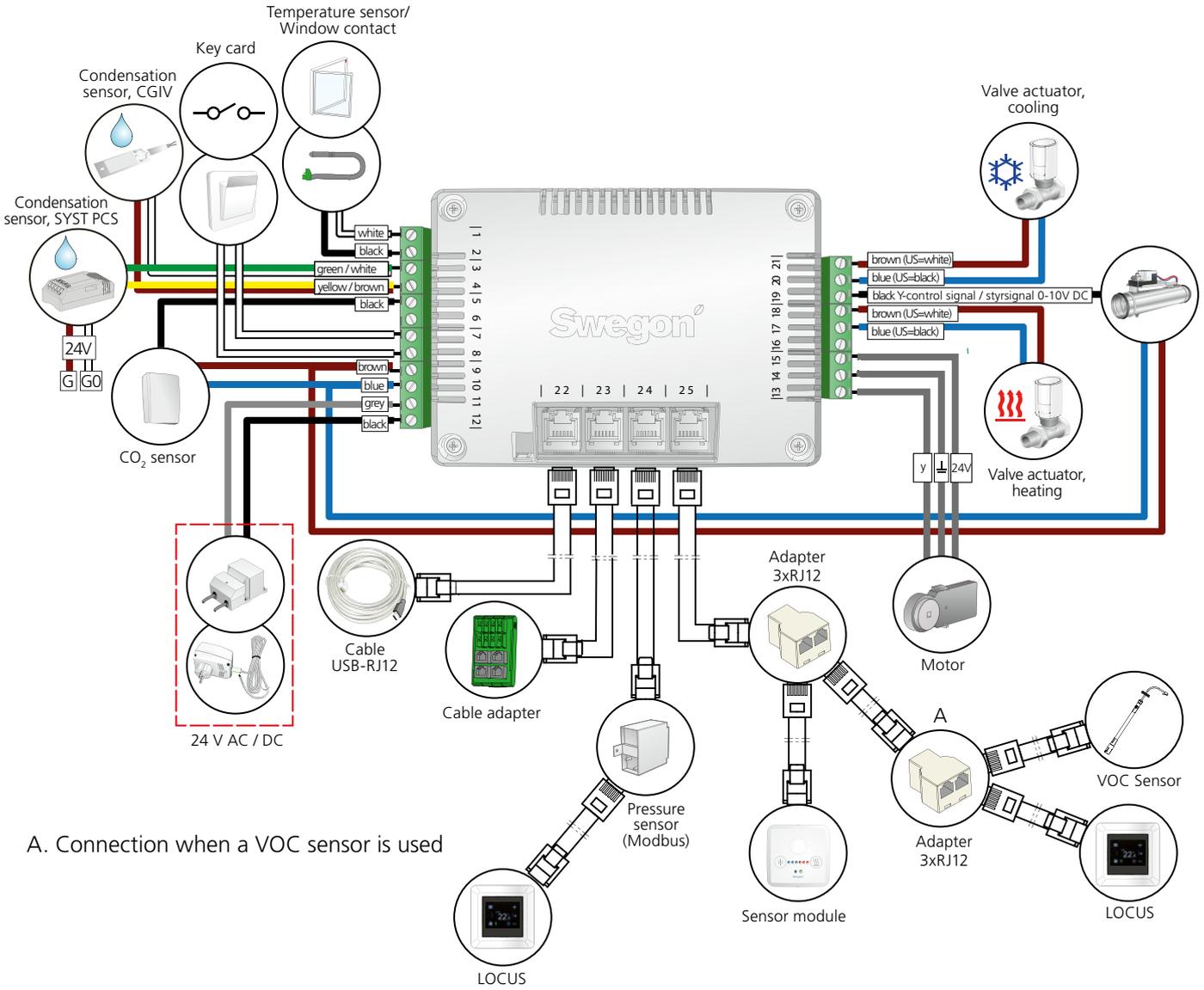
Automatic deaerators are often installed to facilitate filling of the system. It is recommended that the automatic deaerators are turned off once the system has been fully vented to avoid these drawing in air in the system if the pre-pressure in the expansion vessel should drop.

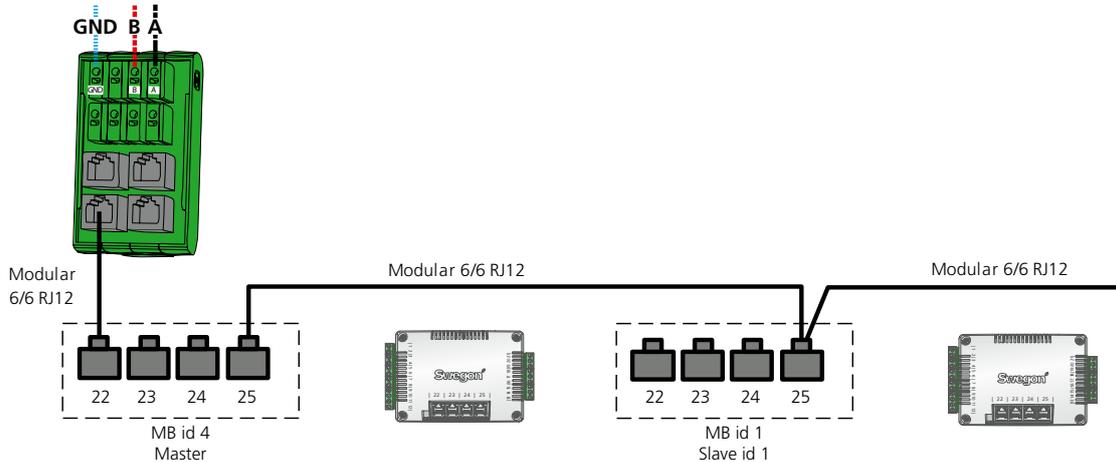
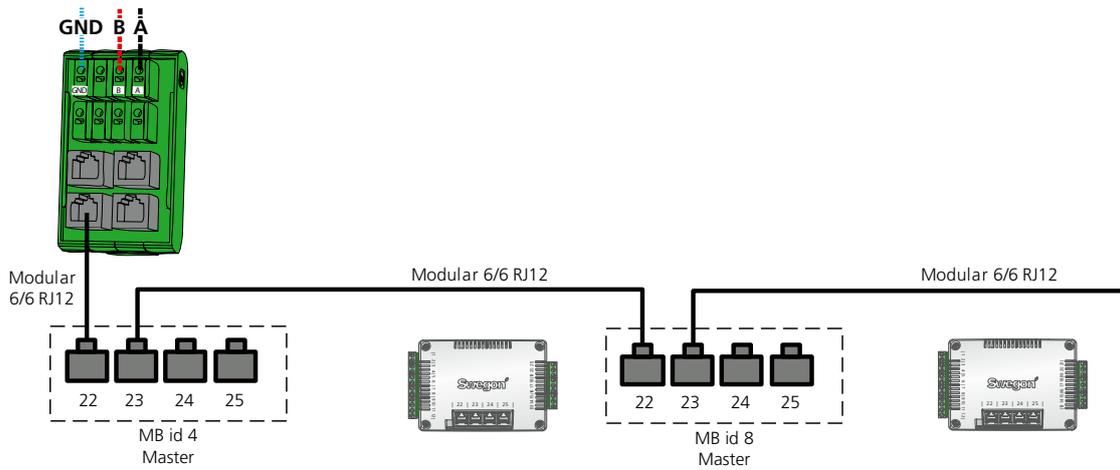
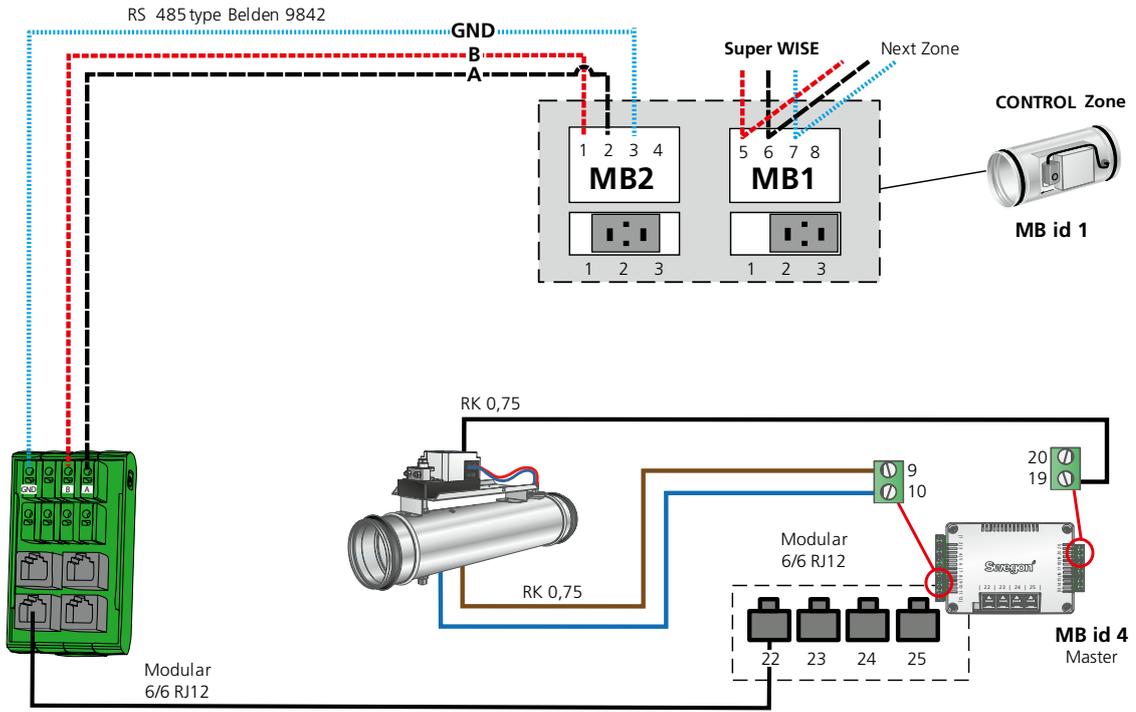
Connection sizes

Model	Length	Factory-fitted	Connection	Coupling type	Connection	Coupling type
A Cooling only	600, 1200	Actuator and valve	Return	DN15, male thread	Supply pipe	Plain pipe end 12 x 1.0 mm
B Cooling/Heating	600, 1200	Actuator and valve	Return	DN15, male thread	Supply pipe	Plain pipe end 12 x 1.0 mm
A Cooling only	1800	Actuator and valve	Return	DN20 external threads	Supply pipe	Plain pipe end 15 x 1.0 mm
B Cooling Heating	1800	Actuator and valve	Return	DN20 male thread/ DN15, male thread	Supply pipe	Plain pipe end 15 x 1.0 mm/ Plain pipe end 12 x 1.0 mm
A Cooling only	600, 1200	-	Return	Plain pipe end 12 x 1.0 mm	Supply pipe	Plain pipe end 12 x 1.0 mm
B Cooling/Heating	600, 1200	-	Return	Plain pipe end 12 x 1.0 mm	Supply pipe	Plain pipe end 12 x 1.0 mm
A Cooling only	1800	-	Return	Plain pipe end 15 x 1.0 mm	Supply pipe	Plain pipe end 15 x 1.0 mm
B Cooling Heating	1800	-	Return	Plain pipe end 15 x 1.0 mm/ Plain pipe end 12 x 1.0 mm	Supply pipe	Plain pipe 15 x 1.0 mm/ Plain pipe 12 x 1.0 mm

Wiring diagram

Wiring diagram for accessories





Menu sensor module:

Press and hold the left and right-hand buttons for five seconds to access the menu.

Use the left-hand button (*) to steps through the menus. Use the right-hand button (≡) to confirm your selection.

- Press the left-hand button and select:
1. Alarm list
 2. Air commissioning
 3. Water commissioning
 6. Return to menu



Confirm selections by pressing the right-hand button

1. Alarm list: See the complete alarm list to the right. In the commissioning menus:

- Navigate between the menus by pressing the left-hand button
- Confirm selections by pressing the right-hand button
- When a selection has been confirmed, the blue LED will flash for about 60 seconds.
- In order to return to normal operation, select "no adjustment"

2. Commissioning, air:

2.1. Min. airflow, no occupants ○ ● ○ ○ ○ ● ○

2.2. Min. airflow, occupancy ● ○ ○ ○ ○ ●

2.3. Max. air flow, occupancy ● ● ● ● ● ●

2.4. Min. airflow, holiday/longer period of no occupancy ○ ○ ● ● ○ ○

2.5. No adjustment ○ ○ ○ ○ ○ ○

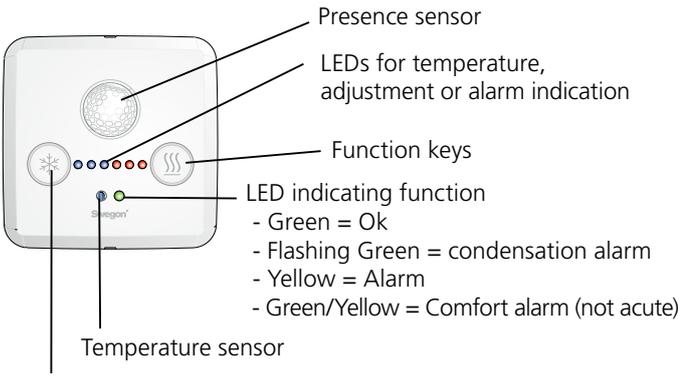
3. Commissioning, water:

3.1. Open the chilled water valve ● ● ● ○ ○ ○

3.2. Open heated water valve ○ ○ ○ ● ● ●

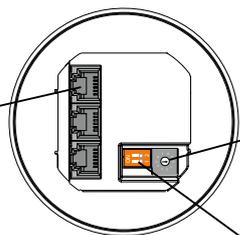
3.3. No adjustment ○ ○ ○ ○ ○ ○

4, 5 are not used
6. Return to menu



Function keys

3 parallel RJ12 ports (Modbus) for connections e.g. controller, additional sensor module or PC with the help of Cable converter USB-RJ12



Addressing the sensor module. 10 sensor modules can be connected to each master unit, each one must have a unique address to work.

Switch for termination resistance. On the last sensor module in the circuit switch 1 is set to On.

Alarm list for the sensor module

Alarm no.	Type of alarm	32	16	8	4	2	1
Alarm 1	Supply voltage low						●
Alarm 2	Supply voltage critical low					●	
Alarm 3	Ext temp missing					●	●
Alarm 4	Ext temp error				●		
Alarm 5	Condensation sensor error				●		●
Alarm 6	SM temp sensor error				●	●	
Alarm 7	SM button error				●	●	●
Alarm 8	CO ₂ sensor missing			●			
Alarm 9	VOC Error			●			●
Alarm 10	Low pressure			●		●	
Alarm 17	SM comm error		●				●
Alarm 18	Slave comm error		●			●	
Alarm 19	Pressure sensor comm error		●			●	●
Alarm 20	VOC sensor comm error		●		●		
Alarm 21	No master request (slave)		●		●		●
Alarm 22	Slave incompatible version		●		●	●	
Alarm 25	Heating comfort alarm		●	●			●
Alarm 26	Cooling comfort alarm		●	●		●	
Alarm 27	Temp. Set point overlap alarm		●	●		●	●
Alarm 28	Air quality comfort alarm		●	●	●		
Alarm 29	Condensation		●	●	●		●
Alarm 33	24 V Out 1 overload error	●					●
Alarm 34	24 V Out 2 overload error	●				●	
Alarm 35	24 V Out 3 overload error	●				●	●
Alarm 41	Slave input sum alarm	●		●			●
Alarm 42	Slave output sum alarm	●		●		●	

The alarm is shown with a number of LEDs when you select Alarm list (1) in the menu.

Each LED represents a number as per the table above and the numbers are added to form an alarm number.

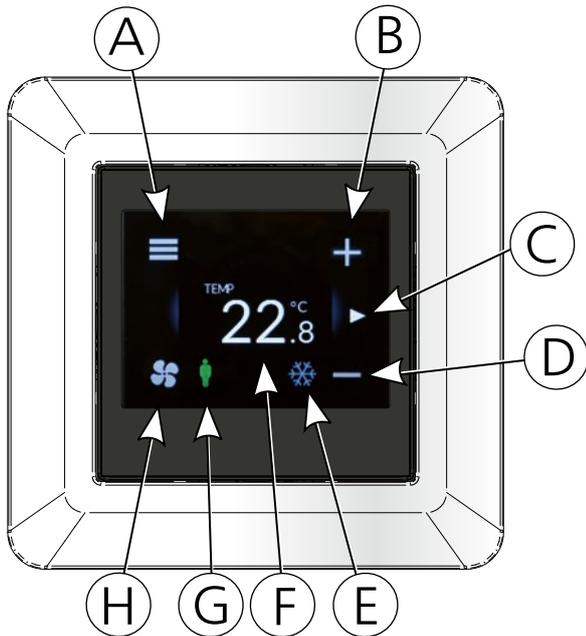
E.g. Middle blue and the two last red are lit (x0xxoo)

Middle blue corresponds to 16, next last red 2 and last red 1. The sum of these is 19, which is the alarm number.

Return to normal operation by pressing the right-hand button.

Room controller, LOCUS

Main menu and explanation of symbols



- A. menu
- B. increase
- C. swipe left to go to the next page
- D. decrease
- E. symbol showing ongoing cooling or heating
- F. shows programmed setpoint or measured temperature
- G. shows occupancy in the room
- H. press to activate boost flow

Technical data

Display	Capacitive touch TFT Display QVGA 2.3"
Screen resolution	320x240
Communication	Modbus RTU via RS-485
Temperature sensor	Internal 10K NTC sensor
Operating temperature	+5 ... +40°C
Degree of protection	IP20
Dimensions	88 x 88 x 35 mm
Operating voltage	12-40 VDC
Current requirement	0.5 W

Connection

LOCUS	Connection	Description
VDD	RJ12	12-40 VDC power supply
A+	RJ12	RS-485 bus connection
B-	RJ12	RS-485 bus connection
GND	RJ12	Earth for 12-40 VDC power supply
Memory card slot		The user panel's software can be updated via a Micro SD card

Standards and directives

The following standards have been observed:

EC Directive:	93/68/EEC
Low Voltage Directive:	2014/35/EU
Machinery Directive:	2006/42/EEC
EMC Directive:	2014/30/EU
RoHS Directive:	2002/95/EC
Vibrations:	EN-60721-3-3

Description of display

If the screen is in standby mode, it is activated again by clicking.

Display	Description	Explanation
	Display in standby mode	Activated with a click
	Active main menu	Increase/decrease the setpoint temperature by clicking on the + or - signs
	Activated boost mode	
	Swipe left for next page	Shows values from connected sensors
	Swipe right to go back to the main menu	

For more detailed information about LOCUS room controller. See documentation at www.swegon.com

- LOCUS Product datasheet
- LOCUS Instructions for Use (IOM)

Air connection

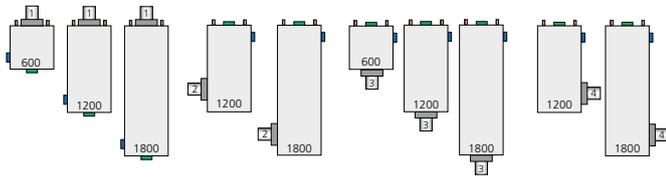
Connection sizes

Length of the unit	Dim. Ø		
	125	160	200
600, 1200	Yes	Yes	No
1800	No	No	Yes

Selectable air connection sides.

When ordering, depending on the length, it is possible to choose connection side 1, 2, 3 or 4, see the table and figure below (view from above).

Length of the unit	Side			
	1*	2	3	4
600	Yes	No	Yes	No
1200	Yes	Yes	Yes	Yes
1800	Yes	Yes	Yes	Yes

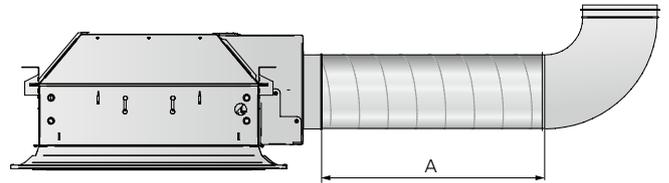


Symbol explanation

	Water pipe		Control equipment URC1
	Motor		Air connection

PARASOL Zenith AWC with bend

We recommend a straight section of at least $1 \times \text{Ø}$ for the product's built-in airflow measurement to function correctly and $3 \times \text{Ø}$ to maintain the tolerances specified in the table on page 12.



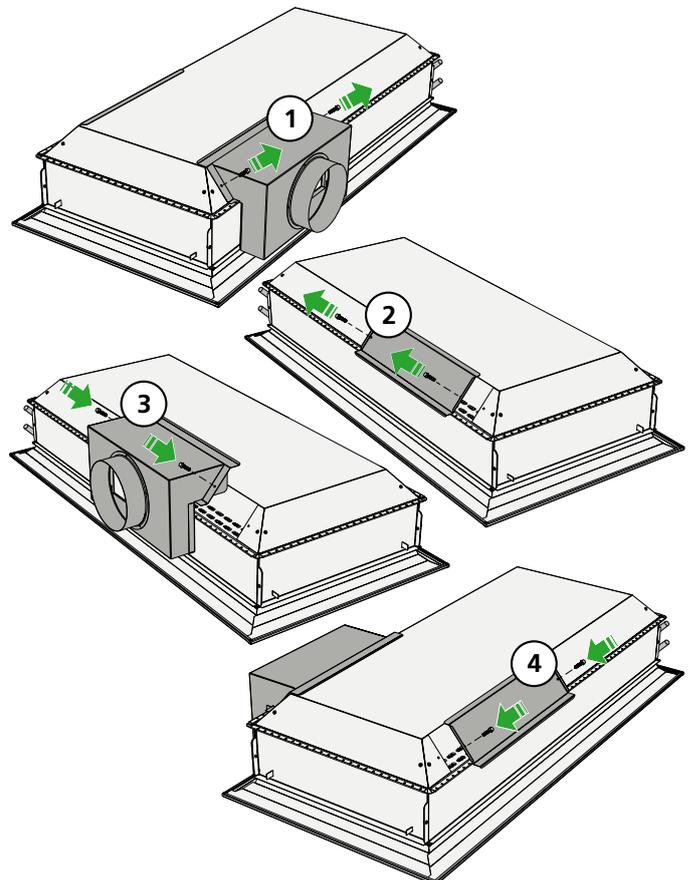
Dimensional drawing, long side connection with bend

Recommendation for accurate flow measurement

Air connection size (mm)	A (mm)
125	375
160	480
200	600

Alternative air connection side

1. Unscrew the screws from the sleeve and cover
2. Change the location of the sleeve and cover
- 3 - 4. Screw the sleeve and cover in position with screws on the new side

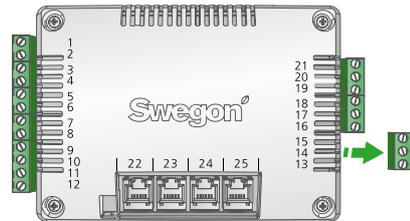
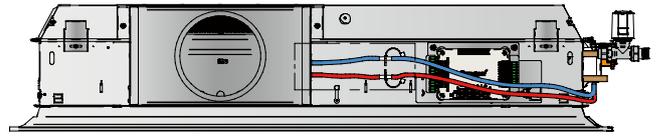


Commissioning

Flow Control

Check measure

1. Disconnect the 3-pole connector (13,14,15) from the regulator, which comes from the damper actuator.
2. Carefully disconnect the pressure hoses from the measuring probe that is mounted in the couplings before the regulator.
3. Measure the differential pressure.
4. Calculate the airflow using the formula $q = k \cdot \sqrt{\Delta p}$.
5. Reconnect the pressure hoses to the couplings (ensure the hoses are connected to the correct ports).
6. Reconnect the 3-pole connector from the damper actuator to the regulator.



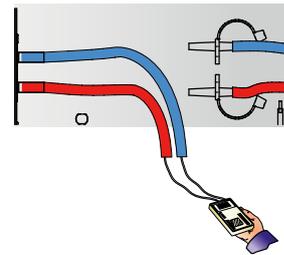
Disconnect the 3-pole connector (13, 14, 15) from the regulator, which comes from the damper actuator.

Flow tolerance

Air connection Ø	Minimum flow**			Tolerance Q* ±5 % but at least ±x		
	l/s	m ³ /h	cfm	l/s	m ³ /h	cfm
125	8	29	17	2	7	4
160	16	57	34	2	7	4
200	24	86	51	2	7	4

* Installed according to instructions

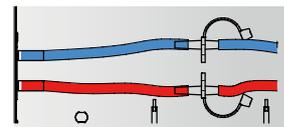
** For flows below the lowest specified level, we cannot guarantee the tolerances.



Carefully disconnect the pressure hoses from the measuring probe that is mounted in the couplings before the regulator.

Measure the differential pressure.

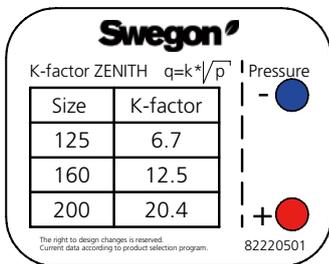
Calculate the airflow using the formula $q = k \cdot \sqrt{\Delta p}$.



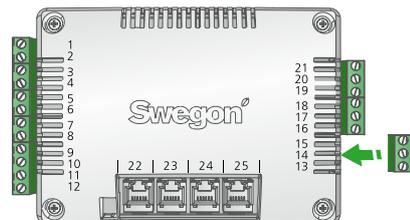
Reconnect the pressure hoses to the couplings (ensure the hoses are connected to the correct ports).

K-faktor

At the air connection, there is a label showing the K-factor for the product with air connection Ø125/160/200.

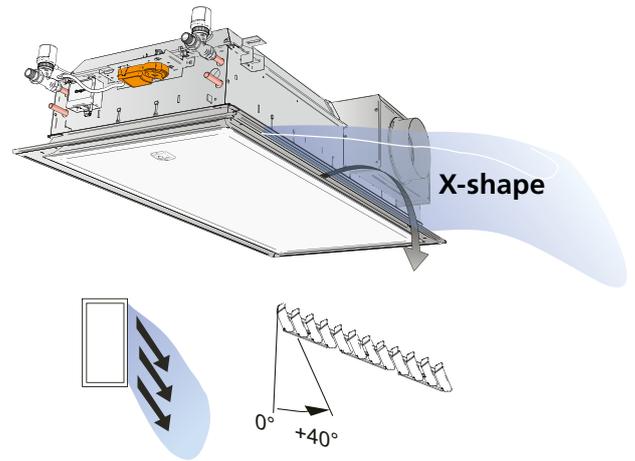
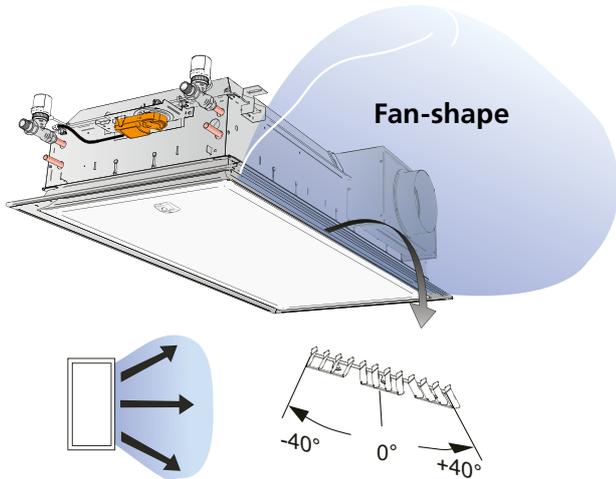


Label with the K-factor values.

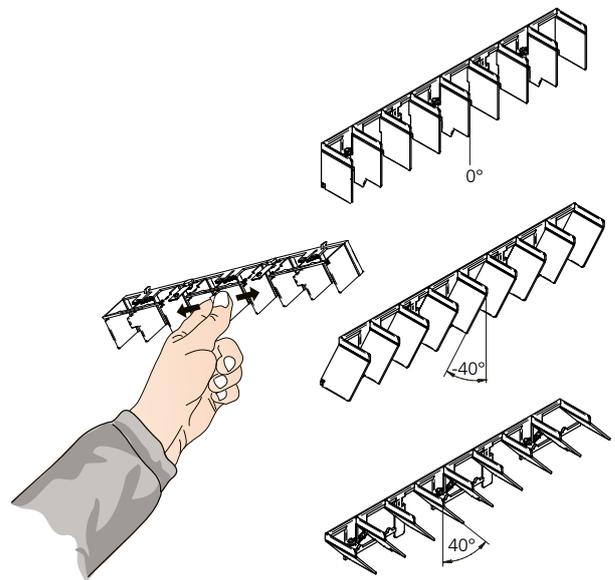
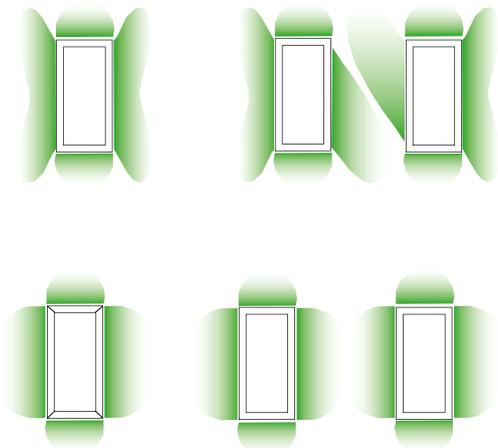


Reconnect the 3-pole connector from the damper actuator to the regulator.

ADC



Examples of ADC settings



Maintenance

