

WISE Parasol Zenith

Instructions for Use

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Art. 942428091

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The document refers to version "e"

Symbol key

Symbols on the machine

This product complies with applicable
EU directives



Symbols in this user manual

Warning/Caution!



References

www.swegon.com
Building Materials Declaration
WISE Parasol Zenith product data sheet
WISE System Guide
SuperWISE II / SuperWISE II SC User Manual
WISE Project Planning Guide - Heating, Cooling & Ventilation
and Electricity & Control



The document was originally written in Swedish



Application area

The product is a comfort module with integrated radio transmitter designed for demand-controlled climate indoors within Swegon's ventilation system WISE. The product is used to ventilate, cool and heat premises exactly as needed.

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 WISE Parasol Zenith

1 x 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

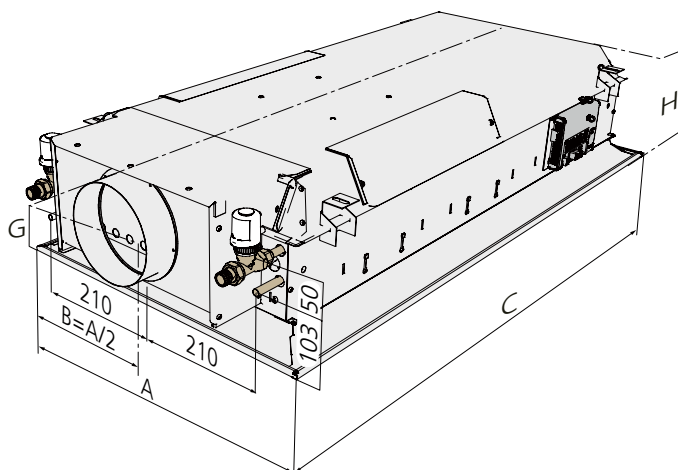
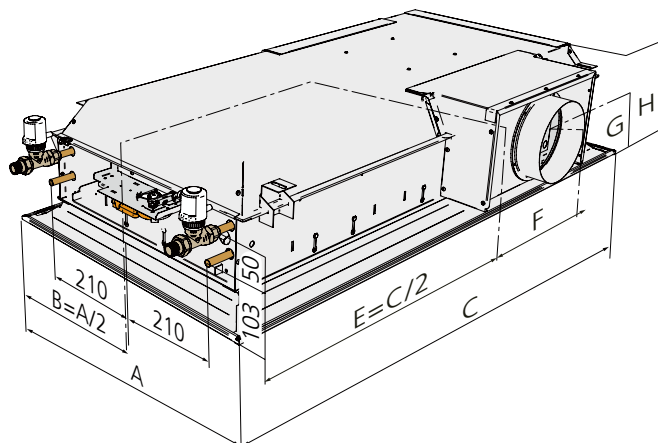
Always use appropriate transport and lifting devices when the product is to be handled to reduce ergonomic loads.

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.

Dimensions and weights



Dimensions

WISE Parasol Zenith 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

* Dimensions refer to products with air connection Ø125 or Ø160.

** When WISE SMB is installed in the face plate the height measurement (C and H) increases by 12 mm

WISE Parasol Zenith 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

* Dimensions refer to products with air connection Ø125 or Ø160.

** When WISE SMB is installed in the face plate the height measurement (C and H) increases by 12 mm

WISE Parasol Zenith 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

** When WISE SMB is installed in the face plate the height measurement (G and H) increases by 12 mm

Weight

WISE Parasol Zenith 600

Length mm	Type	Dim.	Dry weight	Water volume (l)	
		Ø	(kg)	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

WISE Parasol Zenith 1200

Length mm	Type	Dim.	Dry weight	Water volume (l)	
		Ø	(kg)	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

WISE Parasol Zenith 1800

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

Weights above are excl.:

WISE SMB (0.1 kg).

Control plate with WISE CU (0.33 kg).

SYST MS

M8

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

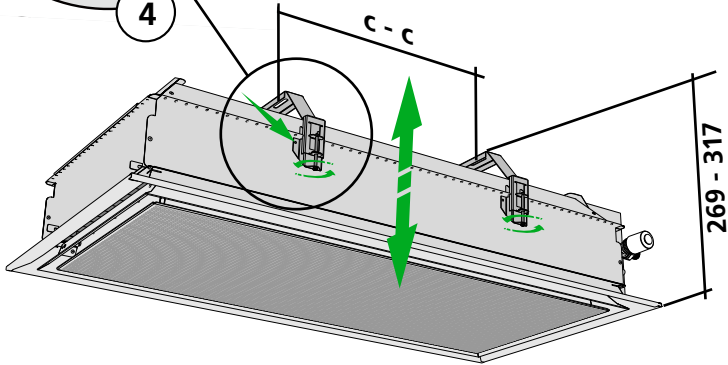
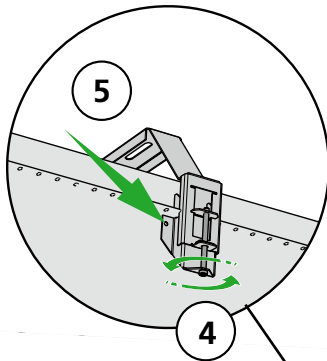
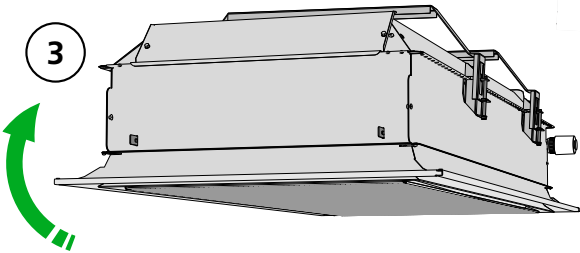
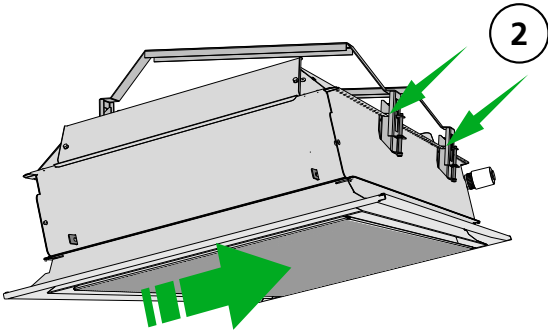
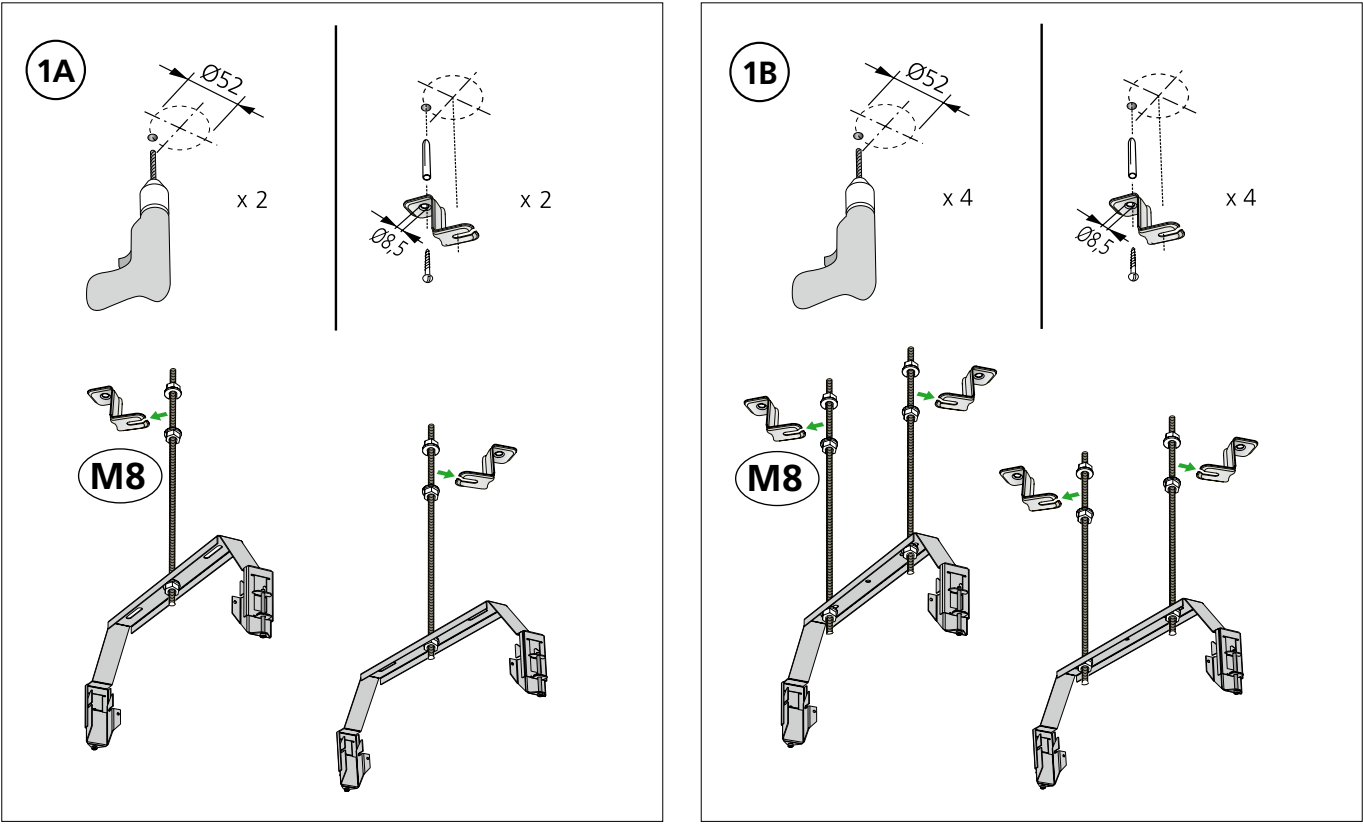
Alternative placement of the suspension bracket

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 for length 600, 1200 and 1800

Installation with quick bracket (accessory)

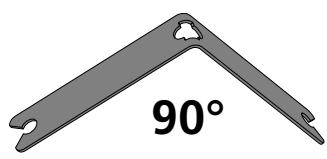
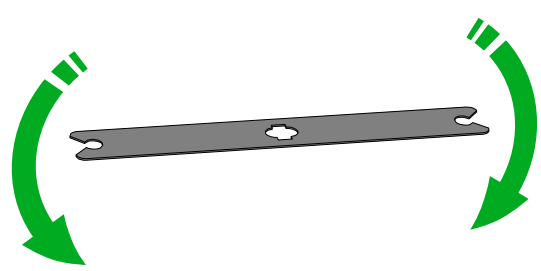
A: Installation with one centred threaded rod per quick bracket. B: Installation with two threaded rods per quick bracket.



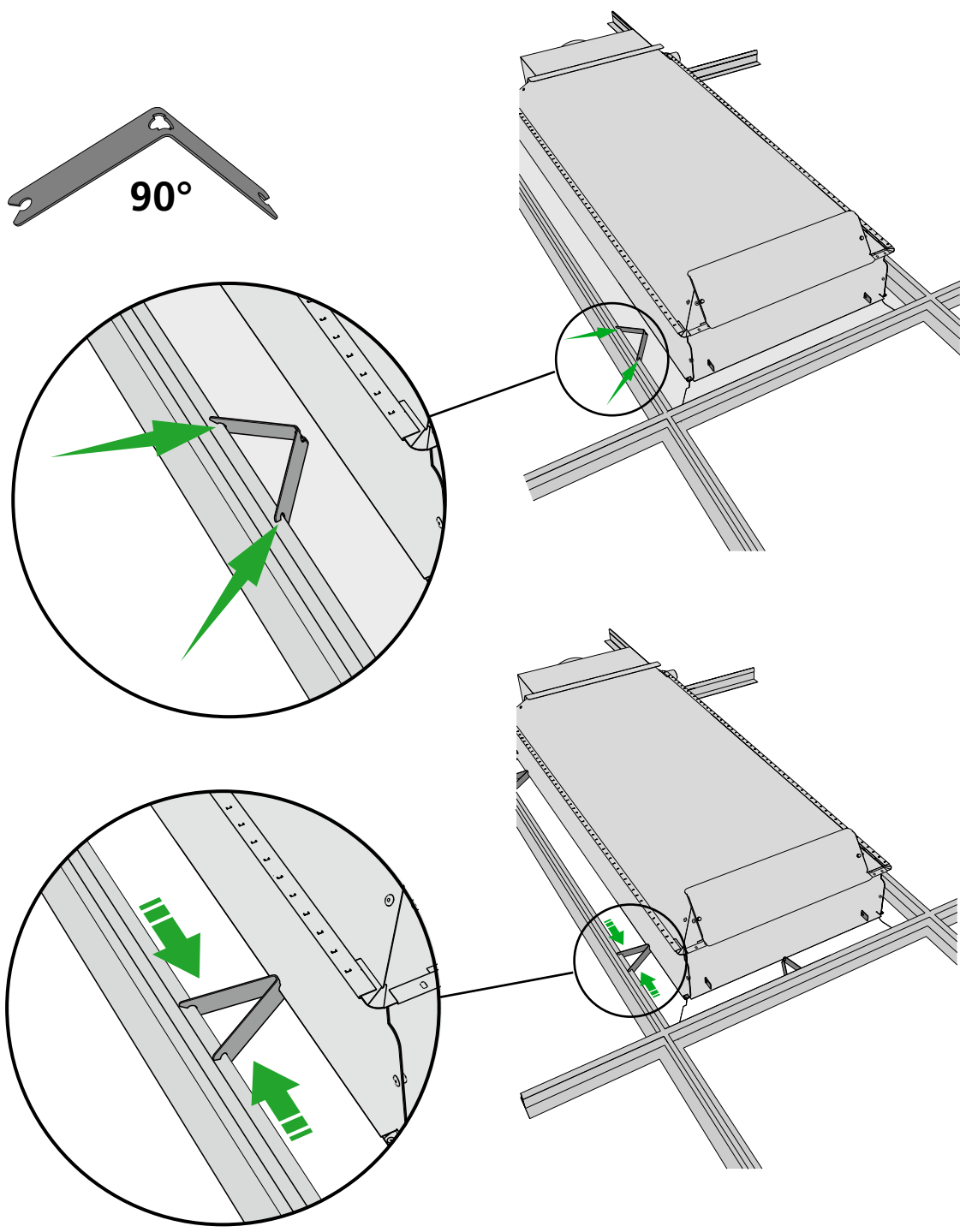
c - c measurement

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 - Centring when mounting in concealed T-bars.

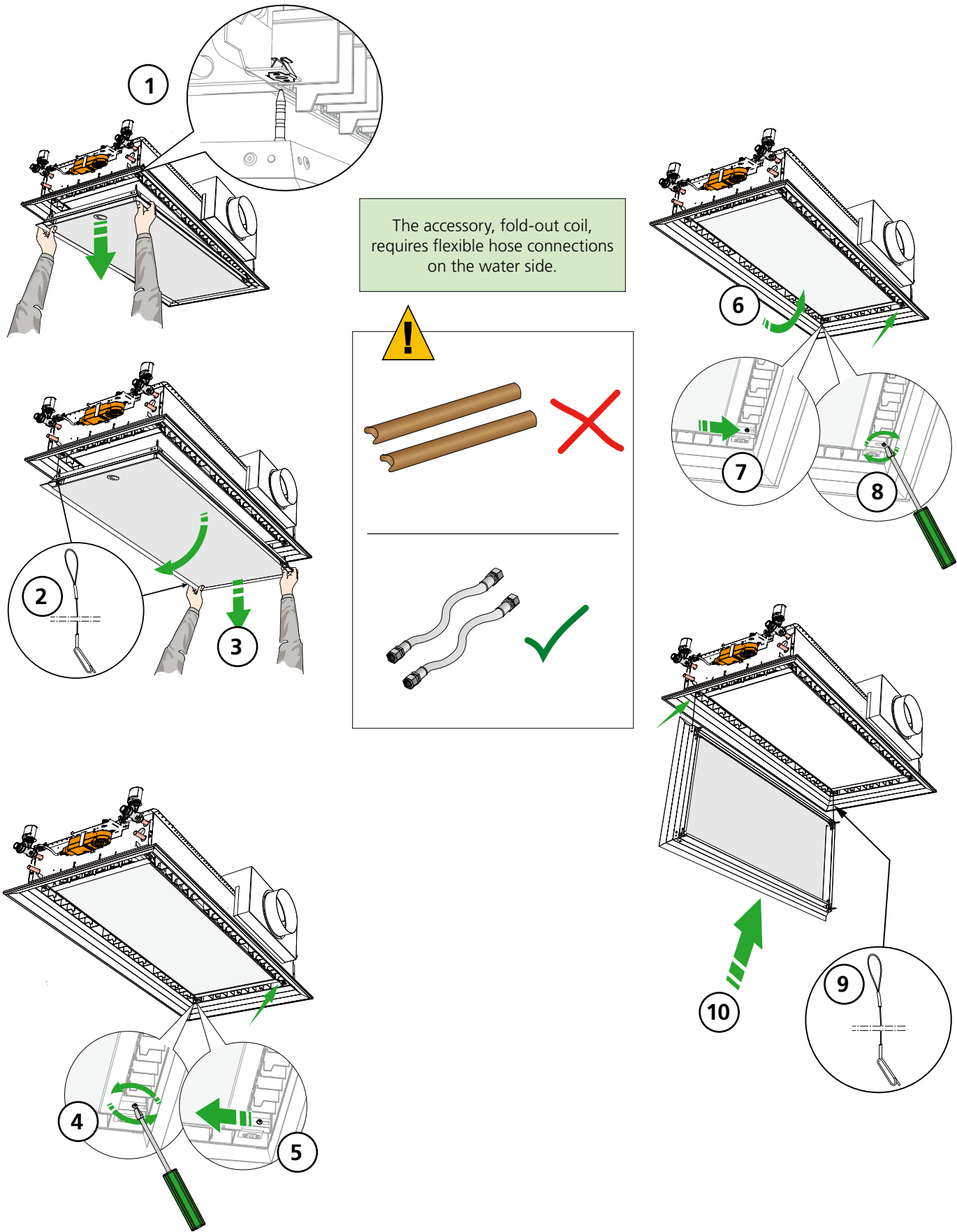


Recommended number of plates per product.	
Length of the unit/	
600	4
1200	6
1800	6-8



Accessory - Fold-out coil

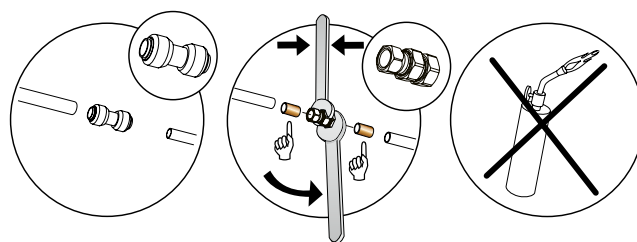
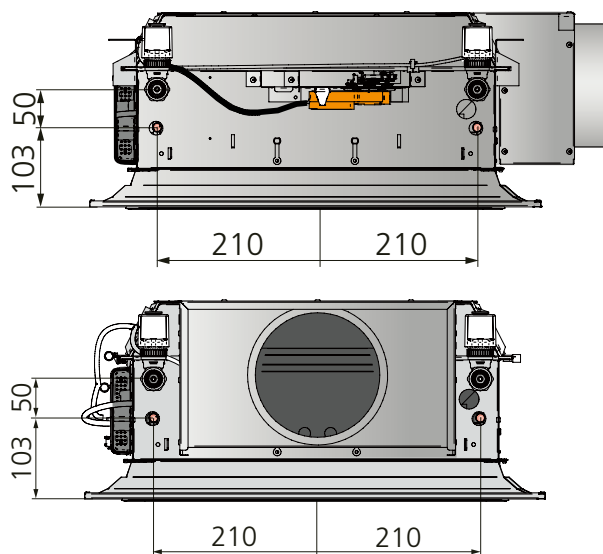
For easy access and cleaning stringent demands are made on hygiene.



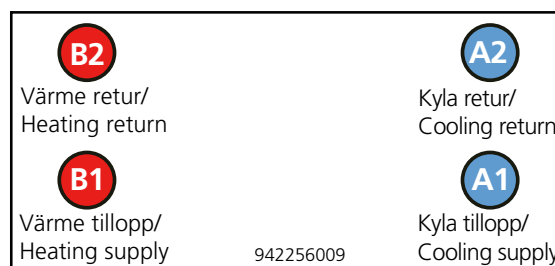
Water

Location water pipes

WISE Parasol Zenith 600 / 1200 / 1800



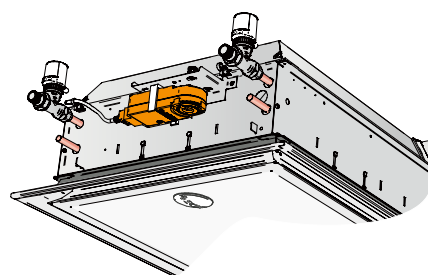
Note that compression ring couplings require support sleeves inside the pipes.



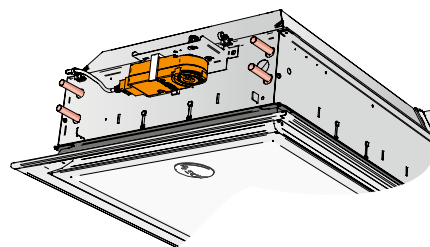
Water quality

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 dissolve gas. It is also important that the pre-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-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.



Water connection with factory fitted valves
(In the example a WISE Parasol Zenith with air connection on the long side)



Water connection without factory fitted valves
(In the example a WISE Parasol Zenith with air connection on the short side)

Connection sizes

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

Air

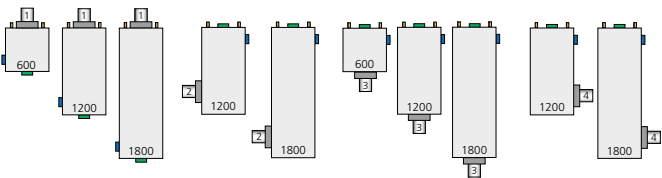
Selectable connection dimensions

Length	Diameter Ø		
	125	160	200
600	Yes	Yes	No
1200	Yes	Yes	No
1800	No	No	Yes

Selectable air connection sides

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

Length	Air connection side			
	1	2	3	4
600	Yes	No	Yes	No
1200	Yes	Yes	Yes	Yes
1800	Yes	Yes	Yes	Yes

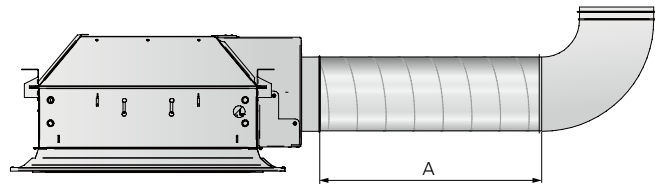


Symbol key

Water pipes		Control equipment WISE CU	
Motor		Air connection	

WISE Parasol Zenith with bend

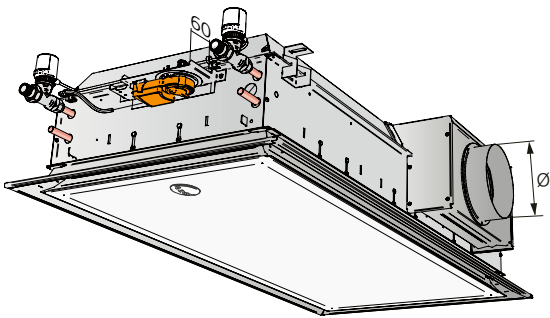
We recommend a straight section of at least 1xØ for the product's built-in airflow measurement to function correctly and 3xØ to maintain the tolerances specified in the table on page 10.



Dimensional drawing, long side connection with bend

Recommendations for accurate flow measurement

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



Changing the air connection side

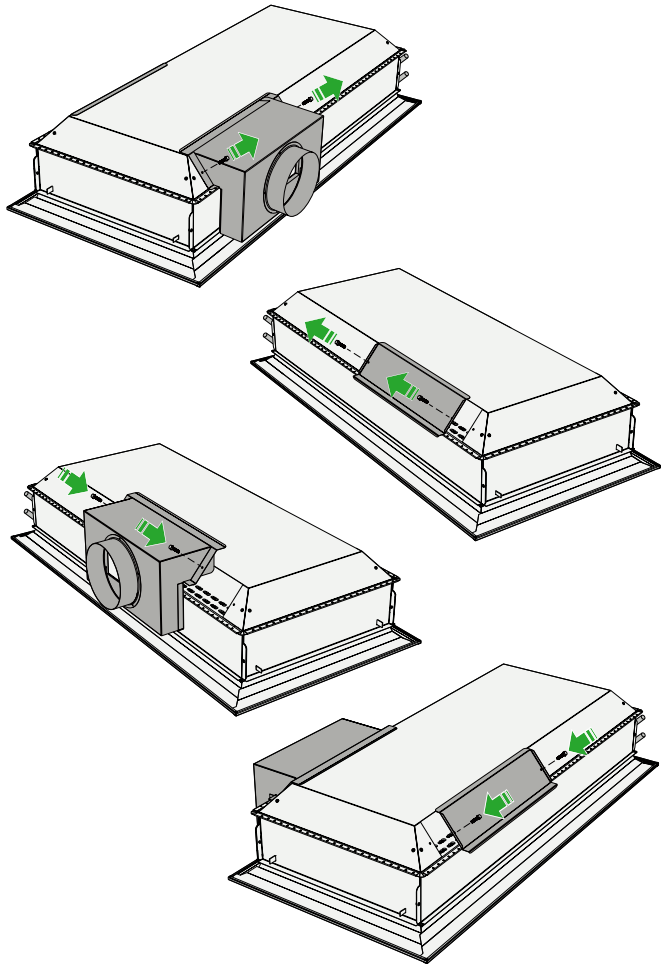
If you subsequently want to change the air connection side than that ordered, you can change the positions of the cover and connection sleeve as set out below:

Possibility to change the connection side

- From side 1 to side 2 or 4. (Does not apply to length 600)
- From side 2 to side 3 or 4.
- From side 3 to side 2 or 4. (Does not apply to length 600)
- From side 4 to side 2 or 3.

Alternative air connection side

1. Unscrew two screws each from the spigot and cover
2. Change the location of the spigot and cover
3. Screw the spigot and cover in position each with two screws on the new side

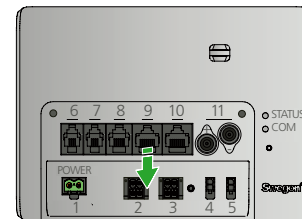
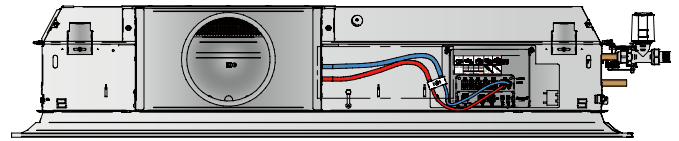


Commissioning

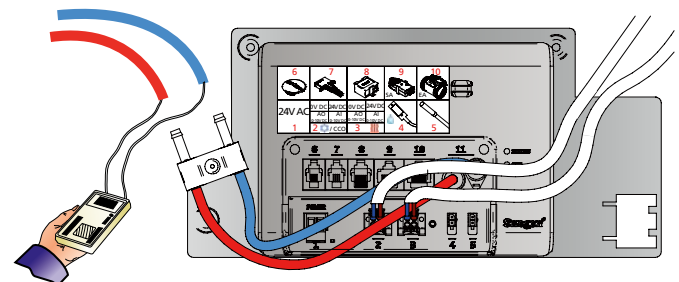
Flow Control

Check measure

1. Disconnect the RJ45 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 RJ45 plug from the damper actuator to the regulator.



Disconnect the RJ45 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	m³/h	cfm	l/s	m³/h	cfm
125	5	18	10	2	7	4
160	10	36	21	2	7	4
200	15	54	32	2	7	4

* Installed according to instructions

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

K-factor

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

Swegon

K-factor ZENITH $q = k \cdot \sqrt{p}$ | Pressure

Size	K-factor
125	6.7
160	12.5
200	20.4

The right to design changes is reserved.
Current data according to product selection program.

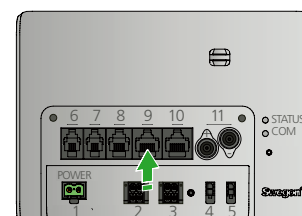
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Label with the K-factor values.

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).



Reconnect the RJ45 plug from the damper actuator to the regulator.

ADC

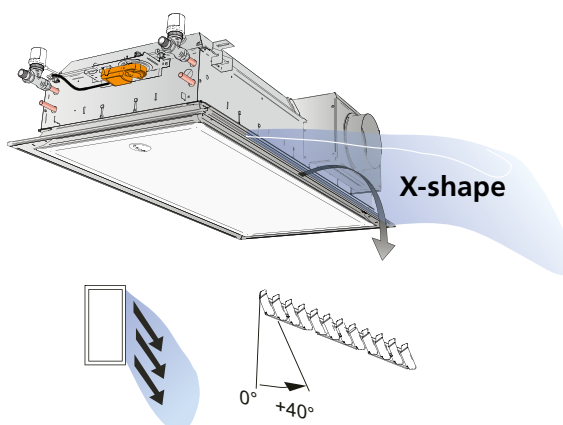
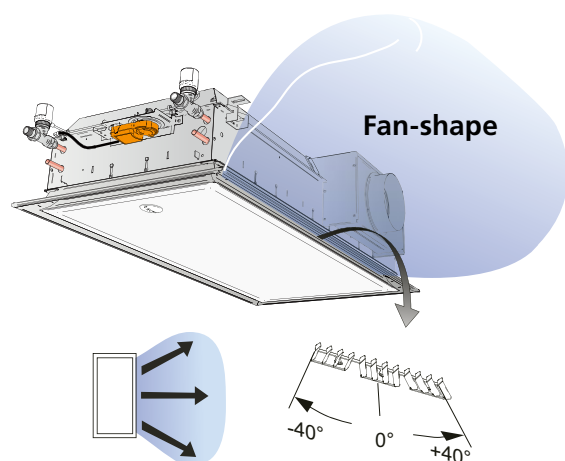
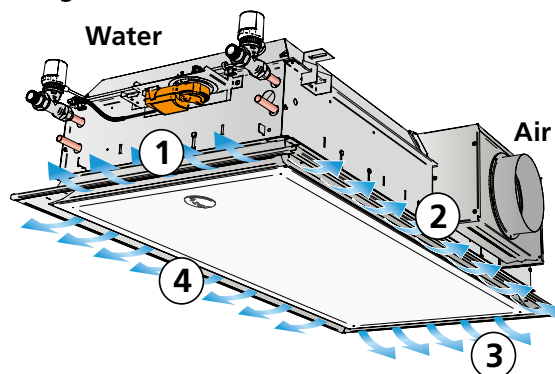
WISE Parasol Zenith is a part of the WISE system that demands controls both air and water on a room level and guarantees the highest level of indoor climate with minimum energy consumption. This means that when the installation and pairing of the system are completed, no further trimming is required except for any adjustment of ADC.

The water connection is always placed on the page 1.

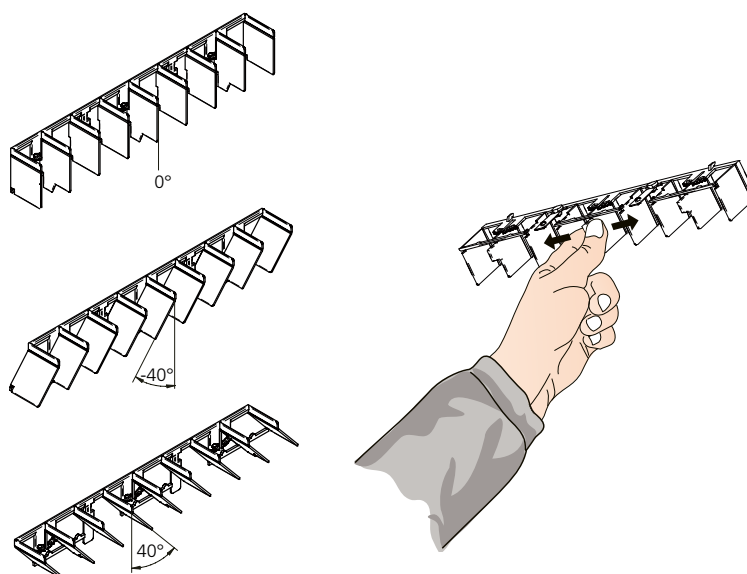
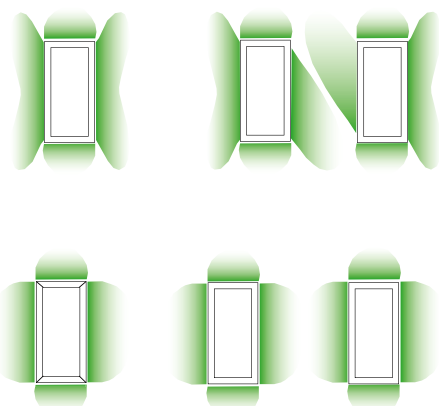
The product, depending on length, can be ordered with the air connection on side 1, 2, 3 and 4.

In the example to the right the air connection is on page 2.

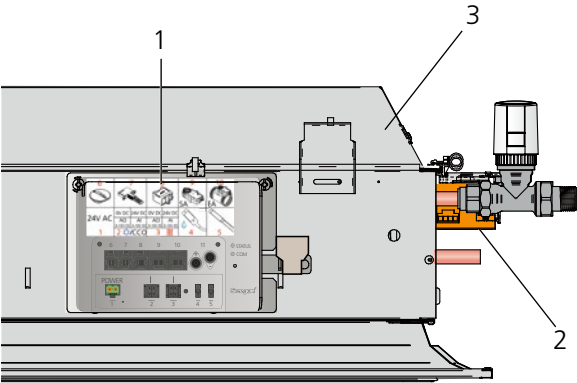
Page 1-4



Examples of ADC settings



Connections



WISE Parabol Zenith with factory-fitted components

- 1. WISE CU (Controller Unit)
- 2. Motor for integrated air damper
- 3. Temperature sensor for supply air

Factory fitted components as an option

- Sensor Module Advanced (WISE SMA Multi), (Optional)
- Sensor Module Basic (WISE SMB), (Optional)
- Valves and actuators for cooling
- Valves and actuators for heating
- Dew point regulation
- Condensation sensor

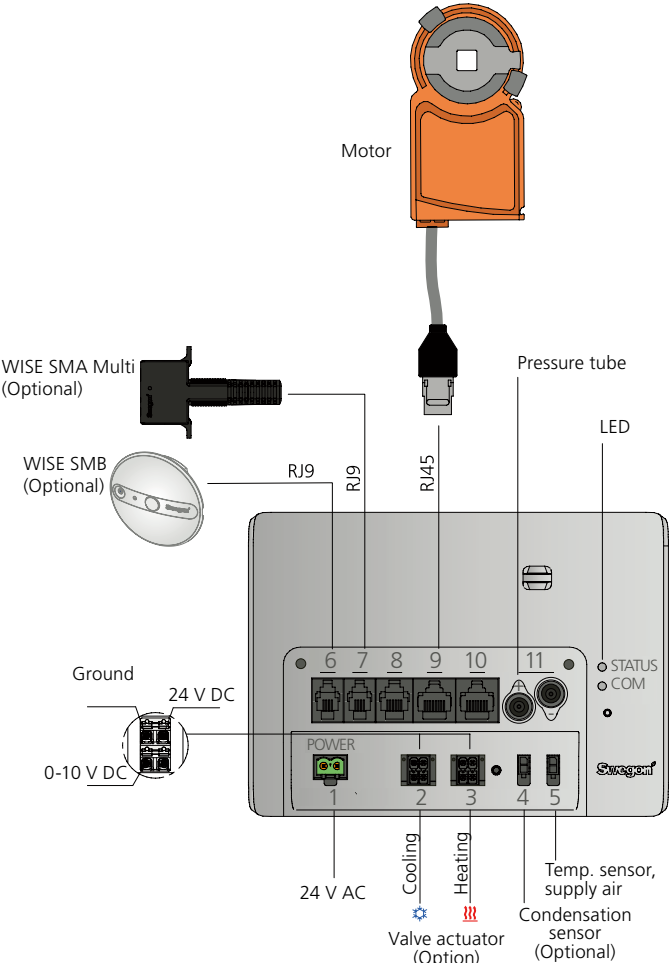
LED - Explanation

Not connected "paired"

	Colour	Type
Energized	White	Permanent
Selected in TuneWISE	White	Flashing, fast
Prepared to be added to the system	White	Flashing, slowly
To be added to the system	White	Flashing, fast for 5 s

Connected "paired"

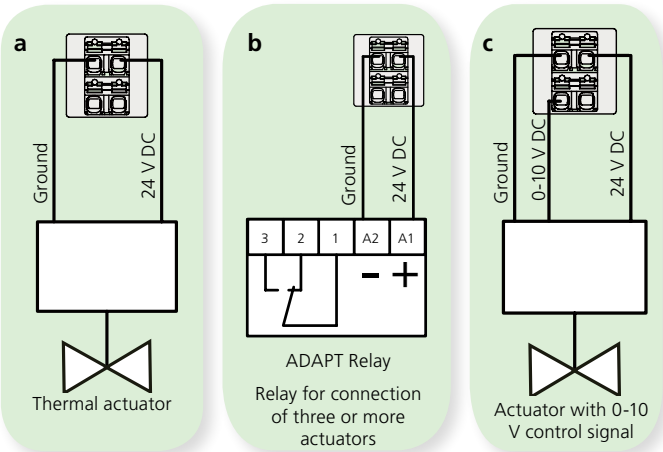
	Colour	Type
Normal operation	Green	Permanent
Restart	Blue	Permanent for 10 s
Initiation	Blue	Flashing
Boosted max. flow	Orange	Permanent
Boosted min. flow	Orange	Permanent
Boosted water flow	Violet	Permanent
Boosted water flow/air flow	Violet/Orange	Alternating
Comfort alarm	Red	Permanent
Function alarm	Red	Flashing
Emergency mode	Green/Red	Alternating
Test mode	Green/Orange	Alternating



WISE Parabol Zenith, connection.

There are different types of actuators

- For connection of the thermal actuator such as Swegon's actuator ACTUATORC, see figure a.
- When connecting the relay for connection of three or more actuators, see figure b.
- When connecting of the actuator with 0-10 V control signal (NOTE! 24 V DC supply) see figure c.



Use

Use TuneWISE for commissioning. Commissioning must be performed by qualified and trained WISE service engineers.

Use SuperWISE for settings, reading alarms, etc. refer to the documentation for SuperWISE II / SuperWISE II SC.

Trouble shooting

The product is not shown in the system:

- Make sure that the product is energized. (e.g. diode)
- Make sure that the product is paired.
- Make sure the product is in the right network.

The product shows incorrect/no air flow/pressure

- Make sure that the product is installed according to the recommended distance.
- Check that there is air flow/pressure.
- Check that the measuring tube is mounted correctly.
- Check that the measuring tube is undamaged.

The product does not regulate the air flow/pressure

- Check that the motor has not become detached from the damper spindle.
- Check that the motor works by turning the motor's release button, turn the damper spindle, release the knob and then see whether the motor starts to move.

The product shows incorrect/no temperature

- Make sure the temperature sensor is not missing.
- Make sure that the temperature sensor does not hang outside the product.
- Check that the temperature sensor is connected to the right input.

The product shows incorrect/no VOC/CO2

- Make sure the VOC/CO2 sensor (WISE SMA Multi) is not missing.
- Check that the VOC/CO2 sensor is connected to the right input.

Cleaning

Ideally the product should be cleaned twice a year by vacuuming the coil to remove loose dust. In fibre dense environments a more frequent interval is recommended.

A simple visual inspection of connections is recommended when cleaning.

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.

Cleaning of electrical components

- If needed, use a dry cloth to clean the components.
- Never use water, detergent and cleaning solvent or a vacuum cleaner.

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.

Materials and surface treatment

Sheet parts are made of galvanised sheet steel (Z275) and pre-painted sheet SS-EN 10143+10346 - DX52D + ZA95, NCS S 0500-N gloss 30+/-6%.

Disposal

Waste must be handled according to local regulations.

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.

Technical data

Max. radio frequency output:	50 mW
Frequency band:	2.45 GHz, IMS band (2400--2483 MHz)
Temperature sensor:	0 - 50°C ± -0.5°C
Dynamic pressure sensor:	0 - 300 Pa
With WISE SMA Multi	
VOC sensor	450 - 2000 ppm
RH sensor:	0 - 100 RH%
CO ₂ sensor	400 - 2000 ppm
IP class:	IP20
Running time open/close (90°):	120 s
Ambient temperature	
Operation:	0 – 50°C
Storage:	-20 – +50°C
RH:	10 - 95% (non condensing)
CE marking:	2006/42/EC (MD)
	2014/53/EU (RED)
	2011/65/EU (RoHS2)

Electrical data

Power supply:	24V AC ±15% 50 - 60Hz
Connections pipe dim.	
Power:	Screw terminal max. 2.5mm ²
Valve actuator:	Push-in spring force connections, max. 1.5 mm ²
Max. power consumption:	See table below

WISE Parasol Zenith in standard design:	VA / unit	Standard VA total
WISE CU	2.3	4.8
Damper motor (UM24)	2,5	

Option:	VA / unit		
	x 1	x 2	x 3
Valve actuator, ACTUATORc	6	12	18*
WISE SMA Multi	0.8		
WISE SMB	0.6		

Example:
WISE Parasol Zenith in standard design with the following options:
Actuator for cooling and heating as well as WISE SMA, gives a total power consumption of 4.8 + 6 + 0.8 = 11.6 VA

Declaration of Conformity

Swegon AB hereby affirms that
WISE Parasol Zenith with integrated radio, complies with the essential characteristic demands and relevant regulations specified in the following directives: 2006/42/EC (MD), 2014/53/EU (RED) and 2011/65/EU (RoHS2):

The following standards have been observed:

EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk mitigation
EN 60204-1:2006	Safety of machinery - Electrical equipment of machines - Part 1: Generic standards
EN 60730-1:2011	Automatic electrical control and control unit for household use - Part 1: Generic standards
EN 60730-2-14:2009	Automatic electrical controls for household and similar use - Part 2 Particular requirements for electric actuators
IEC 60529:1992+A2:2013	Degrees of protection provided by enclosures (IP code)
EN 61000-6-2:2007	Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments
EN 61000-6-3:2007	Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light-industrial environments
EN 300 328 V1.9.2, V1.9.1, V1.8.1	Electromagnetic compatibility and Radio spectrum Matters (ERM) - Wideband Transmission systems - Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques
EN 60335-1:2012+A11:2014	Electric household appliances and similar appliances - Safety - Part 1: Generic standards
EN 60335-2-30:2009+A11	
EN 62233:2008	



Person responsible for this declaration:
Name: Per Eriksson, R&D Manager
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Date: Arvika 2024/07/01

This declaration is applicable only if the product has been installed according to the instructions in this document and if no modifications or changes have been made on this product.

Maintenance

