WISE Parasol a

Instructions for Use

Content

Symbol key

Symbols on the machine.

This product complies with applicable
EU directives

CE

Symbols in this user manual

Warning/Caution!

The document was originally written in Swedish.

Swegon

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 x WISE Parasol

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.

05/04/2023   **Swegon**

Dimensions and weights

Dimensions

Dimensions, WISE Parasol 600

Dimensions (mm)								
A	B	C	ØD	E	F **	G	H	I
584	584	567	125/160*	567	220/250*	75/102*	50	63
592	592	567	125/160*	567	220/250*	75/102*	50	63
598	598	567	125/160*	567	220/250*	75/102*	50	63
617	617	567	125/160*	567	220/250*	75/102*	50	63
623	623	567	125/160*	567	220/250*	75/102*	50	63
642	642	567	125/160*	567	220/250*	75/102*	50	63
667	667	567	125/160*	567	220/250*	75/102*	50	63

* Dimensions refer to WISE Parasol 600 PF; ** When the sensor module WISE SMB is installed in the face plate the height measurement (F) increases by 12 mm

Dimensions, WISE Parasol 1200

Dimensions (mm)								
A	B	C	ØD	E	F **	G	H	I
1184	584	567	125/160*	1157	220/250*	75/102*	50	63
1192	592	567	125/160*	1157	220/250*	75/102*	50	63
1198	598	567	125/160*	1157	220/250*	75/102*	50	63
1242	617	567	125/160*	1157	220/250*	75/102*	50	63
1248	623	567	125/160*	1157	220/250*	75/102*	50	63
1292	642	567	125/160*	1157	220/250*	75/102*	50	63
1342	667	567	125/160*	1157	220/250*	75/102*	50	63

* Dimensions refer to WISE Parasol 1200 PF; ** When the sensor module WISE SMB is installed in the face plate the height measurement (F) increases by 12 mm
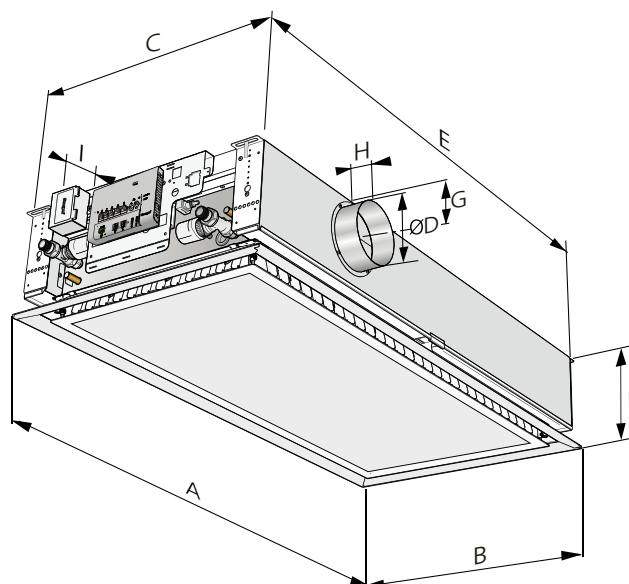
Weight

Weight, WISE Parasol 600

WISE Parasol	Type	Dry weight	Water volume	
		(kg)	cooling (l)	heating (l)
600	592-A	16	1.1	
600	592-B	16.5	1.1	0.2
600	592-A-PF	17.5	1.1	
600	592-B-PF	18	1.1	0.2

These are examples of the most common sizes of WISE Parasol. For the other variants, refer to IC Design at www.swegon.com. Excl. sensor module WISE SMB (0.1 kg).

Weight, WISE Parasol 1200

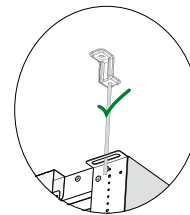| WISE Parasol	Type	Dry weight	Water volume	
		(kg)	cooling (l)	heating (l)
1200	1192-A	25.8	1.4	
1200	1192-B	29.8	1.4	0.9
1200	1192-A-PF	28.1	1.4	
1200	1192-B-PF	32.1	1.4	0.9
1200	1192-X1	30.2	1.4	
1200	1192-X2	30.5	1.4	

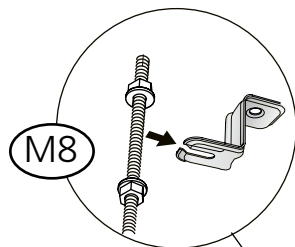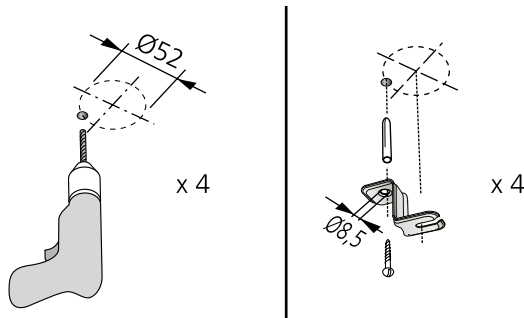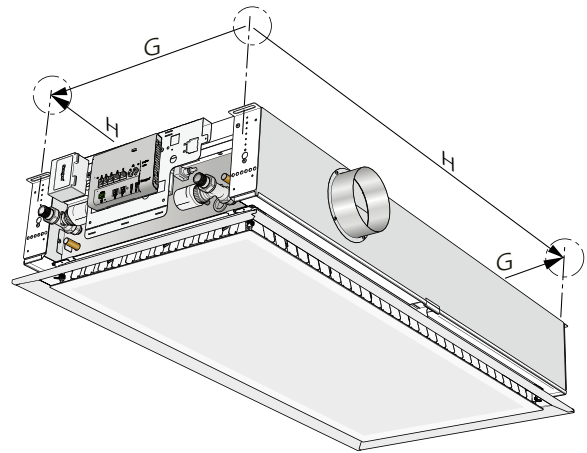*These are examples of the most common sizes of WISE Parasol. For the other variants, refer to IC Design at www.swegon.com. Excl. sensor module WISE SMB (0.1 kg).*

Installation

Suspension

Dimensions, c/c

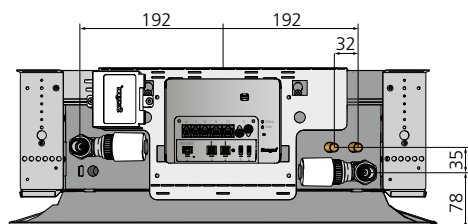| WISE Parasol	c/c min-max (mm)	c/c (mm)
Size	G	H
600	468-547	590
1200	468-547	1190

    05/04/2023
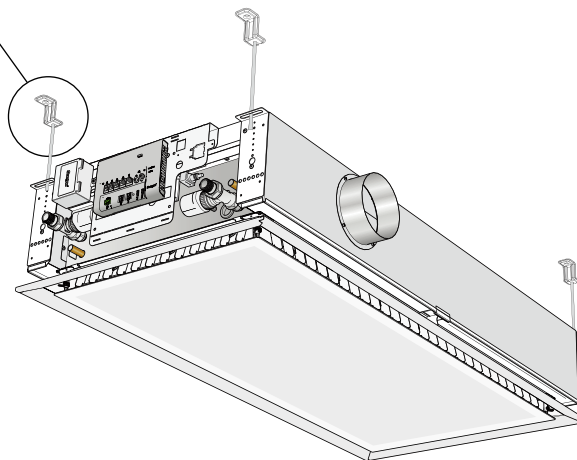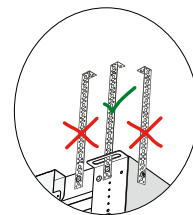
Water

Location water pipes

WISE Parasol 600

600

Värme retur/
Heating return

Värme tillopp/
Heating supply

Kyla tillopp/
Cooling supply

Kyla retur/
Cooling return

192   192   32   35   78

WISE Parasol 1200

1200 ( )

Värme retur/
Heating return

Värme tillopp/
Heating supply

Kyla tillopp/
Cooling supply

Kyla retur/
Cooling return

192   192   35   78
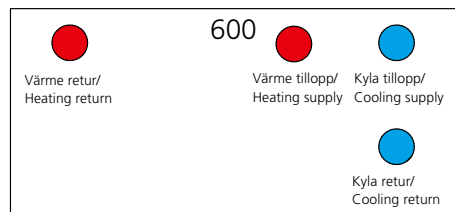
Water quality

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 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.
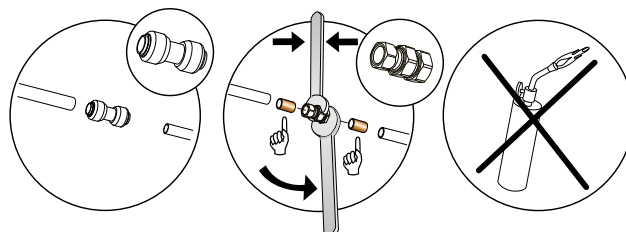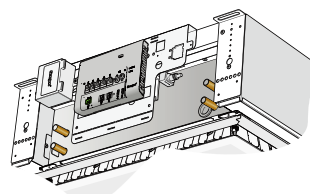

 Note that compression ring couplings require support sleeves inside the pipes.
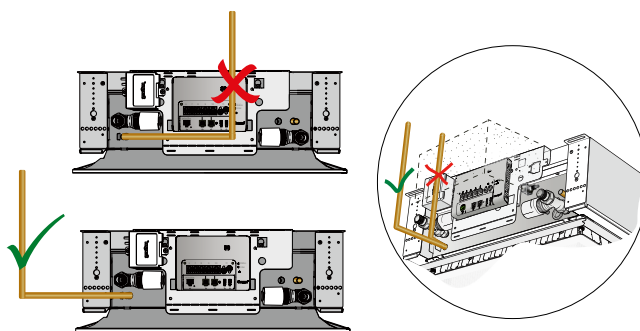
 Note that pipes are connected in such a way to provide a clear space for service in front of the control equipment.
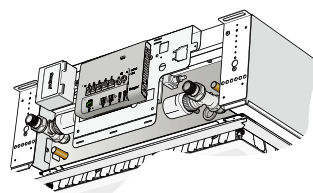
Water connection with factory fitted valves
(In the example a WISE Parasol 1200 is shown)

Water connection without factory fitted valves
(In the example a WISE Parasol 1200 is shown)

Connection sizes

WISE PARASOL Model:	Factory fitted	Connection	Coupling type	Connection	Coupling type
A only Cooling	Actuators and valves	Return	DN15, male thread	Supply pipe	Plain pipe 12x1.0 mm
B Cooling/Heating	Actuators and valves	Return	DN15, male thread	Supply pipe	Plain pipe 12x1.0 mm
A only Cooling	-	Return	Plain pipe 12x1.0 mm	Supply pipe	Plain pipe 12x1.0 mm
B Cooling/Heating	-	Return	Plain pipe 12x1.0 mm	Supply pipe	Plain pipe 12x1.0 mm

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Air

Connection dimensions

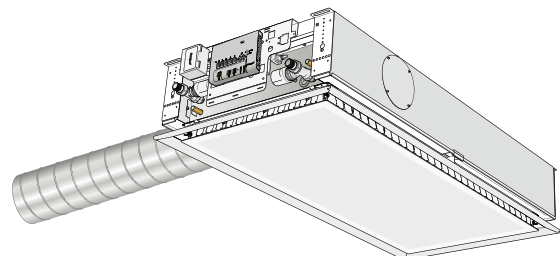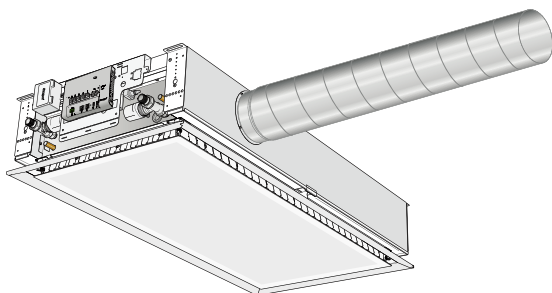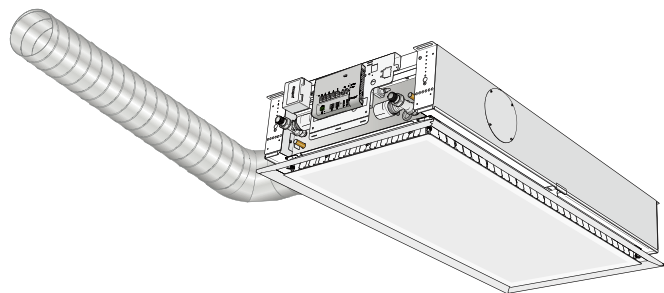| Unit	A =
WISE Parasol 600 MF	Ø 125
WISE Parasol 600 PF	Ø 160
WISE Parasol 1200 HF	Ø 125
WISE Parasol 1200 PF	Ø 160
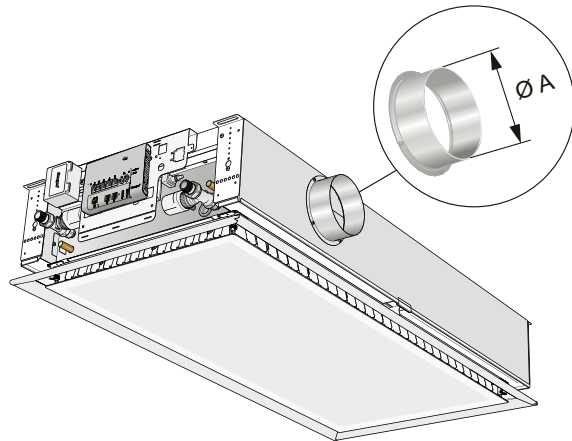
Air connection side on delivery
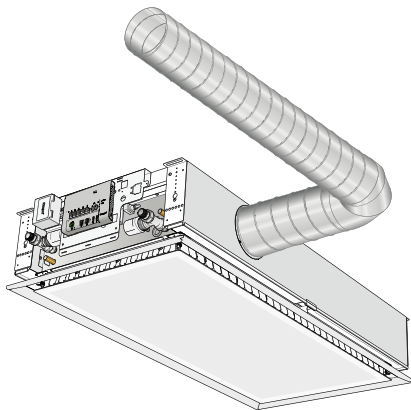
Alternative air connection side

1. Unscrew four 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 four screws on the new side.

Commissioning

WISE Parasol is a part of the WISE system that demand-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 interconnection of the system is completed, no further trimming is required except for the nozzle setting and any adjustment of ADC.

Nozzle setting

Page 1-4

Water   Air

T-25   1 x 8

Nozzle configuration

H ⟶ M ⟶ L

H =

M =

L =
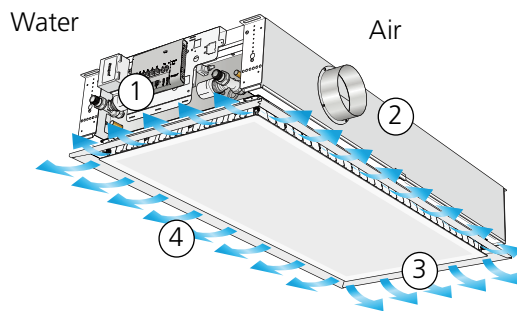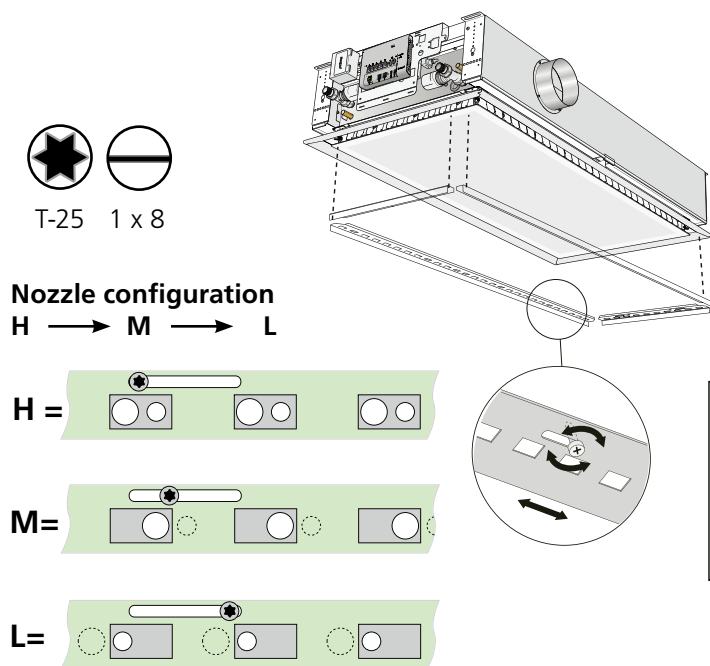
$$p_i = \left(\frac{q}{k}\right)^2 \ [Pa]$$
$$q = k \cdot \sqrt{p_i} \ \ [l/s]$$
$[pi \ Pa]$
$q \ [l/s]$
k = k-factor

ADC

X-shape

$0°$ $+40°$

Fan-shape

$-40°$ $0°$ $+40°$

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05/04/2023   Swegon reserves the right to alter specifications.

7
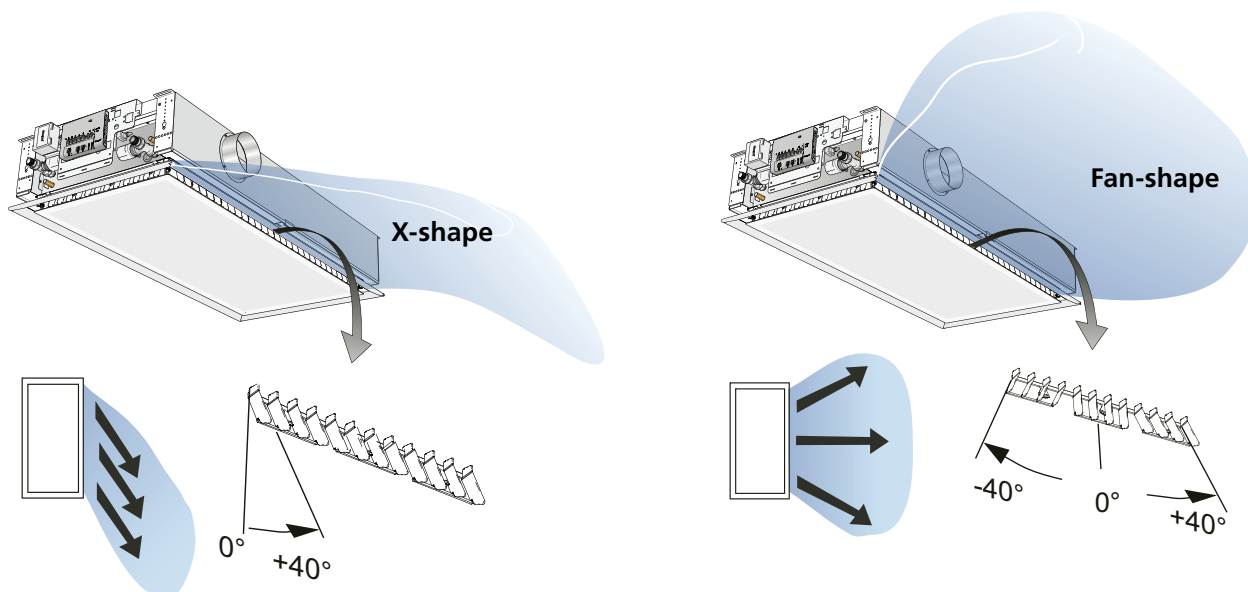
Connections
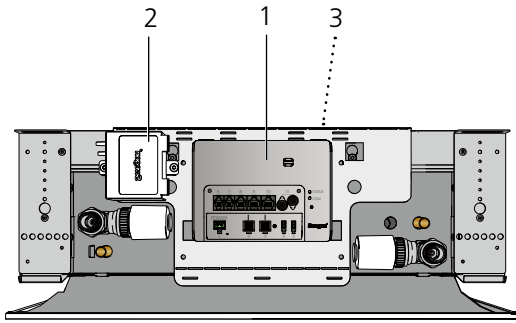
WISE Parasol with factory-fitted components

1. WISE CU (Controller Unit)
2. Temp. sensor (WISE DPS Modbus)
3. Motor, air damper

Factory fitted components as an option

- Sensor Module Advanced (WISE SMA), (Optional)
- Sensor Module Basic (WISE SMB), (Optional)
- Valves and actuators for cooling
- Valves and actuators for heating
- Temp. sensor
- Condensation sensor

WISE Parasol, connection

LED - Explanation

Not 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

Paired

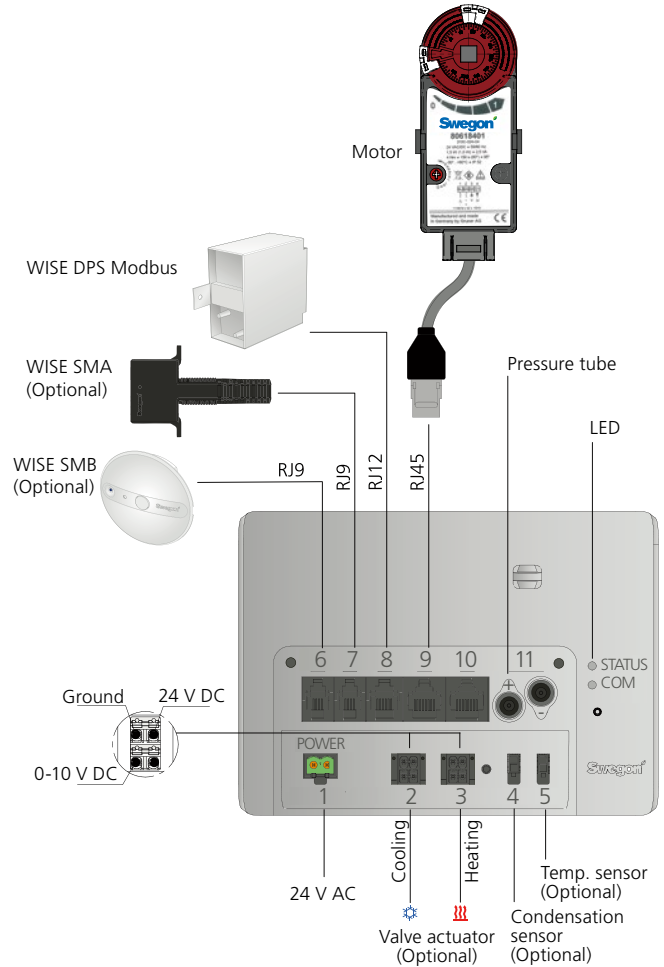|	Colour	Type
Normal operation	Green	Permanent
Restart	Blue	Permanent for 10 s
Initiation	Blue	Flashing
Boosted max. flow	Orange	Permanent
Boosted min. flow	Orange	Permanent
Boosted water flow	Violet	Permanent
Boosted water flow/ air flow	Violet/Orange	Alternating

There are different types of actuator

- For connection of the thermal actuator such as Swegon's actuator ACTUATORc, see figure a.
- For connection of actuators with 0-10 V control signal, see figure b.
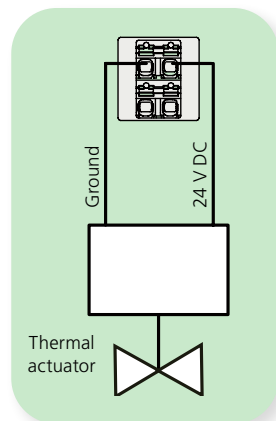
a. Connection of thermal actuator
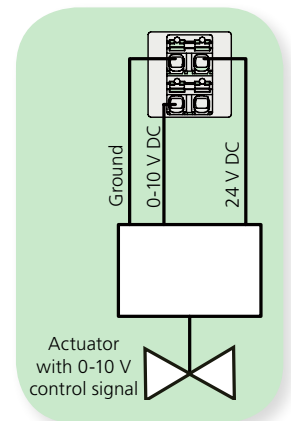
b. Connection of actuator with 0-10 V control signal NOTE! 24 V DC supply

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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) 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

- The product does not require any 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	
VOC sensor	450 - 2000 ppm
RH sensor:	0 - 100 RH%
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 in standard version:	VA / unit	Standard VA total
WISE CU	2.3	
WISE DPS Modbus	0.8	5.1
Damper motor (315C)	2	

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

Applies to products with CU ver. 2, delivered from 01.10.2019

Example:
WISE Parasol in standard version with the following options: Actuator for cooling and heating as well as WISE SMA, gives a total power consumption of 5.1 + 6 + 0.8 = 11.9 VA

Declaration of Conformity

Swegon AB hereby affirms that

WISE Parasol 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 EN 60335-2-30:2009+A11 EN 62233:2008	Electric household appliances and similar appliances - Safety - Part 1: Generic standards

CE

Persons responsible for this declaration:

Name: Robert Andersson, RU Director

Name: Carl-Ola Danielsson, R&D Manager

Address: Fallebergsvägen 17, 671 34 Arvika, Sweden

Date: Arvika 2019-10-01

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.

References

www.swegon.com

Building Materials Declaration
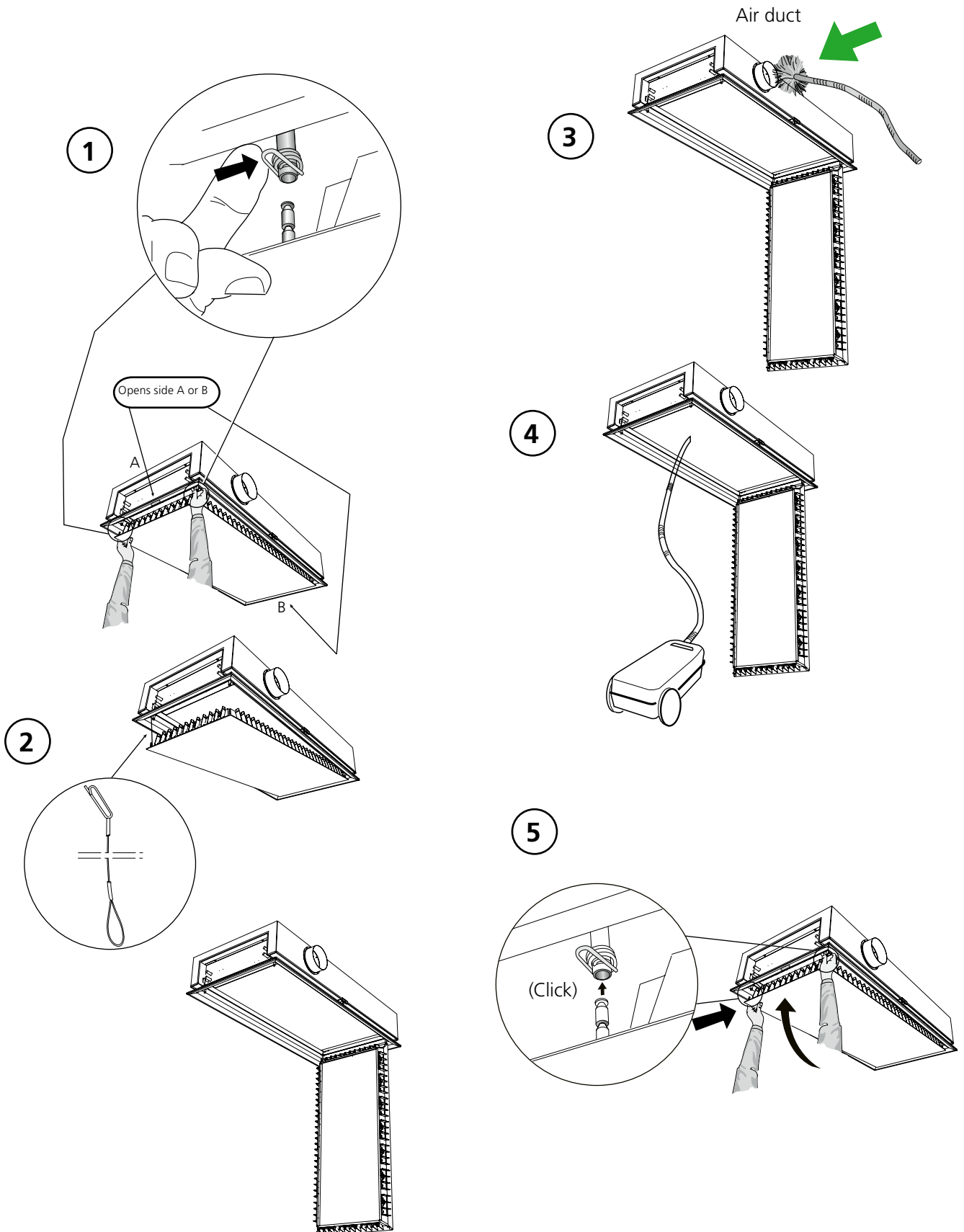
WISE Parasol product data sheet

WISE System Guide

SuperWISE II / SuperWISE II SC User Manual

WISE Project Planning Guide VS & Cooling, Electric & Control and Ventilation

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Maintenance

Air duct

Opens side A or B

A

B

(Click)

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