

WISE Sphere Free c

Instructions for Use

20191001
Art. 1546051

Symbol key

Symbols on the machine.

This product complies with applicable EU directives



Symbols in this user manual

Warning/Caution!



Risk of crushing



Application area

The product is a flow commissioning damper or constant flow damper with integrated radio transmitter designed for comfort ventilation indoors within Swegon's system for demand-controlled ventilation WISE. The product is used to regulate the supply air flow in the ventilation duct.

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.

The packaging contains the following items:

- 1 x WISE Sphere F
- 1 x Instructions for use

Protective equipment



Always use appropriate personal protective equipment for the work in question, in the form of gloves, respirators and protective glasses 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 the electronics's 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 in production.

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



The document was originally written in Swedish.

Swegon

Other risk



When the product is voltage fed, the damper will either open or close, there can be a risk for pinch injuries, for example, on the fingers if these are placed between the movable damper cone and the fixed upper cone or lower fixed cone.

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.
- Avoid installing the product above/near a heat source, for example, luminaires.
- Assemble the product according to applicable industry regulations.
- Install the product for easy access during service/maintenance.
- The product must be installed horizontally.
- The product must be laid down prior to installation so that it cannot fall over.
- 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.
- Use the product's eyes to secure the cables with cable ties.
- Check that all cables are properly secured in place after installation.

Installation, dimensions and weights

Size	Dimensions (mm)			
	A	B	C	ØD
160	380	375	545	159
200	456	440	660	199

Size	Dimensions (mm)				Weight (kg)
	E	F	G	H	
160	130	245	120	310	8.5
200	150	290	160	390	11.3

CL = Centreline

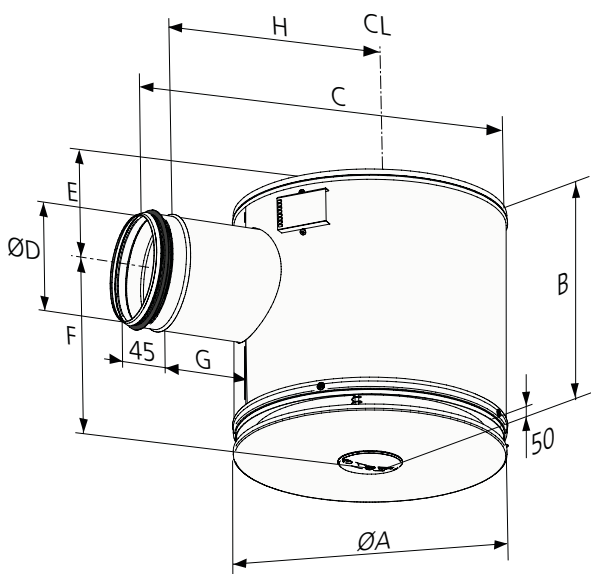


Figure 1. WISE Sphere F, dimensional figure.

Installation

- WISE Sphere F air flow measurement does not require a straight section before the product according to the installation figures.

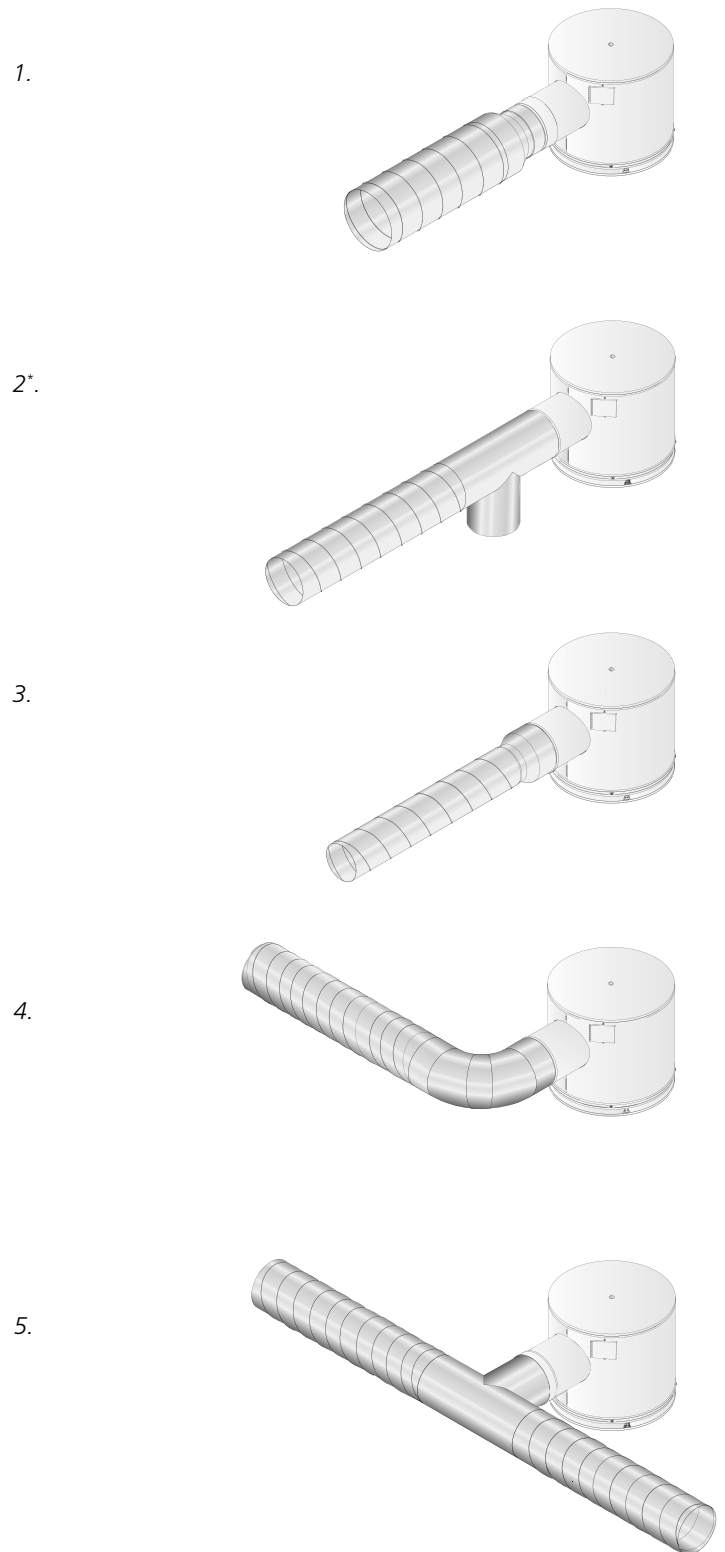


Figure 2. Straight section requirements, circular ducts.

1-5: Quantity Ø before the product: 0 x Ø.

*Cleaning hatch

Connections

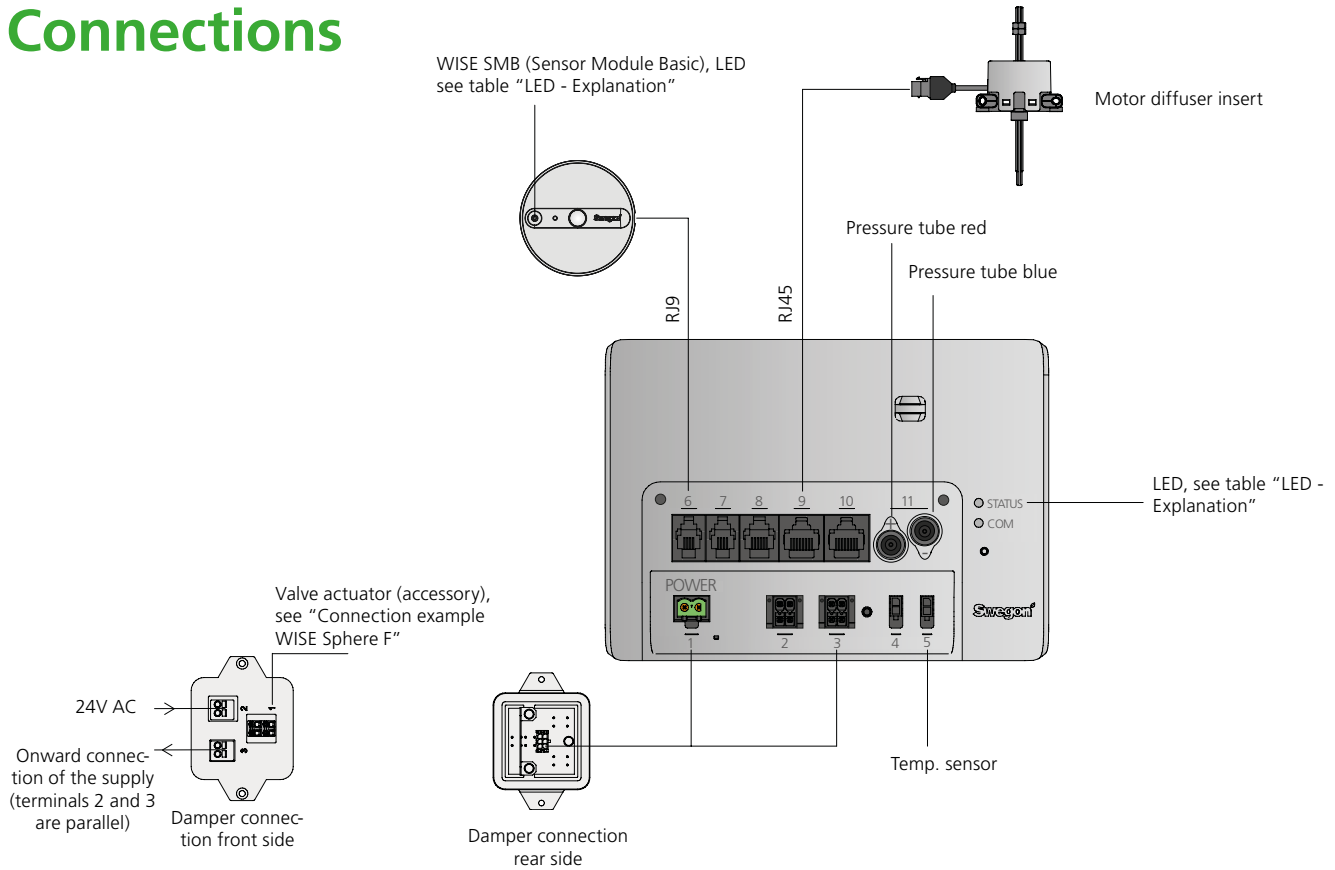
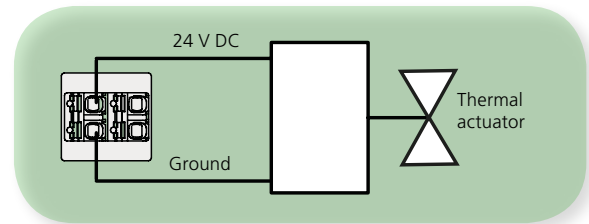
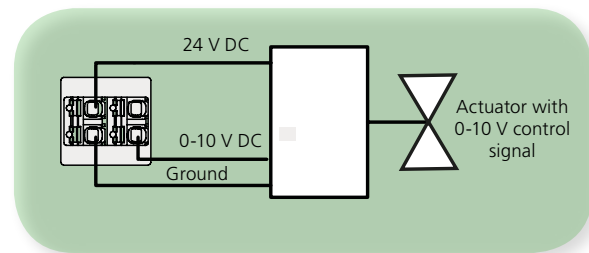


Figure 3. WISE Sphere F, connection.

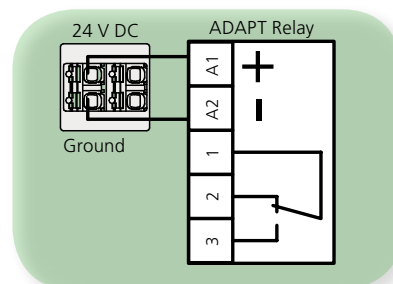
Connection example WISE Sphere F



Connection of thermal actuator



Connection of actuator with 0-10 V control signal.
NOTE! 24 V DC supply



Connection of relay for connection of additional actuators

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
Air commissioning	Orange	Permanent
Water commissioning	Violet	Permanent
Commissioning, air/water	Orange/Violet	Alternating
Emergency mode	Green/Red	Alternating
Service mode	Blue	Short flash every 5 s

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.

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 radio network.

The product shows incorrect/no air flow/pressure

- Check that there is air flow/pressure.
- Make sure that the product is correctly oriented in terms of air direction.
- 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 diffuser face is located correctly.
- Check that the damper motor is connected to the right output.

The product shows incorrect/no temperature

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

Cleaning

Ideally the product should be cleaned in connection with the cleaning of the rest of the ventilation system.

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.

External cleaning

- If necessary use tepid water and a well-wrung cloth.
- Never use detergent and cleaning solvent or a vacuum cleaner.

Internal cleaning

- The diffuser face must be dismantled when cleaning the ventilation system.
- Cleaning equipment such as whisks and the like must not be fed through the diffuser face.
- If necessary remove dust and other particles that can be present in the product.
- Never use detergent and cleaning solvent or a vacuum cleaner.

Service/maintenance

- The product does not require any maintenance, except for any cleaning when necessary.
- 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

Air diffuser

- All metal parts are power coated sheet steel.

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.

Suspension of WISE Sphere F

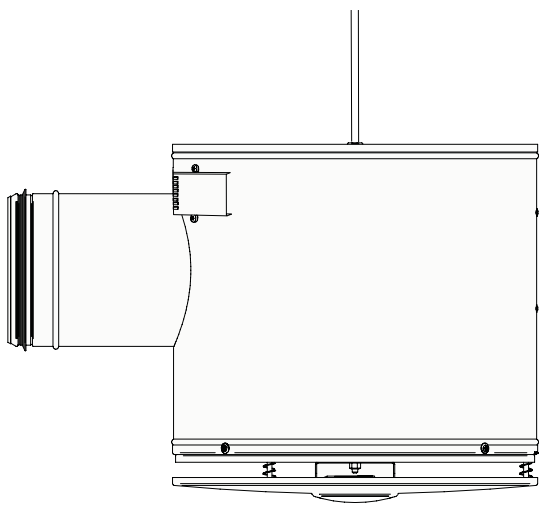
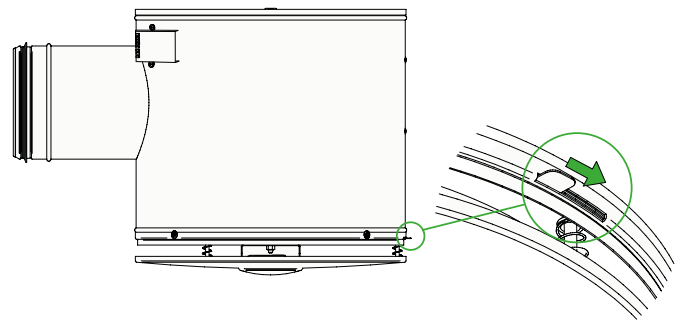
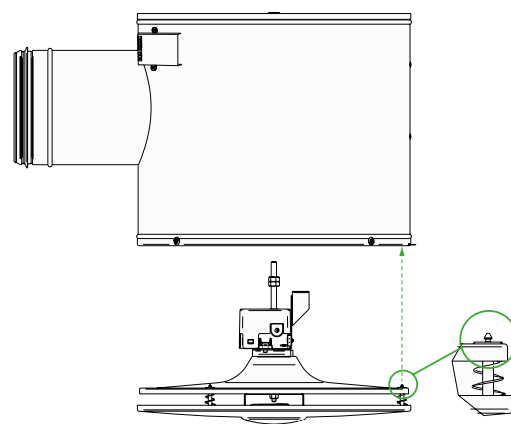


Figure 4. Suspension of WISE Sphere F.

Open diffuser front



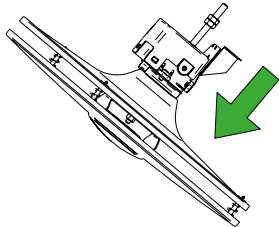
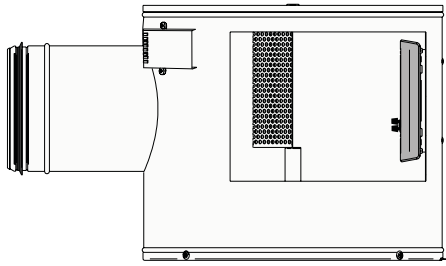
Locate the knob that protrudes from the diffuser face, slide the knob along the slot, the diffuser face is loose at the end position.



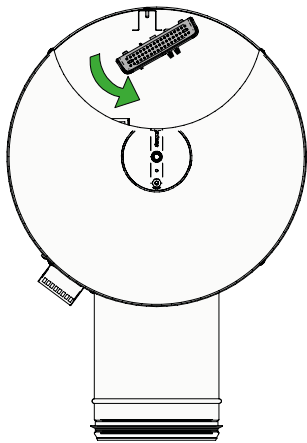
When refitting, fit the pin in the hole in the cone, press the diffuser face upwards at the same time as the knob is slid back.

Figure 5. Open diffuser front.

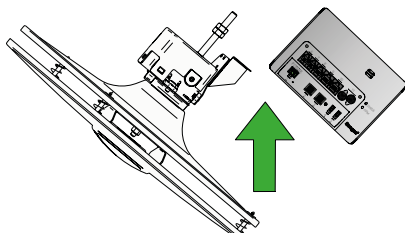
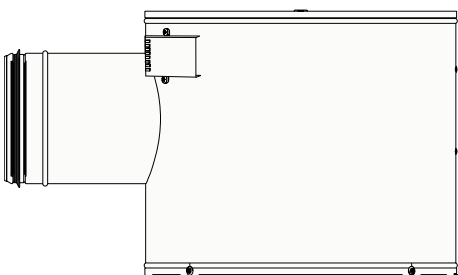
Replacement of WISE CU



Open diffuser face, disconnect the measuring tubes and cables from WISE CU.



View from above, pull WISE CU downwards and angle out and pull down from the holder.



Reassemble, in the reverse order and connect hoses and contactors from WISE CU, see "Connection". Apply the new supplied QR codes over the existing QR codes on the product.

Figure 6. Replacement of WISE CU.

Technical data

Output (ERP):	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
Flow tolerance:	Q±5%, however at least ±3 l/s
IP class:	IP20
Corrosivity class:	C3
Air tightness class, according to SS-EN 1751:	C
Running time open/close:	40 s
Ambient temperature	
Operation:	0 – 50°C
Storage:	-20 – +50°C
RH:	10 - 95% (non-condensing)
CE marking:	2016/42/EC (MD) 2014/53/EU (RED) 2011/65/EU (RoHS)

Electrical data

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

Variant	VA			
	Default	+1 valve actuator	+2 valve actuator	+3 valve actuator
Ø160, Ø200	8	15	22	29*

*Applies to products with CU ver. 2, delivered from 10/01/2019

Declaration of Conformity

Swegon hereby declares that:

WISE Sphere F 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 controls for household and similar 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 300328 V1.9.2, V1.9.1, V1.8.1	Electromagnetic compatibility and Radio spectrum Matters (ERM) - Wideband Transmission systems - Data transmission



Person responsible for this declaration:

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Address: Fallebergsvägen 17, 671 34 Arvika, Sweden

Date: 061118

Name: Freddie Hansson, R&D Manager

Address: Industrigatan 5, 273 21 Tomelilla, Sweden

Date: 061118

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 Sphere F product datasheet

WISE System Guide

SuperWISE II, SuperWISE II SC user manual

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