

# Swegon **CASA**<sup>®</sup>

## Electric duct mounted air heater

Installation, operation and maintenance instructions  
for design engineers, installation engineers and service personnel



### Important information

#### Only qualified personnel

Only qualified personnel should carry out installation, configuration and commissioning.

#### Observe the following during installation

The air heater for preheating is installed in the outdoor air duct before the ventilation unit.

The air heater must be accessible without obstruction. The air cooler must not be installed in the immediate vicinity of the ventilation unit or duct bends, as this will prevent an even air flow across the cooler resulting in impaired output.

#### Commissioning

The duct connection sleeves of the air heater must be capped during transport, storage and installation.

Make sure that the air heater and the ducts are clean and that there are no loose objects in them before you commission the ventilation system.

Do not commission the air heater until all work that produces large quantities of sanding dust or other impurities has been completed.

#### Electrical safety

The air heater must be installed according to the local electrical safety provisions.

**NOTE! The manual's original language is Finnish.**

#### Air heater in three different sizes for the outdoor air duct:

- **For 125 mm ducts; SDHE125-1T (LVI-no. 7906723)**

The following components are included in the delivery:

- Electrical heater 300H125-12-1
- SET connection unit
- RJ45 cable, 3 m

- **For 160 mm ducts; SDHE160-1T (LVI-no. 7906724)**

The following components are included in the delivery:

- Electrical heater 300H160-12-1
- SET connection unit
- RJ45 cable, 3 m

- **For 200 mm ducts; SDHE200-1T (LVI-no. 7906725)**

The following components are included in the delivery:

- Electrical heater 300H200-12-1
- SET connection unit
- RJ45 cable, 3 m

# 1. General Description

An electric air heater for duct installation to guarantee continuous ventilation under very cold conditions and to permit balancing functions (fireplace function/cooker hood function) in ventilation units that are not equipped with an air heater.

# 2. Planning

Take the pressure loss caused by the air heater into consideration when sizing the airflows and selection of the ventilation unit.

The airflow through the air heater shall be greater than 1.5 m/s.

Make sure there is free access to the air heater for service. The air heater must not be installed with the service hatch cover directed downwards.

# 3. Installation

## 3.1. Installation of the air heater in the duct system

The air heater must be installed in the outdoor air duct. Makes sure that the flow direction is correct (marked with an arrow on the air heater). The air heater must not be installed with the service hatch cover directed downwards, all other positions are acceptable.

The ducts are mounted in the air heater's connection sleeves.

Note that the air heater and outdoor duct must be insulated up to the ventilation unit. Insulation must be designed according to national regulations, for example, with mineral wool.

## 3.2 Duct filter

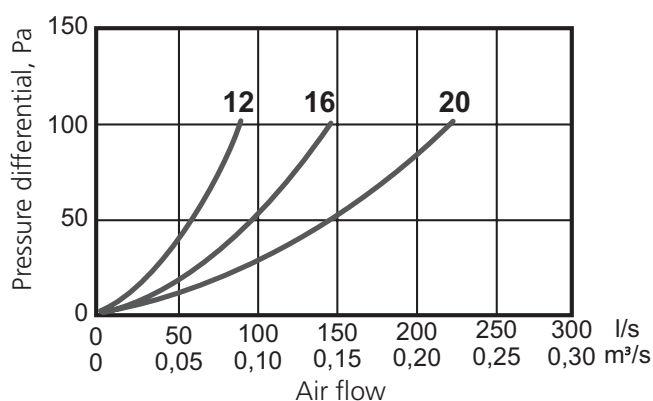
A duct mounted filter must be used for the air heater. Swegon recommends the duct filter that is available as an accessory:

- For 125 mm duct FLK 12
- For 160 mm duct FLK 16
- For 200 mm duct FLK 20

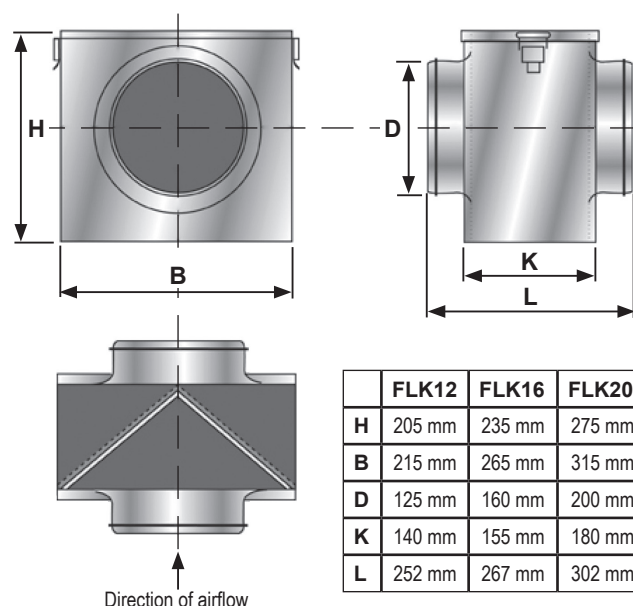
The filter must clean using a vacuum cleaner at least every six months. The filter may need to be cleaned or replaced more frequently if there are many impurities in the outdoor air.

Replacement filters (W2504FSS) can be found in the online store at [casastore.fi](http://casastore.fi).

### Pressure loss in FLK duct filter with G4-filter



### Dimensions for FLK duct filter



### 3.3 Electric and control cables

- Install a new control cable for 0–10 V and connect it to the SET connection unit.
- Connect the power cord via fuse protection and a service switch to the air heater. The system is a fixed installation, which means that an electrical inspection of the connection must be made.
- Install any actuators according to the manufacturer's instructions and connect the control cables to the SET connection unit's relay outputs according to the function diagram.

The connections are shown in more detail in the section "Function diagram and connections".

**NOTE!** If the SET module is used for 230 VAC control, the module must be installed, according to the electrical safety directives, in a separate enclosure.

**NOTE!** Make sure that the strain relief is arranged for the connections according to the electrical safety directives.

## 4. Commissioning

The commissioning of the air heater is performed with a Smart control panel. *Main menu/Settings/(1234)/Heating / cooling*

Heating / Cooling	
Adj. method	Supply air
Sensors / controls	
Setpoint	17°C
Setpoint (away)	17°C
Setpoint (travelling)	17°C
Int. post heater	<input checked="" type="checkbox"/>
Ext. post heater	<input type="checkbox"/>
Post heater out limit	8°C
Ext. post cooling	<input type="checkbox"/>
Ext. electric preheater	<input checked="" type="checkbox"/>
Ext. liquid coil	<input type="checkbox"/>

#### External preheating with electricity

Put the air heater for preheating into service from the menu option "Ext. electric preheater".

#### Relay control functions

If you wish to use relay control functions, e.g. for a duct damper, the SET unit's relays can be programmed for the required function from the *Sensor/Control* menu.



### Important



**Only a qualified electrician may make the electrical connections.**

## 5. Use and function

Once the air heater has been put into service it works automatically and maintains optimal ventilation unit efficiency. This function makes it possible to use balancing functions. Cooker hood function, central vacuum cleaner function or fireplace function can be selected in the settings for Smart functions.

#### Over temperature protection

The electric air heater for preheating is equipped with over temperature protection, which is located inside the air heater. - If an overheating protection with manual reset trips, it can be reset by pressing a button on the air heater.

**NOTE!** Check why the overheating protection tripped before acknowledging the fault.

The ventilation unit's automatic control system controls and monitors the function of the air heater. Should a fault occur on the air heater, this is indicated by the alarm "Air heater preheat".

## 6. Service



### Important



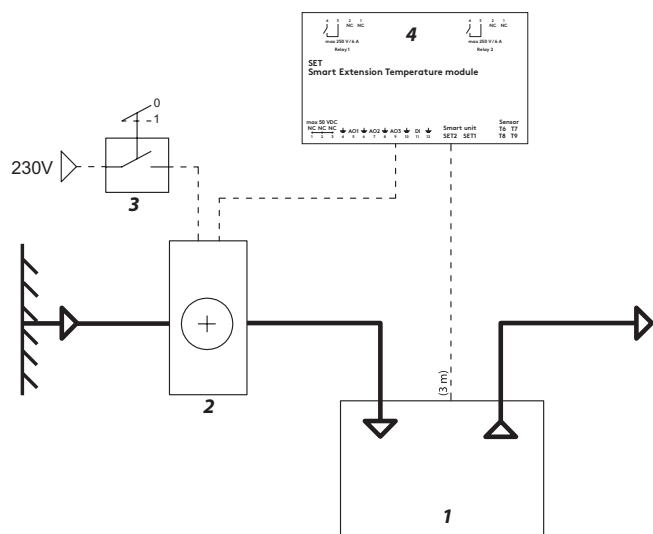
**Disconnect the power to air heater and ventilation unit before servicing.**

Service should always be carried out on the air heater and the filter when servicing the ventilation unit.

Check that dirt has not collected in the air heater, clean if necessary.

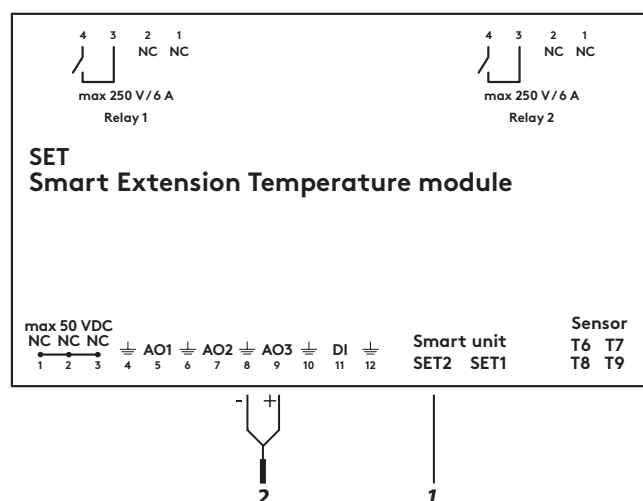
Clean the duct filter by vacuum cleaning or if necessary replace with new G3/G4-filter material. Replacement filters (W2504FSS) can be found in the online store, [casastore.fi](http://casastore.fi).

## 7. Function diagram and connections



1: CASH Smart air handling unit\* | 2: SDHE electric air heater |  
3: Operating switch for air heater ON/OFF\* | 4: SET connection unit

\*) Not included in the delivery.



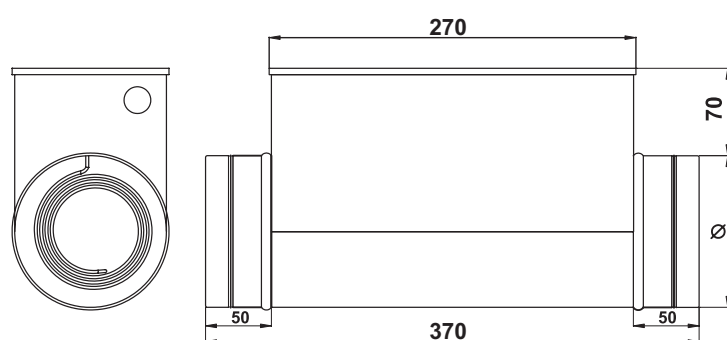
### Important



If the SET module is used for 230 VAC control, the module must be installed, according to the electrical safety directives, in a separate enclosure.

Make sure that the strain relief is arranged for the connections according to the electrical safety directives.

## 8. Dimensions and technical data



### Technical data

Model	Ø mm	Capacity kW	Minimum airflow	
			l/s	m³/h
SDHE125-1T	125	1.2	19	70
SDHE160-1T	160	1.2	31	110
SDHE200-1T	200	1.2	47	170