

# Swegon **CASA**<sup>®</sup>

## Electric duct mounted air heaters

### Products

**For 125 mm ducts; SDHE125-1T (LVI nro. 7906723)**

- Duct heater, 1,2 kW: 300H125-12-1

**For 160 mm ducts; SDHE160-1T (LVI nro. 7906724)**

- Duct heater, 1,2 kW: 300H160-12-1

**For 200 mm ducts; SDHE200-1T (LVI nro. 7906725)**

- Duct heater, 1,2 kW: 300H200-12-1

**For 250 mm ducts; SDHE250-1T**

- Duct heater, 1,2 kW: 300H250-12-1

**For 250 mm ducts; SDHE250-2T**

- Duct heater, 2,0 kW: 300H250-20-1

**For 250 mm ducts; SDHE250-3T (LVI nro. 7907398)**

- Duct heater, 3,0 kW: 300H250-30-1

**For 315 mm ducts; SDHE315-1T**

- Duct heater, 1,2 kW: 300H315-12-1

**For 315 mm ducts; SDHE315-2T**

- Duct heater, 2,0 kW: 300H315-20-1

**For 315 mm ducts; SDHE315-3T (LVI nro. 7907396)**

- Duct heater, 3,0 kW: 300H315-30-1

**For 315 mm ducts; SDHE315-5T (LVI nro. 7907397)**

- Duct heater, 4,5 kW: 300H315-35-3

**The delivery also includes**

- SET connection unit
- Temperature sensor, cable length 3 m
- Rubber grommet for temperature sensor

### General Description

Duct mounted electric air heater for pre- or post heating the air.

#### As pre heater

Guarantees 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 internal air heater.

#### As post heater

Helps to achieve the desired supply air temperature under very cold conditions whereby the heat exchanger may not be capable to heat air sufficiently.

### 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 heater must 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.

### Important information

#### Only qualified personnel

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

#### Observe the following during installation

The air heater is installed in the outdoor or supply air duct. If the heater is installed in the outdoor air duct before the ventilation unit, the heater and the duct must be insulated with nonflammable insulation and a duct mounted filter must be used for the air heater.

The air heater must be accessible without obstruction. The air heater 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 heater resulting in impaired output.

#### Commissioning

The duct connection spigots 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.

#### Electrical connection

The electric air heater requires a separate supply.

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

# Installation in the outdoor air duct (pre heater)

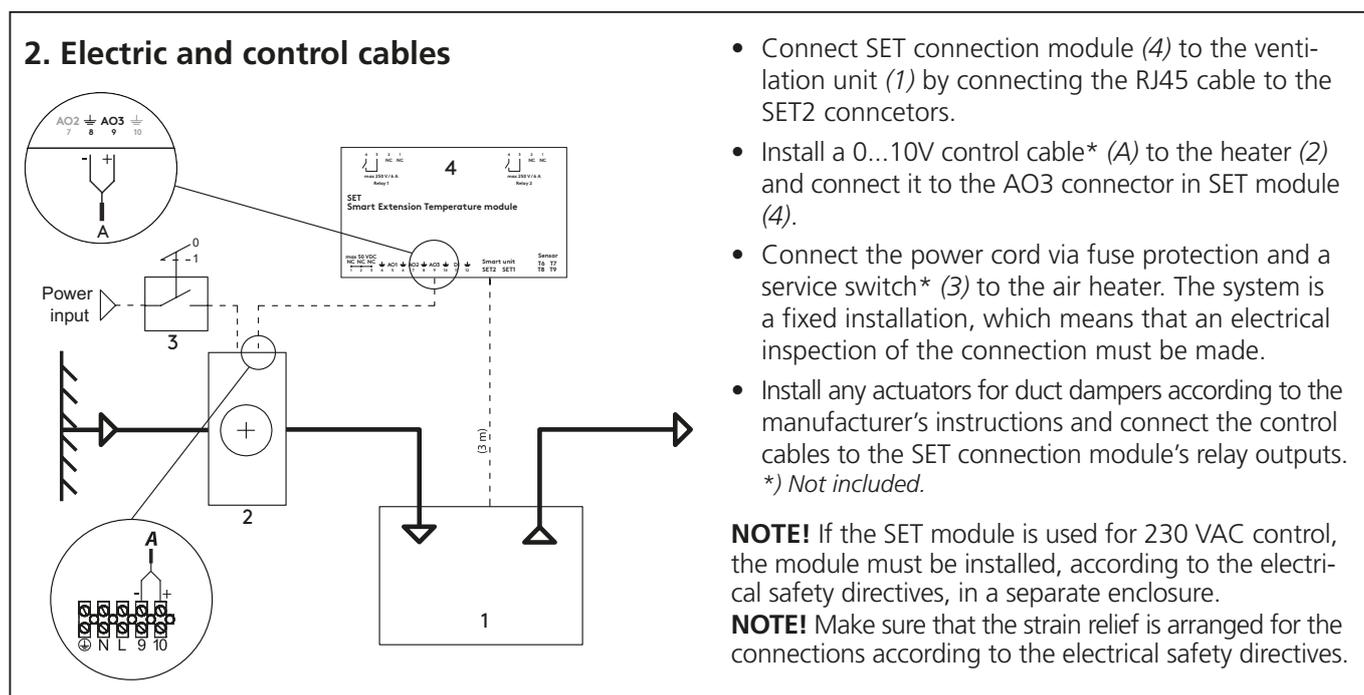
## 1. Installation

The air heater must be installed in the outdoor air duct. Make 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.

**NOTE!** The air heater and outdoor air duct must be insulated up to the ventilation unit. Insulation must be designed according to national regulations, with nonflammable insulation for example mineral wool. The insulation may not cover the lid as the specification plate and warning sign must be visible and the lid must be accessible for opening.

**NOTE!** A duct mounted filter must be installed on the air flow before the heater when the heater is used as pre heater. Swegon recommends the duct filter that is available as an accessory. (See chapter Dimensions and technical data.)

## 2. Electric and control cables



- Connect SET connection module (4) to the ventilation unit (1) by connecting the RJ45 cable to the SET2 connectors.
- Install a 0...10V control cable\* (A) to the heater (2) and connect it to the AO3 connector in SET module (4).
- Connect the power cord via fuse protection and a service switch\* (3) 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 for duct dampers according to the manufacturer's instructions and connect the control cables to the SET connection module's relay outputs.  
\*) Not included.

**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.

## 3. Commissioning

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

### External electric pre heater

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 *Sensors / controls* menu.

## 4. Use

Once the air heater has been commissioned it works automatically and maintains optimal ventilation unit efficiency.

The ventilation unit's automatic control system controls and monitors the function of the air heater. If a fault occur on the heater, this is indicated by the alarm *Elect. preheater fail.*

The heater 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 resetting the fault.

## 5. Service

**NOTE!** 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 can be found in the online store, [casastore.fi](http://casastore.fi) / [casabutiken.se](http://casabutiken.se).

# Installation in the supply air duct (post heater)

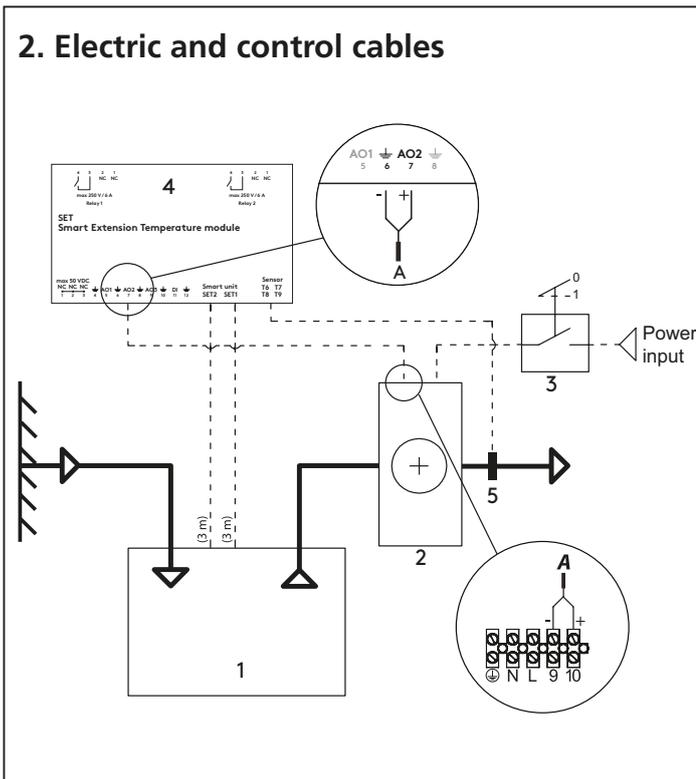
## 1. Installation

The air heater must be installed in the supply air duct. Make 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 supply air temperature sensor must be installed in the air flow after the heater. (min. distance from the heater is 5 x duct diameter)

**NOTE!** The air heater and supply air duct must be insulated if they are conducted through cold space. Insulation must be designed according to national regulations, with nonflammable insulation for example mineral wool. The insulation may not cover the lid as the specification plate and warning sign must be visible and the lid must be accessible for opening.

## 2. Electric and control cables



- Connect SET connection module (4) to the ventilation unit (1) by connecting the RJ45 cables to the SET1 and SET2 connectors.
- Install a 0...10V control cable\* (A) to the heater (2) and connect it to the AO2 connector in SET module (4).
- Install temperature sensor (5) to the supply air duct (min. distance from the heater is 5 x duct diameter). Connect sensor to the T6, T7, T8 or T9 connector in SET module (4).
- Connect the power cord via fuse protection and a service switch\* (3) 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 for duct dampers according to the manufacturer's instructions and connect the control cables to the SET connection module's relay outputs.  
\*) Not included.

**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.

## 3. Commissioning

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

### External electric post heater

Put the air heater for post heating into service from the menu option *Ext. electric postheater.*

### Supply air temperature sensor

Select SET T6, T7, T8 or T9 to be used as supply air temperature sensor, depending on which connector the sensor is connected. The choice is made from *Sensors / controls* menu.

### 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 *Sensors / controls* menu.

## 4. Use

Once the air heater has been commissioned it works automatically and maintains optimal ventilation unit efficiency.

The ventilation unit's automatic control system controls and monitors the function of the air heater. If a fault occur on the heater, this is indicated by the alarm *Elect. postheater fail.*

The heater 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 resetting the fault.

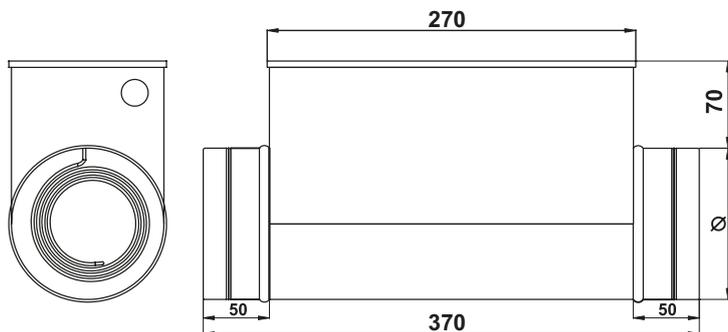
## 5. Service

**NOTE!** 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.

## Dimensions and technical data

### Dimensions for duct heater

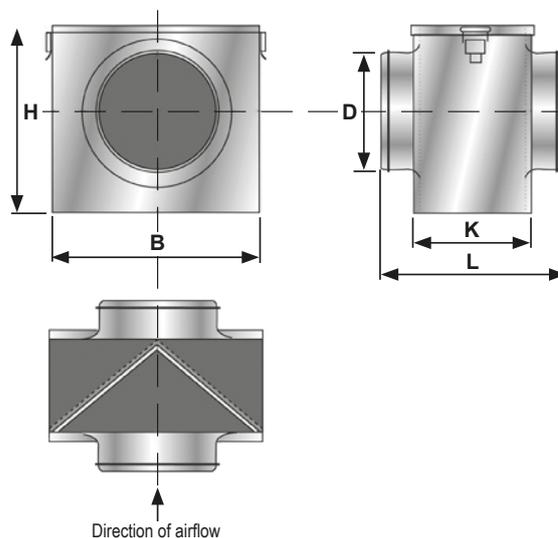


### Technical data

Model	Ø mm	Connection VAC/50Hz	Capacity kW	Minimum airflow	
				l/s	m³/h
SDHE125-1T	125	1~230	1,2	19	70
SDHE160-1T	160	1~230	1,2	31	110
SDHE200-1T	200	1~230	1,2	47	170
SDHE250-1T	250	1~230	1,2	74	265
SDHE250-2T	250	1~230	2,0	74	265
SDHE250-3T	250	1~230	3,0	74	265
SDHE315-1T	315	1~230	1,2	118	425
SDHE315-2T	315	1~230	2,0	118	425
SDHE315-3T	315	1~230	3,0	118	425
SDHE315-5T	315	3~400	4,5	118	425

### Dimensions for FLK duct filter

	FLK12	FLK16	FLK20	FLK25	FLK31
<b>H</b>	205 mm	235 mm	275 mm	325 mm	390 mm
<b>B</b>	215 mm	265 mm	315 mm	365 mm	425 mm
<b>D</b>	125 mm	160 mm	200 mm	250 mm	315 mm
<b>K</b>	140 mm	155 mm	180 mm	230 mm	320 mm
<b>L</b>	252 mm	267 mm	302 mm	352 mm	452 mm



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

