Installation Instructions for Duct Accessories GOLD/SILVER/COMPACT

1. Installation, duct accessories

1.1 General

These instructions deal with the installation of duct accessories in duct systems. For more detailed information about maintenance, electrical connections (if required), the connection of pipework, etc., see the instructions for each duct accessory.

When installing duct accessories, ensure proper access for inspection and replacement, if necessary.

Install the duct accessory in the ducting. If the connection dimensions of the duct accessory match those of the air handling unit, the duct accessory can also be fitted directly to the air handling unit (Not applicable to the TBLE/TBCE, sizes 05-12, with junction box facing forward, and the TBSA, sizes 05-12. See the relevant section in these instructions!). If the connection dimensions of the duct accessory do not match those of the air handling unit, a transition piece must be fitted between the air handling unit and the duct accessory.

The dead weight of the duct system with duct accessories must not apply a load to the air handling unit.

Insulate duct accessories with uninsulated casing in accordance with local standards for ventilation ductwork.

Connected pipework must, whenever applicable, be insulated as prescribed in trade standards.

The electrical connections, if required, should be wired by a qualified electrician in accordance with local electrical safety regulations.

1.2 Duct accessories without insulated casing

1.2.1 Circular connections

The duct accessory is designed to be fitted directly to spiral ducting.

The connection spigots of the duct accessories are fitted with a rubber seal ring. Blind rivets should be used for securing ducts to connection spigots.

COMPACT LP/GOLD LP: If duct accessories are to be mounted directly against the air handling unit, this should be done across a TBRB end connection adapter, see 1.2.2 Rectangular connection.

1.2.2 Rectangular connections

GOLD/SILVER RX/PX/CX/SD: Seal the connection with a sealing strip.

Secure the duct accessory to the ducting by means of slip clamps.

COMPACT LP/GOLD LP: In order to have sufficient space for mounting the duct accessory, you should fit it to the air handling unit before the unit is secured at its final location. Fit the sealing strip supplied. Secure the duct accessory to the air handling unit by means of bolts (predrilled holes). For further connection to circular ducts/duct accessories, use an end connection adapter, TBRB (accessory).

1.3 Duct accessories in insulated casing

1.3.1 COMPACT LP/GOLD LP

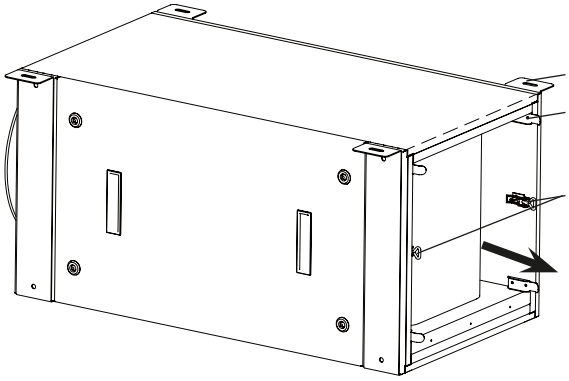
Fit the sealing strip supplied.

Connect the duct accessory directly to the air handling unit by means of guide plates and 2 expansion locking devices, see the figure. Corresponding locking hooks are mounted inside the air handling unit.

Secure the duct accessory to the air handling unit from the inspection panels of the duct accessory/air handing unit. This may require a certain amount of dismantling; see the relevant accessory on the following pages.

Secure the duct accessory by means of screws to the ceiling, wall or floor using the mounting brackets supplied with the accessory. The nature of the supporting building element determines the type of fasteners to be used (not Swegon's supply).

N.B.! Swegon is not responsible for incorrectly engineered or incorrectly fitted fasteners.



Secure the duct accessory by means of screws to the ceiling, wall or floor using the mounting brackets (4).

Guide plates (4 plates)

Expansion locking devices, corresponding locking hooks are fitted inside the air handling unit.

To the desired inlet/outlet on the air handling unit.

Swegon reserves the right to alter specifications.

1.3.2 GOLD/SILVER RX/PX/CX/SD

The sealing strips are factory-fitted to the unit.

Connect the duct accessory directly to the air handling unit or another insulated duct accessory with the supplied screws and nuts (accessories TCSA/TCSAS, TCDA/TCDAS and TCGA/TCGAS, size 004-012) or screw + preinstalled rivet nut (other).

If the duct accessory is placed in the upper duct without the support of another duct accessory in the lower ductk, its dead weight must be supported by some form of stand/support (not included in the supply).

The end connection for connection to the ductwork is included for the duct accessory farthest out toward the duct.

Mounting on the fan outlet, Option 1

If there is sufficient space for working from the rear of the air handling unit, the simplest way to secure the duct accessory at the rear edge is by external jointing, see illustration 1.

Secure the duct accessory to the front edge of the air handling unit from within the unit via the appropriate inspection cover. For sizes 70-120, locking should also be made in the centre between the rear edge and front edge. It may be necessary to dismantle the fan insert. See the illustration 4.

If several duct accessories are to be installed in succession, secure them to one another according to the same principle. Depending on the combination of duct accessories, the removal of e.g. cover panels and sound attenuator baffle elements may be required.

Mounting on the fan outlet, option 2, and mounting on the inlet (to the filter)

The duct accessory is secured to the back edge within the casing, see illustration 2 (sizes 004-012) or 3 (sizes 014-120). It may be necessary to dismantle the fan insert/filter cassettes. In some cases for the smaller sizes it is sufficient to loosen the fan insert, flexible connection and cables and push the fan assembly slightly inward inside the air handling unit.

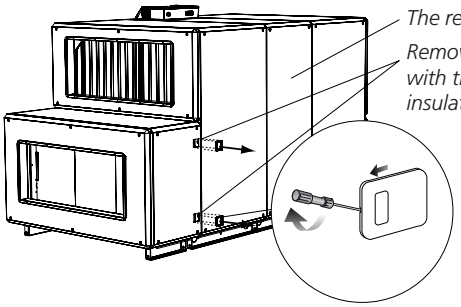
Secure the duct accessory to the front edge of the air handling unit from within the unit via the appropriate inspection cover. For sizes 70-120, locking should also be made in the centre between the rear edge and front edge. It may be necessary to dismantle the fan insert/filter cassettes. See the illustration 4.

If several duct accessories are to be installed in succession, secure them to one another according to the same principle. Depending on the combination of duct accessories, the removal of e.g. cover panels and sound attenuator baffle elements may be required.

To secure accessories to the rear edge

Mounting on the fan outlet, Option 1

Illustration 1



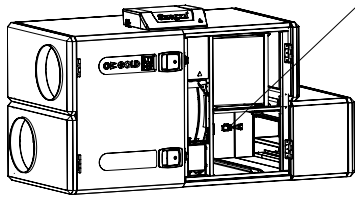
The rear side of the air handling unit

Remove the cover and insulation, secure the duct accessory to the air handling unit with the bolts supplied and pre-fitted rivet nuts. Refit the blanking plate and the insulation.

Mounting on the fan outlet, Option 2, and mounting on inlet (to the filter)

Sizes 004 – 012

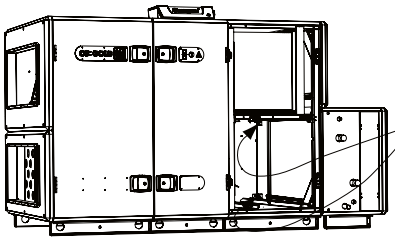
Illustration 2



Expansion-type locking device

Sizes 014-120

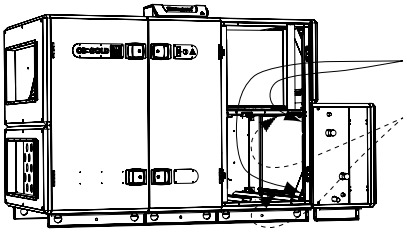
Illustration 3



In this case, fastening is done with the bolts supplied and pre-fitted rivet nuts in predrilled holes.

To secure accessories to the front edge

Illustration 4



In this case, fastening is done with bolts and nuts in predrilled holes, or bolts and pre-fitted rivet nuts (all sizes).

For sizes 70-120 fastening is also done in the centre between the rear edge and the front edge with the bolts supplied and pre-fitted rivet nuts in predrilled holes.

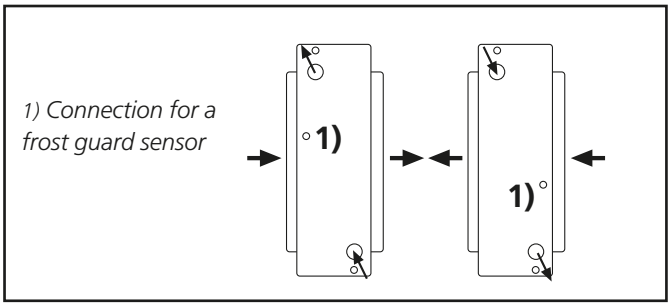
2. TBLA/TCLA/TCLAS air heater without Thermo Guard

The air heater can be installed for horizontal or vertical airflow.

Always connect the liquid circuit for counter-flow circulation to ensure optimal air heater performance. See Figure.

See to it that the frost guard connection, if fitted, always is nearest to the return water connection.

See the instructions for the TBLA/TCLA/TCLAS as well.



1) Connection for a frost guard sensor

3. TBLA air heater with Thermo Guard

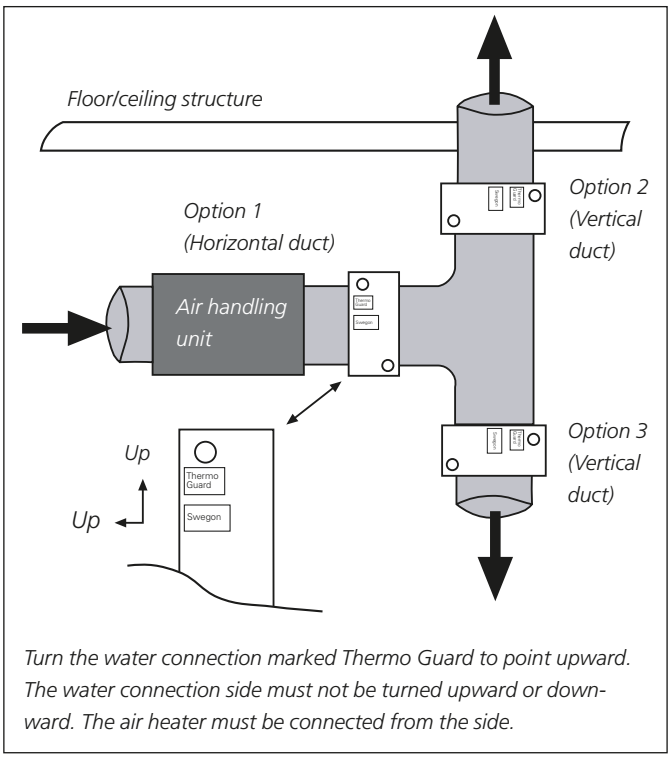
The air heater can be installed for horizontal or vertical airflow.

The air heater must be installed with the connection marked Thermo Guard pointing upward. See figure.

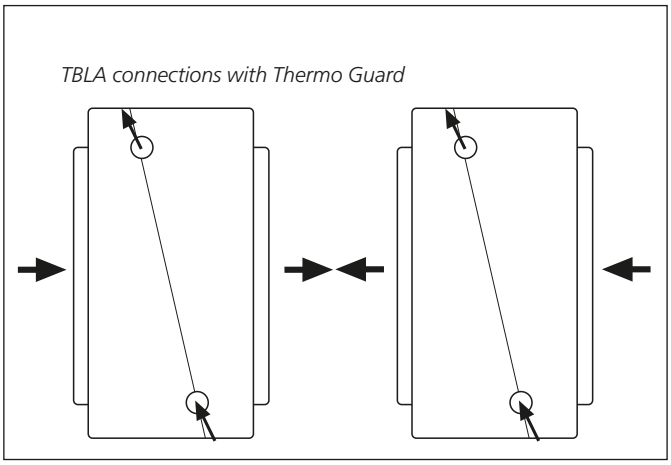
The water connection side must not face upward or downward. The air heater must always be connected from the side.

The capacity of the air heater is independent on the direction of airflow. See figure.

See the instructions for the TBLAMT as well.



Turn the water connection marked Thermo Guard to point upward. The water connection side must not be turned upward or downward. The air heater must be connected from the side.



4. Air heater TBLE/TBCE/TBRE/TCLE

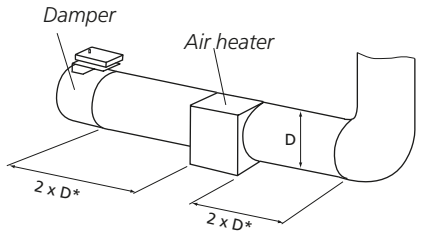
The airflow through the air heater should be as indicated by the arrow affixed on the side of the air heater. The air heater is designed for clean air, Swegon therefore recommends that pre-filters are installed before the air heater (seen in the direction of air) when the air heater is used for preheating of the outdoor air.

TBLE/TBCE/TBRE: The air heater can be mounted directly on the fan outlet of the unit or directly before or after most other duct accessories, such as air heaters, air coolers and filters. However, for air heaters with circular duct connection, the distance from or to a duct bend, damper, sound attenuator or other duct component/duct accessory, which can generate a non-uniform airflow across the air heater, should be at least the distance that is equivalent to double (triple recommended) the diameter of the duct. For air heaters with a rectangular duct connection the distance should be at least the equivalent to the air heater's diagonal dimension (double recommended), i.e. from corner to corner in the duct section of the air heater. Otherwise there is risk that the airflow through the air heater will be non-uniform, involving risk that the overheat protection device will trip. See Figure. In those cases, TBLE/TBCE/TBRE is used as an air heater for preheating, the distance to the air handling unit or other duct accessory should be at least 1.5 metres, also see the preheating function guide.

TCLE: The air heater can be mounted directly on the fan outlet of the unit or directly before or after all other insulated duct accessories (TCxx). The rules for TBLE/TBCE/TBRE apply to a combination of TCLE and uninsulated duct accessories (TBxx) or duct bend (see above).

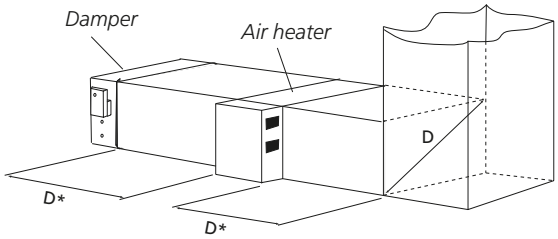
See the TBLE/TBCE/TBRE/TCLE instructions as well.

TBLE/TBCE, circular connection



** Min. 2 x D, recommended 3 x D.*

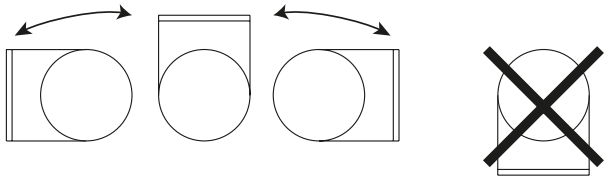
TBLE/TBRE, rectangular connection



** Min. 1 x D, recommended 2 x D.*

4.1 Air heater without insulated casing

The air heater can be installed for horizontal or vertical airflow, with the terminal box upward and rotated within 90° to the side. Installation with the terminal box downward is not allowed. If the air heater is installed in a damp environment, you must take into consideration that its terminal box conforms to Enclosure Class IP 44.

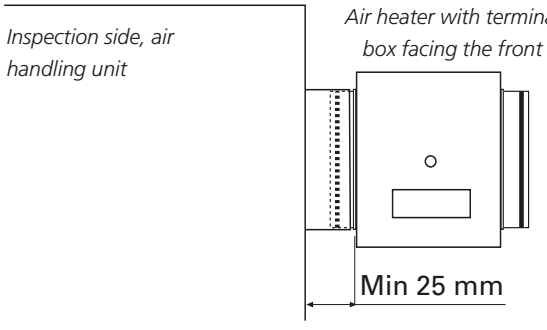


The component must be insulated with incombustible and heat/cold-resistant insulation material. The insulation must not conceal the inspection cover, because the rating plate must be visible and it must be possible to remove the cover.

The distance from the sheet-metal casing or the air heater to wood or some other combustible material must not be less than 30 mm.

Circular connection (does not apply to COMPACT LP/ GOLD LP)

If the air heater is installed with its terminal box facing the front (inspection side of the air handling unit) a distance of at least 25 mm is needed between the air handling unit and the air heater. This insures that the inspection door can be opened at least 90°. See Figure.



5. TBKA/TCKA/TCKAS Air cooler

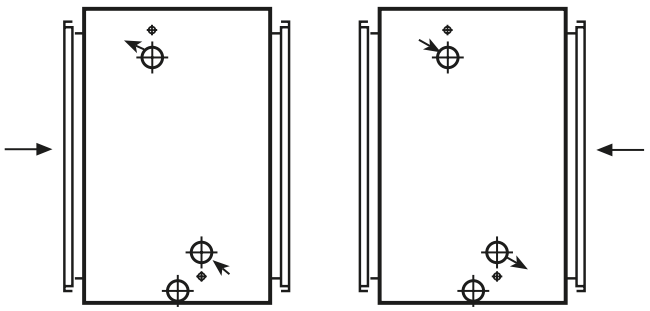
The air cooler must be installed for horizontal airflow.

TBKA: The air heater can be mounted directly on the fan outlet of the unit or directly before or after most other duct accessories, such as air heaters, air coolers and filters. If a duct bend, damper, sound attenuator or other duct component/duct accessory, which can generate a non-uniform airflow across the air cooler, is installed upstream of the air cooler (viewed in the direction of airflow) the distance between these should be at least the distance that is equivalent to three times the diameter of the duct (circular connections) or the diagonal dimension x 1.5 of the air cooler (rectangular connections), i.e. from corner to corner in the duct section of the air cooler. Otherwise the airflow through the air cooler is likely to be non-uniform and this will decrease its cooling capacity. See Figure.

Always connect the air cooler for counter-flow circulation to ensure optimal air cooler performance. See Figure.

See the instructions for the TBKA/TCKA/TCKAS as well.

Connections, TBKA/TCKA/TCKAS



6. Air cooler TBKC/TCKC/TCKCS Air cooler/heater TCCC

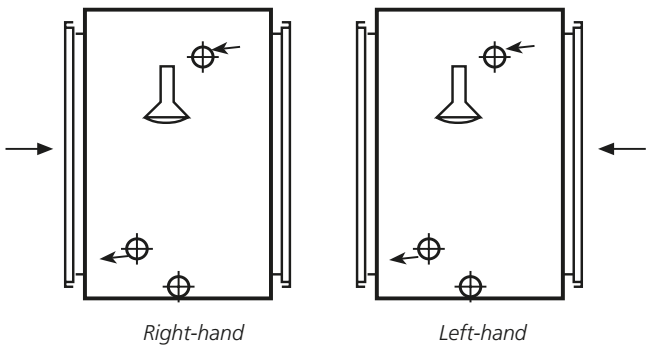
The air cooler/heater must be installed for horizontal airflow.

TBKC: The air heater can be mounted directly on the fan outlet of the unit or directly before or after most other duct accessories, such as air heaters, air coolers and filters. If a duct bend, damper, sound attenuator or other duct component/duct accessory, which can generate a non-uniform airflow across the air cooler, is installed upstream of the air cooler (viewed in the direction of airflow) the distance between these should be at least the distance that is equivalent to three times the diameter of the duct (circular connections) or the diagonal dimension x 1.5 of the air cooler (rectangular connections), i.e. from corner to corner in the duct section of the air cooler. Otherwise the airflow through the air cooler is likely to be non-uniform and this will decrease its cooling capacity. See Figure.

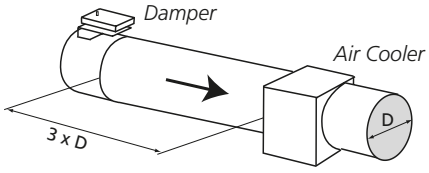
The capacity of the air cooler is dependent on the direction of airflow. See figure.

See the instructions for the TBKC/TCKC/TCKCS/TCCC as well.

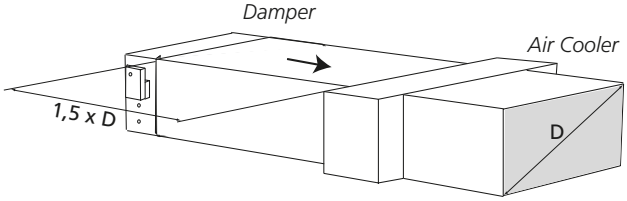
Connections, TBKC/TCKC/TCKCS/TCCC



TBKA/TBKC, circular connection



TBKA/TBKC, rectangular connection



Swegon reserves the right to alter specifications.

7. TBDA/TBDB/TCDA/TCDAS Sound attenuator

The direction of airflow through the sound attenuator should be as indicated by the arrow affixed on the side of the sound attenuator.

The TBDA/TBDB sound attenuator can be installed with its baffle elements standing vertically, for horizontal or vertical airflow.

Cover panel on the inspection side for sound attenuators in casing (TCDA/TCDAS) is easy to dismantle for inspection and cleaning.

See the TBDA/TBDB/TCDA/TCDAS instructions as well.

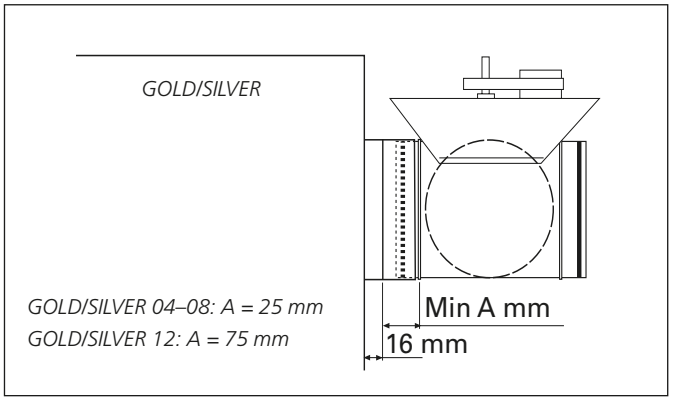
8. Damper TBSA/TBSB/TCSA

Dampers can be installed for horizontal or vertical air flow.

Dampers without casing (TBSA/TBSB)

Circular damper:

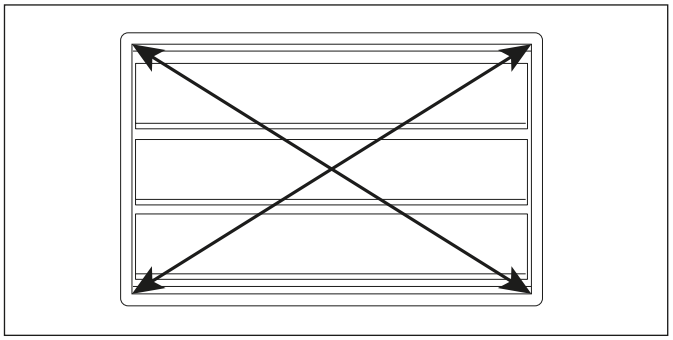
GOLD/SILVER sizes 04–12: A spacer of at least A mm must be installed between the air handling unit and the damper, see the figure. This is to prevent the damper motor bridge from touching the air handling unit and the damper blade from touching the fan insert or commissioning plates.



Rectangular damper:

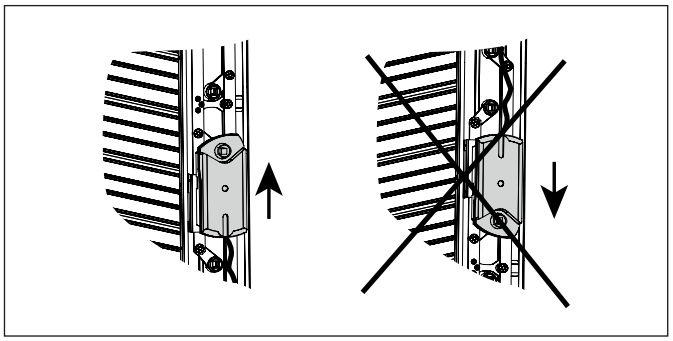
NOTE! Check during installation that the damper blade and linkage can move freely and are not obstructed by e.g. fastening screws, insulation or that the damper is installed askew.

Check during installation that the damper is at a 90° angle to the outer corner. This can be done by measuring diagonally across the damper checking that the measurements are equal, see the figure.



Dampers can be turned for horizontal or vertical installation. The actuator must be installed upright for vertical installation, see the figure.

SILVER: Dampers must be installed with the damper blade in the closed position. If the damper is supplied with an actuator of the type spring return in the open position (de-energized), the actuator must be set in the closed position manually before the damper is installed. Ensure that the actuator runs in the right direction.



COMPACT LP: Space limitations mean that dampers TBSA and TBSB must be installed prior to the installation of the air handling unit.

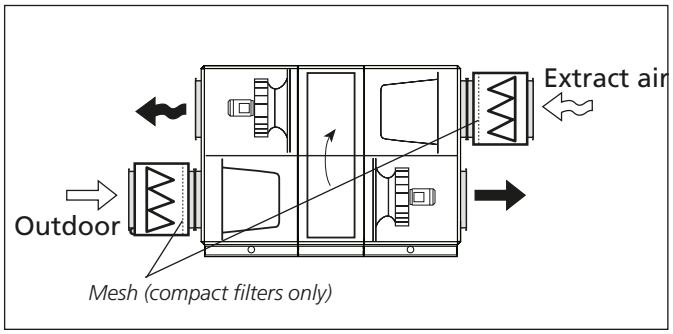
Also see the instructions for TBSA/TBSB/TCSA/TCSAS.

9. Prefilter, TBFA

Filter sections should be installed in the outdoor air duct and/or the extract air duct, for horizontal or vertical airflow.

Filter section with compact filter
The side of the filter cassette fitted with mesh must face the air handling unit. See figure. If necessary, dismantle the filter cassette, turn it around and reinstall it.

See the instructions for the TBFA as well.



10. TBLF/TCLF air heater, pre-heat

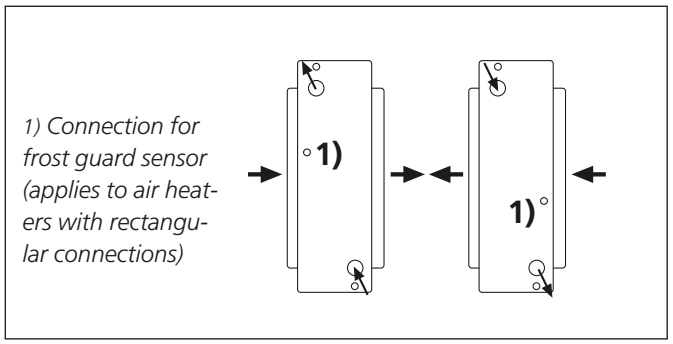
The TBLF air heater can be installed in the outdoor air duct, for horizontal or vertical airflow. The air heater is designed for clean air, Swegon therefore recommends that pre-filters are installed before the air heater (seen in the direction of air).

The temperature sensor should be installed in a duct, at least 1.5 metres downstream of the air heater, or inside the air handling unit downstream of the filter.

Always connect the liquid circuit for counter-flow circulation to ensure optimal air heater performance. See figure.

See to it that the frost guard connection, if fitted, always is nearest to the return liquid connection.

See the instructions for the TBLF/TCLF as well.



11. Final filter section, TCFB/TCFBS

Install the final filter section in the supply air downstream of the air handling unit, for horizontal airflow.

Swegon reserves the right to alter specifications.