

# Installation Instructions for Duct Accessories

## GOLD/SILVER C/COMPACT

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### **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, 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.

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**

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

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

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

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 GOLD LP

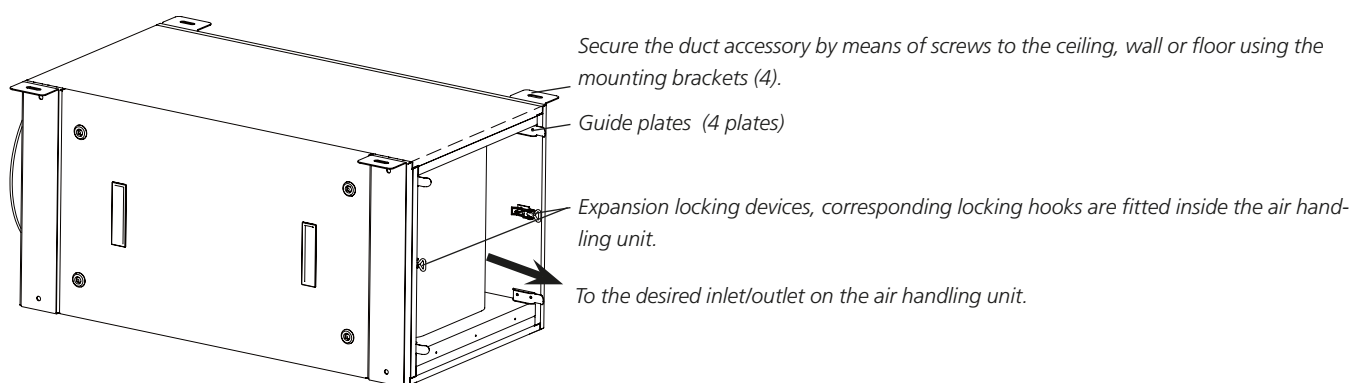
Fit the sealing strip supplied.

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 handling 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.



## 1.3.2 GOLD/SILVER C RX/PX/CX/SD, sizes 04-12

The sealing strips are factory-fitted to the unit.

The duct accessory for a size 12 air handling unit is always supplied mounted on base beams. If the duct accessory is fitted to the upper ductwork, on top of the duct accessory fitted to the lower ductwork, remove the base beams to the extent necessary at the building site.

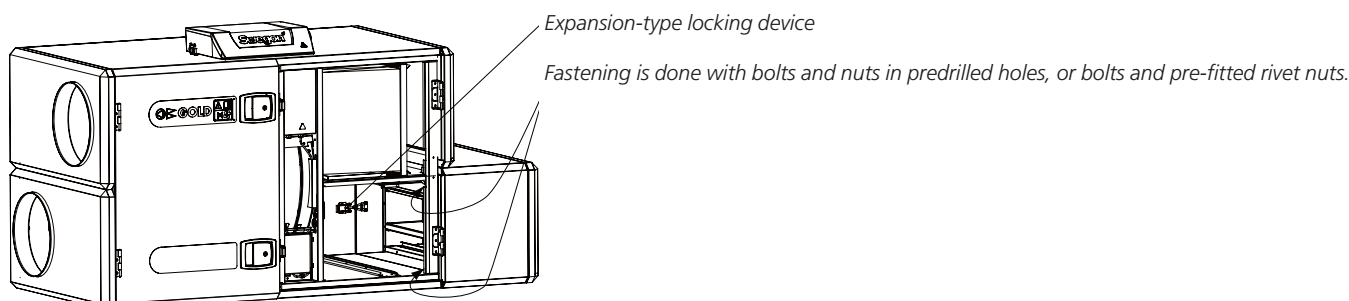
Connect the duct accessory directly to the air handling unit, to another duct accessory in an insulated casing, using bolts and nuts supplied (applies to the TCSA/TCSAS, TCDA/TCDas and TCGA/TCGAS accessories) or bolts and pre-fitted rivet nuts (applies to others) and one expansion-type locking device. See figure.

Secure the duct accessory to the air handling unit from inside the unit via the inspection door. It may be necessary to remove the fan assembly or filter cassettes in order to reach the expansion-type locking device. In some cases it is sufficient to loosen the fan assembly, flexible connection and cables and push the fan assembly slightly inward inside the air handling unit.

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, a certain amount of dismantling may be required, such as the removal of cover panels and sound attenuator baffle elements, for access to expansion-type locking systems.

The dead weight of the duct accessory must be supported by some form of stand/stay/base (not included in the supply)

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



## 1.3.3 GOLD/SILVER C RX/PX/CX/SD, sizes 14-40, 70-120

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 bolts supplied + pre-fitted rivet nuts.

If the duct accessory is placed in the upper ductwork without the support of another duct accessory in the lower ductwork, 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 ductwork.

### Sizes 14 – 40, 70-80

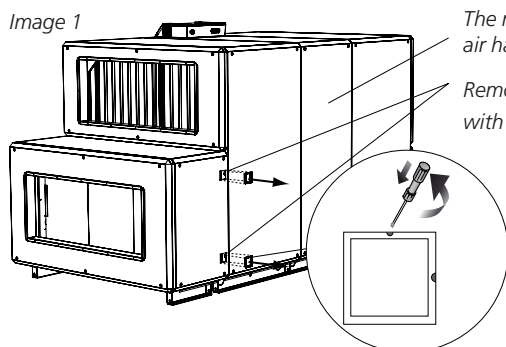
The duct accessory is always supplied mounted on base beams. If the duct accessory is fitted to the upper ductwork, above the duct accessory fitted to the lower ductwork, remove the base beams to the extent necessary, at the building site.

### Sizes 100 – 120

Base beams are always supplied mounted on the duct accessory. The base beams must not be dismantled, irrespective of whether they are mounted on the lower duct or upper duct.

### Mounting on the fan outlet, Option 1 To secure accessories to the rear edge

#### Mounting on the fan outlet, Option 1

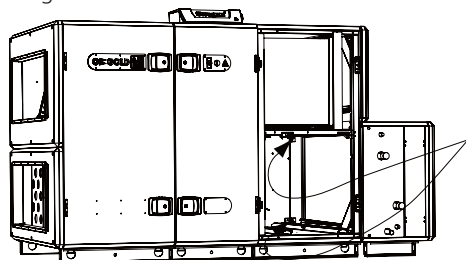


The rear side of the air handling unit

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 cover and the insulation.

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

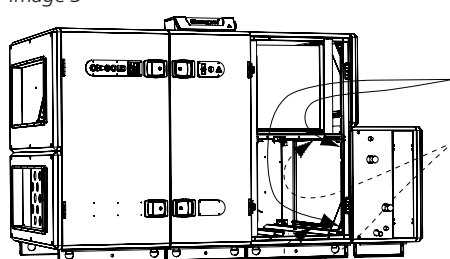
Image 2



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

Image 3



In this case, fastening is done by means of bolts supplied and pre-fitted rivet nuts in predrilled holes. (all sizes).

On the size 70-80 units the duct accessory should also be fastened in the middle between the rear edge and front edge, by means of bolts supplied and rivet nuts pre-fitted in predrilled holes.

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 mounting. See illustration 1.

Secure the duct accessory to the front edge from the inspection cover of the air handling unit. On the size 70/80 units, the duct accessory should also be secured in the middle between the rear edge and front edge. It may be necessary to remove the fan assembly/filter cassettes. See illustration 3.

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)

Secure the rear edge of the duct accessory from within the unit casing, see Illustration 2. This may require removal of the fan assembly/filter cassettes.

Secure the front edge of the duct accessory from the inspection cover of the air handling unit. On the size 70/80 units, the duct accessory should also be secured in the middle between the rear edge and front edge. See illustration 3.

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.

## 1.3.4 GOLD/SILVER C RX/PX/CX/SD, sizes 50-60

The sealing strips are factory-fitted to the unit.

The duct accessory is always supplied mounted on base beams. If the duct accessory is fitted to the upper ductwork, above the duct accessory fitted to the lower ductwork, remove the base beams to the extent necessary, at the building site.

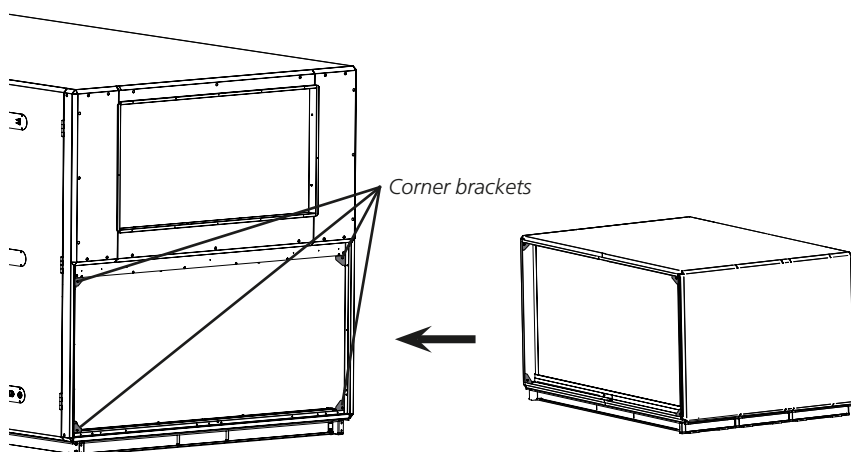
Connect the duct accessory directly to the air handling unit or another insulated duct accessory, by means of the 4 bolts and washers supplied. See the illustration.

Secure the duct accessory with bolts from inside the fan or filter space in the air handling unit. You may need to remove the filter cassettes.

If several duct accessories are to be installed in succession, secure them to one another with bolts 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.

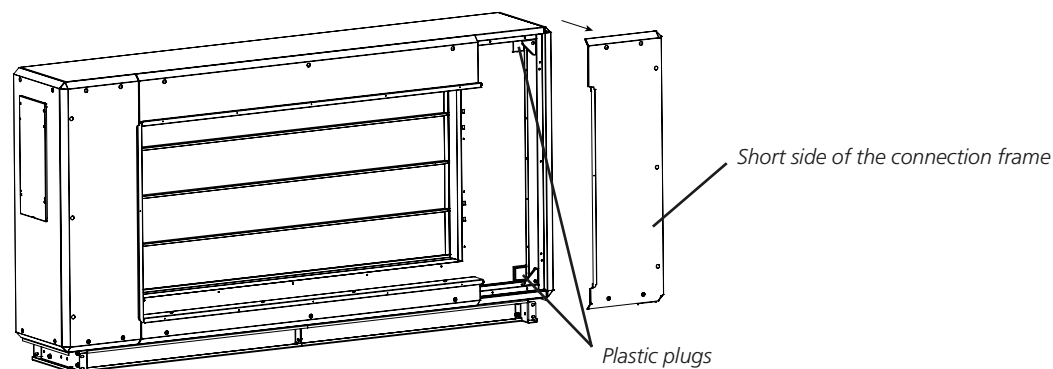
If the duct accessory is placed in the upper ductwork without the support of another duct accessory in the lower ductwork, its dead weight must be supported by some form of stand/support (not included in the supply).

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



Connect the duct accessory to the air handling unit as follows: from within the unit fan or filter space, fit and tighten the screws and washers supplied (4 pc) through the corner brackets.

## Damper, TCSA/TCSAS



If the damper is not accessible for screw mounting from a nearby insulated duct accessory (for example a COOL DX air cooler), dismantle the short side on the damper's connection frame and remove the plastic plugs. See illustration. The damper corner brackets can then be accessed using an extended tool.

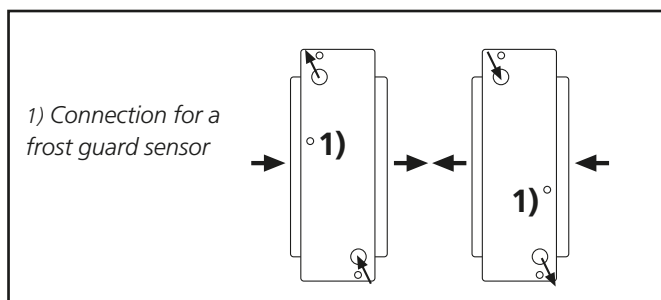
## 2. TBLA/TCLA/TCLAS air heater without Thermo Guard

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.



## 3. TBLA air heater with Thermo Guard

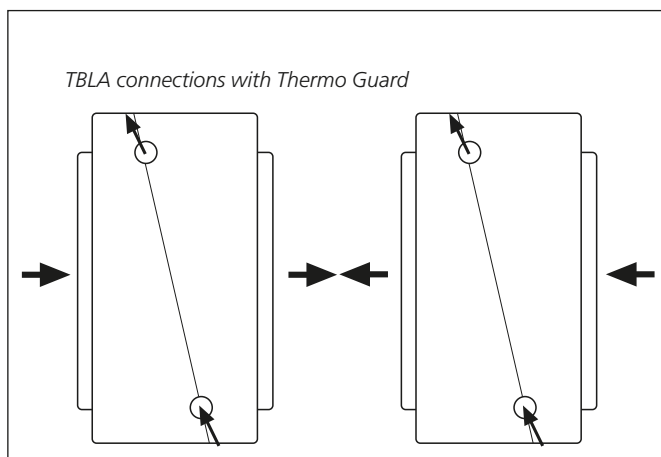
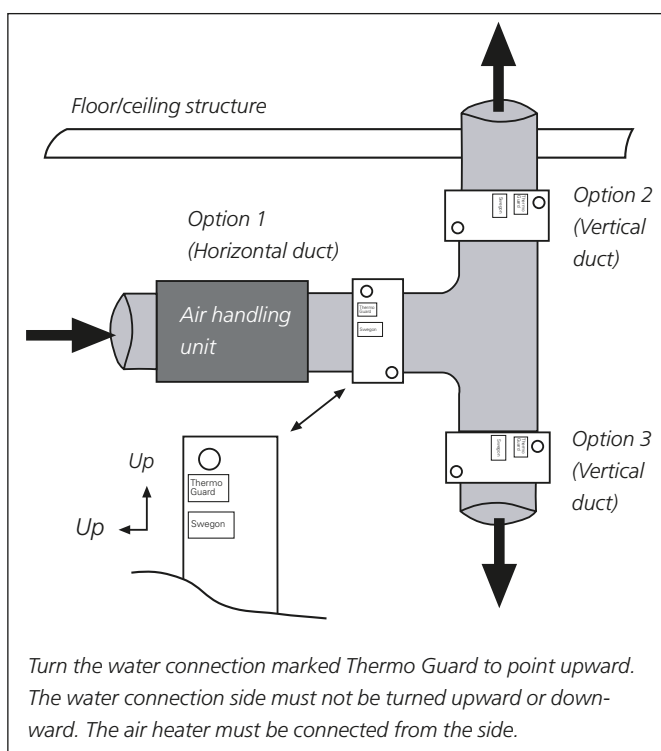
The air heater can be installed for horizontal or vertical airflow.

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.



## 4. TBLE/TCLE Electric air heater

The airflow through the air heater should be as indicated by the arrow affixed on the side of the air heater.

**TBLE:** 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, 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 the diameter of the duct (circular connections) or the diagonal dimension of the air heater (rectangular connections), i.e. from corner to corner in the duct section of the air heater. Otherwise there is risk that the airflow through the the air heater will be non-uniform, involving risk that the overheat protection device will trip. See Figure. If the TBLE is used as a preheat coil, the distance to the air handling unit or some other duct accessory should be at least 1.5 meters, see also the Function Guide, Preheat.

**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 the TBLE apply to a combination of TCLE and uninsulated duct accessories (TBxx) or duct bend (see above).

See the instructions for the TBLE/TCLE as well.

### 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 43.

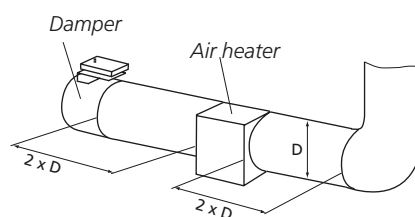
The component must be insulated with incombustible and heat/cold-resistant insulation material. The insulation must not conceal the inspection cover, because the rating plate must be visible and it must be possible to remove the cover.

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.

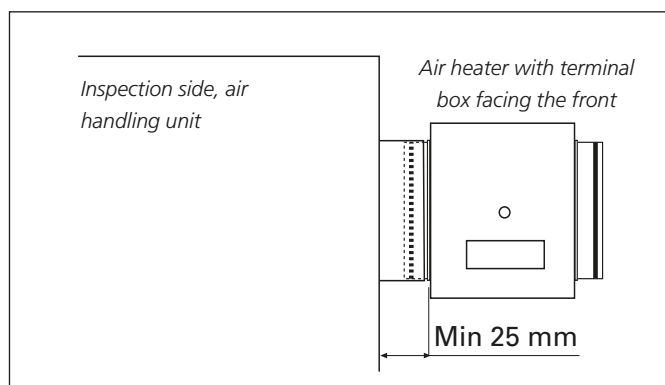
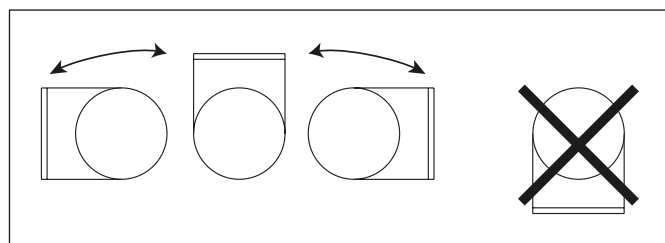
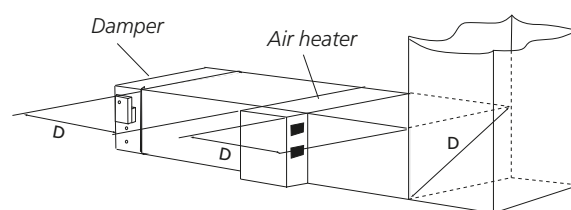
#### Circular connection (does not apply to GOLD LP)

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.

#### TBLE, circular connection



#### TBLE, rectangular connection



## 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.

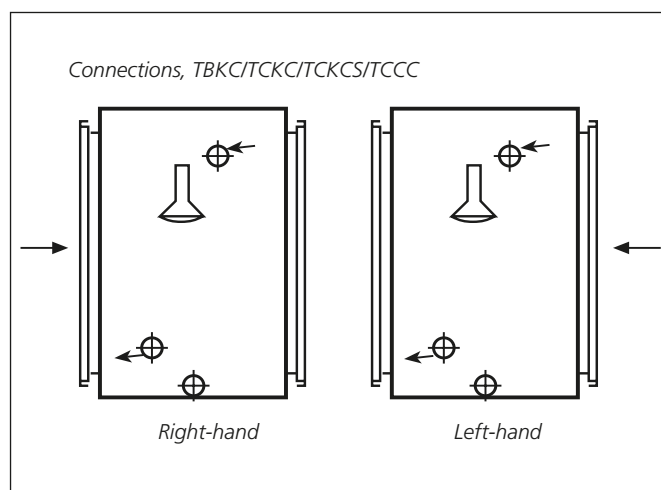
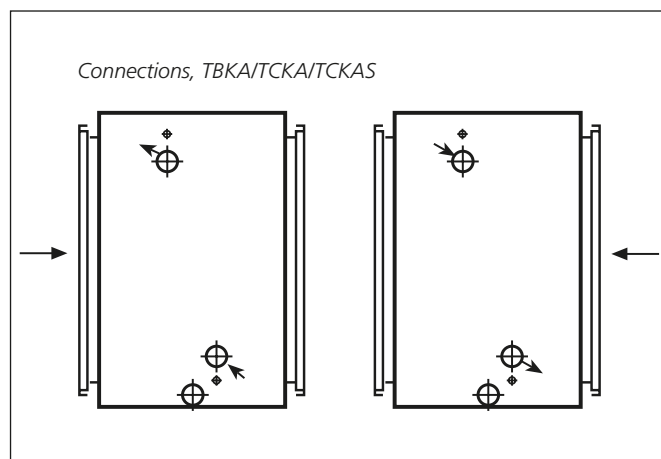
## 6. Air cooler TBKC/TCKC/TCKCS Air cooler/heater TCCC

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

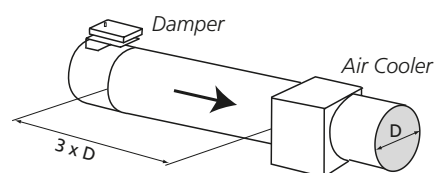
TBKC: The air heater can be mounted directly on the fan outlet of the unit or directly before or after most other duct accessories, such as air heaters, air coolers and filters. If a duct bend, damper, sound attenuator or other duct component/duct accessory, which can generate a non-uniform airflow across 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.

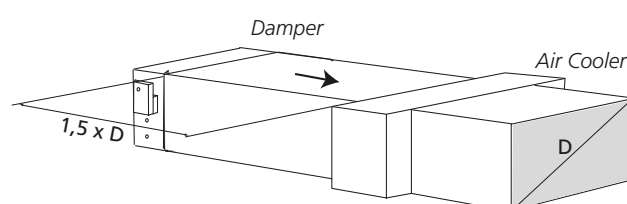
See the instructions for the TBKC/TCKC/TCKCS/TCCC as well.



### TBKA/TBKC, circular connection



### TBKA/TBKC, rectangular connection





## 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. TBSA/TBSB/TCSA/TCSAS Damper

The damper can be installed for horizontal or vertical airflow.

The modulated dampers differ physically from other types of damper. They are marked "OUTDOOR AIR".

TBSA: If the damper is installed on a size 04 - 12 GOLD/SILVER C unit (not the GOLD LP), a spacer sleeve having a length of at least A mm must be installed between the air handling unit and the damper. See figure. This prevents the motor base from touching the air handling unit and prevents the damper blade from touching the fan mounting frame or commissioning plates.

GOLD LP: In order to have enough working space, fit the TBSB rectangular dampers in position before you secure the air handling unit at its final location.

See the TBSA/TBSB/TCSA/TCSAS instructions as well.

## 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

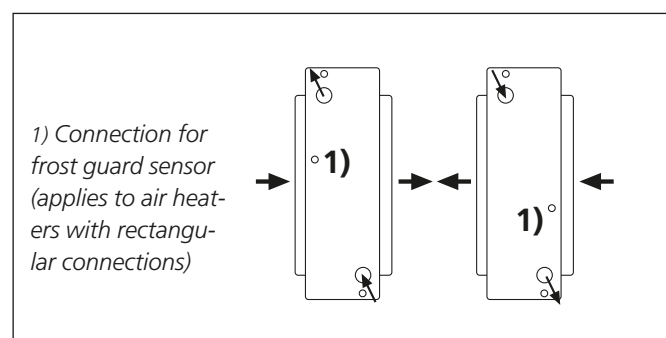
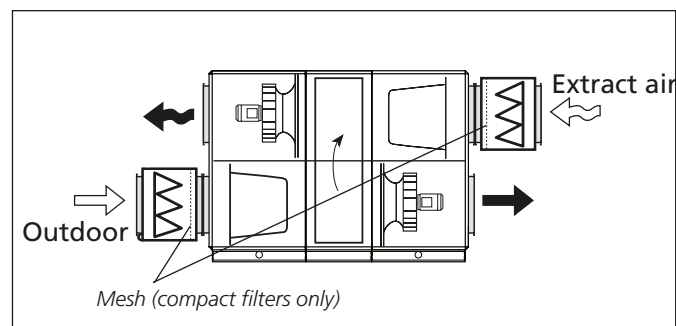
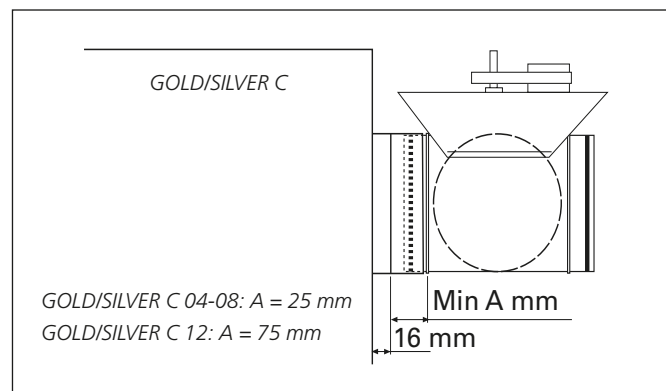
The TBLF air heater can be installed in the outdoor air duct, for horizontal or vertical airflow.

The 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.

