

# SILVER

Air Handling Unit

Installation instructions

**SILVER RX version G, size 70+/80+**

The document was originally written in Swedish.

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## 1. Installation

### 1.1 General

All staff concerned must acquaint themselves with these instructions before beginning any work on the unit. Any damages to the unit or parts of it due to improper handling or misuse by the purchaser or the fitter cannot be considered subject to guarantee if these instructions have not been followed correctly.

The product identification plates are located on the inspection side of the air handling unit and inside the electric equipment cubicle of the unit. Refer to the particulars on the product identification plate when you contact Swegon.

The air handling unit is supplied in packaged condition.

Possible ordered accessories are supplied in separate packaging with the unit.

### 1.2 On-site transportation

Before removing the transport pallet/transport cradle, if used, determine whether a forklift truck or a pallet transporter will be used for further transporting the unit within the site to the spot where it will be installed.

### 1.3 Parts packed with the unit

Individually packaged components such as the decorative fittings, commissioning plates, bolts, and document pocket are inside the air handling unit when it is delivered.

#### 1.3.1 Document pocket

Secure the document pocket to the exterior of the air handling unit or another appropriate place.

### 1.4 Location

The air handling unit must be mounted horizontally on a flat and firm supporting surface and this surface must be constructed in a way enabling it to support the weight of the unit.

When setting up the unit and connecting pipes and electrical wiring, ensure that inspection hatches can be opened freely and that internal functional parts, such as filter cassettes and fan inserts, can be removed.

#### Required inspection space

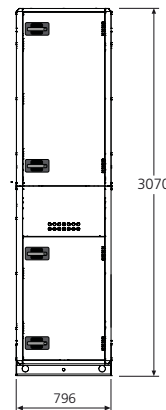
1100 mm of free space should be left in front of fan/filter parts for opening inspection doors.

### 1.5 Delivery method

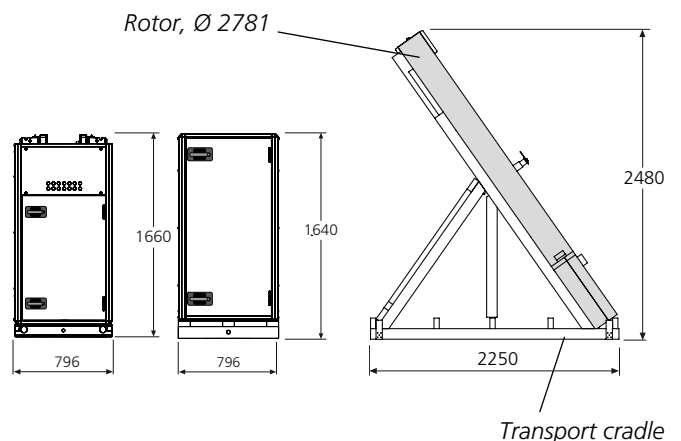
The SILVER RX 70+/80+ is normally supplied with an assembled heat exchanger section. This will be delivered in two separate units: one fan/filter section and one fan/filter section + heat exchanger section. The heat exchanger section can also be supplied split. The unit is supplied as two separate fan/filter sections and the heat exchanger section is supplied in two casing sections and rotor, where the rotor is supplied inclined in a transport cradle (transport height = 2480 mm, minimum transport width = 2250 mm). See Section 1.7 for installation particulars.

For other dimensions and weights, see Section 2.

#### Heat exchanger section supplied as a separate unit

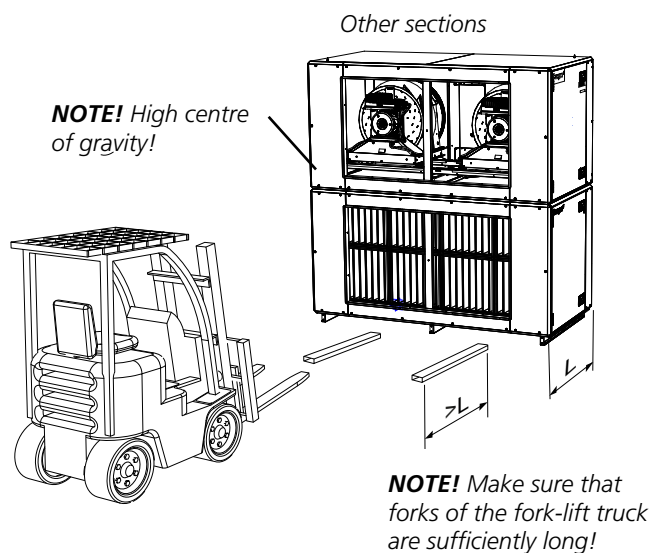
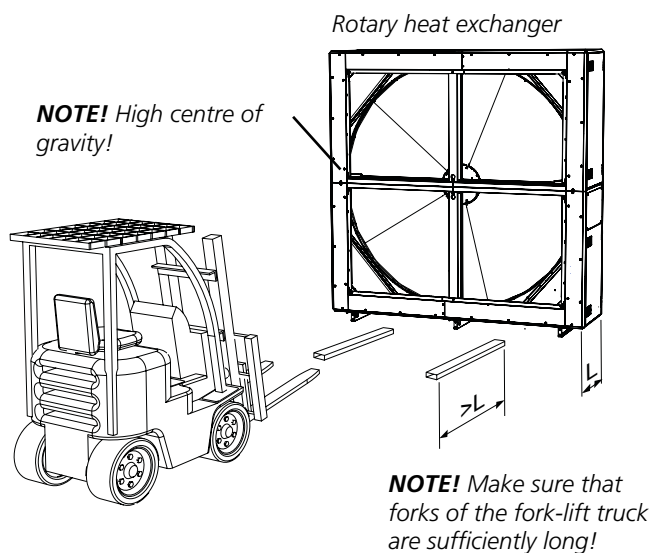


#### Heat exchanger section, supplied split into two casing sections and rotor



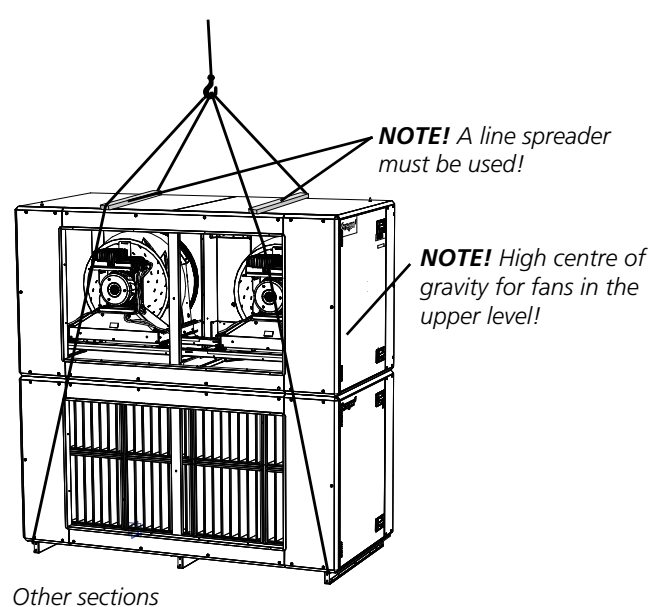
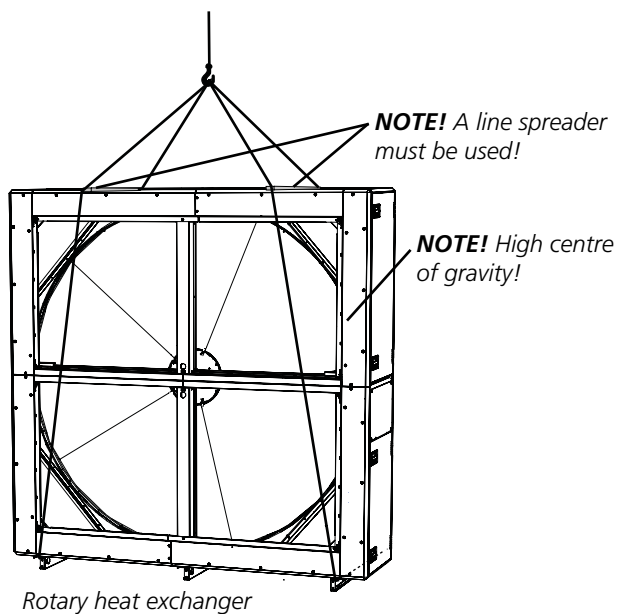
## 1.6 Lifting

### 1.6.1 With a fork-lift truck

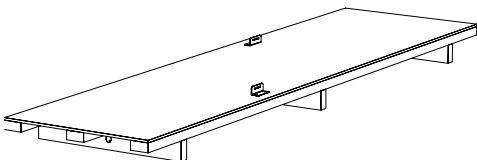
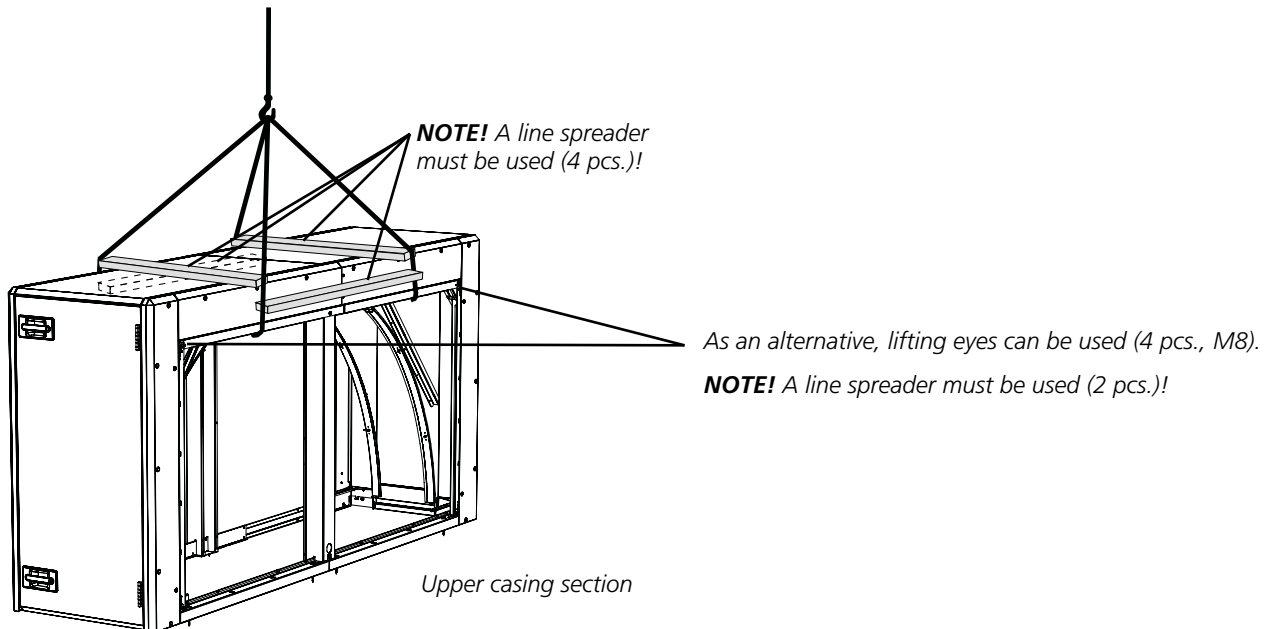
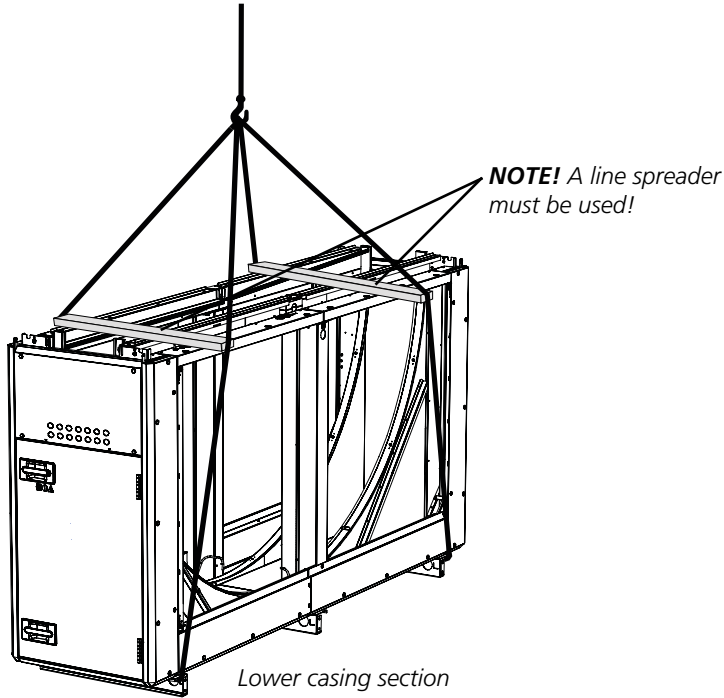


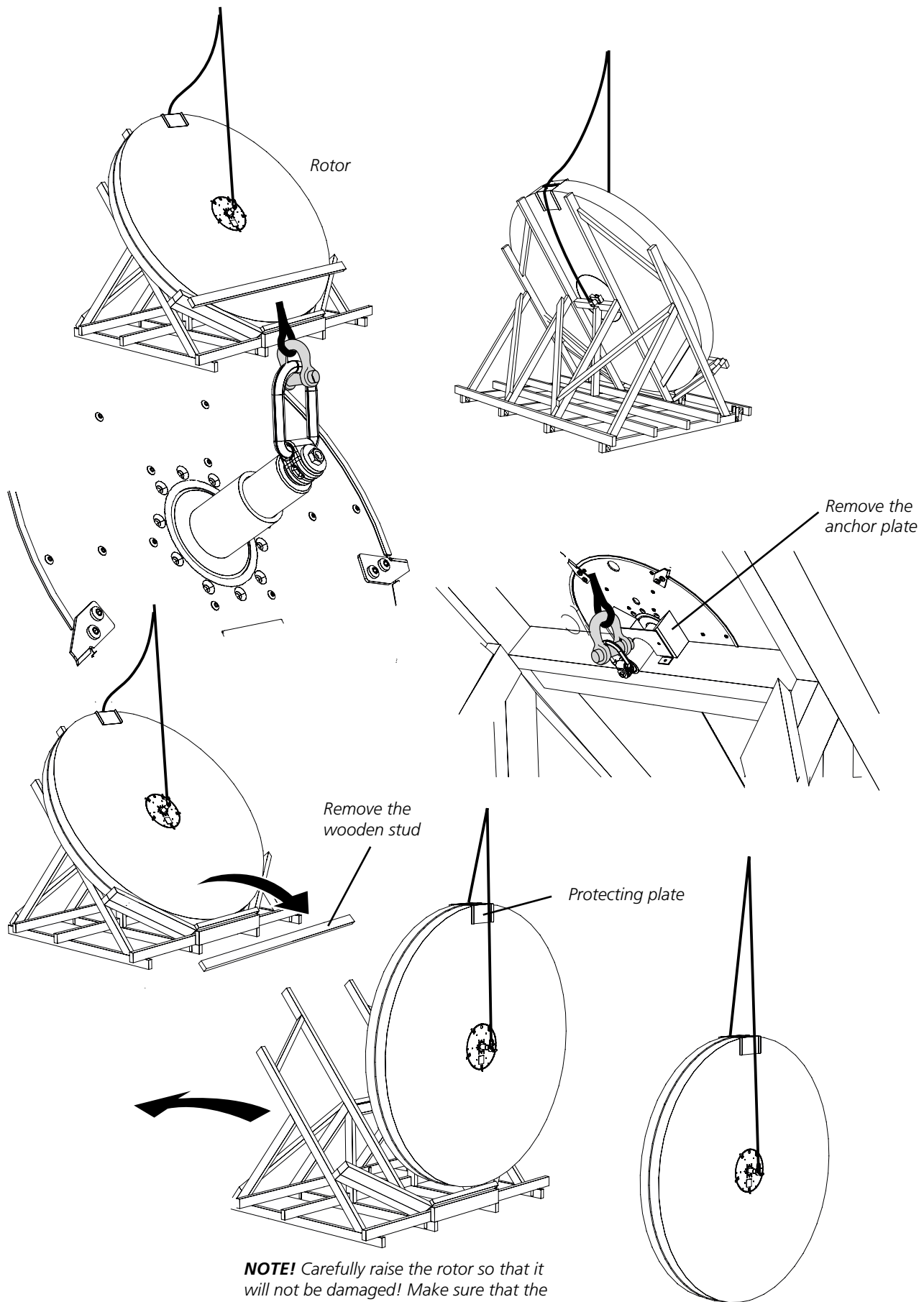
### 1.6.2 With a crane

#### 1.6.2.1 Complete units



1.6.2.2 Heat exchanger section, supplied split into two casing sections and rotor





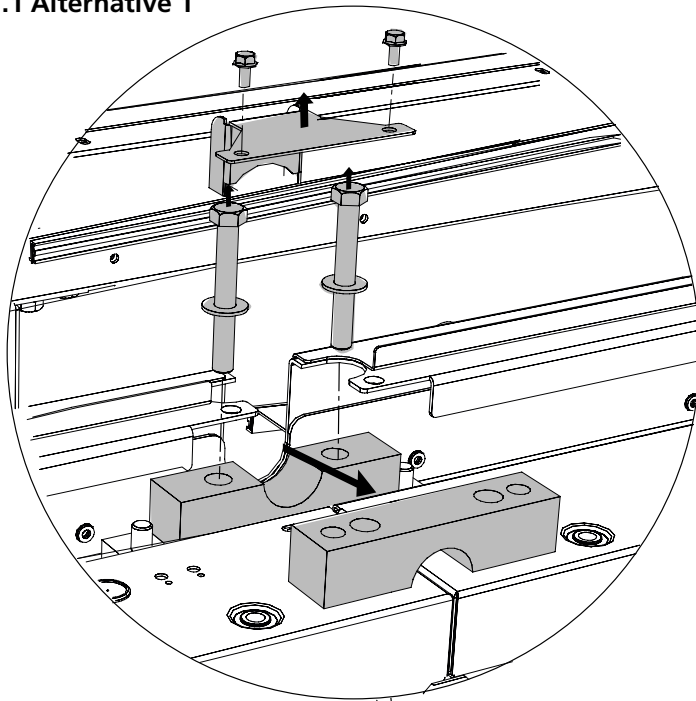
**NOTE!** Carefully raise the rotor so that it will not be damaged! Make sure that the lifting device rests against the protecting plate at the top edge.

**1.7 Installation of heat exchanger (if applicable)**

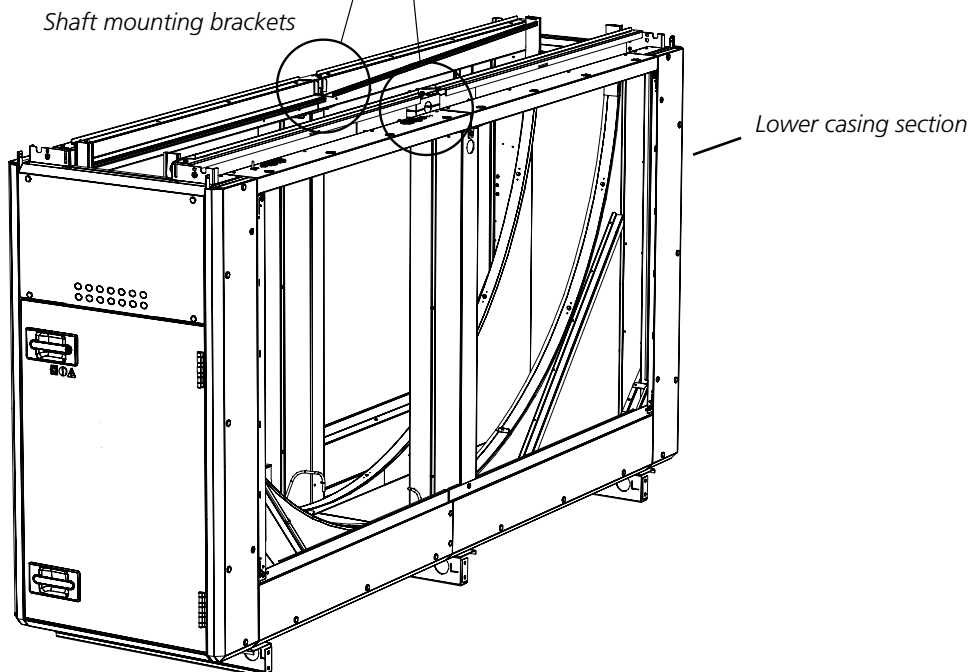
If the heat exchanger unit section is supplied in parts, they must be jointed together. This can be done in two ways: Alternative 1 is appropriate for use if there is sufficient free space upward since this alternative is simpler. If sufficient space is not available, Alternative 2 should be used.

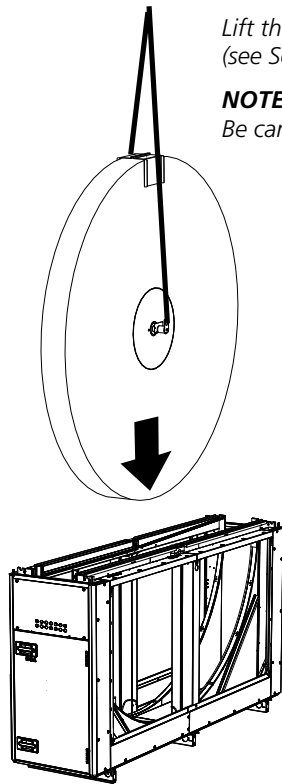
If the heat exchanger unit section is supplied as one unit, go on to Section 1.8.

**1.7.1 Alternative 1**



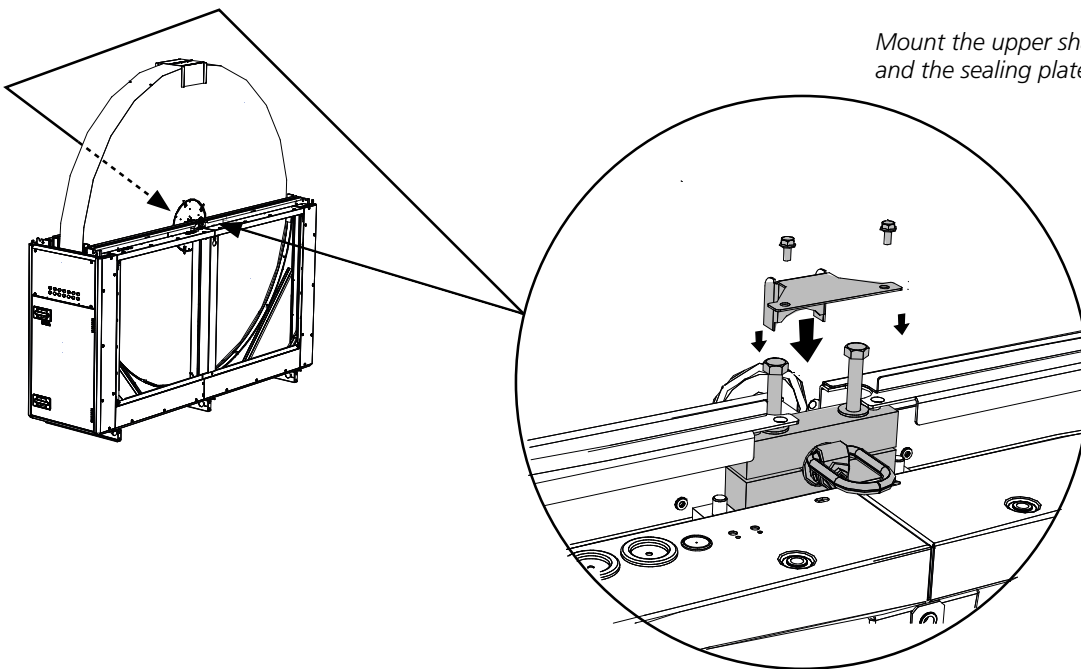
*Remove the upper shaft bracket and the sealing plate (2x)*



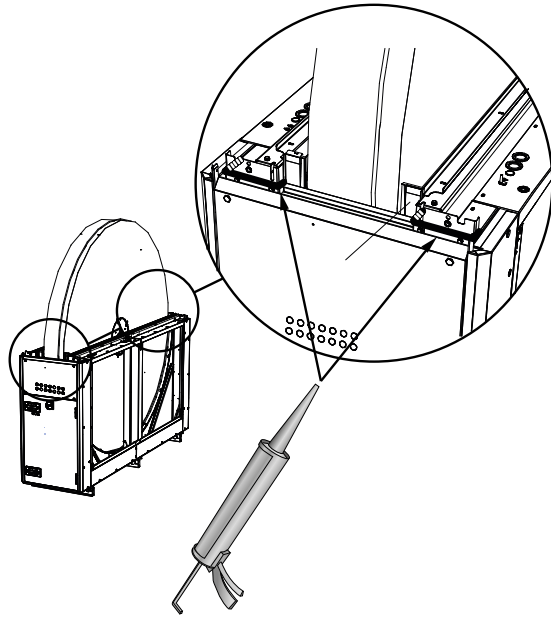


Lift the rotor into the lower casing section  
(see Section 1.6).

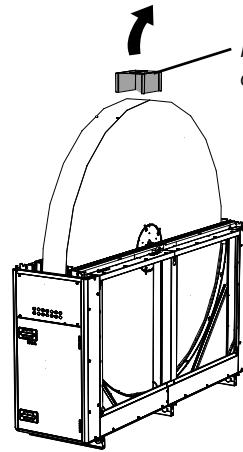
**NOTE! IMPORTANT!**  
Be careful not to damage the rotor!



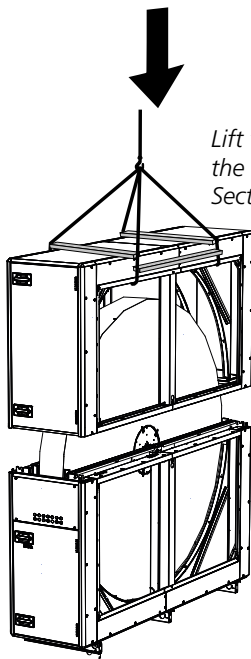
Mount the upper shaft bracket  
and the sealing plate (2x)



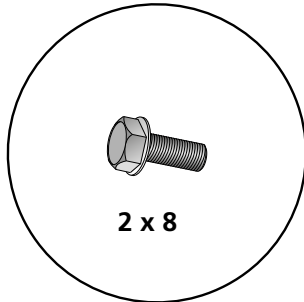
Seal around plates with appropriate sealant/putty (4 pcs.)



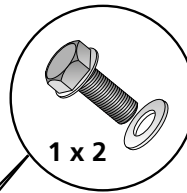
Remove the protecting plate of the rotor.



Lift the upper casing section onto the lower casing section (see Section 1.6).

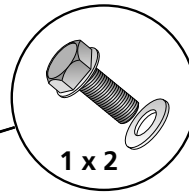


2 x 8

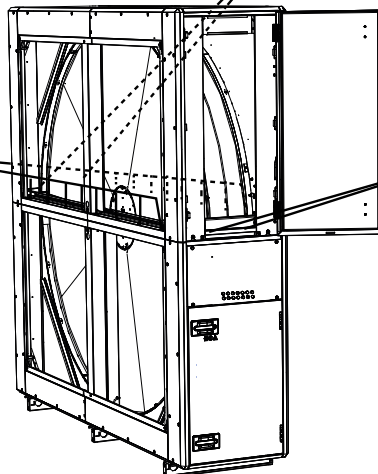


1 x 2

Screwed from inside.



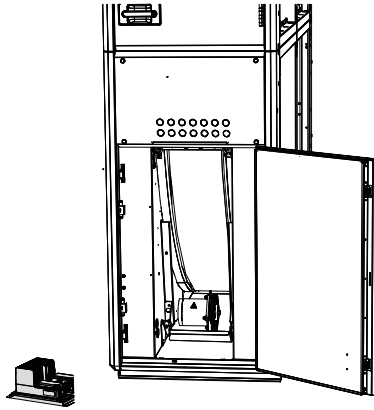
1 x 2



Fix the upper casing section to the lower casing section with the bolts supplied, screwing them into the pre-fitted rivet nuts (a total of 20 pcs.).

## Drive motor 14 Nm

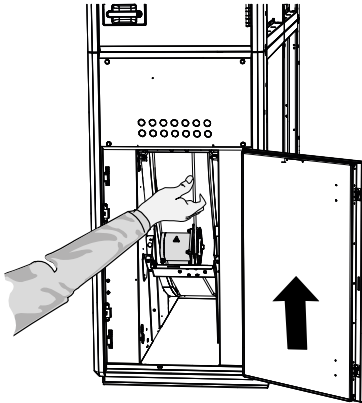
Loosen and set rotor control aside.



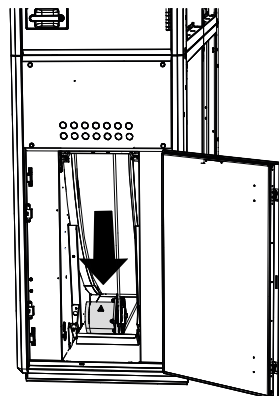
## Drive motor 8 Nm

Place the rotor's drive belt around the drive motor's pulley.

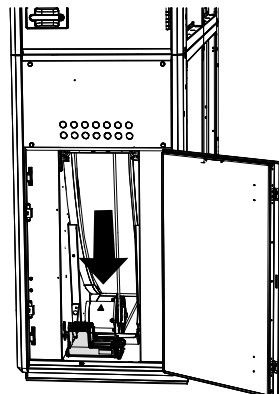
Dismantle the heat exchanger motor + mounting bracket (6 bolts). Move the motor + mounting bracket into position shown in the illustration and temporarily secure them with two screws. Place the rotor's drive belt around the motor's pulley.



Slacken off the two screws holding the motor + mounting bracket. Move the motor + mounting bracket back to their original positions. Secure the motor + mounting bracket with bolts (6 bolts).



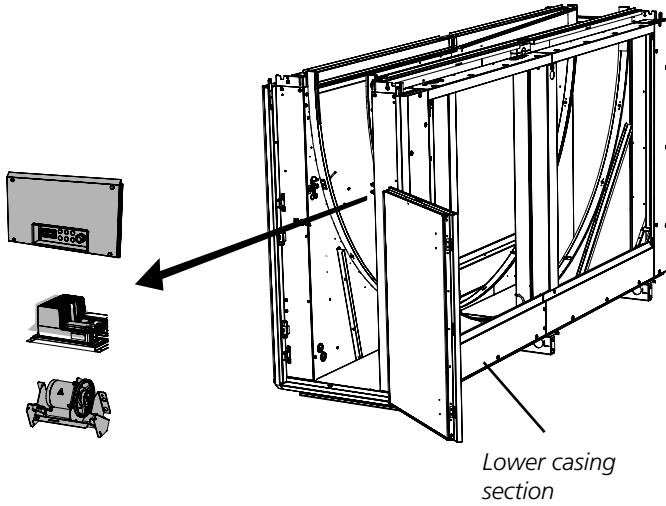
Refit the rotor controller.



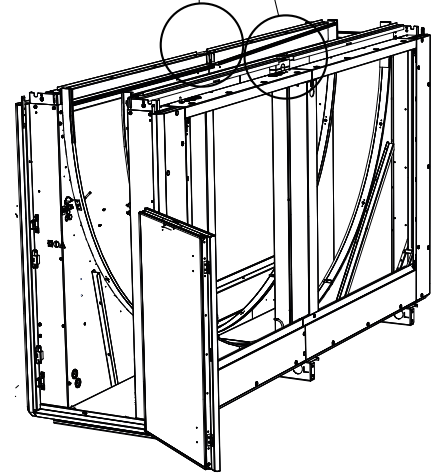
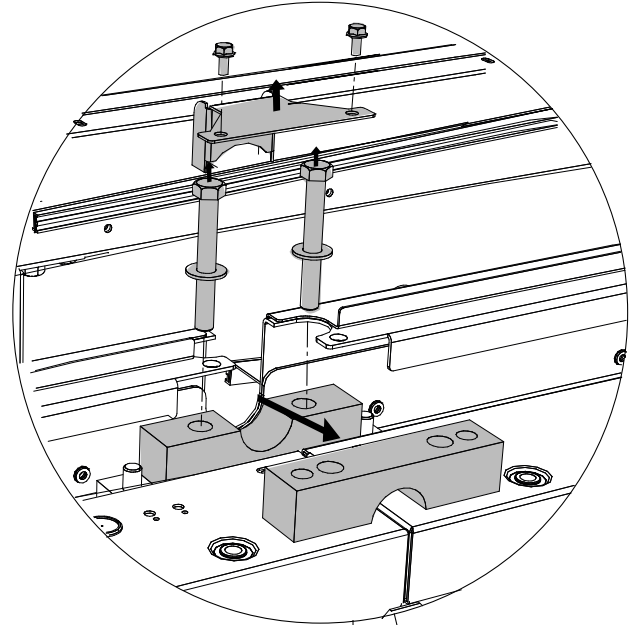
See also Section 1.7.3 Common for Alternatives 1 and 2

1.7.2 Alternative 2

Remove the upper shaft bracket and the sealing plate (2x)



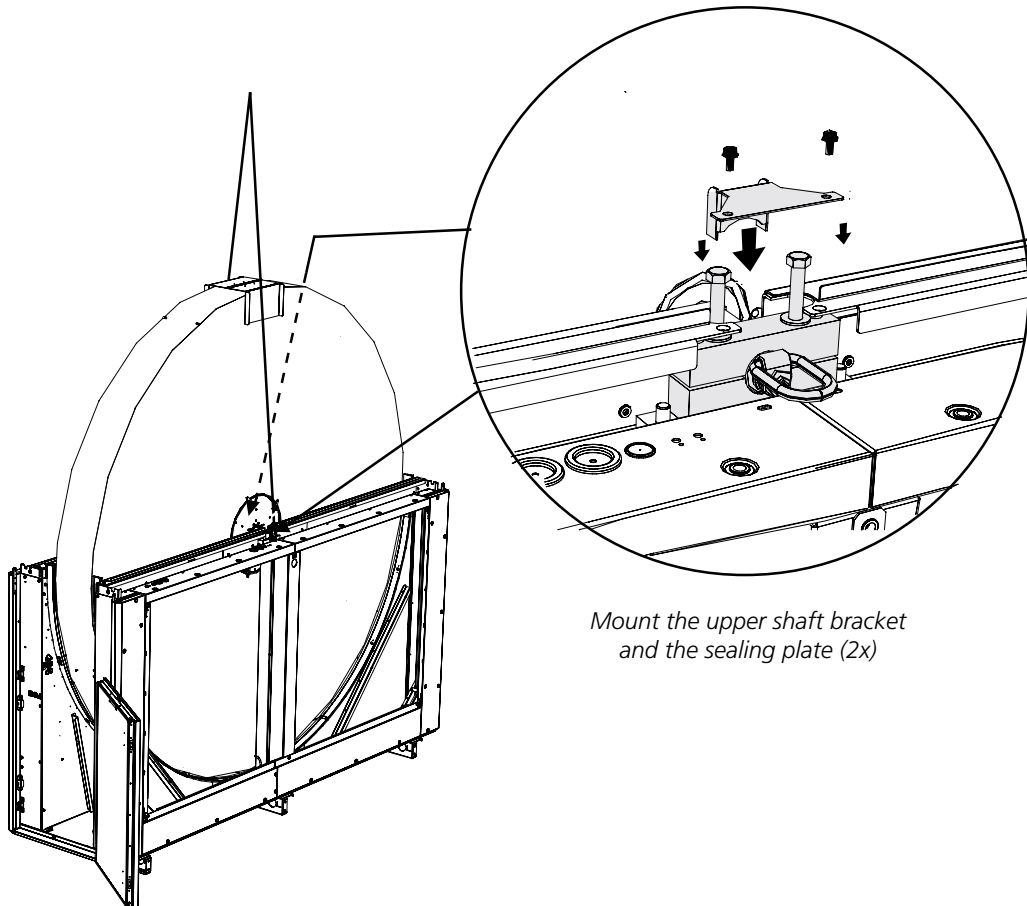
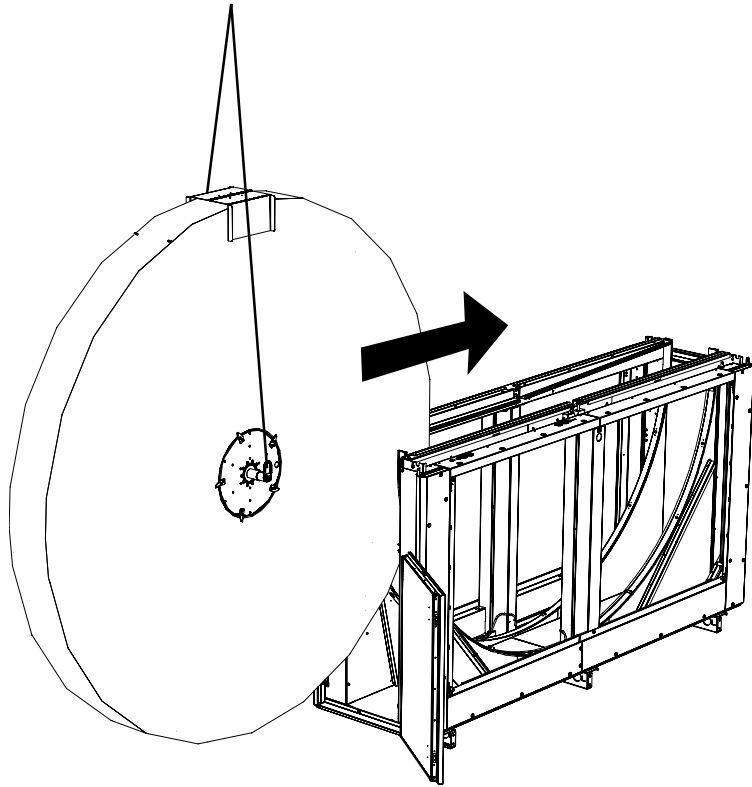
Dismantle the heat exchanger motor + mounting bracket (6 bolts). Dismantle rotor controller and panel.



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Lift the rotor from the side into the lower casing section  
(see Section 1.6).

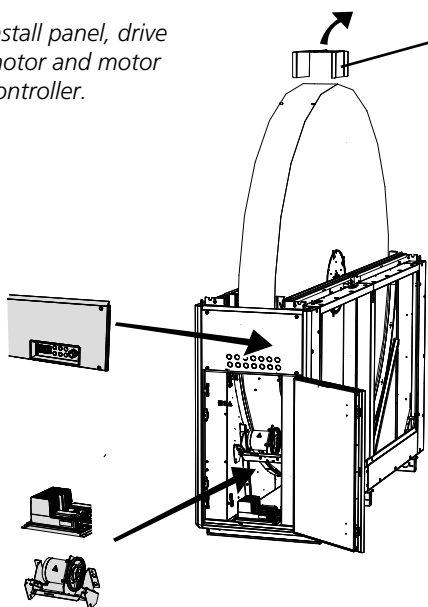
**NOTE! IMPORTANT!** Be careful not to damage the rotor!



Mount the upper shaft bracket  
and the sealing plate (2x)

Install panel, drive motor and motor controller.

Remove the protecting plate of the rotor.

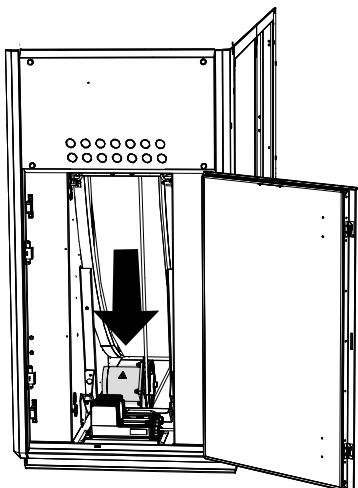
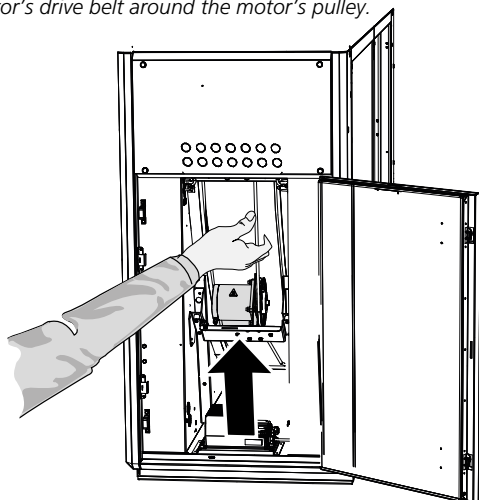


**Drive motor 14 Nm**

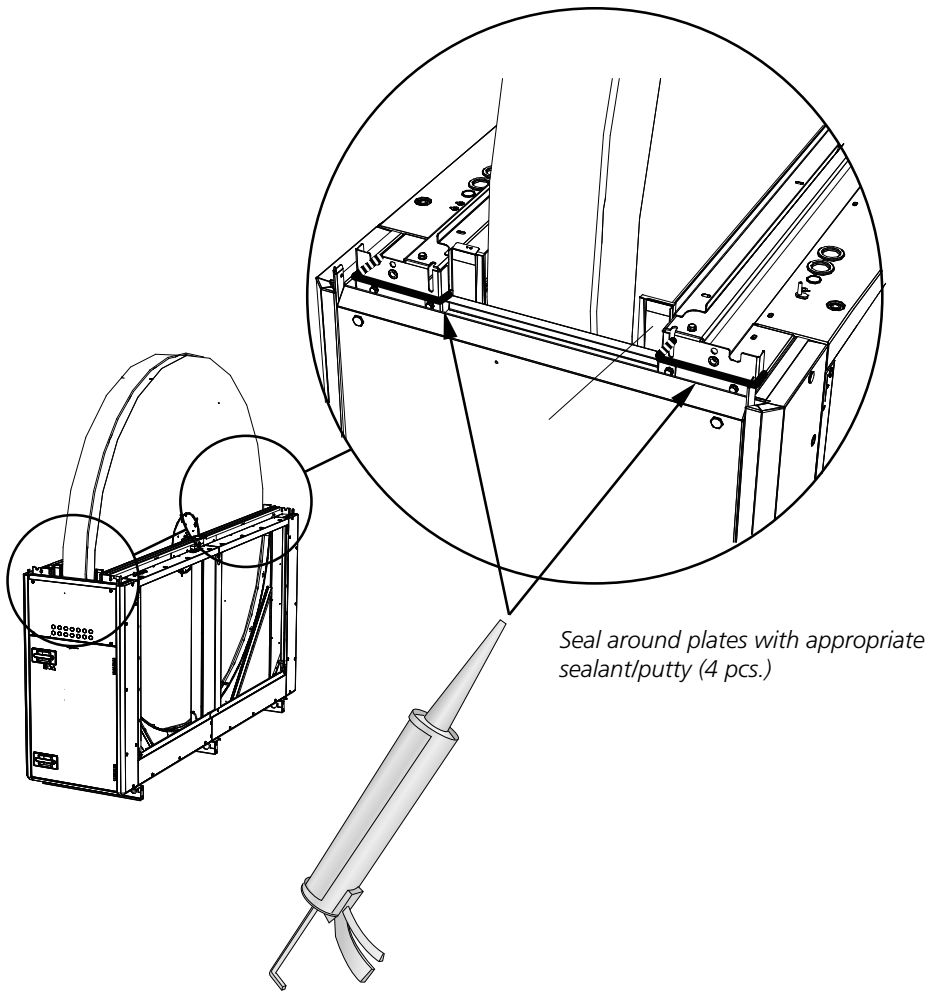
Move the motor + mounting bracket into position shown in the illustration and temporarily secure them with two screws. Place the rotor's drive belt around the motor's pulley.

**Drive motor 8 Nm**

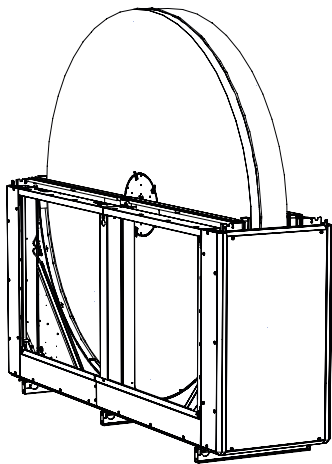
Place the rotor's drive belt around the motor's pulley.



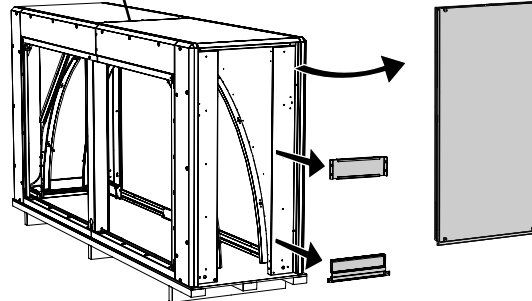
Slacken off the two screws holding the motor + mounting bracket. Move the motor + mounting bracket to the position shown in the illustration. Secure the motor + mounting bracket with bolts (6 bolts).



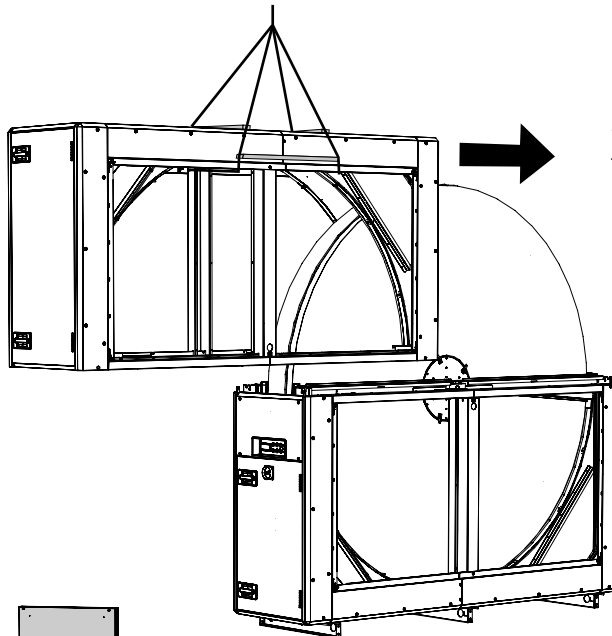
*Seal around plates with appropriate sealant/putty (4 pcs.)*



Upper casing section

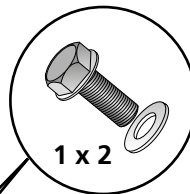
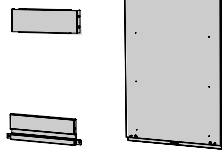


Remove the cover panel on the rear side. Remove the sealing plates (2 pcs.).



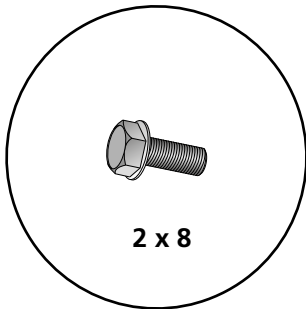
Lift the upper casing section from the side onto the lower casing section (see Section 1.6).

Mount the cover panel and the sealing plates (2 pcs.).

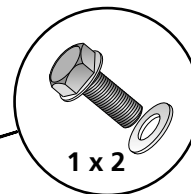


Screwed from inside.

1 x 2



2 x 8



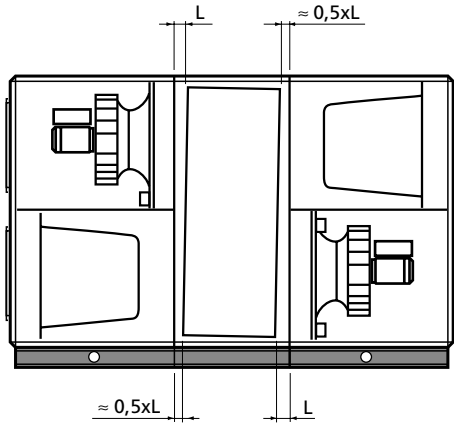
1 x 2

Fix the upper casing section to the lower casing section with the bolts supplied, screwing them into the pre-fitted rivet nuts (a total of 20 pcs.).

See also Section 1.7.3 Common for Alternatives 1 and 2 2

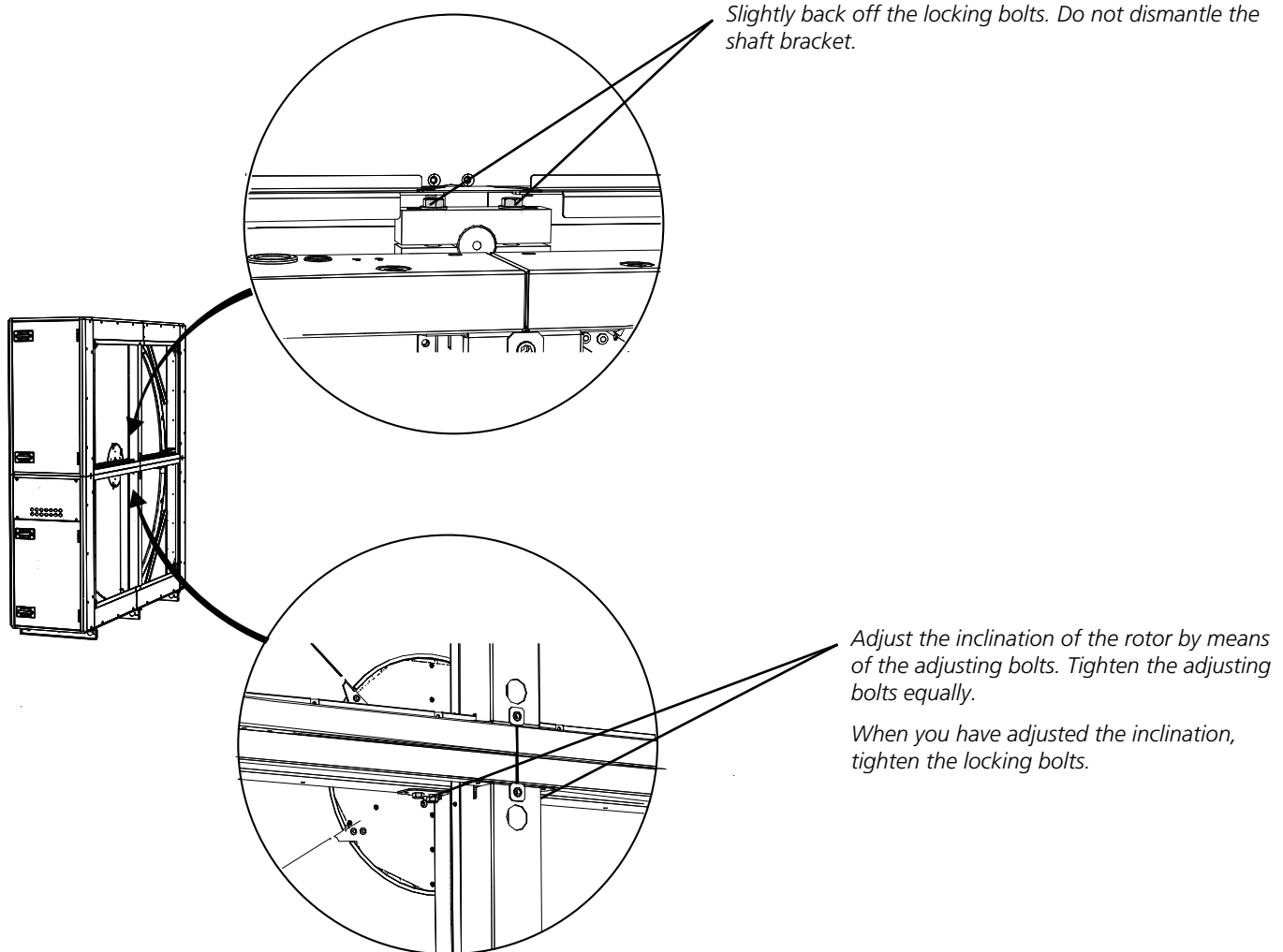
## 1.7.3 Common for Alternatives 1 and 2

### 1.7.3.1 To adjust the rotor's inclination



The illustration shows an appropriate rotor inclination setting for Fan Arrangement 1. The inclination must always be toward the filter, which means that the inclination for Fan Arrangement 2 is in the other direction.

The rotor's inclination may need to be greater in applications that involve high airflows with associated high pressure.

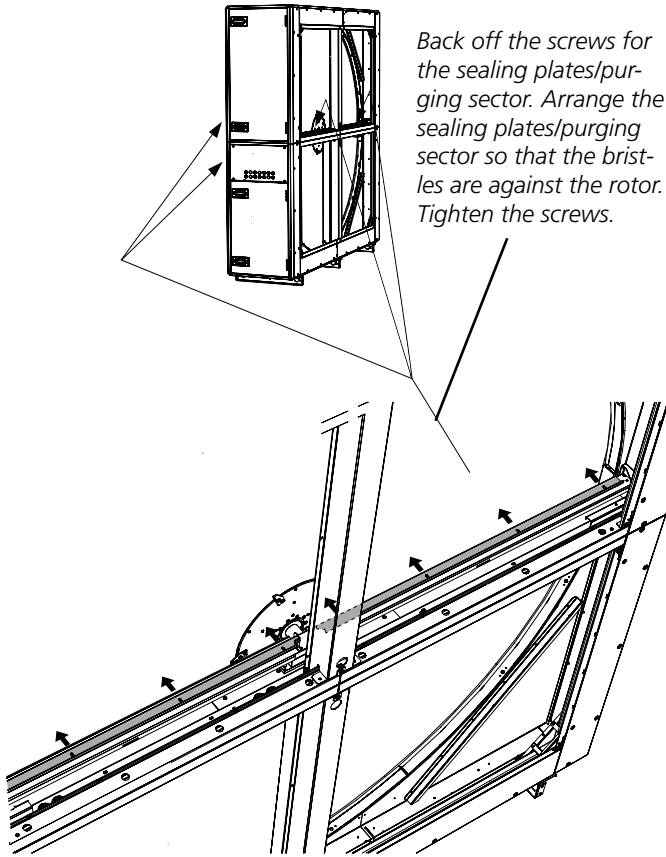


Slightly back off the locking bolts. Do not dismantle the shaft bracket.

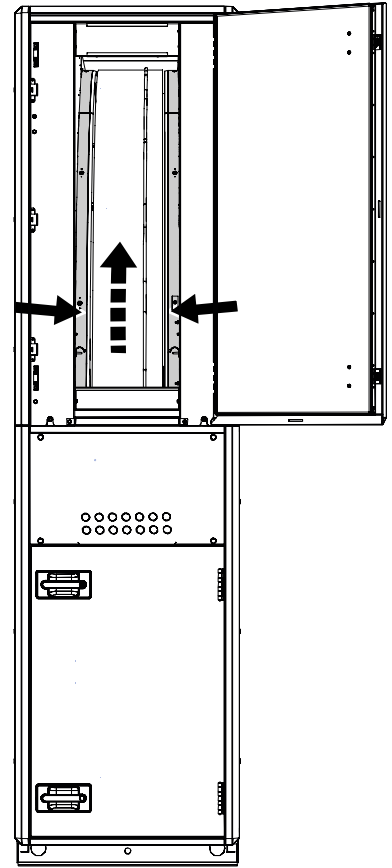
Adjust the inclination of the rotor by means of the adjusting bolts. Tighten the adjusting bolts equally.

When you have adjusted the inclination, tighten the locking bolts.

1.7.3.2 Sealing plates/purging sector

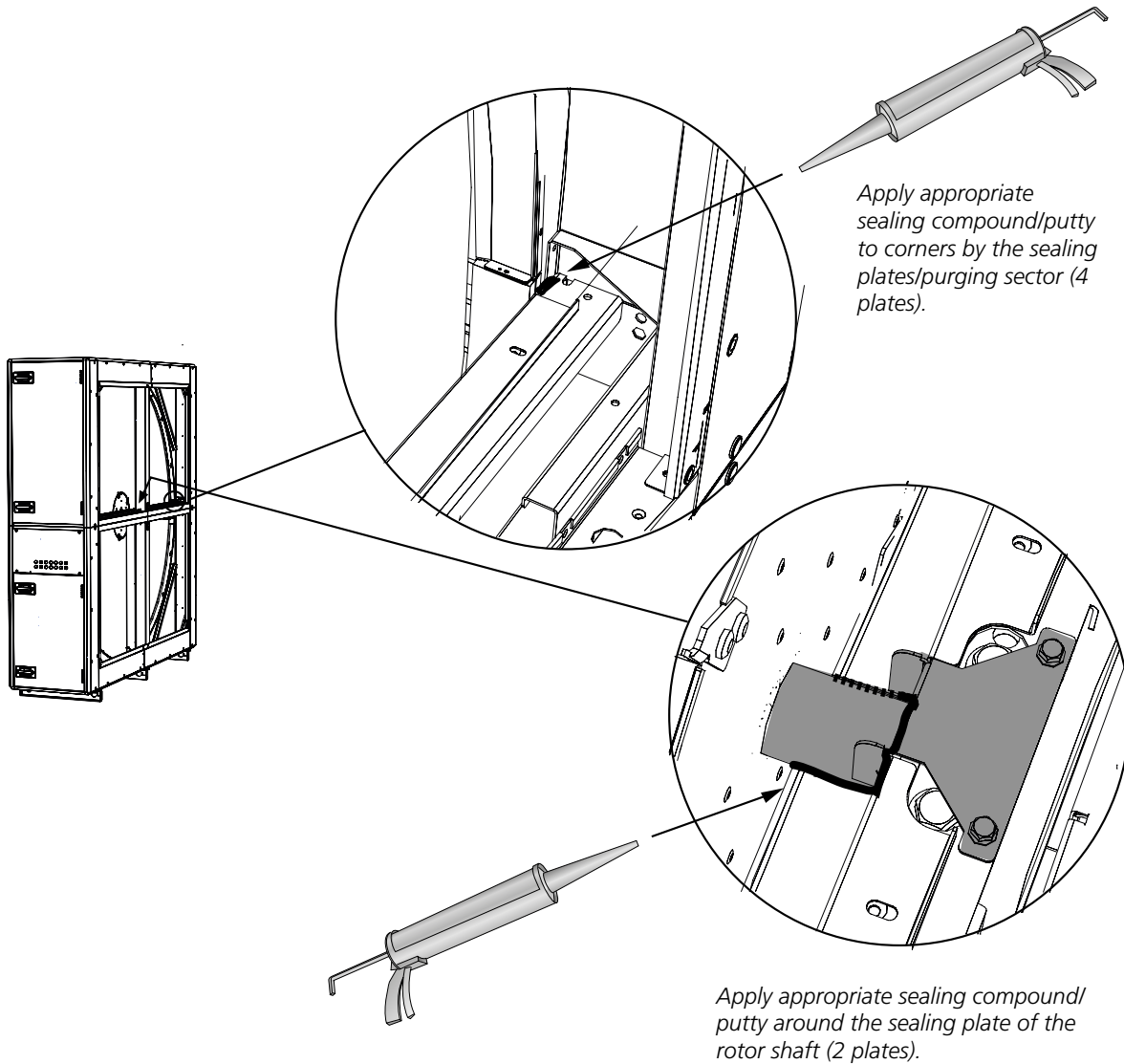


1.7.3.3 Vinyl-coated fabric seal



Slip the vinyl-coated fabric seal of the rotor (blue) over the rim all the way around on both sides of the rotor.

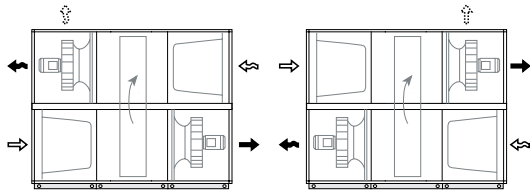
## 1.7.3.4 Sealing



**1.8 Version and fan arrangement**

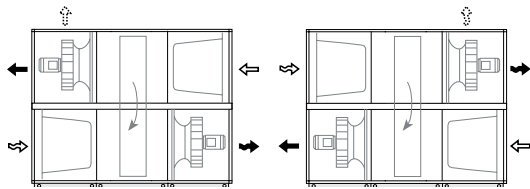
The SILVER RX 70+/80+ is supplied in a right-hand or left-hand version. The arrangement of the functional sections can be vertically reversed (specify when ordering), see the illustration below..

For particulars of the delivery configuration and installation of the relevant air handling unit, see the decal on the lower section of the heat exchanger.



*Supply air fan, right, lower level      Supply air fan, right, upper level*

**Right-hand version**



*Supply air fan, left, upper level      Supply air fan, left, lower level*

**Left-hand version**



Outdoor air



Supply air



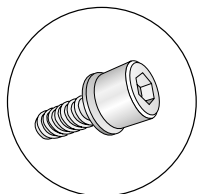
Extract air



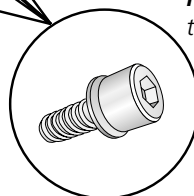
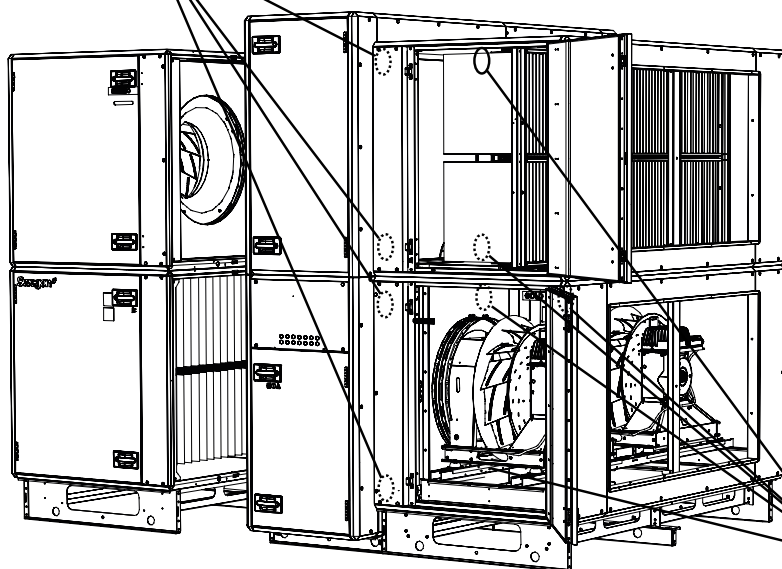
Exhaust air

## 1.9 Docking unit sections

### 1.9.1 Fastening, front/middle section



Locate the fan/filter sections by the heat exchanger section according to the delivery configuration (see Section 1.8). Affix the fan/filter sections at the front side of the air handling unit to the heat exchanger section with the bolts supplied, screwing them into the prefitted rivet nuts (a total of 2 x 4 pcs.).



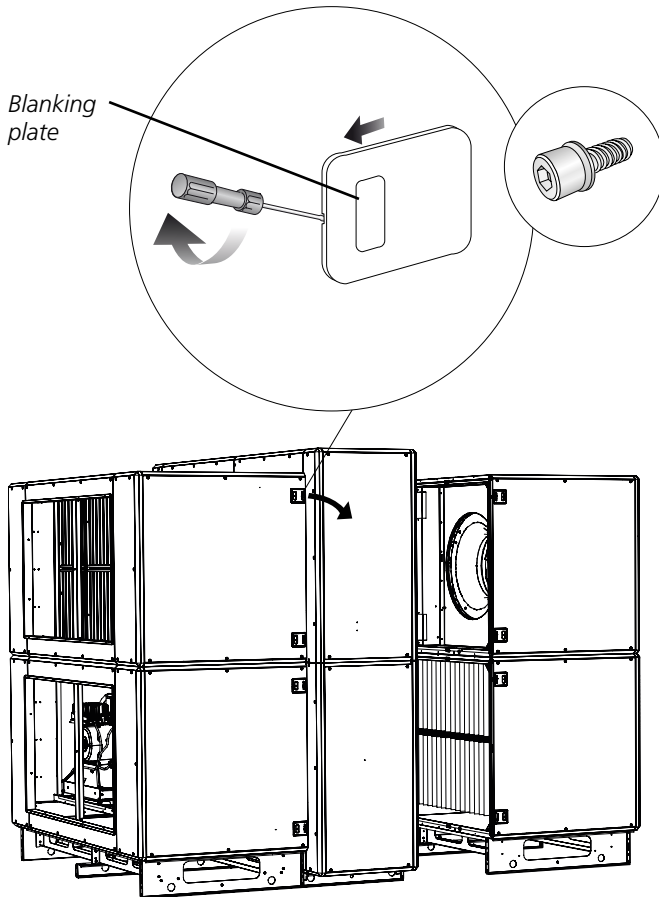
Inside the middle section of the unit, the fan/filter sections are fixed to the heat exchanger section with the supplied screws in pre-assembled rivet nuts (2 x 4 pcs. in total). The anchoring points inside the unit are shown in the illustration.

In order to access the anchor points in the fan section, you must unfasten the flexible connections and the fan assemblies and move them outward toward the inspection door. You can then tighten the screws from the opening of the duct connection. The cover plates in front of the mounting points are removed.

**NOTE!** You do not need to remove the fan assemblies completely!

**1.9.2 Fastening, rear of unit**

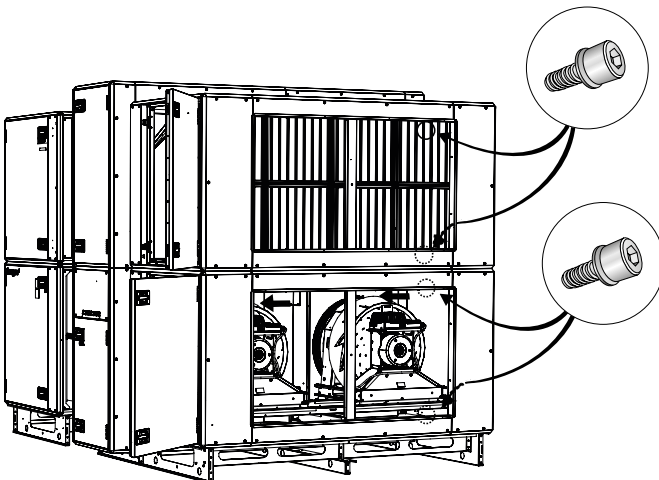
Securing with screws at the rear of the air handling unit can be done in two ways, internally or externally. External fastening (Alt. 1) is appropriate if there is sufficient free space behind the air handling unit, since this alternative is simpler. If sufficient space is not available, internal assembly (Alt. 2) can be used.



**Alt. 1**

*External fastening.*

*Dismantle the blanking plate and insulation inside the cover on the rear side of the air handling unit. Fix the fan/filter sections to the heat exchanger section with the bolts supplied, screwing them into the pre-fitted rivet nuts (a total of 2 x 4 pcs.). Refit the blanking plate and the insulation.*



**Alt. 2**

*Internal installation.*

*Fix the fan/filter sections to the heat exchanger section with the bolts supplied, screwing them into the pre-fitted rivet nuts (a total of 2 x 4 pcs.). The anchoring points inside the unit are shown in the illustration.*

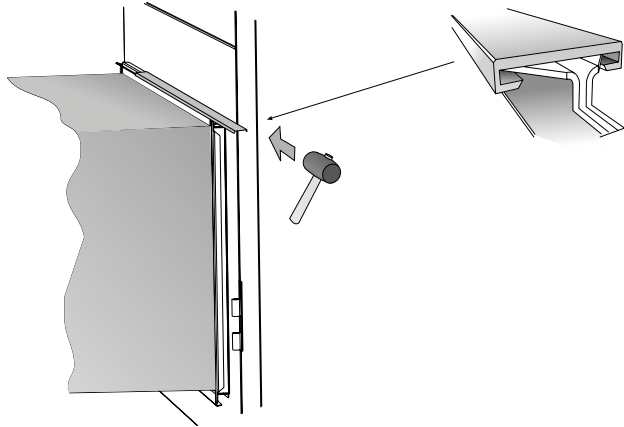
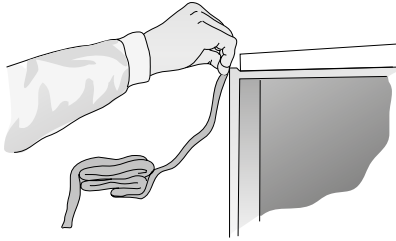
*In order to access the anchor points in the fan section, you must unfasten the flexible connections and the fan assemblies and move them outward toward the inspection door. You can then tighten the screws from the opening of the duct connection. The cover plates in front of the mounting points are removed.*

**NOTE!** *You do not need to remove the fan assemblies completely!*

## 1.10 Duct connection

The air handling unit's connection frames are rectangular and can be jointed to ducts by means of slip-clamps.

The ducts should be insulated according to local regulations and customary trade standards.

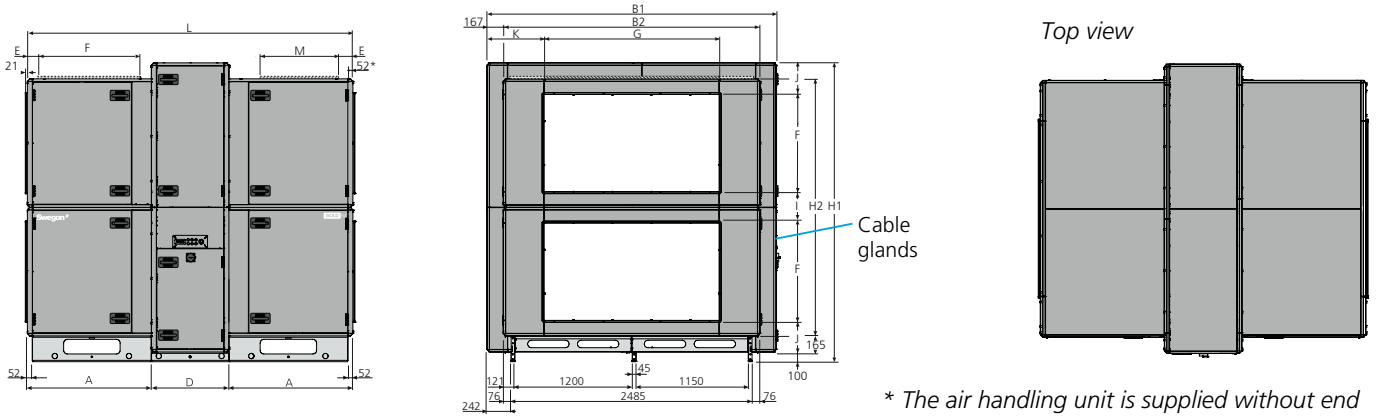


## 1.11 To connect to the electrical power supply

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

See separate instructions for the electrical connection of fan motors, heat exchanger control, actuators, etc.

## 2. Dimensions



\* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected. The AHU can also be supplied with full face end connection panel (accessory).

Size	A	B1	B2	D	E	F	G	H1	H2	I	J	K	L	M	Weight, kg
070+/080+	1273.5	2970	2637	796	162	1000	1800	3070	2640	320	325	585	3343	750	2614-3335

### Individual weights

#### Filter/fan sections

807-1070 kg.

#### Heat exchanger section, mounted

1000-1195 kg.

#### Heat exchanger section, supplied in two casing sections + rotor

Lower casing section = 420-470 kg

Upper casing section = 315-345 kg

Rotor = 305-425 kg

Transport cradle = 140 kg

