

## **Instructions for Installation** GOLD RX/CX, sizes 100/120



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.

Remove the air handling unit's protective plastic foil packaging when you have completed the installation.

### 1.2 Transport within the site

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 together with the unit

Individually packaged components such as the hand-held micro terminal, decorative fittings, commissioning plates, bolts, supply air sensor and document pocket are inside the air handling unit when it is delivered.

### 1.3.1 Hand-held micro terminal

The hand-held micro terminal is equipped a 3 m long cable and a quick-fit connector. For particulars of the electrical connections, see 1.15. A holder for wall-mounting is supplied with the hand-held micro terminal. The holder can be secured to the outside of the air handling unit (does not apply to the outdoor units) or another appropriate place. An extension cable (8 metres long) is available as an accessory.

### 1.3.2 Supply air sensor

The sensor is equipped with a 10 m long cable and a quick-fit connector. For particulars regarding installation, see 1.12. For particulars of the electrical connections, see 1.15.

### 1.3.3 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 installing the air handling unit and connecting pipework and electric cables, make sure that adequate free space is provided for opening the inspection doors and covers and withdrawing functional sections, such as filter cassettes and fan assemblies, clear of the unit casing.

### Inspection space required

A clear space of 1,000 mm should be provided in front of the unit for opening the inspection doors.

### 1.5 Method of delivery

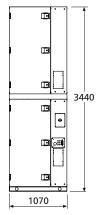
### 1.5.1 GOLD RX

The GOLD RX 120 is normally supplied in five separate sections: two fan sections, two filter sections and one heat exchanger section.

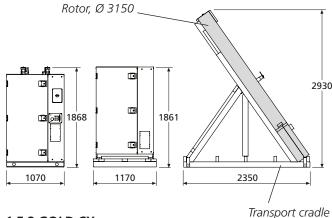
The heat exchanger section can also be supplied split into two casing sections and rotor, in which case the rotor is supplied tilted in a transport cradle (transport height = 2,930 mm, minimum transport width = 2,350 mm). See Section 1.7 for installation particulars.

For other dimensions and weights, see Section 2.1.

### Heat exchanger section supplied as a separate unit



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



### 1.5.2 GOLD CX

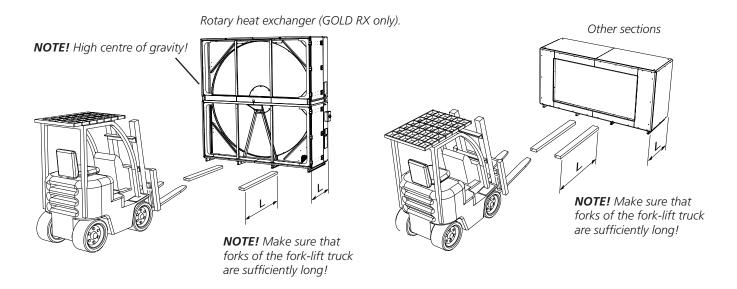
The GOLD CX 120 is supplied as six separate units: Two fan sections, two filter sections and two coil heat exchanger sections.

For dimensions and weights, see Section 2.2.



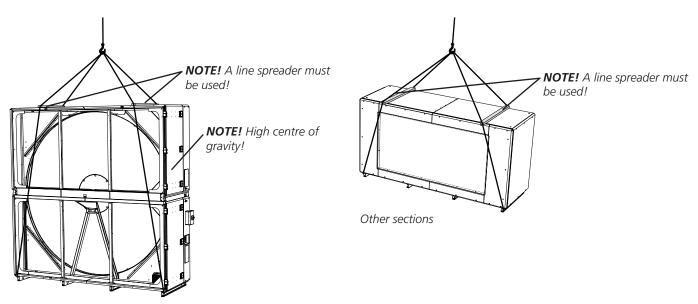
### 1.6 Lifting

### 1.6.1 With a fork-lift truck



### 1.6.2 With a crane

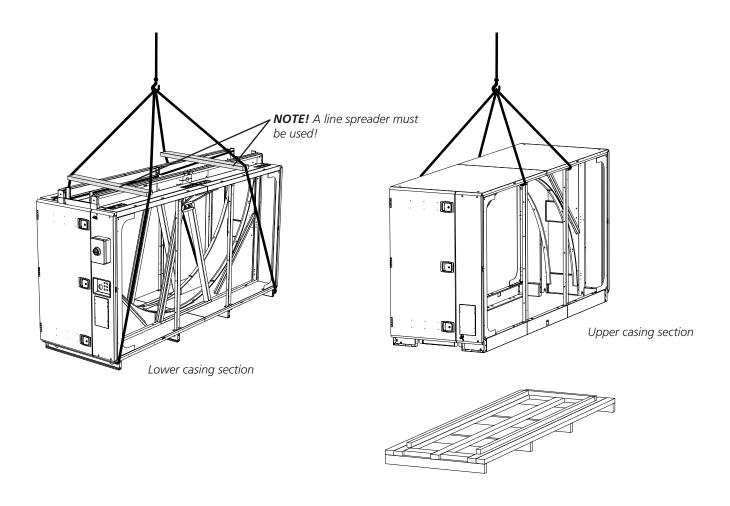
### 1.6.2.1 Complete units



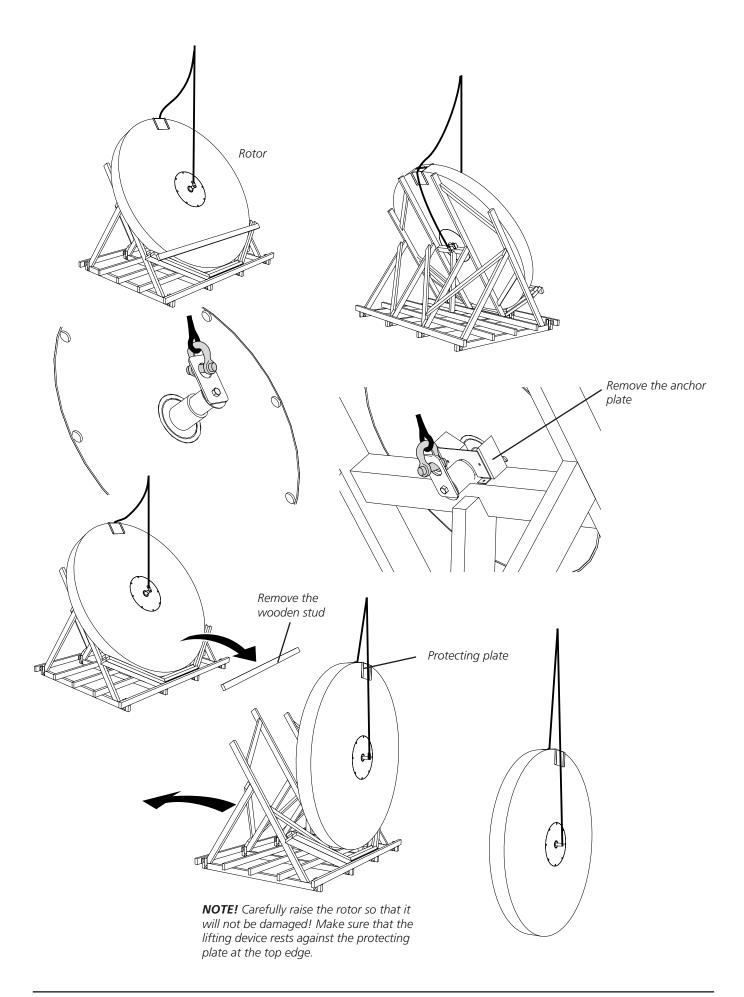
Rotary heat exchanger (GOLD RX only).



### 1.6.2.2 Heat exchanger section, supplied split into two casing sections and rotor (GOLD RX only)







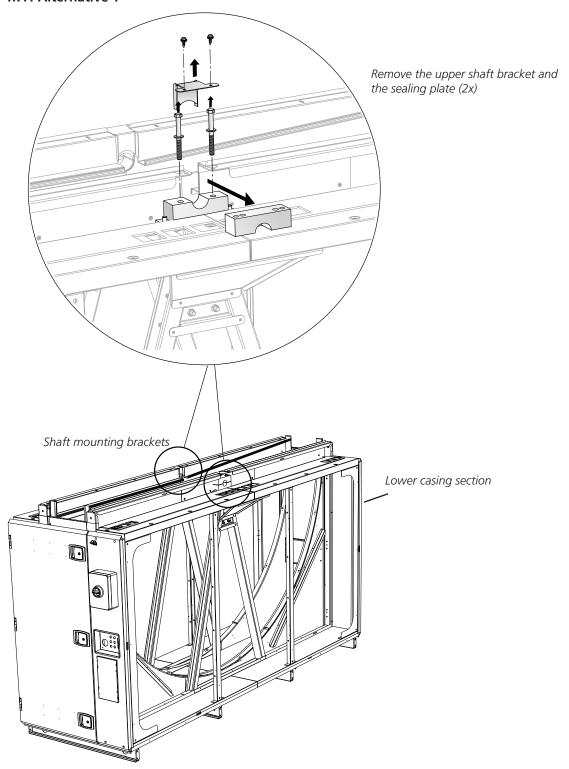


### 1.7 To assemble the heat exchanger unit section, if required (GOLD RX only)

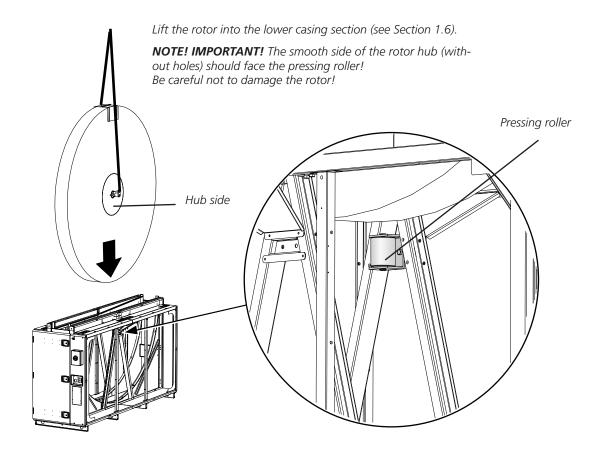
If the heat exchanger unit section is supplied in parts, they must be jointed together. This can be done in two ways: Alternative 1 is appropriate for use if there is sufficient free space upward since this alternative is simpler. If sufficient space is not available, Alternative 2 should be used.

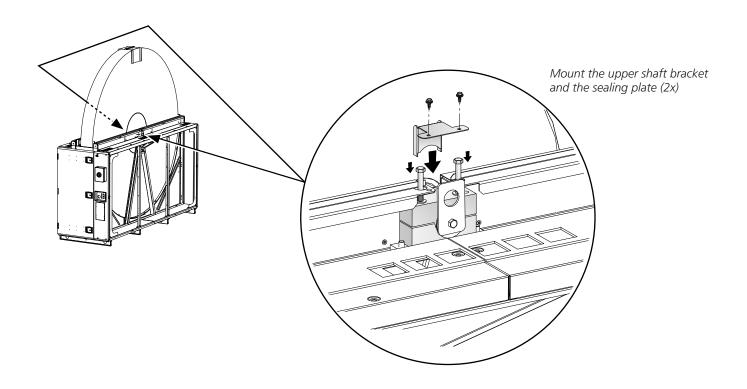
If the heat exchanger unit section is supplied as one unit, go on to Section 1.8.

### 1.7.1 Alternative 1

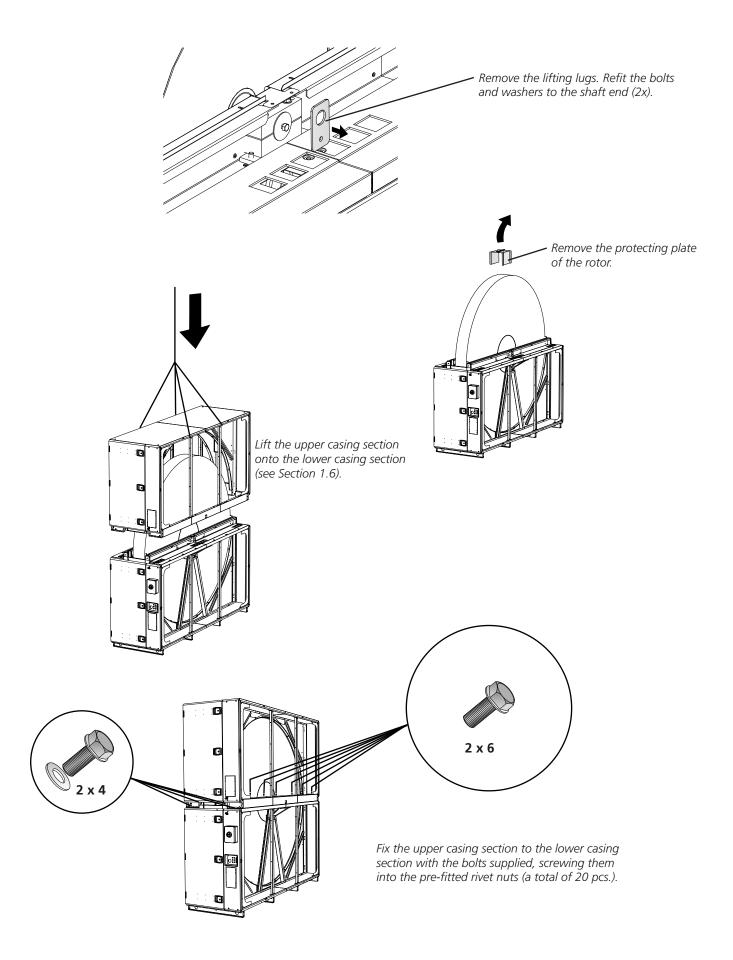








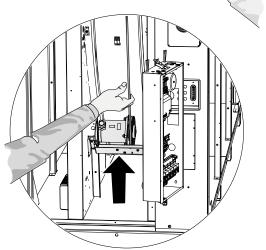


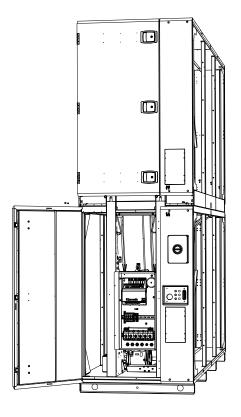




Unfasten the electrical equipment cubicle and move it to the side. Disconnect the electrical quick-fit connectors from the fan motors and the heat exchanger drive motor.

**NOTE!** Do not disconnect the cables from the electrical equipment cubicle to the main switch.

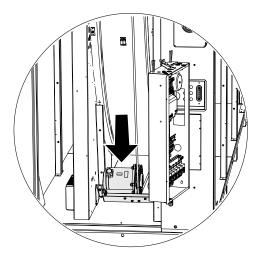


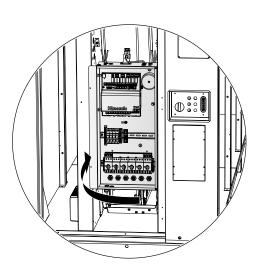


Dismantle the heat exchanger motor + mounting bracket (6 bolts).

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





Reconnect the electrical quick-fit connectors to the fan motors and the heat exchanger drive motor. Move the electrical equipment cubicle back into position and secure it with the appropriate bolts.

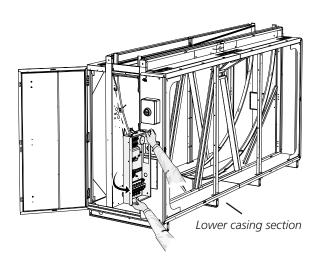
See also Section 1.7.3 Common for Alternatives 1 and 2

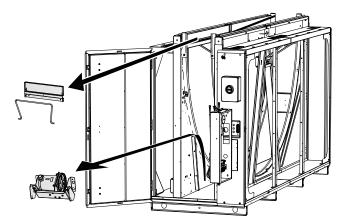


### 1.7.2 Alternative 2

Unfasten the electrical equipment cubicle and move it to the side. Disconnect the electrical quick-fit connectors from the fan motors and the heat exchanger drive motor.

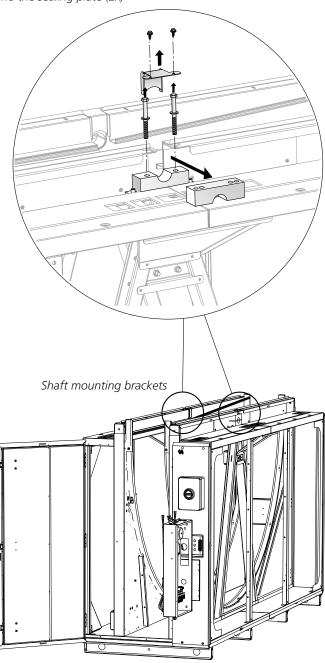
**NOTE!** Do not disconnect the cables from the electrical equipment cubicle to the main switch.





Dismantle the heat exchanger motor + mounting bracket (6 bolts). Remove the sealing plate and tube.

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

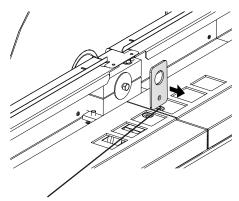




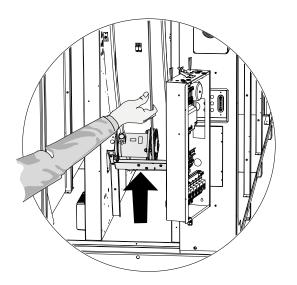
*Lift the rotor from the side into the lower casing section (see Section 1.6).* 

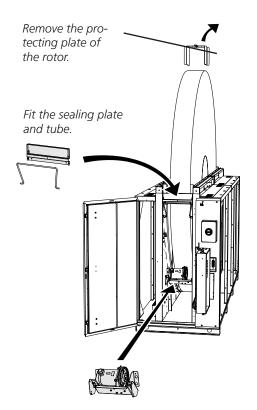
**NOTE! IMPORTANT!** The smooth side of the rotor hub (without holes) should face the pressing roller! Be careful not to damage the rotor! Pressing roller 0 Hub side Mount the upper shaft bracket and the sealing plate (2x)



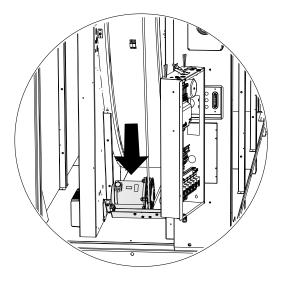


Remove the lifting lugs. Refit the bolts and washers to the shaft end (2x).

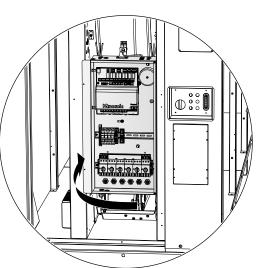




Move the motor + mounting bracket into position shown in the illustration and temporarily secure them with two screws Place the rotor drive belt around the motor belt pulley.

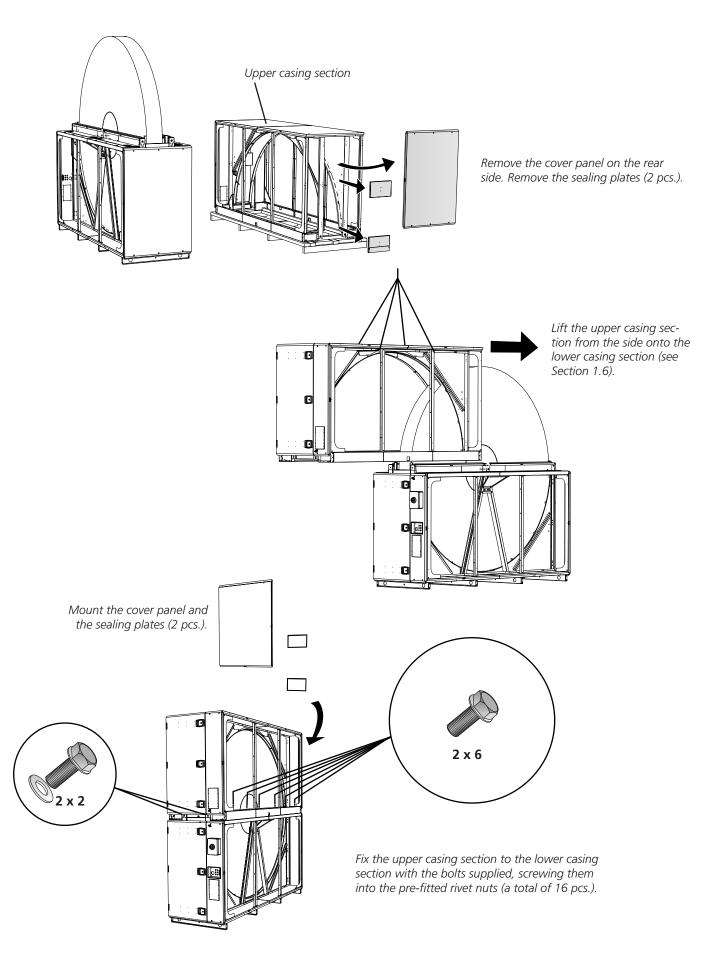


Slacken off the two screws holding the motor + mounting bracket. Move the motor + mounting bracket to the position shown in the illustration. Secure the motor + mounting bracket with bolts (6 bolts).



Reconnect the electrical quick-fit connectors to the fan motors and the heat exchanger drive motor. Move the electrical equipment cubicle back into position and secure it with the appropriate bolts.



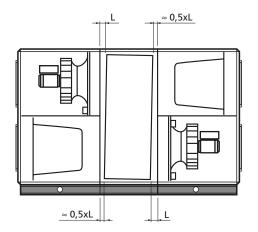


See also Section 1.7.3 Common for Alternatives 1 and 2



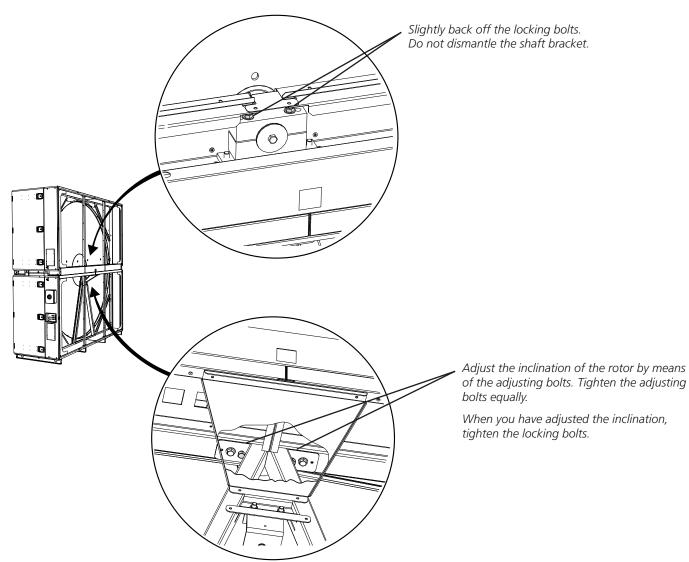
### 1.7.3 Common for Alternatives 1 and 2

### 1.7.3.1 To adjust the rotor's inclination



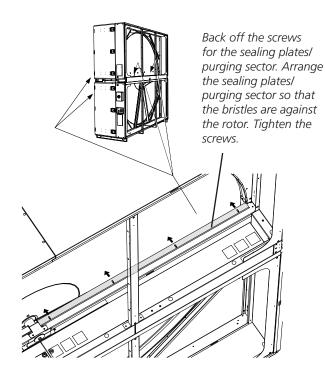
The illustration shows an appropriate rotor inclination setting for Fan Arrangement 1. The inclination must always be toward the filter, which means that the inclination for Fan Arrangement 2 is in the other direction.

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

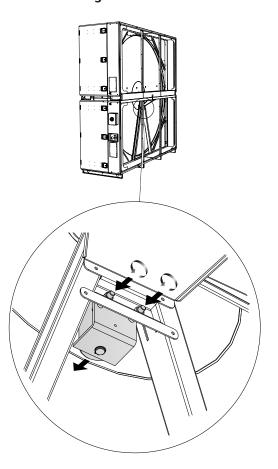




### 1.7.3.2 Sealing plates/purging sector

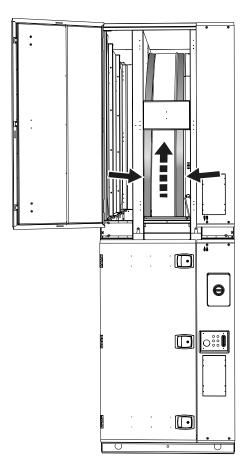


### 1.7.3.3 Pressing roller



Tension the pressing roller against the rotor hub until you no longer can roll the pressing roller with your hand.

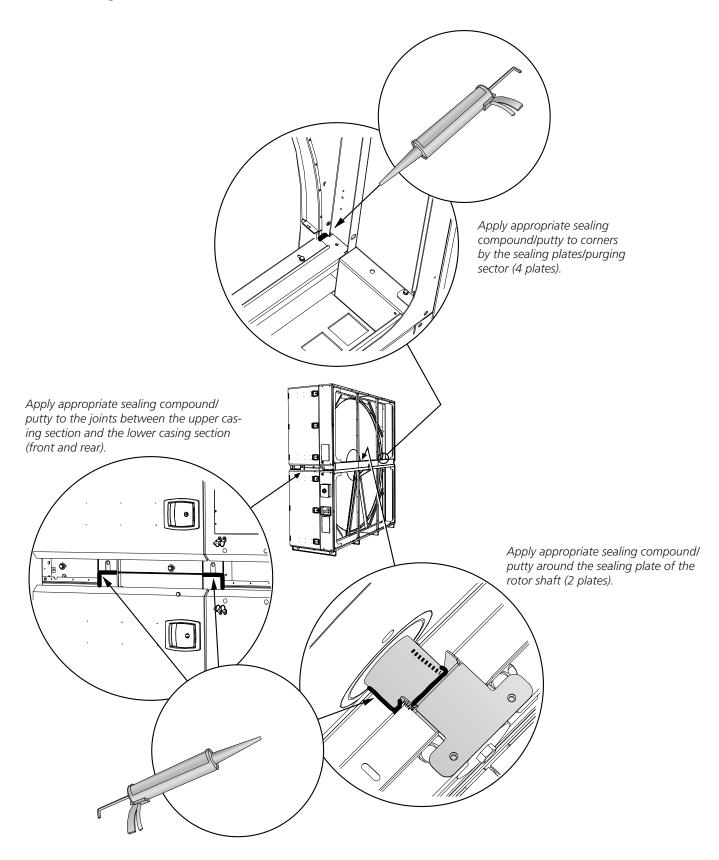
### 1.7.3.4 Vinyl-coated fabric seal



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

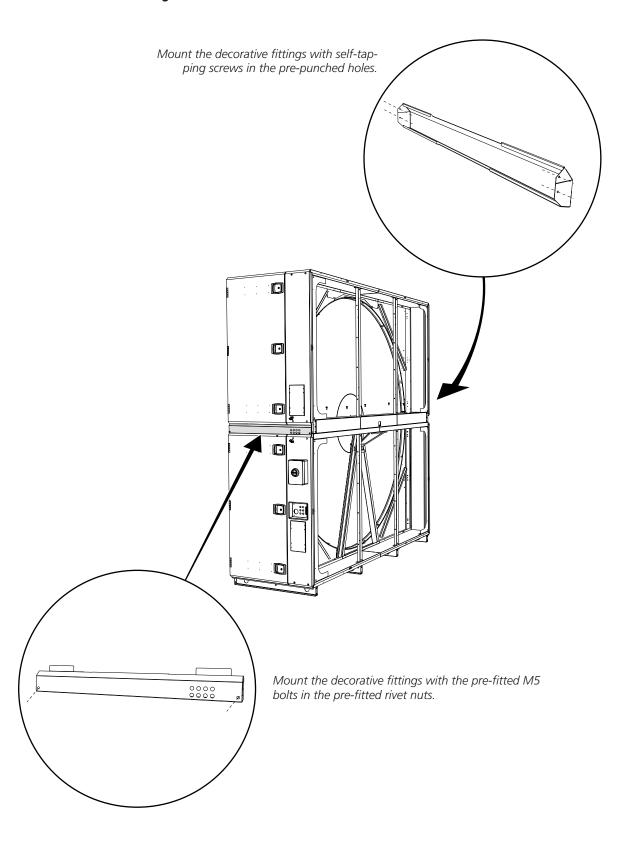


### 1.7.3.5 Sealing





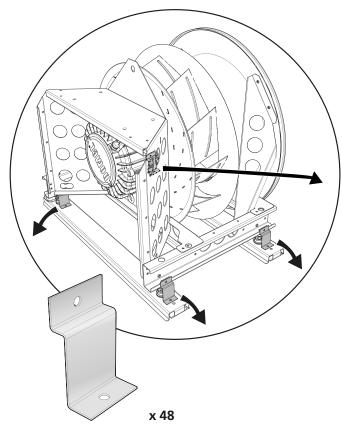
### 1.7.3.6 Decorative fittings





### 1.8 Transport locking devices, fans

The fans are equipped with transport locking devices (4x2 devices/fan, a total of 48 pcs.). All these must be removed, see illustration.

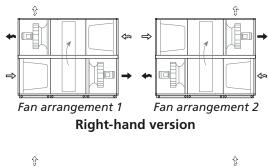


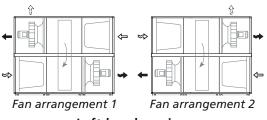
### 1.9 Version and fan arrangement

### 1.9.1 GOLD RX

The GOLD RX 120 is supplied in the right-hand or a lefthand version and with fan arrangement 1 or 2, 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.





**Left-hand version** 

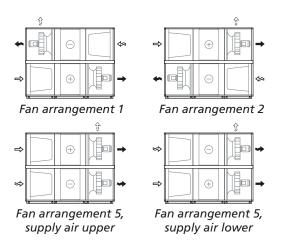
### 1.9.2 GOLD CX

The GOLD CX 120 is supplied in the right-hand or a lefthand version and with fan arrangement 1, 2, 4 or 5, see the illustrations below.

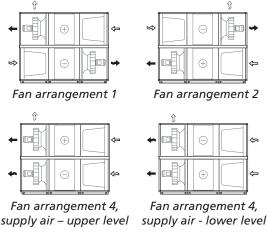
For particulars of the delivery configuration and installation of the relevant air handling unit, see the decal on the lower section of the heat exchanger.

**N.B.!** Coil heat exchangers with control unit are always located in the lower level. The supply air fan is marked 1; the extract air fan is marked 2. These identifying decals are affixed to the inner wall of the fan sections.

**N.B.!** If extract air flows through the lower level: The air handling unit must be raised at least 50 mm (higher than the upper edge of the base beams) to provide space for the water trap. This can be done by mounting adjustable feet (accessories, a minimum of 24 feet).



**Right-hand version** 



Left-hand version

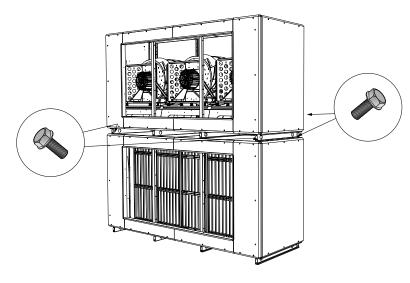




### 1.10 The docking of unit sections

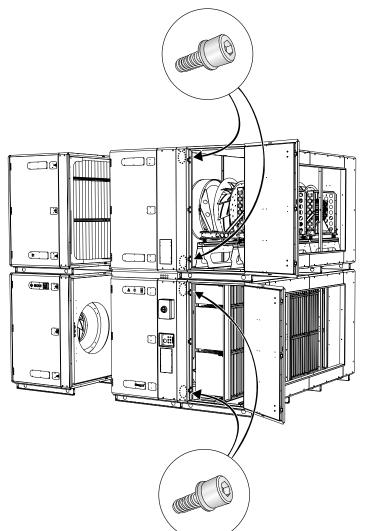
The illustrations in Section 1.10 show a GOLD RX air handling unit with fan arrangement 2. The principle is however the same for the other air handling units.

### 1.10.1 Fan/filter sections



Place the fan, filter and possible coil heat exchanger sections on top of one another, according to the delivery configuration (see Section 1.9). Fix the upper section to the lower section with the bolts supplied, screwing them into the pre-fitted rivet nuts (a total of 4 pcs.).

### 1.10.2 Fixation, front of the unit

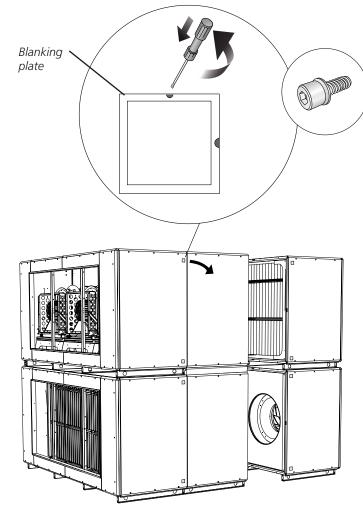


Locate the fan/filter sections by the heat exchanger section according to the delivery configuration (see Section 1.9). Fix the fan/filter sections at the front side of the air handling unit to the heat exchanger section with the bolts supplied, screwing them into the prefitted rivet nuts (a total of 2x4 pcs.).



### 1.10.3 Fixation, rear of the unit

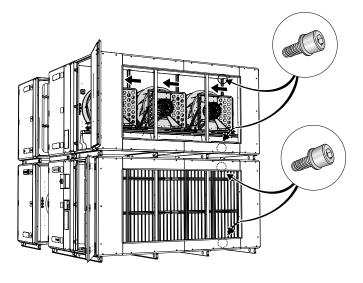
Securing with screws at the rear of the air handling unit can be done in two ways, internally or externally. External fixing (Alt. 1) is appropriate for use if there is sufficient free space behind the air handling unit, since this alternative is simpler. If sufficient space is not available, Alt. 2)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



### Alt. 1

External fixing.

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 2x4 pcs.). Refit the blanking plate and the insulation.



### Alt. 2

Internal installation.

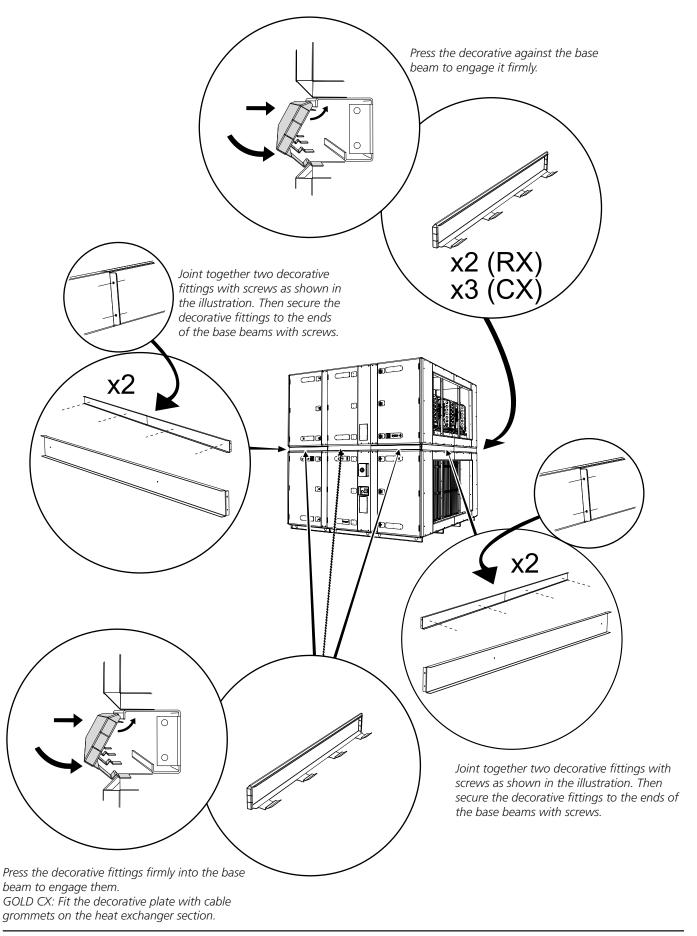
Fix the fan/filter sections to the heat exchanger section with the bolts supplied, screwing them into the prefitted rivet nuts (a total of 2x4 pcs.). The anchoring points inside the unit are shown in the illustration.

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.

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

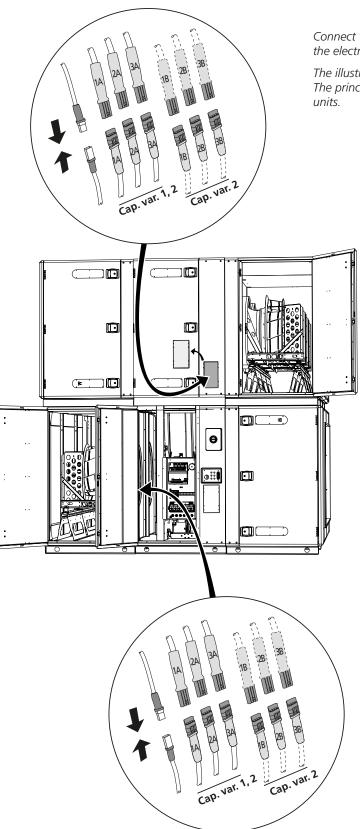


### 1.10.4 Decorative fittings





### 1.10.5 Electrical quick-fit connectors

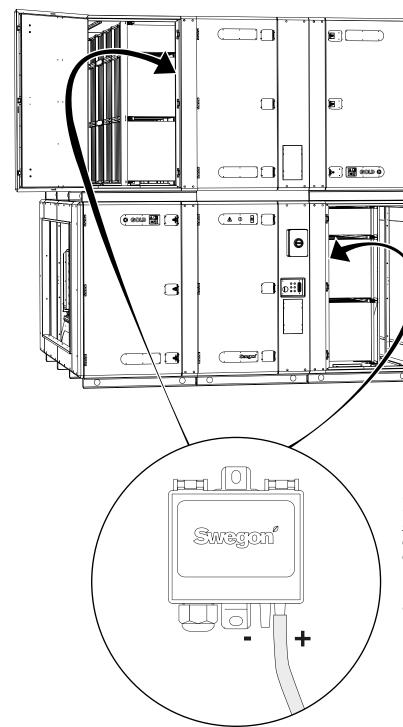


Connect the electric cables with quick-fit connectors between the electrical equipment cubicle and the fans.

The illustration shows the GOLD RX, fan arrangement 2. The principle is however the same for the other air handling



### 1.10.6 To connect air tubes to filter pressure sensors



Connect the air tube from the air nipple below the filter to the + connection on the filter pressure sensor as shown in the illustration. The air tubes are connected to each air nipple (below the filter) and are rolled up inside each fan/filter section.

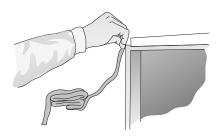
The illustration shows the GOLD RX, fan arrangement 2. The principle is however the same for other air handling units.



### 1.11 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.



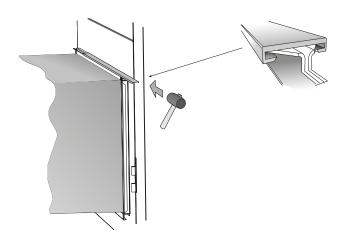
### 1.12 To install the supply air sensor

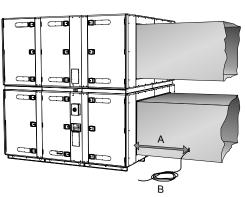
The supply air temp. sensor must be mounted inside the supply air duct.

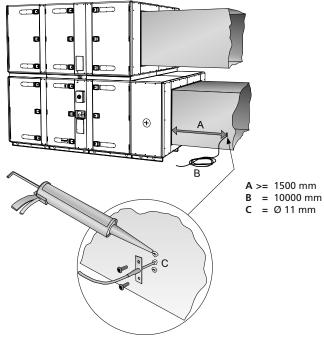
The sensor must be positioned at a spot that is at least 1.5 metres from the air handling unit.

**NOTE!** If an air heater and/or air cooler, if required, is installed in the system, the sensor must be positioned 1.5 metres from the unit measured from this component.

- 1. Measure and mark where the sensor is to be placed.
- 2. Drill an 11 mm dia. hole in the supply air duct.
- 3. Apply sealing compound around the hole and secure the sensor by means of 2 self-tapping screws.
- 4. Connect the sensor's quick-fit connector to the appropriate socket on the control circuit board of the air handling unit. See Section 1.15.







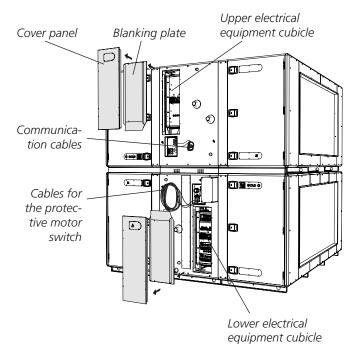


# 1.13 Electrical connections, protective motor switch and communication cables (GOLD CX only)

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

Dismantle the Cover panels and blanking plate in front of the electrical equipment cubicles.

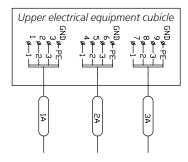
Connect the cables for the protective motor switch and the communication cables between the upper and lower electrical equipment cubicles, see the illustration below.



### 1.13.1 Protective motor switch

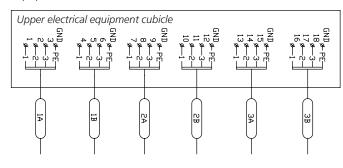
### GOLD CX 100 and 120, capacity variant 1

Cables from the lower electrical equipment cubicle (connected at the factory) should be connected in the upper electrical equipment cubicle as illustrated below. Run the cables into the upper electrical equipment cubicle through the grommets on the cover panel and in the electrical equipment cubicle.



### GOLD CX 120, capacity variant 2

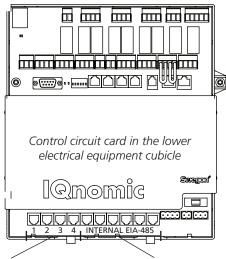
Cables from the lower electrical equipment cubicle (connected at the factory) should be connected in the upper electrical equipment cubicle as illustrated below. Run the cables into the upper electrical equipment cubicle through the grommets on the cover panel and in the electrical equipment cubicle.



### 1.13.2 Communication cables

There are 2 or 3 communication cables from the upper electrical equipment cubicle (connected at the factory) which should be connected in the lower electrical equipment cubicle, depending on the variant selected.

Run the cables into the lower electrical equipment cubicle through the grommets on the cover panel and in the electrical equipment cubicle.



One or two of the communication cables is/are marked Sensor 1, 2, 3 or 4 and should be connected to the corresponding bus contact

One of the communication cables is always marked EIA-485 and should be connected in an optional bus contact marked INTERNAL EIA-485.



### 1.14 To connect the electric power supply

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

Wire the incoming power supply cable to the air handling unit's external safety isolating switch. Remove the cover of the safety isolating switch to gain access to its wiring terminals.



N.B.! Make sure that you have done Item 1.13 before you connect the power (GOLD CX only). Risk of personal injury!



### GOLD RX/CX 100:

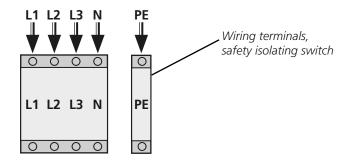
3-phase, 5-wire cable, 400V -10/+15%, 50/60 Hz, 50 AT.

GOLD RX/CX 120, capacity variant 1:

3-phase, 5-wire cable, 400V -10/+15%, 50/60 Hz, 80 AT.

GOLD RX/CX 120, capacity variant 2:

3-phase, 5-wire cable, 400V -10/+15%, 50/60 Hz, 125 AT.





### 1.15 To Connect external cables

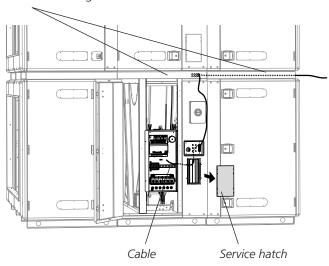
### 1.15.1 GOLD RX

To make the control unit accessible, open the inspection door in front of the heat exchanger.

The decorative fitting can be used as a cable trough if you need to run external cables. Dismantle the decorative fittings and fold back an appropriate number of "tongues" in the ends of the decorative fittings and run cables through cable grommets in the decorative fitting of the heat exchanger section. Refit the decorative fittings. Run the cables further in to the electrical equipment cubicle through the rubber diaphragm in front of the cubicle on the heat exchanger section. Dismantle the service hatch to enable you to run the cables. See illustration.

**NOTE!** External communication cables outside the air handling unit should be positioned at a min. distance of 100 mm from energized cables.

### Decorative fitting



# Control circuit board inside the electrical equipment cubicle

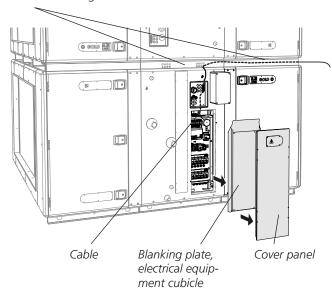
### 1.15.2 GOLD CX

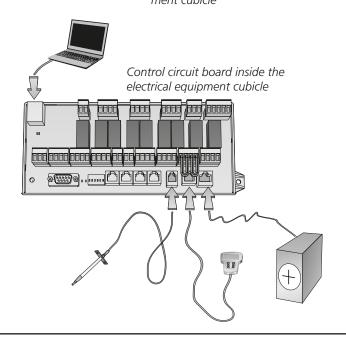
To gain access to the control unit, remove the cover panel on the lower part of the coil heat exchanger and the blanking plate of the electrical equipment cubicle.

The decorative fitting can be used as a cable trough if you need to run external cables. Dismantle the decorative fittings and fold back an appropriate number of "tongues" in the ends of the decorative fittings and run cables through cable grommets in the decorative fitting of the heat exchanger section. Refit the decorative fittings. Run the cables further into the electrical equipment cubicle through the rubber diaphragm in front of the electrical equipment cubicle on the heat exchanger section. See illustration.

**N.B.!** External communication cables outside the air handling unit should be positioned at a min. distance of 100 mm from energized cables.

### Decorative fitting





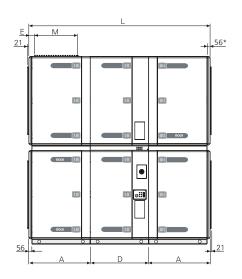


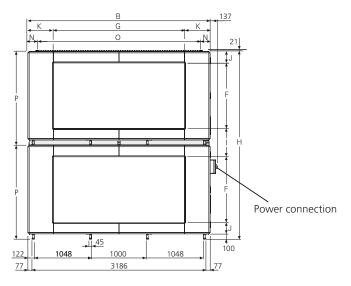
# 1.16 Installation of pipework package (GOLD CX only)

For details on how to install the pipework package, see separate instructions for the TBXZ-42 pipework package.

### 2. Dimensions

### 2.1 GOLD RX 100/120





<sup>\*</sup> The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

Size	Α	В	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Weight, kg
100/120	1126	3340	1070	191	1200	2400	3440	520	210	470	3322	800	170	2500	1720	3982

### **Individual weights**

### **Filter section**

529 kg/pc.

### Fan section

875 kg/pc.

### Heat exchanger section, mounted

1,174 kg.

### Heat exchanger section, supplied in two casing sec-

tions + rotor

Lower casing section = 494 kg

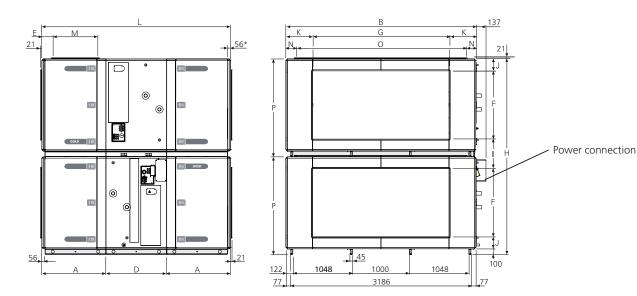
Upper casing section = 270 kg

Rotor = 410 kg

Transport cradle = 190 kg



### 2.2 GOLD CX 100/120



Size	Α	В	D	E	F	G	Н	ı	J	К	L	М	N	О	Р	Weight, kg
100/120	1126	3340	1070	191	1200	2400	3440	520	210	470	3322	800	170	2500	1720	4568

# Individual weights Filter section

529 kg/pc.

Fan section

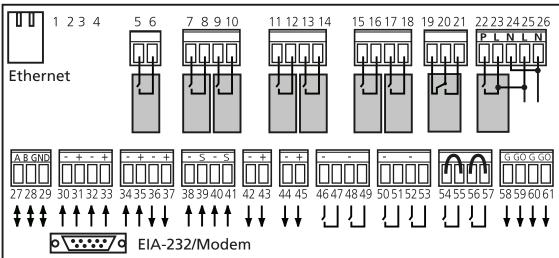
875 kg/pc.

**Heat exchanger section** 

880 kg/pc.



### 3. Explanation – wiring terminals, control unit



Digital inputs, terminals 46-57, are of extra-low voltage type. Analogue inputs, terminals 30-35 have an input impedance of 66 k.Ω.

Wiring terminal	Function	Remarks
1 - 4	Not used.	
5,6	Circulation pump, heating circuit	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. Close on a heating load.
7,8	Cooling, on/off, step 1	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. Close on a cooling load.
9,10	Cooling, on/off, step 2	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. Close on a cooling load.
11,12	In-service indication, low speed	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. Close for low speed operation
13,14	In-service indication, high speed	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. Close for high speed operation
15,16	Group alarm A (1)	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. Open or close (to be set) for tripped type A alarm.
17,18	Group alarm B (2)	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. Open or close (to be set) for tripped type B alarm.
19,20,21	In-service indication	Independent contacts, max 12 A/AC1, 5 A/AC3, 250 V AC. 19 NC, 20 C, 21 NO. Close when the unit is operating.
22,23,24	Damper control	230 V AC. 22 controlled phase, 23 permanent phase, 24 zero conductor. 22 is energized when the unit is operating.
25,26	Control voltage out	230 V AC control voltage. Loaded with max 1.5 A. Interrupted by the safety isolating switch and loads the power supply fuse.
27,28,29	Connections for EIA -485	27 communication connection A/RT+, 28 communication connection B/RT–, 29 GND/COM.
30,31	Airflow boost, supply air	Input for 0-10 V DC. The input signal affects the supply airflow/pressure set point.
32,33	Airflow boost, extract air	Input for 0-10 V DC. The input signal affects the extract airflow/pressure set point.
34,35	External setpoint displacement	Input for 0-10 V DC. The supply air temperature set point is affected when the unit is operating in the supply air regulation mode. The extract air temperature set point is affected when the unit is operating in the extract air regulation mode. Effect: ±5 °C. ERS regulation affects the SA/EA differential. The difference cannot be <0 °C. The SA/EA differential decreases as the input signal increases. Activated with the hand-held micro terminal.
36,37	Reference voltage	Output for constant 10 V DC. Max. permissible load: 2 mA.
38,39	External outdoor temperature sensor	38 GND, 39 signal. Connection for externally mounted digital outdoor temperature sensor.
40,41	External EA/room temperature sensor	40 GND, 41 signal. Connection for externally mounted digital extract air/room air temperature sensor.
42,43	Stepless control, cooling	Output, cooling, 0-10 V DC. Loaded with max. 2 mA for 10 V DC
44,45	Reheat extra regulation sequence recirculation damper	The use of these control outputs is controlled by the function selected in the hand-held micro terminal. Loaded with max. 2 mA for 10 V DC
46,47	External low speed	External contact function. Overrides the time switch from stop to low speed operation.
48, 49	External high speed	External contact function. Overrides the time switch from stop or low speed to high speed operation.
50,51	External alarm 1	External contact function. Optional: Normally open/normally closed. External alarm is available on the GOLD
52,53	External alarm 2	External contact function. Optional: Normally open/normally closed. External alarm is available on the GOLD
54,55	External fire/smoke function	External fire and smoke function. On delivery, this function is fitted with a jumper. The contacts connected between 54 and 55 are closed while the unit is operating If they open, the function will trip and initiate an alarm.
56,57	External stop	Stops the air handling unit by opening the circuit. On delivery, this function is fitted with a jumper. The contacts connected between 56 and 57 are closed while the unit is operating Cuts the connection, stops the air handling unit.
58,59	Control voltage*	24 V AC control voltage. Terminals 58-61 are loaded with a total of 16 VA. Opened by the safety isolating switch.
60,61	Control voltage*	24 V AC control voltage. Terminals 58-61 are loaded with a total of 16 VA. Opened by the safety isolating switch.

<sup>\*</sup> GOLD 100/120: If more than 16 VA is needed, use wiring terminals 201 (G) and 202 (G0). Wiring terminals 201-202 can be loaded with a total of max. 48 VA.

