

# Installation Instructions for the TCBR Air Recirculation Section, Version F/G GOLD/SILVER, sizes 004-120

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## 1. General

The air recirculation section is available for the size 011 and larger GOLD/SILVER RX, PX and CX units. The air recirculation section is also available for GOLD/SILVER RX/PX size 004-008 in split version.

The air recirculation section is used for two different operating modes.

1. For recirculating extract air without any addition of outdoor air.

GOLD: Used for the intermittent night-time heating or Morning Boost functions. The air recirculation damper is completely open when any of these functions are active; under normal operating conditions this damper is completely closed.

2. For mixing outdoor air and recirculated air based on the need for fresh air.

GOLD: Used for the ReCO<sub>2</sub> function. Is used for the ReCO<sub>2</sub> function. The air recirculation damper operates steplessly between completely closed and completely open position.

See the GOLD Function Manual, Installation for more information.



## 2. Installation

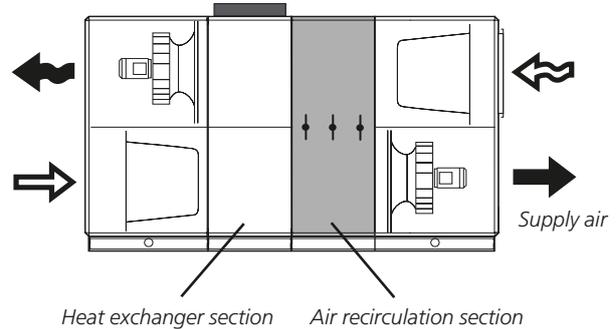
1. The air recirculation section should be located between the heat exchanger section of the GOLD/SILVER unit and the unit section containing the supply air fan and the extract air filter. See the illustration.

**Sizes 004-080:** The air recirculation section is always supplied already fitted together with at least one other unit section. If it becomes necessary to split/fit together unit sections, see the relevant installation instructions for the GOLD/SILVER.

**Sizes 100-120:** GOLD/SILVER air handling units are normally supplied in five (RX) or six (CX) units and the air recirculation section is supplied in two units (lower and upper sections).

Assemble the two units of the air recirculation section together. See illustration.

Particulars on how to assemble the air handling unit is described in the Installation Instructions for the GOLD/SILVER 100/120.



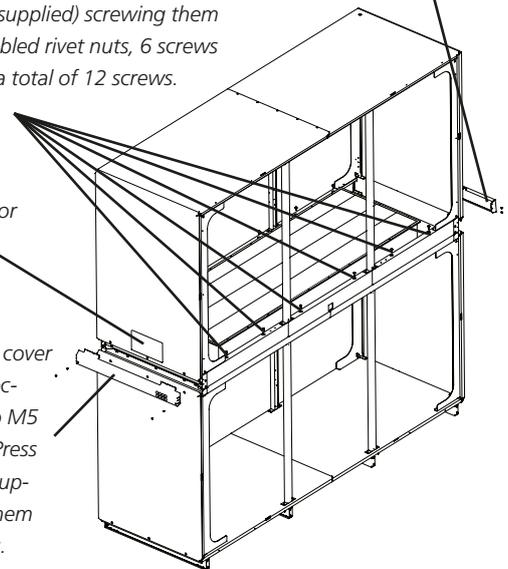
### GOLD/SILVER 100-120

*GOLD: Fasten the cover plate on the rear side with two self-tapping screws supplied.*

*Secure the upper section to the lower section with screws (supplied) screwing them into the preassembled rivet nuts, 6 screws on each side, i.e. a total of 12 screws.*

*Inspection cover for damper actuator*

*GOLD: Fasten the cover plate on the inspection side with two M5 screws supplied. Press the plastic plugs supplied to engage them in the screw holes.*



*Lift the upper section of the air recirculation section (225 kg) up onto the lower section (355 kg). This can be done with a forklift truck, crane, etc. Make sure that the damper actuator and the inspection cover on the upper section face the same direction.*

2. Check that the damper of the air recirculation section is located on the same side of the intermediate deck as the extract air filter (does not apply to GOLD/SILVER sizes 100-120 in which the damper is always located above the intermediate deck). Check that the damper motor is placed facing the same direction as the inspection doors of the GOLD unit.

3. GOLD: If necessary, connect the supplied cable for the supply air fan's power supply with quick-fit connectors between the unit sections.

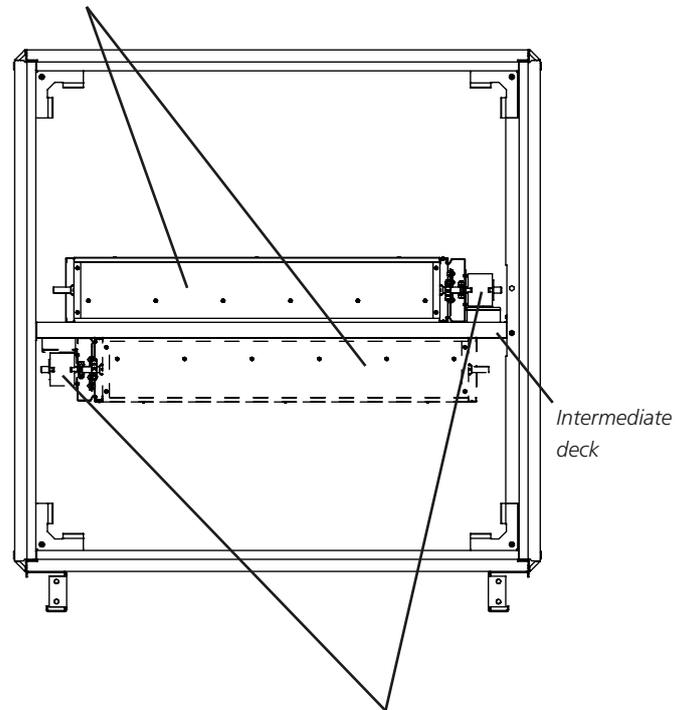
4. GOLD: If necessary, connect the supplied communication cable for the pressure sensor and the control circuit card with quick-fit connectors between the unit sections.

5. GOLD: Cut the cable for the damper actuator of the air recirculation damper to the required length and refit the connector. The spliced electrical connection should comply with IP 54. For particulars of the electrical connections, see the relevant operating case on the pages that follow.

The damper and the damper actuator of the air recirculation section are accessible from the filter space of the GOLD/SILVER unit (sizes 004-080), or from the inspection cover on the upper section of the air recirculation section (sizes 100-120).

6. Equip the air handling unit with appropriate accessories. See the relevant operating scenario on the pages that follow.

*Depending on the version, the damper may be mounted above or below the intermediate deck. Make sure that the damper is located on the same side of the intermediate deck as the extract air filter (does not apply to GOLD size 100-120 in which the damper is always located above the intermediate deck).*

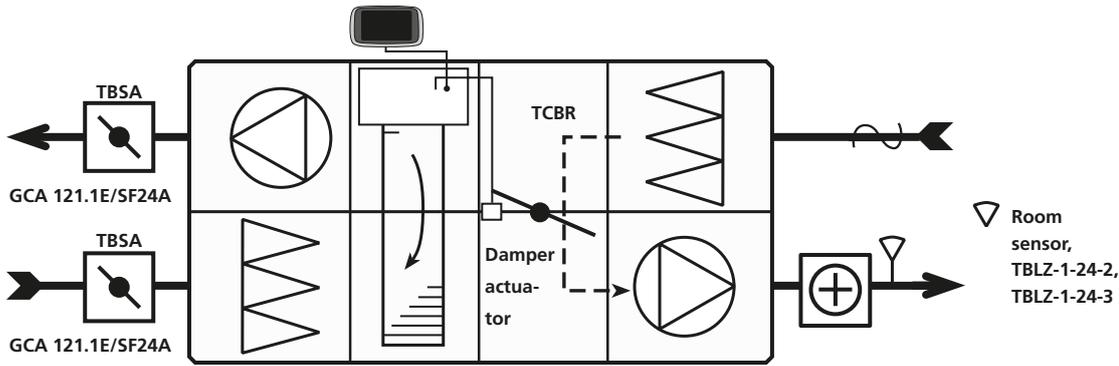


*Check that the damper motor is located facing the same direction as the inspection doors of the air handling unit.*

### 3. Operating mode

#### 3.1 GOLD version F/G

Intermittent night heat with or without Morning Boost, do not use in combination with ReCO<sub>2</sub>



#### Accessories required

Outdoor air damper	TBSA-X-xxx-xxx-x-1/2 <i>a/t.</i> TCSA-xxx, with spring return or on/off
Exhaust air damper	TBSA-X-xxx-xxx-x-1/2 <i>a/t.</i> TCSA-xxx, with spring return or on/off
Air heater, reheat	All types
Room temp. sensor	TBLZ-1-24-2 or TBLZ-1-24-3

#### Operation

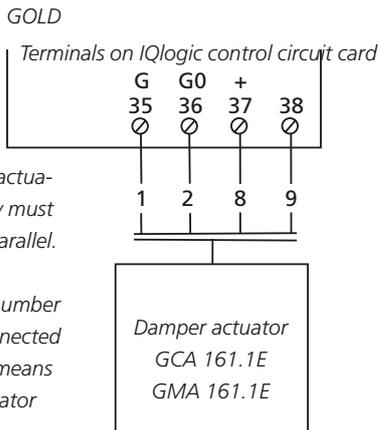
Under normal operating conditions the recirculation damper should be completely closed (non-energized state).

If any of the functions: Intermittent Night Heat or Morning Boost functions, are in operation, the recirculation damper should be completely open (actuating time: 90 seconds).

#### Electrical connections, damper actuator, air recirculation damper

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

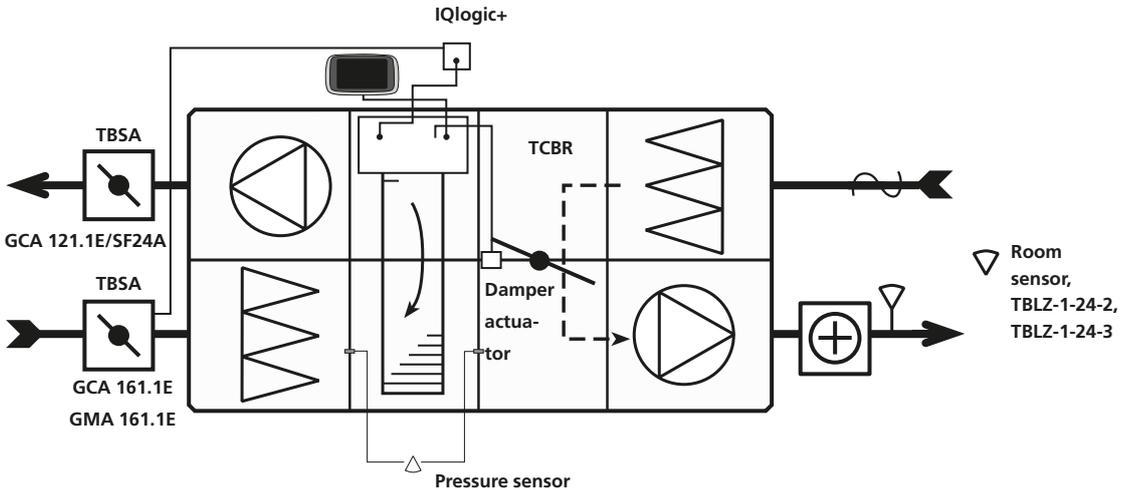
The damper actuator has a 0.9 metre long, 4x0.75 mm<sup>2</sup> connection cable. If you need to wire an extension cable to the connection cable, do so in a junction box, IP54.



If several damper actuators are used, they must be connected in parallel.

Connection wire number 9 must not be connected in parallel, which means that only one actuator can be monitored.

ReCO<sub>2</sub> in combination with Intermittent Night Heat, if required



**Accessories required**

Outdoor air damper	TBSA-X-xxx-xxx-x-3 <i>alt.</i> TCSA-xxx, modulated
Exhaust air damper	TBSA-X-xxx-xxx-x-1/2 <i>alt.</i> TCSA-xxx, with spring return or on/off
Air heater, reheat	All types
Air quality sensor	ELQZ-2-504 or ELQZ-2-504-2
Room temp. sensor	TBLZ-1-24-2 or TBLZ-1-24-3
Set ReCO <sub>2</sub>	TBLZ-2-51

**Operation**

Under normal operating conditions the recirculation damper should be completely closed (non-energized state).  
 When intermittent night heat is selected, the air recirculation damper should be completely open (actuating time: 90 seconds).  
 if the ReCO<sub>2</sub> function is operating, the recirculation damper will variably operate between the completely closed and completely open positions, see the Guide to the ReCO<sub>2</sub> Functions for further information.

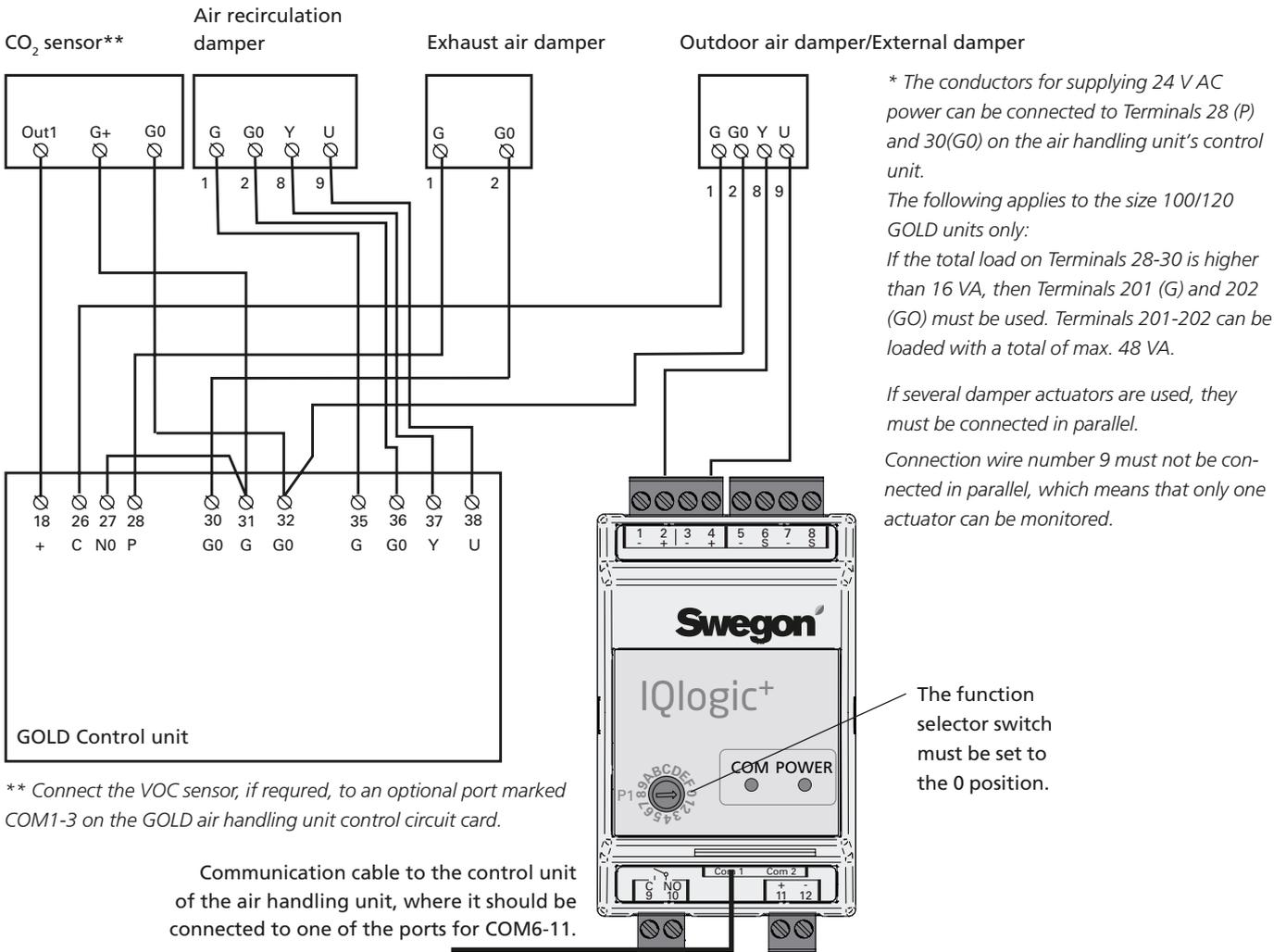
**Electrical connections**

See next page!

**Electrical connections**

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

The damper motor has a 0.9 metre long connection cable, 4 x 0.75 mm.2 . If the need arises, interconnect the connection cable with an extension in a terminal box conforming to IP54.



### 3.3 SILVER

