Installation Instructions for the TBLZ-1-74-a Air quality sensor, duct mounting, GOLD/COMPACT

1. General

The carbon dioxide content of the indoor air is an effective indicator of the occupancy load and the amount of ventilation required in the room. Ventilation control based on CO_2 measurements can ensure the ample supply of fresh air, while the energy cost will be as low as possible.

1.2 Operation

The air quality sensor has an output signal of 0 – 10 V which corresponds to an operating range of 500 – 1500 ppm. The output signal is linear in relation to the CO_2content.

2. Installation

Demand control

Set the air handling unit to DEMAND CONTROL under the FAN REGULATION function menu (GOLD LP/COMPACT) or to Demand under Functions/Airflow/Regulation mode (GOLD RX/PX/CX/SD, Version E/F).
Set the set point required as a percentage of the sensor's operating range. If a set point of 1000 ppm is required, for instance, set the set point to 50%. Enter the setting under the Flow/Pressure menu group (GOLD LP/COMPACT) or under Functions/Airflow/Operation level (GOLD RX/PX/CX/SD, Version E/F). See the Operating and Maintenance Instructions.

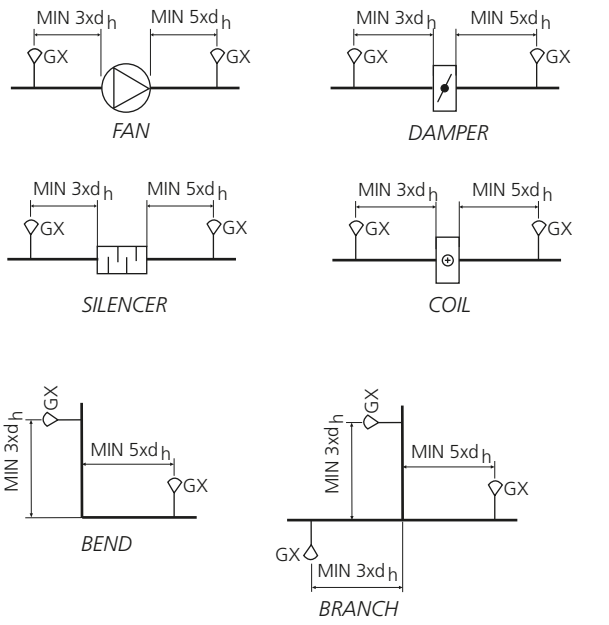
$ReCO_2$

Set the GOLD unit to *CO_2* under the $ReCO_2$ function menu (GOLD LP/COMPACT) or under Functions/$ReCO_2$ (GOLD RX/PX/CX/SD Version E/F).
Set the set point required as a percentage of the sensor's operating range. If a set point of 1000 ppm is required, for instance, set the set point to 50%. Enter the setting under the Flow/Pressure menu group (GOLD LP/COMPACT) or under Functions/$ReCO_2$/CO_2 (GOLD RX/PX/CX/SD Version E/F). See the Operating and Maintenance Instructions.

2.2 Installation

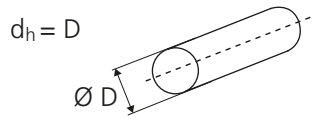
Position the air quality sensor in the direction of flow, according to the airflow direction arrow. The sensor can be mounted horizontally or vertically in a vertical or horizontal airflow.
If there are large temperature differences, e.g. outside or in cold attics, the sensor must be insulated from the surrounding air (due to the risk of condensation build-up in the sensor housing).
To ensure optimum operation the air quality sensor should be positioned so that the distance to the nearest interfering source in the duct (see example of interfering sources), in the direction of airflow, is at least the same as 3 x the duct's hydraulic diameter. Nearest location after an interfering source should be at least 5 x the duct's hydraulic diameter.

Examples of sources of disturbance

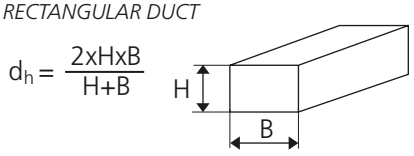


Hydraulic diameter

CIRCULAR DUCT

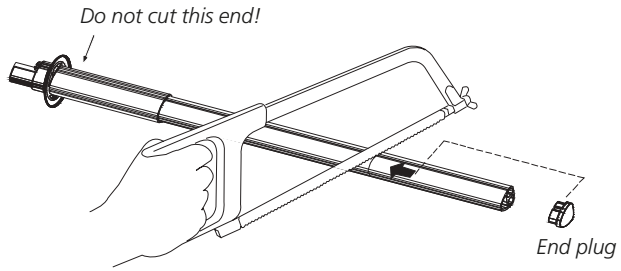


RECTANGULAR DUCT

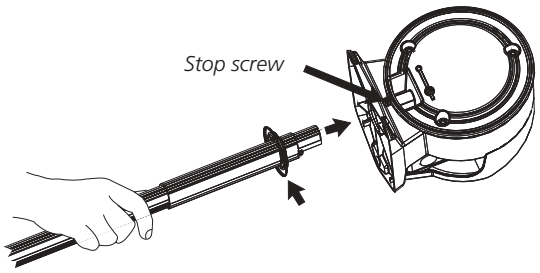


Item 1
• Drill holes in the duct. See Items 8 and 9.

Item 2
• Measure the ventilation duct.
• Cut the tube, if required, see Item 8. Insert the end plug.

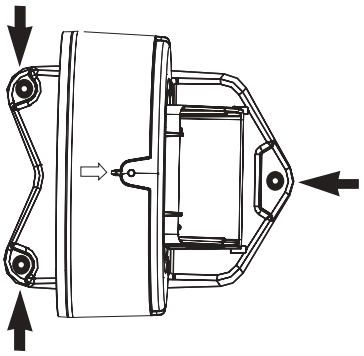


Item 3
• Insert the seal onto the tube.
• Insert the tube into the bottom of the sensor housing.
• Lock the tube using the stop screw.

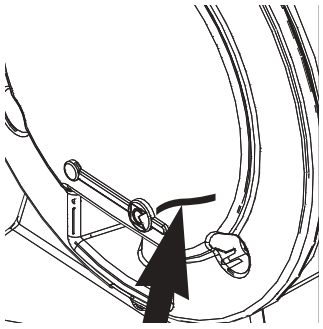


Item 4
• Mount the tube and sensor onto the duct.
• Secure the sensor housing at 3 points indicated by the arrows.

N.B.! IMPORTANT!
The airflow direction arrows on the air quality sensor (see the shape of the detector's base or the top of the housing) must point in the same direction as the air flow in the duct.

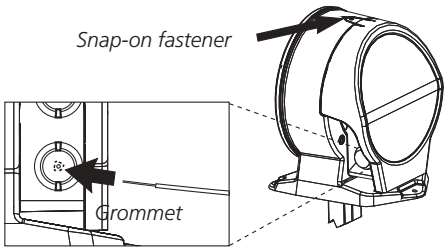


Item 5
The air quality sensor is equipped with an airflow indicator, a red plastic tab, which, when the sensor is correctly installed, swings out due to the air flow.
N.B.! If the indicator does not move at all, consider relocating the sensor at a new position.



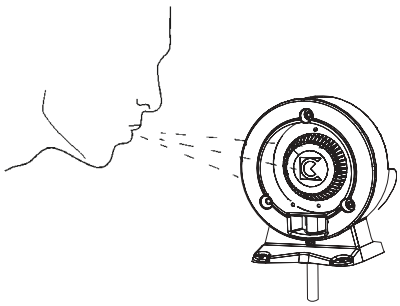
Airflow indicator

Item 6
Electrical installation.
Open the cover above the junction hood by lifting the snap-on fastener. Insert the cable through any cable grommet.



Item 7
Performance checks
• Move the test hole plug to the side and blow on the detector.

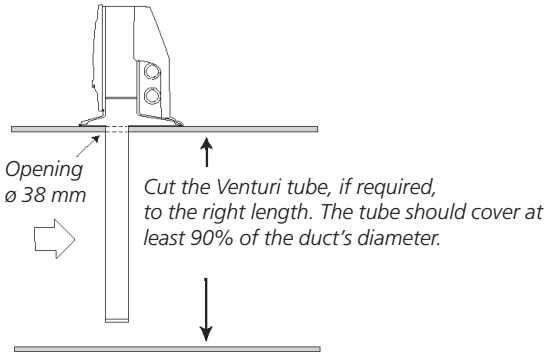
N.B.! Refit the test hole plug.



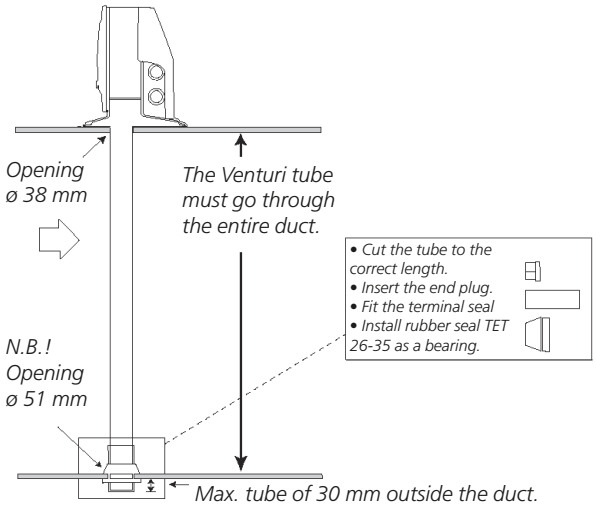
Item 8
Installing different tubes in different duct widths.

For ducts up to and including 600 mm use a 600 mm venturi tube, standard. For ducts larger than 600 mm and up to and including 1,400 mm, use a 1,500 mm venturi tube.

600 mm Venturi tube.

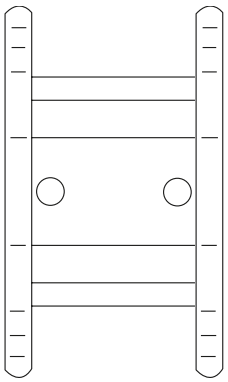


1,500 mm Venturi tube.

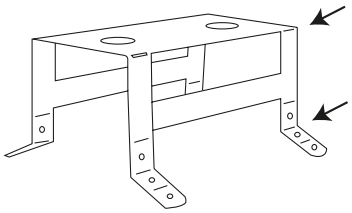


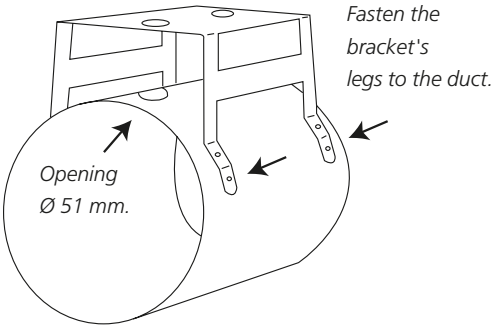
Item 9
Mounting fittings for circular or insulated flat ducts
The duct diameter can be as small as 100 mm using the bracket.

The bracket is supplied flat.

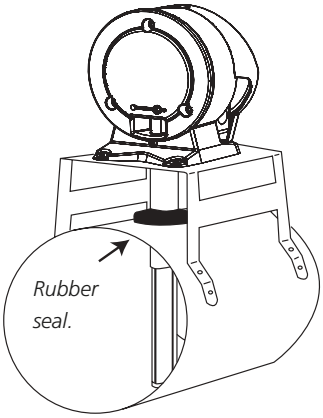


The bracket is easy to bend/shape so that it fits circular or flat ducts.

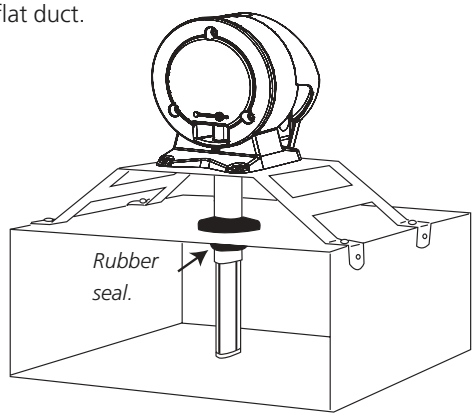




Circular duct.



Insulated flat duct.



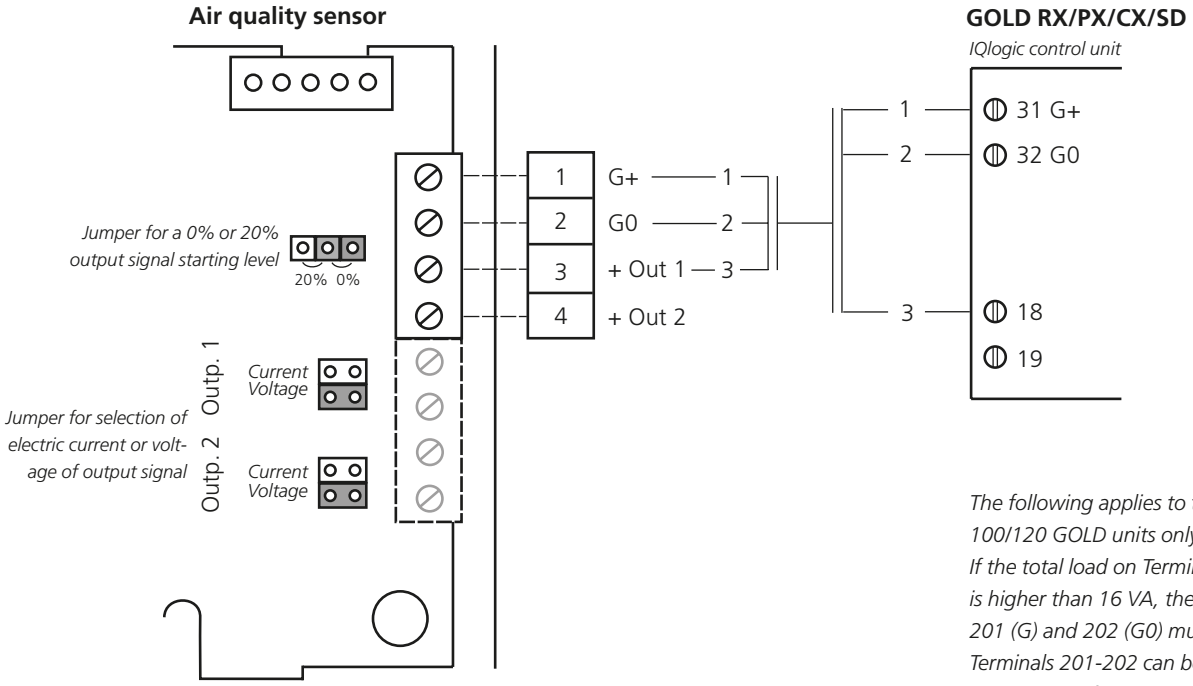
Item 10
Final checks
Check that the positioning arrow points towards the direction of flow.
Check that the plug for the test hole is properly installed.
Check that the airflow indicator shows flow (rocks).

2.3 Electrical Connections.

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

GOLD RX/PX/CX/SD, Version E/F

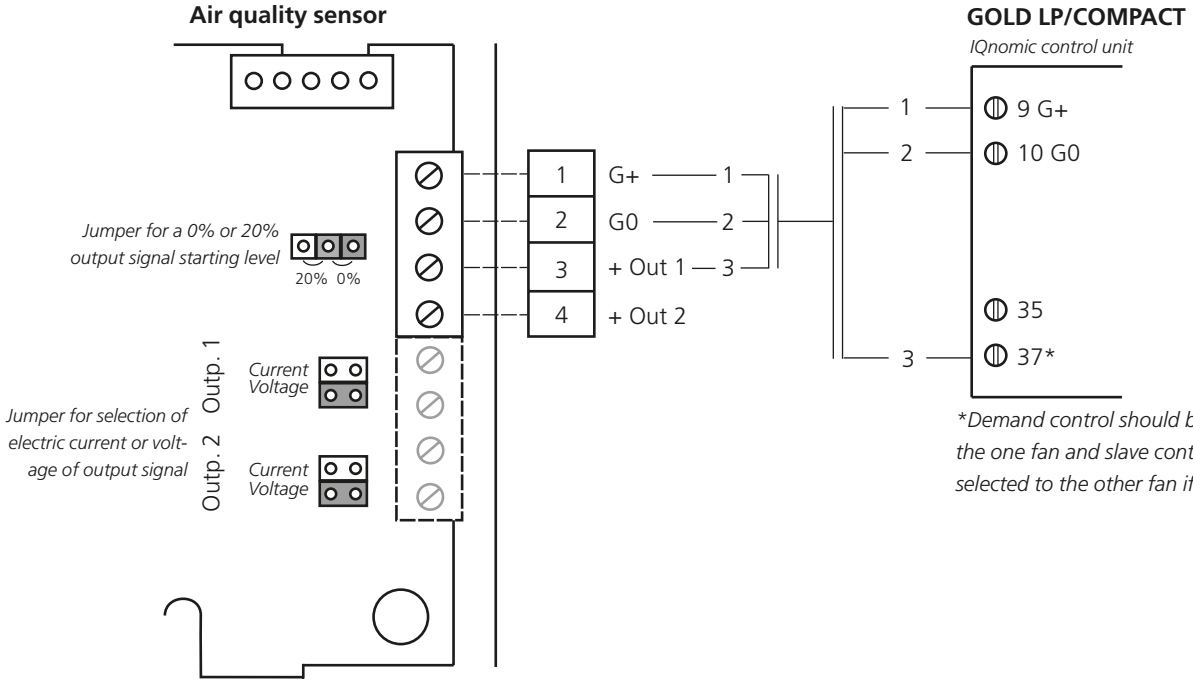
Demand control or $RECO_2$



The following applies to the size 100/120 GOLD units only:
If the total load on Terminals 31-32 is higher than 16 VA, then Terminals 201 (G) and 202 (G0) must be used. Terminals 201-202 can be loaded with a total of max. 48 VA.

GOLD LP/COMPACT

Demand control



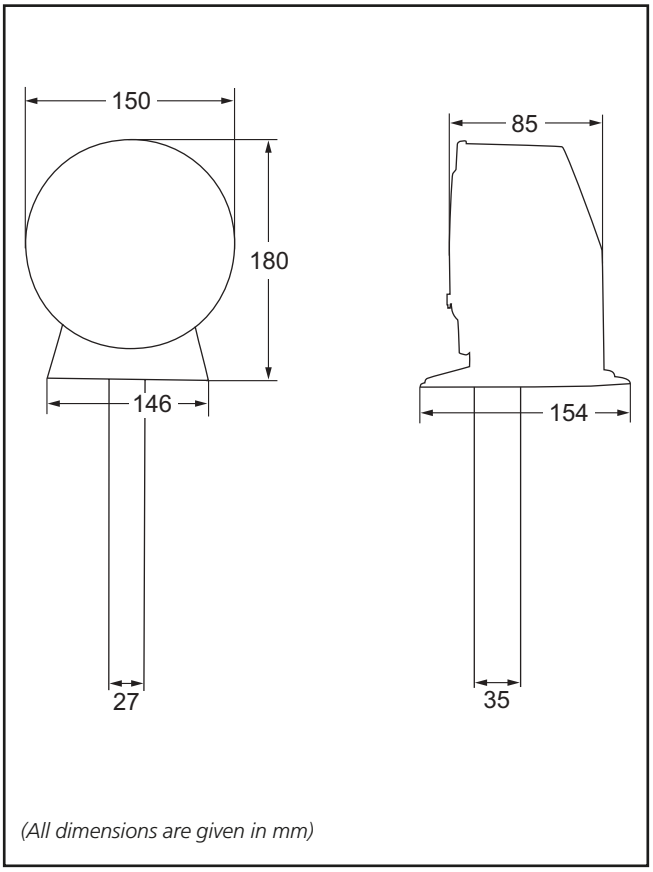
**Demand control should be selected for the one fan and slave control should be selected to the other fan if so desired.*

3. Technical Data

Power supply	24 V AC ± 20%
Frequency	50/60 Hz
Power consumption	< 3 W
Input signal	0 – 10 V DC.
Range of measurement	500 – 1500 ppm
Accuracy	± 1% of the range of measurement ± 5% of measured value
Warm-up period	≤ 1 min.
Reply promtness	2 min.
Enclosure Class	IP 54
Operating temperature	0 to +50 °C
Storage temperature	-20° to +70°C

4. Dimensions

Length of Venturi tube: 600 alt. 1500 mm.



(All dimensions are given in mm)