

Installation Instructions for the TBLF/TCLF Air Heater, for water GOLD

1. General

The TBLF/TCLF air heater uses hot water as the heating medium for preheating the supply air. Install the TBLF in the outdoor air duct. The air heater is designed for clean air, Swegon therefore recommends that pre-filters are installed before the air heater (seen in the direction of air).

Finned-tube heat exchanger fabricated of copper tubes and profiled aluminium fins. Fin pitch: 5.5 mm. The headers and the pipework to the water connections are made of copper. The male threaded pipe connections are made of brass.

The control functions for preheat are integrated into the control equipment of the air handling unit. Temperature sensor for duct and IQlogic+ with a 0.25 metre long cable, frost guard sensor (insertion type), and T-piece (for air heaters without outlet for an insertion sensor) are included in the air heater supply.

Extra accessories

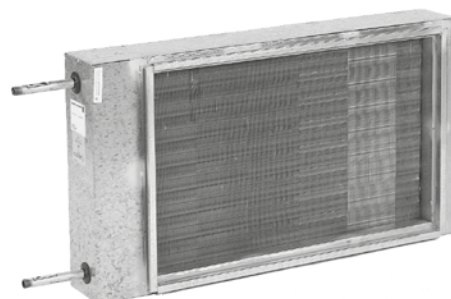
Circulation pump used for ensuring the frost guard function for the air heater. Supplied with T coupling, non-return valve and commissioning valve. The automatic pump control system is integrated into the control equipment of the air handling unit. See the individual instructions for the TBPA accessory.

The TBVL valve set with 2(3)-way valve, actuator, connection cable with quick-fit connector, frost guard sensor (insertion type), and T-piece (for air heaters without outlet for an insertion sensor). See the individual instructions for the TBVL. If the air heater is to be installed outdoors or in a cold space, take into consideration the enclosure class of the actuator and the permissible ambient temperature. If necessary, see to it that required protection is arranged.

If you use a valve of your own, you have the option of instead selecting a set of electrical connection components. This set contains a connection cable with quick-fit connector, resistor and insertion or strap-on sensor.



TBLF



TCLF



2. Maintenance

Check at least twice a year whether cleaning is necessary.

Cleaning shall only be done by blowing with compressed air against the ordinary direction of airflow, vacuum cleaning with a soft nozzle or wet cleaning with water and/or solvent. Before you begin wet cleaning, you should cover adjacent functional sections to protect them. After wet cleaning, you should blow the surfaces dry with compressed air to remove every trace of cleaning solvent.

If cleaning solvent is used, this solvent must not contain ingredients that will corrode aluminium or copper. Swegon's cleaning agent is recommended. This cleaning agent is sold by Swegon or Swegon Service.

While cleaning, check whether the liquid circuit needs to be vented.

3. Installation

For the installation of air heaters for preheat in duct systems, see the individual instructions entitled: Installation Instructions for Duct Accessories.

Always connect the liquid circuit for counter-flow circulation to ensure optimal air heater performance. Connect the inlet water pipe to the upper or lower air heater connection depending on the direction of airflow. See Fig. 1.

Make sure that the frost guard connection is always nearest to the return water pipe connection (applicable to air heaters with rectangular connections).

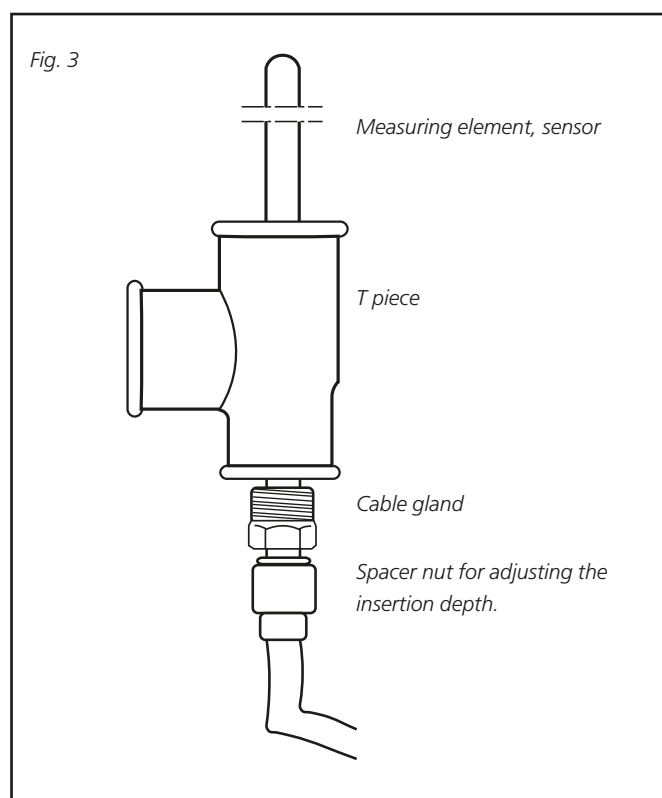
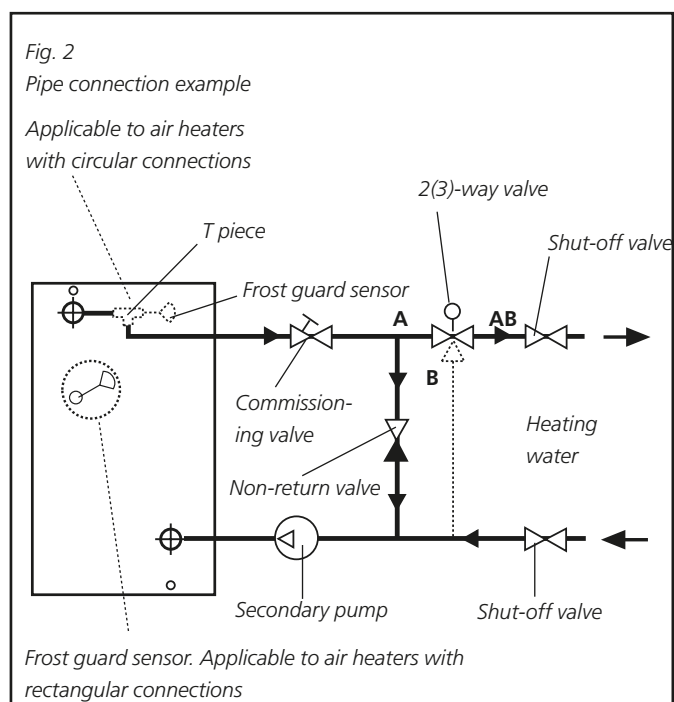
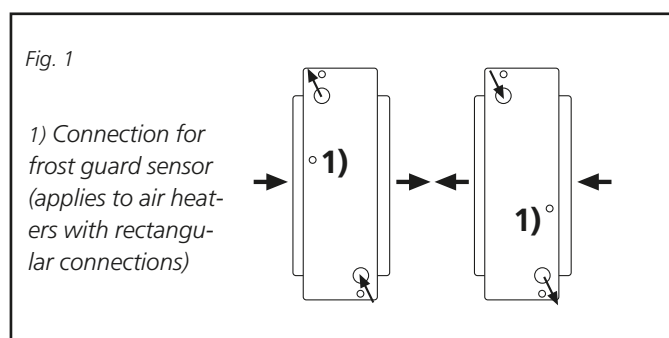
To install the frost guard sensor:

Circular connections:

The frost guard sensor must be mounted on the return water pipe from the air heater, as near to the air heater as possible. A T-piece is supplied with the air heater for installing an insertion sensor. See fig. 2 and 3. Make sure that the frost guard sensor is protected to prevent inadvertent damage. This can be done, for example, by fitting a pipe extension piece to the air heater's outgoing header.

Rectangular connections:

Install the frost guard sensor on the air heater in the connection intended for an insertion sensor. See Fig. 1.



Use a pipe wrench to restrain the pipe connections of the air heater when tightening the external pipe connections to avoid damaging the tubes in the air heater.

Always fill the air heater with liquid from the lower connection. Vent the system before you commission it.

The supply flow temperature should be between 80-85°C.

Continuous circulation through the air heater is required whenever the outdoor temperature is low, to ensure satisfactory anti-freeze monitor function in the air heater. A secondary pump and non-return valve must therefore be installed as illustrated in Fig. 2. A pump kit consisting of a pump, non-return valve and commissioning valve is available as an accessory.

The temperature sensor can to advantage be mounted at an appropriate place in the air handling unit between the filter and the heat exchanger in order to avoid erroneous measurements because of temperature stratifications.

The ventilation system should be supplemented with a TBLZ-1-24-3 or TBLZ-1-30 sensor, installed upstream of the preheat coil viewed in the direction of airflow, to furnish the GOLD air handling unit with a correct outdoor temperature reading.

4. Electrical Connections

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

Install the IQnomic Plus module on the DIN rail inside the electrical equipment cubicle of the air handling unit or at another appropriate location.

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

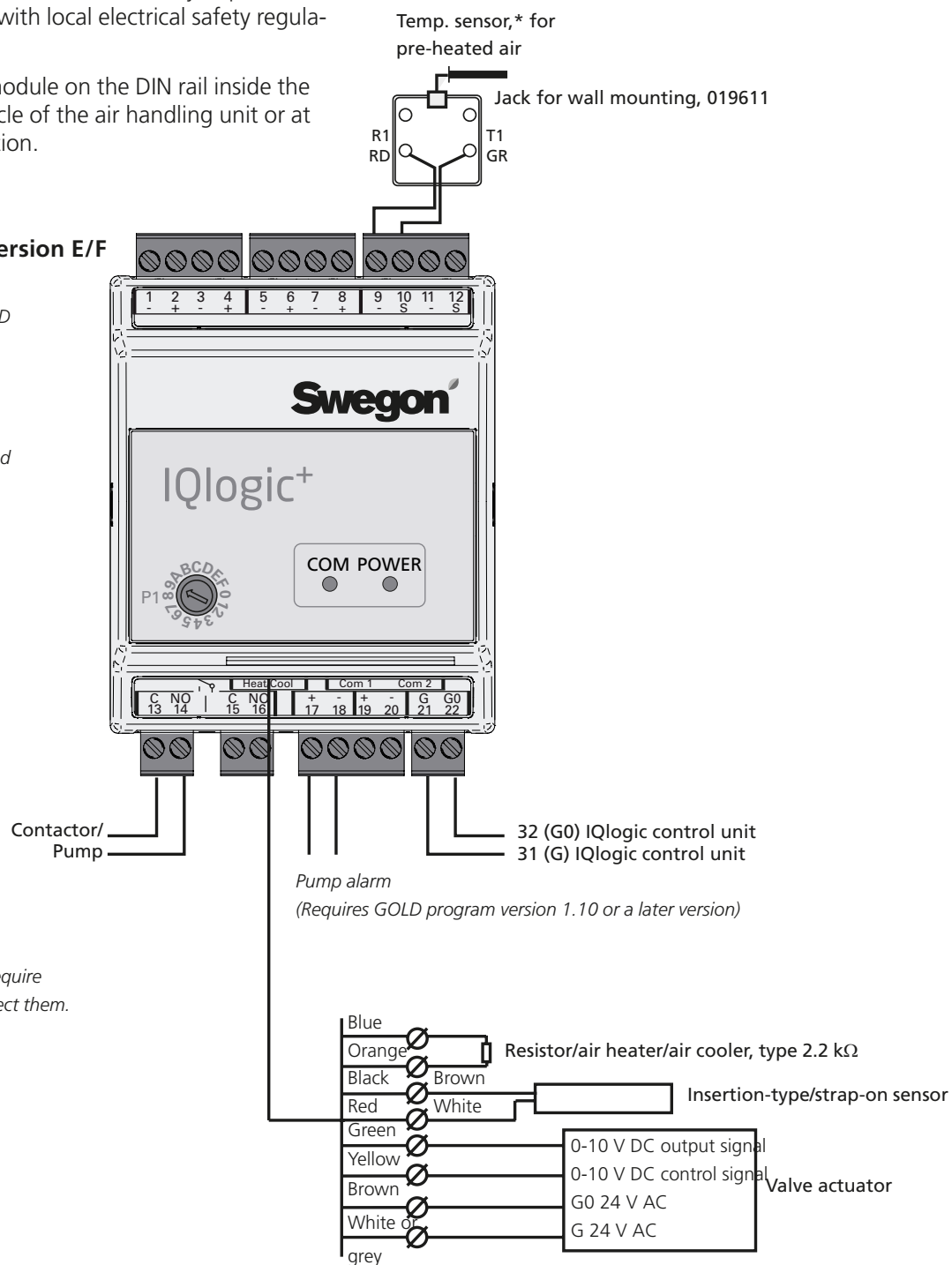
Applicable to size 100/120 GOLD units only:

If the total load on Terminals 31-32 is higher than 16 VA, use

Terminals 201 (G) and 202 (G0).

Terminals 201-202 can be loaded

with a total of max, 48 VA.



* Digital temperature sensors require correct polarity when you connect them.