Tigerloop® Bio

Automatic de-aerator for liquid bio fuel, mineral fuels and bio fuel/mineral fuel blends

The Tigerloop® Bio is designed to be compatible with Bio fuel produced according to EN 14213. Tigerloop Bio is also suitable for use with standard light heating oil. Mixtures of Bio fuel and light heating oil are also acceptable up to B100.

The Tigerloop® Bio is also designed to meet new demands on energy savings, environmental and operational safety. Environmental regulations and changes in fuel qualities continue to place high demands not only on material selection, but also on clean and air-free fuel for optimal combustion with minimal harmful emissions. Tigerloop® Bio makes it possible to use a one-pipe system in all types of heating installations, thus ensuring the most environmentally safe method for transporting fuel from the tank to the burner.

Technical data

Max. nozzle capacity	90 kg/h (110 l/h)
Max. return fuel pumped into the Tigerloop	100 kg/h (120 l/h)
Max. fuel flow	190 kg/h (230 l/h)
Max. operating temperature	70° C
Max. ambient temperature	70° C
Max. operating pressure in feed line	-0.6 to +0.5 bar
Pump connections	1/4” female thread or 3/8” male thread
Tank connection	1/4” female thread

When installing Tigerloop® Bio always observe local codes and ordinances!

Tigerloop® Bio combines the advantages for the fuel pump of a two-pipe system with advantages for the tank of a one-pipe system. When using a one-pipe system and Tigerloop® Bio, only the amount of fuel used by the burner is drawn from the tank. As flow of fuel decreases, so does the amount of dirt particles transported from the tank. This results in cleaner combustion.

The pressurized return line to the tank is removed, thus eliminating the risk for leakage. A large amount of air bubbles are released when fuel is drawn from the tank to the fuel burner. These air bubbles cause breakdowns, increased soot and excessive wear on the fuel pump. By automatically and continually de-aerating the fuel, Tigerloop® Bio eliminates all such problems.

Cleaning

When cleaning the Tigerloop® exterior, only mild soap and water are to be used. No alcohol based cleaning agents are to be used.

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Installation

The Tigerloop® Bio should be installed, using the supplied bracket, in an upright position close to the burner. However, it should not be exposed to temperatures in excess of 70°C. It should not, therefore, be installed on an uninsulated boiler or furnace or above the cover of a firebox or flue pipe. It must be mounted firmly in a straight upright position. Fuel resistant lines must be used for connection between the fuel pump and the Tigerloop® Bio. Use the arrows under the inlet and return ports of the Tigerloop® Bio as a reference to avoid incorrect piping. The suction line should be pressure tested to ensure that it is completely tight. However, the Tigerloop® Bio must not be connected during pressure testing.

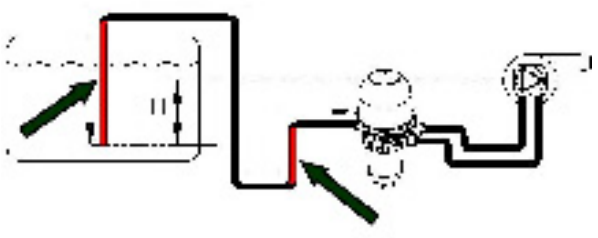
The appropriate dimension of the suction line depends on pipe resistance and suction head. The decisive elements for determining the pipe resistance are the length and size of the pipe and the capacity of the fuel burner nozzle. In a one-pipe system, the flow of the suction line is identical to the nozzle capacity.

The installation must be performed by a qualified technician familiar with local codes and ordinances and licensed by proper authority where applicable.

When sizing the suction line from the tank to the burner, it is important that the total resistance does not exceed the capacity of the fuel pump.

Note that choosing too large diameter of a suction line should be avoided as air/gas pockets may form resulting in a loss of siphon effect. The result is that the fuel runs only in a thin stream along one side in the descending portions of the pipe. In such cases, it is not the height from the tank to the burner which should be considered in calculated suction head, but rather all ascending portions of the pipe, including the suction line in the tank (see fig. 3).

Fig. 3



Trouble Shooting

Burner shuts off

Possible causes:

1. Suction leakage. Check all connections and lines.
2. The feed line can be empty. Start the burner by pushing the reset button and let it run. If the burner trips out, wait and reset. Repeat a couple of times. The burner should not run without oil for more than 5 minutes.
3. The tank is almost empty.
4. Incorrectly dimensioned suction line.

Noise from the burner pump

Possible causes:

1. Suction leakage. Check all connections and lines.
2. Too high suction head.

Fuel is not sucked up from the tank

Possible causes:

1. Large suction leakage. Check all connections and lines.
2. Too high suction head.
3. The bypass plug is not installed in the oil pump. Fit the plug.

In order to avoid possible problems, each burner or appliance should have its own separate suction line. Also, we recommend one Tigerloop® Bio for each burner. Remember to use nozzle capacity (fuel consumption) to calculate the dimension of the suction line.

Since today's fuels place a very high demand on materials, the Tigerloop® Bio should be replaced after 10 years.

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