

CLIMATE COMFORT | BUSES, TRAINS, TRANSPORTERS, COMMERCIAL AND SPECIAL VEHICLES

THERMOLINE – THE DIESEL PRE-HEATER



THERMOLINE



A WORLD OF COMFORT







THERMOLINE – DIESEL PRE-HEATING FOR RELIABLE DIESEL OPERATION AT LOW TEMPERATURES

At low temperatures, diesel fuel forms paraffin crystals that are suspended in the liquid. As the concentration of crystals increases, the fuel filter may become blocked and the engine could even stall (diesel waxing). The solution is ThermoLine, a diesel fuel pre-heater that is installed in the fuel line, where it melts the paraffin crystals before they reach the primary filter.

A RELIABLE SYSTEM:

Additives mixed with diesel fuel to combat this problem are expensive, often ineffective, and sometimes both harmful to the environment and dangerous. However, one thing is clear: once they have formed, paraffin crystals can only be dissolved using heat.





THERMOLINE – SIMPLE HEATING, MANY ADVANTAGES

ThermoLine represents reliability and economy under adverse climate conditions.

THERMOLINE – A SELF-CONTAINED PRE-HEATING SYSTEM ...

- Unique, automatic control without a thermostat
- The fuel is not overheated
- Approved by the German Federal Motor Transport Authority
- Robust design – vibration resistant
- No moving parts
- Simple installation

... WHICH INCREASES THE AVAILABILITY OF COMMERCIAL VEHICLES IN WINTER.

- Engines can be started at temperatures as low as $-40\text{ }^{\circ}\text{C}$
- Expensive fuel additives are not necessary
- No power loss and no engine stalling due to filter clogging
- No downtimes and regeneration costs
- Easy for the driver to use via a switch on the dashboard

MECHANICAL CONNECTION:

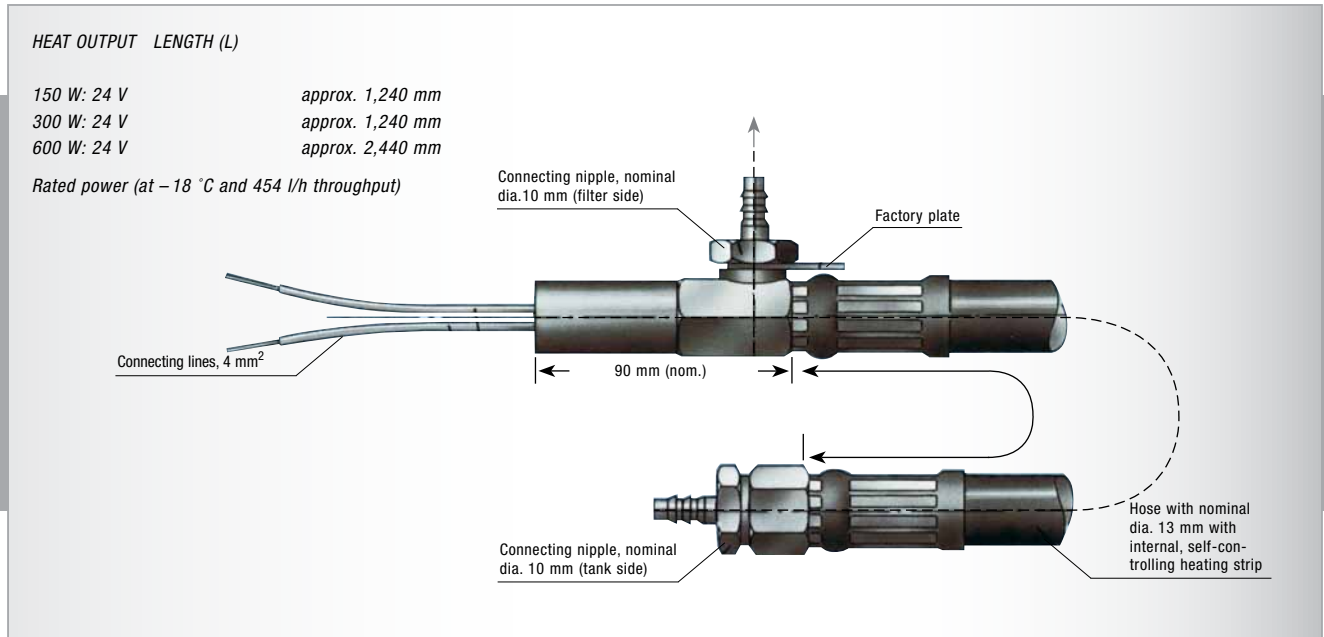
All versions are supplied with screwed-in hose nipples for the connection of fuel hoses with a nominal diameter of 10 mm as standard. Other connection adapters are available on request. All parts required for mechanical connection are included in the scope of delivery.

APPROVAL:

ThermoLine is approved by the German Federal Motor Transport Authority (national type approval number 90296). If the type TLN diesel pre-heater was installed according to the installation instructions, it is not necessary to have the installation inspected by an officially recognized expert or inspector for vehicle sales or to apply for a new type approval for the vehicle at the administrative authority (registration office).

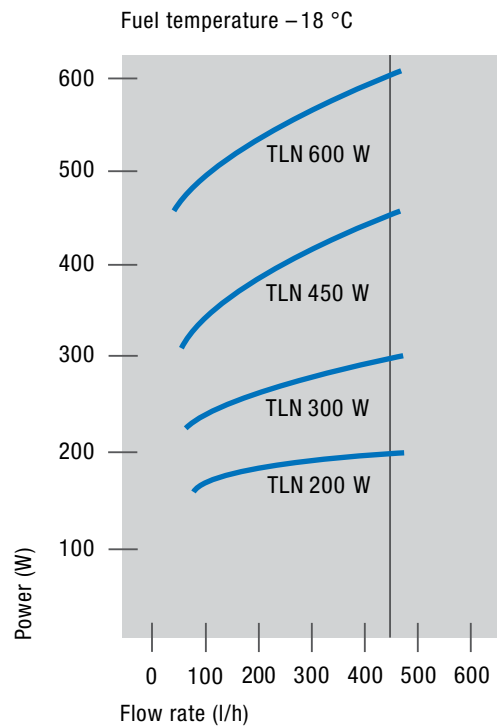
We take care with the information we provide about the design, material, and dimensions, etc., but this information is non-binding and does not represent assured characteristics. We reserve the right to modify the design.





SELF-CONTROLLING SYSTEM:

ThermoLine consists of a reinforced rubber hose line with a self-controlling, internal heating strip. The colder the outside temperature, the higher the heat output. The heat output automatically falls as the temperature rises. As a result, the vehicle electrical system only has to provide the amount of energy that is actually needed. The heat output is regulated in the heating strip. The system therefore does not contain any switching elements that are prone to failure, such as thermostats or bimetallic switches, etc.



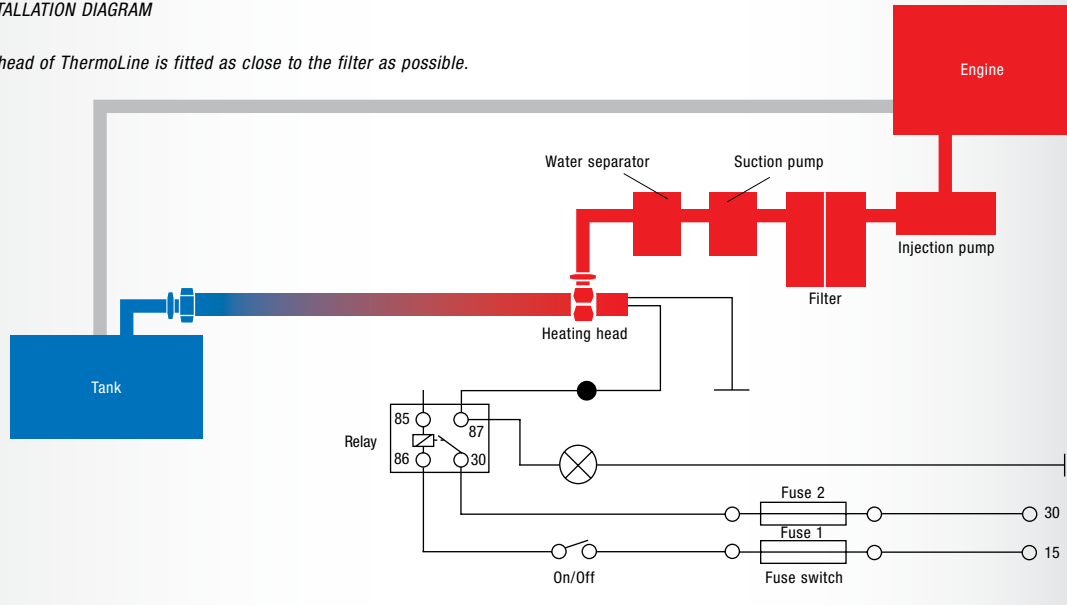
SELECTION CRITERIA

Fuel flow rate	Suitable ThermoLine type	Recommended min. generator output
Up to 70 l/h	TLN-024-150 ...	27 A
70 to 120 l/h	TLN-024-300 ...	30 A
More than 180 l/h	TLN-024-600 ...	50 A

— Rated power
 — Operating voltage

TYPICAL INSTALLATION DIAGRAM

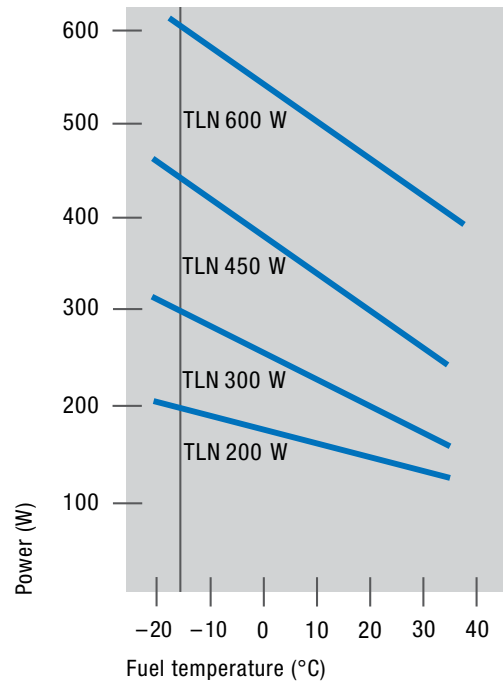
The heating head of ThermoLine is fitted as close to the filter as possible.



RELIABLE MODE OF OPERATION:

ThermoLine is installed precisely where the problem of diesel waxing occurs, and it therefore replaces the fuel line between the tank and filter. As a result, the fuel is pre-heated along the entire length of the ThermoLine. Paraffin crystals melt before they reach the filter.

Flow rate 454 l/h



ELECTRICAL CONNECTION*

Order number	ThermoLine type	Relay	Fuse 1	Fuse 2
292150000010	TLN-024-150 ...	20 A	8 A	16 A
292150000006	TLN-024-300 ...	20 A	8 A	25 A
292150000009	TLN-024-600 ...	45 A	8 A	30 A
292153000100	E-set for TLN-024-600 ...	45 A	8 A	30 A
292158000029	TLN-024-600 M26 thread	45 A	8 A	30 A

*Other connector pieces are available on request.

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