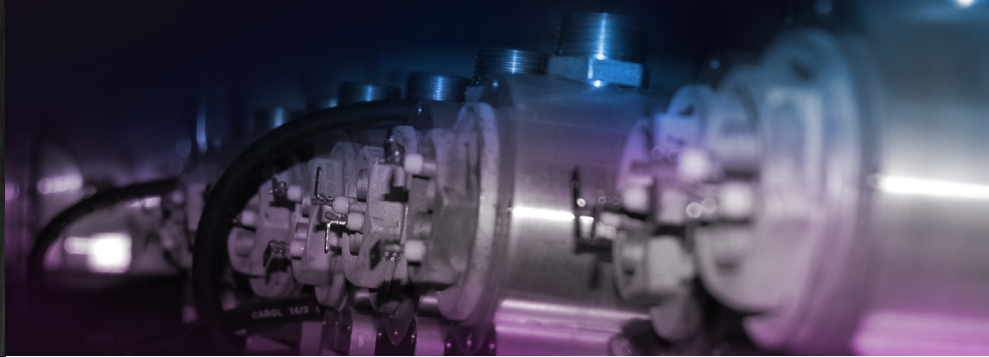




CARLOR
ENGINEERING

History

Carlor Engineering, ISO 9001 certified Belgian manufacturer, it is 15 years experience in the development of electric coolant heaters for all types of water-cooled engines. Carlor Engineering quickly became the leader in this field with the assets of a small company: reactivity, adaptation to market demand, quality and reliability.



TOP START

Preheating system with pump

HIGH FLOW

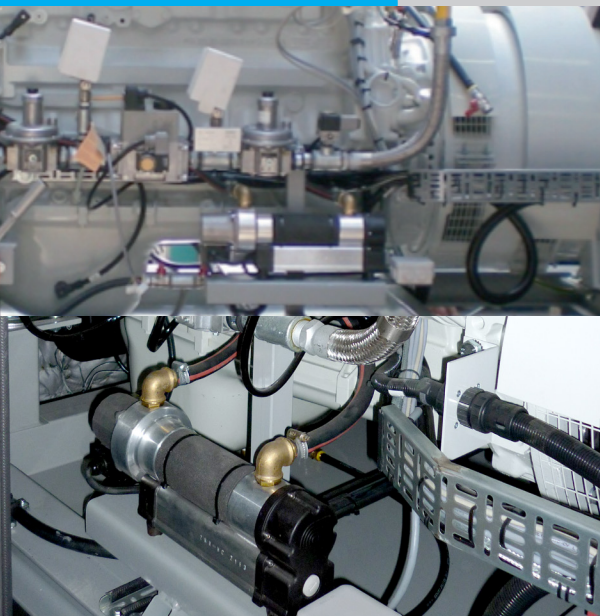
The **TopStart** is an electric coolant heater for all types of water-cooled engines. It is universal, reliable, easy to install and maintenance free.

The heater can be put into service a few hours before starting the engine, in order to keep the engine permanently at the required temperature. This ensures an easy full power start whatever the ambient temperature and avoids cold start mechanical damage.

The system has also following advantages: fuel savings, decreasing pollution, reduced engine wear, no more difficult cold starts, vehicle cab heater instantly operational. The TopStart 1 to 3 kW is suited for all industrial applications, either stationary (generator sets) or mobile (heavy-duty vehicles, vans, trucks).



APPLICATIONS



Product benefits

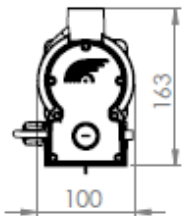
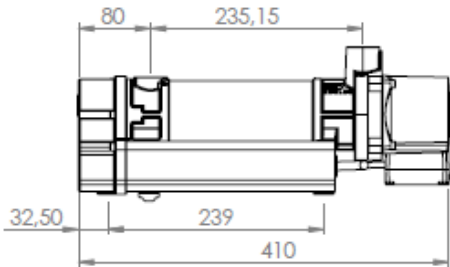
- Strong die-casted aluminium body
100% recyclable
- Very compact product with integrated circulating pump for quick and homogeneous preheating
- Integrated powerful circulating pump saving electricity and improving the life cycle of engine components
- Heating element with top-quality shielding and low specific power, increasing its life-cycle and that of the coolant
- Control thermostat with high cutout power for an optimized life cycle
- Safety thermostat with manual re-set option to protect the heating element if water levels in the circuit are low or if the control thermostat fails
- High waterproofness
- Easy replacement of parts
- Two years warranty on labour and spare parts



CARLOR
ENGINEERING

TOP START
Preheating system with pump

HIGH FLOW



Weight TopStart: 4,6 Kg

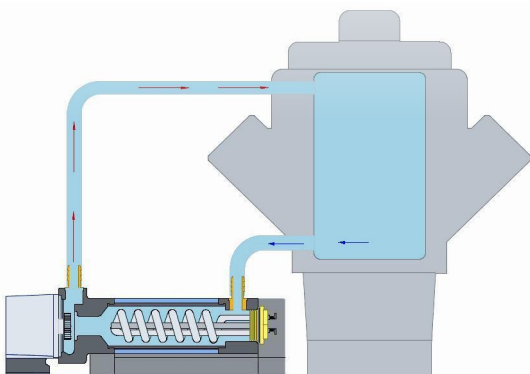
DELIVERED WITH CONNECTION KIT AND FIXATION KIT.

Connection kit

Fixation kit



INSTALLATION DIAGRAM



Technical characteristics

HEATING UNIT

- Die casted aluminium body
- PA66 protection covers and support base
- 150 cm power cable
- 3/4" water outlet and inlet + connection kit

CIRCULATING PUMP

- Glandless circulation pump
- Flowrate: 1.6 to 2m³/h to 3m height manometer
- Adjustable speed
- Available voltage: 230V
- Available frequency: 50 Hz, 60 Hz

WATER TEMPERATURE CONTROL THERMOSTAT

- Adjustable thermostat 0-80°C rated 25A, 100.000 cycles
- Available temperature interval: 0°C - 80°C (32°F - 176°F)

SAFETY THERMOSTAT

- Security thermostat with manual reset, rated 25A, 6.000 cycles (110 °C / 230°F)

HEATING ELEMENT

- Low watt density heating element made of Incoloy 800 (7,5W / cm²) what increases its lifetime and those of the coolant
- Available powers: 1Kw - 3Kw
- Available voltages: 120V, 208V, 230V

