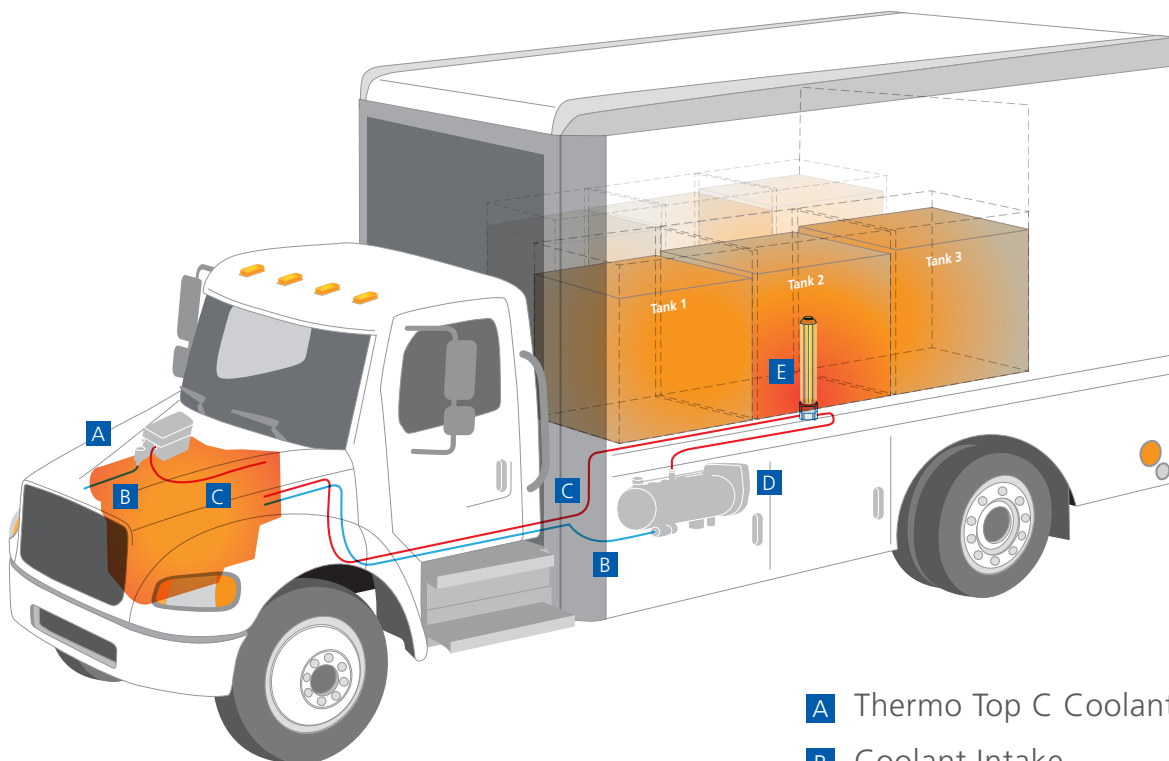


Interior Heating Solutions

for Mobile Lubrication Vehicles

Webasto's coolant heaters provide heat for many work truck applications. By heating the engine coolant and circulating it the vehicles engine can be preheated prior to starting the engine. This saves time and money by readying the vehicle for the days duties before the operator arrives. Additionally, Webasto coolant heater can be used in conjunction with the Hydra Liner from Arctic Fox to keep transported fluids at temperature. In the image below the coolant heater and Hydra Liner are used to keep the fluids warm in a mobile lube truck. The Hydra Liner is installed in the center tank and the heat is distributed to adjacent tanks, keeping all fluids above freezing ready to use.



- A** Thermo Top C Coolant Heater
- B** Coolant Intake
- C** Heated Coolant Out
- D** Thermo Pro 90 Coolant Heater
- E** Hydra Liner heating element



Webasto Coolant Heaters available for gas or diesel engines:

Thermo Top C - 8,600-17,200 BTU/hr
Thermo Pro 90 - 31,000 BTU/hr



Reduced Emissions



Green Technology



Efficient Heat



Fuel Savings



Reduced Maintenance
Costs



Increased Comfort



Increased ROI

Coolant Heater Technical Specifications

| | Thermo Top C | Thermo Pro 90 |
|------------------------|--|---|
| Heating Capacity | 8,600 – 17,200 BTU/h (2.5 – 5.0 kW) | 31,000 BTU/h (9.1 kW) |
| Fuel | Gasoline, Diesel #1, Diesel #2, Arctic, Biodiesel B5 & B20 | |
| Fuel Consumption | 0.08 – 0.16 gal/h (0.30 – 0.61 l/h) | 0.05 – 0.29 gal/h (0.19 – 1.1 l/h) |
| Rated Voltage | 12 V | 12 or 24 V |
| Power Consumption | 3.8 Amps (46 W) | 3.1 – 7.5 Amps @ 12 V 1.5 – 3.75 Amps @ 24 V |
| Dimensions (L x W x H) | 9.125 x 4.125 x 6.4 in (232 x 105 x 193 mm) | 15.75 x 7.5 x 14 in (400 x 190 x 355 mm) |
| Weight | 7 lbs (3.2 kg) | 10.6 lbs (4.8 kg) |

| Available Thermo Top C Heater Kits | Part Number |
|---------------------------------------|-------------|
| Complete Engine Pre-Heater Kit (12 V) | 923369 |
| Enclosure Box Heater Kit (12 V) | 5010087A |

| Available Thermo Top C Controllers | Part Number |
|------------------------------------|-------------|
| Standard Toggle (12 V) | 905103 |
| 1 Hour Push Button Control | 5010092A |
| 24 Hour Oval Timer | 1301122D |
| SmarTemp Control fx 2.0 | 5010633B |

| Available Thermo Pro 90 Heater Kits | Part Number |
|-------------------------------------|-------------|
| Enclosure Box Heater Kit (12 V) | 5010872A |
| Enclosure Box Heater Kit (24 V) | 5010873A |
| Compact Heater Kit (12 V) | 5010874A |

| Available Thermo Pro 90 Controllers | Part Number |
|-------------------------------------|-------------|
| Standard Toggle (12 V) | 905103 |
| Standard Toggle (24 V) | 905104 |
| SmarTemp Control fx 2.0 | 5010633B |



Standard Toggle



1 Hour Push Button Control



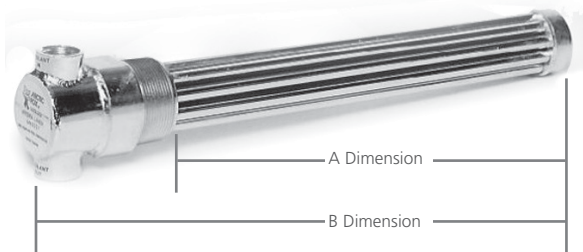
24 Hour Oval Timer



SmarTemp Control fx 2.0

Hydra Liner Parts and Technical Specifications

| Part Number | "A" Dimension Nominal | "B" Dimension Nominal | Surface Area Nominal | BTU/hr Nominal (1) | Typical Application To -20° F (-29° C) (2) | Typical Application To -40° F (-40° C) (2) |
|-------------|-----------------------|-----------------------|---|--------------------------|--|--|
| H-4000-8 | 7 inches (178 mm) | 10 inches (254 mm) | 105 In ² (8 dm ²) | Water 4,200 / Oil 2,100 | Up to 20 US Gallons (76 Liters) | Up to 10 US Gallons (38 Liters) |
| H-4000-12 | 11 inches (280 mm) | 14 inches (356 mm) | 180 In ² (2 dm ²) | Water 7,200 / Oil 3,600 | Up to 35 US Gallons (133 Liters) | Up to 17 US Gallons (38 Liters) |
| H-4000-16 | 15 inches (381 mm) | 18 inches (457 mm) | 350 In ² (16 dm ²) | Water 10,000 / Oil 5,000 | Up to 50 US Gallons (190 Liters) | Up to 10 US Gallons (66 Liters) |
| H-4000-20 | 19 inches (483 mm) | 22 inches (559 mm) | 315 In ² (20 dm ²) | Water 13,000 / Oil 6,500 | Up to 63 US Gallons (239 Liters) | Up to 25 US Gallons (95 Liters) |
| H-4000-24 | 23 inches (584 mm) | 26 inches (660 mm) | 385 In ² (24 dm ²) | Water 16,000 / Oil 8,000 | Up to 77 US Gallons (292 Liters) | Up to 38 US Gallons (146 Liters) |



- Nominal BTU/hr based upon 180° F (82° C) coolant flowing at 5 US Gallons (19 Liters) per minute:
Water - beginning temperature at +35° F (+2° C)
Oil - ISO 32 Hydraulic Oil beginning temperature -20° F (-29° C)
- Actual Temperature rise will be affected by factors such as coolant temperature and flow rate, specific heat capacity of fluids and air movement around reservoir.

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