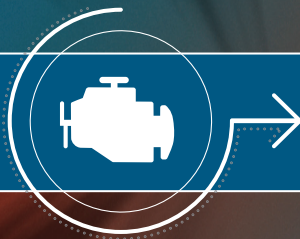


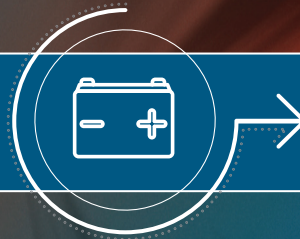
EQUIPMENT HEATING SYSTEMS & SOLUTIONS



Fuel & Fluid



Engine



Battery



Cab & Cargo

Heating solutions for engine fuel, fluids and battery systems to optimize startup and performance for mobile and stationary equipment in cold weather.



**Coolant Based
Off-Grid**



**Electric
On-Grid Power**

BENEFITS OF HEATING

- Improves efficiency by providing trouble-free operation in cold weather environments
- Reduce down time
- Reduce fuel gelling without additives
- Improve engine operation when using biodiesels
- Reduce damaging hydraulic pump cavitation and blown seals
- In-tank & in-line installation for OEM and aftermarket
- Low maintenance

PRODUCT OPTIONS

- Specific models compatible with diesel fuel, bio-diesel up to B100, hydraulic fluid, engine oil, transmission fluid, or natural gas
- Product sized to fit application and engine
- Thermostatically controlled models available
- Utilize multiple heat exchangers for severe cold weather applications
- Custom heating solutions available

IN-LINE FUEL & FLUID WARMING

Tube-in-shell heat exchanger uses warm engine coolant to warm fuel or fluid.



I-909 & I-15

- Diesel & biodiesel compatible up to B100
- Thermostatically controlled 78-95°F (25-35°C)
- Electric pre-heat option available for I-909 models
- Install before the fuel filter or transfer pump
- Applications: Mobile, stationary, on-road & off-road diesel engines



LineHauler

- Diesel compatible
- Shut off thermostat available
- Electric pre-heat available
- Dual fuel inlet - Retro fit a single to a dual draw system
- Applications: Diesel engines up to 10L



Midranger

- Diesel, bio-diesel and other fluids compatible
- No moving parts - Maintenance free
- 304 Stainless
- Applications: Diesel engines up to 5L, small power generators, construction equipment, light duty vehicles, compact diesel equipment



Multi Fuel & Fluid

- Diesel, biodiesel up to B100, hydraulic, engine oil, transmission, and other fluids compatible
- No moving parts - Maintenance free
- 304 Stainless
- Applications: Customized systems, extreme cold weather

A complete line of fuel and fluid warmers that deliver the perfect solutions to cold weather operation for dependable engine starts.

IN-TANK FUEL WARMING

Warm engine coolant is used to warm the fuel as it is being drawn up from the tank or inside the tank.

Hot Fox

- Diesel or biodiesel compatible
- Installs in standard SAE fuel sending gauge opening
- Warms fuel as it is drawn for the tank



Hot Fox

- Lowest profile mount 1-1/3" (34mm)
- Tube immersion length 8" to 29" (203 - 737mm)

Thermostat & Auxiliary Standpipe Models

- Shut off thermostat options 78-95°F (25-35°C) 104-125°F (40-52°C)
- 4mm inside diameter of standpipe
- Tube immersion length 19" to 26" (483 - 660 mm)

Auxiliary Standpipe Models

- Profile mount 2" (51mm)
- 2 or 4 mm inside diameter of standpipe
- Tube immersion length 10" to 29" (254 - 737mm)

Thermostat Models

- Shut off thermostat 78-95°F (25-35°C)
- Tube immersion length 10" to 29" (254 - 737mm)

The Original Arctic Fox

- Diesel, biodiesel up to 5%, hydraulic, oil & water compatible
- Thermostat models available
- Fuel standpipe optional
- Round or flat tank options
- Warms fuel or fluid inside the tank
- Tube immersion length 14" to 29" (356-737mm)
- Custom designs upon request



HYDRAULIC & FLUID WARMING

Warm coolant is used to warm hydraulic, water or other fluids in reservoirs to maintain fluid temperature, reducing fluid viscosity.



Hydra Liner

- 2" NPT & -32 STOR straight thread o-ring
- Tube immersion length: 7" to 23" (178-584mm)
- Install horizontally at the bottom of tanks



Mini Heat Exchanger

- 3/4" NPT female pipe thread
- Tube immersion length: 6" to 10" (152-254mm)
- Installs horizontally or vertically in fluid reservoir

Hot Fox

- Tube immersion length: 8-1/4" to 25-1/4" (210-641Mm)
- Installs vertically in SAE fuel sending gauge opening
- Warms fluid inside the tank



ELECTRIC FUEL & FLUID WARMING

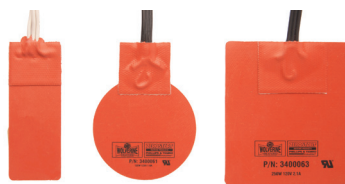
Utilize electric to heat fuel lines, filters and fluid reservoirs.



Hotline®

Thaw gelled fuel lines in 3-4 minutes prior to start up. Hotline is an insulated electric tape enclosed in a reinforced fuel line. Install between the fuel tank and fuel filter for maximum benefit.

- 12 volt & 24 volt options
- Available length: 2' to 12' (61-366cm)
- Shut off thermostat option
- Modular design for easy installation and service
- OEM and aftermarket
- Use in conjunction with coolant warmers for complete fuel system protection



Silicone Pad – Adhesive

Silicone pad heater is easily installed with adhesive mounting and silicone weatherproofing for installation on smooth metal surfaces.

- Reduces engine wear by improving the flow of engine fluids
- Warms internal engine components for quick starts in cold weather
- Thermostat ranges
 - 170°-200°F (77-93C)
 - 270°-300°F (132-149C)



Diesel Fuel Filter

Provides heat to the fuel filter prior to start up to prevent filter clogging. The flexible silicone wrap has a hook & loop closure to fit snugly around the filter.

- 12, 24, and 120 volt options
- Heated length: 6" to 9" (15-23cm)
- Fits filters: 2-3/4" to 5" (8.9-12.7cm)

BATTERY HEATING

Heat that is applied directly to the battery for reliable cold weather starting.



Silicone Pad

- 120 volt & 240 volt models
- Place silicone pad directly under the battery in the battery box/tray
- Silicone material is resistant to battery acid
- Models available to fit 1 to 3 batteries



Battery Blanket

Wrap your battery with a thermal Thinsulate™ blanket to maintain temperature in cold weather.

- Warms battery core to 60°-70° above ambient temperature
- Wrap lengths: 28", 36" and 72"



Battery Box

Box heater that is placed under the battery maintaining 80°F (27°C) battery temp

- Available in 120 volt & 240 volt models
- Preset thermostat



BH-1300

Heavy duty coolant based battery warming solution for severe cold weather applications.

- Fits various battery configurations
- Durable stainless steel coolant tubes – 1/2" NPT coolant connections
- By-pass thermostat available
- Custom sizes quote upon request

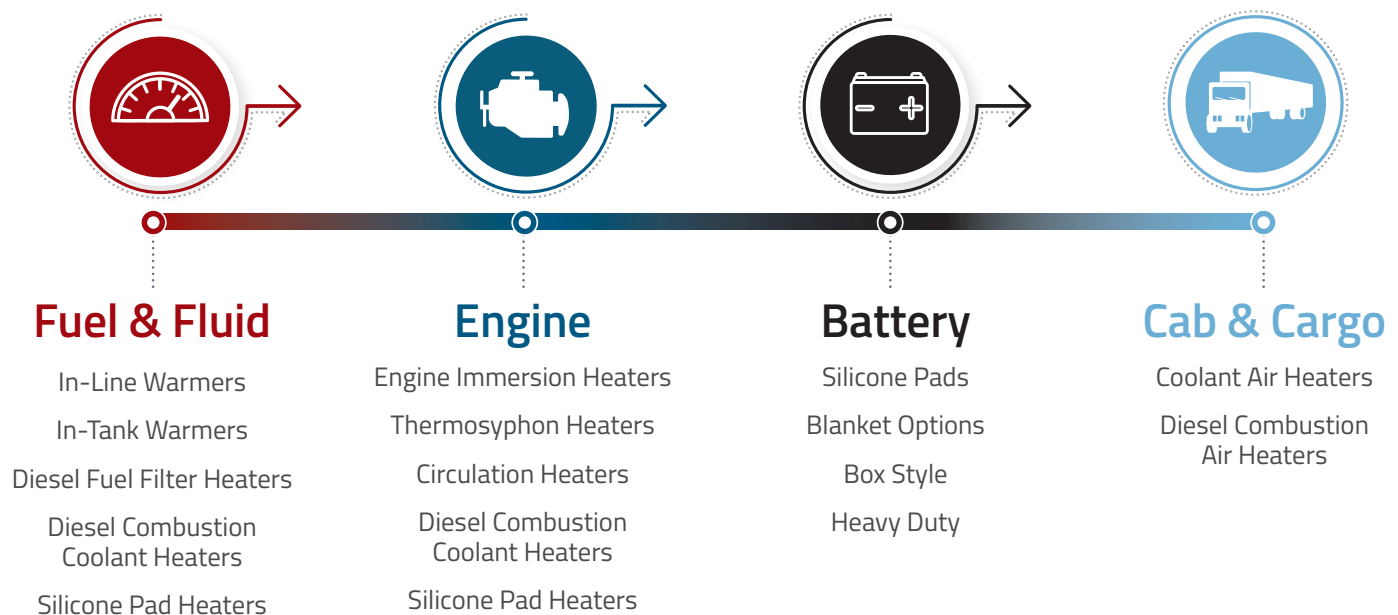
HEATING SYSTEM SOLUTIONS

Phillips & Temro Industries offers unmatched design experience, support and training to assist you with your heating system for mobile or stationary equipment.

Applications

- Trucking
- Utility Fleets
- Power Generation
- Construction
- Mining
- Oil & Gas
- Logging

Heating Solutions



Select individual components from our product line or contact an engineer at sales@phillipsandtemro.com to design a warming package for your specific application(s).

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