

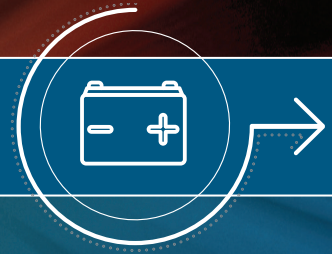
EQUIPMENT HEATING SYSTEMS & SOLUTIONS



Fuel & Fluid



Engine



Battery

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 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 to B100
- Thermostatically controlled 78-95°F (25-35°C)
- Electric pre-heat option available
- Install upstream, before the fuel filter or transfer pump
- Applications: Diesel engines up to 15L



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 & biodiesel & 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, & other fluid compatible
- No moving parts - Maintenance free
- 304 Stainless
- Applications: Customized systems, extreme cold weather

A complete line of fuel and fluid heaters 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 circulated 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 Models

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

Auxiliary Standpipe Models

- Profile mount 2" (51mm)
- 2 or 4 mm inside diameter of standpipe
- 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
 - 170-200F (77-93C)
 - 270-300F (132-149C)

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 80F (27C) 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

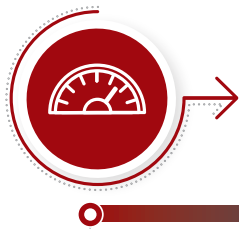
HEATING SYSTEM SOLUTIONS

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

Applications

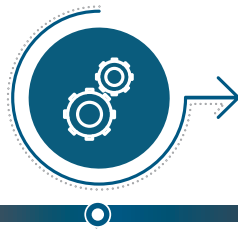
- Trucking
- Utility Fleets
- Power Generation
- Construction
- Mining
- Oil & Gas
- Logging

Heating Solutions



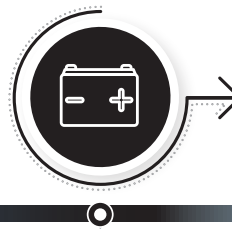
Fuel & Fluid

- In-Line Warmers
- In-Tank Warmers
- Diesel Fuel Filter Heaters
- Diesel Combustion Coolant Heaters
- Silicone Pad Heaters



Engine

- Engine Immersion Heaters
- Thermosyphon Heaters
- Circulation Heaters
- Diesel Combustion Coolant Heaters
- Silicone Pad Heaters



Battery

- Silicone Styles
- Blanket Options
- Plate Type



Cab & Cargo

- Coolant Air Heaters
- Diesel Combustion Air Heaters

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

PHILLIPS & TEMRO
industries®

9700 West 74th Street
Eden Prairie, MN 55344
P: 952-941-9700 or 800-328-6108
E: sales@phillipsandtemro.com