



KIM HOTSTART
SINCE 1942

**Product
Catalog**

Engine Heaters

Oil Heaters

Controls

Accessories

KIM HOTSTART PRODUCTS TRAVEL THE WORLD . . .

Kim Hotstart products are found around the world . . . on truck and railroad engines . . . far below the surface of the oceans . . . in desert wastelands . . . and high in the mountains.

Kim Hotstart is a manufacturer and world wide distributor of electric heating equipment for gasoline and diesel engines. Established in 1942, we have the experience and expertise to answer your engine heating questions.

Kim Hotstart, the Ultimate in Engine Pre-heating. Call us



Kim Hotstart Pre-Heaters

Easy Starts...

- Saves warm-up time
- Saves fuel
- Prolongs battery life
- Provides immediate defrosting

Reduces Engine Wear...

- 90% of engine wear is due to low water jacket temperature
- Stops destructive condensation
- Extends time between overhauls

Protects the Environment...

- Eliminates "White Smoke" upon start-up
- Reduces idle time
- Engine is ready for clean full power operation
- Reduces noise pollution
- No high speed idle

Tank Style Coolant Heaters That Meet Heating Requirements For a Wide Range of Engine Sizes and Applications.



- Constant circulation of coolant through the engine achieves even heat distribution.
- New one-piece, heavy-duty, pressure die-cast aluminum tank with a bolt-on flange element assembly.
- All parts replaceable — easy to service.
- Most models classified weathertight.
- Many models available for Class I, Group D (Hazardous Locations) applications.
- Various voltages and phases available.
- Most models carry the European CE mark.

Industrial Lube Oil Heaters and Process Oil Heaters. Multiple Sizes Available for Every Oil Heating Need.

- Reduces engine wear.
- Immediate flow of warm oil to critical engine parts.
- Stops destructive condensation and the forming of sludge in oil.
- Warm oil allows easier starts and prolongs battery life.
- Models designed for heating transmission fluid, hydraulic oil and diesel fuel.
- Low watt density elements assure safe heating of oils and will not char or coke.
- Thermostat control available and recommended for all models.
- New threadless design V-clamp style mounting adapter available.



Battery Warming Pads and Thermal Wraps with a Built-in Thermostat Improve Cranking Power in the Coldest Conditions.



- Flexible SBR rubber pads are designed for installation under the battery to heat from the bottom up.
- Blanket-style heaters and pad heaters are impervious to battery acid and oil.
- All standard battery heaters come with 6ft. grounded cord.
- Pad models for multiple battery applications available with accessory cords and thermostat assembly.
- Blanket-style warmers provide greater heat rise than plates or pads.

Silicone Hot Pads are Flexible and Easy to Install.

- Ideal for oil pans, hydraulic reservoirs, engine blocks and hydraulic cylinders.
- Durable silicone/fiberglass cover resists abrasion.

Thermostat Controls, Complete Control Systems and Other Accessories Ensure Proper and Efficient Performance of Kim Hotstart Heaters.

- General purpose, weathertight and explosion proof thermostats available for all engine heating, oil heating and battery heating applications.
- Fixed temperature and adjustable.
- Oil pressure switches for automatic cut-off of heaters on engine start-up.
- Complete control systems for 3 phase and high voltage engine preheaters factory assembled in electrical boxes for ease of installation.



All Kim-Glo Direct Immersion Heaters Carry CSA-C/US Approval and CE Mark.



- Long life Incoloy elements withstand higher temperatures to reduce element failure.
- Reduced heat in terminal connection area.
- Resist scale build-up on element surface.
- Tensile strength of Incoloy is three times that of copper, making it much less susceptible to engine and road vibration.
- Available in 120 volt and 240 volt.
- The 6ft. power cord and plug carries a lifetime warranty; standard equipment on all Kim-Glo heaters.
- Optional thermostat control and "Y" harness available for all Kim-Glo heaters.



TABLE OF CONTENTS

*Installation and Technical Information
– Page 34*

*How to Specify an Engine Heater and Conversion Charts
– Page 50*

*Industrial Circulating Systems
– Page 12, 13, 51*

Custom Products

*Call for information on:
Battery Chargers
Wiring Harnesses
Air Intake Heaters
Diesel Driven Heating Systems
Other Specialty Products*

Pages 6 - 14



Section I

Tank Style Coolant Heaters.
Weathertight Design.
Original Equipment Replacement Heaters.
Circulating System with Pump.

Pages 16 - 18



Section IA

Tank Style Coolant Heaters Class 1, Group D for Hazardous Locations.

Pages 20 - 26



Section II

Industrial Lube Oil Heaters.
Lube Oil Heaters With Thermostat.
Process Immersion Heaters With Fixed or Adjustable Thermostat.

Pages 28 - 34



Section III

Temperature Controls.
Pressure Switch.
Magnetic Contactors.
Junction Boxes.
Complete Control Systems.

Pages 36 - 38



Section IV

Battery Warming Pads and Accessories.
Blanket Style Battery Warmers.
Silicone Hot Pads.

Pages 40 - 49



Section V

Kim-Glo Direct Immersion Heaters.
Electrical Cords for Kim-Glo Heaters.
Thermocords.
Flush Mount Kits and Accessories.

SMALL TANK HEATERS

*High Impact Plastic
Single Phase
500-2000 Watts
120V & 240V*

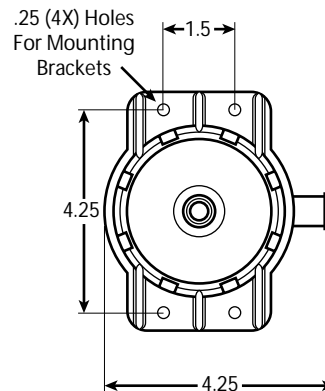
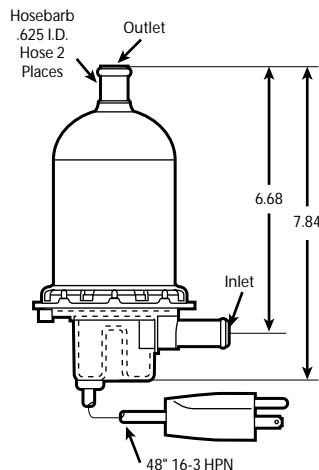


View of a Kim Hotstart TPS tank heater. This durable heater is assembled with a built-in thermostat and 4-foot power cord.

- Molded from Polyphenylene Sulfide (PPS).
- Rust-free, resists corrosion, exceptional tensile strength.
- Vibration and shock tested to extreme limits to guarantee durability.
- Greatly reduced heat loss for more efficient operation.
- Compatible with all chemicals.
- Incoloy element for longer service life.
- Thermostatically controlled.
- All parts are field replaceable — not a throw away heater.
- Compact design requires minimal mounting space.

Ambient Above -20° F	Ambient Below -20° F	Kim Hotstart Model Number	Volts	Phase	Watts	Amps	Thermostat Range	
							On	Off
150 Cubic Inch or Less	150 Cubic Inch or Less	TPS051GT8-000	120	1	500	4.2	80°F	100°F
		TPS051GT10-000	120	1	500	4.2	100°F	120°F
		TPS051GT12-000	120	1	500	4.2	120°F	140°F
		TPS051GT12-A00	120	1	500	4.2	ADJUSTABLE*	
		TPS052GT8-000	240	1	500	2.1	80°F	100°F
		TPS052GT10-000	240	1	500	2.1	100°F	120°F
		TPS052GT12-000	240	1	500	2.1	120°F	140°F
		TPS052GT12-A00	240	1	500	2.1	ADJUSTABLE*	
350 Cubic Inch or Less	200 Cubic Inch or Less	TPS101GT8-000	120	1	1000	8.4	80°F	100°F
		TPS101GT10-000	120	1	1000	8.4	100°F	120°F
		TPS101GT12-000	120	1	1000	8.4	120°F	140°F
		TPS101GT12-A00	120	1	1000	8.4	ADJUSTABLE*	
		TPS102GT8-000	240	1	1000	4.2	80°F	100°F
		TPS102GT10-000	240	1	1000	4.2	100°F	120°F
		TPS102GT12-000	240	1	1000	4.2	120°F	140°F
		TPS102GT12-A00	240	1	1000	4.2	ADJUSTABLE*	
350 — 500 Cubic Inch or Less	200 — 300 Cubic Inch or Less	TPS151GT8-000	120	1	1500	12.5	80°F	100°F
		TPS151GT10-000	120	1	1500	12.5	100°F	120°F
		TPS151GT12-000	120	1	1500	12.5	120°F	140°F
		TPS151GT12-A00	120	1	1500	12.5	ADJUSTABLE*	
		TPS152GT8-000	240	1	1500	6.3	80°F	100°F
		TPS152GT10-000	240	1	1500	6.3	100°F	120°F
		TPS152GT12-000	240	1	1500	6.3	120°F	140°F
		TPS152GT12-A00	240	1	1500	6.3	ADJUSTABLE*	
500 — 700 Cubic Inch or Less	300 — 400 Cubic Inch or Less	TPS181GT8-000	120	1	1800	15	80°F	100°F
		TPS181GT10-000	120	1	1800	15	100°F	120°F
		TPS181GT12-000	120	1	1800	15	120°F	140°F
		TPS181GT12-A00	120	1	1800	15	ADJUSTABLE*	
		TPS202GT8-000	240	1	2000	8.3	80°F	100°F
		TPS202GT10-000	240	1	2000	8.3	100°F	120°F
		TPS202GT12-000	240	1	2000	8.3	120°F	140°F
		TPS202GT12-A00	240	1	2000	8.3	ADJUSTABLE*	

*Off temperature – adjustable 90-130°F (On differential – 20° F)



NEW!
NEW!
NEW!

- Off temperature – adjustable from 90°F to 130°F (on differential 20°F).
- Control your optimum desired temperature.
- 5/8" hose barb for easy in-line installations.
- Watertight enclosure.

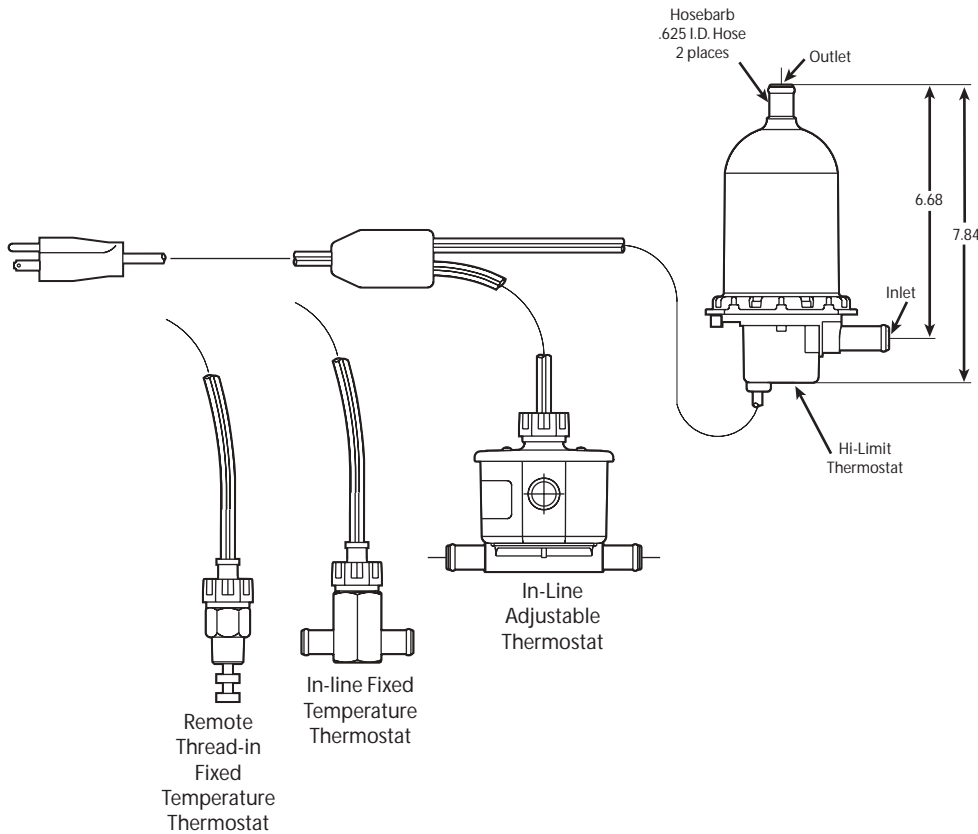


**TPS
HEATERS**

Now available with in-line adjustable or fixed thermostat



Types of Thermostats Available



Also Available:

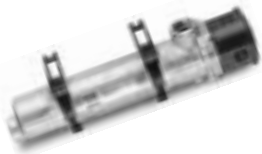
Models with "Y" harness and remote thread-in type thermostats in various fixed temperature ranges.

Models with "Y" harness and in-line type thermostats in various fixed temperature ranges.

Industrial Tank Heaters

(Conduit Connection)

1500 - 5000 watt
Weathertight
Single Phase



CB Model without thermostat.



CB Model assembled with thermostat.



CL Model without thermostat.



CL Model assembled with thermostat.

Ambient Above -20° F	Ambient Below -20° F	Model Number without Thermostat	Model Number with Thermostat (see chart 1)	Volts	Phase	Watts	Amps	Fig.* No.
350 — 500 Cubic Inch or Less	200 — 300 Cubic Inch or Less	CB115100-000	CB1151XX-000	120	1	1500	12.5	1
		CB115800-000	CB1158XX-000	208	1	1500	7.2	1
		CB115200-000	CB1152XX-000	240	1	1500	6.3	1
		CB115700-000	CB1157XX-000	277	1	1500	5.4	1
		CB115300-000	CB1153XX-000	380	1	1500	3.9	1
		CB115400-000	CB1154XX-000	480	1	1500	3.1	1
500 — 600 Cubic Inch or Less	300 — 400 Cubic Inch or Less	CB120100-000	CB1201XX-000	120	1	2000	16.7	1
		CB120800-000	CB1208XX-000	208	1	2000	9.6	1
		CB120200-000	CB1202XX-000	240	1	2000	8.3	1
		CB120300-000	CB1203XX-000	380	1	2000	5.3	1
600 — 800 Cubic Inch or Less	400 — 500 Cubic Inch or Less	CB120400-000	CB1204XX-000	480	1	2000	4.2	1
		CB125100-000	CB1251XX-000	120	1	2500	20.8	1
		CB125800-000	CB1258XX-000	208	1	2500	12.0	1
		CB125200-000	CB1252XX-000	240	1	2500	10.4	1
		CB125700-000	CB1257XX-000	277	1	2500	9.0	1
		CB125300-000	CB1253XX-000	380	1	2500	6.6	1
800 — 1000 Cubic Inch or Less	500 — 600 Cubic Inch or Less	CB125400-000	CB1254XX-000	480	1	2500	5.2	1
		CL130100-100	CL1301XX-100	120	1	3000	25.0	3
		CL130800-100	CL1308XX-100	208	1	3000	14.4	3
		CL130200-100	CL1302XX-100	240	1	3000	12.5	3
		CL130700-100	CL1307XX-100	277	1	3000	10.8	3
		CL130300-100	CL1303XX-100	380	1	3000	7.9	3
1000 — 1350 Cubic Inch or Less	600 — 800 Cubic Inch or Less	CL130400-100	CL1304XX-100	480	1	3000	6.3	3
		CL140800-100	CL1408XX-100	208	1	4000	19.2	3
		CL140200-100	CL1402XX-100	240	1	4000	16.7	3
		CL140700-100	CL1407XX-100	277	1	4000	14.4	3
		CL140300-100	CL1403XX-100	380	1	4000	10.5	3
		CL140400-100	CL1404XX-100	480	1	4000	8.3	3
1350 — 1650 Cubic Inch or Less	800 — 1000 Cubic Inch or Less	CL150800-100	CL1508XX-100	208	1	5000	24.0	3
		CL150200-100	CL1502XX-100	240	1	5000	20.8	3
		CL150700-100	CL1507XX-100	277	1	5000	18.1	3
		CL150300-100	CL1503XX-100	380	1	5000	13.2	3
		CL150400-100	CL1504XX-100	480	1	5000	10.4	3

*Figure Number refers to technical drawings of heaters located on page 14.



INSTALLATION TIPS	
If you require a 1" NPT female thread on the thermostat intake, a coupler is available. Also, for the use of 3/4" or 1" ID heater hose, hose barb adapters are available. See below.	
Part Number	Description
HB-1	1" NPT to 1" hose barb adapter. Installs in 1" NPT female inlet or outlet of the heater.
HB-3/4	1" NPT to 3/4" hose barb adapter. Installs in 1" NPT female inlet or outlet of the heater.
HB-C	1" NPT x 1" NPT aluminum coupler. Installs on 1" NPT inlet to T-Stat and allows the addition of HB-1 or HB-3/4.
HB-K3/4	Kit contains (2) HB-3/4 and (1) HB-C
HB-K1	Kit contains (2) HB-1 and (1) HB-C

CHART 1			
HEATERS WITH THERMOSTATS			
To specify temperature range of thermostat, insert numerical code from chart in place of the XX in model number.			
Example:			
Desired Temperature Range 100° - 120°F			
Catalog Number: Model CB1151XX-000			
Order as: Model CB115110-000			
All heaters over 277v and all 3Ø units must use a control box	TEMPERATURE RANGE		NUMERICAL CODE
	ON	OFF	
	60F	80F	06
	80F	100F	08
	100F	120F	10
See Control Systems page 32	120F	140F	12
	140F	160F	14
	Adjustable 90° - 130°F		A3

Industrial Tank Heaters

(With Power Cord)

1500 - 4000 watt

Weathertight

Single Phase

Ambient Above -20° F	Ambient Below -20° F	Model Number without Thermostat	Model Number with Thermostat (see chart 1)	Volts	Phase	Watts	Amps	Fig.* No.
350 — 500 Cubic Inch or Less	200 — 300 Cubic Inch or Less	SB115100-000 SB115800-000 SB115200-000 SB115700-000	SB1151XX-000	120	1	1500	12.5	2
			SB1158XX-000	208	1	1500	7.2	2
			SB1152XX-000	240	1	1500	6.3	2
			SB1157XX-000	277	1	1500	5.4	2
500 — 600 Cubic Inch or Less	300 — 400 Cubic Inch or Less	SB120100-000 SB120800-000 SB120200-000	SB1201XX-000	120	1	2000	16.7	2
			SB1208XX-000	208	1	2000	9.6	2
			SB1202XX-000	240	1	2000	8.3	2
600 — 800 Cubic Inch or Less	400 — 500 Cubic Inch or Less	SB122100-000 SB125800-000 SB125200-000 SB125700-000	SB1221XX-000	120	1	2250	18.8	2
			SB1258XX-000	208	1	2500	12.0	2
			SB1252XX-000	240	1	2500	10.4	2
			SB1257XX-000	277	1	2500	9.0	2
800 — 1000 Cubic Inch or Less	500 — 600 Cubic Inch or Less	SL130100-000 SL130800-000 SL130200-000 SL130700-000	—	120	1	3000	25.0	4
			SL1308XX-000	208	1	3000	14.4	4
			SL1302XX-000	240	1	3000	12.5	4
			SL1307XX-000	277	1	3000	10.8	4
1000 — 1350 Cubic Inch or Less	600 — 800 Cubic Inch or Less	SL140800-000 SL140200-000 SL140700-000	SL1408XX-000	208	1	4000	19.2	4
			SL1402XX-000	240	1	4000	16.7	4
			SL1407XX-000	277	1	4000	14.4	4

*Figure Number refers to technical drawings of heaters located on page 14.

All 208v, 277v and 3000w/120v models come with cord only - no plug.

SB Models include hi-limit thermostats and carry CSA approval.



INSTALLATION TIPS	
If you require a 1" NPT female thread on the thermostat intake, a coupler is available. Also, for the use of 3/4" or 1" ID heater hose, hose barb adapters are available. See below.	
Part Number	Description
HB-1	1" NPT to 1" hose barb adapter. Installs in 1" NPT female inlet or outlet of the heater.
HB-3/4	1" NPT to 3/4" hose barb adapter. Installs in 1" NPT female inlet or outlet of the heater.
HB-C	1" NPT x 1" NPT aluminum coupler. Installs on 1" NPT inlet to T-Stat and allows the addition of HB-1 or HB-3/4.
HB-K3/4	Kit contains (2) HB-3/4 and (1) HB-C
HB-K1	Kit contains (2) HB-1 and (1) HB-C

CHART 1			
HEATERS WITH THERMOSTATS			
To specify temperature range of thermostat, insert numerical code from chart in place of the XX in model number.			
Example:			
Desired Temperature Range 100° - 120°F			
Catalog Number: Model SB1151XX-000			
Order as: Model SB115110-000			
	TEMPERATURE RANGE		NUMERICAL CODE
	ON	OFF	
	60F	80F	06
	80F	100F	08
	100F	120F	10
	120F	140F	12
	140F	160F	14



SB Model with power cord; no thermostat



SB Model with thermostat and power cord



SL Model with power cord; no thermostat.



SL Model with thermostat and power cord.

- Large NEMA 4 enclosure with 1/2" and 3/4" knockouts.
- Rubber insulating sleeve around tank.
- Internal adjustable thermostat. Adjustable setpoints from 70°F - 210°F.
- Incoloy sheath elements.
- Four wattage/voltage options. Three corresponding to Caterpillar part numbers.
- Vertical mount only.

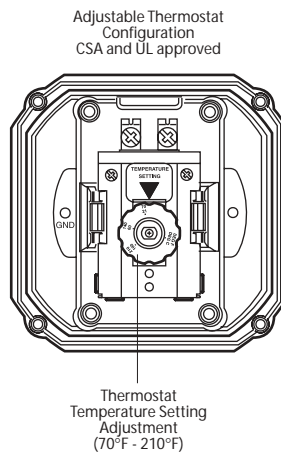
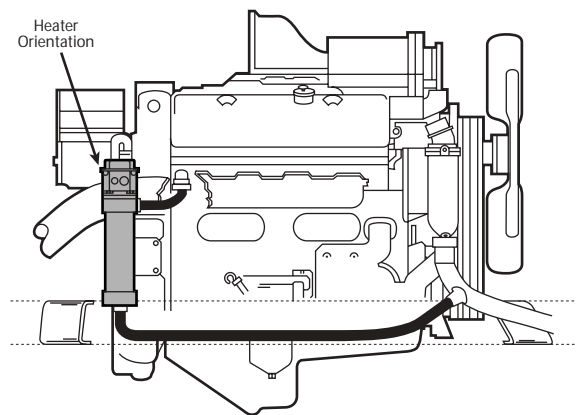
For Original Equipment Replacement:

- Two 5" stainless steel worm-drive clamps are included to mount heater to existing bracket.

For New Installations:

- U-bolt mounting brackets are available. Order kit part number: **FK9**.

Kim Hotstart Part Number	Caterpillar Part Number	Wattage	Voltage	Pre-wired at Assembly
CL130DA2-000	7E-6247	3kw	120/240 VAC	120V
CL160EA2-000	7E-6248	6kw	240/480 VAC	240V
CL160CA2-000	7E-6249	6kw	120 VAC	2-120V Circuits
CL140EA2-000	—	4kw	240/480 VAC	240V



Industrial Tank Heaters

Original Equipment Replacement Heaters



Forced Circulating Heating System

With 10 GPM Pump

CSS Model

For Engines From 1,000 to 4,000 CID

These systems have proven to be a superior method of preheating engines that normally require the use of two thermosiphon heaters.

Forced circulation offers many benefits over thermosiphon units.

- Reduced electrical consumption
- Even heating over entire cooling system
- Reduced temperature at outlet extends hose life
- Longer heating element life
- Control circuitry pre-wired for easy installation

- Universal mounting for varied mounting configuration.
- 65°F to 140°F adjustable thermostat.
- On/Off switch for manual control.
- Small, compact design for easy installation.
- 24VDC Control
- Shipping weight, 70lbs

Ambient Above -20° F	Ambient Below -20° F	MODEL NUMBER	KW	VOLTS	Ø	Total Amps	GPM
1000 TO 1300 Cubic Inch or Less	700 TO 1000 Cubic Inch or Less	CSS10408-000	4	208	1	20	10
		CSS10402-000	4	240	1	18	10
		CSS10404-000	4	480	1	10	10
		CSS30402-000	4	240	3	10	10
		CSS30404-000	4	480	3	6	10
1300 TO 2000 Cubic Inch or Less	1000 TO 1300 Cubic Inch or Less	CSS10608-000	6	208	1	30	10
		CSS10602-000	6	240	1	26	10
		CSS10604-000	6	480	1	14	10
		CSS30602-000	6	240	3	15	10
		CSS30604-000	6	480	3	8	10
2000 TO 3000 Cubic Inch or Less	1300 TO 1800 Cubic Inch or Less	CSS10908-000	9	208	1	45	10
		CSS10902-000	9	240	1	39	10
		CSS10904-000	9	480	1	20	10
		CSS30902-000	9	240	3	23	10
		CSS30904-000	9	480	3	12	10
3000 TO 4000 Cubic Inch or Less	1800 TO 2500 Cubic Inch or Less	CSS11208-000	12	208	1	60	10
		CSS11202-000	12	240	1	51	10
		CSS11204-000	12	480	1	26	10
		CSS31202-000	12	240	3	30	10
		CSS31204-000	12	480	3	16	10

Other voltages available. Consult the factory.

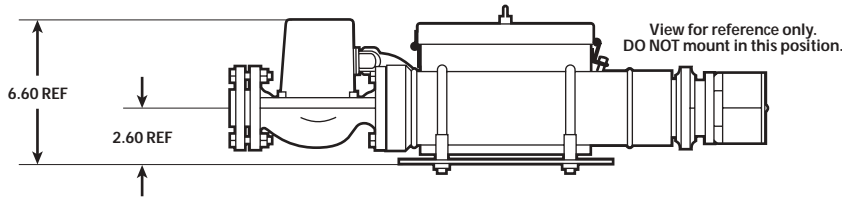
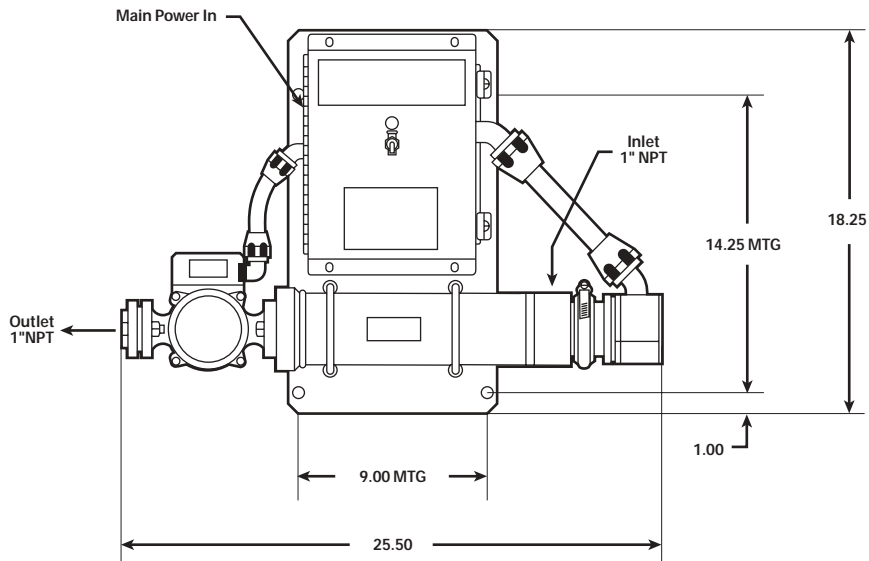


The Solid State Adjustable thermostat provides 5° incremental settings between 65° and 140°F. All CSS models come complete with manual controls but can operate automatically by supplying a 24 Volt DC signal to the provided contacts.

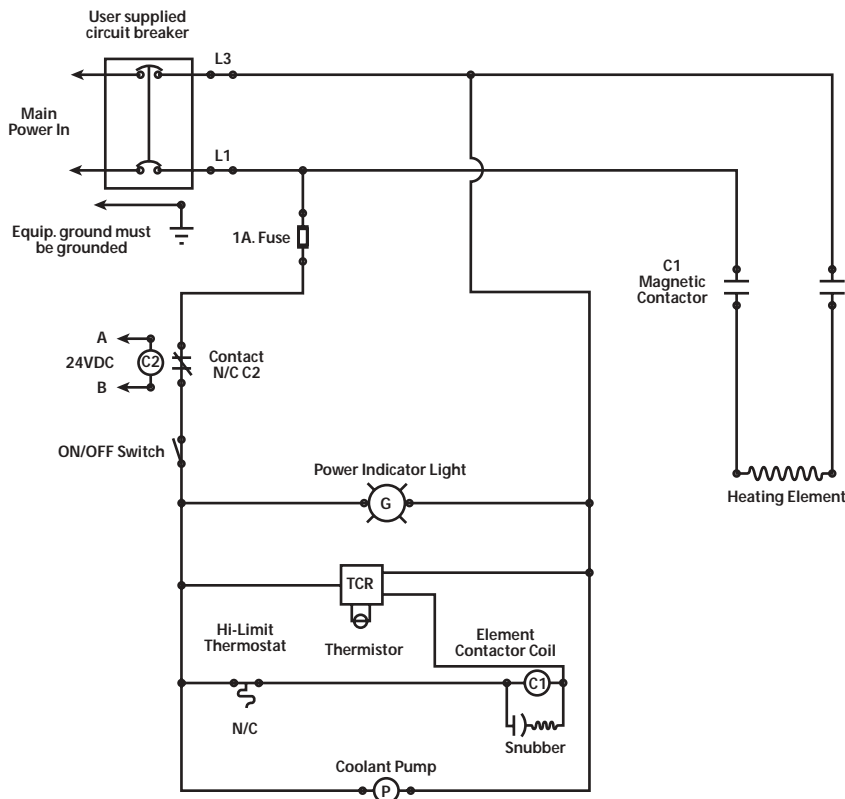
Field testing has shown substantial energy savings in comparison to traditional thermo-siphon heating methods.

System Drawings

CSS Model Dimensions



Typical Single Phase Wiring Diagram



Technical Drawings

all dimensions in inches

CB Style Heater without thermostat (pg. 8)

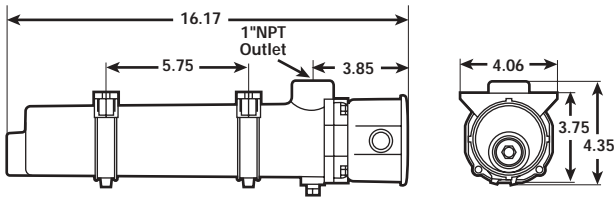
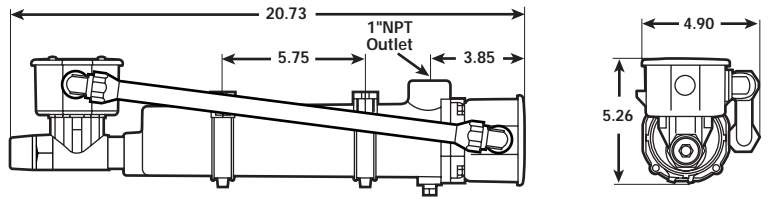


FIGURE 1

CB Style Heater with thermostat (pg. 8)



SB Style Heater without thermostat (pg. 9)

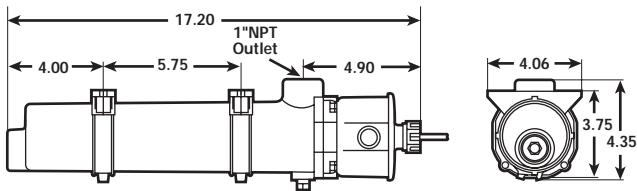
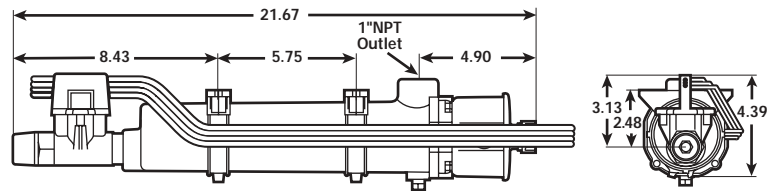


FIGURE 2

SB Style Heater with thermostat (pg. 9)



CL Style Heater without thermostat (pg. 8)

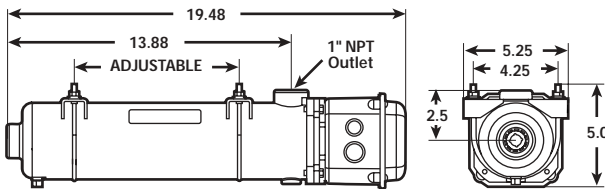
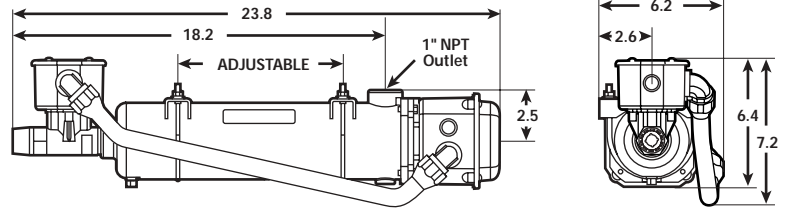


FIGURE 3

CL Style Heater with thermostat (pg. 8)



SL Style Heater without thermostat (pg. 9)

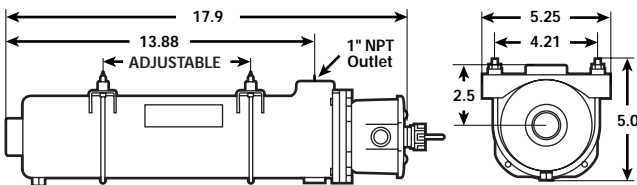
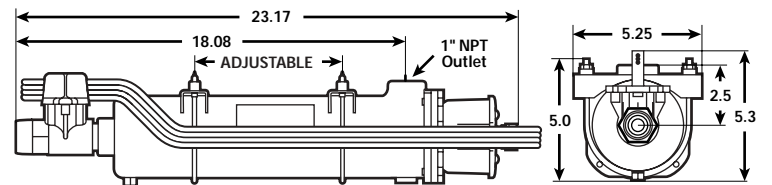


FIGURE 4

SL Style Heater with thermostat (pg. 9)



WL Style Heater without thermostat (pg. 10)

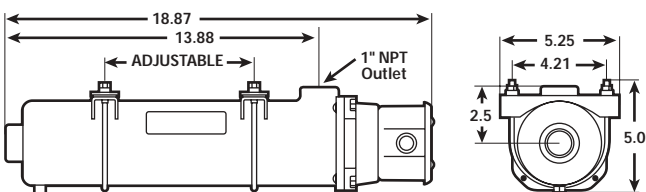


FIGURE 5

WL Style Heater with thermostat (pg. 10)

