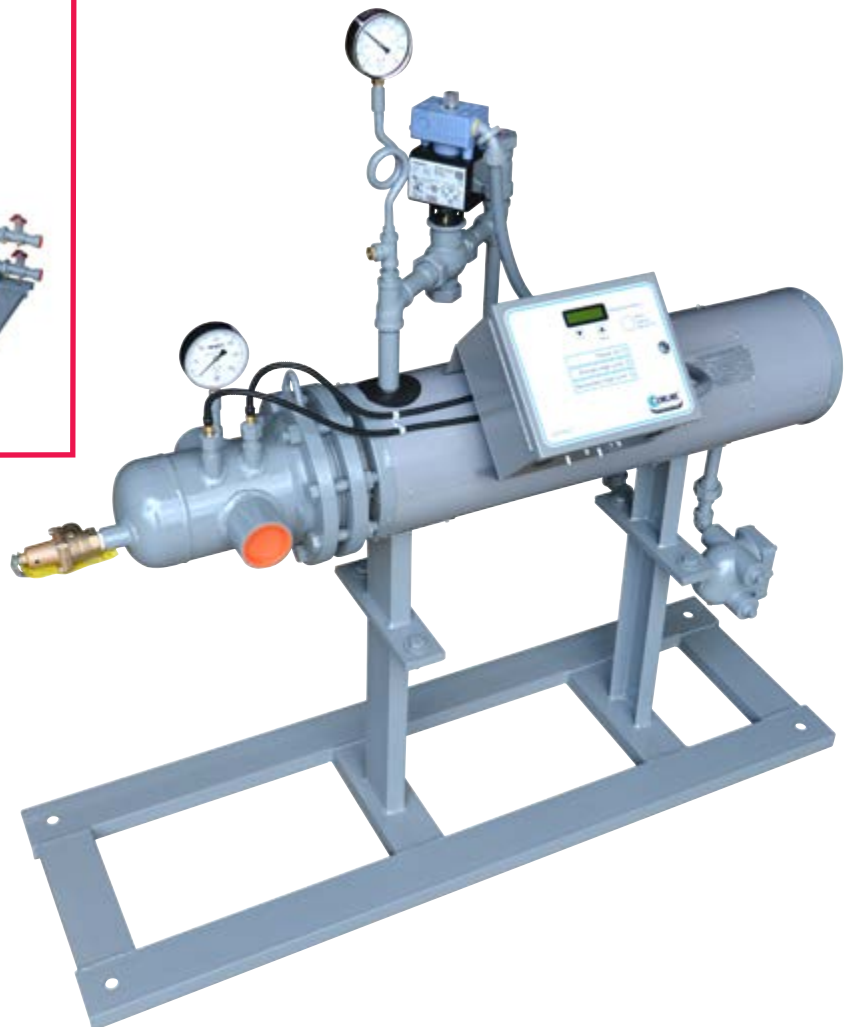


Heat Transfer Packages



Heat Transfer Package (HTP Series)

- Building Heat, Process Heat, Swimming Pool Heater, Cooling Applications and Snow Melt Package (SMP Series)
- Steam, Boiler Water, High Temperature Hot Water, Chilled Water
- Shell & Tube and Plate Heat Exchangers



CEMLINE CORPORATION

P.O. BOX 55 CHESWICK, PENNSYLVANIA 15024
Phone: (724) 274-5430 FAX: (724) 274-5448

www.cemline.com

Cemline® Heat Transfer Package (HTP Series)

The Cemline Heat Transfer Package (HTP Series) is a heat exchange package designed to provide heat transfer between energy source (steam, boiler water, HTHW or chilled water) and the process liquid (water, pool water, thermal oil, or glycol blend, etc.).

This package is provided with a heat exchanger, controls, and accessories allowing easy installation. When using boiler water as the energy source the brazed plate heat exchanger is supplied. A brazed plate heat exchanger can provide a lower approach temperature than a shell and tube heat exchanger while helping to

improve the efficiency of today's condensing boiler(s). The Cem-trol® II electronic controller and 2 or 3-way control valve delivers steady output temperature to the process fluid in a boiler water application. A shell and tube heat exchanger is an industry standard when using steam as the energy source and is supplied with a steam

application. The Cem-trol® II controller and steam control valve and condensate traps provide delivers steady output temperature to the process fluid in a steam application. Factory packaging keeps contractor installation time to a minimum the only connections of steam/condensate, boiler water or HTHW, heating fluid, and electric.

Basic Plate Package Includes:

- Heat Exchanger: Brazed Plate or Plate & Frame
- Cem-trol® II Controller – complete with PID Control, temperature read-out, High Limits, and temperature sensors
- Control Valve: Electric, Pneumatic
- Inlet Strainers (Boiler Water Side & Heating Fluid Side)
- Intra-Heater circulator
- Clean out ports for heat exchanger (Plate Heater Only)
- Steel Channel Base
- 16 Gauge Steel Frame with hammer tone enamel paint
- Boiler Water Temperature Gauge & Fluid Pressure Gauge
- Double Walled Plate Heat Exchanger

Optional Equipment:

- 1/3 – 2/3 Control Valves
- 3 way Motorized Tempering Valve
- Ball Valves for isolation of heat exchanger
- Boiler Water Pump
- Heating Fluid Pump
- BACNET Interface

Basic Shell & Tube Package Includes:

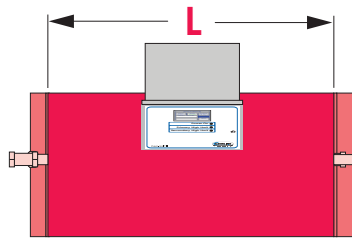
- Shell & Tube Heat Exchanger - A.S.M.E Code Rated 150 PSIG
- Cem-trol® II Controller – complete with PID Control, temperature read-out, High Limits, and temperature sensors
- Control Valve: Electric, Pneumatic, Pilot (Steam Only)
- Inlet Steam Strainer (Steam Only)
- Main and Drip Trap (Steam Only)
- Vacuum Breaker (Steam Only)
- Steel Channel Base
- 16 Gauge Steel Jacket & Insulation
- Steam & Fluid Pressure Gauge

Optional Equipment:

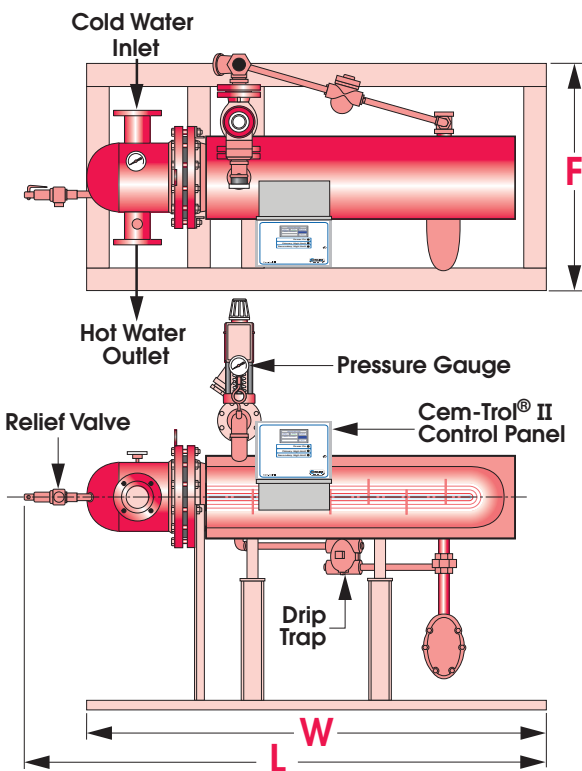
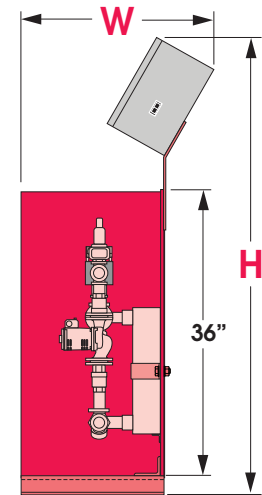
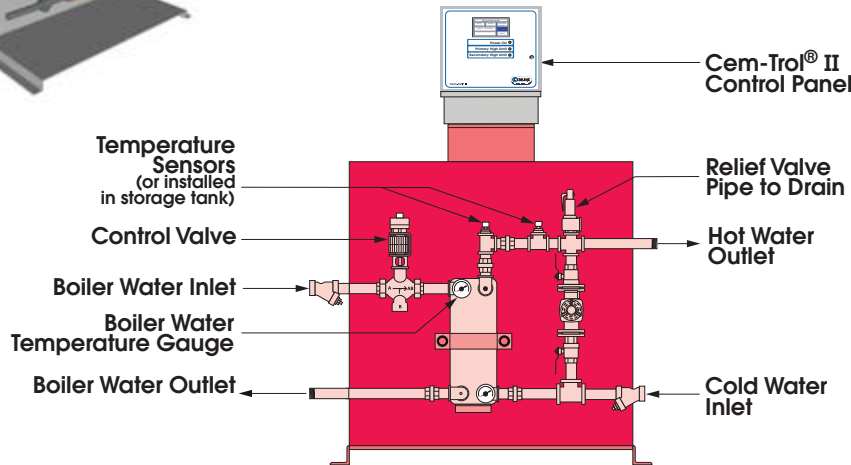
- Heat Exchanger Options:
 - A.S.M.E rated 300, 400, 600
 - Stainless Steel Shell
 - Stainless Steel Coil Head
 - Epoxy Lined Coil Head (Pool water applications)
 - Tubing Options: 90:10 Copper-Nickel, Stainless Steel, Double Walled Tubing (Copper/Copper, 90:10 CuNi/Copper, 90:10 Cu-Ni / 90:10 Cu-Ni).
 - Tubesheet Options: Steel, Copper Lined, Stainless Steel, 90:10 Cu-Ni, Admiralty Brass
- 1/3 – 2/3 Control Valves
- Pumping Trap / Non-Electric Condensate Pump
- Heating Fluid Pump
- BACNET Interface

Cemline Heat Transfer Package (HTP Series)

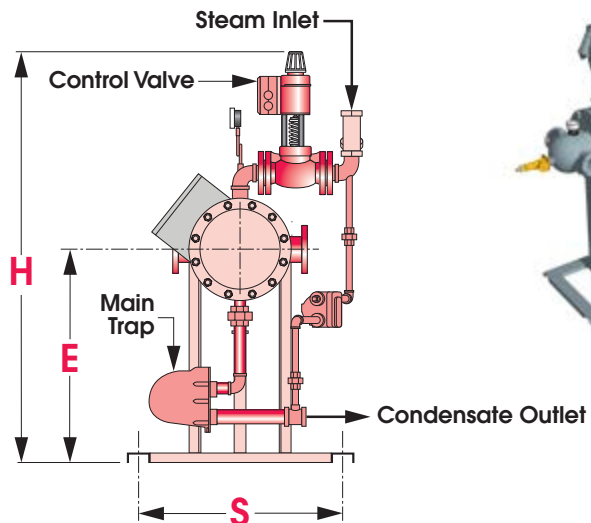
Dimensional Data



Boiler Model Number	W	L	H
HTP 250	20"	45"	50"
HTP 500	20"	45"	50"
HTP 750	25"	50"	55"
HTP 1000	25"	50"	55"



Steam Model Number	W	L	H	E	F	S
HTP448-S	72"	78"	60"	31.5"	30"	26"
HTP648-S	72"	78"	62"	33.5"	36"	32"
HTP848-S	72"	80"	64"	35.5"	36"	32"
HTP1048-S	72"	80"	65"	36.5"	36"	32"
HTP1248-S	72"	80"	65"	36.5"	36"	32"



Cemline Heat Transfer Package (HTP Series)

Sizing and Specifications

Sizing Data—Brazed Plate

Heated Fluid				Boiler Water			
Model	GPM	Inlet Temp. (°F)	Outlet Temp. (°F)	GPM	Inlet Temp. (°F)	Outlet Temp. (°F)	Heat Load BTU/hr.
HTP-250	12.5	40	80	12.8	180	140	250,000
HTP-500	25	40	80	26	180	140	500,000
HTP-750	38	40	80	38	180	140	750,000
HTP-1000	50	04	80	51	180	140	1,000,000

Sizing Data—Steam

Example: 150°F - 180°F									
Inlet Steam Pressure	5 PSI			10 PSI			15 PSI		
Model	GPM	BTU/hr	#/HR	GPM	BTU/hr	#/HR	GPM	BTU/hr	#/HR
HTP-448	25	375,000	385	30	450,000	465	35	525,000	545
HTP-648	50	750,000	765	55	825,000	850	65	975,000	1010
HTP-848	80	1,200,000	1225	90	1,350,000	1390	95	1,425,000	1475
HTP-1048	150	2,250,000	2295	165	2,475,000	2540	180	2,700,000	2795
HTP-1248	200	3,000,000	3056	225	3,375,000	3390	250	3,750,000	3880

Steam as Energy Source (Shell and Tube HEX)

Heat Transfer Package shall be Cemline Series HTP; factory assembled and packaged. Heat Transfer Package Heater shall be constructed in accordance with A.S.M.E. Code for working pressure of 150 psig. The heat exchanger shall be constructed with a carbon steel tank, with steel threaded openings, 3/4" O.D. copper tubes, steel tube sheet, and carbon steel coil head. Heat Transfer Package shall be mounted on a steel support skid. Heater shall be insulated with foam in place insulation protected by an enameled metal jacket, 20 gauge minimum thickness. Heater shall be factory assembled and piped including incoming steam strainer, (air) OR (pilot) or (electronic) operated temperature regulator, main and auxiliary float and thermostatic steam traps, and condensate strainer.

Heat Transfer Package shall be supplied with a solid-state control module with LCD touch screen display and LED pilot lights. Control module shall be provided with PID control with red alarm lights and alarm horn with built in alarm silence. Control module shall be supplied with dry contacts to indicate alarms to the building automation system (BAS). Control module shall allow the BAS to remotely set and monitor the temperature via 4-20 mA input and output signals. Controller shall be supplied with Modbus protocol via RS-485 connection to communicate with BAS. Controller shall be supplied with an on-off switch.

Heat Transfer Package shall be furnished with a water pressure gauge and an A.S.M.E. pressure relief valve of sufficient size to relieve total BTU input of the coil. Manufacturer shall assume responsibility for correct sizing of components to assure performance designated in design criteria.

Heater shall be Cemline Corporation Model HTP _____.

Heater shall be mounted horizontally.

Coil to heat _____ GPM of _____ from _____ °F to _____ °F with _____ psig steam to the control valve.

Boiler Water as Energy Source (Plate HEX)

Heat Transfer Package shall be Cemline Series HTP; factory assembled and packaged. Heat Transfer Package shall be mounted on an enameled metal base, 16 gauge minimum thickness. Heater shall be factory assembled and piped including boiler water strainer and (air) OR (electric) operated temperature regulator. Factory piping shall include inlet strainer on the heated fluid side of the heat exchanger. Heat exchanger shall be (single) OR (double) walled (brazed) OR (plate & frame) 316L stainless steel plate type.

Heat Transfer Package shall be supplied with a solid-state control module with LCD touch screen display and LED pilot lights. Control module shall be provided with PID control with red alarm lights and alarm horn with built in alarm silence. Control module shall be supplied with dry contacts to indicate alarms to the building automation system (BAS). Control module shall allow the BAS to remotely set and monitor the temperature via 4-20 mA input and output signals. Controller shall be supplied with Modbus protocol via RS-485 connection to communicate with BAS. Controller shall be supplied with an on-off switch.

Heater shall be furnished with a water pressure gauge and an A.S.M.E. pressure relief valve of sufficient size to relieve total BTU input of heat exchanger.

Manufacturer shall assume responsibility for correct sizing of components to assure performance designated in design criteria.

Heater shall be Cemline Corporation Model HTP _____.

Unit dimensions _____" width x _____" long x _____" height.

Plate exchanger to heat _____ GPM of _____ from _____ °F to _____ °F with _____ GPM of _____ °F inlet _____ °F outlet.

Cemline Snow Melt Package (SMP Series)

The Cemline Snow Melt Package (Radiant Floor Heater) are heat exchange packages designed to provide heat transfer between energy source (boiler water or steam) and the radiant fluid (typically a 10-40% glycol blend).

These packages are provided with a heat exchanger, controls, and accessories allowing easy installation in the radiant heat exchange system. When using boiler water as the energy source the brazed plate heat exchanger is supplied. A brazed plate heat exchanger can provide a lower approach temperature than a shell and tube heat exchanger while helping to improve the

efficiency of today's condensing boiler(s). The radiant heat exchange system control and 3-way motorized tempering valve delivers steady output temperature to the radiant heat exchange system loop in a boiler water application. A shell and tube heat exchanger is an industry standard when using steam as the energy source and is supplied with a steam application.

The radiant heat exchange system control, steam control valve and condensate traps provided delivers steady output temperature to the radiant heat exchange system loop in a steam application. Factory packaging keeps contractor installation time to a minimum; the only connections required are of boiler water or steam/condensate, radiant fluid, and electric.

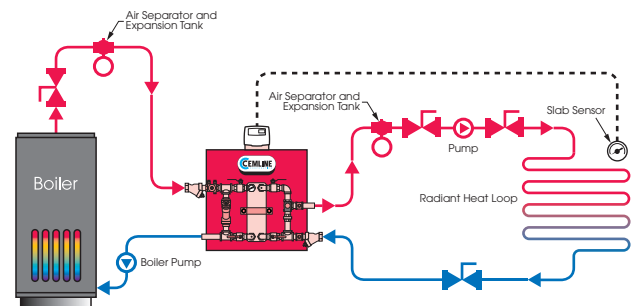
Basic Boiler Water Package Includes:

- Brazed Plate Heat Exchanger
- Controller – complete with boiler water return sensor, outlet radiant sensor, return radiant sensor, and slab sensor (installed by others in field)
- 3-way motorized tempering valve (Radiant Side)
- Inlet Strainers (Boiler Water Side & Radiant Side)
- Boiler By-Pass Balancing Valve
- Ball Valves for isolation of heat exchanger
- Boiler Water Circuit Setter
- Ball Valves for isolation of heat exchanger
- Clean out ports for heat exchanger
- Steel Channel Base
- 16 Gauge Steel Frame with hammer tone enamel paint

Optional Equipment:

- Boiler Water Pump
- Radiant Side Pump
- BACNET Interface

Typical Piping Schematic Boiler Water



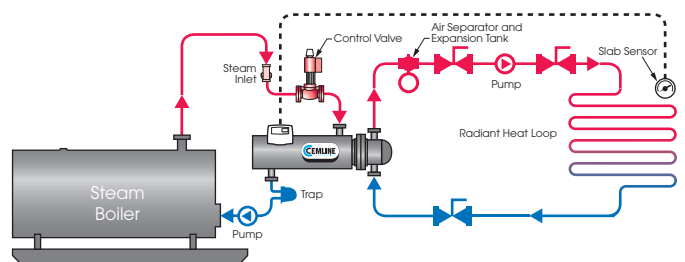
Basic Steam Package Includes:

- Shell & Tube Heat Exchanger - A.S.M.E Code Rated
- Controller – complete with outlet radiant sensor, return water sensor, and slab sensor (installed by others in field)
- Steam Control Valve
- Inlet Steam Strainer
- Main and Drip Trap
- Vacuum Breaker
- Steel Channel Base
- 16 Gauge Steel Jacket & Insulation

Optional Equipment:

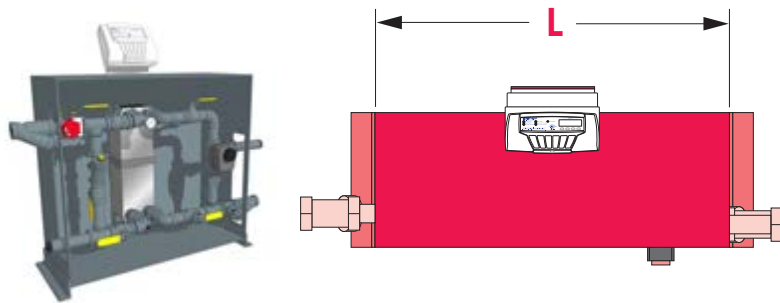
- Radiant Side Pump
- BACNET Interface

Typical Piping Schematic Steam

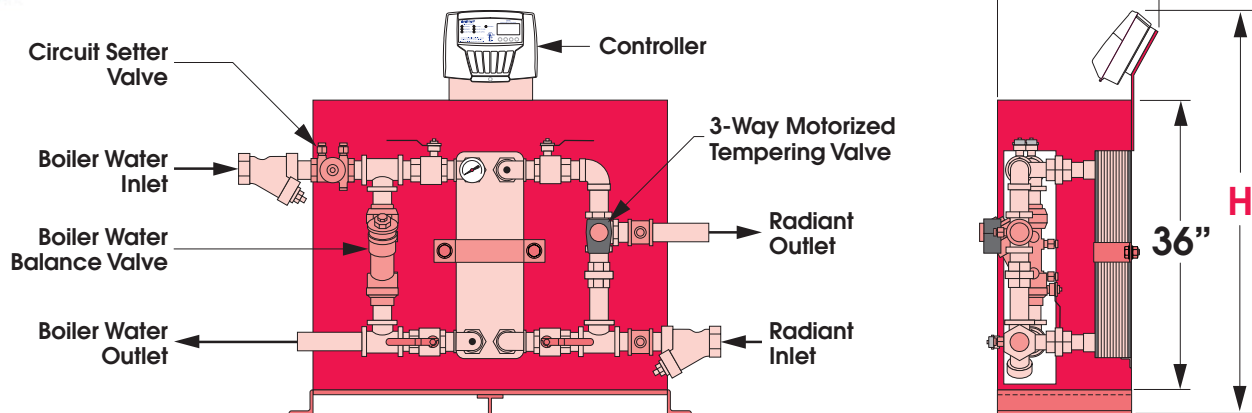


Cemline Snow Melt Package (SMP)

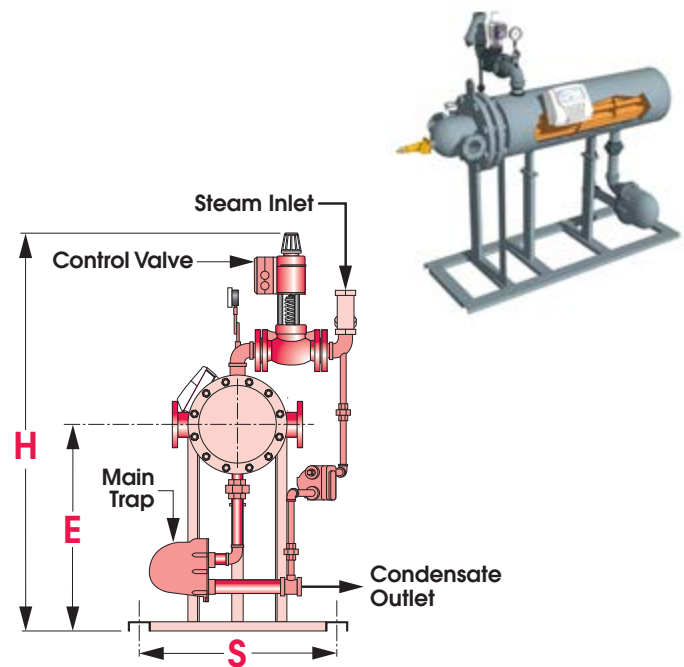
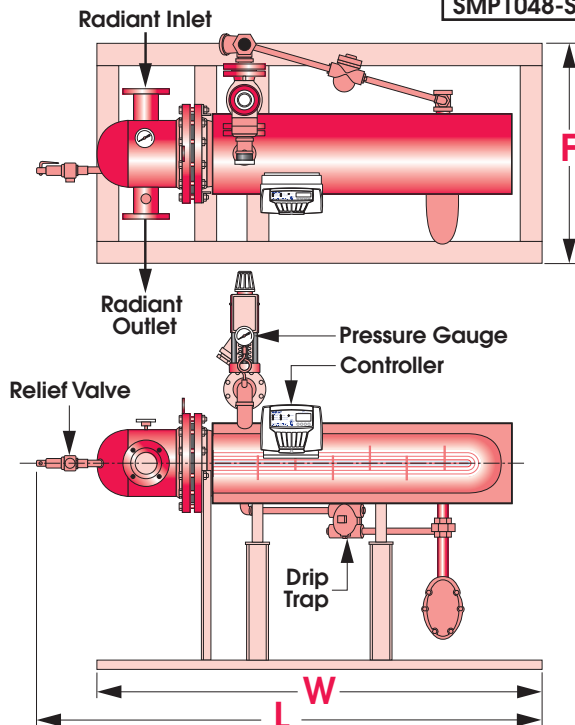
Dimensional Data



Boiler Model Number	W	L	H
SMP 250	20"	45"	50"
SMP 500	20"	45"	50"
SMP 750	25"	50"	55"
SMP 1000	25"	50"	55"



Steam Model Number	W	L	H	E	F	S
SMP436-S	60"	70"	60"	31.5"	30"	26"
SMP648-S	72"	78"	62"	33.5"	36"	32"
SMP848-S	72"	80"	64"	35.5"	36"	32"
SMP1048-S	72"	80"	65"	36.5"	36"	32"



Cemline Snow Melt Package (SMP)

Sizing and Specifications

Sizing Data—Steam

Radiant Fluid: 40% Prop. Glycol, Temperature Rise: 95-125 °F						
Inlet Steam Pressure	5 PSI		10 PSI		15 PSI	
Model	GPM	BTU/hr	GPM	BTU/hr	GPM	BTU/hr
SMP-436-S	18	250,000	25	350,000	30	420,000
SMP-648-S	36	500,000	54	750,000	60	840,000
SMP-848-S	54	750,000	72	1,000,000	85	1,200,000
SMP-1048-S	72	1,000,000	100	1,400,000	115	1,600,000

Sizing Data—Boiler Water

Radiant Fluid (40% Prop. Glycol)				Boiler Water			
Model	GPM	Inlet Temp. (°F)	Outlet Temp. (°F)	GPM	Inlet Temp. (°F)	Outlet Temp. (°F)	Heat Load BTU/hr.
SMP-250	18	95	125	12.7	180	140	250,000
SMP-500	36	95	125	25	180	140	500,000
SMP-750	54	95	125	38	180	140	750,000
SMP-1000	72	95	125	51	180	140	1,000,000

Steam as Energy Source

Snow Melt Package and Radiant Floor Heater shall be Cemline factory assembled and packaged. Snow Melt Package and Radiant Floor Heater shall be constructed in accordance with A.S.M.E. Code for working pressure of 150 psig. The packaged heater shall be constructed with a carbon steel tank, with steel threaded openings, 3/4" O.D. copper tubes, steel tube sheet, and steel coil head. Heater shall be mounted on a steel support skid. Heater shall be insulated with foam in place insulation protected by an enameled metal jacket, 20 gauge minimum thickness. Heater shall be factory assembled and piped including incoming steam strainer, (air) OR (pilot) or (electronic) operated temperature regulator, main and auxiliary float and thermostatic steam traps, and condensate strainer.

Heater shall be supplied with solid-state control module with LED backlit LCD display and LED pilot lights to indicate power on-off, system output, burner on-off, slab pump on-off, alarm, valve open, and valve close. The controller shall be supplied with a slab sensor to measure temperature and the presence of precipitation. Controller shall be capable of operating a motorized valve or providing a modulating control output. Heater shall be furnished with a water pressure gauge and an A.S.M.E. pressure relief valve of sufficient size to relieve total BTU input of the coil.

Manufacturer shall assume responsibility for correct sizing of components to assure performance designated in design criteria.

Heater shall be Cemline Corporation Model SMP _____-S.

Heater shall be mounted horizontally.

Coil to heat _____ GPM of _____ % Propylene Glycol from _____°F to _____°F with _____ psig steam to the control valve.

Boiler Water as Energy Source

Snow Melt Package and Radiant Floor Heater shall be Cemline factory assembled and packaged. Snow Melt Package and Radiant Floor Heater shall be mounted on an enameled metal base, 16 gauge minimum thickness. Heater shall be factory assembled and piped including boiler water strainer, circuit setter, and boiler water balancing valve. Factory piping shall include a 3-way motorized tempering valve and inlet strainer on the snow melt side of the heat exchanger. Heat exchanger shall be single walled brazed copper brazed 316L stainless steel plate type.

Heater shall be supplied with solid-state control module with LED backlit LCD display and LED pilot lights to indicate power on-off, system output, burner on-off, slab pump on-off, alarm, valve open, and valve close. The controller shall be supplied with a slab sensor to measure temperature and the presence of precipitation. Controller shall be capable of operating a motorized valve or providing a modulating control output. Heater shall be furnished with a water pressure gauge and an A.S.M.E. pressure relief valve of sufficient size to relieve total BTU input of heat exchanger.

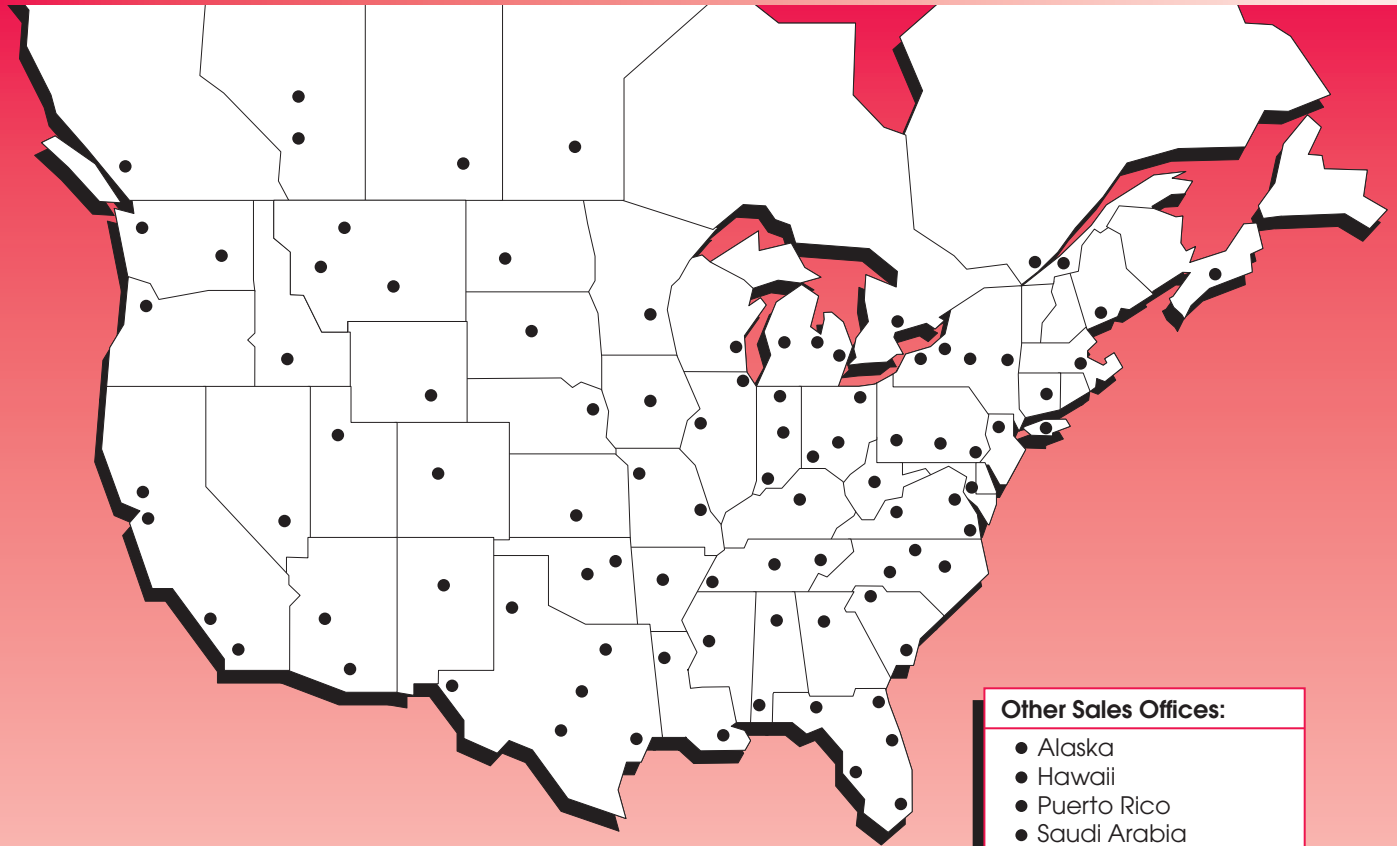
Manufacturer shall assume responsibility for correct sizing of components to assure performance designated in design criteria.

Heater shall be Cemline Corporation Model SMP _____.

Unit dimensions _____" width x _____" long x _____" height.

Plate exchanger to heat _____ GPM of _____% Propylene Glycol from _____°F to _____°F with _____ GPM of _____°F inlet _____°F outlet.

Sales Offices



Other Sales Offices:

- Alaska
- Hawaii
- Puerto Rico
- Saudi Arabia
- Taiwan
- U.A.E.

Available Cemline Brochures



- www.cemline.com
- Product Sizing Programs
 - Brochures
 - I.O.M. Manuals
 - Drawings & Specifications
 - Agent Locator
 - Plant Tour

- STONESTEEL®
 - Water Storage Tanks
 - Jacketed Storage Tanks
 - Commercial Electric and Packaged Copper Coil Water Heaters
- Submerged Heating Coils
- Replacement Tube Bundles
- Steel Tanks
- Chilled Water Buffer Tanks
- System Efficiency Buffer Tanks
- Electric Boilers
- Stainless Compact Packaged Copper Coil Water Heaters - Semi-instantaneous, Instantaneous
- Unfired Steam Generators
- Condensed Catalog

*Cemline is represented in all major cities.
Please contact your local representative or call Cemline Corporation.*

©2017 Cemline Corporation All Rights Reserved.

All trademarks on this brochure are the property of Cemline Corporation, unless otherwise noted or in any other way set forth as a third party rights. Unauthorized use of these trademarks, as well as the materials presented on this site, is expressly prohibited and constitutes a violation of the intellectual property rights of Cemline Corporation.

Vol. 2.1



Scan to view our mobile web link.

CEMLINE CORPORATION

P.O. BOX 55 CHESWICK, PENNSYLVANIA 15024
Phone: (724) 274-5430 FAX: (724) 274-5448

www.cemline.com