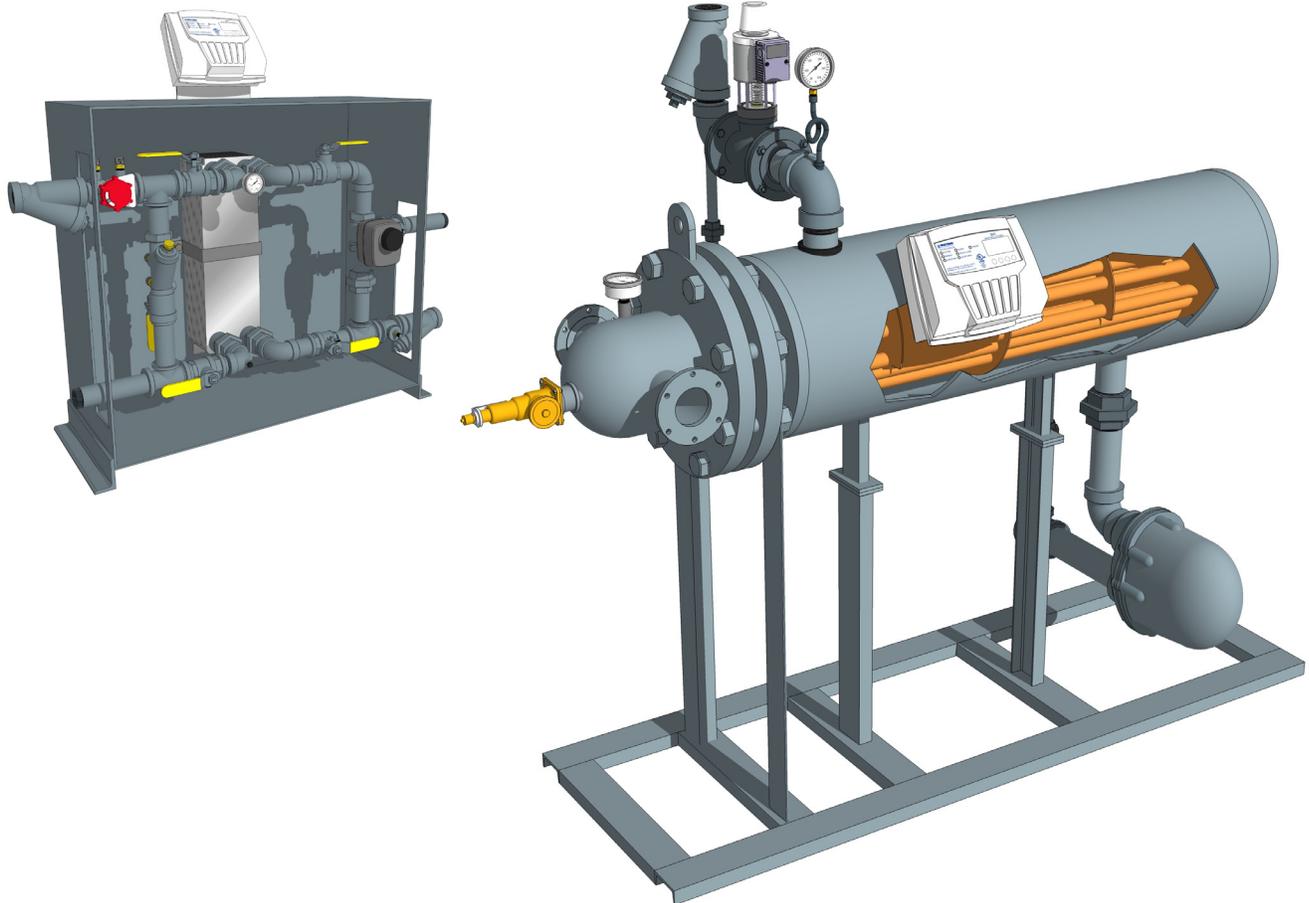


Radiant HEX Package



Snow Melt Package (SMP Series) Radiant Floor Heater (RFH Series) Boiler Water—Plate Heat Exchanger Steam—Shell & Tube Heat Exchanger



The Cemline Snow Melt Package and 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.

Cemline Snow Melt Package and Radiant Floor Heater

Boiler Water Dimensional Data

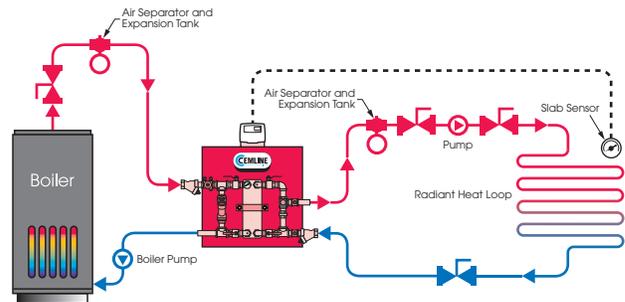
Basic Boiler Water Package Includes:

- 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:

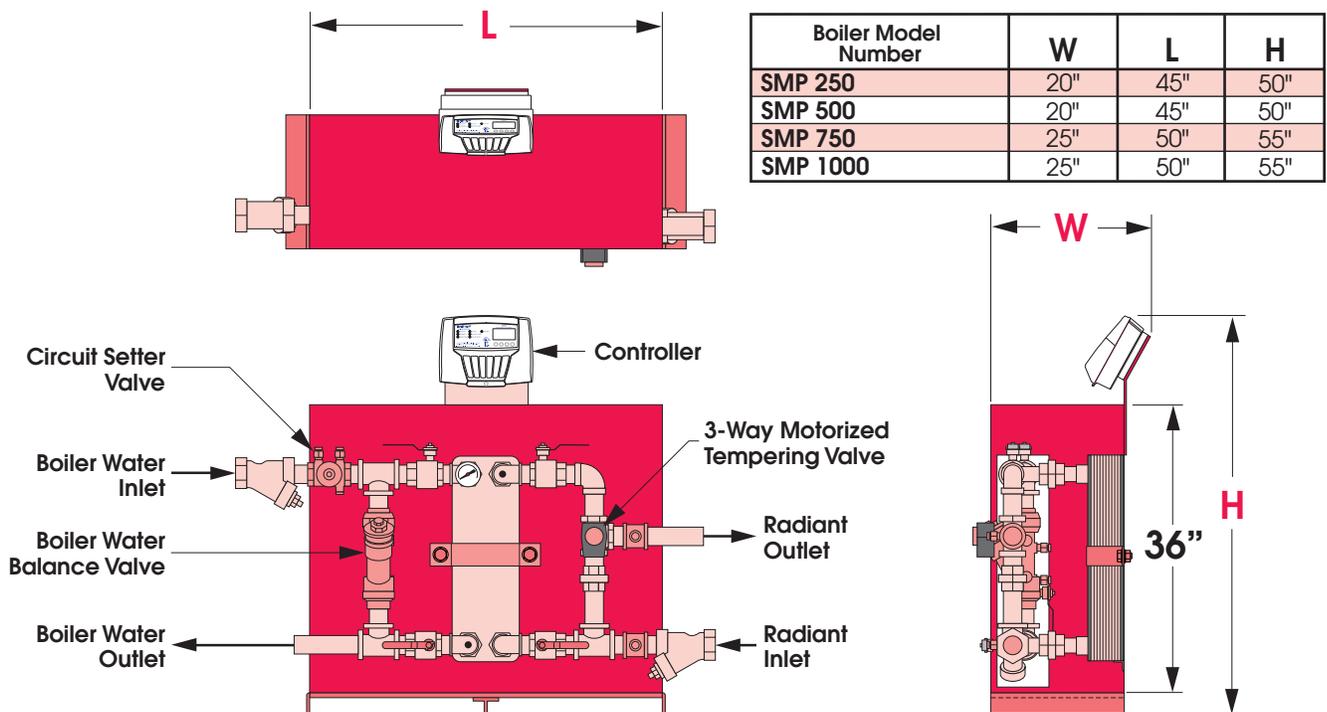
- Boiler Water Pump
- Radiant Side Pump
- BACNET Interface

Typical Piping Schematic Boiler Water



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



Cemline Snow Melt Package and Radiant Floor Heater

Steam Dimensional Data

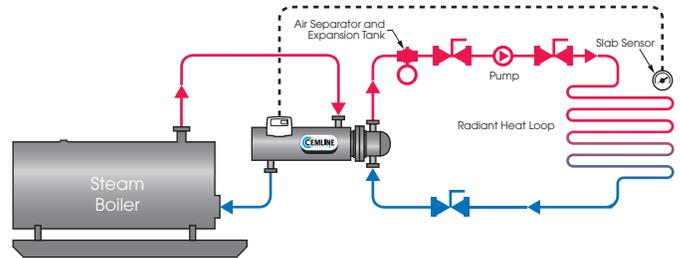
Basic Steam Package Includes:

- 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

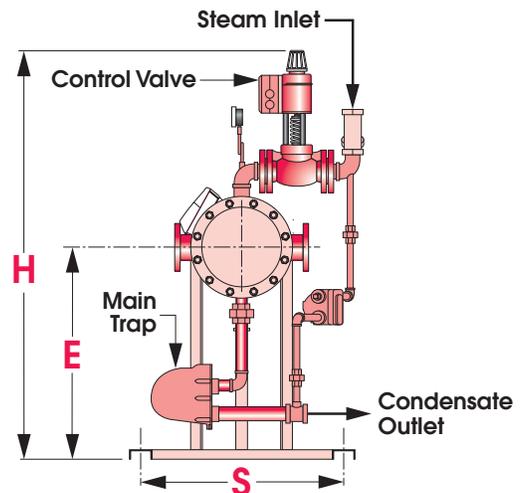
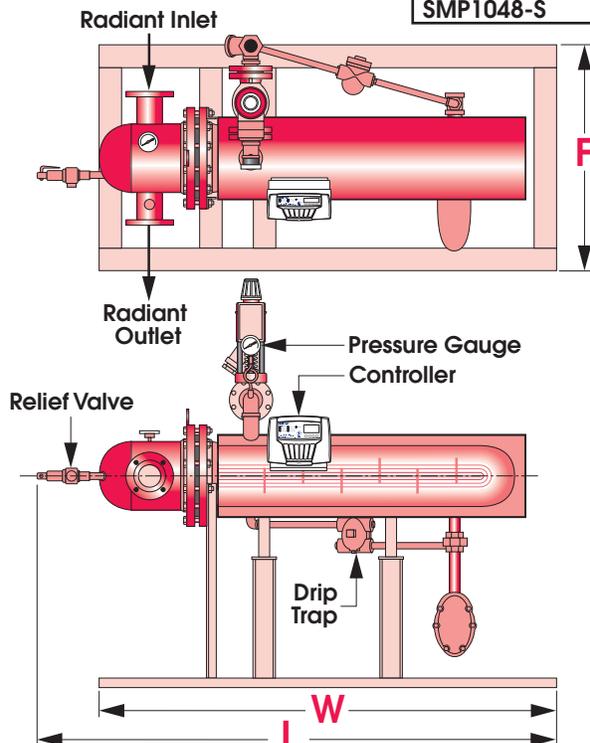
Typical Piping Schematic Steam



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

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"



Radiant HEX Package



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.

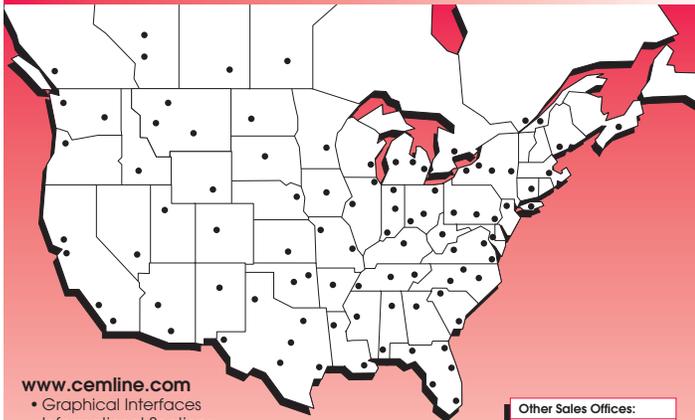
Manufacturer shall assume responsibility for correct sizing of components to assure performance designated in design criteria.

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.

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