

SSH Series



Stainless Steel Compact Semi-Instantaneous Packaged Water Heaters

Steam/Boiler Water/High Temperature Hot Water

Automated On-line
Sizing Program



CEMLINE CORPORATION

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

www.cemline.com

Advantages of Cemline® Stainless Steel Compact Semi-Instantaneous Packaged Water Heaters

Cemline Stainless Steel water heaters are designed for installations where space is at a premium.

Cemline Stainless Steel water heaters provide a high quality, high capacity, compact sized, semi-instantaneous, packaged water heater for use with steam, boiler water, or high temperature hot water as the heating medium. Featuring small size for installation in new or existing boiler rooms and a wide selection of capacities that are adequate for most domestic

hot water applications. Small size makes it ideal for a replacement unit as the SSH heater is narrow enough to fit through most doorways. In any location where space is at a premium, Cemline SSH Water heaters should be used. Factory packaging keeps contractor installation time to minimum; the only connections required are cold and hot water lines and

connections of steam and condensate or boiler water, or high temperature hot water, and electric. Cemline SSH Heaters give the designer flexibility combined with space savings. The small storage tank is designed to adequately absorb any residual heat in the heating coil, thereby preventing temperature fluctuations commonly found in instantaneous heaters.

Standard SSH Package

Features

- Compact SSH size** Designed to fit in small spaces. Easily moved through standard doorways.
- Small storage** Absorb any residual heat in coil at end of the cycle. Prevents temperature fluctuation.
- Vessel-ASME Code constructed National Board Registered** A.S.M.E. Code stamping and Registration offers the assurance of quality controlled construction.
- Stainless Steel Tank** Virtually rustproof. Type 316-L Stainless.
- 3" Fiberglass insulation** Prevents heat loss to cut operation costs. Meets or exceeds latest ASHRAE standards.
- 20 Gauge steel jacket** Protect insulation & provides neat finished appearance with hammertone enamel painted exterior.
- Standard operating controls** Single solenoid safety system:
The over-temperature safety system will close the main control valve upon an over-temperature condition. This system utilizes an adjustable electric thermostat which monitors the temperature of the water and if an over-temperature condition is detected, sends an electric signal to the valve, thereby closing the valve. This system requires a 120 volt 5 amp circuit.
- Optional Safety System** Double solenoid safety system:
This is an optional over-temperature safety system which will deactivate the main control valve, as described above and also open a solenoid valve at the top of the vessel, thereby emptying the overheated water to a drain. This system requires a 120 volt 5 amp circuit.

Standard Equipment

Cemline Stainless Steel Packaged Water Heaters

Cemline Stainless Steel water heaters are completely packaged and ready to use. All components are sized, mounted and piped prior to shipment. These heaters come complete and require only connection to services.

Basic SSH Package Includes:

- Compact size.
- A.S.M.E. CODE constructed National Board registered storage tank.
- 316-L Stainless Steel tanks.
- 316-L Stainless Steel threaded connections.
- 3" Fiberglass insulation.
- 20 gauge steel jacket with hammertone enamel paint.
- Structural steel base.
- A.S.M.E. relief valve-pressure and temperature.
- Electronic temperature gauge.
- Water pressure gauge.
- Water pressure valve.
- Drain valve.
- Copper U-Bend heating coil, rolled into copper lined tubesheet.
- Integral bronze circulator.
- Single solenoid safety system with electronic limit control.
- Cem-Trol[®] II control module

Standard Steam Package Includes:

- Steam temperature control valve (pneumatic, pilot or electronic).
- Steam traps-main inlet and auxiliary.
- Steam strainer, inlet.
- Steam pressure gauge.

Optional Steam Trim

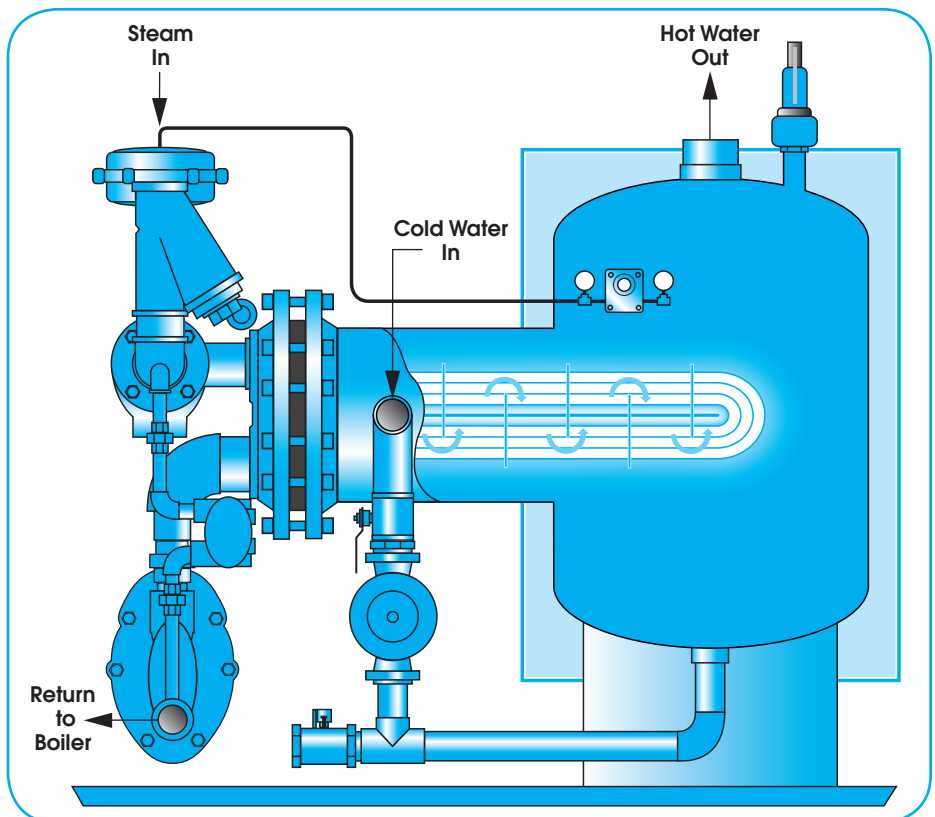
- Steam pressure reducing valve.
- Vacuum breaker.
- Double solenoid safety system.
- Double wall coil.

Standard Boiler Water/High Temperature Hot Water Package Includes:

- Boiler water control valve (two way or three way). Pneumatic or electronic.
- Boiler water temperature gauge. High temperature hot water units with 90:10 CuNi tubing. 400 PSI maximum pressure.

Optional Boiler Water Trim

- Boiler water pump.
- Aquastat for boiler water pump.
- Double solenoid safety system.
- Double wall coil.



Cem-Trol® II Solid State Water Heater Controller

Cemline Cem-Trol® II Solid State Water Heater Control Module combines all temperature control and limit functions for Cemline Packaged Steam and Boiler Water Fired Water Heaters into one simple to use and easy to understand control module.

Features:

PID Control Signal

- PID Control Signal used to modulate an electronic valve or used to control an electronic-pneumatic transducer modulating an air operated control valve. The PID controller allows for precise temperature control of the water heater.

LCD Touch Screen Display

- Display of operating temperature, set point temperature, control output signal along with user friendly interface of the controller.

On-Off Switch

- Allows for local on/off and is convenient for service in the unlikely event of service.

Single Point Wiring

- Only one 120 VAC connection required to the unit, integral circulation pump pre-wired to control panel.

Temperature Readout

- The Cem-trol® II features an easy to read LCD digital readout of the water temperature.

High Temperature Set Point

- Closes control valve in event of a high temperature situation.

Secondary High Temperature Set Point

- Opens an optional water solenoid to dump over heated water down the drain.

Remote Temperature Setting

- Building Automation System can remotely set the operating temperature using a 4-20 mA signal.

Remote Temperature Readout

- Building Automation System can remotely read water temperature via a 4-20 mA signal.

Modbus Interface

- Building automation system can remotely communicate with the Cem-Trol® II via an RS-485 connection.

LCD Display of Functions

- Power On
- Primary High Temperature Indication
- Secondary High Temperature Indication

Contacts to notify BAS (Building Automation System) of functions

- Power On
- Primary High Temperature
- Secondary High Temperature

Remote ON/OFF Control

- Building Automation System can remotely turn the unit ON/OFF via a dry contact.

Ratings:

Input Selectable 120/220 VAC - 50/60 HZ

Output Contacts: 1 amp at 24 VAC

Building Automation outputs: Dry contacts, NO 0.5 amp maximum, non inductive

Display: LCD display with resolution of 0.3% of scale

Available temperature ranges: 32 – 200°F

Operating ambient temperature: Min 32°F Max 140°F

Operating Humidity: 5% to 95% relative humidity (RH) non-condensing

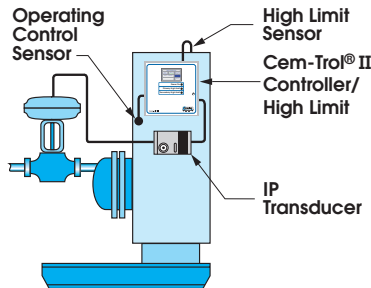
NEMA 4 enclosure



Control Valve/Traps

Cemline SSH water heaters can be furnished with air operated, pilot operated or electronically operated control valves. All valves are normally closed, that is closed when no air or pilot pressure or electric signal is present. The valves will close on loss of building power.

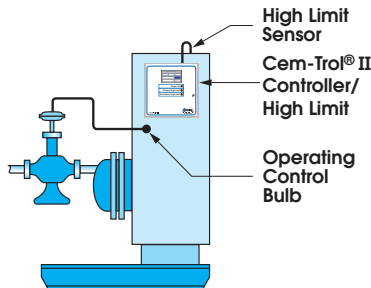
Air Operated Control Valves



An air-operated valve can be used with either steam or hot water as the heating medium. Air operated valves are normally used in buildings when building control air is available.

Air operated valves use building control air pressure to modulate the control valve. A solid-state temperature sensor is wired to the Cem-Trol® II electronic control module, which has an adjustable temperature set point. The Cem-Trol® II compares the set point with the sensed temperature and sends an electronic control signal to an electronic-pneumatic transducer. The electronic-pneumatic transducer converts the electronic control signal to a 3 - 15 psig pneumatic control signal. The Cem-Trol® II regulates the amount of air that passes to the electronic-pneumatic transducer thereby modulating the control valve. This allows steam (boiler water) to pass into the heater coil to maintain the set point of the controller. When the set point is achieved, no air is passed through the electronic-pneumatic transducer and the valve is closed. In the event of high temperature or loss of building power, the limit control will close the airline to the valve and vent any air in the actuator to atmosphere that closes the valve.

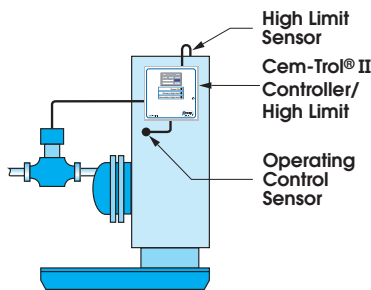
Pilot Operated Control Valves



A pilot operated valve can be used with steam as the energy source. Pilot operated valves are not suitable when boiler water is the heating medium.

Pilot operated valves use steam pressure as the energy to modulate the control valve. Steam from upstream of the valve is directed into a pilot valve. This pilot valve has an adjustable set point and temperature-sensing bulb in the heated water. The pilot valve compares the set point to the sensed temperature and regulates the amount of steam passing through the pilot to the diaphragm in the bottom of the control valve. The steam pressure on the diaphragm opens the control valve. A pilot operated valve has a constant bleed line leading from the diaphragm to the downstream side of the valve. When the pilot valve senses that the desired temperature is reached it closes; this does not allow any more steam to pressurize the diaphragm in the bottom of the control valve. The bleed line allows any steam pressurizing the diaphragm to be relieved and the valve closes. In the event of high temperature or loss of building power the limit control closes the steam line from the pilot to the valve, which closes the valve.

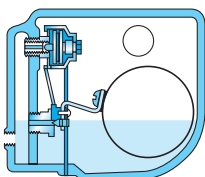
Electronically Operated Control Valves



Electronically operated control valve can be used for either steam or boiler water.

Electronically operated control valves use a solid-state temperature sensor, which is wired to the Cem-Trol® II electronic control module. The Cem-Trol® II has an adjustable temperature set point. The Cem-Trol® II compares the set point with the sensed temperature and sends an electric signal to a magnetic linear actuator on the control valve. The magnetic linear actuator modulates the control valve and regulates the amount of steam (boiler water) through the valve to maintain the set point of the controller. When the set point is achieved the controller sends a signal to the valve actuator and the valve closes. In the event of high temperature or loss of building power the limit control closes the electric power to the controller, which closes the valve.

Traps

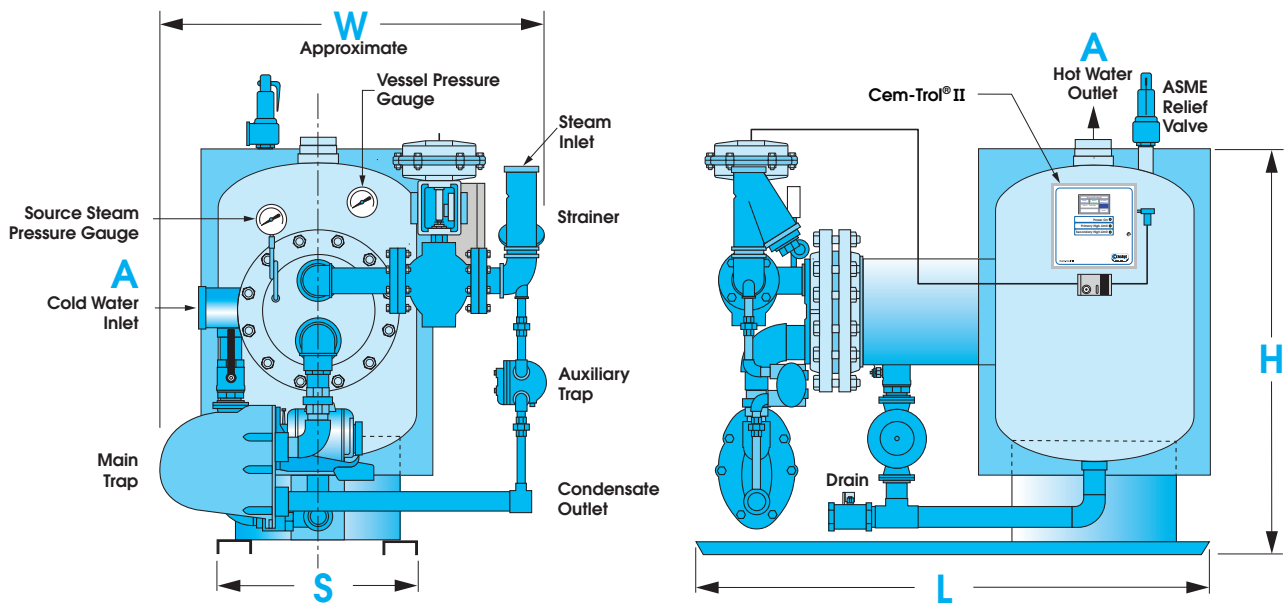


Cemline provides float and thermostat traps for both the drip and main trap.

Float and thermostat traps are acknowledged as the correct traps to use with continuously modulating control valves. Float and thermostat traps provide immediate drainage of condensate and include a built in thermostatic air vent for venting air. The drain orifice is designed to provide a water seal and eliminate the loss of any live steam under all load conditions. Float and thermostatic traps should not be used to lift condensate.

SSH Water Heaters— Steam Dimensional Data

Cemline SSH Series Stainless Steel steam water heaters are normally piped as shown below.



Model Number	Capacity Gallons	W	L	H	S	A
V30SSH6XX	30	30"	40"	47"	16"	1.5" NPT
V45SSH8XX	45	36"	48"	47.5"	20"	2.5" NPT
V45SSH10XX	45	36"	48"	47.5"	20"	2.5" NPT
V60SSH12XX	60	42"	54"	49"	24"	3" NPT
V60SSH14XX	60	42"	66"	49"	24"	4" FLANGE
V60SSH16XX	60	42"	72"	49"	24"	4" FLANGE

Recovery Capacities- Steam

The listing below is for those steam pressures and temperature rises which are most widely used. Coils are available for other steam pressures and/or different temperature rises. Consult factory for further information.

Steam as Energy Source Single Wall Tubing. 40-120°F Temperature Rise.								
Inlet Steam Pressure (PSI)								
GPM	2	5	10	15	25	50	75	100
5	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624
10	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624
15	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624
20	V30SSH630	V30SSH630	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624
25	V45SSH824	V45SSH824	V30SSH630	V30SSH630	V30SSH630	V30SSH624	V30SSH624	V30SSH624
30	V45SSH824	V45SSH824	V30SSH630	V45SSH824	V30SSH630	V30SSH630	V30SSH624	V30SSH624
40	V45SSH830	V45SSH830	V45SSH824	V45SSH824	V45SSH824	V45SSH824	V30SSH630	V30SSH624
50	V45SSH1030	V45SSH1024	V45SSH830	V45SSH824	V45SSH830	V45SSH824	V45SSH824	V45SSH824
60	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH830	V45SSH830	V45SSH830	V45SSH824	V45SSH824
70	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH1024	V45SSH830	V45SSH830	V45SSH830
80	V45SSH1036	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH830	V45SSH830
90	V60SSH1230	V45SSH1036	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH830
100	V60SSH1236	V60SSH1236	V45SSH1036	V45SSH1036	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1024
125	V60SSH1242	V60SSH1242	V60SSH1236	V45SSH1036	V60SSH1230	V60SSH1230	V60SSH1230	V60SSH1230
150	V60SSH1242	V60SSH1242	V60SSH1242	V60SSH1236	V60SSH1236	V60SSH1230	V60SSH1230	V60SSH1230
175	V60SSH1442	V60SSH1442	V60SSH1242	V60SSH1242	V60SSH1236	V60SSH1236	V60SSH1230	V60SSH1230
200	V60SSH1448	V60SSH1448	V60SSH1442	V60SSH1442	V60SSH1242	V60SSH1236	V60SSH1236	V60SSH1230

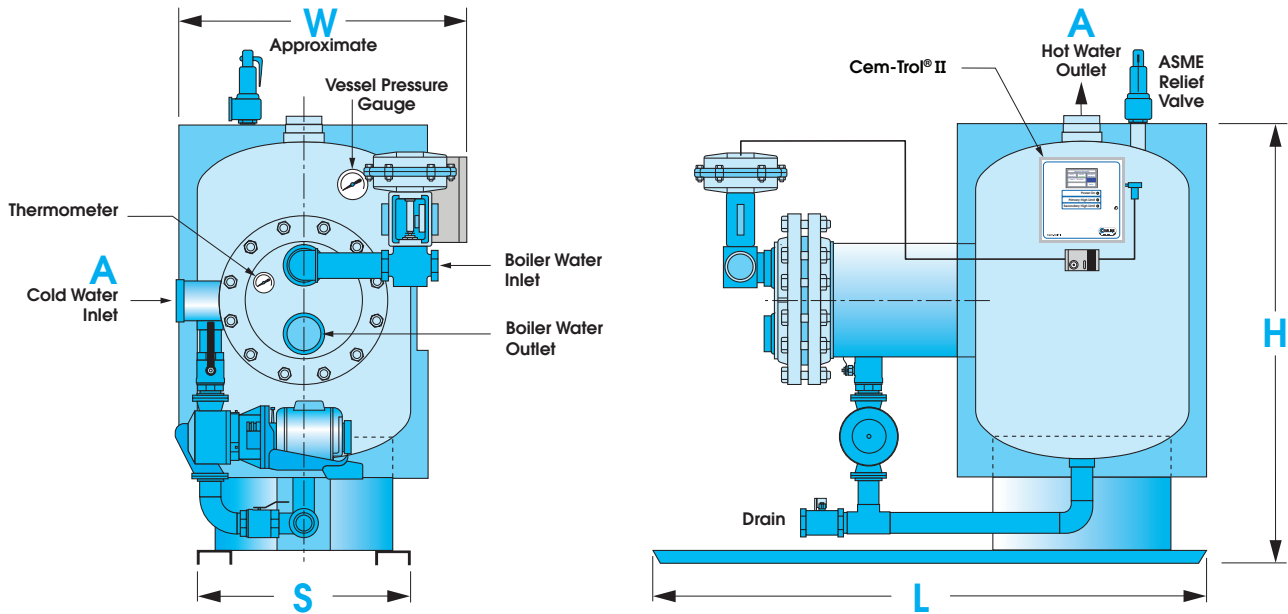
Steam as Energy Source Single Wall Tubing. 40-140°F Temperature Rise.								
Inlet Steam Pressure (PSI)								
GPM	2	5	10	15	25	50	75	100
5	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624
10	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624	V30SSH624
15	V30SSH630	V30SSH630	V30SSH630	V30SSH630	V30SSH624	V30SSH624	V30SSH624	V30SSH624
20	V45SSH824	V45SSH824	V45SSH824	V30SSH630	V30SSH630	V30SSH624	V30SSH624	V30SSH624
25	V45SSH830	V45SSH830	V45SSH824	V45SSH824	V45SSH824	V30SSH630	V30SSH630	V30SSH624
30	V45SSH830	V45SSH830	V45SSH830	V45SSH830	V45SSH824	V45SSH824	V30SSH630	V30SSH630
40	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH1024	V45SSH830	V45SSH824	V45SSH824	V45SSH824
50	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH830	V45SSH830	V45SSH824
60	V60SSH1230	V45SSH1036	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH830	V45SSH830
70	V60SSH1236	V60SSH1236	V45SSH1036	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1024	V45SSH1024
80	V60SSH1236	V60SSH1236	V60SSH1230	V60SSH1230	V45SSH1036	V45SSH1030	V45SSH1030	V45SSH1030
90	V60SSH1242	V60SSH1242	V60SSH1236	V60SSH1230	V60SSH1230	V45SSH1036	V45SSH1030	V45SSH1030
100	V60SSH1242	V60SSH1242	V60SSH1236	V60SSH1236	V60SSH1230	V45SSH1036	V45SSH1036	V45SSH1030
125	V60SSH1442	V60SSH1442	V60SSH1242	V60SSH1242	V60SSH1236	V60SSH1230	V60SSH1230	V60SSH1230
150	V60SSH1448	V60SSH1448	V60SSH1448	V60SSH1448	V60SSH1242	V60SSH1236	V60SSH1236	V60SSH1230
175	V60SSH1648	V60SSH1648	V60SSH1448	V60SSH1448	V60SSH1442	V60SSH1242	V60SSH1236	V60SSH1236
200	V60SSH1648	V60SSH1648	V60SSH1648	V60SSH1448	V60SSH1442	V60SSH1436	V60SSH1242	V60SSH1242

The capacities in the chart are approximate. Exact sizing can be obtained by using the automated sizing program on-line at www.cemline.com.

Sizing in the charts is based upon using an air-operated control valve, copper tubing, and a 0.0005 fouling factor. Unit size may be different due to altering variables such as control valve type, tube material, and fouling factor.

SSH Water Heaters– Boiler Water Dimensional Data

Cemline SSH Series Stainless Steel boiler water fired water heaters are normally piped as shown below.



The above drawing shows a two-pass coil configuration. SSH Series Water Heaters are also available in a four-pass coil configuration.

Cemline boiler water heaters can be furnished with various choices of control. Shown below are three examples of piping arrangements.

Model Number	Capacity Gallons	W	L	H	S	A
V30SSH6XX	30	25"	40"	47"	16"	1.5" NPT
V45SSH8XX	45	31"	48"	47.5"	20"	2.5" NPT
V45SSH10XX	45	31"	48"	47.5"	20"	2.5" NPT
V60SSH12XX	60	37"	54"	49"	24"	3" NPT
V60SSH14XX	60	37"	66"	49"	24"	4" FLANGE
V60SSH16XX	60	37"	72"	49"	24"	4" FLANGE

Figure 1
Thermostatically controlled boiler water pump.

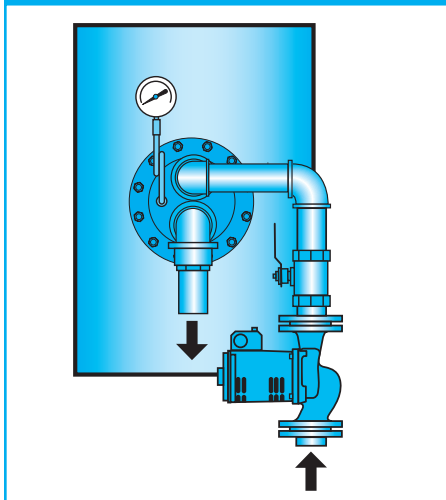


Figure 2
Modulating three-way mixing valve.

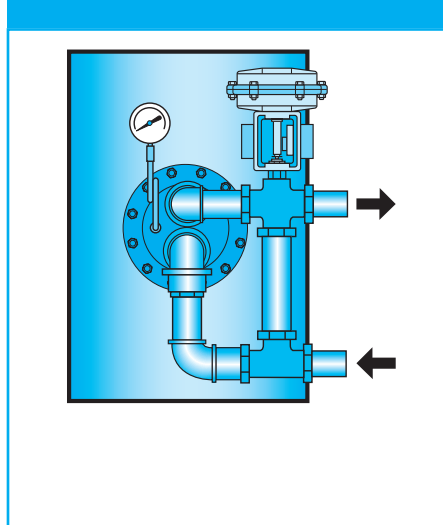
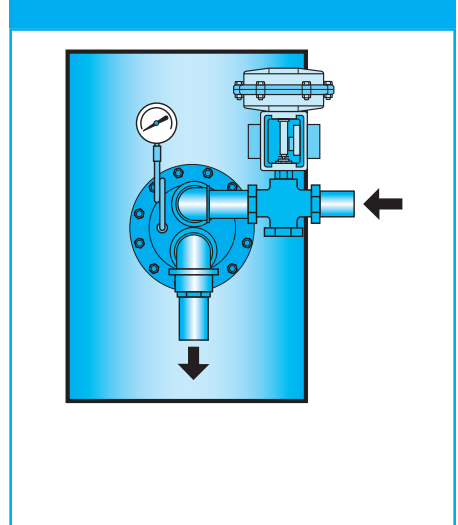


Figure 3
Modulating two-way valve.



SSH Recovery Capacities- Boiler Water

The listing below is for those boiler water temperatures and temperature rises which are most widely used. Coils are available for other boiler water temperatures or high temperature hot water and/or different temperature rises. Consult factory for further information.

Boiler Water as Energy Source Single Wall Tubing. 40-120°F Temperature Rise.								
Inlet Boiler Water Temperature*								
GPM	180°F		190°F		200°F		212°F	
	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.
5	V30SSH624	20	V30SSH624	20	V30SSH624	20	V30SSH624	20
10	V30SSH630	40	V30SSH624	40	V30SSH624	40	V30SSH624	41
15	V30SSH630	61	V30SSH630	61	V30SSH624	61	V30SSH624	61
20	V45SSH830	81	V30SSH630	81	V30SSH630	81	V30SSH624	82
25	V45SSH830	101	V45SSH824	101	V45SSH824	102	V45SSH824	103
30	V45SSH830	12	1V45SSH830	122	V45SSH824	122	V45SSH824	123
40	V45SSH1030	162	V45SSH1830	163	V45SSH830	163	V45SSH824	164
50	V45SSH1030	203	V45SSH1030	203	V45SSH1024	204	V45SSH1024	206
60	V45SSH1036	243	V45SSH1030	244	V45SSH1030	245	V45SSH1024	247
70	V60SSH1230	284	V60SSH1230	285	V60SSH1230	286	V60SSH1230	288
80	V60SSH1236	324	V60SSH1230	326	V60SSH1230	327	V60SSH1230	329
90	V60SSH1236	365	V60SSH1230	366	V60SSH1230	368	V60SSH1230	371
100	V60SSH1236	406	V60SSH1236	407	V60SSH1230	409	V60SSH1230	412
125	V60SSH1436	507	V60SSH1436	509	V60SSH1436	511	V60SSH1436	515
150	V60SSH1642	609	V60SSH1642	611	V60SSH1642	613	V60SSH1642	618

*Boiler water required based upon a 20°F temperature drop.

Boiler Water as Energy Source Single Wall Tubing. 40-140°F Temperature Rise.								
Inlet Boiler Water Temperature*								
GPM	180°F		190°F		200°F		212°F	
	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.
5	V30SSH630	25	V30SSH624	25	V30SSH624	25	V30SSH624	25
10	V45SSH830	50	V30SSH630	51	V30SSH630	51	V30SSH624	51
15	V45SSH1030	75	V45SSH830	76	V45SSH824	76	V30SSH630	77
20	V45SSH1030	101	V45SSH830	101	V45SSH830	102	V45SSH824	102
25	V45SSH1036	126	V45SSH1030	127	V45SSH830	127	V45SSH824	128
30	V45SSH1036	151	V45SSH1030	152	V45SSH1030	153	V45SSH830	153
40	V60SSH1236	202	V45SSH1036	203	V45SSH1030	203	V45SSH1024	205
50	V60SSH1236	252	V45SSH1036	253	V45SSH1036	254	V45SSH1030	256
60	V60SSH1242	303	V60SSH1236	304	V60SSH1230	305	V60SSH1230	307
70	V60SSH1242	353	V60SSH1236	355	V60SSH1236	356	V60SSH1230	358
80	V60SSH1442	404	V60SSH1242	405	V60SSH1236	407	V60SSH1230	410
90	V60SSH1442	454	V60SSH1436	456	V60SSH1436	458	V60SSH1436	461
100	V60SSH1642	505	V60SSH1436	507	V60SSH1436	509	V60SSH1436	512
125	V60SSH1648	631	V60SSH1642	633	V60SSH1642	636	V60SSH1642	641

*Boiler water required based upon a 20°F temperature drop.

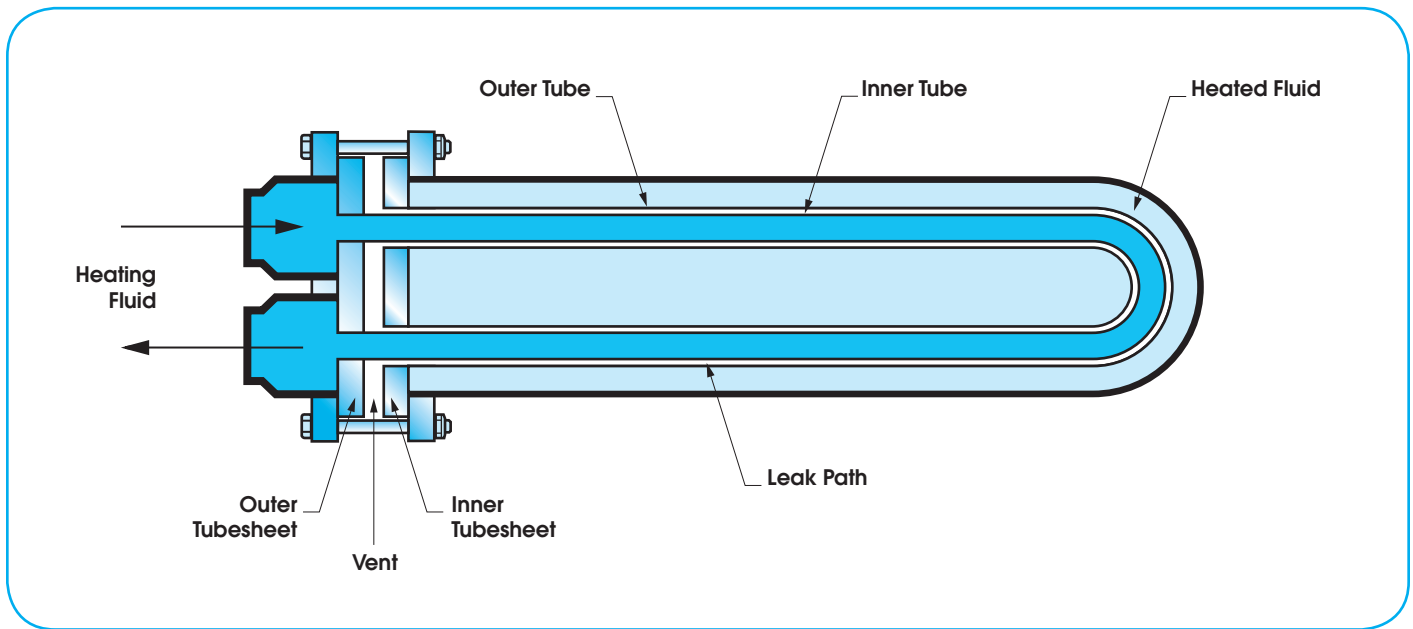
The capacities in the chart are approximate. Exact sizing can be obtained by using the automated sizing program on-line at www.cemline.com.

Sizing in the charts is based upon using an air-operated control valve, copper tubing, and a 0.0005 fouling factor. Unit size may be different due to altering variables such as control valve type, tube material, and fouling factor.

Double Wall Coil

Cemline SSH water heaters are available with double wall coils. Double wall coils have inner and outer tubes with a vented leak path. If either the inner or outer tube fails there can be no cross contamination of potable water and a visible indication of the leak will show.

Some building codes require vented double wall coils to guard against cross contamination of potable water. Cemline offers these coils with copper inner/copper outer or copper-nickel inner/copper outer tubes.



SSH Recovery Capacities–Steam Boiler Water Double Wall Coil

The listing below is for those steam pressures/boiler water temperatures and temperature rises which are most widely used. Coils are available for other steam pressures/boiler water temperatures and/or different temperature rises. Consult factory for further information.

Steam as Energy Source Double Wall Tubing. 40-140°F Temperature Rise.								
Inlet Steam Pressure (PSI)								
GPM	2	5	10	15	25	50	75	100
5	V30SSH624-DW	V30SSH624-DW	V30SSH624-DW	V30SSH624-DW	V30SSH624-DW	V30SSH624-DW	V30SSH624-DW	V30SSH624-DW
10	V45SSH824-DW	V45SSH824-DW	V45SSH824-DW	V30SSH630-DW	V30SSH630-DW	V30SSH624-DW	V30SSH624-DW	V30SSH624-DW
15	V45SSH830-DW	V45SSH830-DW	V45SSH830-DW	V45SSH824-DW	V45SSH824-DW	V45SSH824-DW	V30SSH630-DW	V30SSH630-DW
20	V45SSH1030-DW	V45SSH1024-DW	V45SSH830-DW	V45SSH830-DW	V45SSH830-DW	V45SSH824-DW	V45SSH824-DW	V45SSH824-DW
25	V45SSH1030-DW	V45SSH1030-DW	V45SSH1030-DW	V45SSH1024-DW	V45SSH1024-DW	V45SSH830-DW	V45SSH824-DW	V45SSH824-DW
30	V45SSH1036-DW	V45SSH1036-DW	V45SSH1030-DW	V45SSH1030-DW	V45SSH1030-DW	V45SSH830-DW	V45SSH830-DW	V45SSH830-DW
40	V60SSH1236-DW	V60SSH1230-DW	V45SSH1036-DW	V45SSH1036-DW	V45SSH1036-DW	V45SSH1030-DW	V45SSH1024-DW	V45SSH1024-DW
50	V60SSH1242-DW	V60SSH1236-DW	V60SSH1236-DW	V60SSH1230-DW	V45SSH1036-DW	V45SSH1036-DW	V45SSH1030-DW	V45SSH1030-DW
60	V60SSH1242-DW	V60SSH1242-DW	V60SSH1236-DW	V60SSH1236-DW	V60SSH1230-DW	V45SSH1036-DW	V45SSH1036-DW	V45SSH1030-DW
70	V60SSH1442-DW	V60SSH1442-DW	V60SSH1242-DW	V60SSH1242-DW	V60SSH1236-DW	V60SSH1230-DW	V45SSH1036-DW	V45SSH1036-DW
80	V60SSH1448-DW	V60SSH1448-DW	V60SSH1442-DW	V60SSH1242-DW	V60SSH1242-DW	V60SSH1236-DW	V60SSH1230-DW	V60SSH1230-DW
90	V60SSH1448-DW	V60SSH1448-DW	V60SSH1442-DW	V60SSH1442-DW	V60SSH1242-DW	V60SSH1236-DW	V60SSH1236-DW	V60SSH1230-DW
100	V60SSH1648-DW	V60SSH1648-DW	V60SSH1448-DW	V60SSH1442-DW	V60SSH1442-DW	V60SSH1242-DW	V60SSH1236-DW	V60SSH1236-DW
125	V60SSH1654-DW	V60SSH1654-DW	V60SSH1654-DW	V60SSH1642-DW	V60SSH1448-DW	V60SSH1442-DW	V60SSH1242-DW	V60SSH1242-DW

Boiler Water as Energy Source Double Wall Tubing. 40-140°F Temperature Rise.								
Inlet Boiler Water Temperature*								
GPM	180°F		190°F		200°F		212°F	
	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.	Model No.	GPM BW REQ.
5	V45SSH830-DW	25	V45SSH830-DW	25	V45SSH824-DW	25	V30SSH630-DW	25
10	V45SSH1036-DW	50	V45SSH1030-DW	50	V45SSH830-DW	50	V45SSH824-DW	51
15	V45SSH1036-DW	75	V45SSH1036-DW	76	V45SSH1030-DW	76	V45SSH830-DW	76
20	V60SSH1236-DW	100	V45SSH1036-DW	101	V45SSH1030-DW	101	V45SSH1030-DW	102
25	V60SSH1242-DW	126	V60SSH1236-DW	126	V45SSH1036-DW	127	V45SSH1030-DW	128
30	V60SSH1242-DW	151	V60SSH1236-DW	152	V45SSH1036-DW	152	V45SSH1036-DW	153
40	V60SSH1442-DW	201	V60SSH1242-DW	202	V60SSH1236-DW	203	V45SSH1036-DW	205
50	V60SSH1448-DW	252	V60SSH1442-DW	253	V60SSH1242-DW	254	V60SSH1236-DW	256
60	V60SSH1448-DW	302	V60SSH1442-DW	304	V60SSH1242-DW	305	V60SSH1236-DW	307
70	V60SSH1648-DW	353	V60SSH1448-DW	354	V60SSH1442-DW	355	V60SSH1436-DW	358
80	V60SSH1654-DW	403	V60SSH1648-DW	405	V60SSH1642-DW	406	V60SSH1642-DW	410
90	V60SSH1654-DW	454	V60SSH1648-DW	455	V60SSH1642-DW	457	V60SSH1642-DW	461

*Boiler water required based upon a 20°F temperature drop.

The capacities in the chart are approximate. Exact sizing can be obtained by using the automated sizing program on-line at www.cemline.com.

Sizing in the charts is based upon using an air-operated control valve, copper tubing, and a 0.0005 fouling factor. Unit size may be different due to altering variables such as control valve type, tube material, and fouling factor.

Sample Specifications



For specifying Cemline Stainless Steel SSH water heaters, select model from charts and use specification below. CEMLINE has representation in most major cities, or consult factory.

SSH Water Heaters

Steam units-

Or

Boiler water-
High Temperature
Hot Water Units

Storage heater shall be CEMLINE Series SSH factory assembled and packaged, rated to heat specified G.P.M. of water from _____ to _____)°F temperature rise and control the outlet within 5 of the selected temperature when supplied with (_____ psig saturated steam before the control valve) OR _____ °F boiler water). The packaged water heater shall be constructed with a 316-L stainless steel tank, with 316-L stainless steel threaded connections, coil with 1/2" O.D. copper tubes, copper lined tube sheet, and cast iron steam chamber.

Heater shall be mounted on a steel support skid and shall have lifting lugs. Heater shall be insulated with 3" Fiberglass 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 (electronically) operated temperature regulator, main and auxiliary float and thermostatic steam traps.

(A) Thermostatically controlled boiler water pump.

(B) Modulating three way diverting valve.

(C) On-off modulating valve.

Coil shall be baffled and shall have an integral bronze valved circulator with shut off valves to circulate the water across the coil into the bottom of the tank.

Heater shall be furnished with A.S.M.E pressure-temperature relief valve of sufficient size to relieve total BTU input on the coil, digital water thermometer, water pressure gauge and (steam pressure gauge) OR (boiler water inlet and outlet thermometer).

Heater shall be supplied with solid-state control module with LCD touch screen display and LED pilot lights to indicate on-off, primary high limit, and secondary high limit. Solid-state control module shall be provided with a field programmable digital electronic PID controller allowing the owner to set operating and temperature limits on the display screen. Solid-state control module shall have red alarm light and alarm horn with built in alarm silence relay. Solid-state control module shall be supplied with dry contact closure outputs to indicate to building automation system (BAS) the occurrence of power on, primary high temperature, and secondary high temperature. The control module shall allow the BAS to turn the heater on or off through a remote relay via 4-20 mA signals. The control module shall allow the BAS to remotely set the temperature of the heater using a 4-20 mA input signal. The control module shall allow the BAS to remotely monitor the operating temperature control module shall communicate with the BAS using modbus protocol via a RS-485 connection. Control module shall be supplied with an on-off switch and shall be mounted in a NEMA 4 panel. All solenoids and limits shall be 24 VAC.

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

Heater shall be CEMLINE Corporation Model V _____ SSH _____ .

Cemline Corporation has an automated sizing program that allows the customer to size and select Cemline products available on-line at www.cemline.com. Specifications and drawings can be downloaded to word processing and CAD files.



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

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CEMLINE CORPORATION

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

www.cemline.com