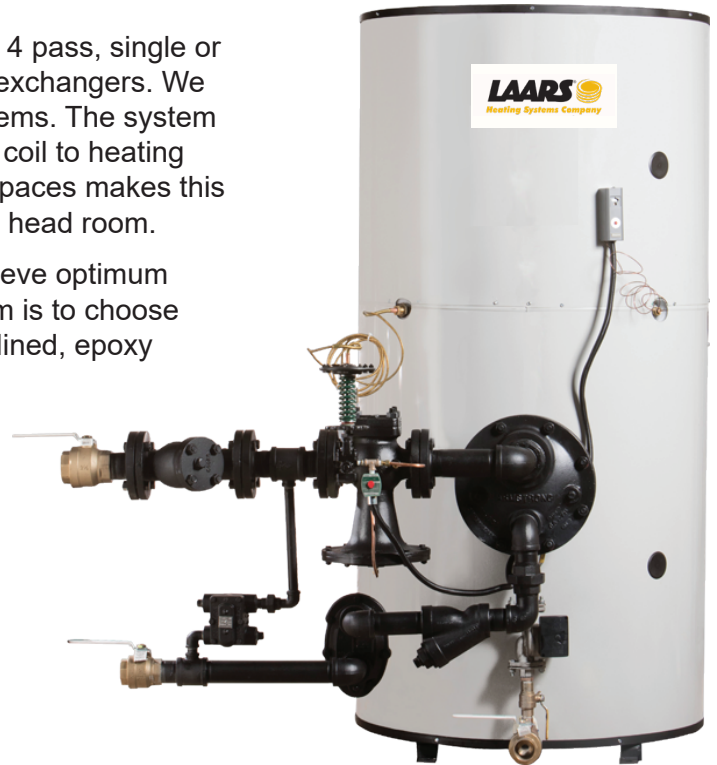


Laars Hot Water Generators are equipped with 2 or 4 pass, single or double wall construction, U-bend tube bundle heat exchangers. We supply both steam to water and water to water systems. The system is operated by pass steam or hot water through the coil to heating the tank contents. Large heating capacity in small spaces makes this heater particularly suitable for boiler rooms with low head room.

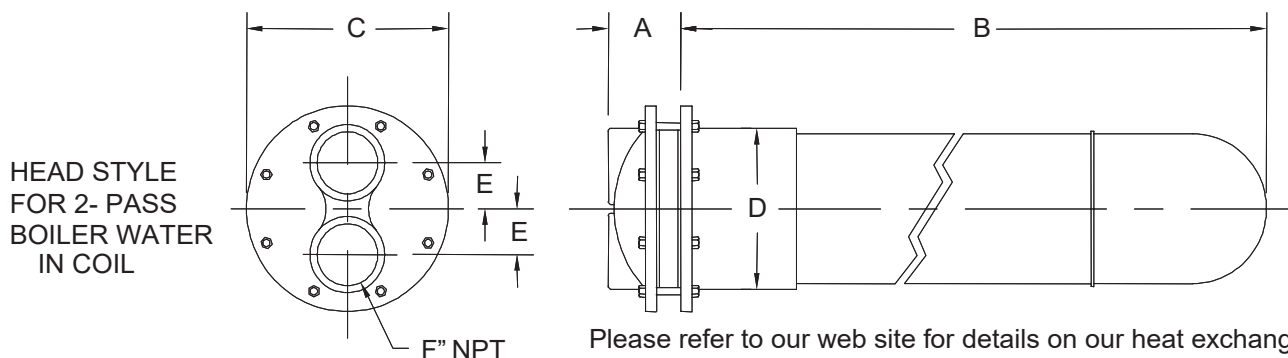
Proper sizing in tank and bundle is essential to achieve optimum performance. The first step in designing your system is to choose the tank. Laars offers many configurations of glass lined, epoxy lined and stainless steel constructed tanks.

Our selection of carbon steel and stainless steel tanks come in both vertical and horizontal configurations, bare, top coated or jacketed and insulated. Carbon steel tanks are glass-lined, and optionally can be double glass lined or epoxy lined. Select from our standard design or customize as needed. All tank fittings come standard as NPT but flanged or grooved ends are available.



Laars Tube bundles are typically 2 or 4 pass U-bend heat exchangers. The bundle offers many advantages as it can be operated by passing either steam or hot water through the coil and is an excellent heater for hard water territories. Large capacity in small spaces makes this heater particularly suitable for boiler rooms with low head room.

Laars offers both water to water and steam to water "U" Tube Designs in copper, stainless steel and cupro-nickel. The tube bundle is of "U" bend construction with tube ends expanded into a stationary tube sheet. This construction permits ample expansion or contraction for wide temperature variations. Water in the tank is heated by a fluid or steam circulated through the tubes. This unit is designed primarily for natural convection in the tank.



HOT WATER GENERATORS

The first step in sizing your hot water generator is to know how much hot water you need.

Our hot water generators are based from our standard tank designs in both vertical and horizontal configurations, bare, jacketed and insulated or topcoated. For proper sizing, please provide the above information.

1. Determine Capacity Required

Heat Load - _____ Btu
(if known)

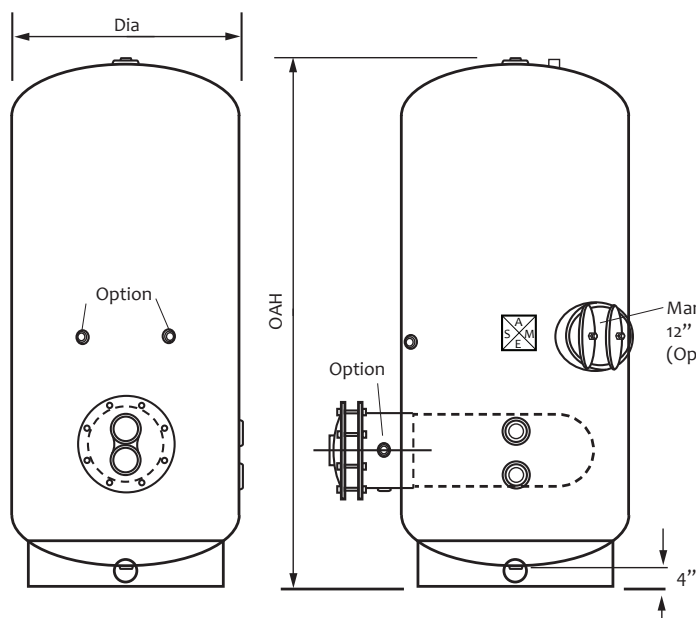
Boiler Water:
Fluid _____
Fluid Temp: _____ F
GPM Available _____ F
(if known)

Steam:
Pressure Available _____ Psi

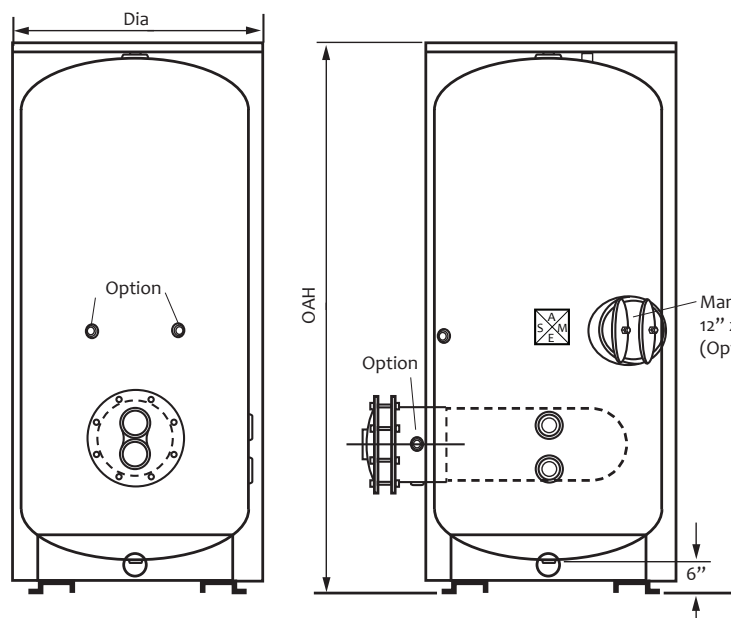
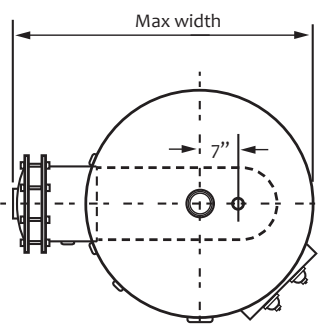
Tank:
Gallons _____
Pressure Rating _____
Diameter _____ Length _____
Vertical _____
Horizontal _____
Recovery Rate _____ GPH Time _____
Start Temperature _____ °F Final Temperature _____ °F
Other _____

Tube Bundle:
Single Wall _____ Recirculation Pump _____
Double Wall _____ Controls Self Operating _____

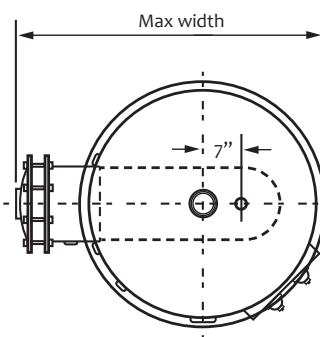
HOT WATER GENERATORS



Typical Bare Vertical Configuration

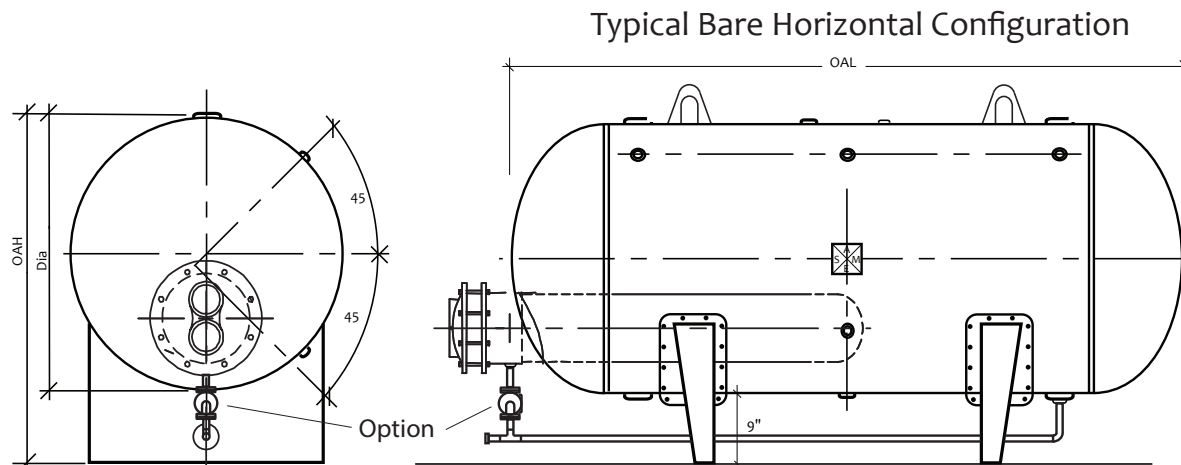


Typical Jacketed Vertical Configuration



Tank Diameter	Coil Diameter Dimension B				Dimensions	
	8'	10'	12'	14'	C	D
30	21	22	n/a	n/a	17½	47¾
36	23⅜	24⅜	n/a	n/a	19	53¾
42	23⅞	24⅞	25⅞	26½	20½	59¾
48	25⅞	26⅞	27⅞	28½	22	65¾

HOT WATER GENERATORS



Horizontal tanks are also available with steel jacket and insulation

Tank Diameter	Coil DiameterDimension B				Dimensions	
	8'	10'	12'	14'	C	D
30	18½	19¾	21⅜	n/a	39	17¾
36	19⅝	20½	21⅞	23½	45	17¾
42	19¾	21	22½	24	51	17¾
48	20⅜	21⅝	23⅜	26⅝	57	17¾

NOTES:

- Standard materials for potable tank water include copper tubes, 316L stainless steel tank side tube sheets, and spacers and cast iron heads.
- For construction materials other than standard, consult factory.
- An additional carbon steel tube sheet present in double wall units is not shown in these layouts
- Dimensions shown represent 125 PSI standard tank construction. For additional dimensional information, consult the factory.
- Clearance should be provided at installation to permit coil removal and access to the manway if required.

2. Select the proper unit

- First refer to proper temperature rise (typically 40°F to 140°F)
- Next refer to proper steam pressure or boiler water temperature.
- Select tank size from appropriate table.
- Consult Factory for Heat Exchanger sizes and conditions not listed.

TANK DATA

Model Number	Actual Gallons	Nominal Gallons	Diameter	Overall Height (bare tank)	Weight
ST*##-30-063	175	193	30"	67"	340 Lbs
ST*##-30-075	210	229	30"	79"	387 Lbs
ST*##-30-085	240	260	30"	89"	420 Lbs
ST*##-30-099	280	303	30"	103"	483 Lbs
ST*##-30-111	320	340	30"	115"	530 Lbs
ST*##-36-072	285	318	36"	76"	550 Lbs
ST*##-36-078	310	344	36"	82"	588 Lbs
ST*##-36-085	340	375	36"	89"	633 Lbs
ST*##-36-090	360	397	36"	94"	664 Lbs
ST*##-36-102	415	449	36"	106"	742 Lbs
ST*##-36-114	465	502	36"	118"	818 Lbs
ST*##-36-126	515	555	36"	130"	894 Lbs
ST*##-42-081	435	486	42"	85"	783 Lbs
ST*##-42-084	453	504	42"	88"	805 Lbs
ST*##-42-093	505	558	42"	97"	874 Lbs
ST*##-42-105	575	630	42"	109"	963 Lbs
ST*##-42-117	645	702	42"	121"	1052 Lbs
ST*##-42-129	720	774	42"	133"	1140 Lbs
ST*##-42-139	790	846	42"	143"	1217 Lbs
ST*##-48-073	500	572	48"	77"	1038 Lbs
ST*##-48-084	580	658	48"	88"	1161 Lbs
ST*##-48-096	675	752	48"	100"	1298 Lbs
ST*##-48-108	765	846	48"	112"	1433 Lbs
ST*##-48-116	836	909	48"	120"	1522 Lbs
ST*##-48-120	860	940	48"	124"	1567 Lbs
ST*##-48-141	1040	1128	48"	145"	1805 Lbs

* V for vertical

H for horizontal (saddles must be added, and are not included in the tank price)

GB for carbon steel glass-lined

GJ for carbon steel with steel jacket & insulation

GI for carbon steel with insulated topcoat

2B for bare duplex stainless steel

2J for duplex stainless steel with steel jacket & insulation

2I for duplex stainless steel with insulated topcoat

NOTES:

- A. ASME Construction: All Laars tanks are manufactured in accordance with the ASME code and certified for 125 psi working pressure. Optional 150 psi is available.
- B. Anode Protection: All glass-lined tanks are equipped with magnesium anode rods to provide protection against corrosion. Optional power anode rods are available.
- C. Manway: Manways are only provided standard on epoxy-lined tanks. They are optionally available on other tanks.
- D. Warranty: Tube bundles carry a one-year limited warranty. See tank warranty for details on tank warranty.
- E. Tank circulator pump circulator packages and temperature controls are available as optional equipment.

HOT WATER GENERATORS

Standard Features:

ASME tank Construction
Glass Lined Tank
5 Year Limited Warranty
One-Year Limited Warranty on Tube Bundle and Parts

Optional Features:

Vacuum Breaker
Manway
150 PSI
High Limit Solenoid Valve
Temperature and Pressure Gauge
Air Vent
Re-Circulation Pump Package
Power Anodes
Double Ultonium Glass Lining (10 Year Warranty)
R-16 Topcoat Insulation
Jacket & Insulated ASHRAE 901b
Vertical or Horizontal configurations

Tank Linings Options:

Epoxy

Tank Material Options:

316L, 317, 2205 & 2507 Stainless Steels

Controls:

Steam to Water Controls:

High limit shut-off valve
2-way self operated temperature control valve
2 - Isolation valves
Float and thermostatic steam trap
2 - Wye strainers
Unions and connections
All necessary piping

Water to Water Controls

High limit shut-off valve
2-way Self operated temperature control valve
3 - Isolation valves
1 - Wye strainers
Unions, by-pass loop and connections
All necessary piping

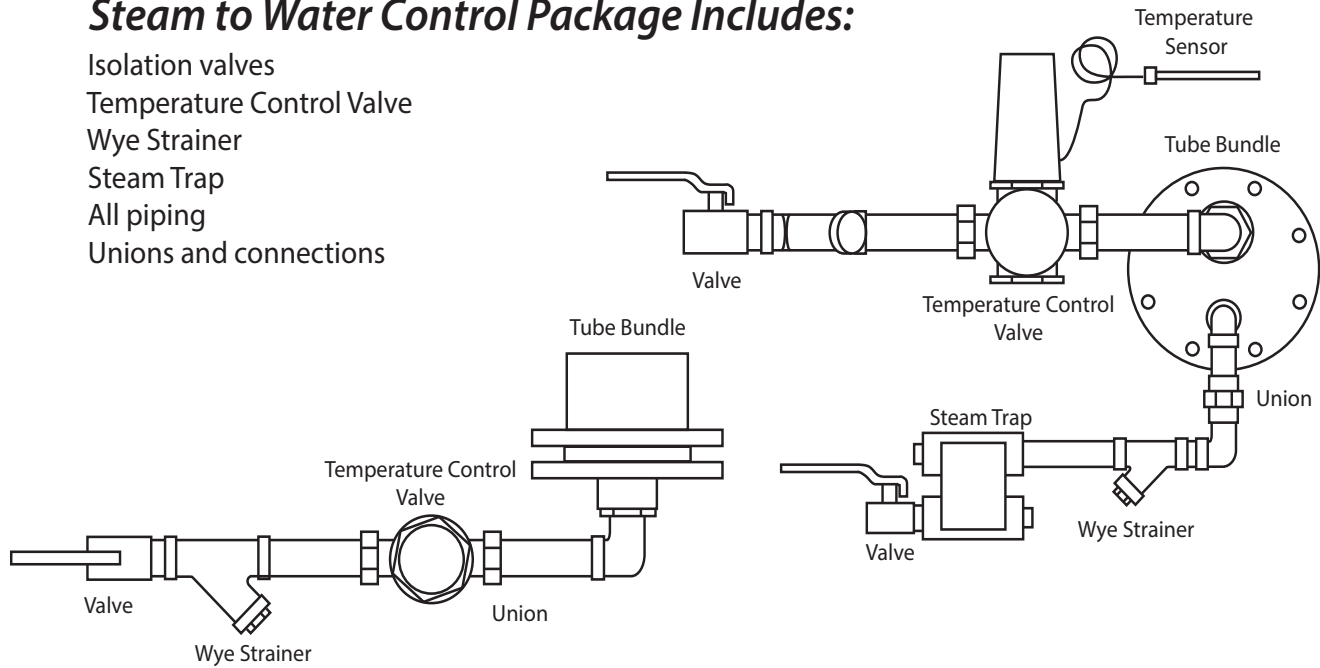
High Limit Option:

This valve is located on the inlet side of the boiler water or steam and require a high limit thermostat mounted to the tank.

Control Packages

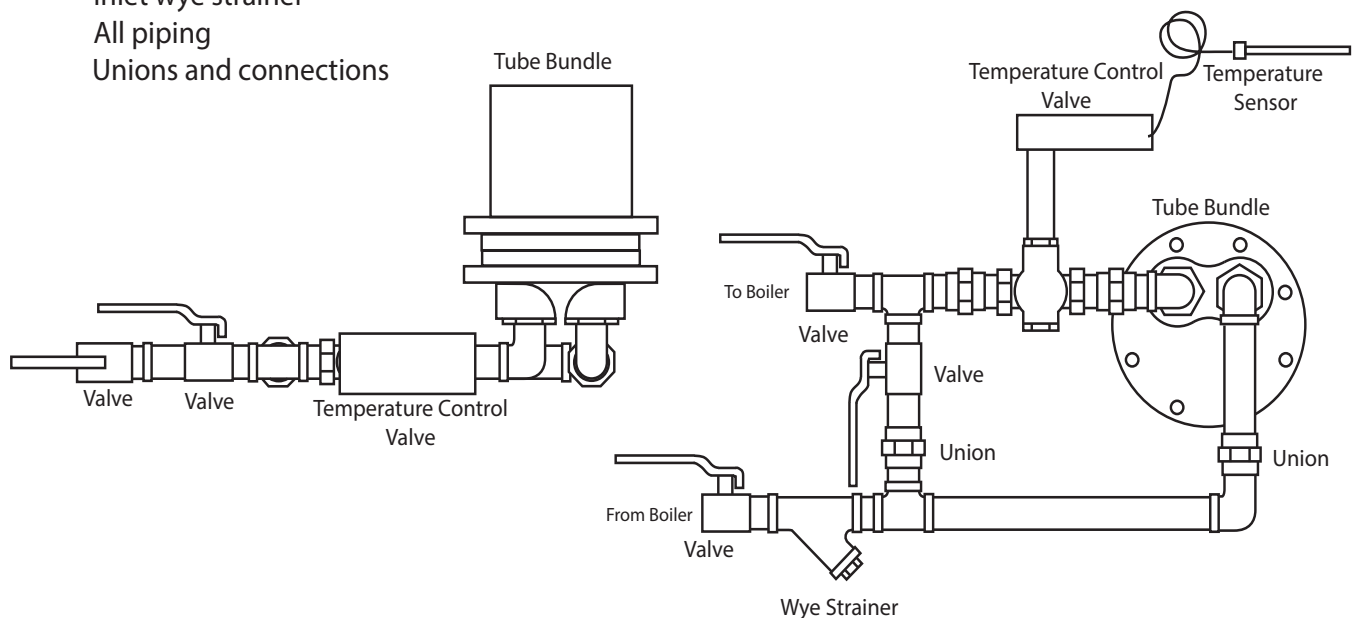
Steam to Water Control Package Includes:

Isolation valves
Temperature Control Valve
Wye Strainer
Steam Trap
All piping
Unions and connections



Water to Water control package includes:

Isolation valves
Control valve (Self Operating or electric)
Inlet wye strainer
All piping
Unions and connections



HOT WATER GENERATORS

Notes:

Laars Heating Systems Company reserves the right to change specifications, components, features, or to discontinue products without notice.



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