

Glass-Lined, Jacketed & Insulated or Bare ASME Tanks

Lock-Temp[®] Storage Tanks

Lock-Temp Design Locks Hot Water at Top, Cold Water at Bottom.

Lochinvar Lock-Temp Tanks have been specifically designed and engineered to provide a high volume supply of hot water at a constant outlet temperature. The unique Lock-Temp baffle chamber design is so efficient that, regardless of the rate of hot water flow, 80% of the stored volume of hot water can be drawn from the storage tank without a drop in the pre-set outlet temperature.

Since 1/3 less hot water storage is required with Lock-Temp Storage Tanks than with ordinary storage tanks, there are several important economic features to consider: **Lower Standby Losses, Smaller Footprint Required, Lower Installed Cost, Reduce Water Heater Operation Cost.**

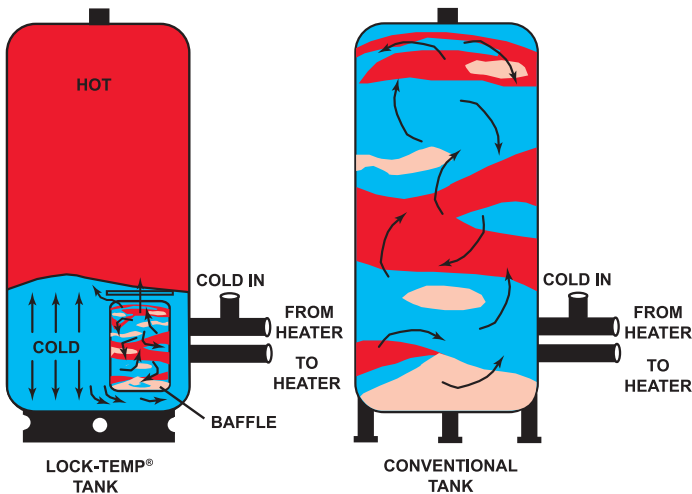
In operation, Lock-Temp Storage Tanks utilize a unique water baffle chamber to eliminate turbulence and establish a positive, piston-like displacement system. Cold water entering the system is directed into the built-in baffle chamber, where water turbulence is eliminated. Eliminating turbulence allows natural physical properties to force hot water to the top of the tank and cold water to the bottom. The resulting effect creates nearly perfect stratification allowing the hot water to be drawn from the tank first.

The Lock-Temp system makes Lochinvar Storage Tanks more efficient. Consider that a typical storage tank delivers only about 60% of its stored water volume at the desired temperature while Lochinvar tanks with the Lock-Temp baffle deliver a minimum of 80%. This efficiency allows for more economical sizing of storage tanks. A design calling for 400 gallons of 180°F water would require a 670 gallon standard tank while a Lock-Temp tank would deliver the same 180°F volume using only a 500 gallon tank. A 170 gallon savings.



An ordinary 180 gallon tank and a 180 gallon Lock-Temp tank were compared at a set water temperature of 180°F. Water was withdrawn at a rate of 12 GPM under controlled conditions. The Lock-Temp tank provided 141 gallons of water at set point and the conventional tank only provided 30 gallons of water at set point before the delivery temperature dropped below 180°F

Advantages of a Lock-Temp storage tank over conventional storage tank



In conventional storage tanks, water circulation or a heavy draw of hot water from the top of the tank causes an incoming rush of cold water, creating turbulence in the tank's stored water supply. The result is inter-mixed hot and cold water that requires constant adjustment at the fixtures to maintain the desired temperature. Lochinvar Lock-Temp Storage Tanks eliminate these problems with a unique inner chamber baffle that absorbs and flattens turbulence caused by incoming water. The Lock-Temp baffle also permits hot and cold water to stratify, directing the hottest water to the top of the tank and the colder water to the bottom for return to the heater.

World Class Tank Manufacturing



1 CNC Laser Cutting Control Panel

To provide the greatest accuracy the CNC laser cutting machine uses PLC controls. All programming is performed in-house and stored in the shop computers.



2 Hydraulic Plate Roll

The plate roll turns a flat plate of steel (up to 1/2" thick) into a round cylinder.



3 Submerged Arc Longitudinal Seam Welder

As the welding head travels 28-30 IPM, the welding wire penetrates the steel to form a full-penetration weld on both the inner and outer surface of the tank shell.



4 Fit-Up Weld

Tank heads and fittings are tacked and welded into the tank shell by ASME certified welders.



5 Internal Shot Blasting

All internal surfaces are blasted to a white metal, removing rust, scale, greases and oils so lining can have optimum adhesion.



6 Submerged Arc Circumferential Welder

Here the submerged arc welding process welds the ends as the tank rotates. A full-penetration X-ray quality weld is made in two to four passes.



7 4.5 Million BTU Intermittent Glass Furnace

After a drying process, the tanks enter the furnace module. The glass lining is fired at 1600° F to create a molecular bond between the glass frit and the vessel's steel surface. This is the largest indexing furnace in the United States.



8 Hydrostatic Testing

Upon completion of the manufacturing processes, each tank has all threaded openings tapped and cleaned. The tanks are then filled with water and brought up to the designed working pressure.



9 Lasting Quality

The ASME inspector then administers tests for leaks and other nonconformances. Magnesium anode rods are provided with each glass tank to protect the integrity of the lining.

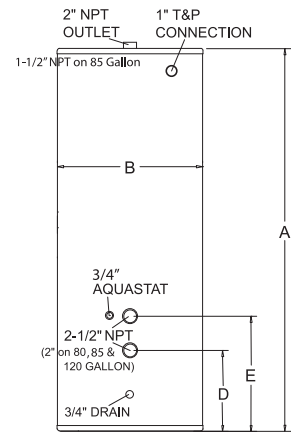
Dimensions and Specifications for Vertical Tanks

Vertical Round Jacketed Glass Lined Tanks

Model Number	Gal. Cap.	A	B	D	E	Shipping 125 psi	Weight 150 psi
RJS080M	80	63"	25-1/4"	9-1/4"	14-1/4"	-	240
RJS085M	85	49-1/2"	28"	9-1/2"	14-1/2"	-	255
RJS120M	119	62"	29-1/2"	9-1/2"	14-1/2"	-	352
RJA120*	119	62-1/2"	28"	9-1/2"	14-1/2"	-	365
RJA175*	175	66-1/4"	32"	11-1/4"	17-1/4"	-	578
RJA200*	200	77-1/4"	32"	11-1/4"	17-1/4"	-	634

Glass Lined only

* A = ASME Construction



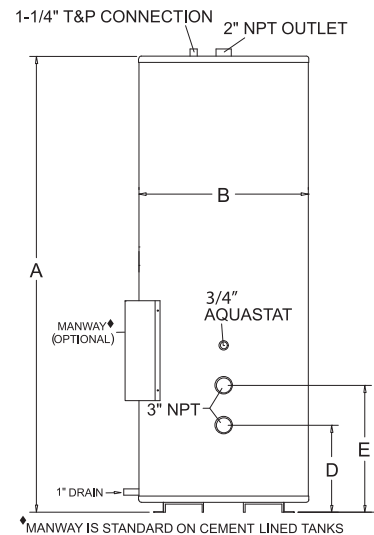
Vertical Round Jacketed ASME Tanks

Model Number	Gal. Cap.	A	B	D	E	Shipping 125 psi	Weight 150 psi
R*A0257	257	91"	34"	18"	26"	904	904
R*A0318	318	80"	40"	19-1/2"	27-1/2"	987	987
R*A0432	432	80"	46"	21"	29"	1,188	1,188
R*A0504	504	92"	46"	21"	29"	1,329	1,329
R*A0650	650	92"	52"	23-1/2"	31-1/2"	1,817	1,817
R*A0752	752	104"	52"	23-1/2"	31-1/2"	2,030	2,030
R*A0940	940	128"	52"	23-1/2"	31-1/2"	2,710	2,710

* Indicates tank lining.

G=Glass Lined

C=Cement lined



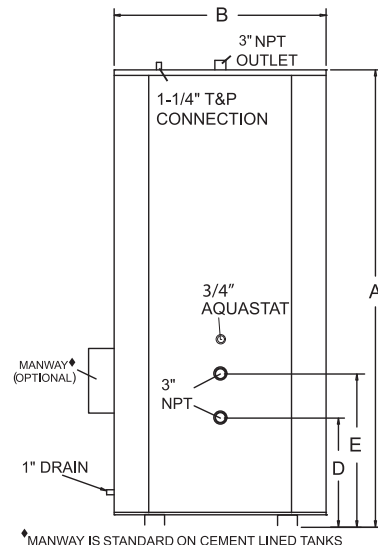
Vertical Square Jacketed ASME Tanks

Model Number	Gal. Cap.	A	B	D	E	Shipping 125 psi	Weight 150 psi
TV*1250J	1250	132-1/2"	64-1/2"	29-1/4"	21-1/4"	4,660	5,000
TV*1500J	1500	128-1/2"	70-1/2"	31-3/4"	25-3/4"	6,200	6,637
TV*2000J	2000	139"	76-1/2"	33-1/2"	25-1/2"	7,400	7,910
TV*2500J	2500	146-1/2"	82-1/2"	35-1/4"	28"	9,000	9,632

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Dimensions and Specifications for Horizontal Tanks

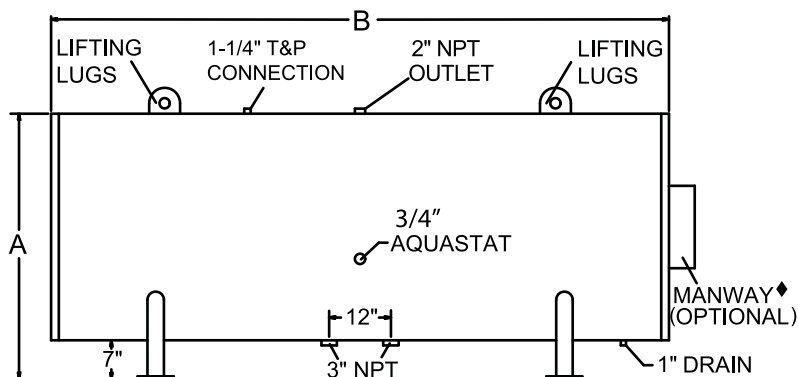
Horizontal Round Jacketed ASME Tanks

Model Number	Gallon Capacity	Dimensions			Shipping Weight	
		A	B	Diameter	125 psi	150 psi
R*A0250H	250	41"	87"	34"	1,157	1,157
R*A0300H	300	47"	76"	40"	1,355	1,355
R*A0400H	400	53"	76"	46"	1,587	1,701
R*A0500H	500	53"	88"	46"	1,711	1,853
R*A0600H	600	59"	88"	52"	2,053	2,053
R*A0700H	700	59"	100"	52"	2,399	2,399
R*A1000H	1000	59"	124"	52"	3,114	3,114

*Indicates Tank Linings

G=Glass lined

C=Cement lined



♦MANWAY IS STANDARD ON CEMENT LINED TANKS

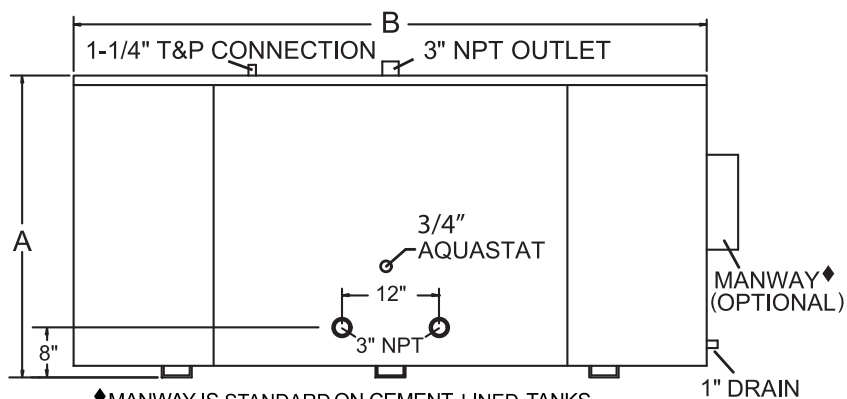
Horizontal Square Jacketed ASME Tanks

Model Number	Gallon Capacity	Dimensions			Shipping Weight	
		A	B	Depth	125 psi	150 psi
TH*1250J	1250	68-1/2"	130-1/4"	60-1/4"	5,126	5,466
TH*1500J	1500	74 1/2"	126-1/4"	66-1/4"	6,820	7,257
TH*2000J	2000	80-1/2"	137"	72-1/4"	8,140	8,650
TH*2500J	2500	86-1/2"	144-1/4"	78-1/4"	9,900	10,532

*Indicates Tank Linings

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♦MANWAY IS STANDARD ON CEMENT LINED TANKS

Glass-Lined Tank



Lochinvar's glass lining is a specially formulated vitreous porcelain enamel lining, which is applied to all interior surfaces of the tank. After the tank surfaces are cleaned to a white metal finish, an automated spraying

process applies a uniform glass lining. The lining is continuously monitored for thickness and continuity.

The tank is then fired to 1600°F to assure molecular fusing of the glass to the interior steel surfaces and



each glass lined tank is tested for glass conformance prior to final assembly. Upon completion of the lining process, each tank is hydro tested per the ASME standard. The combination of high quality materials, rigorous metal preparation, and careful



testing results in the best possible coating for potable water in a storage vessel and is NSF approved.

Cement Lined Tanks

Cement lined tanks have approximately the same coefficient of expansion as mild steel, it poses no cracking potential due to internal pressures. The lining is applied in two coats; first approximately 1/4" thick to provide a firm base for the second coat.

This cement lining provides an excellent coating to give protection to the tanks steel base metal against corrosion in a potable water storage vessel and is NSF approved.



Tank Outstanding Features

- **Energy Saving Performance** - Jacketed tanks meet the efficiency requirements of the latest ASHRAE Energy Efficiency Standards. The 2" of foam insulation provides low standby energy loss for optimum performance and economy.

Note: Bare tanks must be field insulated to meet ASHRAE stand-by loss requirements



- **Five-Year Limited Warranty** - Provides warranty protection against tank failure resulting from defects in materials or workmanship.

- **Lock-Temp Baffle** - Lock-Temp storage tank baffles eliminate turbulence and establish a piston-like displacement system which creates nearly perfect stratification.



- **Magnesium Anode** - All glass-lined tanks are equipped with one or more magnesium anodes to provide additional protection against corrosion.



- **ASME Construction** - All models constructed in accordance with ASME standards and labeled for 125 psi working pressure (standard) or 150 psi working pressure (optional). Per ASME Code maximum temperature 210°F.

- **Manway** - A manway is provided as standard equipment on Cement lined tanks. Manway is optional on glass lined tanks 30" diameter & larger.

- **Galvanized Jacket** - Heavy gauge jacket is galvanized on both sides and finished in durable acrylic enamel combining attractive appearance with maximum protection.

- **Square Jacketed Models** - Built-in Safety Drain Pan System, with a sealed base assembly mounted on Channel Iron Skids. Pan has a 3/4" drain connection.



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