

ENGINEERING SPECIFICATIONS

GENERAL

The storage tank frame shall be of composite construction incorporating thermally broken breaks aluminum extrusions and insulating materials. The lid assembly will incorporate provisions for mounting one or more immersed-style heat exchangers (inlet & outlet), solar returns, sensor wells. The tank side body will incorporate provisions for one or more pump assemblies incorporating a shutoff valve and fill valve with back flow preventor. All fasteners shall be stainless steel. One or more bulkhead fittings shall be installed in the lid assembly for incorporating a visual liquid level indicator.

INSULATION

The insulation shall be 1lb/ft³ density expanded polystyrene (EPS) sheathed in textured aluminum of .02" thickness, held in place with a laminating backer. A radiant reflective bubble over foil thermal barrier of ¼" thickness shall line the interior of the tank body for additional thermal and radiant isolation.

HEAT EXCHANGERS (H-X)

The heat exchanger(s) shall consist of submerged arrays of single-wall finned copper heat exchangers with a fitting sizes of ¾" and internal diameters of 5/8" size. Composition of copper shall be soft, finned Type K material, annealed throughout the entire length. Surface area of the finned portion of the coil shall be no less than 18 square feet. Exchangers may incorporate from one [1] to four [4] or more copper coils per heat exchanger array depending on requirements, and may result in varying inlet and outlet fitting sizes. Exchangers shall be mounted in a hanging configuration, secured by a brazed mount to the tank (lid) assembly. The exchangers will incorporate thermal sleeves to isolate the tank body from high temperatures. The exchangers shall be tested to 100 psi maximum operating pressure.

As an option, dual-wall heat exchangers are available. Dual-wall heat exchanger(s) shall consist of submerged arrays of double-wall PEX heat exchangers configured for positive leak detection and including fitting sizes of ¾" and internal diameters of .545" size. Composition of copper shall be soft Type K material, annealed throughout the entire length. Surface area of the exterior coil shall be no less than 5.8 square feet. Exchangers may incorporate from one [1] to four [4] or more copper coils per heat exchanger array depending on requirements, and may result in varying inlet and outlet fitting sizes. Exchangers shall be mounted in a hanging configuration, secured by a brazed mount to the tank (lid) assembly. The exchangers will incorporate thermal sleeves to isolate the tank body from high temperatures. The exchangers shall be tested to 100 psi maximum operating pressure.



Each tank comes standard with one heat exchanger for domestic hot water pre-heat. Any number of heat exchangers can be added to the tank to increase capacities or mounted high and low in the tank to perform a variety of functions like spa heating, closed loop radiant floor heating or even snow melting.

Tanks also include tank level indicators, 10K sensors one high and one low in water tight dip tubes, a pump flange for a solar pump with fill and drain port and a passive vacuum breaker and condensate breather system for low maintenance.

Tanks are lined with seamless .045 mil EDPM and have a 20 year warranty against leaking. These tanks have an indefinite life expectancy and are suitable for outside installation.

TS-Series	Capacity (gal)	L (in)	W (in)	H (in)
70	71	30	30	36
100	109	30	30	52
150	146	30	38	52
200	195	38	38	52
300	295	54	38	52
400	395	70	38	52
500	493	86	38	52
600	592	102	38	52
750	730	86	54	52