Insulated Storage Tanks
And
Heat Exchangers

Product Overview
The following shall be the specifications for the solar thermal storage tank. Storage tank shall be TrendSetter Industries model and shall be of the drainback (atmospheric-pressure) type. Storage tank shall be tested and evaluated in conformance with Solar Rating and Certification Corporation (SRCC) system standards. Standard systems shall also be certified by the SRCC. The tank and heat exchangers shall be manufactured and labeled in conformance with Appendix L of the Uniform Plumbing Code.

**GENERAL**

The storage tank frame shall be of composite construction incorporating thermal 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 hose bib. All fasteners shall be stainless steel. One or more bulkhead fittings shall be installed in the lid assembly for interior inspection purposes.

**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 thermal barrier of ¼” thickness shall also be incorporated along the tank body for thermal isolation. The lid assembly containing the plumbing fixtures shall contain closed-cell foam insulation, as well as incorporating thermal breaks to minimize heat transfer to the exterior of the tank.

**HEAT EXCHANGERS (H-X)**

The heat exchanger(s) shall consist of submerged arrays of 50’ x ¾” diameter x 0.012” single-wall corrugated type 316L stainless steel heat exchangers with ¾” MIP fittings. The maximum recommended working pressure is 175 psi. The following graphs represent tested performance and friction loss for the specified heat exchanger. The heat exchangers shall be approved by UL and manufactured under ISO 9001 standards.
**Pressure Loss vs Flow Rate**

Test Conditions: 140°F Tank Temp, 55°F Inlet Temp

**HX Output vs Flow**

Test Conditions: 140°F Tank Temp, 55°F Inlet Temp
LISTED PRODUCTS

IAPMO Research and Testing, Inc. is a product certification body which tests and inspects samples taken from the supplier's stock or from the market or a combination of both to verify compliance to the requirements of applicable codes and standards. This activity is carried out with periodic surveillance of the supplier’s factory and warehouses as well as the assessment of the supplier’s Quality Assurance System. This listing is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Research and Testing, Inc. of the product acceptance by Authorities Having Jurisdiction.

Effective Date: July 2007
Void After: July 2008

Product: Stainless Steel Hot- and Cold-Water Distribution Systems

Issued To: Kofuino Co., Ltd.
377-8, Gun Gori-dong, Seo-gu
Taehwaon City 464-330,
Korea

IDENTIFICATION: Product shall be permanently and legibly marked with manufacturer's name or trademark, nominal size, pressure rating at 212°F (100°C) and manufacturing date. Markings on tubing shall be spaced at intervals of not more than 3 ft (1m). Product shall also bear the C/IAPMO® triangular Certification mark.

CHARACTERISTICS: Corrugated stainless steel pipe and metallic fittings made in one standard dimension ratio and intended for 140 psi (1012.8 kPa) water service up to and including a maximum working temperature of 212°F (100°C). To be installed in accordance with manufacturer's installation instructions.

Manufactured in compliance with IAPC 233-2006.

Chairsman, Product Certification Committee
Executive Director

This listing is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of the Product Certification Committee, or any evidence of non-compliance with applicable codes and standards or of inferior workmanship, may be deemed sufficient cause for revocation of this listing. Reproduction of or reference to this form for advertising purposes may be made only by specific written permission of IAPMO Research and Testing, Inc. Any alteration of this certificate could be grounds for revocation of the listing.

DOC#841A
BELOW IS AN 800 GALLON CUSTOM TANK BUILD ORDER SHEET WITH PICTURES OF THE TANK IN PRODUCTION. NOTE: TANKS OVER 54" TALL ARE BRACED WITH STAINLESS STEEL BANDING NOT REQUIRED ON STANDARD HEIGHT TANKS

Build Order: EST1522B
Company Name: Trimline Design Center
Contact Name:
Company Phone:  

Order Date: 19DEC07
Est. Ship Date: 10Feb08

Details: Footprint dimensions 120" x 54" x 52" high. Tank includes [4] \( \frac{3}{4} '' \) SS heat exchangers for on-site parallel connection. Supply fittings in 1" size and return fittings in 1.25" size. Tank will NOT be supplied with sensors - client is sending thermocouples for installation into tank.

Note: Overall lid length and width may be 1" over footprint dimensions.
Note: Solar return, sensor well assemblies not shown on 3d rendering for clarity.

Authorized By:

Date:

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