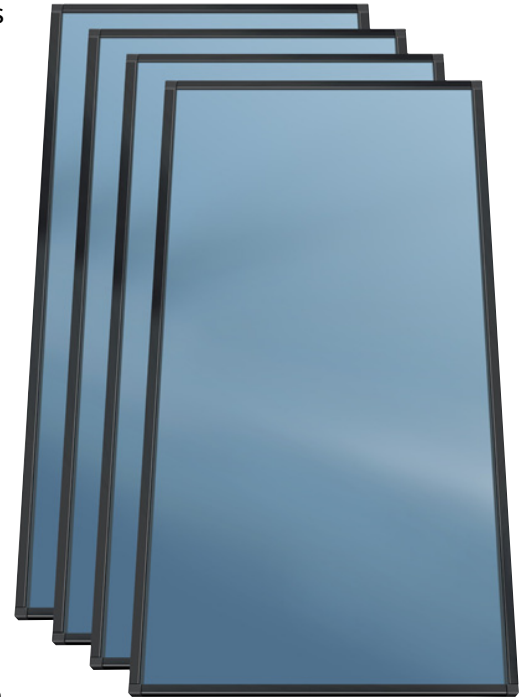


American is proudly partnered with Chromagen™ Solar Water Solutions to provide solar thermal collectors. Backed by over 40 years of manufacturing and design expertise Chromagen™ solar thermal collectors are assembled using high quality materials and advanced techniques which results in a highly efficient, durable product. These top-of-the-line collectors reduce monthly utility costs and carbon emissions by harnessing the sun's energy to heat water. These collectors are energy efficient and versatile providing high performance even in extreme environments. Count on American for products that provide hot water solutions for residential renewable-energy applications.

FEATURES

- SRCC certified OG-100.
- Collectors available individually or in bulk.
- Solid durable construction provides years of trouble-free service.
- Glazing - single pane 1/8 inch (3.2mm) low-iron patterned and tempered glass provides excellent strength, anti-glare surface with 91% solar transmittance.
- Type 6063 T5 black anodized extruded aluminum collector casing.
- Interlocking collector casing construction - does not require fasteners that loosen over time allowing moisture infiltration.
- Rugged nylon glass fiber moldings on all four corners protect collectors and adjacent property from damage during transport and installation.
- Absorber plate – 1050 aluminum sheet with spectrally selective black coating provides more than 90% solar absorption and less than 40% IR emission for high performance even in cooler climates.
- Parallel tube configuration ensures optimal flow and low pressure drop. Collectors may be installed in portrait or landscape orientation.
- Type M copper tube brazed construction - 5/8 inch risers and 1-1/8 inch manifolds.
- Riser Tubes laser welded to absorber plate to ensure high efficiency and long life.
- Three layers of insulation retain heat, prevent out-gassing and provide a cumulative thermal resistance value of R-8.
 - Glass wool (0.8 inch)
 - Integrated aluminum foil barrier
 - Injected rigid polyurethane foam (0.9 inch)
- Durable black Polypropylene backsheet that resists punctures and damage during installation - resists corrosion for the life of the system.
- 10-Year Limited Warranty*



Chromagen
Solar Water Solutions

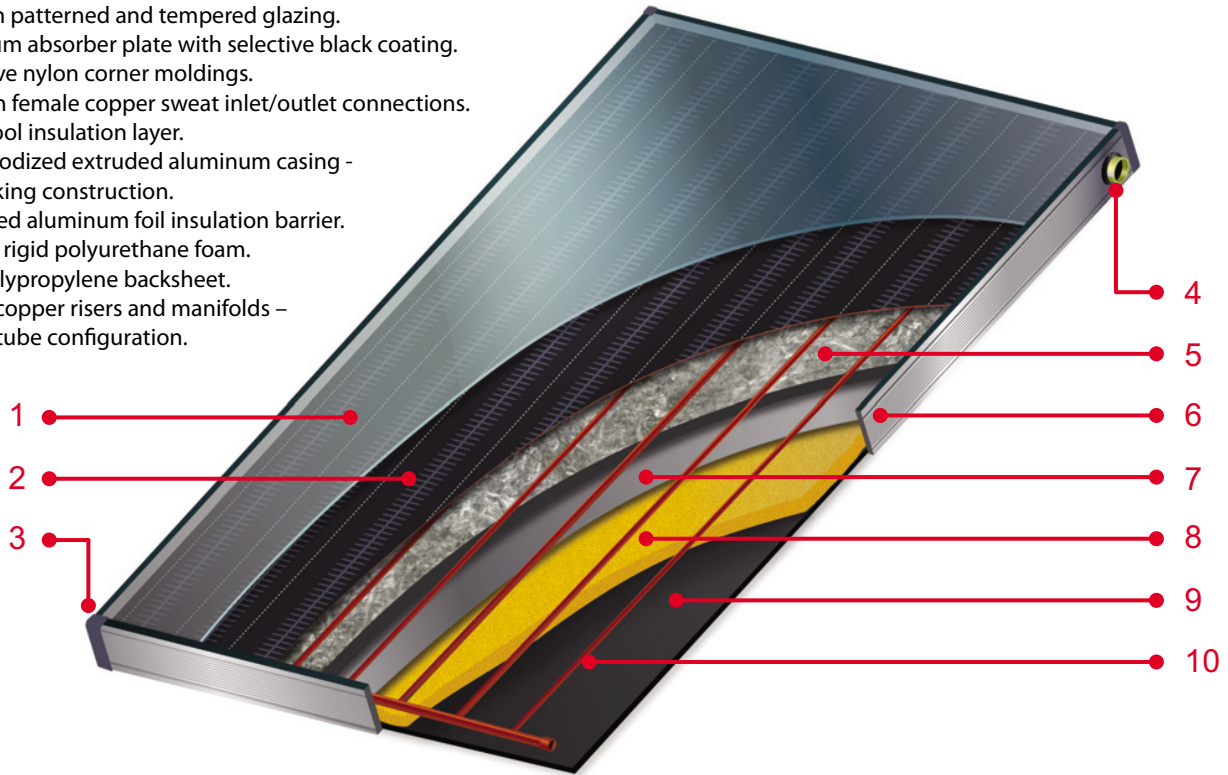


**Eligible for a 30% Federal
Tax Credit when installed as
part of a complete American
solar water heating system.
For more information visit
www.americanwaterheater.com**

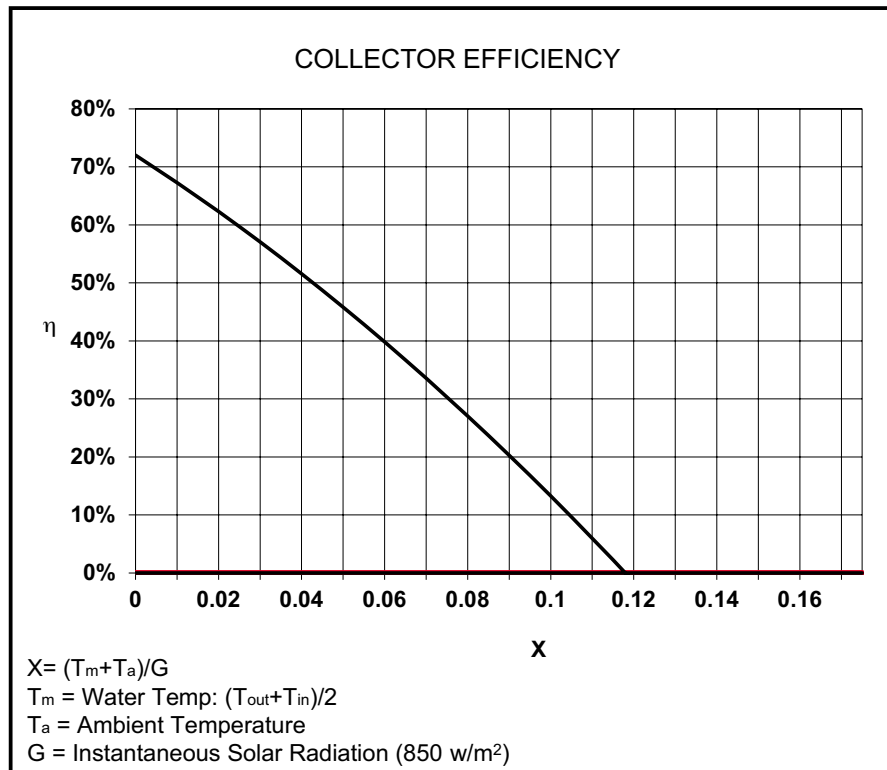
*For complete warranty information consult the written warranty of American Water Heaters found at www.americanwaterheater.com, or call (800) 999-9515.

CONSTRUCTION

1. Low-iron patterned and tempered glazing.
2. Aluminum absorber plate with selective black coating.
3. Protective nylon corner moldings.
4. One inch female copper sweat inlet/outlet connections.
5. Glass wool insulation layer.
6. Black anodized extruded aluminum casing - interlocking construction.
7. Integrated aluminum foil insulation barrier.
8. Injected rigid polyurethane foam.
9. Black Polypropylene backsheet.
10. Type M copper risers and manifolds - parallel tube configuration.



EFFICIENCY



PERFORMANCE

SRCC COLLECTOR THERMAL PERFORMANCE RATING

| Model CR-110-AP Thousands of BTU Per Panel Per Day | | | | Model CR-130-AP Thousands of BTU Per Panel Per Day | | | | Model CR-140-AP Thousands of BTU Per Panel Per Day | | | |
|---|-----------|---------------|------------|---|-----------|---------------|------------|---|-----------|---------------|------------|
| CATEGORY (Ti-Ta) | CLEAR DAY | MILDLY CLOUDY | CLOUDY DAY | CATEGORY (Ti-Ta) | CLEAR DAY | MILDLY CLOUDY | CLOUDY DAY | CATEGORY (Ti-Ta) | CLEAR DAY | MILDLY CLOUDY | CLOUDY DAY |
| A (-9°F) | 33.6 | 25.3 | 17.2 | A (-9°F) | 42.6 | 32.1 | 21.8 | A (-9°F) | 53.6 | 40.4 | 27.4 |
| B (9°F) | 30.2 | 21.9 | 13.8 | B (9°F) | 38.3 | 27.8 | 17.5 | B (9°F) | 48.2 | 35.0 | 22.0 |
| C (36°F) | 25.1 | 17.0 | 9.0 | C (36°F) | 31.9 | 21.6 | 11.4 | C (36°F) | 40.1 | 27.2 | 14.4 |
| D (90°F) | 15.5 | 8.1 | 1.7 | D (90°F) | 19.8 | 10.3 | 2.2 | D (90°F) | 24.9 | 13.1 | 2.9 |
| E (144°F) | 6.9 | 1.3 | 0.0 | E (144°F) | 8.9 | 1.7 | 0.0 | E (144°F) | 11.2 | 2.1 | 0.0 |

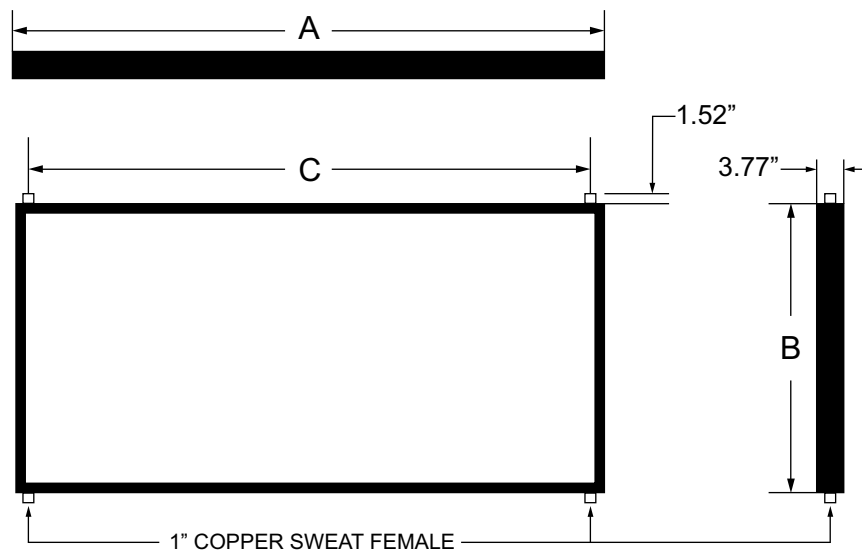
A- Pool Heating (Warm Climate) B- Pool Heating (Cool Climate) C- Water Heating (Warm Climate) D- Water Heating (Cool Climate) E- Air Conditioning

| *COLLECTOR AREA | | OPERATIONAL CHARACTERISTICS | | | | | |
|-----------------|---------------|-----------------------------|----------------------------|-------------------------|-------------------------|------------------------|---|
| SQUARE FEET | SQUARE METERS | SOLAR TRANSMITTANCE | MAXIMUM OPERATING PRESSURE | MINIMUM FLOW RATE (GPM) | MAXIMUM FLOW RATE (GPM) | DESIGN FLOW RATE (GPM) | PRESSURE DROP AT DESIGN FLOW RATE (PSI) |
| 25.5 | 2.37 | 91% | 145 psig | 0.3 | 1.0 | 0.7 | 0.03 |
| 32 | 2.96 | 91% | 145 psig | 0.4 | 1.3 | 0.8 | 0.04 |
| 40 | 3.71 | 91% | 145 psig | 0.5 | 1.6 | 1.0 | 0.05 |

* Collector aperture area

DIMENSIONS

| MODEL NUMBER | DIMENSIONS - FEET (INCHES) | | | CONSTRUCTION | | | |
|--------------|----------------------------|---------------|---------------|---------------------------------------|--|---------------------------------|-----------------------|
| | A | B | C | Riser Tubes Diameter O.D. Inches (mm) | Manifold Tubes Diameter O.D. Inches (mm) | Fluid Capacity Gallons (liters) | Weight Empty lbs (kg) |
| CR-110-AP | 7' (86.06") | 3.5' (42.16") | 6.9' (82.28") | 5/8" (15.9) | 1-1/8" (28.6) | 0.9 (3.4) | 84 (38.1) |
| CR-130-AP | 8' (96.93") | 4' (46.85") | 7.8' (93.19") | 5/8" (15.9) | 1-1/8" (28.6) | 1.4 (5.3) | 108 (49.0) |
| CR-140-AP | 10' (121.5") | 4' (46.85") | 9.8' (117.4") | 5/8" (15.9) | 1-1/8" (28.6) | 1.7 (6.4) | 132 (59.9) |





Solar Thermal Flat Plate Collectors

ORDER INFORMATION

| SOLAR COLLECTORS (BULK) | | | | |
|-------------------------|-------------|-----------------------|---------------------|------------------------------|
| MODEL NUMBER | PART NUMBER | COLLECTORS PER PALLET | COLLECTOR SIZE (FT) | APPROX SHIPPING WEIGHT (LBS) |
| CR-110-AP | 9007468005 | 11 | 3.5' x 7' | 1003 |
| CR-130-AP | 9007613005 | 7 | 4' x 8' | 864 |
| CR-140-AP | 9007614005 | 7 | 4' x 10' | 1087 |

| SOLAR COLLECTORS (INDIVIDUAL) | | | | | |
|-------------------------------|--------------------------|-----------------------|------------------------------|-----------------|-----------------|
| MODEL NUMBER | PART NUMBER | COLLECTORS PER PALLET | APPROX SHIPPING WEIGHT (LBS) | | |
| | | | 1 COLLECTOR PKG | 2 COLLECTOR PKG | 3 COLLECTOR PKG |
| CR-110-AP | 9007692005 (1-Collector) | 1 - 3 | 200 | | |
| | 9007693005 (2-Collector) | | | 284 | |
| | 9007694005 (3-Collector) | | | | 369 |
| CR-130-AP | 9007712005 (1-Collector) | 1 - 2 | 220 | | |
| | 9007713005 (2-Collector) | | | 340 | |
| CR-140-AP | 9007724005 (1-Collector) | 1 - 2 | 275 | | |
| | 9007725005 (2-Collector) | | | 425 | |

Collectors ordered in bulk or individually do not include required mounting hardware. Solar Collector Fastener Kits (one per collector - part number 9007938005) are required to mount collectors to Unistrut, flat metal, or angle iron racking systems. These kits are available individually or in bulk. Contact your local sales representative for more information.

Specification

The solar thermal collectors shall be model number _____ as manufactured by Chromagen™ Solar Water Solutions. The solar thermal collectors shall be glazed, flat plate type, parallel tube design. The collectors shall be tested by the Solar Rating and Certification Corporation (SRCC) and be SRCC certified OG-100. The collectors shall be tested in accordance with SRCC Standard 100 and their thermal performance rated according to SRCC Document RM1.

The dimensions of the collector shall be _____ inches in length, _____ inches in width and 3.77 inches (95.8mm) in depth. The collector casing shall be an anodized aluminum extrusion (alloy 6063 T5), minimum thickness of 0.05 inches (1.2mm). The collector casing shall be of an interlocking construction design. There shall be no screws or fasteners penetrating the collector casing used to join casing sections together. The collector casings shall have integral mounting channels along the entire length of all four sides that accept mounting clips with the same channeling configuration for ease of installation and removal without penetration of the collector casing. Two solid and two vented plugs shall be installed in the sides of the collector casing that can be easily moved from one opening to another to facilitate portrait or landscape installation while preventing moisture infiltration and allowing moisture exfiltration in either orientation. The collector casing shall be fitted with four protective nylon moldings, one on each corner, to prevent damage to the collectors or adjacent property during transport and installation.

The collector glazing shall be low-iron patterned and tempered glass with a minimum thickness of 1/8 inch (3.2mm) and a minimum solar transmittance of 91%. The glazing shall be thermally isolated from the casing by a continuous EPDM gasket with MS polymer sealant applied to minimize moisture infiltration. There shall be no screws or fasteners penetrating the collector casing used to hold the glazing in place.

The collector insulation shall consist of one layer of injected rigid polyurethane foam with a minimum thickness of 0.9 inches (23mm). There shall be a second layer of glass wool insulation with a minimum thickness of 0.8 inch (20mm). There shall be an integrated aluminum foil barrier between the glass wool and foam insulation layers to retain heat and prevent out-gassing. The collector backsheet shall be black Polypropylene material. The cumulative total thermal resistance of the collector insulation shall be a minimum of R-8. The absorber plate shall be 1050 aluminum sheet with a minimum thickness of 0.016 inches (0.4mm). The absorber plate shall be coated with a spectrally selective black coating that achieves a minimum solar absorption of 90% and a maximum IR emission of 40%. The risers shall be a minimum of 5/8 inch (15.9mm) O.D. Type M copper. The manifolds shall be a minimum of 1-1/8 inch (28.6mm) O.D. Type M copper. The risers shall be brazed to the manifolds using a copper phosphorus braze alloy conforming to American Welding Society (AWS) classification L-CuP6. The internal riser and manifold tube construction shall be designed to withstand a maximum working pressure of 145 psig. The risers shall be laser welded to the absorber plate to maximize heat transfer and permanence of the bond. EPDM grommets shall isolate the manifold tubes from the collector's aluminum casing.

Distributed By:

Order Entry and Sales
 500 Princeton Road (FEDEX, UPS)
 Johnson City, TN 37601-2030
 P.O. Box 4808 (Mailing)
 Johnson City, TN 37602-4808
 (800) 937-1037
 FAX (800) 581-7224

Warranty and Service
 500 Princeton Road (FEDEX, UPS)
 Johnson City, TN 37601-2030
 P.O. Box 1597 (Mailing)
 Johnson City, TN 37605-1597
 (800) 999-9515
 FAX (800) 999-5210

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