

# G SERIES SOLAR COLLECTORS

Advanced Technology and Reliability: The Heat Is On!

How well your solar system performs depends on the efficiency of your solar collectors.

Thermo Dynamics flat plate solar collectors set industry standards for superior performance and reliability. High technology and quality make the difference. Each *G* series collector is engineered to achieve the maximum efficiency in industrial, commercial and domestic water heating applications.

*G* collectors are attractively designed to incorporate the finest materials. The collector box and backing are made from corrosion-resistant aluminum alloy (6061-T6) and feature an attractive baked enamel finish (dark brown). The collector cover is a dimpled, low-iron tempered glass specifically formulated for solar applications. Frame fasteners are of aluminum or stainless steel, and all seals are of rubber that is non-degradable under ultra-violet light. The collector utilizes selected insulation on the back and sides to minimize ambient heat loss.

### *The Sunstrip™ solar fin - heart of the system.*

The solar absorber in the *G* collector features a copper header, top and bottom, and copper waterways in the Sunstrip™ riser fins. The solar absorber is assembled from the highly efficient, light-weight Sunstrip™ fin. This patented component is made from aluminum metallurgically-bonded to a copper tube. The exterior is treated with a selective surface that



ensures maximum energy collection. Depending on the climatic conditions, customers may select water or a glycol (non-toxic anti-freeze) solution as a working fluid for the collector.

To increase output, a series of flat plate collectors may be coupled to work in a grid format. Hydraulic coupling of collectors is easily accomplished via soldered or mechanical connections.

The Thermo Dynamics *G* Series collectors may be installed in a variety of applications with ordinary tools. The collector frame is designed to accommodate a number of mounting arrangements, with a versatile sliding bolt track system. Customers may choose from two clip options: one for flush collector mounting and another for more demanding applications. Either of the clips supplied by Thermo Dynamics will facilitate flush or rack mounting of the collector.

Thermo Dynamics *G* collectors deliver more energy for your dollar. They do it reliably and with little or no maintenance. *In fact, we guarantee it - for ten years!*



Fuel prices are always RISING . . . So is the **SUN**



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## Technical Specifications

Thermo Dynamics' *G* Series collector is available in one standard size; 4'x8' (3 m<sup>2</sup>). Custom sizes are also available.

The G32 (4'x8') grid collector weighs only 42 kg (92 lbs), much less than collectors with all copper absorbers.

Thermo Dynamics' *G* Series collectors are tested and capable of sustaining temperatures in excess of 205°C and routinely operate at 82° to 90°C.

The collectors will sustain wind-induced loads in excess of 2 kPa (0.29 psi).

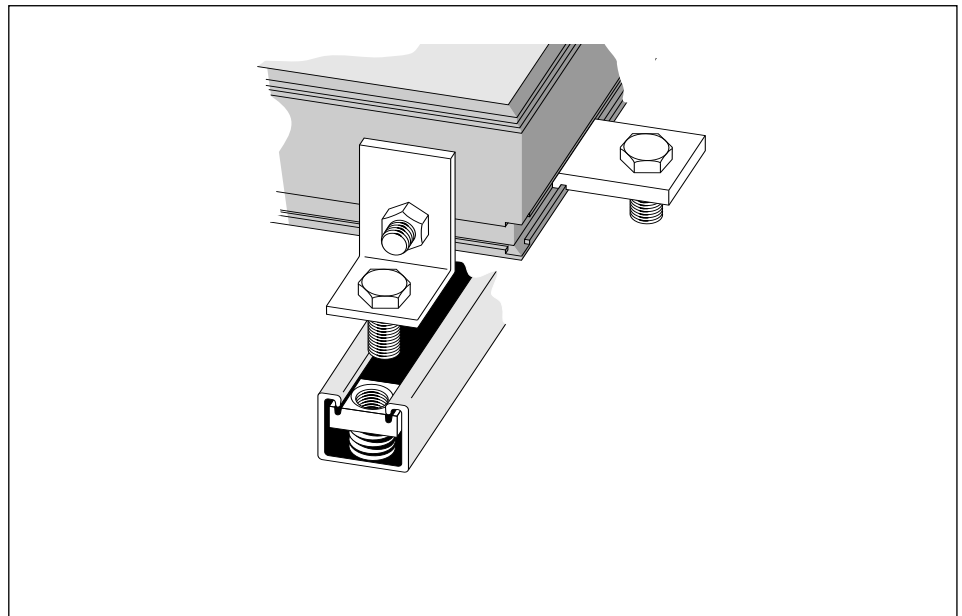
Maximum hydraulic pressure in the solar absorber is 2.76 MPa (400 psi) and working pressures are typically 104 to 413 kPa (15 to 60 psi).

Collector performance is excellent. The slope of the first-order efficiency curve is  $FR_{UL}=5.2$  W/m<sup>2</sup> and  $FR_{T\alpha}=0.724$  for the y intercept.

Hydraulic performance for a single 4'x8' collector is demonstrated in the accompanying curve.

Thermo Dynamics *G* series solar collectors are warranted for 10 years. The collector design life is in excess of 35 years.

Thermo Dynamics customers have used *G* collectors in their solar systems for over a decade. In an independent survey commissioned by Energy, Mines and Resources Canada in 1987, 100% of all Thermo Dynamics owners indicated that all service was satisfactory, that all defects (the least of 11 brands surveyed) were covered by warranty. As a new client of Thermo Dynamics you can expect the same dependability and reliable service. *You have our name on it!*



### *A company committed to the advance of solar.*

Since 1980, Thermo Dynamics Ltd. has been dedicated to researching, developing, manufacturing, and marketing the finest solar energy products available. Company innovations contribute to a better life-style for solar users in Canada, the United States, and many other countries.

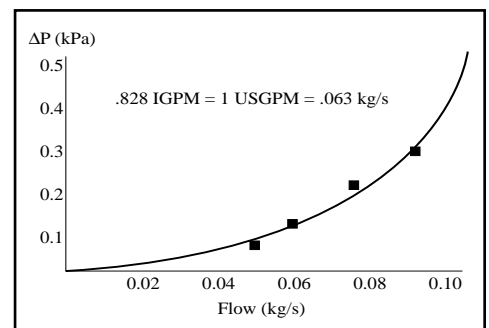
To ensure strong client support and service, Thermo Dynamics maintains an international network of knowledgeable dealers and representatives.

### *Thermo Dynamics Solar Products. Giving you a season for the sun all year round.*

For more information on the *G* Series Collectors, Sunstrip™, and other products, call or write us. We welcome your enquiries.



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The *G* Series Collectors described by this brochure, when properly installed and maintained, meets the minimum standards established by the SRCC, (Solar Rating & Certification Corporation). This certification does not imply endorsement or warranty of this product by SRCC.



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TEST FACILITY



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