

Solar Thermal

Hot Water from the Sun



Heating water with sunlight is the natural way to reduce your energy bills and carbon footprint.



Premium Solar Products



What Is “Solar Thermal”?

Solar thermal technology — **a solar hot water system** — collects energy from sunlight and uses it to heat water.

Who Uses It?

▶ Home and Small Business Owners for all hot water applications

Dish and laundry washing

Swimming pools

Baths and showers

Space and radiant floor heating

▶ Commercial, Industrial, and Agricultural Business Owners using a high volume of hot water

Hotels, motels, and campgrounds

Hospitals, clinics, and retirement homes

Apartment and condominium complexes

Restaurants, bakeries, dairies, greenhouses, and food manufacturers

Health clubs, spas, and water parks

Car washes and laundromats

Why Should You Use It?

FREE and unlimited sunlight greatly cuts the amount of electricity or gas needed to heat your water supply.

- **Cut your fuel bills** — stop relying on expensive electricity and gas to heat water.
- **Reduce your carbon footprint** with a pollution-free hot water system that uses almost no energy.
- Your **energy savings** over the proven 25 year lifespan **will pay for the system** many times over.
- **Never worry again** about enjoying a long, hot shower — no matter how high energy prices go.

How Can You Afford It?

Cover 30% to 70% of your system’s purchase and installation costs **with credits and rebates** available from federal, state, and local governments and utilities.

Find out what incentives are available at www.dsireusa.org

Why Choose Kingspan THERMOMAX evacuated tube solar collectors?

The most common solar thermal collectors are flat plate and evacuated (vacuum insulated) tubes.

Evacuated tube collectors are up to 30% more efficient than flat plate collectors because they are completely sealed from the environment for superior insulation.

Thermomax is the original and the world's highest performing evacuated tube solar collector.



The super-efficient insulating technology of evacuated tubes is based on the same glass vacuum tube design used for decades in thermo-insulated beverage bottles.



A highly insulated manifold and a row of evacuated tubes efficiently converts energy from the sun to usable heat.

It's a High Quality, Award Winning Product

Certified by Solar Rating and Certification Corporation (SRCC)

Solar Keymark approved 2003

International Forum Design Award for Excellence in Product Design 2005

Hail-impact tested EN12975-2:2006

ISO9001:2008



Built with Tough, Long Lasting Materials

Thermomax evacuated tubes are made with high quality glass that holds up to severe weather.

Collectors are tested and certified to withstand high-speed impact of 1" diameter ice balls.

Designed for Northern Climates

Cylindrical tubes collect solar rays from a continuous and wide range of angles, all day and year round.

Tubes collect solar energy in all weather conditions, sealing out cold, wind, and rain.

Highly insulated manifold retains heat.

Collector rapidly conducts and transfers energy.

Collector can provide additional heat for radiant space heating systems.

Collector designed to last at least 25 years.

Tubes warranted for 20 years when installed by an authorized dealer.

Supplies up to 80% of annual hot water needs — reducing dependence on expensive fossil fuels.

Highly Automated Manufacturing

Computer controlled robotic manufacturing ensures consistently high quality.



Kingspan THERMOMAX

Brought to You by



We Didn't Invent Solar Thermal.
We Perfected It.

So Now the World Can Benefit

Solar thermal technology has been around for over 250 years. Until recently, though, it worked best only in southern climates. We engineer highly efficient and cost effective collectors that make sense **anywhere**.

Your Project Has Our Full Commitment

We provide system design and technical help for residential and commercial applications, to make sure your project is a complete success:

- Design, schematics, and solar simulations for planning.
- Costing and performance analysis.
- Recommendations for a trained and monitored installer.
- Technical support to ensure the system is installed and operating correctly.

Get Thermomax Nationwide

Thermomax is available through a national network of distributors who provide product displays, technical resources, and fully trained installers.

Contact Kingspan Solar Inc. to find a distributor near you.

With installed systems still operating after 25 years, **more than 10 million Thermomax evacuated tubes are in service worldwide**, ranging from single collector residential systems (20-30 tubes) to large scale commercial installations with more than 480 collectors (14,500 tubes).

Typical Residential System



Large Scale Commercial System



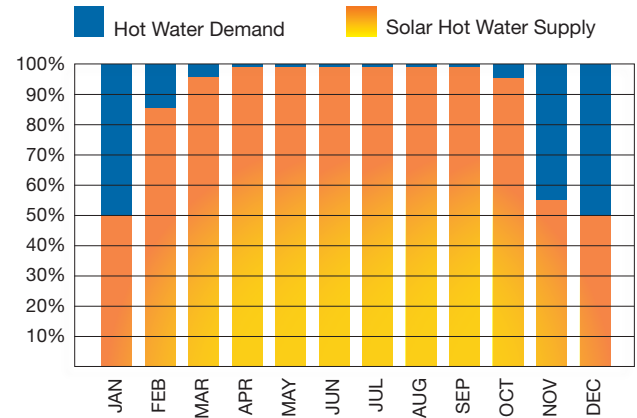
Solar Energy

Free, Forever,
& for Everyone

Each month, the sun delivers
— free of charge —
more energy to Earth
than humans have used
throughout all of history.

Collect Yours

The most advanced solar thermal technology can collect enough energy to provide up to 80% of average annual hot water needs.



Hot water supplied by a typical 30-tube array (34.3 ft²) of evacuated tube solar collectors in a coastal North American climate.

Solar radiation intensity varies by region and season.

How Solar Thermal Works

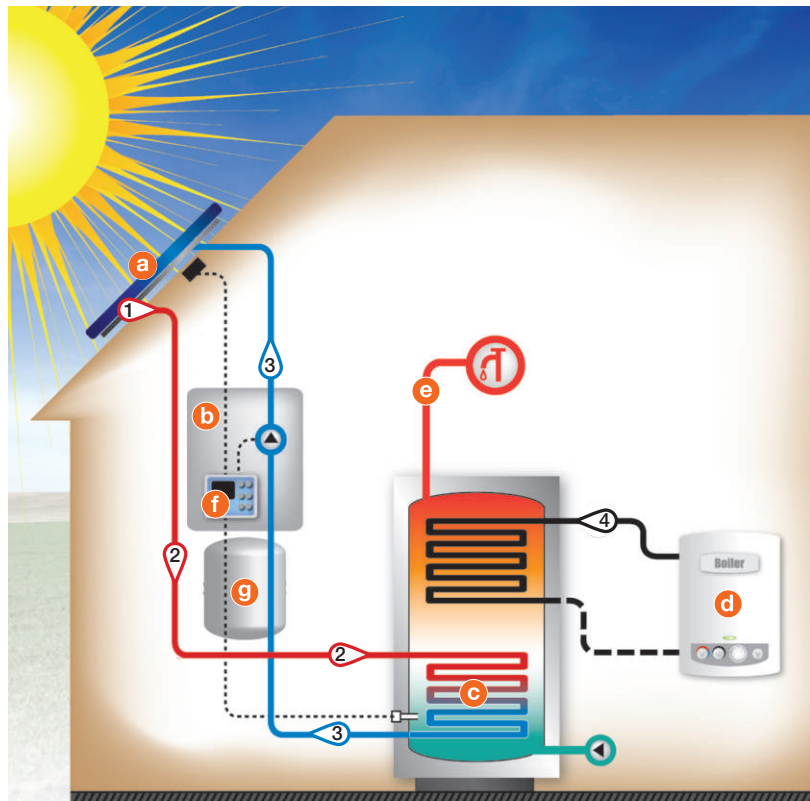
- a** Solar Collector — The efficiency and quality of the collector determines the performance of the whole system.
- b** Pump Station
- c** Hot Water Storage Tank
- d** Backup Heat Source
- e** Hot Water Distribution System
- f** Solar Controller
- g** Expansion Tank

All components work together to heat water from sunlight:

- 1 Sunlight hits the solar collector and heats thermal transfer liquid passing through it.
- 2 A pump circulates the heated thermal transfer liquid from the solar collector to the water tank coil, where its heat transfers to water in the tank.
- 3 The pump returns the cooled thermal transfer liquid to the solar collector tubes for reheating.
- 4 When needed, a backup heat source, such as a boiler, on-demand water heater, or electrical immersion element boosts the tank water to the desired temperature before it is distributed to its end use.

The differential temperature controller monitors and regulates the circulation rate of the thermal transfer liquid, based on weather and hot water demand.

The expansion tank regulates system pressure as the thermal transfer liquid expands and contracts.



Kingspan THERMOMAX

Brought to You by Kingspan Solar

Devoted to Solar Thermal

With an investment of more than 25 years in research, design, manufacturing technology, and infrastructure, Kingspan Solar is proud to lead the way in developing world leading solar thermal systems.

Kingspan Solar is a division of Kingspan Group, a global manufacturer of sustainable building products. Kingspan develops, manufactures, and distributes energy conserving building products and systems worldwide to provide efficient and cost effective solutions that make a zero-carbon lifestyle possible.

Since the early 1980s, we have been devoted to perfecting evacuated tube technology so that it generates hot water even on cold, wet, cloudy days. **We succeeded – and then some.**

Thermomax evacuated tube solar collectors are the most efficient solar thermal collectors anywhere.

Our policy is to continually develop and improve our product; therefore, we reserve the right to alter and amend specifications shown in this literature.



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