

## HELISORBER, A NEW SOLAR THERMAL CHILLER/HEAT PUMP

Energy Concepts Company announces a new solar thermal chiller/heat pump product – the “**Helisorber**”.

*This product establishes a new world record for solar thermal system efficiency.*

*The Helisorber™ more than doubles the useful output from a solar thermal collector. For example, supplying 100 kW of thermal heat from a collector to the Helisorber will yield 75 kW of 7° C chilling plus 175 kW of hot water heating to 60° C.*

The California Energy Innovation Small Grant Program funded development of the initial Helisorber prototype. That unit produces 87 kW (25 tons) of chilling and 215 kW of water heating from 130 kW thermal fluid heat input. The design has been optimized and scaled to refrigeration capacities from 10 to 200 tons (35 to 700 kW).

This unprecedented high level of performance comes with two caveats:

1. The chilling and heat pumping are produced simultaneously, so both must be used, stored, or lost.
2. The driving temperature must be 125° C or higher.

The Helisorber builds upon more than twenty years of development effort on ammonia water absorption cycles, including numerous field demonstrations. It incorporates the lessons learned from U.S Department of Energy supported developments, including the Thermosorber thermal heat pump, the Isaac solar icemaker, and the Helichiller solar thermal chiller. The Energy Concepts Company aqua absorption cycle products are characterized by compactness, low ammonia charge, robustness, reliability, and low cost.

### References:

EISG Helisorber Final Report:

[http://www.energy-concepts.com/page\\_attachments/0000/0063/Helisorber\\_Final\\_report\\_B1a.pdf](http://www.energy-concepts.com/page_attachments/0000/0063/Helisorber_Final_report_B1a.pdf)

IEA Heat Pump Centre Newsletter, Volume 25 - No. 1/2007, Page 24, "Thermally Powered Heat Pump/Chiller Sets New Efficiency Standard":

[http://www.heatpumpcentre.org/en/newsletter/previous/Documents/HPC-news\\_1\\_2007.htm](http://www.heatpumpcentre.org/en/newsletter/previous/Documents/HPC-news_1_2007.htm)

Energy Concepts Company Helisorber: <http://www.energy-concepts.com/helisorber>

ISAAC Solar Ice Maker: <http://www.solaricemaker.com>



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