

Energy Design Update®

The Monthly Newsletter on Energy-Efficient Housing, from CUTTER INFORMATION CORP.

NEW PRODUCTS

REPRINT

A Breakthrough in Indoor Pool Dehumidification

Indoor swimming pools are one of the most challenging and expensive environments in the world to condition. Not only do you have to control air temperature and relative humidity around the pool, but the equipment has to be tough enough to survive an environment filled with highly corrosive chlorinated water vapor.

With that in mind, Heat Pipe Technology (Gainesville, Florida) has introduced the BKPool dehumidifier, claiming that it has achieved a real breakthrough in economy and durability. As shown in Figure 1, the new humidifier uses patented Dinh heat pipe technology to boost its efficiency.

"We have the only dehumidifier on the market that has heat pipes integrated into the evaporator coil to precool the air," notes Frank Suranyi, vice president of marketing. "That means that the coil can remove a lot more moisture or latent heat from the air, because the heat pipe has already passively removed a lot of the sensible heat. Basically, we can match the work of a 5-ton unit with only 3 tons, which provides real savings on electricity." Suranyi provided *EDU* with the operating cost comparisons shown in Table 1, which show that, in some scenarios, BKPool could achieve annual operating savings as high as 55% versus conventional equipment.

The BKPool dehumidifier can be configured with a remote condenser to provide free air-conditioning and/or cupro-nickel heat exchangers to heat the pool water. The system is also capable of handling up to 25% fresh air to ventilate the pool area and maintain good indoor air quality.

Suranyi tells *EDU* that the dehumidifier's heat pipes, coils, and other components are protected from corrosion by a new

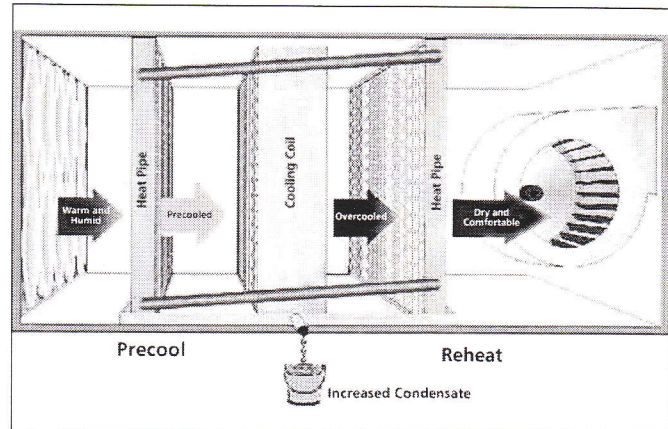


Figure 1 — Schematic of the new BKPool dehumidifier with Dinh heat pipes.

proprietary polymer coating that's applied using a chemical grafting technique. The cabinet is entirely stainless steel.

The BKPool dehumidifiers are rated at 300-500 lbs of water-removing capacity per day and are covered by a five-year prorated warranty on the scroll compressor and a five-year warranty on the cabinet. They measure 45 x 34 x 22 inches.

For more information, contact Heat Pipe Technology, 4340 NE 49th Avenue, Gainesville, FL 32609. Tel: (352) 367-0999; Fax: (352) 367-1688; E-mail: heatpipe@heatpipe.com; Web site: www.heatpipe.com.

Table 1 — Comparison of Pool Dehumidification Systems¹

	BKPool Model 500 with Heat Recovery Water Heating	Conventional System with Gas-Fired Water Heating ²
Annual electricity costs	\$1,715 ³	\$2,205 ⁴
Annual gas costs	\$0	\$1,617 ⁵
Total annual costs	\$1,715	\$3,822

¹Assumes the indoor pool is 700 ft² (65 m²) located in a 1,500 ft² (140 m²) room, with water temperature maintained at 80°F (27°C), air temperature at 82°F (28°C), and relative humidity at 60%.

²Assumes a 4-ton air conditioner and 50,000-Btu gas boiler firing at 80% efficiency.

³Assumes 80% runtime. 3.5 kilowatt (kW) x 7,000 hrs x 7¢ per kilowatt-hour (kWh).

⁴Assumes 80% runtime. 4.5 kW x 7,000 hrs x 7¢ per kWh.

⁵Assumes \$1.47 per therm and 2,200 hours of operation a year (six months at 12 hours per day).

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