Highlighting innovative design features
and useful application information for
Thermo Scientific™ Recirculating Chillers and Bath Circulators

smart notes

design and innovation ▶ water conservation

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Q&A

With the rising cost of municipal water supply and sewer disposal, along with corporate initiatives and municipal laws aimed at reducing water usage, how will the cost of purchasing and running a recirculating chiller or bath circulator affect my bottom line?

First calculate the annual water usage and the cost of purchasing and disposing of that water. Then calculate the cost of purchasing and operating a chiller or circulator. Depending on what you pay for water, sewer and electricity in your community, you may be surprised how little a chiller or circulator actually costs. In fact, you may discover that using a chiller or circulator may save you money and pay for itself over time.

Why recirculating chillers are cost effective?

The rising cost of water

According to a USA Today article[1] from 2012, in a study of 100 municipalities the cost of water has doubled and sometimes tripled since 2000. The average cost of water in the USA is currently about $1.50/1000 gallons[2]. The rates in cities can be much higher as this chart for Boston, Massachusetts indicates[3].

Boston 2014 Water and Sewer Rates				
Consumption	Water Rates		Sewer Rates	
(day)	per 1000 cu.ft.	per 1000 gallon	per 1000 cu.ft.	per 1000 gallon
First 19	$46.64	$6.23	$60.38	$8.07
Next 20	$48.82	$6.53	$62.24	$8.32
Next 50	$50.84	$6.80	$63.49	$8.49
Next 260	$54.06	$7.23	$66.99	$8.96
Next 950	$56.40	$7.54	$70.69	$9.45
Over 1,299	$58.38	$7.81	$73.13	$9.78

A. A modest application using 4 gpm that runs 8 hours/day, 5 days/week, 50 weeks a year will equate to an annual water cost in Boston of $7576!

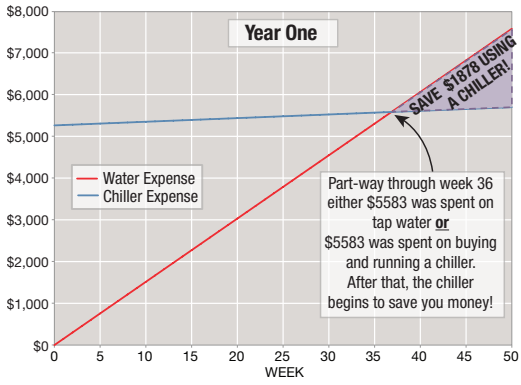
B. A top of the line Thermo Scientific™ ThermoFlex™ 2500 Recirculating Chiller with a cooling capacity of 2500W @ 20°C has a selling price of about $5262.

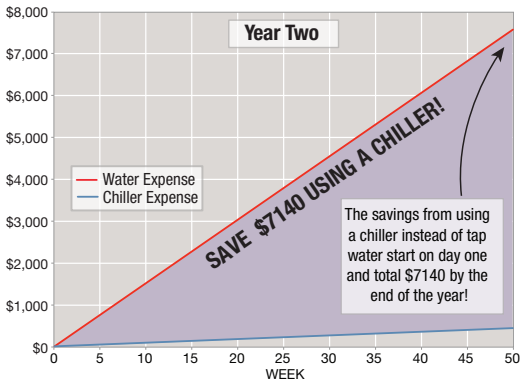
C. Based on water usage alone this chiller would pay for itself in about 36 weeks.

D. Running the ThermoFlex 2500 at full load calculates to an annual cost of $436 (9.006 cents/kWh[4]).

E. Factoring this expense in with the water savings, the first year of use pays for the chiller and still saves $1878, the second year savings is $7140!

NOTE: bath circulators can be used for applications requiring 1000W or less of cooling and can provide similar subsequent annual savings.





Summary

Many companies are looking for ways to lower their impact on the environment. One way to achieve this goal is to use less water. Whether your company is in an area that prohibits the use of tap water for cooling purposes or not, a Thermo Scientific recirculating chiller or bath circulator can have the added benefit of lowering costs associated with cooling water and improve your bottom line.

[1] http://usatoday30.usatoday.com/money/economy/story/2012-09-27/water-rates-rising/57849626/1
[2] www.fcwa.org/story_of_water/html/costs.htm
[3] http://www.bwsc.org/services/rates/rates.asp
[4] http://www.nstar.com/residential/rates_tariffs/basic_service.asp

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