

## Overview

Recold evaporative condensers can help improve your refrigeration system over air-cooled condensers by having:

- Up to 50% less energy usage
- Annual cost savings that can be greater than the price of the condenser
- System benefits like less refrigerant charge, reduced rack and electrical service costs, and extended compressor life

...and this in regions outside the southwest!

## Detail – Low Operating Cost

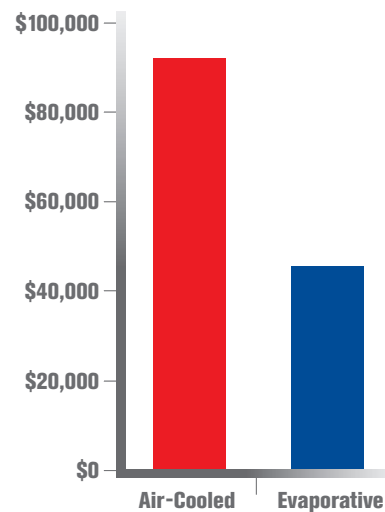
- Compressor and condenser energy usage can be reduced up to 51%, translating into as much as \$35,000 in annual operating cost savings

Because...

- Evaporative cooling can provide significantly lower condensing temperatures than achievable with “air cooled” or “dry” heat rejection devices
- Reaching lower condensing temperatures allows evaporative devices to transfer heat more efficiently, using less electrical energy



**Estimated Annual Compressor and Condenser Energy Cost**



Total Low and Medium Temperature	Air-Cooled	Evaporative	Delta
Installed Compressor and Condenser Power (hp)	175.1	132.4	-24%
Annual Energy Use (kWh)	1,030,687	502,752	-51%
Annual Energy Cost	\$92,762	\$45,246	-\$47,516
Annual Water Usage, Serwer, Maintenance Costs	---	---	\$11,844
Annual Operating Cost	---	---	-\$35,672

*Note: Energy usage estimates based on industry recognized energy analysis software. Water usage estimates based on typical operating parameters, cost varies by municipality. See system detail on following page.*

## Detail – System Benefits

- Lower condensing temperatures can lower compression ratio as much as 23%, extending compressor life
- Up to 24% less total installed condenser and compressor power, reducing rack and electrical service costs
- Evaporative heat transfer can lower refrigerant charge by as much as 100 lb

## Calculation Detail

Estimates based on simulated annual operation of a 40,000 ft<sup>2</sup> supermarket refrigeration system in Miami, FL. Contact Recold for information specific to your site.

Evaluation Parameter	Low-Temperature Summary			Medium-Temperature Summary		
	Air-Cooled	Evaporative	Delta	Air-Cooled	Evaporative	Delta
Condenser Refrigerant	R-404A	R-404A	---	R-404A	R-404A	---
Capacity (Btu/hr)	303,500	306,000	---	555,000	551,000	---
Suction Temperature (°F)	-20	-20	---	+20	+20	---
Condensing Temperature (°F)	110	95	-15	115	95	-20
Dry Bulb / Wet Bulb Temperature (°F)	100	80	-20	100	80	-20
Rate Compressor Power (hp)	73.6	60.6	-18%	83.5	59.8	-28%
Compression Ratio	8.98	7.33	-18%	4.33	3.32	-23%
Rated Condenser Power (hp)*	9	6	-33%	9	6	-33%
Annual Energy Use (kWh)	525,376	272,223	-48%	505,311	230,519	-55%
Annual Energy Cost (\$)	\$47,284	\$24,501	-\$22,783	\$45,478	\$20,745	-\$24,733

\*Evaporative condenser rated power includes a 10 hp fan motor and 2 hp pump motor. One unit is used for both low and medium temperature systems; multiple loads are easily separated in a Recold Evaporative Condenser.

## Recold Evaporative Condensers

- Low-profile forced-draft or induced-draft
- 294 to 7644 MBH capacity
- Corrosion-resistant copper coils
- Proven redundancy options
- Time saving maintenance access features
- Easy to install, factory wired and tested
- Made in the USA

## Key Contacts

- Southeast Refrigeration Sales:  
george.varzaly@spx.com 770 982 2121
- Refrigeration Applications:  
mike.lloyd@spx.com 714 482 4314
- HVAC Applications:  
jon.walker@spx.com 714 482 4328

Recold has manufactured heat exchange equipment serving Refrigeration, HVAC, and Industrial applications for over 75 years. For the best value in heat rejection, insist on a Recold Evaporative Condenser.

### SPX COOLING TECHNOLOGIES, INC.

550 W MERCURY LANE  
BREA, CALIFORNIA 92821 USA  
714 529 6080 | [spxcooling@spx.com](mailto:spxcooling@spx.com)  
[spxcooling.com](http://spxcooling.com)

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