

# TrilliumSeries™ Condenser is the Solution for Title 24 Requirements

California Title 24 is an energy efficiency standard created by the California Energy Commission. The standard applies to both residential and nonresidential buildings and covers all aspects of building energy use in order to:

- ✓ Reduce energy use and create more efficient operation
- ✓ Increase electricity reliability and reduce demand
- ✓ Increase comfort of building inhabitants
- ✓ Promote environmental conservation



## DID YOU KNOW?

The 2013 Title 24 standard took effect **July 1, 2014** and increased the minimum energy efficiency requirements for all air-cooled and evaporatively-cooled condensers. This significantly reduced many condenser manufacturers' product offerings available for sale in California.



TrilliumSeries™ Condensers Purchased in California Due to their Reduction in Energy Use Compared to Air-Cooled Condensers

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# TrilliumSeries™ Condenser is the Solution for Title 24 Requirements

The following table summarizes some of the code requirements, how the code effects the refrigeration system, and how the TrilliumSeries™ Condenser can be an ideal solution.

Title 24 Code Highlights (§120.6(b))	Effects to the Commercial Refrigeration System	The Solution
<p>Title 24 applies to retail food stores that have:</p> <ul style="list-style-type: none"> <li>• Air-cooled or evaporatively-cooled condensers</li> <li>• &gt; 8,000 ft<sup>2</sup> of conditioned space</li> <li>• Condensers with THR capacity &gt; 150,000 Btu/h at 100°F CT / 70°F WBT</li> <li>• New condensers replacing existing units, if the system THR is increased and &gt; 25% of attached compressors and display cases are new</li> </ul>	<p>Higher installed cost due to larger and higher first cost of equipment.</p>	<p>TrilliumSeries™ Condenser is exempt from Btu/h/W requirements, but is designed to maximize energy efficiency and meets all of the requirements from Title 24.</p>
<p>All condenser fans must be continuously variable speed.</p>	<p>Staged fans are no longer acceptable.</p>	<p>The TrilliumSeries™ Condenser has high efficiency variable speed electronically commutated (VSEC) motors as standard.</p>
<p>The refrigeration system controls must reset the condensing temperature based on the ambient dry bulb temperature for air-cooled condensers and on the ambient wet bulb temperature for evaporative condensers.</p>	<p>Maintaining the constant design condensing temperature, irrespective of the outside temperature, is not acceptable.</p> <p>Lowering the condensing temperature allows the compressors and the overall refrigeration system, to run more efficiently and save energy.</p>	<p>Each TrilliumSeries™ Condenser is offered with custom controls logic which can reduce the condensing temperature on non-design days to maximize system energy savings.</p>
<p>Air-cooled condensers must have a fin density ≤ 10 fins per inch.</p> <p>Microchannel coils are exempt.</p>	<p>Some air cooled manufacturers provide selections using 12+ fpi to reduce footprint.</p>	<p>The TrilliumSeries™ Condenser is supplied with a microchannel coil for high heat transfer efficiency.</p>
<p>Air-cooled condensers must have efficiency ≥ 65 Btu/h/W at 105°F CT / 95°F DBT.</p> <p>Evaporative condensers must have efficiency ≥ 160 Btu/h/W at 100°F CT / 70°F.</p>	<p>Failure to meet the threshold may mean that the city inspector will refuse to provide a passing inspection.</p>	<p>The minimum efficiency of the product line is 205 Btu/h/W at 105°F CT / 95°F DBT / 70°F WBT.</p>

**The TrilliumSeries™ Condenser provides a peace of mind solution when meeting Title 24 condenser requirements.**

For questions on how BAC can best meet your condenser needs, including payback and total cost of ownership analyses, contact Baltimore Aircoil Company. For the full Title 24 text, go to [www.energy.ca.gov/Title24](http://www.energy.ca.gov/Title24).