



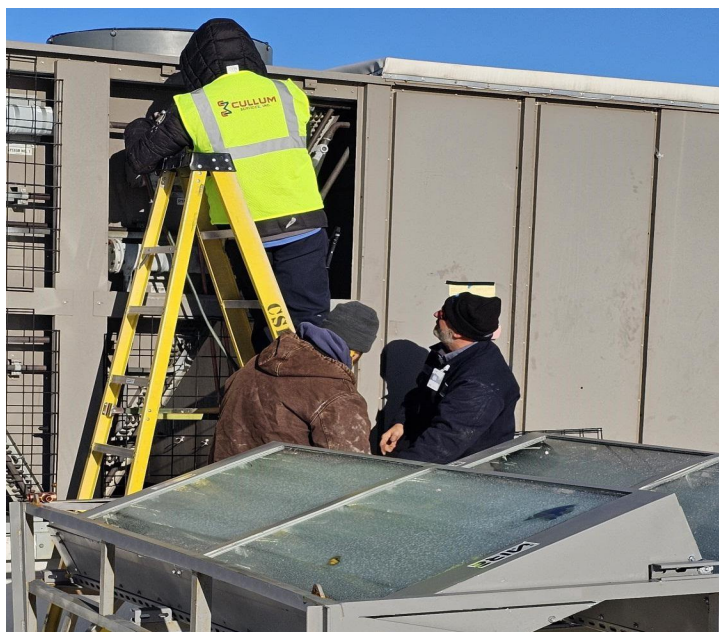
## PROJECT / PRODUCT PROCLAMATION



Quantum Technologies and iAIRE are pleased to announce that we are currently working with a global manufacturer to reduce their HVAC energy costs by at least 35%. This customer owns a 20+ million square foot facility in South Carolina and has asked us to apply an iAIRE Solar Assisted Energy Management System to one of their HVAC units. They were gracious enough to give us the opportunity to apply our solar modification to their system and monitor the performance, while simultaneously monitoring an identical unit without the solar modification. This will give us a true real-life comparison and provide us with data that will thoroughly define iAIRE's solar product capabilities once again.

iAIRE's solar collectors are certified to be more than 65% effective per OG-100 to the Solar certification on ICC901/SRCC100. This OG-100 certification will qualify our customer for both Federal and State solar rebates, incentives, and tax credits. Once this unit has been fully retrofitted, the payback is projected to be 2.81 years. That payback was calculated using those rebates, incentives, and credits in conjunction with an estimated solar collector effectiveness of only 35%.

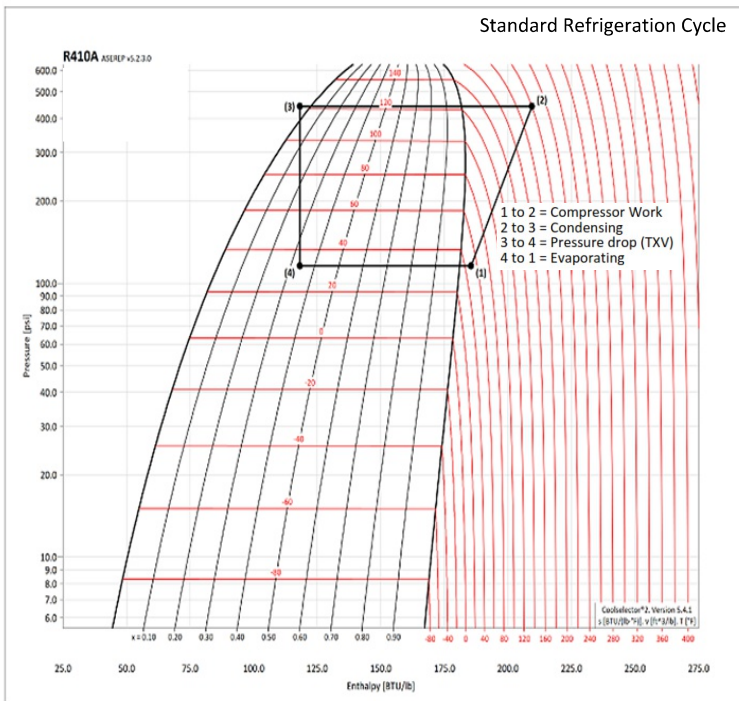
For this installation we were lucky to be able to work with Cullum Services. The folks at Cullum Services are not afraid to embrace emerging, advanced, or even counterintuitive technologies. Their vast knowledge and experience with refrigeration systems enabled them to immediately understand how the iAIRE Solar Assisted Energy Management System works, and how its counterintuitive energy saving technology can help their customers' bottom line. Cullum Services is the first Mechanical Contractor in the Carolinas that is trained to install and service the iAIRE Solar Assisted Energy Management System.



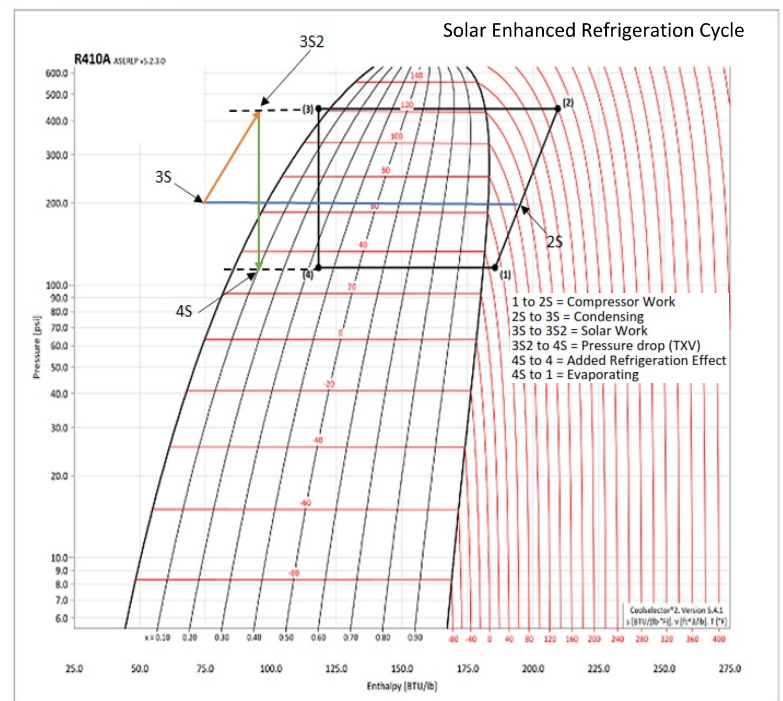
# HOW IT WORKS

The largest consumer of energy in any refrigeration cycle is the compressor. When the compressor adds pressure to the refrigerant, the temperature of that refrigerant also rises. Likewise, when heat is added to the refrigerant, the pressure rises. Unlike solar panels that generate electricity, iAIRE solar collectors are designed to use UV energy to heat liquids. A standard retrofit installation includes mounting the solar collector on the condenser and plumbing it to the liquid line. The converted heat from the collector is absorbed by the liquid refrigerant. This process is monitored to determine the amount of heat, and therefore pressure that is being added to the system via the harnessed UV energy. That information is then used to manage the speed of the compressor. At full capacity iAIRE's solar collectors will do all the work of the compressor, and the compressor will become nothing more than a pump. The results are phenomenal. The Energy Efficiency Ratio (EER) is simply power out divided by power in. An increase in the numerator will render a higher EER. Decreasing the denominator will have the same effect. When properly applied, the iAIRE Solar Assisted Energy Management System does both. It not only decreases the amount of energy that the system uses (denominator), but it also increases the capacity (numerator) via the recovered refrigeration effect from additional subcooling.

Detailed log(p)-h diagram



Detailed log(p)-h diagram



Please feel free to contact us if you are interested in learning more about how the iAIRE Solar Assisted Energy Management System can help to decrease your operating costs and improve your bottom line.

Visit us at: [www.quantum-technologies-inc.com](http://www.quantum-technologies-inc.com)

