

DO YOU GET ALL THIS FROM YOUR CHILLER PLANT ENERGY OPTIMIZATION PACKAGE?

- Accurate sensor data
- Calculated Part Load Value
- Verified savings
- Fault detection and diagnostics
- Lifetime continuous commissioning
- AHRI-certified laboratory
- Dedicated engineering support



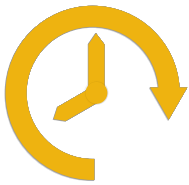
SMARTenergy **OPS**[®]

OPERATIONS // PERFORMANCE // SERVICE

We'll show you how to cut your chiller plant system operating costs.



In fact, we'll show you every 15 minutes.



With SMARTenergy OPS[®], you get more from your energy assets. Our optimization platform provides real-time continuous monitoring of a water-cooled chiller plant system every 15 minutes. Based on your chiller system operating data and our proprietary algorithms, our engineering team helps you optimize energy usage, improve performance and reduce your annual operating costs by up to 35%, returning your investment in less than two years.

What Makes SMARTenergy OPS[®] Stand Out from the Crowd?

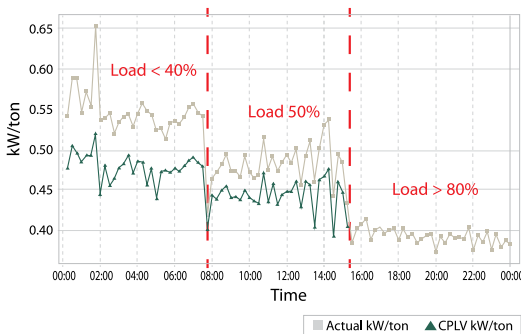
- SMARTenergy OPS[®] is a Managed Software as a Service (MSaaS) which combines cloud-based analytics with remote engineering expertise
- We install and use highly accurate and calibrated sensors on your system to collect operating data and send it to our secure servers every 15 minutes. Our proprietary algorithms analyze the data across critical operating parameters specific to your chiller plant, which enables SMARTenergy OPS[®] to identify operating issues and actions to improve your system's efficiency.
- SMARTenergy OPS[®] simulates the actual operating conditions of the chiller and develops a **Calculated Part Load Value (CPLV)** of the chiller efficiency. The difference between the actual operating kW/ton and CPLV sets the target for optimization and provides you with a lost opportunity cost.
- Your **verified energy and cost savings** are calculated by SMARTenergy OPS[®], providing information that can be included in sustainability reports or submitted to utility rebate programs.
- SMARTenergy OPS[®] intelligently performs **fault detection and diagnostics**. This includes heat transfer issues, compressor performance, water flow issues, refrigerant stacking, system alarms and sensor errors.
- The system never sleeps. If your chillers are running, SMARTenergy OPS[®] is collecting and analyzing operating data, which is archived to provide a complete picture of chiller plant operations under a range of conditions. You'll have the option to maintain this optimization service for the life of your equipment and sensors, providing true **lifetime continuous commissioning**.
- We conduct a tailored refrigerant, oil and water sampling program. Samples are analyzed at our **AHRI-certified lab** — one of only three in the United States — and an engineering report is prepared for you, highlighting any issues with the fluids in the chiller. Combined with the SMARTenergy OPS[®] results, these recommendations give you all the information you need to optimize your chiller plant operations.
- You receive **dedicated engineering support** for each customer installation.

SMARTenergy OPS®

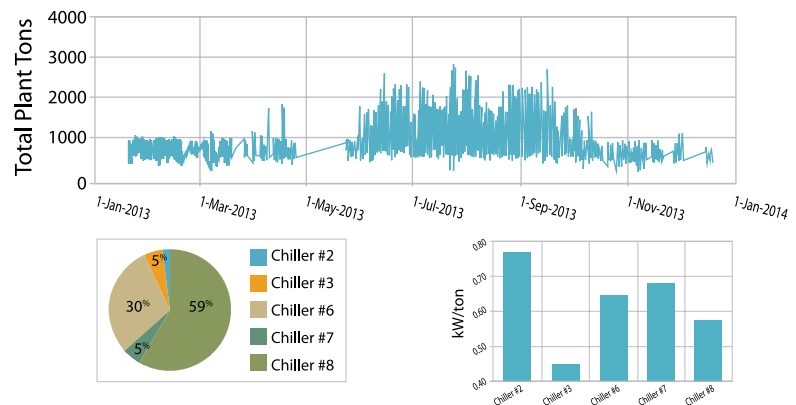
- MSaaS with cloud-based analytics and engineering oversight
- Automatically collects and analyzes operating data every 15 minutes
- Provides a comparison of actual kW/ton to CPLV for gap analysis
- Conducts fault detection and diagnostics, identifying issues before they become operational problems
- Provides monthly reports on chiller performance and recommends actions to improve system efficiency and performance
- Includes a tailored refrigerant, oil and water sampling program
- Enables you to achieve and verify significant operational savings, year after year
- Provides lifetime on-line access, at a nominal fee, to your chiller plant operating data, SMARTenergy OPS® optimization and fault detection and diagnostics algorithms

Examples of SMARTenergy OPS® Online Reports

Using CPLV to Close the Gap



Total System Load and Individual Chiller Performance



Engineering Optimization Support

We team your operations staff with our expert energy systems engineers to seize opportunities to improve efficiency whenever they occur. After six weeks of data collection, the Hudson engineer assigned to your site reviews the results with your operating team and presents an Initial Action Plan to improve chiller plant efficiency and performance. At that time, your dedicated Hudson engineer will also provide web-based training to your facility team on how to access your data and run reports on our secure website.

We provide detailed monthly reports and make periodic operating recommendations, such as optimizing basin water temperature management, balancing load and sequencing of chillers for maximum plant efficiency.

The Bottom Line

- Significant cost savings of 15% to 35% that you will see immediately based on operational changes
- Improved chiller plant system reliability because issues are detected before they become operational problems or result in costly shut-downs
- Lifetime continuous commissioning

For More Information

To learn more about SMARTenergy OPS®, please contact us at 845-359-4717 ext. 0 or SMARTenergyOPS@hudsonotech.com.





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