Data Holdings, LLC
Data Center Case Study

"We want our customers to be confident in our ability to provide uninterrupted service 24x7x365, and do it at an extremely competitive cost."

–Pepi Randolph, CEO, Data Holdings

Situation

Data Holdings was designed as a Tier III Enhanced, wholesale, multi-tenant data center with dedicated data suites for primary and secondary disaster recovery needs. Data Holdings built a two story, 46,000 sq. ft. facility in Milwaukee, Wisconsin.

Challenges:

Building customer confidence of data center security and reliability

Accommodating industry changes and growth

Offering 24x7x365 uptime

Achieving exceptional Power Usage Effectiveness (PUE)

Solution

Johnson Controls provided HVAC equipment, controls and DCIM to ensure proper environmental conditions within the facility.

At the heart of the center's support infrastructure are multiple 400-ton YORK® YCAV Air-Cooled Variable Speed Drive (VSD) Screw Chillers in a redundant configuration. The units are designed for high energy efficiency at full and partial load. In addition to their inherent reliability, the chillers also provide fast restart capability in case of power interruptions. After shutdown, the units can be back online and producing chilled water within two minutes or less.

The chillers' efficiency contributes to the data center's calculated PUE rating of 1.28. The units provide the potential for "free cooling" essentially year-round.

A Johnson Controls Metasys® building management system monitors and controls air temperatures in the server rooms and regulates other building functions. The Metasys® system effectively automates a control strategy that optimizes cooling efficiency and temperature control, minimizing PUE.

The final element provided by Johnson Controls was a data center infrastructure management (DCIM) system. The DCIM system helps center personnel constantly monitor the data center, providing dashboards that display a wide variety of current operating parameters, as well as easy access to historical and trend information.

Johnson Controls

> "The Data Holdings Milwaukee facility provides capabilities that will help keep Milwaukee and its surroundings relevant, progressive and attractive as a place for businesses to locate, grow and prosper."
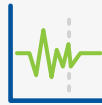>
> —*Pepi Randolph*, *CEO, Data Holdings*

Results

Johnson Controls helped Data Holdings achieve a world-class data center that achieved stakeholder goals through:

The extensive, real-time monitoring via the open architecture of Metasys® controls temperature and other environmental factors. Metasys® also detects operation issues before they become problems.

The PUE trends, metrics and critical operating parameters available through DCIM.

The critical cooling for proper environmental conditions from a YORK® chiller with variable-speed drives and water-side economizers.

These solutions help Data Holdings offer unrivaled uptime, flexibility and efficiency for their customers.

Planned future capacity expansions will deploy newer, even more efficient YORK® YVAA chillers, which utilize a falling-film evaporator and advanced microchannel condenser coils to reduce the refrigerant charge by up to 15 percent.

About Johnson Controls Building Technologies & Solutions

Johnson Controls Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire protection or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®. For more information, visit **www.johnsoncontrols.com** or follow @JCI_Buildings on Twitter.