


DATA CENTER AIR HANDLING COOLING SOLUTIONS

World-class performance and reliability from YORK®



As data storage and protection needs grow, so can costs and complexity. That's why having the right partner makes all the difference. With more than 140 years of experience in building efficiency and construction, YORK® air handling and chilled water cooling systems can be found in hundreds of data centers and critical performance facilities across the world. Whether traditional or modular construction, new construction or retrofit, or any level in between, our integrated systems approach delivers the optimal data center solution – reliable, efficient, cost-effective – to maximize performance and provide ultimate uptime.

Advanced Efficiency

As the leader in innovative air-cooled and water-cooled solutions, you can be certain a precision-engineered YORK® system will cut costs, reduce your carbon footprint and provide rock-solid reliability. And because we're the only provider with expertise in both chilled water and air handling systems, we can provide a single point of responsibility for managing the design, delivery, commissioning and ongoing service of the entire system. The end result is a complete system that provides sustainable, high-efficiency cooling and air management.

- **Airside economizer systems** from our Ruskin® brand provide airflow control using dampers to bring in cool, outside air ahead of systems that require more power
- **Airside energy recovery** utilizes the highest efficiency components for the transfer of energy when free-cooling from our water-side or air-side economizer systems are not an option.
- **Complete fan systems** optimize wire-to-air efficiency throughout the entire system versus specific parts.
- **Purpose-built coils** are engineered and assembled by YORK® specifically for chilled water and direct expansion (DX) environments where the evaporator is in contact with the air stream.
- **Evaporative cooling technologies** can provide cost-effective cooling as a supplemental or primary source where water resources are readily available.
- **Filtration systems** designed for data centers help keep critical components clean with minimal pressure drop, increasing efficiency.
- **World-class YORK® air handling laboratories** allow for extensive, ongoing research and development while providing unmatched, multi-variable performance validation.

- **Energy-saving features** from Metasys® building management technologies provide control over how and when systems are running, including scheduling, occupancy detection and trend summaries.
- **Compliance with state energy codes**, including ENERGY STAR® and LEED, come standard.

Industry-leading Reliability

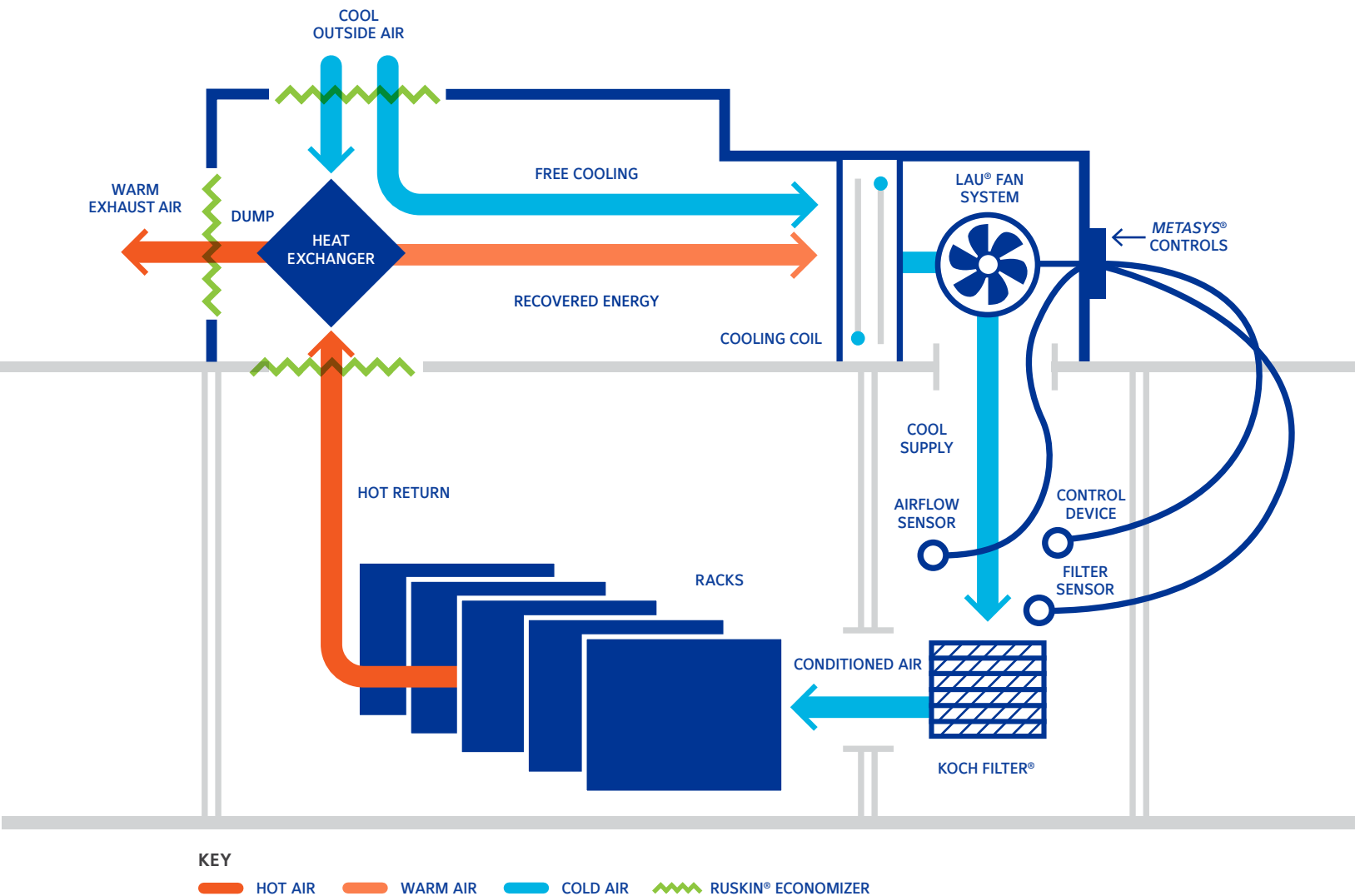
With an estimated 50 billion connected devices in use by 2020, businesses are faced with an urgent need to store and protect data. And you're faced with an urgent need to protect and manage that data. Providing reliable, redundant systems to maintain adequate cooling and air movement is a critical concern, which is why nearly 4.5 million sq. ft. of data center systems worldwide are entrusted to air handling solutions from YORK®.

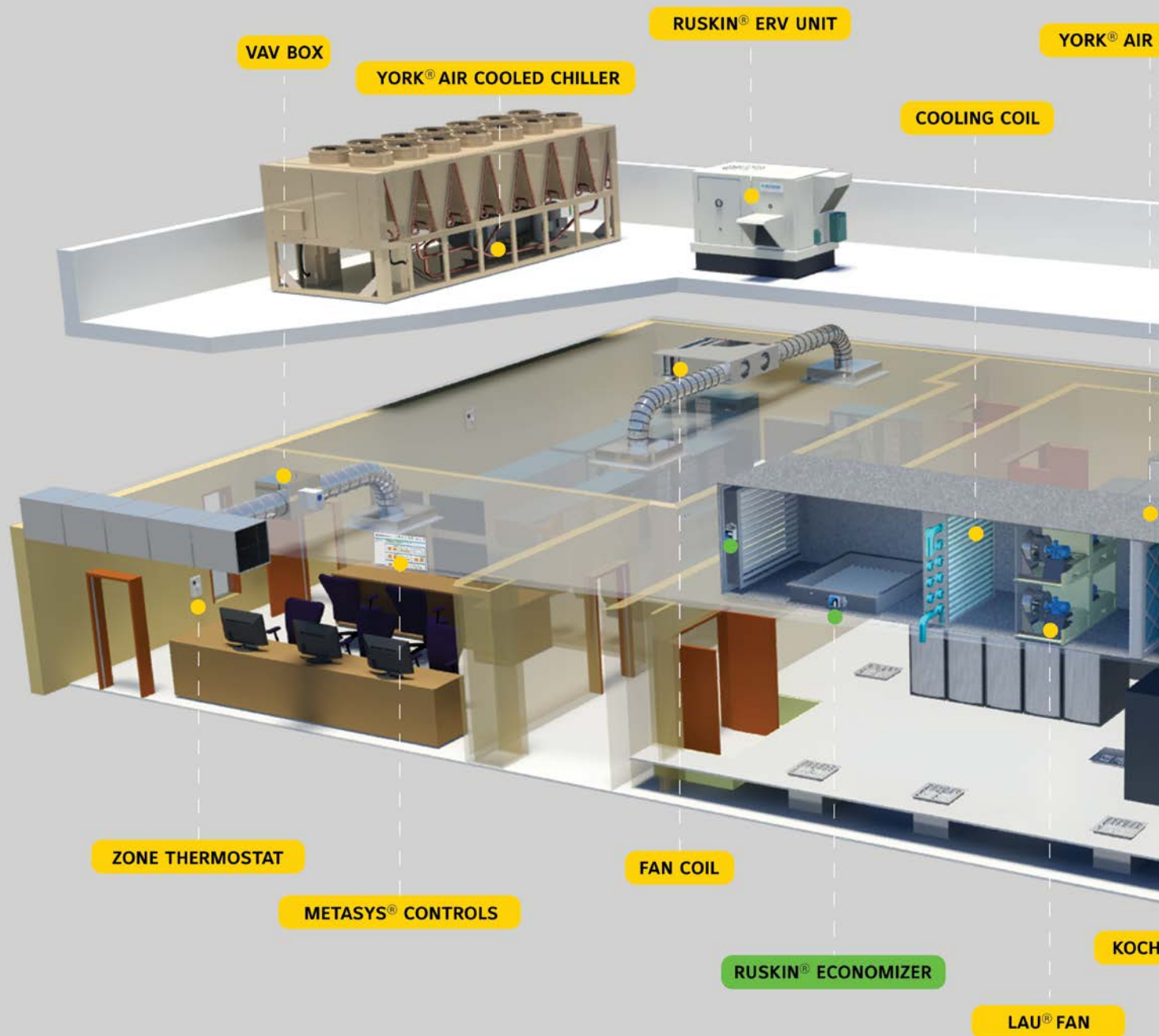
- **Redundant cooling systems** prevent a zero-capacity situation (split load or full load capable), with supplemental spot cooling for high-load zones.
- **Redundant fan arrays** maintain efficient airflow.
- **Redundant power systems** feature battery backup solutions managed by YORK®.
- **Predictive controls** from Metasys® building management technologies go beyond simple, moment-by-moment systems to provide early failure detection and diagnostics when triggers identify a failure is possible.
- **Protective casings** permit system setup indoors or outdoors – or even the option for both.

Complete Cooling Solutions

With in-depth experience in both air handling and chilled water cooling systems, YORK® provides a single point of responsibility for an entire data center cooling solution. Partnering with YORK® ensures proper component integration and efficient, reliable operation across the entire system.

- Heat exchanging technology **recovers energy** to reduce mechanical cooling loads and improve system efficiency.
- Ruskin® brand **airside economizer systems** use dampers to bring in cool, outside air when available.
- Chiller systems provide **mechanical cooling** when free cooling options are insufficient.
- Metasys® building management technologies monitor system performance to provide **advanced maintenance and service diagnostics** and early failure detection.
- Lau® brand **variable-speed fans** deliver improved system efficiency.
- Koch Filter® systems provide **data center-specific filtration** with minimal system effect.





HANDLER

YORK® UPBLAST ROOF FANS

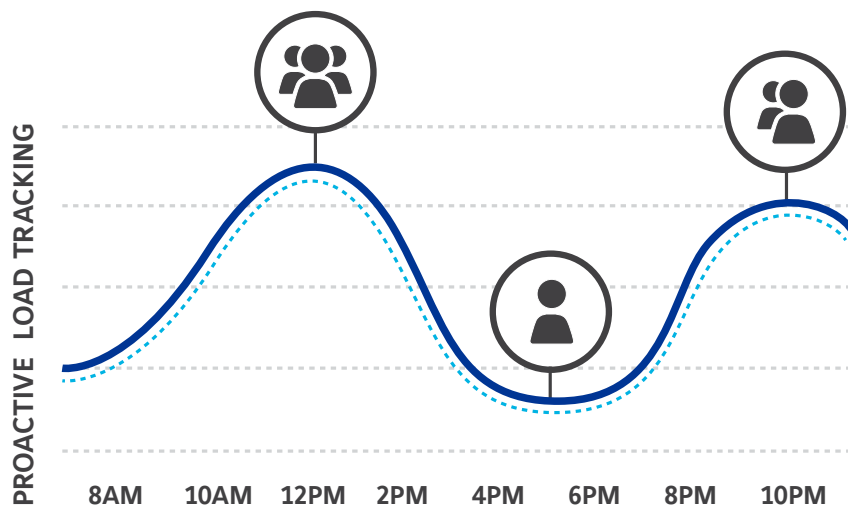
A Complete Solution

From the thermostat on the wall to the chiller on the roof, YORK® provides a comprehensive, single point of responsibility for your entire data center air handling requirements. This total-system approach provides better overall efficiency and proven reliability.

FILTER®

FlexSys SYSTEM

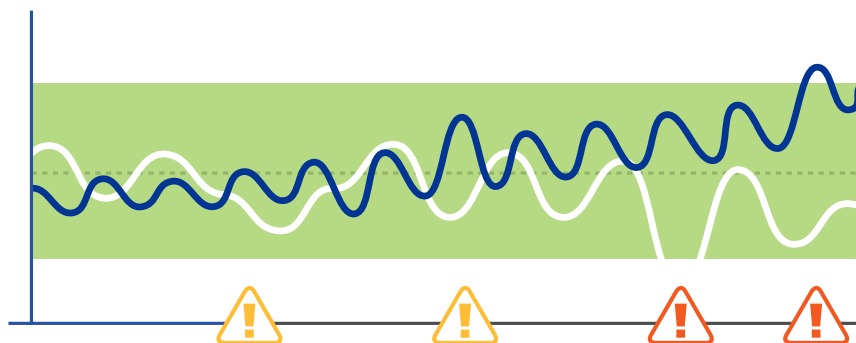
PRESSURE SENSOR



Predictive Controls

KEY

- User Volume
- Energy Usage
- JCI Predictive/Modulating



Reliability/Redundancy

KEY

- Warning Alert
- Caution Alert
- Target Region
- Trend Example A
- Trend Example B

Intuitive Controls

No one understands control systems like YORK® parent company Johnson Controls. We leverage this experience to deliver intelligent, world-class control and protection systems that operate on a single platform using open protocols.

- **Predictive monitoring** from *Metasys®* goes beyond real-time analytics to provide enhanced visibility of system performance and potential failure points.
- **Standard IT industry best practices** ensure security of equipment and building data.

- **Precise thermal control** delivers increased operating efficiency. No one does thermal controls better than Johnson Controls, giving the precise volume of conditioning required – no more, no less.
- **Regulatory-compliant system designs** validate critical environments and control environmental conditions.
- **Open protocols** allow interoperability with a variety of systems and components.

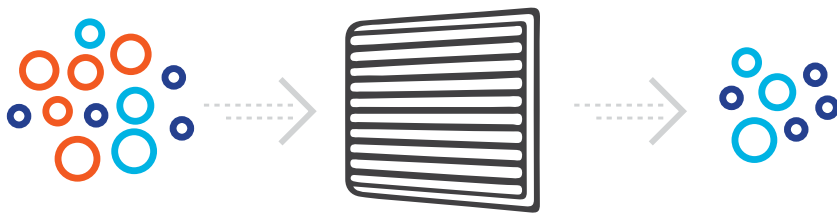
Unsurpassed Flexibility

Flexible. Scalable. Sustainable. When it comes to delivering the right cooling solution for your data center, you shouldn't have to choose between one-size-fits-all or starting from scratch. Partnering with YORK® from the start of your new construction or retrofit project will help ensure decisions are well-informed and data-driven, with different solutions for different needs.

- **Solution-based and custom air handling system options** to meet varied application requirements with an optimal balance of performance and economy.
- **Scalable design** is expansion-ready to support future growth.

- **Flexible configuration solutions** provide many options to fit the available space.
- **Adaptable air delivery** solutions work with any method (rack, isle or spot), with variable-speed fans for precision airflow control and increased efficiency.
- **Material flexibility** including aluminum and non-corrosive steel allows for use in a variety of environmental conditions – both indoors and outdoors – when corrosion-resistance, weight and other variables are considerations.

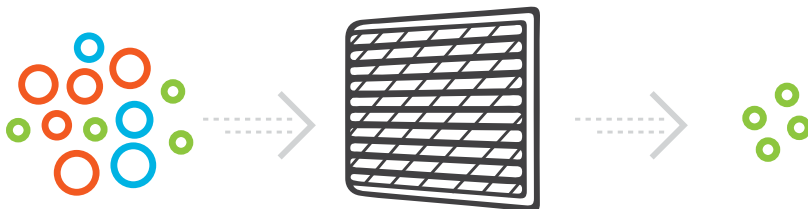
RESPIRATORY FILTER



PARTICLES IN THE AIR

- Harmful to Respiratory System
- Harmful to Data Equipment
- Safe for Respiratory System

DATA EQUIPMENT FILTER



PARTICLES IN THE AIR

- Harmful to Respiratory System
- Harmful to Data Equipment
- Safe for Data Equipment



Why partner with anyone but YORK®?

When your reputation is at stake, count on efficient, reliable air handling solutions from YORK® to lower costs and maximize uptime. With expert service and original equipment manufacturer parts available from Johnson Controls – the largest HVAC service and preventive maintenance organization in the world – you can be confident your data center will be running cool, year after year.



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