SmartRack® in-row precision cooling systems

Intelligent high-density cooling for mission-critical applications

12–25 kW, 300 mm width, 3-Phase 208V, 60 Hz, UL listed

- Up to 25 kW cooling capacity
- 300 mm wide (½ rack width) form factor
- Up to 25% more efficient than perimeter cooling
- Independent of building HVAC
- No room or supplemental cooling required
- No raised floor required
- Closely coupled to heat source for highly predictable cooling
- Inverter compressor for infinitely adjustable cooling capacity
- Up to 6 EC fans with automatic airflow adjustment depending on heat load
- Maintenance mode for instant maximum cooling to provide service personnel comfort
- Easy-to-install slim cabinet with rolling casters
- Front and/or side air discharge configurations
- Matching outdoor condenser with AC fan
- Remote management capability (SNMP, MODBUS TCP/IP)
- Graphing LCD touchscreen interface for easy status monitoring

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Better predictability and reliability

Because IT rooms and other processing facilities generate high concentrations of heat and must operate 24/7/365, specially designed cooling systems such as the SmartRack in-row precision series are required to provide predictable and reliable high-density cooling. These dedicated, high-precision cooling systems operate independently of the building's HVAC/comfort cooling system.

Placing the in-row cooler next to the heat source prevents equipment waste heat from escaping into the rest of the room. Each cooler includes an indoor unit that connects to an outdoor condenser. This innovative close-coupled design accumulates heat from the source and rejects it outdoors without the need for a costly raised floor or complex ductwork. Precision cooling eliminates hot spots, prevents hot/cold mixing, reduces energy consumption, increases cooling capacity and decreases fan noise.

Key features and benefits

BETTER ENERGY EFFICIENCY AND AIRFLOW PREDICTABILITY

- Close-coupled design captures heat at the source to improve energy efficiency up to 25% over traditional perimeter CRACs.
- Supplies cold air directly to the front of the equipment, preventing hot/cold mixing and heat infiltration.
- Tall, slim design creates a uniform-temperature curtain of cold air from top to bottom.
- Cools up to five racks per unit.

MORE COOLING CAPACITY IN LESS SPACE

- Up to 12 kW (SRCOOLDXRW12) or 25 kW (SRCOOLDXRW25) in 300 mm wide form factor.
- Tall, slim profile (42U, ½ rack width) maximizes cooling output while conserving white space.
- Close proximity to heat sources supports up to 25% higher cooling density than traditional perimeter CRACs.
- Expandable design supports adding units to increase capacity up to 300 kW and N+1 redundancy.
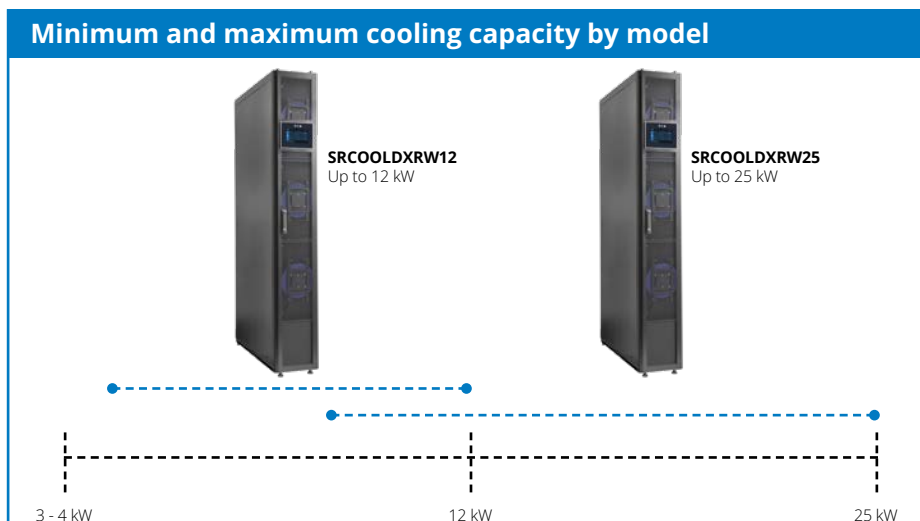
VARIABLE-SPEED TECHNOLOGY

- Variable-speed controls conserve energy during off-peak hours.
- Inverter-driven compressor automatically adjusts compressor speed between 30% and 100% to match heat output of equipment.
- EC fans regulate airflow to match total equipment airflow.

CONVENIENT MAINTENANCE MODE

- Temporarily increases cooling output to 100% to help exhaust heat from the hot aisle, making it more comfortable for service personnel.
- Easily activates and deactivates with a single push of a button – no password required.
- Built-in fail-safe returns system to original settings after 30 minutes.

EASIER TO INSTALL AND MANAGE

- Configurable side airflow discharge enables easy end-of-row installations.
- Integrated rolling casters provide easier installation and mobility.
- User-friendly color LCD touchscreen interface reports status and alarms.
- Installs on virtually any floor type, including concrete slab. Does not require a raised floor or ductwork.
- Designed with the IT professional in mind. Does not require a specialized facility manager.

Minimum and maximum cooling capacity by model

SRCOOLDXRW12
Up to 12 kW

SRCOOLDXRW25
Up to 25 kW

3 - 4 kW   12 kW   25 kW

Saves energy and uses less space in your data center

Variable-speed inverter compressor and EC fans automatically regulate cooling output to match heat load and conserve energy during off-peak hours.
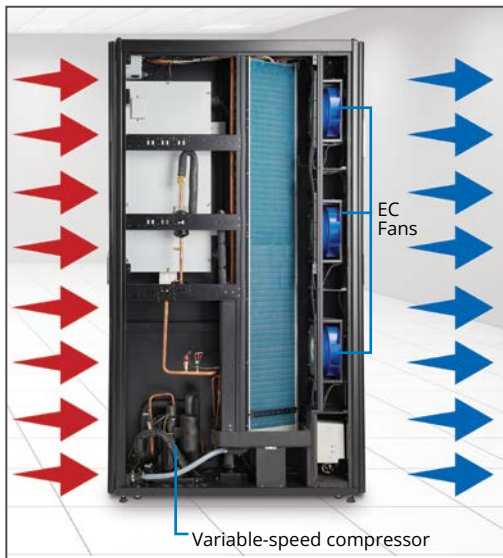
12 kW unit shown.

Lower total cost of ownership (TCO)

- Does not require expensive and complex raised floor or ductwork. Installs on any floor type, including concrete slab.

- Distributed layout of multiple in-row coolers throughout the room reduces overall workload by preventing hot spots.

- Reduces energy consumption up to 25% compared to traditional perimeter-based cooling by placing the cooler next to the heat source.

- Close-coupled design eliminates the costly need to subcool the supply air by reducing the distance between cooler and rack enclosures and preventing hot/cold air mixing.

- Provides up to 25% more cooling density than traditional perimeter-based cooling systems.

- Tall, slim profile maximizes cooling capacity while keeping footprint small, conserving valuable white space.

- Variable-speed technology, including an inverter-driven compressor and EC fans, conserves energy during off-peak hours.

- Innovative design saves money by not requiring cooling to be placed in a data hall, and saves additional white space by leveraging hot/cold aisles for service clearance rather than requiring a separate designated space.

Applications

SmartRack in-row precision coolers are flexible primary coolers for virtually any small to medium-size data center, but they are also useful for high-density pods in large data centers and colocation facilities.

SmartRack in-row precision coolers are ideal for:

EDGE DATA CENTERS:

Primary precision cooling
Modular / containerized data centers
On-premises edge data centers

ENTERPRISE MODERNIZATION AND RETROFIT:

Legacy CRAC replacement
Higher-density zones in existing data center
Hot spot control

HIGH-PERFORMANCE COMPUTING (HPC):

Applications where traditional cooling methods are unable to support power density >10 kW/rack
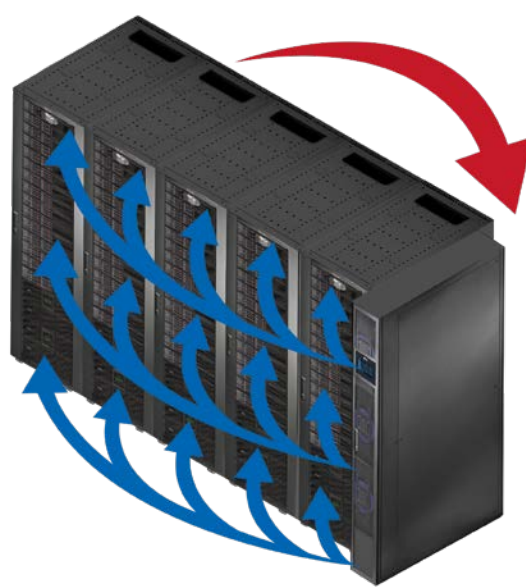
ADDITIONAL NON-IT APPLICATIONS:

Healthcare/medical, light industrial, labs

Airflow configurations

SmartRack in-row precision coolers support front and/or side air discharge. Included panels can be configured to direct airflow as necessary to adapt to virtually any environment.
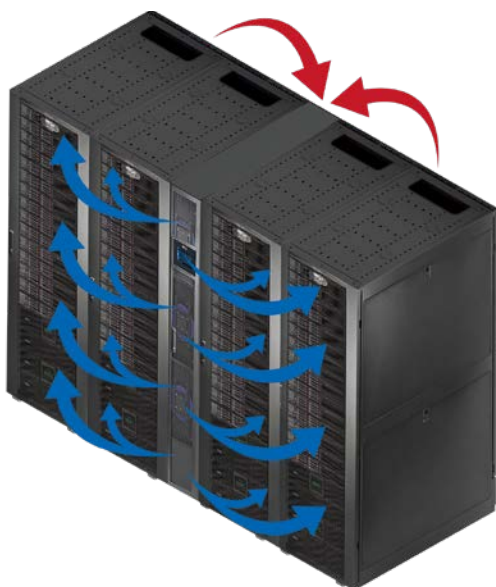
Flush installation – front air discharge

Protruded installation – side air discharge

Continuous scalability

Add more in-row coolers for additional cooling capacity and redundancy. If extra cooling capacity is required, or a cooling fault occurs, the extra in-row cooler(s) will adjust accordingly to provide the cooling temperature programmed.
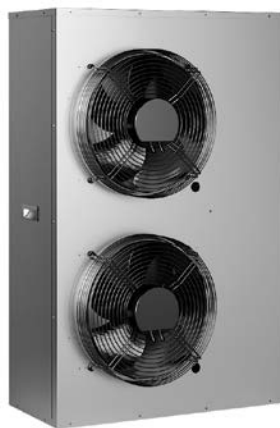

Add more in-row coolers for increased cooling capacity and redundancy.

Outdoor condensers included with sales model

SmartRack in-row precision coolers include an indoor cooling unit and an outdoor condenser. The outdoor condenser mounts on a rooftop or condenser yard.

SRCOOLDXRW12 In-row cooler (indoor unit)	Condenser (outdoor unit)	SRCOOLDXRW25 In-row cooler (indoor unit)	Condenser (outdoor unit)

Powerful local management is at your fingertips

Configure and operate each cooling system from the onboard user interface. The colorful LCD touchscreen allows you to:

- Turn the system on/off and change temperature, airflow and other operational settings.
- View real-time system status and performance indicators.
- Graph operational and performance parameters in real-time for a holistic view of system behavior.
- View alarm notifications and the data log to maximize system reliability.

Powerful network management is only a click away

The pre-installed LX platform network management card (WEBCARDLXMINI) enables remote monitoring and control through HTML5 web (HTTPS) and SNMP for integration with management software platforms, including DCIM. The network management interface provides real-time automated status and alarm notifications to optimize system uptime and provide peace of mind. The cooling system also includes MODBUS TCP/IP.

Free PowerAlert® Network Management System software is downloadable at **tripplite.eaton.com/poweralert** and Eaton's Brightlayer Data Centers suite can be explored at **Eaton.com/BrightLayerDataCenters**.
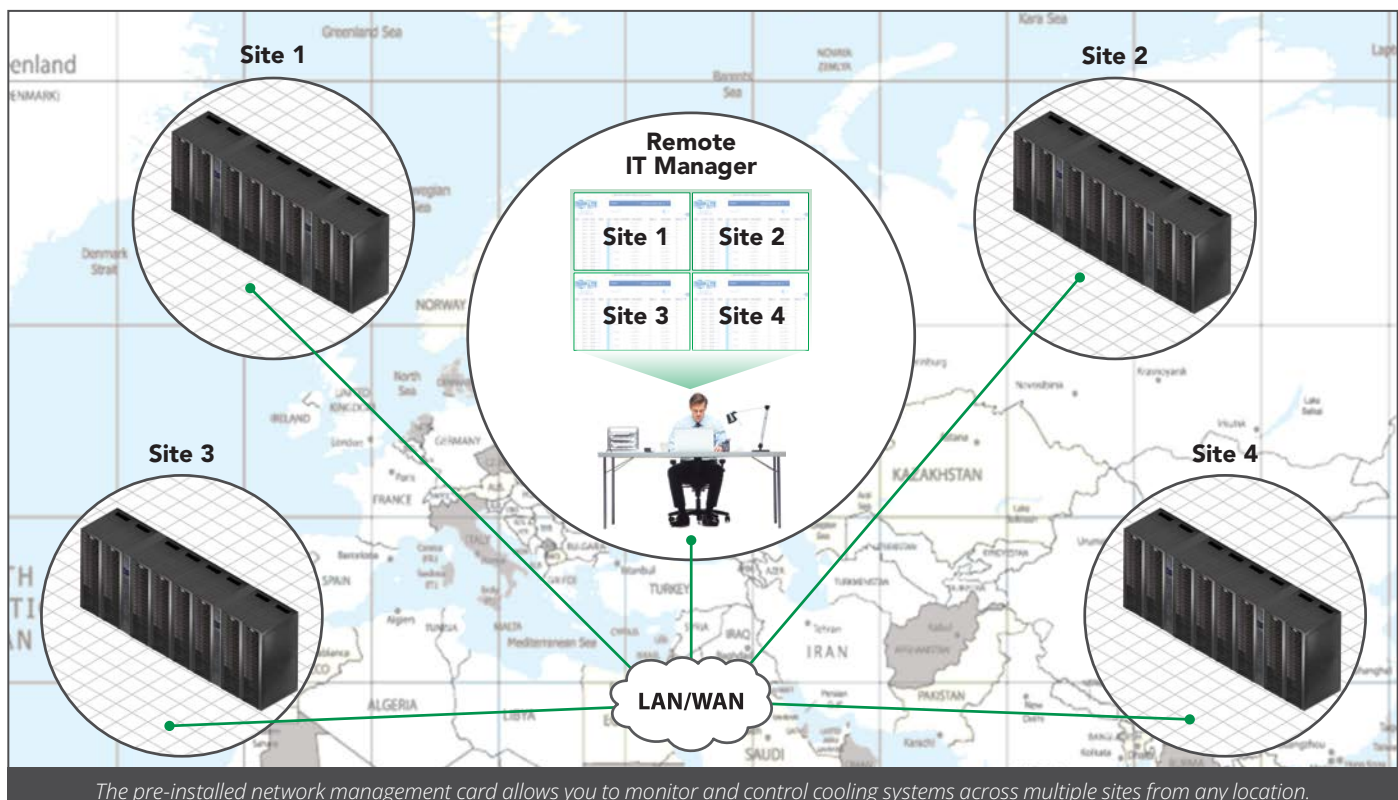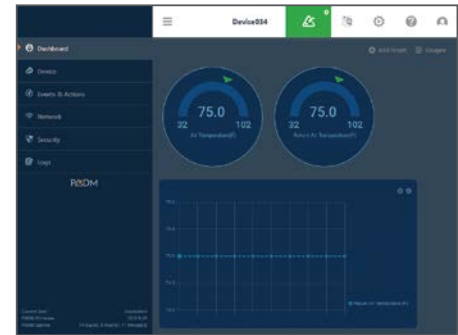
The pre-installed network management card allows you to monitor and control cooling systems across multiple sites from any location.

Specifications

	SRCOOLDXRW12	SRCOOLDXRW25
Indoor cooler		
Rated cooling capacity	12.8 kW (43,686 BTU/hr)	25.8 kW (88,000 BTU/hr)
Max airflow	1,475 CFM	2,950 CFM
Mounting type	In-row	In-row
Cooling type	Direct expansion (DX)	Direct expansion (DX)
Refrigerant type	R410A	R410A
Unit height	2000 mm (78.7 in.) – 42U	2000 mm (78.7 in.) – 42U
Unit depth	1100 mm (43.3 in.)	1100 mm (43.3 in.)
Unit width	300 mm (11.8 in.)	300 mm (11.8 in.)
Unit weight	180 kg (397 lb.)	198 kg (437 lb.)
Power input	208V, 60 Hz (3-phase)	208V, 60 Hz (3-phase)
MCA (minimum current ampacity)	19A	33A
MOP (maximum overcurrent protection)	25A	50A
Standards	Tested to UL 60335; CSA, FCC Class A, NOM, RoHS	
Outdoor condenser		
Unit height	1240 mm (48.8 in.)	700 mm (27.4 in.) – Without support legs
Unit depth	450 mm (17.7 in.)	990 mm (39 in.)
Unit width	800 mm (31.5 in.)	1410 mm (55.4 in.)
Leg height	N/A (Vertical standing)	454 mm (17.9 in.)
Unit weight	62 kg (136.6 lb.)	87 kg (191.8 lb.)
Power input	208V, 60 Hz (Single-phase)	208V, 60 Hz (3-phase)

Notes:
1. Airflow is based upon rated setting. Fans modulate per real loads.
2. Rated cooling capacity is based on an indoor return air temperature of 98.6°F (37°C), 24% RH and outdoor temperature of 95°F (35°C).

Accessories

Model	Description
SRCOOLDXRWLTKIT	Low temperature kit for ambient temperatures lower than -4°F (-20°C), and down to -40°F (40°C).
SRCOOLLONGPKIT	Long piping kit enables addition of 100 ft. (30 m) of separation between indoor and outdoor units.

Web resources

Browse cooling systems and accessories at tripplite.eaton.com to find the optimal solutions for your application, including the latest models and specifications.

For your convenience, design files are also provided for use in engineering and architectural projects.

Visit the cooling solutions page: tripplite.eaton.com/cooling

Reliable and flexible service and support

Service is critical to maintaining optimal performance of SmartRack precision cooling systems. A range of services are designed to protect your products over their entire life cycle, from commissioning to preventive maintenance. They keep cooling systems in peak condition.

Warranty

The standard factory warranty for SmartRack in-row precision cooling systems is one year. Optional extended warranties are available.

Commissioning

Commissioning builds a solid foundation for improved reliability, higher efficiency, reduced costs, enhanced safety, fewer repairs, quicker service and a longer lifespan. Commissioning helps you verify and document the proper installation and startup of your cooling system. Commissioning also registers your product, initiates its service record and establishes a working relationship between your organization and the service team. Lastly, commissioning activates a one-year on-site warranty, which covers parts, travel and labor.

Annual Service Agreements with Preventive Maintenance

Annual service agreements include on-site warranties and on-site preventive maintenance visits. Regular preventive maintenance significantly reduces failure rates by identifying potential threats early and correcting problems before they cause downtime. Component failures can still happen, but on-site warranties minimize the cost and disruption of unavoidable repairs.

Non-Warranty Services

Non-warranty services such as preventive maintenance or repair services are available when your cooling system is outside the warranty or service agreement period. Non-warranty services are quoted on a case-by-case, time-and-materials basis, and cost depends on the cooling system model and specific service requested.

Note: Service availability and specifications vary with location and model.

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