SmartRack Cooling Solutions

▶ Manage airflow to prevent heat from recirculating and building up inside enclosures

▶ Remove heat from enclosures and rooms

▶ Focus supplemental air conditioning on overheated enclosures or specific hot spots inside enclosures

▶ Provide supplemental air conditioning for rooms without access to facility HVAC

▶ Support hot-aisle/cold-aisle configurations for superior data center cooling efficiency

Cool Critical Systems

High-density Rack Enclosures generate lots of heat, requiring special measures to keep your critical servers, storage and network/telecom equipment operating reliably. SmartRack Cooling Solutions encompass several types of cooling that you can combine and customize to fit your application. The first type of cooling is **airflow management,** which prevents heat from recirculating and building up inside your Rack Enclosure. The second type of cooling is **heat removal,** which isolates heat and eliminates it from your Rack Enclosure and the room. The third type of cooling is supplemental **air conditioning**, which focuses cold air wherever additional cooling capacity is required. All SmartRack Cooling Solutions support **hot-aisle/cold-aisle** data center configurations. By leveraging best practices to increase HVAC efficiency, SmartRack Cooling Solutions also reduce your data center's total cost of ownership.

Airflow Management

SmartRack Enclosures are designed for front-to-rear airflow. Cool air flows through the perforated front door and cools your equipment, which exhausts warm air through the perforated rear doors. Airflow Management prevents warm air from recirculating and contaminating cool air. The first step is installing the Enclosure's side panels. The panels aren't vented because sealed sides promote front-to-rear airflow. Block empty rack spaces with Blanking Panels (SR1UPANEL10 or SR1UPANEL50) to prevent heat recirculation. Install the Airflow Optimization Kit (SRGASKET) to seal interior gaps. Cable management is also important: SmartRack Cable Managers (see p. 13) prevent tangled cables from obstructing airflow.

Heat Removal

As equipment density and ambient temperature increase, Heat Removal Solutions keep equipment operating reliably. Thermal Duct Rack Enclosures (SR42UBTD, SR42UBWDTD and SR48UBTD) use adjustable overhead ducts to route warm exhaust air to your facility's HVAC return air stream, providing superior efficiency and thermal isolation. The Heat Removal Door (SRFANDOOR) replaces the perforated rear doors of SmartRack Enclosures with a sealed door equipped with four high-performance centrifugal fans. The fans supercharge airflow and direct warm air to overhead ducts that connect to a drop ceiling or HVAC return air stream.

Air Conditioning

The portable, maintenance-free 12,000 BTU Compact Air Conditioning Unit (SRCOOL12K) focuses cold air wherever you need additional cooling capacity, whether it's a network closet without access to facility HVAC, an overheated rack enclosure or a specific hot spot inside an enclosure. Because condensate is re-evaporated for drip-free operation, you won't waste time emptying water collection tanks.

Hot-Aisle/Cold-Aisle Support

SmartRack Cooling Solutions fully support hot-aisle/cold-aisle configurations, essential for cost-effective data center cooling. A hot-aisle/cold-aisle configuration increases cooling efficiency and lowers total cost of ownership, reducing energy consumption by up to 20%.*
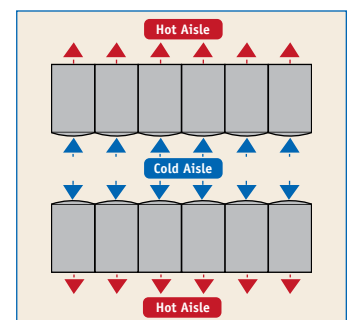
* Source: TCI Data Centers.

SmartRack Cooling Solutions Support Hot-Aisle/Cold-Aisle Configurations

AIR CONDITIONING

Compact Air Conditioning Units

Powerful 12,000 BTU Compact Air Conditioning Units offer plug-and-play setup and maintenance-free operation. They can cool rooms that don't have access to facility HVAC, provide supplemental cooling for individual rack enclosures or focus cool air on equipment hot spots. Condensate is re-evaporated for drip-free operation, so you won't waste time emptying water collection tanks. Eco-friendly R410a refrigerant meets worldwide environmental standards.
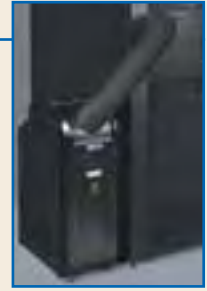
Specifications

Model	Description
SRCOOL12K	12,000 BTU, 120V, 60Hz Compact Air Conditioning Unit (Maintenance-free; includes installation kit and interchangeable inserts for louvered or duct-connected output.)
SRXCOOL12K	12,000 BTU, 230V, 50Hz Compact Air Conditioning Unit (Maintenance-free; includes installation kit and interchangeable inserts for louvered or duct-connected output.)

HEAT REMOVAL

Heat Removal Door

SRFANDOOR connects to a standard-width 42U or 48U SmartRack Enclosure in place of the rear doors. Four high-performance centrifugal fans supercharge front-to-rear airflow to remove heat through overhead ducts, which connect to a drop ceiling or your facility's HVAC return air stream. Digital thermometers display intake and exhaust temperature.
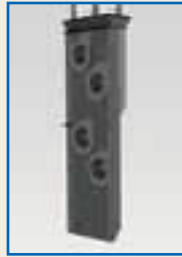
Thermal Duct Rack Enclosures

SR42UBTD, SR42UBWDTD and SR48UBTD include adjustable overhead ducts that route heat to your facility's HVAC return air stream, providing superior thermal isolation and cooling efficiency without using electricity or generating heat.

Heat Removal Roof Panels

SRFANROOF and SRXFANROOF remove warm air with six powerful fans.

3U Heat Removal Panels

SRFAN3U and SRXFAN3U remove warm air with three powerful fans.

Specifications

Model	Description	Compatibility 2-Post Open Frame Racks	4-Post Open Frame Racks	Wall-Mount Enclosures	12/25/42/48U Enclosures
SR42UBTD	42U Thermal Duct Rack Enclosure (Overhead duct provides superior heat removal and thermal isolation.)				42U
SR42UBWDTD	42U Wide Thermal Duct Rack Enclosure (Overhead duct provides superior heat removal and thermal isolation.)				42U
SR48UBTD	48U Thermal Duct Rack Enclosure (Overhead duct provides superior heat removal and thermal isolation.)				48U
SRFAN3U	3U Heat Removal Panel – 120V (3 fans; up to 210 CFM; 5-15P plug.)	✓	✓	✓	✓
SRXFAN3U	3U Heat Removal Panel – 230V (3 fans; up to 210 CFM; C14 inlet.)	✓	✓	✓	✓
SRFANDOOR	Heat Removal Door (208-240V; up to 3,400 CFM. Includes 4 centrifugal fans, thermometers and duct kit.)				42/48U
SRFANROOF	Heat Removal Roof Panel, 120V (6 fans; up to 420 CFM; 5-15P plug; toolless mounting.)				25/42/48U
SRXFANROOF	Heat Removal Roof Panel, 230V (6 fans; up to 420 CFM; C14 inlet; toolless mounting.)				25/42/48U

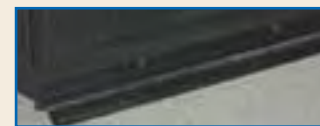## AIRFLOW MANAGEMENT

1U Blanking Panel Kits

Blanking panels snap into empty rack spaces, preventing recirculation of warm air.

1U Cable Pass-Through Panel

SR1UBRUSH includes a dense brush strip that prevents recirculation of warm air.

Rack Enclosure Skirt

SRSKIRT prevents recirculation of warm air through the bottom of the enclosure.

Specifications

Model	Description	Compatibility 2-Post Open Frame Racks	4-Post Open Frame Racks	Wall-Mount Enclosures	12/25/42/48U Enclosures
SR1UBRUSH	1U Cable Pass-Through Panel (Brush strip prevents recirculation of warm air.)	✓	✓	✓	✓
SR1UPANEL10	1U Blanking Panel Kit (10 pieces; toolless snap-in mounting.)		✓	✓	✓
SR1UPANEL50	1U Blanking Panel Kit (50 pieces; toolless snap-in mounting.)		✓	✓	✓
SRGASKET	Airflow Optimization Kit (Gasket prevents recirculation of warm air through enclosure side gaps.)				25/42/48U
SRSKIRT	Rack Enclosure Skirt Kit (Brush strip prevents recirculation of warm air at bottom of enclosure.)				25/42/48U

33,000 BTU Energy-Saving, Row-Based Air Conditioning Unit with Hardwire Input

MODEL NUMBER: SRXCOOL33K

Description

The harder your data center, network closet or server room works, the more it heats up, leading to inefficient operation, weakened performance and raised cooling costs. In fact, cooling can consume more than half of the power used by a high-density installation—start saving power and money with Tripp Lite's SRXCOOL33K today! The SRXCOOL33K provides 33,000 BTU of efficient, reliable cooling in a 42U rack form factor. It features cutting-edge components that limit inrush current and enable precision cooling adjustments to minimize power consumption, maximize cooling and improve your application efficiency.

By delivering cold air high in the cold aisle, the SRXCOOL33K promotes temperature uniformity from 1U to 42U, allowing your equipment to perform at its peak. Controlling the unit is simple with the intuitive LCD display, or control it from anywhere in the world with the included Modbus card or an optional network interface (Tripp Lite SNMPWEBCARD, sold separately). With hardwire input (user supplied IEC 309 32-amp set, optional) and exhaust connection directly into the drop ceiling, you can install the unit with no electrician or contractor necessary, saving on up-front installation costs. Maintenance is no-hassle due to the self-contained design, which requires no water collection tank or extra plumbing, while RoHS compliance and eco-friendly R410a refrigerant means you'll never have to worry about meeting environmental standards.

Features

- 33,000 BTU (9.7kW) of cooling power with 1/3 less power consumption
- Variable-speed, DC-inverter-driven compressor and microprocessor-controlled electronic expansion valve (EEV) enable precision cooling adjustments--no more wasteful, noisy cycling between off and full blast
- Soft-start feature limits inrush current to prevent introduction of line noise, voltage disruptions and potential circuit overloads
- Self-contained, low-maintenance unit re-humidifies condensate and expels it through the exhaust air stream. No external condenser, refrigerant piping, duct work or plumbing required.

Highlights

- 33,000 BTU (9.7kW) of cooling power with 1/3 less power consumption
- Variable-speed, DC-inverter-driven compressor and microprocessor-controlled electronic expansion valve (EEV) enable precision cooling adjustments--no more wasteful, noisy cycling between off and full blast
- Soft-start feature limits inrush current to prevent introduction of line noise, voltage disruptions and potential circuit overloads
- Self-contained, zero-maintenance unit re-humidifies condensate and expels it through the exhaust air stream--no floor drain, water collection tank, external condenser, refrigerant piping, duct work or plumbing required
- Hardwire Input (User-supplied IEC 309 32-amp set, optional) - no electrician needed
- 200-240V AC Input, 50/60 Hz frequency compatibility
- 1 year limited warranty

Applications

Supplemental cooling of data center equipment in confined areas where the facility HVAC is inadequate or doesn't reach.

Package Includes

- SRXCOOL33K Air Conditioning Unit
- Flexible Air Ducts
- Unpacking Guide, Installation Manual and Owner's Manual
- Unloading Ramps Hot Exhaust Removal tube