
InRow[®] RC
Chilled Water — 50/60 Hz



Technical Data

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SKU Selection	Width	Voltage	Plug Type
ACRC100	300 mm	100–120V 50/60 Hz	NEMA L5-20P
ACRC103	300 mm	200–240V 50/60 Hz	IEC-309 16A
ACRC500	600 mm	200–240V 50/60 Hz	HARDWIRED Optional: NEMA L21-20P
ACRC501	600 mm	460–480V 50/60 Hz	HARDWIRED
ACRC502	600 mm	380–415V 50/60 Hz	HARDWIRED Optional: NEMA IEC-309 16A

Overview

The modular, row-based computer room cooling solutions offers efficient, predictable, and economical cooling for a variety of spaces.

Critical environmental requirements now reach far beyond the confines of the traditional data center or computer room to encompass a larger suite of applications, referred to as technology rooms. Critical environment applications include:

- Computer rooms
- Telecommunication facilities
- Clean rooms
- Power equipment
- Medical equipment rooms
- Archives
- LAN/WAN environments

A worldwide network of APC representatives is fully qualified to provide engineering, sales, installation, and service for our products.

APC warrants all parts for 12 months from shipment. Extended warranties are available.

Capacity

The InRow RC chilled water configuration is available in two sizes with a capacity that is up to 70 kW based on the particular application of the unit.

Room Air Distribution

Row-based systems are placed in line with rack enclosures. At least one system is used per hot aisle. Air is drawn in through the rear of the system, cooled, and discharged into the cold aisle.

The InRow RC delivers high volumes of airflow to eliminate hot spots in densely populated environments.

Configuration

- Chilled Water

Compliance Approval

- UL Listed to UL 1995 and CSA C22.2 No. 236
- UL File SA12773
- ACRC100 series
MEA 234-06-E (City of New York)
- ACRC500 series
MEA 125-07-E (City of New York)
- CE



Standard Features

- Insulated Side Panels
- Variable Speed Fans
- Shutdown Input/Alarm Output
- Chilled Water Flow Meter
- 2-way/3-way Floating Point Valve
- Counter Flow Cooling Coil
- Power Supply (ACRC100 Series)
- Dual A-B Power Feed
- Cross Circuited Cooling Coil (ACRC100 Series)
- Condensate Pan (ACRC100 Series)
- NPT to BSPT Pipe Adapters
- Top or Bottom Piping
- Condensate Management with Dual Float Pump
- Network Management Card
- Failure Warnings
- Baying Kit InRow RC to NetShelter® SX rack
- 1 Remote Temperature Sensor (ACRC100 Series)
- 3 Remote Temperature Sensors (ACRC500 Series)

- Microprocessor Controller
- Individual Hot Swappable Fans (ACRC100 Series)
- Washable Filter (ACRC100 Series)
- Pleated 100-mm (4-in) Filter (ACRC500 Series)
- Integrated Automatic Transfer Switch—(ACRC500 Series)

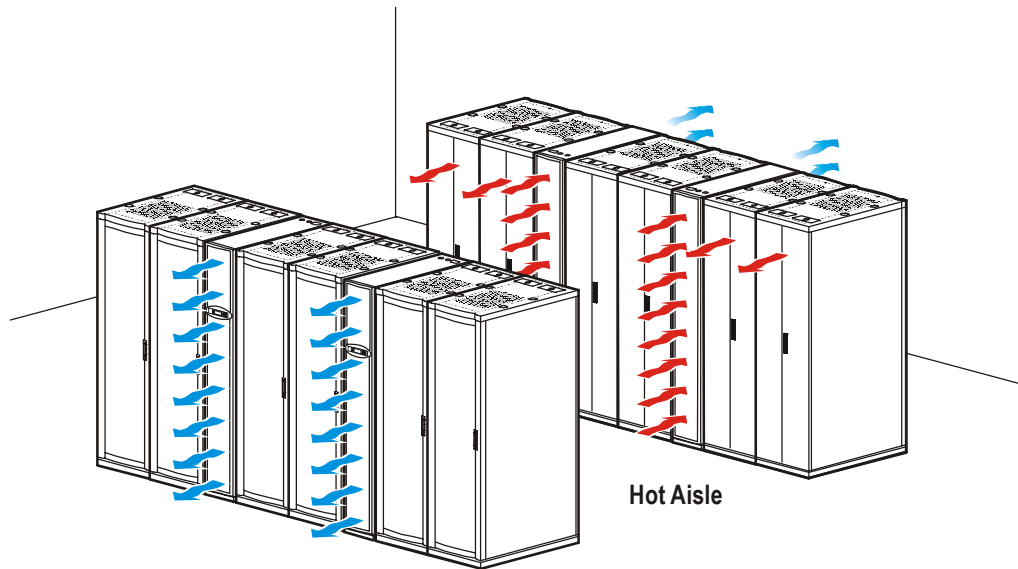
Optional Features

- NetShelter SX Height Adapters
- NetShelter VX Height Adapters
- Cable Leak Detector
- Baying Kit InRow RC to NetShelter VX rack)

Scalable Solutions for Critical Environments

Advantages of row-based cooling

InRow cooling products improve energy efficiency and cooling ability in a number of ways. First, the InRow RC draws air directly from the hot aisle, allowing the InRow RC to take advantage of higher heat transfer efficiency due to higher temperature differences. It can then discharge room-temperature air directly in front of the servers it is cooling. This increases energy efficiency by allowing the chiller to operate at higher leaving water temperatures. Placing the cooling unit in the row enables the unit to operate at higher return and supply air temperatures yielding 100% sensible capacity, which significantly reduces the need for humidification.



Scalable for High Density

The predictable performance of the row-based architecture makes it well-suited for high density applications. The focus on heat removal instead of cold air delivery is the key to making this approach scalable. The design of the InRow RC allows it to be easily added in the row as the demand for cooling increases.

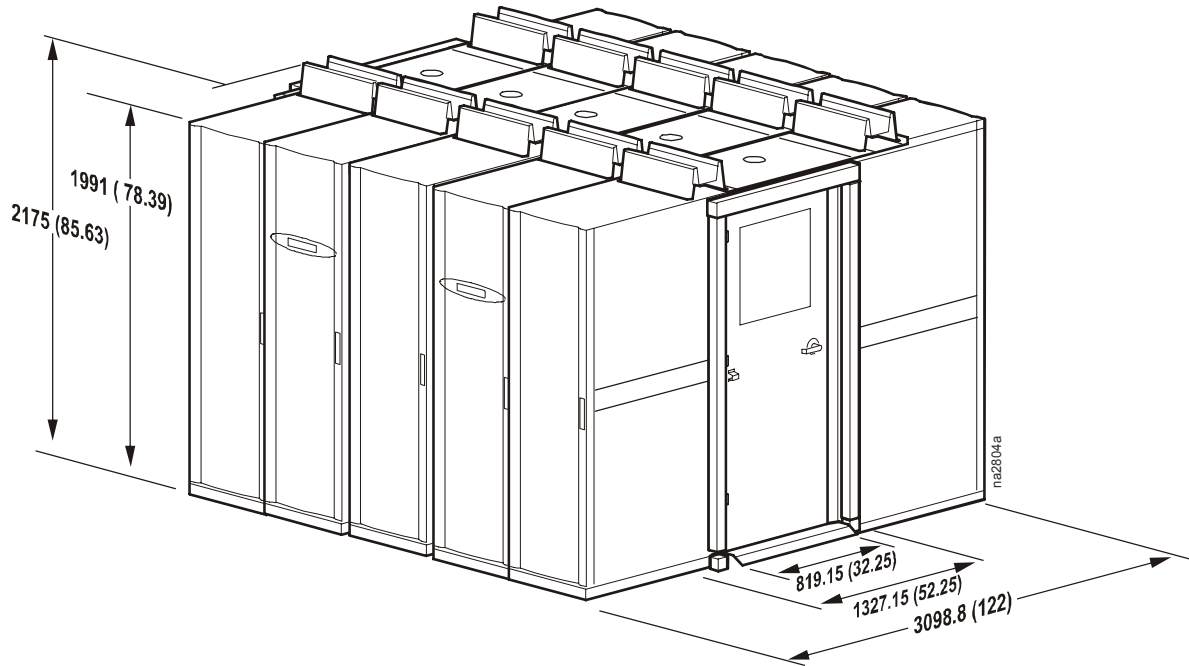
The additional benefit of the row-based architecture is the ability to add hot air containment. Containing the hot air further reduces any chance of hot and cold air streams mixing. This provides ultimate predictability and allows the cooling capacity to be matched to the IT heat load.

Hot Aisle Containment System

Modular ceiling tiles and doors can be used to enclose the hot aisle. This increases the densities that can be handled in a single rack enclosure by eliminating mixing of hot and cold air streams. This method, called load neutralization, removes the heat from the hot aisle, cools it, and then returns it to the surrounding room area at or slightly below room temperature. The warmer return air temperatures that are achieved in this application increase the capacity of the air conditioner and, in many cases, eliminate the need for make-up humidification.

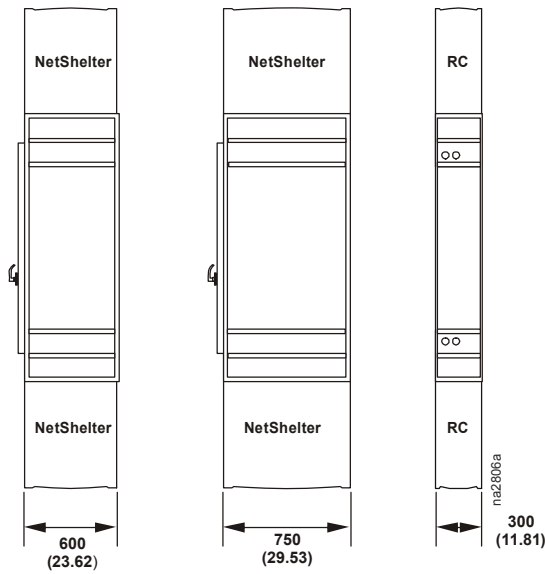
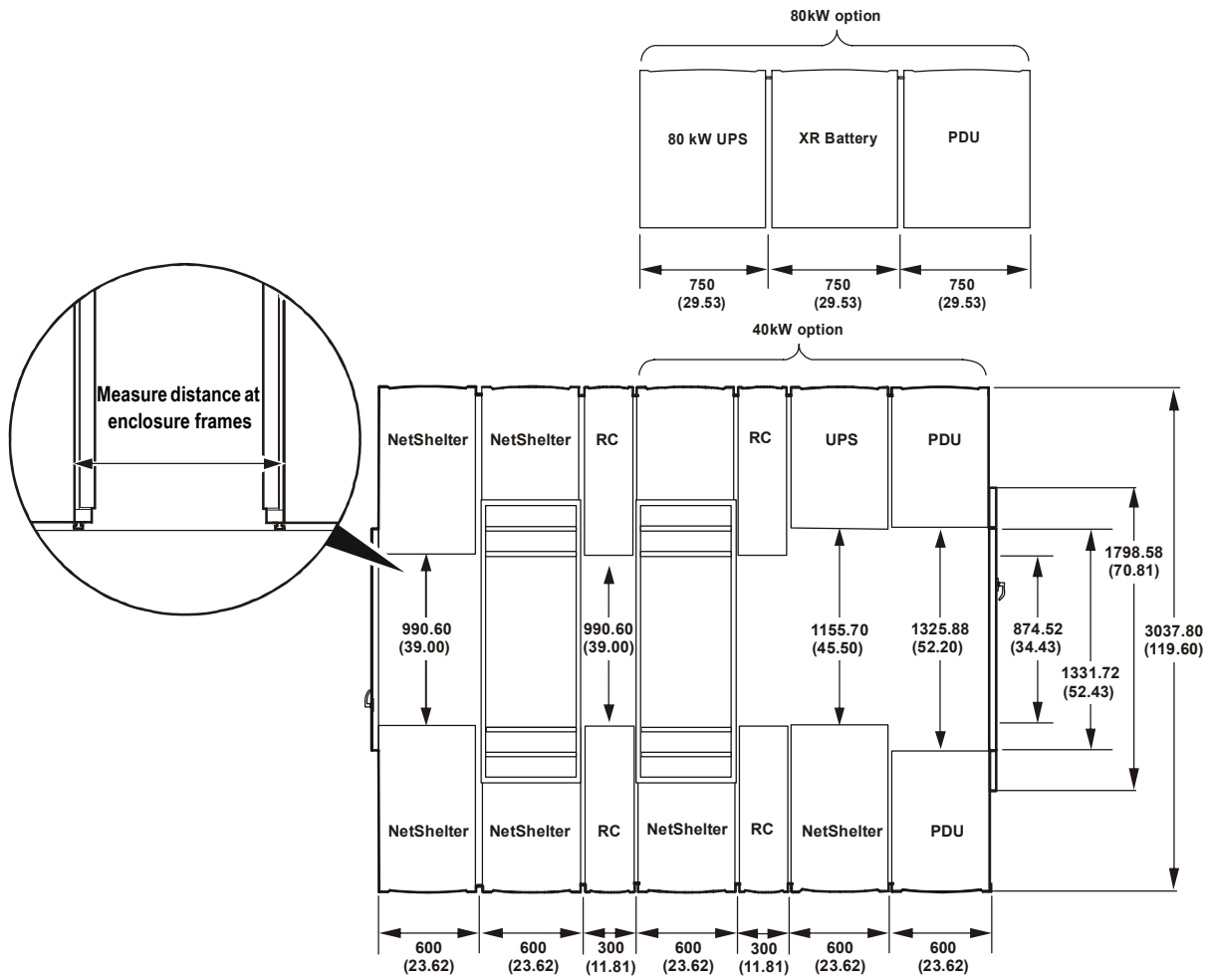
Use of modular ceiling tiles across a 914.4 mm (3 ft) hot aisle that connects two opposite rack enclosures makes expansion quick and simple. Expansion kits, with the necessary ceiling tile and all baying hardware, can be ordered to increase the size of the hot aisle by one rack on each side. The end doors can be easily removed and re-attached for expansion.

The enclosed hot aisle prevents any warm return air from mixing with cold supply air. In effect, all surrounding room air can act as supply air to the system. The hot aisle containment system is beneficial in any environment. It can be deployed quickly in any controlled space without expensive additions to the infrastructure, such as raised floor or ductwork.



Note: Dimensions are shown are in mm (in).

Hot Aisle Containment Configuration—ACRC100 Series

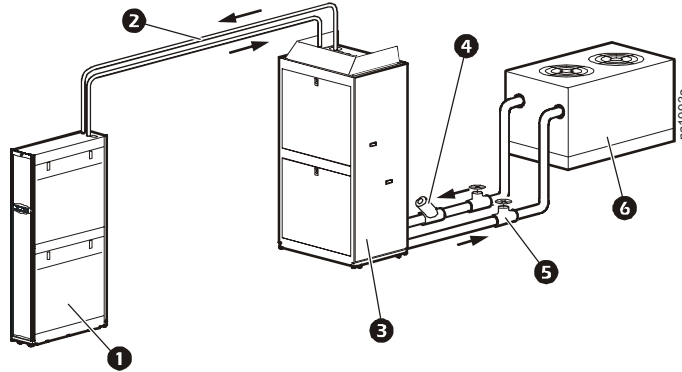


Note: Dimensions are shown in mm (in).

Configuration—ACRC100 Series

Chilled water systems utilize water from a chiller plant for cooling. Chilled water is commonly used in large buildings and high rises and can serve multiple indoor units, which can be cost effective for large install options.

There are various methods for chilled water piping. The illustration below shows an ACRC100 series unit utilizing a centralized distribution unit and interconnecting piping.



- | | |
|--------------------------------------|--------------|
| ❶ InRow RC | ❷ Strainer** |
| ❸ Interconnecting PEX-AL-PEX Piping* | ❸ Valve** |
| ❹ Cooling Distribution Unit (CDU)* | ❹ Chiller |

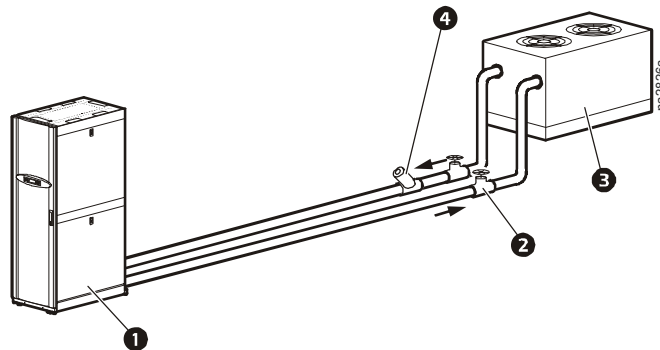
Note: Install isolation valves and particulate strainers with 20 mesh stainless steel screen (opening size = 865 micron) in the supply line between the chiller and CDU. For more information, see the InRow RC Installation Manual.

*PEX-AL-PEX Piping and CDU are optional products available through APC. For more information, see the CDU Technical Data Manual.

**Piping between Chiller and CDU will vary based on local codes and site conditions.

Configuration—ACRC500 Series

There are various methods for chilled water piping. The illustration below shows an ACRC500 series unit connected directly into a chiller without a centralized distribution unit and interconnecting piping.



- | | |
|------------|------------|
| ❶ InRow RC | ❷ Chiller |
| ❸ Valve | ❸ Strainer |

Note: Install isolation valves and particulate strainers with 20 mesh stainless steel screen (opening size = 865 micron) in the supply line between the chiller and RC.

Standard Features

Insulated side panels



The frame is constructed of 16 gauge formed steel for maximum strength. Cabinet is serviceable from the front and rear. All exterior panels and corner posts on the frame are powder coated for durability and an attractive finish. Front and rear exterior panels are constructed of 18 gauge perforated steel with 69.5% open free area. Insulation is 80.1 kg/m³ (5 lb/ft³) density and complies with ASTM E84 rating of 25/50. All panels, which include a key latch for safety and security, allow easy access and removal.

Variable speed fans

Each unit is equipped with variable speed fans. In order to provide uniform airflow over the cooling coil, the fans provide a draw-through air pattern. Fans are easily replaceable while the unit is in operation. For technical specifications, see “Performance Data—General” on page 31.

Shutdown input/alarm output

The unit provides one field connection input for remote shutdown and one field connection for an alarm output.

Chilled water flow meter

Internal piping of the unit should include a flow meter tied into the microprocessor controller to display chilled water flow.

2-way/3-way floating point valve

A floating point valve is microprocessor-controlled to regulate the amount of chilled water into the cooling coil to maintain optimal cooling conditions. The standard valve pressure rating is 4136.8 kPa (600 PSI). The valve is user configurable to be two-way or three-way.

Power supply (ACRC100 series only)

The unit includes two power supplies, each capable of running the unit at 70% capacity in the event of a single power supply failure.

Dual A-B power feeds

The system features two power feeds. This allows a level of system fault tolerance and uninterruptible cooling to exist.

Cross circuited cooling coil/condensate pan

Designed for high sensible heat ratios, the coil is constructed with copper tubes, aluminum fins, and galvanized steel end plates.

Washable filter (ACRC100 series only)

The filtration of conditioned air is extremely vital to maintaining the clean, particle-free environment required by electrical equipment. The system uses a <20% efficiency ASHRAE 52.1, 12.7 mm (1/2 in) washable, deep loading, large dust-holding filter that meets HF-1 standards for electronics (MERV 1 per ASHRAE 52.2).

30% ASHRAE 52.1 filter (ACRC500 series only)

The filtration of conditioned air is extremely vital to maintaining the clean, particle-free environment required by electrical equipment. The system uses a 30% efficient, 102 mm (4 in), deep loading, pleated filter. Deeper filters produce a lower pressure drop, requiring less energy during normal operation. The filter is moisture resistant up to a 100% relative humidity. Filters are easily replaceable from the rear of the unit. (MERV 8 per ASHRAE 52.2, EN779 G4)

Pipe adapters

Standard pipe connections are manufactured in accordance with ANSI B.1.20.1. For technical specifications, see “Performance Data—General” on page 31.

Selectable top or bottom piping connections

Unit includes both top and bottom piping connections. Top piping connects to internal piping connectors and routes piping upward out of the unit. Bottom piping connects to internal piping connectors and routes piping downward out of the unit. All connections are unions for ease of installation and service

Dual float condensate management

The factory-installed condensate pump is piped internally to the condensate pan. Dual floats are included with the unit. One float is used for condensate pump control, the other to generate condensate pan overflow alarms. For technical specifications, see “Performance Data—General” on page 31.

Network management card

Permits multi-level access to monitoring, control, and event notification features over the user’s network.

Failure warnings

Several components within the unit will provide a warning that service is needed.

Bay kit InRow RC/ NetShelter SX

Baying kits made of 16 gauge metal enable baying of the cooling system to APC NetShelter SX enclosures.

Remote temperature sensor

To control the unit based on rack inlet temperature, one remote sensor is provided with ACRC100 series units and three remote sensors are provided with ACRC500 series units. This sensor is factory wired for remote placement on adjacent IT racks.

Optional Features

Cable water detector

A leak detection cable is placed on the floor or subfloor around all possible leak sources. If water or other conductive liquids contact the cable anywhere along its length, the microprocessor controller visually and audibly announces a leak. The 6.1-m (20-ft) cable may be cascaded to make custom lengths up to 24.4 m (80 ft).

Network cable

Various lengths of network cable are available to ship with your cooling system. The network cable is used to interconnect multiple cooling units in a redundant group, as well as to connect the network management card to your Local Area Network (LAN).

Power trough

Overhead power distribution between adjacent NetShelter racks allows for removal of the InRow RC without disrupting overhead power cabling.

Data partition

Overhead cable distribution between adjacent NetShelter racks allows for removal of the InRow RC without disrupting overhead cabling.

Height adapters

To match the height of the InRow RC to various rack heights, height adapters are available for NetShelter 42-U VX and 48-U SX racks.

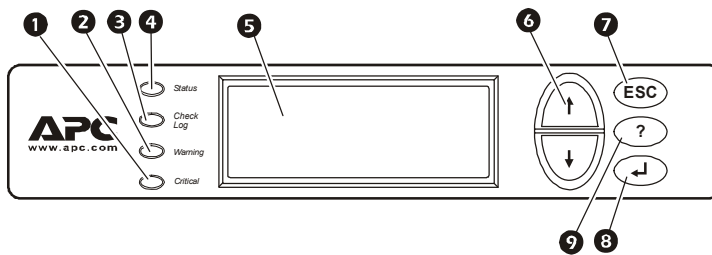
Disposable pleated filter (ACRC100 series only)

The filtration of conditioned air is extremely vital to maintaining the clean, particle-free environment required by electrical equipment. As an optional feature, the system uses a 50.8-mm (2-in) pleated, deep-loading, 30% ASHRAE 52.1 filter (MERV 8 per ASHRAE 52.2).

85% ASHRAE 52.1 filter (ACRC500 series only)

Electrical equipment requires clean, particle free air, thus making the filtration of the air extremely important. Optionally, the system uses an 85% efficient, 102-mm (4-in), deep loading, pleated filter. Deeper filters produce a lower pressure drop, requiring less energy during normal operation. The 100% synthetic media will not absorb moisture and is resistant to most common chemicals. The filter is moisture resistant up to a 100% relative humidity. Filters are easily replaceable from the rear of the unit. (MERV 13 per ASHRAE 52.2, EN779 F7)

Microprocessor Controller



1	Critical Alarm LED
2	Warning Alarm LED
3	Check Log LED
4	Status LED
5	Liquid Crystal Display (LCD)
6	Menu Selection scroll keys
7	Escape key
8	Enter key
9	Help key

Microprocessor controller

The microprocessor controller is standard on each system. The controller provides precision control for the demanding requirements of the following environments:

- Data centers
- Control rooms
- Clean rooms
- Switch rooms
- UPS rooms

The easy-to-use display interface allows the operator to select options from the device's menu-driven interface to control and monitor the connected air conditioning system.

Open architecture

The InRow RC protocol is open for integration with all building management systems.

Communication interface on the system can be Modbus RS485 or Ethernet.

Control type

The controller utilizes proportional/integral/derivative (PID) settings, a time-proven precision environmental control method. This allows for custom tuning of control variables to achieve optimal system response.

Functions

- Supply and Return Air Conditions
- Operational Mode Control
- Event Logging
- Alarms
- Redundant Group Control
- Fan Speed Adjustment
- Input/Output Module Programming

Logging

The event log keeps a record of all alarms and events. Each event log contains a time/date stamp as well as operating conditions at the time of occurrence. The controller also displays run time, in hours, for major components (air filters, fans, power supplies, and condensate pump).

Control

The backlit, four-line by twenty-character display interface is protected by a configurable password.

- Supply Temperature Setpoint 16.8–23°C (62.2–73.4°F)
- Rack Inlet Temperature Setpoint 18–26°C (64.4–77°F)
- Rack Inlet High Temperature Alarm 0–100°C (32–212°F)
- CW Inlet High Temperature Alarm 0–100°C (32–212°F)
- Air Supply Temperature High Alarm 0–100°C (32–212°F)
- Return Temperature High Alarm 0–100°C (32–212°F)

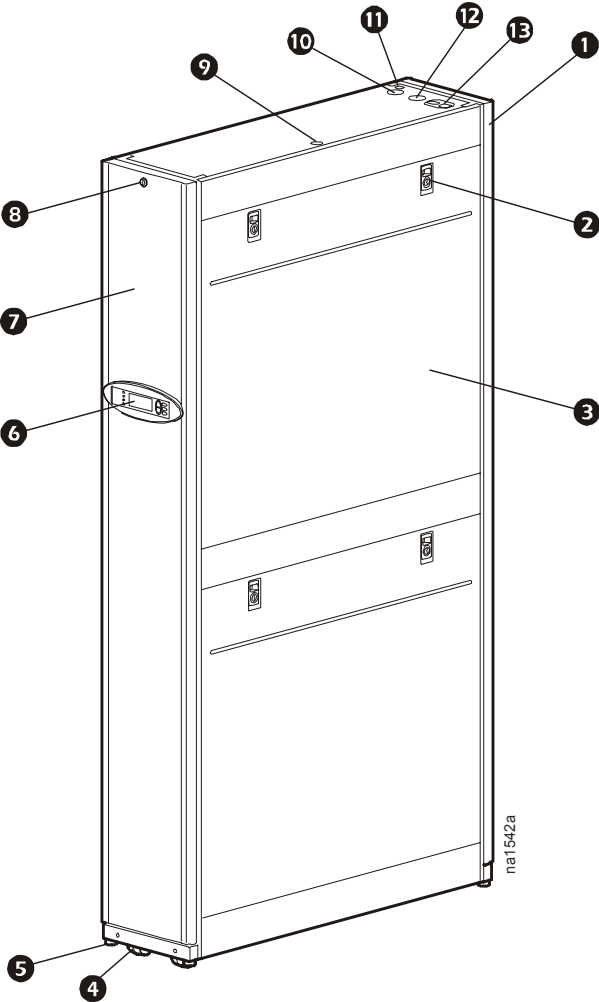
Alarms

The microprocessor controller shall activate a visible and audible alarm in the following occurrences:

- Internal communications fault
- Link isolation relay fault
- Cooling failure
- Rack inlet high temperature
- Rack inlet temperature sensor fault
- Air filter clogged
- Lower return air temperature sensor fault
- Upper return air temperature sensor fault
- Lower supply air temperature sensor fault
- Upper supply air temperature sensor fault
- Coil fluid valve actuator fault
- Fan fault
- Fan run hours exceeded
- Water detection fault
- Supply and Return Humidity Sensor Fault—ACRC500 series
- Condensate pump fault
- Condensate run hours exceeded
- Fluid flow meter fault
- Entering fluid high temperature
- Entering fluid temperature sensor
- Leaving fluid temperature sensor
- Condensate pan full alarm
- Power feed failure
- Fan power supply fault
- Air filter run hours exceeded
- Supply air high temperature
- Return air high temperature
- Group communication lost
- Input contact fault
- Invalid supply setpoint
- Filter sensor fault

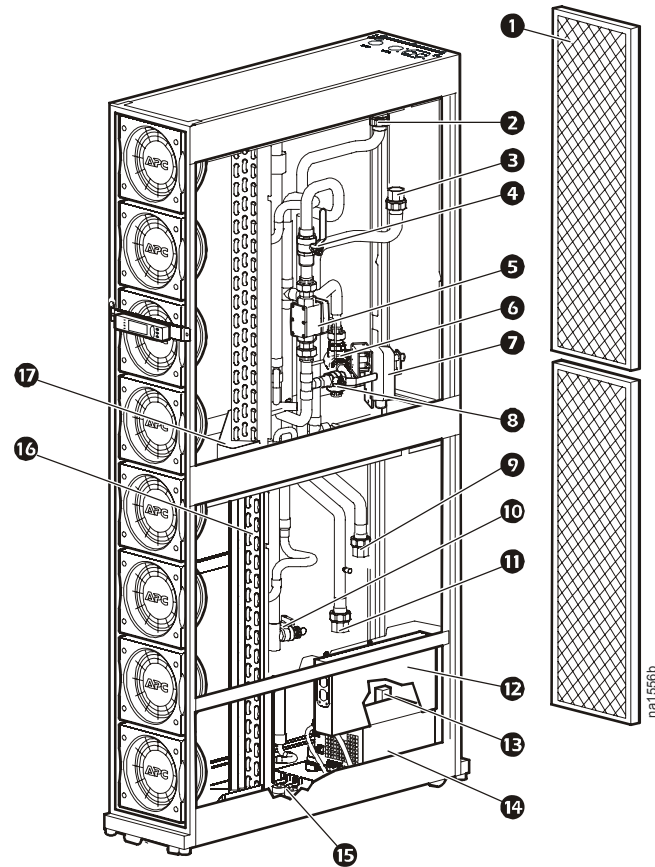
InRow RC Models

External components—ACRC100 series



- ➊ Removable rear door
- ➋ Side panel lock
- ➌ Removable side panel
- ➍ Casters
- ➎ Adjustable leveling foot
- ➏ Display interface
- ➐ Removable front door
- ➑ Door lock
- ➒ Top access for customer network wiring
- ➓ Top supply (inlet)
- ➑ Top condensate drain
- ➒ Top return (outlet)
- ➓ Top power connection

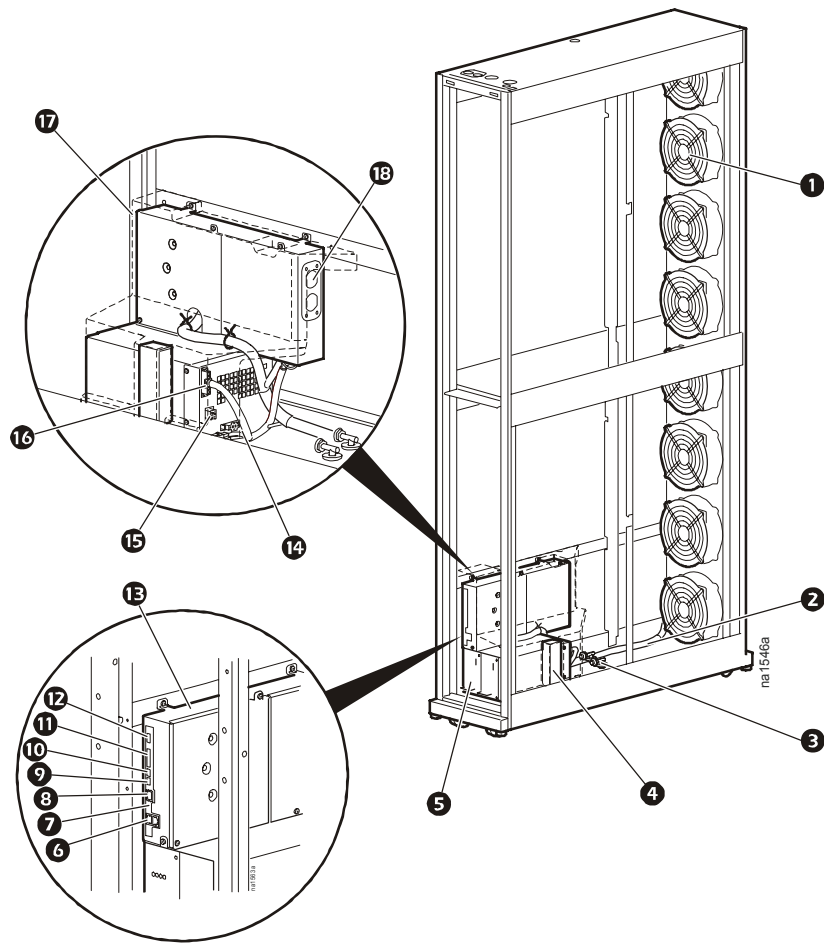
Internal mechanical components—ACRC100 series



Note: Electronics removed for clarity.

- | | | | |
|---|--------------------------------------|---|--------------------------|
| ① | Air filter, standard 1/2-in washable | ⑩ | System drain valve |
| ② | Top supply connection | ⑪ | Bottom supply connection |
| ③ | Top return connection | ⑫ | Controller box |
| ④ | 2-way supply shutoff valve | ⑬ | Condensate pump |
| ⑤ | Flow meter | ⑭ | Power supply unit |
| ⑥ | 3-way valve with unions | ⑮ | Condensate float |
| ⑦ | Flow control actuator | ⑯ | Coil |
| ⑧ | 2-way valve bypass shut-off | ⑰ | Top condensate drain pan |
| ⑨ | Bottom return connection | | |

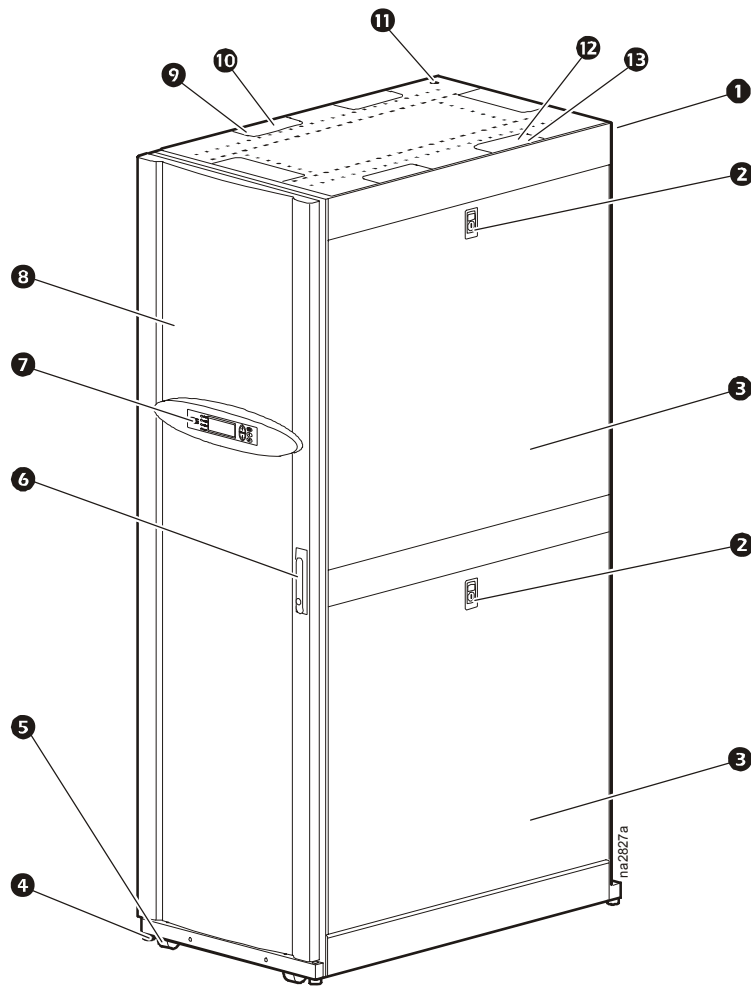
Internal electrical components—ACRC100 series



Note: Mechanical connections removed for clarity

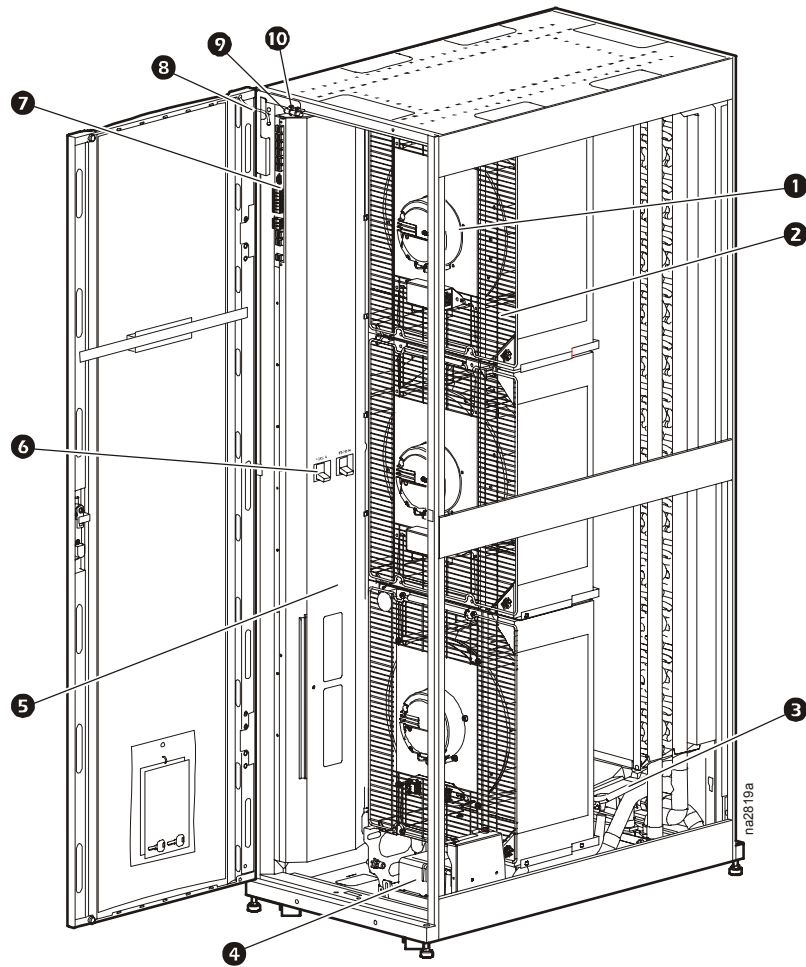
- | | |
|----------------------------|---|
| ❶ Fan (8) | ❿ Control RS485 connector |
| ❷ Fan harness | ⓫ Output relay and shutdown input |
| ❸ Condensate float | ⓬ Configuration port |
| ❹ Condensate pump | ⓭ Controller box |
| ❺ Power supply units (PSU) | ⓮ PSU DC power-out to controller |
| ❻ A-Link connector | ⓯ PSU control signals to/from controller |
| ❼ Reset button | ⓰ PSU power in from controller and out to condensate pump |
| ❽ Ethernet connector | ⓱ Electrical cover |
| ❾ BMS RS485 connector | ⓲ Main power into control |

External components—ACRC500 series



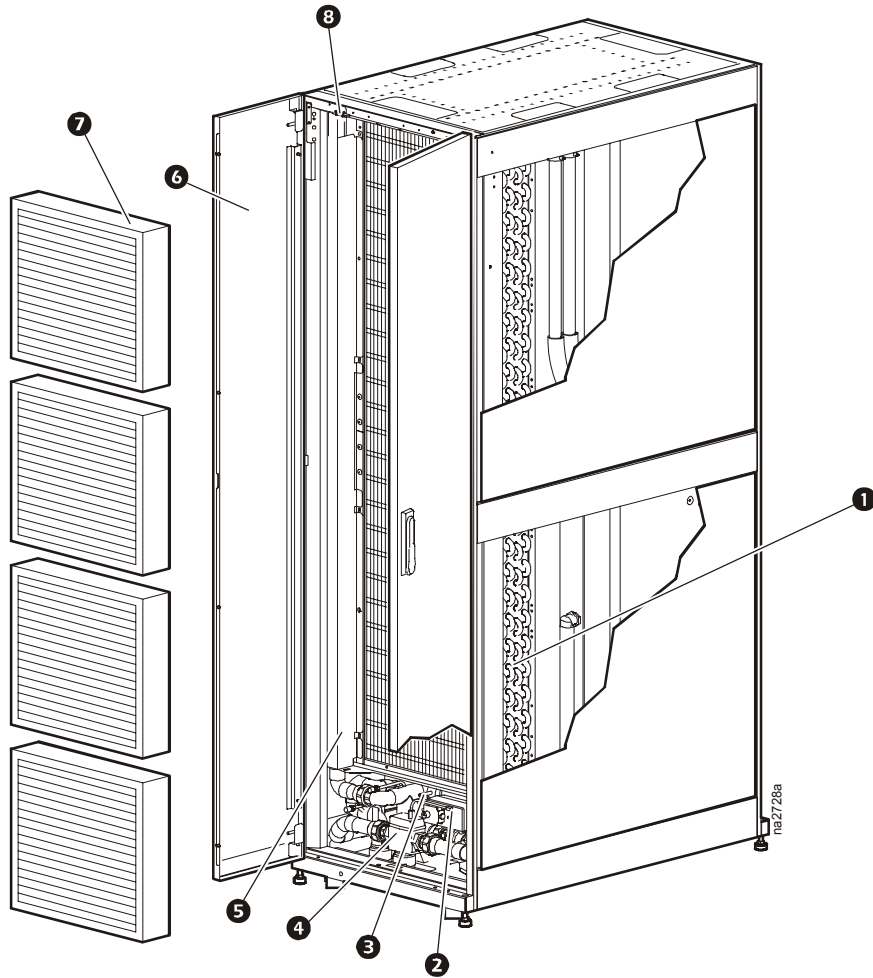
- | | |
|----------------------------|--|
| ➊ Removable rear doors | ➋ Removable front door |
| ➌ Side panel lock | ➍ Top access for customer network wiring |
| ➎ Removable side panel | ➏ Top power connection |
| ➐ Adjustable leveling foot | ➑ Top condensate drain |
| ➒ Caster | ➓ Top supply (inlet) |
| ➔ Door handle and lock | ➕ Top return (outlet) |
| ➖ Display interface | |

Internal mechanical components—ACRC500 series (front)



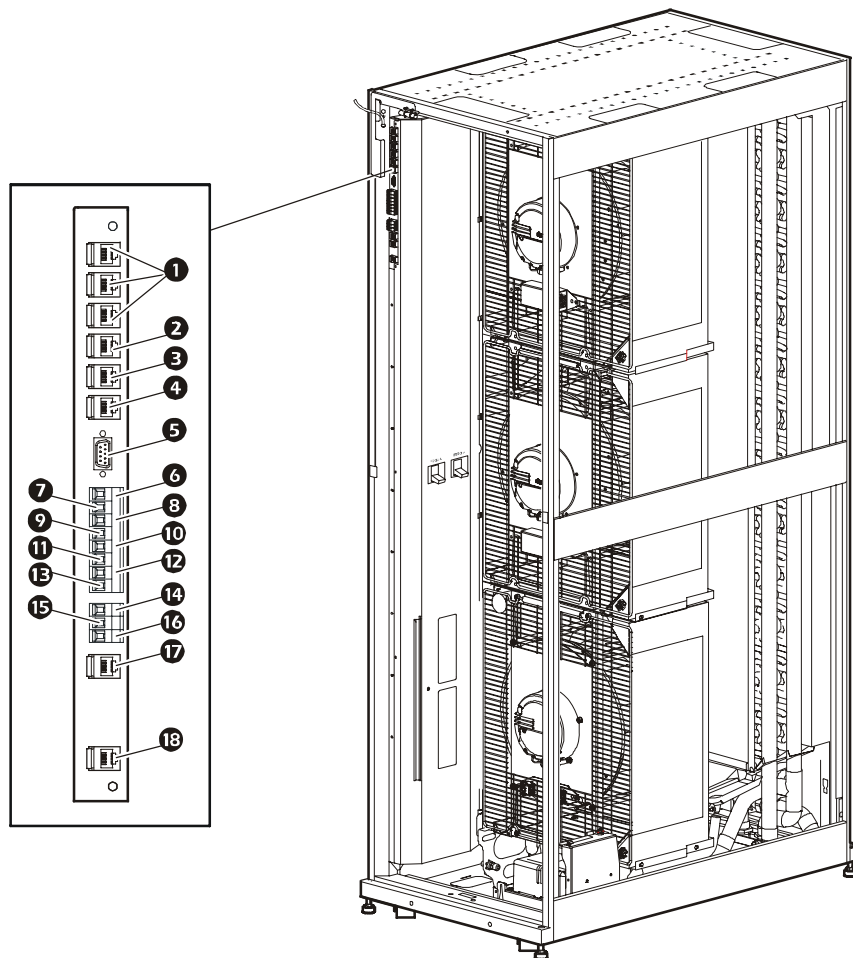
- | | | |
|-----------------------------|-----------------------------|-----------------------------|
| ❶ Fan | ❸ Condensate drain pan | ❹ Supply humidity sensor |
| ❷ Fan guard | ❺ Electrical panel | ❺ Supply temperature sensor |
| ❸ Condensate drain pan | ❻ Main feed breakers | |
| ❹ Supply humidity sensor | ❼ User interface connectors | |
| ❺ Supply temperature sensor | ❽ Ground wire | |
| | ❾ Supply humidity sensor | |
| | ❿ Supply temperature sensor | |

Internal mechanical components—ACRC500 series (rear)



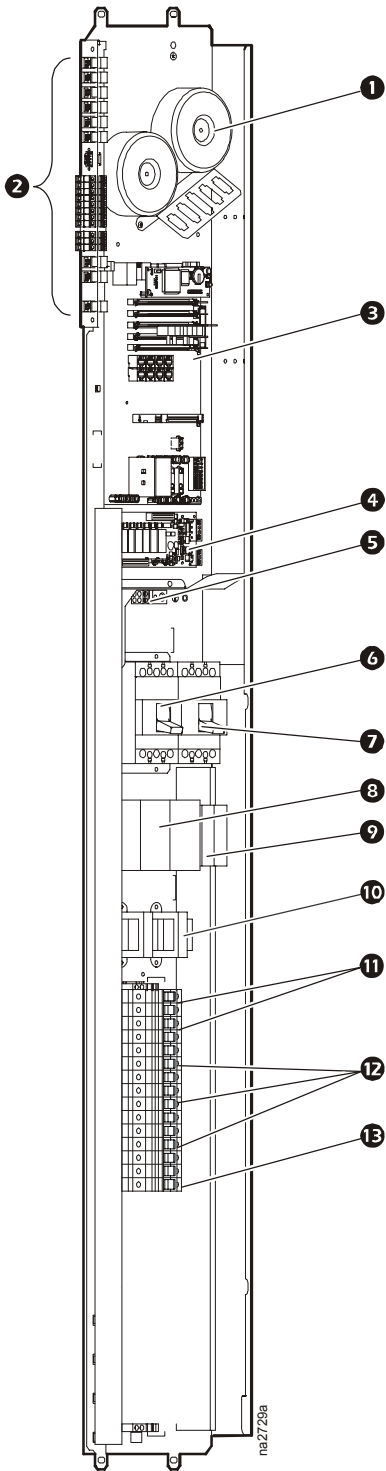
- 1 Chilled water coil
- 2 Chilled water control actuator
- 3 Chilled water three-way valve body
- 4 Flow meter
- 5 Pipe chase
- 6 Rear doors
- 7 Air filters
- 8 Return temperature sensor

User interface connection—ACRC500 series



- | | | |
|--|--|--|
| ❶ Rack inlet temperature sensors 1, 2, 3 | ❷ Customer output, COM (Common) | ❷ Supply 24 Vdc (current limit: 20 mA) |
| ❷ A-Link IN | ❸ Customer output, NO (Normally Open) | ❸ Customer input + (12–30 Vac/Vdc, 24 Vdc @ 11 mA) |
| ❸ A-Link OUT | ❹ Supply GND (Ground) | ❹ Supply COM |
| ❹ Network port | ❺ Supply 12 Vdc (current limit: 20 mA) | ❺ Modbus D1 |
| ❺ Console port | ❻ Supply 24 Vdc (current limit: 20 mA) | ❻ Modbus D0 |
| ❻ Customer output, NC (Normally Closed) | ❼ Customer input + (12–30 Vac/Vdc, 24 Vdc @ 11 mA) | ❼ Modbus GND |
| ❼ Customer output, COM (Common) | ❽ Supply COM | ❽ Supply air temperature sensor (front) |
| ❽ Customer output, NO (Normally Open) | ❹ Modbus D1 | ❹ Display interface |
| ❹ Supply GND (Ground) | ❺ Modbus D0 | |
| | ❻ Modbus GND | |
| | ❼ Supply air temperature sensor (front) | |
| | ❹ Display interface | |

Electrical panel—ACRC500 series



- ❶ Transformers
- ❷ User interface connectors
- ❸ Main controller board
- ❹ Relay board
- ❺ Ground lug
- ❻ Main circuit breaker — power feed A
- ❼ Main circuit breaker — power feed B
- ❽ Automatic transfer switch (ATS) contactors
- ❾ ATS timers
- ❿ ATS transformer (ACRC501 only)
- ⓫ ATS timer circuit breakers
- ⓬ Fan circuit breakers
- ⓭ Controller circuit breaker

Determining Cooling Capacity

How to determine capacity of the InRow RC cooling unit:

IT equipment requires two acceptable limits in order for effective cooling to occur. These parameters are inlet air temperature and flow rate of air through the IT equipment. It is entirely possible, though undesirable, to design a computer room with enough heat removal capacity, but with an inadequate volumetric flow rate of cool air supply. When this condition exists, IT equipment will be subjected to excessively high operating temperatures on a localized basis due to recirculation, and cooling equipment will operate at less than optimal efficiency. APC provides the necessary data to prevent this undesirable situation. The first table, titled “Recommended Capacity Limitations,” shows the capacity limits based on air flow of the InRow RC. The following tables, titled “Performance Specifications,” show the recommended maximum amount of load that should be placed upon the cooling unit solely based on heat removal capability. The lesser of the two capacity numbers obtained from the “Recommended Capacity Limitations” table and “Performance Specification” table should be considered the maximum load capable of being served by the InRow RC. A definition of the terms in these tables follows:

IT equipment air flow (cfm/kW)(l/s/kW)

The average cooling air flow rate demanded by IT equipment in cubic feet per minute (liters per second) divided by the total actual power dissipation of IT equipment in kilowatts.

Recommended capacity limit (kW)

The corresponding maximum load in kilowatts capable of being served by the cooling unit solely based on conservation of volumetric air flow.

DB (°F and °C)

The dry bulb temperature in degrees Fahrenheit and Celsius of the return air stream to the cooling unit.

WB (°F and °C)

The wet bulb temperature in degrees Fahrenheit and Celsius of the return air stream to the cooling unit.

CW delta T (°F and °C)

The difference in temperature in degrees Fahrenheit between chilled water entering and exiting the cooling unit.

Sensible net capacity (BTU/hr and kW)

The sensible net heat removal capacity of fan heat, of the cooling unit at stated operating conditions.

Total net capacity (BTU/hr and kW)

The total (sensible + latent) net heat removal capacity of fan heat, of the cooling unit at stated operating conditions.

Sensible heat ratio (SHR)

The sensible heat ratio of the unit at stated conditions. Sensible Heat Ratio is the ratio of sensible capacity to total capacity.

CW flow rate (GPM and l/s)

The volumetric flow rate of chilled water through the cooling unit in gallons per minute, and liters per second, that is required to result in the stated performance. For base loads, ACRC100 series units should not have a flow rate greater than 20.4 GPM and ACRC500 series units should not have a flow rate greater than 33 GPM; peak loads may exceed these flow rates by up to 25 percent for short time spans.

Total CW pressure drop (ft H₂O and kPa)

The differential pressure observed between inlet and outlet chilled water connections for the stated CW flow rate.

Recommended Capacity Limitations

ACRC100 series

IT Equipment ΔT °C (°F)	IT Equipment Air Flow l/s per kW (cfm/kW)	Recommended Capacity Limit kW
11.0 (19.8)	75.5 (160)	18
11.3 (20.4)	73.2 (155)	19
11.7 (21.1)	70.8 (150)	19
12.1 (21.8)	68.4 (145)	20
12.5 (22.6)	66.1 (140)	21
13.0 (23.4)	63.7 (135)	21
13.5 (24.3)	61.4 (130)	22
14.1 (25.3)	59.0 (125)	23
14.6 (26.4)	56.6 (120)	24
15.3 (27.5)	54.3 (115)	25
15.9 (28.7)	51.9 (110)	26
16.7 (30.1)	49.6 (105)	28
17.5 (31.6)	47.2 (100)	29

ACRC500 series

IT Equipment ΔT °C (°F)	IT Equipment Air Flow l/s per kW (cfm/kW)	Recommended Capacity Limit kW
11.0 (19.8)	75.5 (160)	43
11.3 (20.4)	73.2 (155)	45
11.7 (21.1)	70.8 (150)	46
12.1 (21.8)	68.4 (145)	48
12.5 (22.6)	66.1 (140)	49
13.0 (23.4)	63.7 (135)	51
13.5 (24.3)	61.4 (130)	53
14.1 (25.3)	59.0 (125)	55
14.6 (26.4)	56.6 (120)	58
15.3 (27.5)	54.3 (115)	60
15.9 (28.7)	51.9 (110)	63
16.7 (30.1)	49.6 (105)	66
17.5 (31.6)	47.2 (100)	69

Performance Specifications 5.6°C (42°F) EWT

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)							
	5.5°C (10°F)	ACRC100	17.0 (58000)	16.7 (57000)	0.98	0.78 (12.3)	44.79 (15.02)
	6.6°C (12°F)	ACRC100	16.1 (55000)	16.1 (55000)	1.00	0.62 (9.7)	29.04 (9.7)
		ACRC500	44.3 (151000)	40.7 (139000)	0.92	1.6 (25.9)	66 (21.95)
	7.7°C (14°F)	ACRC100	14.9 (51000)	14.9 (51000)	1.00	0.5 (7.8)	19.54 (6.5)
		ACRC500	40.8 (139000)	37.9 (129000)	0.93	1.3 (20.6)	42 (14.1)
	8.8°C (16°F)	ACRC100	13.8 (47000)	13.8 (47000)	1.00	0.4 (6.4)	13.52 (4.53)
		ACRC500	37.8 (129000)	35.2 (120000)	0.93	1.1 (16.8)	29 (9.5)
	10°C (18°F)	ACRC100	12.6 (43000)	12.6 (43000)	1.00	0.33 (5.2)	9.63 (3.2)
		ACRC500	34.6 (118000)	32.5 (111000)	0.94	0.9 (13.8)	19 (6.5)
	11.1°C (20°F)	ACRC100	11.4 (39000)	11.4 (39000)	1.00	0.27 (4.3)	6.93 (2.3)
		ACRC500	31.8 (109000)	29.9 (102000)	0.94	0.7 (11.5)	14 (4.6)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)							
	5.5°C (10°F)	ACRC100	21.1 (72000)	21.1 (71000)	0.99	0.96 (15.2)	66.05 (22.14)
	6.6°C (12°F)	ACRC100	19.6 (67000)	19.6 (67000)	1.00	0.75 (11.8)	41.47 (13.9)
		ACRC500	50.8 (174000)	47.8 (163000)	0.94	1.9 (29.5)	84 (28.4)
	7.7°C (14°F)	ACRC100	18.7 (64000)	18.7 (64000)	1.00	0.61 (9.7)	28.85 (9.7)
		ACRC500	47.7 (163000)	44.8 (153000)	0.94	1.5 (23.9)	56 (18.7)
	8.8°C (16°F)	ACRC100	17.9 (61000)	17.9 (61000)	1.00	0.51 (8.1)	20.71 (6.9)
		ACRC500	44.1 (151000)	41.9 (143000)	0.95	1.2 (19.4)	38 (12.5)
	10°C (18°F)	ACRC100	17.0 (58000)	17.0 (58000)	1.00	0.44 (6.9)	15.54 (5.3)
		ACRC500	41.2 (141000)	39.1 (134000)	0.95	1.0 (16.2)	26 (8.8)
	11.1°C (20°F)	ACRC100	16.4 (56000)	16.4 (56000)	1.00	0.38 (5.9)	11.96 (3.9)
		ACRC500	37.8 (129000)	36.3 (124000)	0.96	0.8 (13.5)	19 (6.2)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)							
	5.5°C (10°F)	ACRC100	24.9 (85000)	24.9 (85000)	1.00	1.12 (17.7)	87.77 (29.3)
	6.6°C (12°F)	ACRC100	23.4 (80000)	23.4 (80000)	1.00	0.88 (13.9)	56.08 (18.7)
	7.7°C (14°F)	ACRC100	22.8 (78000)	22.8 (78000)	1.00	0.73 (11.6)	39.84 (13.4)
		ACRC500	54.5 (186000)	52.3 (179000)	0.96	1.7 (27.1)	71 (23.8)
	8.8°C (16°F)	ACRC100	22.0 (75000)	22.0 (75000)	1.00	0.62 (9.8)	29.34 (9.9)
		ACRC500	51.4 (175000)	49.3 (168000)	0.96	1.4 (22.4)	49 (16.6)
	10°C (18°F)	ACRC100	21.4 (73000)	21.4 (73000)	1.00	0.54 (8.5)	22.73 (7.6)
		ACRC500	47.8 (163000)	46.3 (158000)	0.97	1.2 (18.6)	35 (11.6)
	11.1°C (20°F)	ACRC100	21.1 (72000)	21.1 (72000)	1.00	0.48 (7.5)	18.17 (6.01)
		ACRC500	44.8 (153000)	43.4 (148000)	0.97	1.0 (15.7)	25 (8.32)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)							
	5.5°C (10°F)	ACRC100	28.4 (97000)	28.4 (97000)	1.00	1.27 (20.1)	111.83 (37.4)
	6.6°C (12°F)	ACRC100	26.9 (92000)	26.9 (92000)	1.00	1.01 (16.0)	72.78 (24.5)
	7.7°C (14°F)	ACRC100	26.4 (90000)	26.4 (90000)	1.00	0.85 (13.4)	52.42 (17.6)
		ACRC500	62.0 (212000)	60.2 (205000)	0.97	1.9 (30.6)	90 (30.3)
	8.8°C (16°F)	ACRC100	25.5 (87000)	25.5 (87000)	1.00	0.72 (11.3)	38.09 (12.7)
		ACRC500	58.8 (201000)	57.0 (195000)	0.97	1.6 (25.4)	63 (21.3)
	10°C (18°F)	ACRC100	24.6 (84000)	24.6 (84000)	1.00	0.62 (9.8)	29.2 (9.7)
		ACRC500	55.6 (190000)	53.9 (184000)	0.97	1.4 (21.4)	45 (15.2)
	11.1°C (20°F)	ACRC100	24.3 (83000)	24.3 (83000)	1.00	0.55 (8.7)	23.44 (7.9)
		ACRC500	52.4 (179000)	50.9 (174000)	0.97	1.2 (18.3)	33 (11.1)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)							
	6.6°C (12°F)	ACRC100	30.5 (104000)	30.5 (104000)	1.00	1.14 (18.0)	90.89 (30.5)
	7.7°C (14°F)	ACRC100	30.2 (103000)	30.2 (103000)	1.00	0.97 (15.3)	66.73 (22.4)
	8.8°C (16°F)	ACRC100	29.3 (100000)	29.3 (100000)	1.00	0.82 (12.9)	49.01 (16.4)
		ACRC500	66.4 (227000)	65.0 (222000)	0.98	1.8 (28.6)	79 (26.6)
	10°C (18°F)	ACRC100	28.7 (98000)	28.7 (98000)	1.00	0.72 (11.3)	38.23 (12.7)
		ACRC500	63.1 (215000)	61.8 (211000)	0.98	1.5 (24.2)	57 (19.2)
	11.1°C (20°F)	ACRC100	28.7 (98000)	28.7 (98000)	1.00	0.64 (10.1)	31.21 (10.4)
		ACRC500	59.8 (204000)	58.7 (200000)	0.98	1.3 (20.7)	42 (14.3)
	6.6°C (12°F)	ACRC100	34.0 (116000)	34.0 (116000)	1.00	1.27 (20.0)	111.13 (37.2)
	7.7°C (14°F)	ACRC100	33.7 (115000)	33.7 (115000)	1.00	1.07 (16.9)	80.99 (27.3)
	8.8°C (16°F)	ACRC100	33.1 (113000)	33.1 (113000)	1.00	0.92 (14.6)	61.36 (20.6)
		ACRC500	74.8 (256000)	73.3 (250000)	0.98	2.0 (32.1)	99 (33.3)

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H ₂ O)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)							
	10°C (18°F)	ACRC100	32.8 (112000)	32.8 (112000)	1.00	0.81 (12.9)	48.39 (16.17)
		ACRC500	71.4 (244000)	70.0 (239000)	0.98	1.7 (27.3)	72 (24.3)
	11.1°C (20°F)	ACRC100	32.5 (111000)	32.5 (111000)	1.00	0.72 (11.4)	38.77 (12.9)
		ACRC500	68.1 (233000)	66.7 (228000)	0.98	1.5 (23.4)	54 (18.02)

Note: All values are accurate to ± 0.73 kW (2500 BTU/hr) and based on full speed with standard filters.

Note: Any CW flow rate of 3.9 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 7.2°C (45°F) EWT

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)							
5.5°C (10°F)		ACRC100	13.2 (45000)	13.2 (45000)	1.00	0.62 (9.8)	29.2 (9.8)
		ACRC500	40.8 (139000)	39.6 (135000)	0.97	1.8 (28.8)	81 (27.03)
6.6°C (12°F)		ACRC100	11.4 (39000)	11.4 (39000)	1.00	0.44 (7)	16.11 (5.4)
		ACRC500	37.9 (130000)	36.8 (126000)	0.97	1.4 (22.5)	50 (16.6)
7.7°C (14°F)		ACRC100	10.5 (36000)	10.5 (36000)	1.00	0.36 (5.7)	11.22 (3.8)
		ACRC500	35.1 (120000)	34.1 (116000)	0.97	1.1 (18.0)	32 (10.9)
8.8°C (16°F)		ACRC100	10.2 (35000)	10.2 (35000)	1.00	0.3 (4.8)	8.3 (2.8)
		ACRC500	32.5 (111000)	31.5 (108000)	0.97	0.9 (14.6)	22 (7.4)
10°C (18°F)		ACRC100	9.7 (33000)	9.7 (33000)	1.00	0.26 (4.1)	6.4 (2.14)
		ACRC500	29.8 (102000)	28.9 (99000)	0.97	0.8 (12.0)	15 (5.1)
11.1°C (20°F)		ACRC100	9.7 (33000)	9.7 (33000)	1.00	0.23 (3.6)	5.18 (1.7)
		ACRC500	27.3 (93000)	26.5 (90000)	0.97	0.6 (10.0)	11 (3.7)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)							
5.5°C (10°F)		ACRC100	18.2 (62000)	18.2 (62000)	1.00	0.83 (13.2)	50.56 (16.9)
		ACRC500	15.2 (52000)	15.2 (52000)	1.00	0.59 (9.3)	26.59 (8.9)
6.6°C (12°F)		ACRC100	45.0 (154000)	43.7 (149000)	0.97	1.7 (26.4)	68 (22.6)
		ACRC500	13.5 (46000)	13.5 (46000)	1.00	0.45 (7.0)	16.16 (5.4)
7.7°C (14°F)		ACRC100	42.0 (144000)	40.8 (139000)	0.97	1.3 (21.2)	44 (14.8)
		ACRC500	12.9 (44000)	12.9 (44000)	1.00	0.38 (6.0)	12.09 (4.05)
8.8°C (16°F)		ACRC100	39.1 (134000)	38.0 (130000)	0.97	1.1 (17.4)	30 (10.2)
		ACRC500	12.6 (43000)	12.6 (43000)	1.00	0.33 (5.2)	9.46 (3.2)
10°C (18°F)		ACRC100	36.3 (124000)	35.2 (120000)	0.97	0.9 (14.4)	21 (7.2)
		ACRC500	12.6 (43000)	12.6 (43000)	1.00	0.29 (4.6)	7.77 (2.6)
11.1°C (20°F)		ACRC100	33.3 (114000)	32.6 (111000)	0.98	0.8 (11.9)	15 (5.1)
		ACRC500					
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)							
5.5°C (10°F)		ACRC100	21.7 (74000)	21.7 (74000)	1.00	0.98 (15.5)	68.78 (23.06)
		ACRC500	19.3 (66000)	19.3 (66000)	1.00	0.73 (11.5)	39.51 (13.2)
6.6°C (12°F)		ACRC100	52.3 (179000)	51.2 (175000)	0.98	1.9 (30.4)	89 (29.8)
		ACRC500	17.6 (60000)	17.6 (60000)	1.00	0.57 (9.0)	25.2 (8.5)
7.7°C (14°F)		ACRC100	49.2 (168000)	48.2 (165000)	0.98	1.5 (24.5)	59 (19.9)
		ACRC500	15.5 (53000)	15.5 (53000)	1.00	0.45 (7.1)	16.48 (5.5)
8.8°C (16°F)		ACRC100	46.1 (157000)	45.2 (154000)	0.98	1.3 (20.2)	41 (13.6)
		ACRC500	15.5 (53000)	15.5 (53000)	1.00	0.4 (6.3)	13.26 (4.4)
10°C (18°F)		ACRC100	42.7 (146000)	42.3 (144000)	0.99	1.1 (16.7)	28 (9.5)
		ACRC500	15.5 (53000)	15.5 (53000)	1.00	0.36 (5.6)	10.98 (3.7)
11.1°C (20°F)		ACRC100	39.8 (136000)	39.4 (135000)	0.99	0.9 (14.1)	20 (6.9)
		ACRC500					
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)							
5.5°C (10°F)		ACRC100	25.2 (86000)	25.2 (86000)	1.00	1.13 (17.9)	89.78 (30.1)
		ACRC500	23.1 (79000)	23.1 (79000)	1.00	0.87 (13.8)	54.84 (18.38)
6.6°C (12°F)		ACRC100	21.4 (73000)	21.4 (73000)	1.00	0.7 (11.0)	36.18 (12.1)
		ACRC500	57.2 (195000)	56.0 (191000)	0.98	1.8 (28.3)	78 (26.1)
7.7°C (14°F)		ACRC100	19.9 (68000)	19.9 (68000)	1.00	0.57 (8.9)	24.79 (8.3)
		ACRC500	53.4 (182000)	52.9 (181000)	0.99	1.5 (23.2)	53 (17.8)
8.8°C (16°F)		ACRC100	18.4 (63000)	18.4 (63000)	1.00	0.47 (7.4)	17.51 (5.9)
		ACRC500	50.3 (172000)	49.8 (170000)	0.99	1.2 (19.5)	38 (12.7)
10°C (18°F)		ACRC100	18.7 (64000)	18.7 (64000)	1.00	0.43 (6.7)	14.91 (5.0)
		ACRC500	47.2 (161000)	46.7 (160000)	0.99	1.0 (16.5)	28 (9.2)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)							
5.5°C (10°F)		ACRC100	28.7 (98000)	28.7 (98000)	1.00	1.28 (20.2)	113.57 (38.07)
		ACRC500	26.9 (92000)	26.9 (92000)	1.00	1.01 (15.9)	72.26 (24.2)
6.6°C (12°F)		ACRC100	25.5 (87000)	25.5 (87000)	1.00	0.82 (13.0)	49.32 (16.5)
		ACRC500	24.3 (83000)	24.3 (83000)	1.00	0.68 (10.8)	34.77 (11.6)
7.7°C (14°F)		ACRC100	61.6 (210000)	61.0 (208000)	0.99	1.7 (26.6)	69 (23.1)
		ACRC500	22.8 (78000)	22.8 (78000)	1.00	0.58 (9.1)	25.57 (8.6)
8.8°C (16°F)		ACRC100	58.3 (199000)	57.7 (197000)	0.99	1.4 (22.4)	50 (16.6)
		ACRC500	21.7 (74000)	21.7 (74000)	1.00	0.49 (7.8)	19.3 (6.5)
10°C (18°F)		ACRC100	55.1 (188000)	54.5 (186000)	0.99	1.2 (19.1)	36 (12.2)
		ACRC500					
11.1°C (20°F)		ACRC100					
		ACRC500					

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)							
	6.6°C (12°F)	ACRC100	30.7 (105000)	30.7 (105000)	1.00	1.14 (18.1)	91.62 (30.7)
	7.7°C (14°F)	ACRC100	29.6 (10100)	29.6 (10100)	1.00	0.95 (15.0)	64.27 (21.5)
	8.8°C (16°F)	ACRC100	28.7 (98000)	28.7 (98000)	1.00	0.8 (12.6)	46.92 (15.7)
		ACRC500	69.6 (238000)	69.6 (238000)	1.00	1.9 (29.9)	86 (28.9)
	10°C (18°F)	ACRC100	27.5 (94000)	27.5 (94000)	1.00	0.69 (10.8)	35.3 (11.8)
		ACRC500	66.1 (226000)	66.1 (226000)	1.00	1.6 (25.3)	63 (21.02)
	11.1°C (20°F)	ACRC100	26.4 (90000)	26.4 (90000)	1.00	0.59 (9.4)	27.18 (9.1)
		ACRC500	62.7 (214000)	62.7 (214000)	1.00	1.4 (21.7)	46 (15.5)

Note: All values are accurate to ± 0.73 kW (2500 BTU/hr) and based on full speed with standard filters.

Note: Any CW flow rate of 3.9 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 8.8°C (48°F) EWT

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)							
5.5°C (10°F)		ACRC100	11.1 (38000)	11.1 (38000)	1.00	0.53 (8.4)	22.04 (7.4)
		ACRC500	35.7 (122000)	34.6 (118000)	0.97	1.6 (25.5)	63 (21.3)
6.6°C (12°F)		ACRC100	9.7 (33000)	9.7 (33000)	1.00	0.39 (6.1)	12.59 (4.2)
		ACRC500	32.9 (112000)	31.9 (109000)	0.97	1.2 (19.7)	39 (12.9)
7.7°C (14°F)		ACRC100	9.1 (31000)	9.1 (31000)	1.00	0.31 (5.0)	8.77 (2.9)
		ACRC500	30.3 (103000)	29.4 (100000)	0.97	1.0 (15.7)	25 (8.3)
8.8°C (16°F)		ACRC100	8.6 (29000)	8.6 (29000)	1.00	0.26 (4.1)	6.4 (2.14)
		ACRC500	27.7 (95000)	26.9 (92000)	0.97	0.8 (12.7)	17 (5.5)
10°C (18°F)		ACRC100	8.2 (28000)	8.2 (28000)	1.00	0.22 (3.5)	4.88 (1.6)
		ACRC500	25.3 (86000)	24.5 (84000)	0.97	0.7 (10.4)	11 (3.9)
11.1°C (20°F)		ACRC100	7.6 (26000)	7.6 (26000)	1.00	0.19 (3.0)	3.84 (1.3)
		ACRC500	22.7 (78000)	22.3 (76000)	0.98	0.5 (8.5)	8 (2.5)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)							
5.5°C (10°F)		ACRC100	14.9 (51000)	14.9 (51000)	1.00	0.69 (10.9)	35.93 (12.04)
		ACRC500	42.3 (145000)	41.5 (142000)	0.98	1.9 (29.9)	86 (28.9)
6.6°C (12°F)		ACRC100	13.2 (45000)	13.2 (45000)	1.00	0.52 (8.1)	20.97 (7.03)
		ACRC500	39.4 (134000)	38.6 (132000)	0.98	1.5 (23.3)	53 (17.8)
7.7°C (14°F)		ACRC100	11.7 (40000)	11.7 (40000)	1.00	0.39 (6.2)	13.08 (4.4)
		ACRC500	36.5 (125000)	35.8 (122000)	0.98	1.2 (18.6)	35 (11.6)
8.8°C (16°F)		ACRC100	11.1 (38000)	11.1 (38000)	1.00	0.33 (5.3)	9.71 (3.3)
		ACRC500	33.7 (115000)	33.1 (113000)	0.98	1.0 (15.1)	23 (7.9)
10°C (18°F)		ACRC100	10.8 (37000)	10.8 (37000)	1.00	0.29 (4.5)	7.59 (2.5)
		ACRC500	31.1 (106000)	30.4 (104000)	0.98	0.8 (12.5)	16 (5.3)
11.1°C (20°F)		ACRC100	10.8 (37000)	10.8 (37000)	1.00	0.25 (4.0)	6.17 (2.07)
		ACRC500	28.5 (97000)	27.9 (95000)	0.98	0.7 (10.4)	12 (3.9)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)							
5.5°C (10°F)		ACRC100	18.7 (64000)	18.7 (64000)	1.00	0.86 (13.6)	53.47 (17.9)
		ACRC500	47.3 (161000)	46.1 (157000)	0.98	1.7 (27.5)	73 (24.5)
6.6°C (12°F)		ACRC100	17.3 (59000)	17.3 (59000)	1.00	0.66 (10.4)	32.44 (10.9)
		ACRC500	47.0 (161000)	46.1 (157000)	0.98	1.7 (27.5)	73 (24.5)
7.7°C (14°F)		ACRC100	15.2 (52000)	15.2 (52000)	1.00	0.5 (8.0)	20.2 (6.8)
		ACRC500	43.9 (150000)	43.0 (147000)	0.98	1.4 (22.1)	48 (16.2)
8.8°C (16°F)		ACRC100	14.1 (48000)	14.1 (48000)	1.00	0.41 (6.4)	13.73 (4.6)
		ACRC500	40.9 (140000)	40.1 (137000)	0.98	1.1 (18.1)	33 (10.9)
10°C (18°F)		ACRC100	13.8 (47000)	13.8 (47000)	1.00	0.36 (5.6)	10.91 (3.6)
		ACRC500	37.6 (128000)	37.2 (127000)	0.99	0.9 (14.9)	23 (7.6)
11.1°C (20°F)		ACRC100	13.8 (47000)	13.8 (47000)	1.00	0.32 (5.0)	9.06 (3.03)
		ACRC500	34.8 (119000)	34.4 (118000)	0.99	0.8 (12.5)	16 (5.3)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)							
5.5°C (10°F)		ACRC100	22.5 (77000)	22.5 (77000)	1.00	1.02 (16.1)	73.7 (24.7)
		ACRC500	51.4 (176000)	50.9 (174000)	0.99	1.6 (25.6)	64 (21.5)
6.6°C (12°F)		ACRC100	21.1 (72000)	21.1 (72000)	1.00	0.8 (12.6)	46.56 (15.6)
		ACRC500	51.4 (176000)	50.9 (174000)	0.99	1.6 (25.6)	64 (21.5)
7.7°C (14°F)		ACRC100	19.3 (66000)	19.3 (66000)	1.00	0.63 (10.0)	30.47 (10.2)
		ACRC500	51.4 (176000)	50.9 (174000)	0.99	1.6 (25.6)	64 (21.5)
8.8°C (16°F)		ACRC100	17.9 (61000)	17.9 (61000)	1.00	0.51 (8.0)	20.45 (6.9)
		ACRC500	48.2 (165000)	47.7 (163000)	0.99	1.3 (21.1)	44 (14.8)
10°C (18°F)		ACRC100	16.7 (57000)	16.7 (57000)	1.00	0.42 (6.7)	14.86 (4.9)
		ACRC500	45.0 (154000)	44.6 (152000)	0.99	1.1 (17.6)	31 (10.4)
11.1°C (20°F)		ACRC100	16.7 (57000)	16.7 (57000)	1.00	0.38 (6.1)	12.5 (4.2)
		ACRC500	42.0 (143000)	41.6 (142000)	0.99	0.9 (14.8)	22 (7.6)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)							
5.5°C (10°F)		ACRC100	26.1 (89000)	26.1 (89000)	1.00	1.18 (18.6)	96.76 (32.4)
		ACRC500	60.0 (205000)	59.4 (203000)	0.99	1.9 (29.7)	85 (28.6)
6.6°C (12°F)		ACRC100	24.9 (85000)	24.9 (85000)	1.00	0.94 (14.8)	62.8 (21.05)
		ACRC500	60.0 (205000)	59.4 (203000)	0.99	1.9 (29.7)	85 (28.6)
7.7°C (14°F)		ACRC100	23.7 (81000)	23.7 (81000)	1.00	0.76 (12.0)	42.67 (14.3)
		ACRC500	60.0 (205000)	59.4 (203000)	0.99	1.9 (29.7)	85 (28.6)
8.8°C (16°F)		ACRC100	22.0 (75000)	22.0 (75000)	1.00	0.62 (9.9)	29.65 (9.9)
		ACRC500	56.0 (191000)	56.0 (191000)	1.00	1.5 (24.3)	58 (19.4)

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
	10°C (18°F)	ACRC100	20.8 (71000)	20.8 (71000)	1.00	0.52 (8.2)	21.45 (7.2)
		ACRC500	52.6 (180000)	52.6 (180000)	1.00	1.3 (20.4)	41 (13.9)
	11.1°C (20°F)	ACRC500	49.4 (169000)	49.4 (169000)	1.00	1.1 (17.3)	30 (9.9)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)							
	5.5°C (10°F)	ACRC100	29.9 (102000)	29.9 (102000)	1.00	1.33 (21.1)	122.89 (41.2)
	6.6°C (12°F)	ACRC100	28.7 (98000)	28.7 (98000)	1.00	1.07 (17.0)	81.38 (27.3)
	7.7°C (14°F)	ACRC100	27.5 (94000)	27.5 (94000)	1.00	0.88 (14.0)	56.51 (18.9)
		ACRC500	68.6 (234000)	68.6 (234000)	1.00	2.1 (33.7)	109 (36.5)
	8.8°C (16°F)	ACRC100	26.4 (90000)	26.4 (90000)	1.00	0.74 (11.7)	40.46 (13.6)
		ACRC500	64.9 (222000)	64.9 (222000)	1.00	1.8 (28.0)	76 (25.4)
	10°C (18°F)	ACRC500	61.3 (209000)	61.3 (209000)	1.00	1.5 (23.5)	54 (18.2)

Note: All values are accurate to ± 0.73 kW (2500 BTU/hr) and based on full speed with standard filters.

Note: Any CW flow rate of 3.9 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 10°C (50°F) EWT

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)							
5.5°C (10°F)		ACRC100	10.0 (34000)	10.0 (34000)	1.00	0.47 (7.5)	17.9 (6.0)
		ACRC500	32.6 (111000)	31.8 (109000)	0.98	1.5 (23.5)	54 (18.02)
6.6°C (12°F)		ACRC100	8.8 (30000)	8.8 (30000)	1.00	0.35 (5.5)	10.62 (3.6)
		ACRC500	29.9 (102000)	29.2 (100000)	0.98	1.1 (18.1)	33 (11.1)
7.7°C (14°F)		ACRC100	8.2 (28000)	8.2 (28000)	1.00	0.28 (4.5)	7.35 (2.5)
		ACRC500	27.4 (93000)	26.7 (91000)	0.98	0.9 (14.3)	21 (6.9)
8.8°C (16°F)		ACRC100	7.6 (26000)	7.6 (26000)	1.00	0.23 (3.7)	5.29 (1.8)
		ACRC500	24.9 (85000)	24.3 (83000)	0.98	0.7 (11.5)	14 (4.6)
10°C (18°F)		ACRC100	7.0 (24000)	7.0 (24000)	1.00	0.19 (3.1)	4.0 (1.3)
		ACRC500	22.6 (77000)	22.0 (75000)	0.98	0.6 (9.4)	10 (3.2)
11.1°C (20°F)		ACRC100	6.4 (22000)	6.4 (22000)	1.00	0.16 (2.6)	3.06 (1.03)
		ACRC500	20.4 (70000)	19.9 (68000)	0.98	0.5 (7.7)	7 (2.3)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)							
5.5°C (10°F)		ACRC100	13.8 (47000)	13.8 (47000)	1.00	0.64 (10.1)	30.87 (10.4)
		ACRC500	39.6 (135000)	38.6 (132000)	0.98	1.8 (28.0)	76 (25.6)
6.6°C (12°F)		ACRC100	11.7 (40000)	11.7 (40000)	1.00	0.46 (7.3)	17.36 (5.8)
		ACRC500	36.6 (125000)	35.7 (122000)	0.98	1.4 (21.8)	47 (15.7)
7.7°C (14°F)		ACRC100	10.5 (36000)	10.5 (36000)	1.00	0.36 (5.7)	11.25 (3.8)
		ACRC500	33.8 (115000)	32.9 (112000)	0.98	1.1 (17.3)	30 (10.2)
8.8°C (16°F)		ACRC100	10.2 (35000)	10.2 (35000)	1.00	0.3 (4.8)	8.33 (2.8)
		ACRC500	31.1 (106000)	30.3 (103000)	0.98	0.9 (14.0)	20 (6.7)
10°C (18°F)		ACRC100	10.0 (34000)	10.0 (34000)	1.00	0.26 (4.1)	6.45 (2.2)
		ACRC500	28.5 (97000)	27.7 (95000)	0.98	0.7 (11.5)	14 (4.6)
11.1°C (20°F)		ACRC100	9.7 (33000)	9.7 (33000)	1.00	0.23 (3.6)	5.19 (1.7)
		ACRC500	26.0 (89000)	25.3 (86000)	0.98	0.6 (9.5)	10 (3.2)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)							
5.5°C (10°F)		ACRC100	17.6 (60000)	17.6 (60000)	1.00	0.8 (12.6)	46.86 (15.7)
		ACRC500	51.8 (177000)	50.8 (174000)	0.98	1.5 (23.5)	46.86 (15.7)
6.6°C (12°F)		ACRC100	15.8 (54000)	15.8 (54000)	1.00	0.61 (9.6)	28.44 (9.5)
		ACRC500	43.6 (149000)	43.2 (147000)	0.99	1.6 (25.6)	64 (21.5)
7.7°C (14°F)		ACRC100	13.8 (47000)	13.8 (47000)	1.00	0.46 (7.3)	17.21 (5.8)
		ACRC500	40.5 (138000)	40.1 (137000)	0.99	1.3 (20.5)	42 (13.9)
8.8°C (16°F)		ACRC100	12.9 (44000)	12.9 (44000)	1.00	0.38 (6.0)	12.06 (4.04)
		ACRC500	37.6 (128000)	37.2 (127000)	0.99	1.1 (16.7)	28 (9.5)
10°C (18°F)		ACRC100	12.6 (43000)	12.6 (43000)	1.00	0.33 (5.2)	9.51 (3.2)
		ACRC500	34.7 (119000)	34.4 (117000)	0.99	0.9 (13.8)	20 (6.5)
11.1°C (20°F)		ACRC100	12.6 (43000)	12.6 (43000)	1.00	0.29 (4.6)	7.82 (2.6)
		ACRC500	32.0 (109000)	31.7 (108000)	0.99	0.7 (11.5)	14 (4.6)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)							
5.5°C (10°F)		ACRC100	21.4 (73000)	21.4 (73000)	1.00	0.96 (15.2)	66.24 (22.2)
		ACRC500	64.2 (220000)	63.2 (217000)	0.98	2.9 (44.1)	66.24 (22.2)
6.6°C (12°F)		ACRC100	19.6 (67000)	19.6 (67000)	1.00	0.75 (11.8)	41.52 (13.9)
		ACRC500	51.9 (177000)	51.4 (175000)	0.99	1.9 (30.1)	88 (29.3)
7.7°C (14°F)		ACRC100	18.2 (62000)	18.2 (62000)	1.00	0.59 (9.3)	26.82 (8.9)
		ACRC500	48.5 (166000)	48.0 (164000)	0.99	1.5 (24.2)	58 (19.4)
8.8°C (16°F)		ACRC100	16.4 (56000)	16.4 (56000)	1.00	0.47 (7.4)	17.76 (5.9)
		ACRC500	45.3 (155000)	44.8 (153000)	0.99	1.3 (19.9)	39 (13.2)
10°C (18°F)		ACRC100	42.1 (144000)	41.7 (142000)	0.99	1.0 (16.5)	28 (9.2)
		ACRC500	38.7 (132000)	38.7 (132000)	1.00	0.9 (13.7)	19 (6.5)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)							
5.5°C (10°F)		ACRC100	24.9 (85000)	24.9 (85000)	1.00	1.12 (17.7)	88.24 (29.6)
		ACRC500	74.7 (257000)	73.7 (254000)	0.98	3.4 (52.1)	88.24 (29.6)
6.6°C (12°F)		ACRC100	23.7 (81000)	23.7 (81000)	1.00	0.89 (14.1)	57.21 (19.2)
		ACRC500	71.1 (243000)	70.1 (240000)	0.99	2.7 (40.6)	57.21 (19.2)
7.7°C (14°F)		ACRC100	22.3 (76000)	22.3 (76000)	1.00	0.72 (11.3)	38.38 (12.9)
		ACRC500	56.7 (194000)	56.7 (194000)	1.00	1.8 (28.1)	77 (25.6)
8.8°C (16°F)		ACRC100	20.8 (71000)	20.8 (71000)	1.00	0.59 (9.3)	26.43 (8.9)
		ACRC500	53.2 (182000)	53.2 (182000)	1.00	1.5 (23.1)	53 (17.6)
10°C (18°F)		ACRC100	49.8 (170000)	49.8 (170000)	1.00	1.2 (19.3)	37 (12.5)
		ACRC500	149.4 (510000)	149.4 (510000)	1.00	3.6 (54.1)	37 (12.5)

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)							
	5.5°C (10°F)	ACRC100	28.7 (98000)	28.7 (98000)	1.00	1.28 (20.2)	113.55 (38.07)
	6.6°C (12°F)	ACRC100	27.5 (94000)	27.5 (94000)	1.00	1.03 (16.3)	75.27 (25.2)
	7.7°C (14°F)	ACRC100	26.4 (90000)	26.4 (90000)	1.00	0.84 (13.3)	51.61 (17.3)
	8.8°C (16°F)	ACRC500	62.3 (213000)	62.3 (213000)	1.00	1.7 (26.9)	70 (23.6)

Note: All values are accurate to ± 0.73 kW (2500 BTU/hr) and based on full speed with standard filters.

Note: Any CW flow rate of 3.9 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 12.7°C (55°F) EWT

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)							
5.5°C (10°F)		ACRC100	7.6 (26000)	7.6 (26000)	1.00	0.38 (6.0)	12.17 (4.08)
		ACRC500	24.7 (85000)	24.7 (85000)	1.00	1.2 (18.3)	33 (11.3)
6.6°C (12°F)		ACRC100	7.0 (24000)	7.0 (24000)	1.00	0.29 (4.6)	7.65 (2.6)
		ACRC500	22.3 (76000)	22.3 (76000)	1.00	0.9 (13.9)	20 (6.7)
7.7°C (14°F)		ACRC100	6.1 (21000)	6.1 (21000)	1.00	0.23 (3.6)	5.09 (1.7)
		ACRC500	20.0 (68000)	20.0 (68000)	1.00	0.7 (10.8)	12 (4.2)
8.8°C (16°F)		ACRC100	5.6 (19000)	5.6 (19000)	1.00	0.18 (2.8)	3.52 (1.2)
		ACRC500	17.8 (61000)	17.8 (61000)	1.00	0.5 (8.6)	8 (2.8)
10°C (18°F)		ACRC100	4.7 (16000)	4.7 (16000)	1.00	0.14 (2.2)	2.43 (0.8)
		ACRC500	15.8 (54000)	15.8 (54000)	1.00	0.4 (6.9)	5 (1.8)
11.1°C (20°F)		ACRC100	3.8 (13000)	3.8 (13000)	1.00	0.1 (1.7)	1.56 (0.5)
		ACRC500	13.9 (48000)	13.9 (48000)	1.00	0.4 (5.6)	4 (1.2)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)							
5.5°C (10°F)		ACRC100	11.7 (40000)	11.7 (40000)	1.00	0.55 (8.7)	23.53 (7.9)
		ACRC500	31.3 (107000)	31.3 (107000)	1.00	1.4 (22.6)	50 (16.9)
6.6°C (12°F)		ACRC100	9.7 (33000)	9.7 (33000)	1.00	0.39 (6.2)	12.85 (4.3)
		ACRC500	28.5 (97000)	28.5 (97000)	1.00	1.1 (17.3)	30 (10.2)
7.7°C (14°F)		ACRC100	9.1 (31000)	9.1 (31000)	1.00	0.32 (5.0)	8.86 (2.9)
		ACRC500	25.8 (88000)	25.8 (88000)	1.00	0.9 (13.6)	19 (6.5)
8.8°C (16°F)		ACRC100	8.5 (29000)	8.5 (29000)	1.00	0.26 (4.1)	6.43 (2.15)
		ACRC500	23.3 (80000)	23.3 (80000)	1.00	0.7 (10.8)	8 (4.2)
10°C (18°F)		ACRC100	7.9 (27000)	7.9 (27000)	1.00	0.22 (3.4)	4.76 (1.6)
		ACRC500	21.0 (72000)	21.0 (72000)	1.00	0.6 (8.8)	8 (2.8)
11.1°C (20°F)		ACRC100	7.0 (24000)	7.0 (24000)	1.00	0.18 (2.8)	3.39 (1.13)
		ACRC500	18.7 (64000)	18.7 (64000)	1.00	0.5 (7.2)	6 (1.8)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)							
5.5°C (10°F)		ACRC100	15.8 (54000)	15.8 (54000)	1.00	0.73 (11.5)	39.37 (13.2)
		ACRC500	39.1 (133000)	39.1 (133000)	1.00	1.7 (27.7)	75 (24.9)
6.6°C (12°F)		ACRC100	13.8 (47000)	13.8 (47000)	1.00	0.53 (8.4)	22.2 (7.4)
		ACRC500	35.9 (123000)	35.9 (123000)	1.00	1.3 (21.3)	45 (15.02)
7.7°C (14°F)		ACRC100	11.7 (40000)	11.7 (40000)	1.00	0.4 (6.3)	13.24 (4.4)
		ACRC500	32.8 (112000)	32.8 (112000)	1.00	1.1 (16.9)	29 (9.7)
8.8°C (16°F)		ACRC500	30.0 (102000)	30.0 (102000)	1.00	0.9 (13.6)	19 (6.5)
10°C (18°F)		ACRC500	27.2 (93000)	27.2 (93000)	1.00	0.7 (11.1)	13 (4.4)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)							
5.5°C (10°F)		ACRC100	18.7 (64000)	18.7 (64000)	1.00	0.86 (13.6)	53.44 (17.9)
6.6°C (12°F)		ACRC100	17.0 (58000)	17.0 (58000)	1.00	0.65 (10.3)	32.16 (10.8)
		ACRC500	44.2 (151000)	44.2 (151000)	1.00	1.6 (25.9)	66 (21.9)
7.7°C (14°F)		ACRC500	40.8 (139000)	40.8 (139000)	1.00	1.3 (20.6)	42 (14.1)
8.8°C (16°F)		ACRC500	37.5 (128000)	37.5 (128000)	1.00	1.1 (16.7)	28 (9.5)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)							
5.5°C (10°F)		ACRC100	22.8 (78000)	22.8 (78000)	1.00	1.03 (16.2)	74.93 (25.1)
6.6°C (12°F)		ACRC100	21.4 (73000)	21.4 (73000)	1.00	0.8 (12.7)	47.23 (15.9)
7.7°C (14°F)		ACRC500	49.8 (170000)	49.8 (170000)	1.00	1.6 (24.8)	60 (20.1)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)							
5.5°C (10°F)		ACRC100	26.1 (89000)	26.1 (89000)	1.00	1.17 (18.5)	96.31 (32.3)
7.7°C (14°F)		ACRC500	59.7 (204000)	59.7 (204000)	1.00	1.9 (29.5)	84 (28.2)

Note: All values are accurate to ± 0.73 kW (2500 BTU/hr) and based on full speed with standard filters.

Note: Any CW flow rate of 3.9 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 15.5°C (60°F) EWT

Temperature DB, WB	CW Delta T	SKU Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
°C (°F)	°C (°F)		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)							
5.5°C (10°F)		ACRC100	5.6 (19000)	5.6 (19000)	1.00	0.28 (4.4)	7.28 (2.5)
		ACRC500	17.5 (60000)	17.5 (60000)	1.00	0.9 (13.5)	19 (6.2)
6.6°C (12°F)		ACRC100	3.5 (12000)	3.5 (12000)	1.00	0.17 (2.7)	3.16 (1.2)
		ACRC500	15.2 (52000)	15.2 (52000)	1.00	0.6 (10.0)	11 (3.7)
7.7°C (14°F)		ACRC100	3.5 (12000)	3.5 (12000)	1.00	0.15 (2.3)	2.55 (0.9)
		ACRC500	13.1 (45000)	13.1 (45000)	1.00	0.5 (7.6)	6 (2.1)
8.8°C (16°F)		ACRC500	11.1 (38000)	11.1 (38000)	1.00	0.4 (5.8)	4 (1.4)
10°C (18°F)		ACRC500	9.3 (32000)	9.3 (32000)	1.00	0.3 (4.5)	3 (0.9)
11.1°C (20°F)		ACRC500	7.7 (26000)	7.7 (26000)	1.00	0.2 (3.5)	2 (0.5)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)							
5.5°C (10°F)		ACRC100	9.7 (33000)	9.7 (33000)	1.00	0.46 (7.3)	17.33 (5.8)
		ACRC500	23.8 (81000)	23.8 (81000)	1.00	1.1 (17.7)	31 (10.4)
6.6°C (12°F)		ACRC100	8.2 (28000)	8.2 (28000)	1.00	0.33 (5.2)	9.63 (3.2)
		ACRC500	21.1 (72000)	21.1 (72000)	1.00	0.8 (13.2)	18 (6.0)
7.7°C (14°F)		ACRC100	6.4 (22000)	6.4 (22000)	1.00	0.23 (3.7)	5.3 (1.8)
		ACRC500	18.5 (63000)	18.5 (63000)	1.00	0.6 (10.1)	11 (3.7)
8.8°C (16°F)		ACRC500	16.1 (55000)	16.1 (55000)	1.00	0.5 (7.9)	7 (2.3)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)							
5.5°C (10°F)		ACRC100	13.8 (47000)	13.8 (47000)	1.00	0.64 (10.1)	31.09 (10.4)
		ACRC500	31.5 (108000)	31.5 (108000)	1.00	1.4 (22.8)	51 (17.1)
6.6°C (12°F)		ACRC100	12.6 (43000)	12.6 (43000)	1.00	0.49 (7.7)	18.94 (6.2)
		ACRC500	28.3 (97000)	28.3 (97000)	1.00	1.1 (17.2)	30 (9.9)
7.7°C (14°F)		ACRC100	11.1 (38000)	11.1 (38000)	1.00	0.37 (5.9)	11.94 (3.9)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)							
5.5°C (10°F)		ACRC100	17.3 (59000)	17.3 (59000)	1.00	0.79 (12.5)	46.17 (15.5)
		ACRC500	40.6 (139000)	40.6 (139000)	1.00	1.8 (28.7)	80 (26.8)

Note: All values are accurate to ± 0.73 kW (2500 BTU/hr) and based on full speed with standard filters.

Note: Any CW flow rate of 3.9 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Data—General

ACRC100 series

MODULATING VALVES				
Size -3 Way Ball Valve - NPT mm (in) (Cv)	19.05 (3/4) (27)			
AIR SYSTEM - 200-mm (7.9-in) MIXED FLOW DIRECT DRIVE DC TUBEAXIAL FANS	Standard Filter	50-mm (2-in) Pleated Filter	Standard Filter with Single Fan Failure	50-mm (2-in) Pleated Filter with Single Fan Failure
Air Volume - l/s (SCFM)	1380 (2900)	1265 (2680)	1218 (2580)	1114 (2360)
Fan Motor - Watts (each)	115	115	115	115
Number of Fans	8	8	7	7
Performance Specifications Table Multiplier*	1.0	.96	.94	.91
COOLING COIL - COPPER TUBE/ALUMINUM FIN				
Face Area - m ² (ft ²)	0.510 (5.5)			
Rows Deep	3			
Face Velocity - m/s (FPM)	2.67 (527)			
FILTERS - WASHABLE (STANDARD)				
Quantity	2			
Size - mm (in)	238 x 933 (9.375 x 36.75)			
Depth - mm (in)	13 (1/2)			
Efficiency (%)	<20% MERV 1			
FILTERS - PLEATED (OPTIONAL)				
Quantity	2			
Size - mm (in)	238 x 933 (9.375 x 36.75)			
Depth - mm (in)	51 (2)			
Efficiency (%)	30% MERV 8			
PHYSICAL DATA				
Weight - kg (lbs)	162.73 (358)			
Height - mm (in)	1991.00 (78.39)			
Width - mm (in)	300.00 (11.81)			
Depth - mm (in)	1070 (42.13)			
CONNECTION SIZES				
Chilled Water				
Supply Line - mm (in)	25.4 (1) NPT Connection			
Return Line - mm (in)	25.4 (1) NPT Connection			
Condensate Drain				
Drain Line -mm (in)	4.77 (3/16) ID, 6.35 (1/4) OD			
DUAL FLOAT CONDENSATE MANAGEMENT				
Flow Rate- L/hr (GPH)	5 (1.3)			
Maximum Distance - m (ft) [†]	15.2 (50)			
Maximum Lift - m (ft)	4.9 (16)			

Maximum flow rate is 1.53 l/s (20.5 GPM) for continuous operation. May be exceeded by 25% for peak loads.

Maximum working pressure for the unit is 2068.4 kPa (300 psig).

[†]Maximum distance includes the maximum lift.

*Example: Performance at 29.4°C DB, 18.1°C WB (85° DB, 64.5°F WB) with a 7.2°C (45°F) EWT, and a 5.5°C (10°F) CW delta T is 18.2 kW (62000 BTU/hr) with the standard filter. Using a 50-mm (2-in) pleated filter with single fan failure, the performance of the unit would be 18.2 X .91 = 16.56 kW (62000 x .91 = 56420 BTU/hr).

ACRC500 series

MODULATING VALVES	
Size -3 Way Ball Valve - NPT mm (in)	25.4 (1)
AIR SYSTEM - 400-mm (15.8-in) BACKWARD INCLINE DIRECT DRIVE FANS (Standard Filter Installed)	
Air Volume - l/s (SCFM)	3260 (6,900)
Fan Motor - kW (HP)	1.00 (1.5)
Number of Fans	3
COOLING COIL - COPPER TUBE/ALUMINUM FIN	
Face Area - m ² (ft ²)	0.74 (7.9)
Rows Deep	4
FPM (FPI)	468 (12)
FILTERS - PLEATED (STANDARD)	
Quantity	4
Size - mm (in)	418 x 470 (16.45 x 18.5)
Depth - mm (in)	101.6 (4)
Efficiency (%)	30
FILTERS - PLEATED (OPTIONAL)	
Quantity	4
Size - mm (in)	418 x 470 (16.45 x 18.5)
Depth - mm (in)	101.6 (4)
Efficiency (%)	85
PHYSICAL DATA	
Weight - kg (lbs)	345 (760)
Height - mm (in)	1991 (78.40)
Width - mm (in)	600 (23.62)
Depth - mm (in)	1070 (42.13)
CONNECTION SIZES	
Chilled Water	
Supply Line - mm (in)	35.0 (1 3/8)
Return Line - mm (in)	35.0 (1 3/8)
Condensate Drain	
Drain Line - mm (in)	9.5 (3/8) ID, 12.7 (1/2) OD
DUAL FLOAT CONDENSATE MANAGEMENT	
Flow Rate - L/m (GPH)	0.53 (8.45)
Maximum Distance - m (ft) [†]	18 (60)
Maximum Lift - m (ft)	3.5 (11.5)

Maximum flow rate is 2.78 l/s (31.3 GPM) for continuous operation. May be exceeded by 25% for peak loads.

Maximum working pressure for the unit is 2068.4 kPa (300 psig).

[†]Maximum distance includes the maximum lift.

Glycol Correction Factors

Performance Criteria	Glycol Solution	Percent Weight of Solution ***					
		0	10%	20%	30%	40%	50%
Capacity*	Ethylene	1.00	0.97	0.93	0.88	0.81	0.75
	Propylene	1.00	0.96	0.90	0.82	0.77	0.74
Pressure Drop**	Ethylene	1.00	1.04	1.13	1.21	1.31	1.41
	Propylene	1.00	1.09	1.20	1.35	1.52	1.67

All correction factors for ACRC100 series SKUs are based on unit entering conditions of 29.4°C (85°F) DB/18.1°C (64.5°F) WB, 1368.6 L/S (2900 CFM), 0.83 L/S (13.2 GPM), and 7.2°C (45°F) EFT.

All correction factors for ACRC500 series SKUs are based on unit entering conditions of 29.4°C (85°F) DB/18.1°C (64.5°F) WB, 1368.6 L/S (6900 CFM), 1.72 L/S (27.3 GPM), and 7.2°C (45°F) EFT.

*Multiply capacity of device or system by factor above for % solution.

**Multiply pressure drop of system by factor above for % solution.

***Glycol concentrations over 50% are not recommended.

Sound Performance Data

ACRC100 Series Tested Sound Data										
Fan Speed%	Airflow l/s (SCFM)	Sound Power dB at Frequency Hz re: 10 ⁻¹² W								Lp Sound Pressure dB re: 20 microPa*
		125	250	500	1000	2000	4000	8000	dBA	dBA
45	849 (1800)	63.5	69.5	71.0	76.0	69.0	60.5	54.5	78.0	66.3
55	1014 (2150)	66.5	77.5	76.0	79.0	75.0	69.0	62.5	82.2	70.6
70	1109 (2350)	68.5	81.5	78.5	79.5	77.5	73.0	67.5	84.2	72.4
85	1274 (2700)	69.5	83.0	80.0	82.0	78.5	75.5	69.5	86.0	74.3
100	1368 (2900)	71.5	82.0	84.5	86.5	81.5	79.0	73.5	89.5	78.1

*Weighted Sound Pressure dBA in a 232.2 m³ (8,200 ft³) room at 1.8 m (6 ft) distance.

ACRC500 Series Tested Sound Data										
Fan Speed%	Airflow l/s (SCFM)	Sound Power dB at Frequency Hz re: 10 ⁻¹² W								Lp Sound Pressure dB re: 20 microPa*
		125	250	500	1000	2000	4000	8000	dBA	dBA
35	1130 (2500)	69.5	37.5	63.5	60.0	54.0	47.5	40.0	65.4	54.9
50	1790 (3800)	84.0	79.0	75.5	69.5	67.5	58.5	53.5	76.9	66.8
70	2550 (5400)	92.0	87.0	83.5	79.0	74.5	69.5	63.5	85.9	75.0
85	3040 (6450)	92.0	95.0	89.0	84.5	79.0	74.5	69.0	90.6	80.7
100	3260 (6900)	90.0	96.5	90.5	85.0	80.5	76.0	70.5	91.7	81.9

*Weighted Sound Pressure dBA in a 232.2 m³ (8,200 ft³) room at 1.8 m (6 ft) distance.

Altitude Correction Factors for InRow Products



Room Condition: 72 DB/50% RH

Altitude (ft)	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
Specific volume (ft ³ /lb)	13.58	14.09	14.62	15.18	15.76	16.36	17.00	17.67	18.37	19.11	19.89
Density (lb/ft ³)	0.074	0.071	0.068	0.066	0.063	0.061	0.059	0.057	0.054	0.052	0.050
Density Ratio	1.000	0.964	0.929	0.895	0.862	0.830	0.799	0.769	0.739	0.711	0.683
Capacity Correction	1.000	0.981	0.962	0.933	0.913	0.884	0.865	0.846	0.826	0.807	0.787



Density ratio is used for air flow correction factor.

Capacity correction is used for performance derating.

Electrical Data

SKU	Power (kW)	Plug Type
ACRC100 100-120V 50/60Hz	1.1	NEMA L5-20P 
ACRC103 200-240V 50/60Hz	1	IEC-309 16 A 

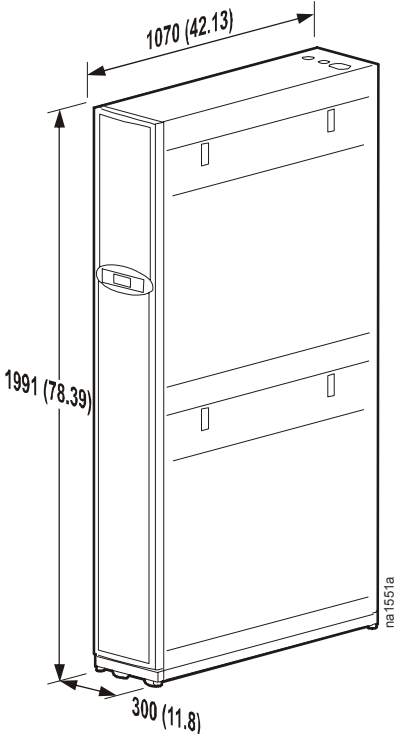
Note: Above data is based on maximum operating condition
 Note: Installation must comply with local and/or national electrical codes

SKU	MCA	MOP	FLA	Power (kW)	Plug Type
ACRC500* 200-240V 50/60Hz	11	15	N/A	3.2	NEMA L21-20P  (Top-Wired Only)
ACRC501 460-480V 60Hz	7	15	N/A	3.3	HARDWIRED
ACRC502* 380-415V 50Hz	N/A	N/A	6	3	IEC-309 16 A  (Top-wired Only)

Note: Above data is based on maximum operating condition
 *Note: ACRC500 and ACRC502 have the option of being hardwired
 Note: Installation must comply with local and/or national electrical codes
 MCA: Minimum Circuit Ampacity
 MOP: Maximum Overcurrent Protection
 FLA: Full Load Amps

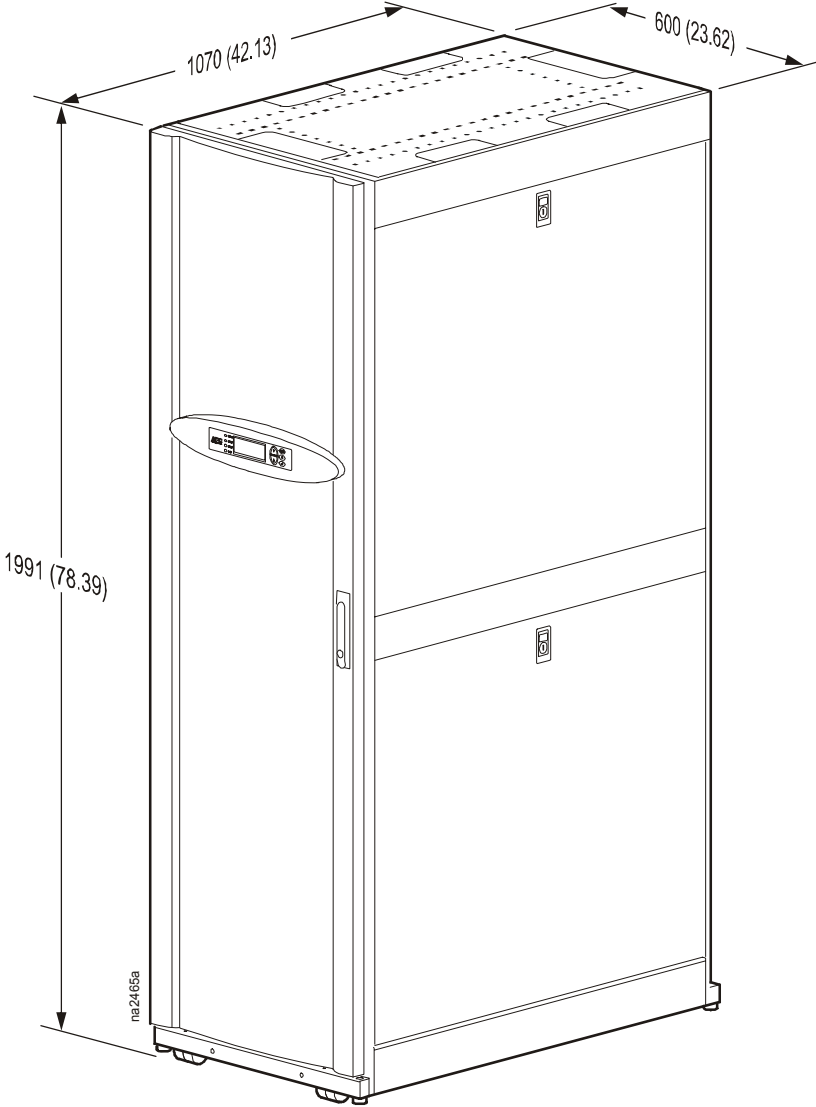
Dimensional Data

InRow RC ACRC100 series assembled module



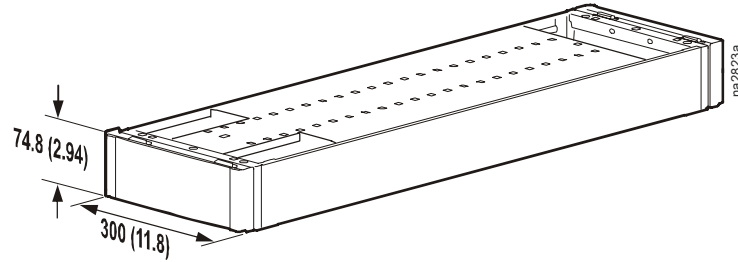
Note: Dimensions are shown in mm (in).

InRow RC ACRC500 series assembled module

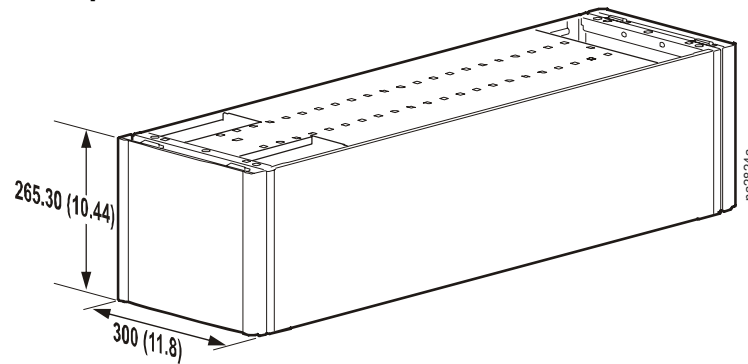


Note: Dimensions are shown in mm (in).

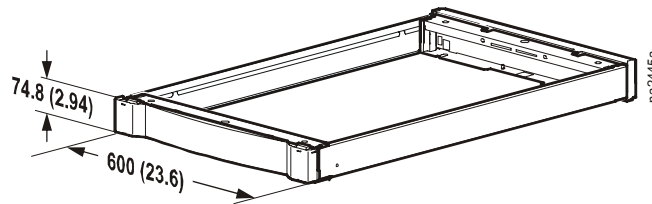
SX to VX height adapter—ACRC100 series



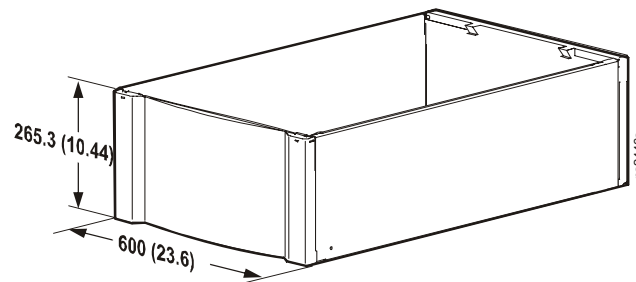
SX to 48U SX height adapter—ACRC100 series



SX to VX height adapter—ACRC500 series



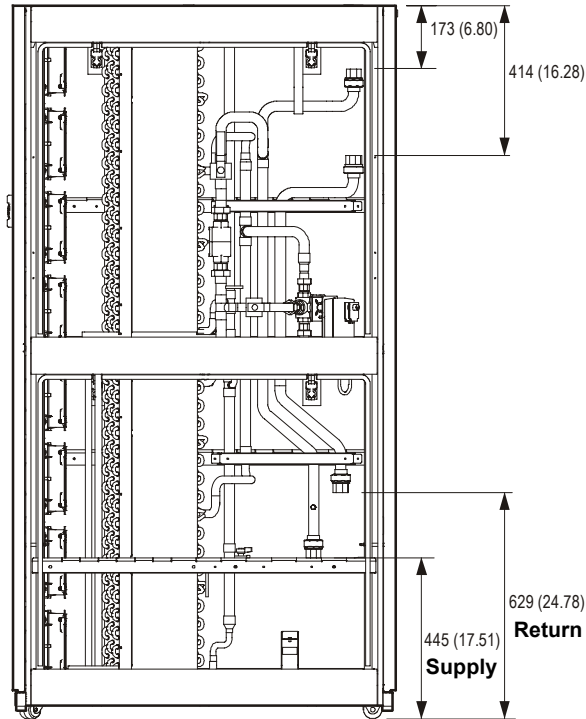
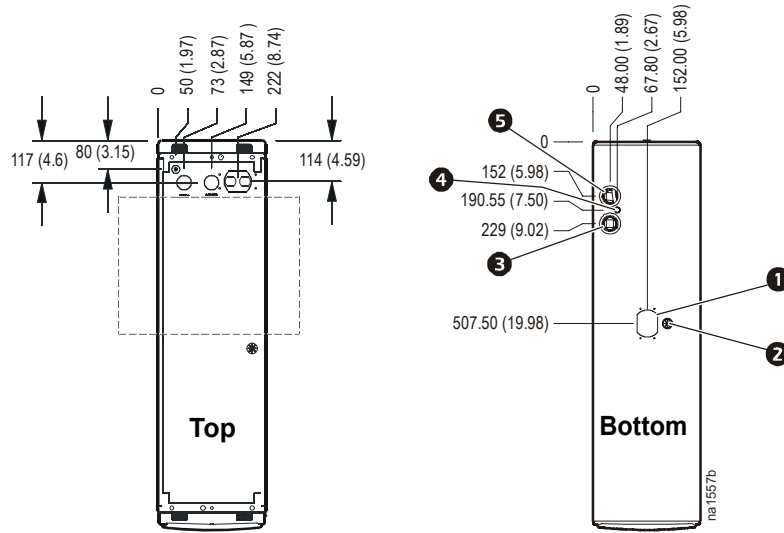
SX to 48U SX height adapter—ACRC500 series



Note: Dimensions are shown in mm (in).

Piping Connections

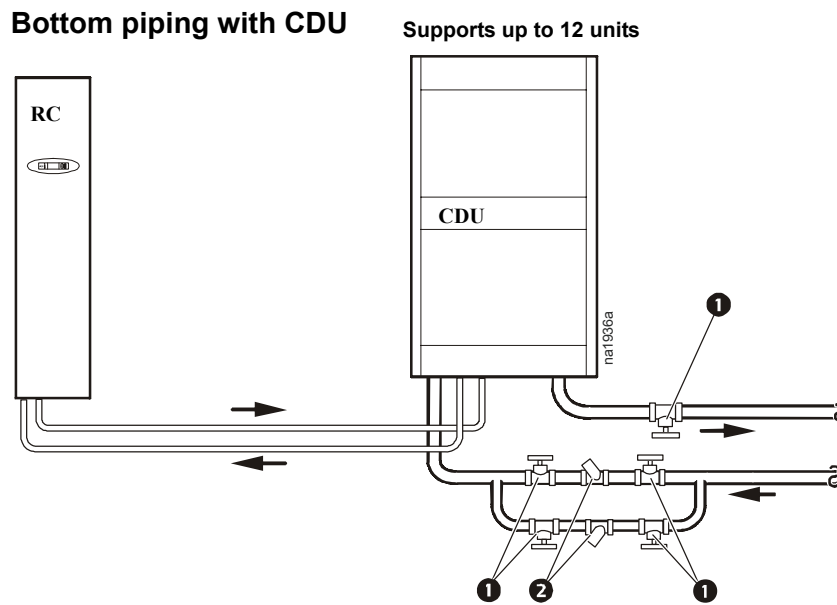
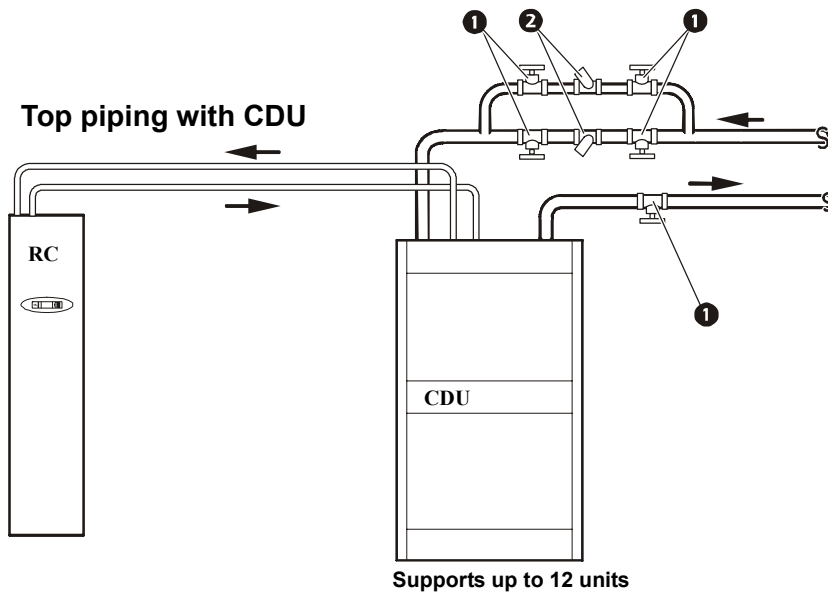
ACRC100 Series



Note: Dimensions are shown in mm (in).

- ❶ Power connections
- ❷ Low voltage input wiring (customer)
- ❸ 1-in NPT female (supply/inlet)
- ❹ Condensate line (0.188 ID, 0.312 OD)
- ❺ 1-in NPT femail (return/outlet)

External configurations

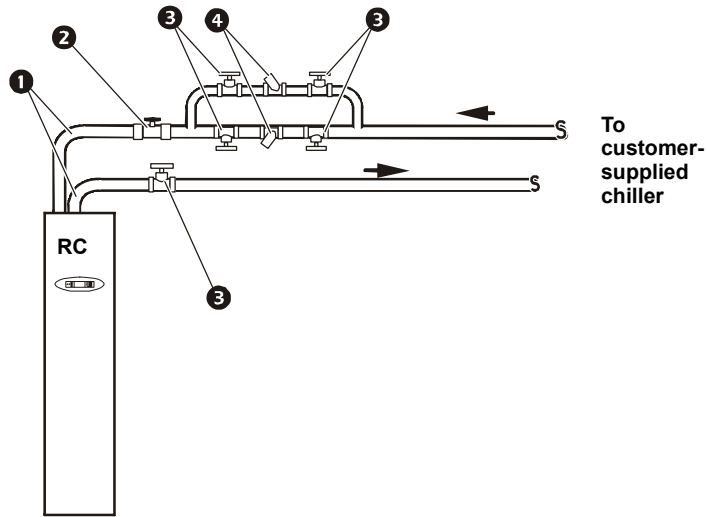


❶ Shutoff valve (field-installed)

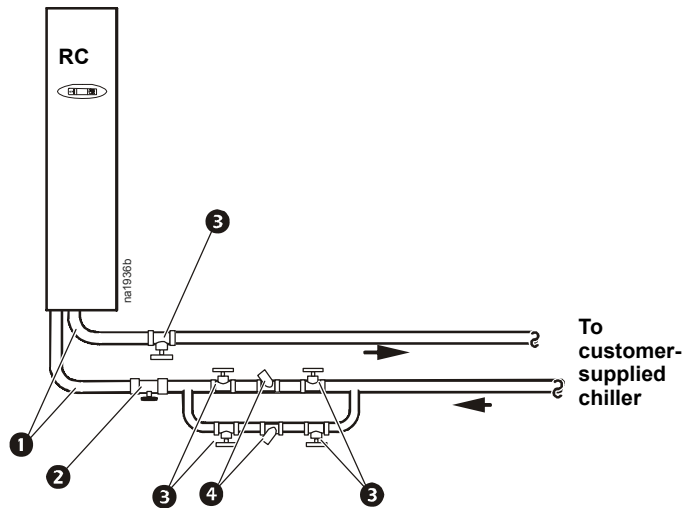
❷ Y-strainer with 20-mesh screen (field-installed)*

*A redundant strainer in the bypass line is recommended for systems with possible debris or heavy particulates during system startup and normal operation.

Top piping without CDU



Bottom piping without CDU



- ① Flexible piping adapters*
- ② Circuit setter (field-installed)
- ③ Shutoff valve (field-installed)
- ④ Y-strainer with 20-mesh screen (field-installed)**

*Recommended at these locations when the equipment is connected to rigid piping. Consult local codes for proper installation.

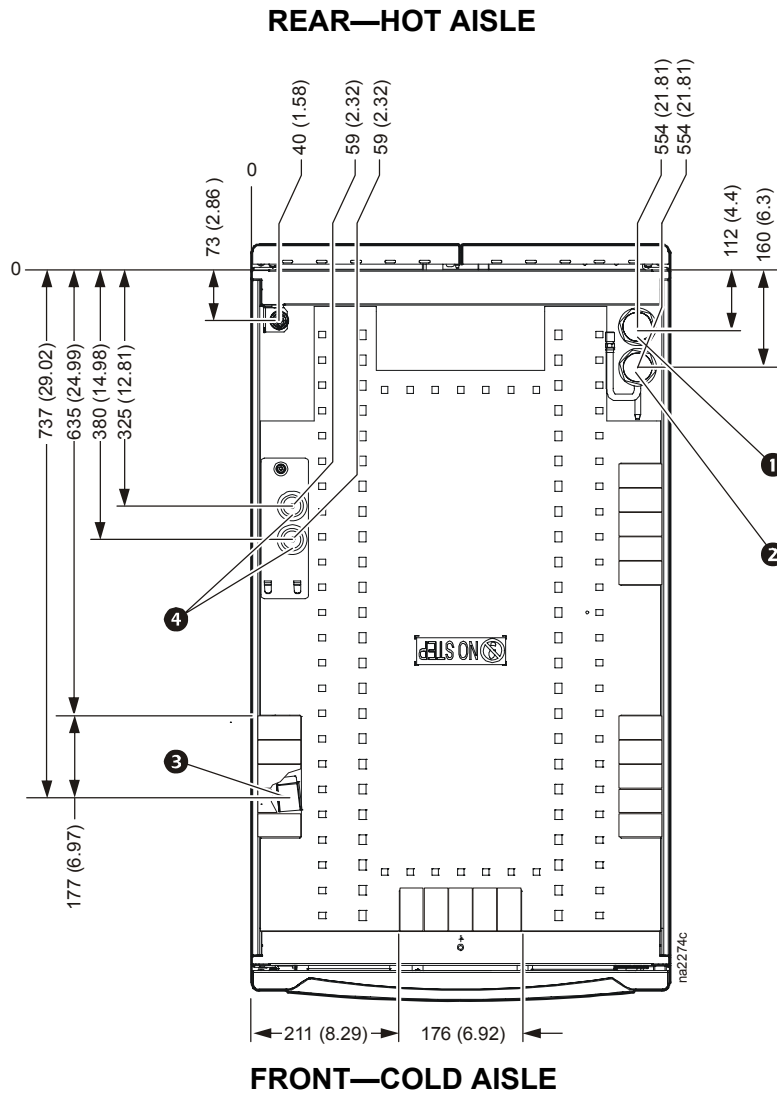
**A redundant strainer in the bypass line is recommended for systems with possible debris or heavy particulates during system startup and normal operation.

ACRC500 Series



Note: Top or bottom entry can be chosen individually for each type of connection, i.e. power, condensate drain, chilled water supply and chilled water return. Top piping configurations will have the same valves and strainers as bottom piping configurations.

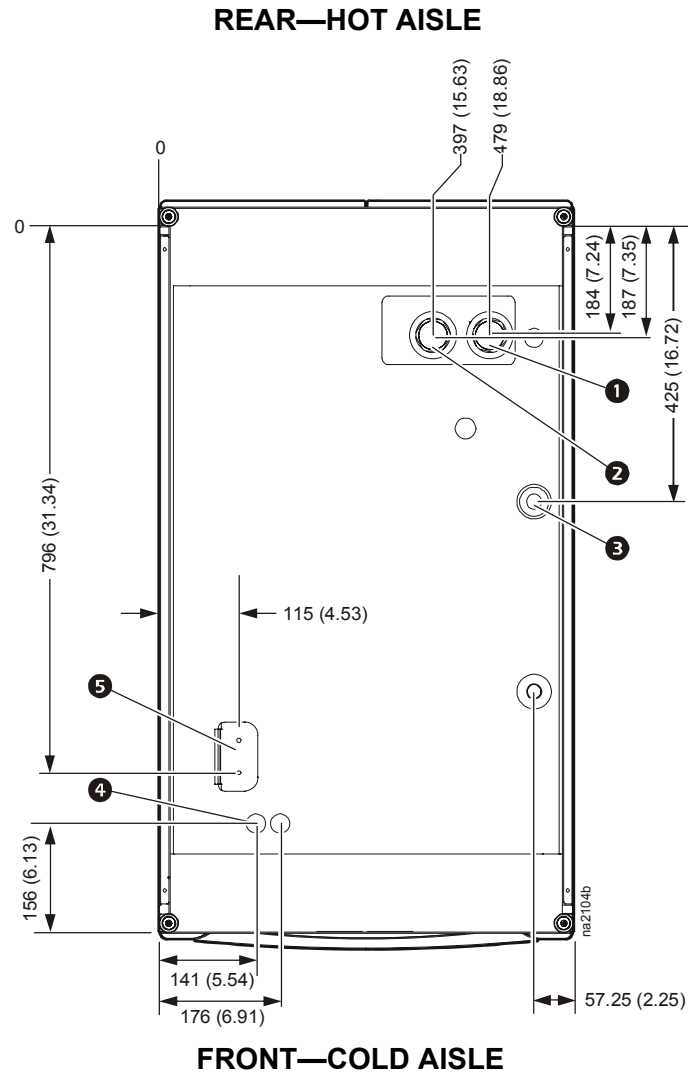
Top water piping access



Note: Dimensions are shown in mm (in).

- ❶ 1.5-in NPSM (supply/inlet) from chiller
- ❷ 1.5-in NPSM (return/outlet) to chiller
- ❸ Trough for communication cables
- ❹ Power connections—dual feed

Bottom water piping access



Note: Dimensions are shown in mm (in).

- ❶ 1.5-in NPSM (supply/inlet) from chiller
- ❷ 1.5-in NPSM (return/outlet) to chiller
- ❸ Condensate overflow—25.00 mm (0.98 in) ID/50.00 mm (1.97 in) OD
- ❹ Communication connections—27.80 mm (1.09 in)
- ❺ Power connections—dual feed

Guide Specifications

PART 1 — GENERAL

1.01 SUMMARY

- A. The environmental control system shall be designed specifically for precision temperature control applications. It will automatically monitor and control cooling and filtering functions for the conditioned space. The system shall be built to the highest quality engineering and manufacturing standards, and shall be floor mounted and configured for horizontal airflow, with draw-through air pattern, to provide uniform air distribution over the entire face of the coil.

1.02 DESIGN REQUIREMENTS

- A. The system shall be as described in the following specification as manufactured by APC.
 - 1. Model: _____.
 - 2. Total net cooling capacity: _____ kW (MBH).
 - 3. Sensible net cooling capacity: _____ kW (MBH).
 - 4. Return air dry bulb temperature: _____ ° C (° F) DB.
 - 5. Return air wet bulb temperature: _____ ° C (° F) WB.
 - 6. Air Volume: _____ L/s (CFM).
 - 7. Electrical supply: _____ V, _____ Hz.

1.03 SUBMITTALS

- A. Submittals shall be provided with the proposal and shall include: capacity data, electrical data, physical data, electrical connection drawing, and piping connection drawing.

1.04 QUALITY ASSURANCE

- A. The system shall be completely factory-tested prior to shipment. Testing shall include, but not be limited to: complete pressure and leak testing to ensure system integrity, “Hi-Pot” test, and controls calibration and settings. Each system shall ship with a completed test report to verify completion of factory testing procedure. The system shall be NTRL listed, MCA, and electrical system shall be UL Listed to UL 1995 and CSA 22.2 No. 236.

1.05 WARRANTY

- A. System parts shall be warranted for a period of 18 months from date of shipment and 12 months from startup.

PART 2 — PRODUCT

2.01 STANDARD COMPONENTS

A. CABINET CONSTRUCTION

1. Exterior panels shall be 18 gauge metal with 80 kg/m³ (5 lb/ft³) density foam insulation. Insulation complies with UL94-5VA ASTM E84 flame spread and smoke developed rating of 25/50. Front and rear exterior panels shall be 18 gauge perforated steel with 69.5% open free area, and equipped with a keyed lock to provide a means of securing access to the internal components of the unit.
2. The frame shall be constructed of 16 gauge formed steel welded for maximum strength. All units shall provide full service from the front and rear, allowing units to be placed within a row of racks.
3. All exterior panels and frame shall be powder coated for durability and attractive finish. Exterior frame and panel color shall have color values: L = 74.50, a = -.53, b = +8.20.
4. Units shall include casters and leveling feet to allow ease of installation in the row and provide a means to level the equipment with adjacent IT racks.

B. VARIABLE SPEED FANS

1. ACRC100 Series
 - a. Fan: The unit shall be configured for draw-through air pattern to provide uniform air flow over the entire face of the coil. Each unit shall include eight 200 mm mixed flow direct drive DC axial fans. Each fan assembly should be designed to provide 171.1 l/s (362.5 CFM) for total unit airflow of 1368.6 l/s (2900 CFM).
 - b. Variable Speed Fans: Fans shall be variable speed capable of modulating from 30-100%. Fans shall soft start to minimize in-rush current when starting.
 - c. Fan Protection: Each fan assembly shall consist of a plastic injection molded bezel with integral fan discharge finger guard. Inlet of the fan should include a cage type finger guard.
 - d. Operation and Service: The unit should be capable of operation in the event of a fan failure. Fans shall be replaceable while the unit is in operation.
2. ACRC500 Series
 - a. Variable Speed Fans: The unit is equipped with three variable speed, electrically commutated, 400-mm backward incline fans complete with Inlet Volute.
 - b. Fan Protection: Discharge finger guard. Outlet of the fan should include a cage type finger guard.
 - c. Operation and Service: The unit should be capable of operation in the event of a fan failure.

C. AUTOMATIC TRANSFER SWITCH—ACRC500 SERIES

The unit shall be equipped with an automatic transfer switch (ATS). The ATS shall automatically switch from a main power supply to a secondary power supply in the event of a power outage without causing a change in equipment operation. The ATS shall monitor the main power supply so that when the power is restored to the primary source it will automatically switch from the secondary source back to the main power source.

D. DUAL POWER SUPPLIES—ACRC100 SERIES

1. Power Supplies: The unit shall include two power supplies, each capable of running the unit at 60% capacity in the event of a single power supply failure. Unit power consumption is not to exceed 1100 watts during normal operation.
2. Operation and Service: Power supply shall be user replaceable.

E. A-B POWER INPUT

1. Input Power Feeds: Dual A-B power inputs should be a locking NEMA or IEC plug connection suitable for the input power selected.

F. MAIN DISCONNECT SWITCH—ACRC500 SERIES

1. Unit shall be provided with Thermal-Magnetic circuit breakers with interrupt capacity ratings per UL489/CSA C22.2/IEC-947.

Voltage	kAIC
200-240V 50/60Hz	50
380-415V 50Hz	36
460-480V 60Hz	22

2. Units shall include main disconnect switches located on the E-panel in order to individually disconnect dual A-B power inputs.

G. MICROPROCESSOR CONTROLLER

1. Monitoring and Configuration: The master display shall allow monitoring and configuration of the air conditioning unit through a menu-based control. Functions include status reporting, set-up, and temperature set points. Four LEDs report the operational status of the connected air conditioning unit.
2. Controls: The microprocessor controller shall come equipped with control keys to allow the user to navigate between menus, select items, and input alphanumeric information.

3. Alarms: The microprocessor controller shall activate a visible and audible alarm in the occurrence of the following events:
 - a. Internal Communications Fault
 - b. Link Isolation Relay Fault
 - c. Cooling Failure
 - d. Rack Inlet High Temperature
 - e. Rack Inlet Temperature Sensor Fault
 - f. Air Filter Clogged
 - g. Lower Return Air Temperature Sensor Fault
 - h. Upper Return Air Temperature Sensor Fault
 - i. Lower Supply Air Temperature Sensor Fault
 - j. Upper Supply Air Temperature Sensor Fault
 - k. Coil Fluid Valve Actuator Fault
 - l. Fan Fault
 - m. Fan Run Hours Exceeded
 - n. Water Detection Fault
 - o. Supply and Return Humidity Sensor Fault—ACRC500 SERIES
 - p. Condensate Pump Fault
 - q. Condensate Run Hours Exceeded
 - r. Fluid Flow Meter Fault
 - s. Entering Fluid High Temperature
 - t. Entering Fluid Temperature Sensor
 - u. Leaving Fluid Temperature Sensor
 - v. Condensate Pan Full Alarm
 - w. Power Feed Failure
 - x. Fan Power Supply Fault
 - y. Air Filter Run Hours Exceeded
 - z. Supply Air High Temperature
 - aa. Return Air High Temperature
 - ab. Group Communication Lost
 - ac. Input Contact Fault
 - ad. Invalid Supply Setpoint
 - ae. Filter Sensor Fault
4. Logging: The microprocessor controller shall log and display all available events. Each alarm log shall contain a time/date stamp as well as operating conditions at the time of occurrence. The controller shall display the run time hours for major components.

H. NETWORK MANAGEMENT CARD

The unit shall include a Network Management Card to provide management through a computer network through TCP/IP. Management through the network should include the ability to change set points as well as view and clear alarms.

I. COOLING COIL AND CONDENSATE PAN

1. ACRC100 Series

- a. Cooling coil shall use a raised lance type aluminum fin and 9.5-mm (3/8-in OD) copper tube coils. Coil end supports shall be a minimum 18 gauge galvanized steel. Coil shall be rated for a maximum pressure of 2757.9 kPa (400 psig).
- b. The unit shall consist of a primary and secondary drain pan. The secondary drain pan shall be piped to the primary pan for removal of condensate. The primary drain pan shall include a condensate pump and dual floats for control and overflow protection.

2. ACRC500 Series

- a. Cooling coil shall use a raised lance type corrugated aluminum fin and 12.7-mm (1/2-in) OD copper tube coils. Fin shall be a minimum of 0.0055 in thick. Tube wall shall be a minimum of 0.016 in thick. Coil tube sheets shall be a minimum 18 gauge G90 galvanized steel. The coil shall be rated for a maximum pressure of 2757.9 kPa (400 psig). Coil headers are equipped with drip plates in the bottom to route the condensate accumulating on the header tubes to the condensation pan. The coil is configured in a counterflow arrangement to optimize heat transfer efficiency.

J. 2/3-WAY MODULATING VALVE

1. A floating point valve shall be microprocessor controlled to automatically direct the proper amount of chilled water in the cooling coil to maintain optimal conditions. A shut-off valve located in the bypass line may be manually adjusted for two-way flow.
2. The three way control valve shall be rated for 300 WOG with brass body and stainless steel ball.
3. Valve Actuator: The actuator shall be a direct connect rotary floating point style actuator with potentiometer feedback, and should be capable of being replaced without disconnecting piping from the valve. Ability for manual operation is also provided.

K. CONDENSATE PUMP

1. ACRC100 Series

- a. The factory-installed condensate pump is piped internally to the condensate pan. It is capable of pumping 5 L/h (1.3 GPH) liquid a maximum distance of 15.2 m (50 ft), which may include a maximum lift of 4.9 m (16 ft). Dual floats are included with the unit. One float is used for condensate pump control, the other to generate condensate pan overflow alarms.

2. ACRC500 Series

- a. The factory-installed condensate pump is piped internally to the condensate pan. It is capable of pumping 0.53 L/m (8.45 GPH) liquid a maximum distance of 18 m (60 ft), which may include a maximum lift of 3.5 m (11.5 ft). Dual floats are included with the unit. One float is used for condensate pump control, the other to generate condensate pan overflow alarms.

L. FILTERS

1. ACRC100 Series
 - a. The standard air filter shall be <20% efficient per ASHRAE 52.1, MERV 1 per ASHRAE 52.2, 1/2-in washable mesh filter.
 - b. The optional air filter shall be high capacity 2-in pleated, UL 900 Class 2, Moisture with average atmospheric dust spot efficiency of 30% per AHRAE Standard 52.1, MERV 8 per ASHRAE 52.2.
2. ACRC500 Series
 - a. The standard filters shall be 30% efficient per ASHRAE Standard 52.1, UL Class 2 (MERV 8 per ASHRAE 52.2). Filters shall be EN779 G4 efficient. The 96 mm (3.75 in) deep, pleated filters shall be replaceable from the rear of the unit.
 - b. The optional filter shall be 85% efficient per ASHRAE Standard 52.1 (MERV 13 per ASHRAE 52.2, EN779 F7).

M. SELECTABLE TOP OR BOTTOM PIPING

1. Pipe connections for field connection from either the top or bottom of the unit. Unit connections shall be made internal to the unit.
2. ACRC100 Series Pipe adapter: The unit shall include two pipe adapters that convert a 25.4 mm (1 in) NPT male to a 25.4 mm (1 in) BSPT female (manufactured in accordance with BS21). Pipe adapters shall ship loose with the unit for field installation where applicable.
3. ACRC500 Series Pipe adapter: The unit shall include two pipe adapters that convert a 31.75 mm (1 1/2 in) NPT to a 31.75 mm (1 1/2 in) BSPT (manufactured in accordance with BS21). Pipe adapters shall ship loose with the unit for field installation where applicable.

N. REMOTE TEMPERATURE SENSOR

1. ACRC100 Series
 - a. One remote temperature sensor shall be shipped with the unit for placement in the field to provide control input based on rack inlet temperature.
2. ACRC500 Series
 - a. Three remote rack inlet temperature sensors shall be shipped with the unit for placement in the field to provide control input based on rack inlet temperature.

O. FLOW METER

1. The flow meter shall be factory piped inside the unit and connected to microprocessor controls to provide water flow rate through the unit. The microprocessor controller shall also use this information to provide total unit capacity out of the unit while in operation.
2. The flow meter shall be a stainless steel construction turbine type meter, compatible with glycol/water solutions up to 50%, with accuracy of 1.5% or better within the range of 5-50 GPM.

P. CABLE WATER DETECTOR (OPTIONAL)

1. A leak detection sensing cable shall be shipped loose with the unit. If water or other conductive liquids contact the cable anywhere along its length, the main controller visually and audibly annunciates the leak.
2. The detector shall be provided with 6.1 m (20 ft) of cable. Cable may be cascaded up to 24.4 m (80 ft).

Q. BRIDGE POWER CABLE TROUGH

1. An overhead power distribution bridge, that sits between adjacent NetShelter racks and allows for removal of the unit without disrupting the overhead power cabling, is available as an accessory.
2. The cable trough shall be constructed of 16 gauge cold rolled steel with a black powder coat finish.

R. BRIDGE DATA PARTITION

1. An overhead cable distribution bridge, that sits between adjacent NetShelter racks and allows for removal of the unit without disrupting overhead cabling, is available as an accessory.
2. The data partition shall be constructed of 16 gauge cold rolled steel with a black powder coat finish.

2.02 CHILLED WATER

The unit shall be piped in accordance with the highest commercial quality procedures. All PEX-AL-PEX pipe forming for ACRC100 series units shall be tool bent with the proper bend radii to prevent flattening in the curve. The chilled water piping shall be insulated with closed cell elastomer insulation. All piping connections should be made at the rear of the unit for top or bottom accessibility. ACRC500 series units are hard-piped directly into a chiller without a centralized distribution unit and interconnecting piping.

A. COOLING FLUIDS

Chilled Water and solutions of propylene or ethylene glycol up to 50% may be used. Solutions of brine or other aqueous salt are NOT permitted.

B. FREEZE PROTECTION

Per ASHRAE Handbook Fundamentals 2001 21.5, a maximum of 30% ethylene glycol and 35% propylene glycol are needed for freeze protection. Consult the ASHRAE handbook for more details.

Guidelines for Installation

The InRow RC provides reliable, accurate temperature control of computer rooms, laboratories, and other environments that require close tolerance control. The unit incorporates the latest system design innovations to provide you with optimum efficiency, reliability, and accuracy of control.

The InRow RC unit will provide years of trouble-free service, when installed and maintained by technically qualified personnel. For more detailed information, see the InRow RC Installation manuals (ACRC100 series: 990-2402B; ACRC500 series: 990-3238).

Room preparation

During the design of the room, consideration should be given to the following factors: ease of entry for the system, floor-loading factors, and accessibility of piping and wiring.

The room must be sealed with a vapor barrier to minimize migration of moisture. Polyethylene film (plastic sheeting) is a good vapor barrier for ceiling and wall applications. Rubber- or plastic-based paints should be applied to concrete floors and walls. The room should be thoroughly insulated to minimize thermal loads and make-up air (if required) should be preconditioned to reduce additional temperature, filtration, and moisture loads.

Service access

At least 914.4 mm (36 in) of clear space must be left in front of and behind the unit for routine service. In order to service the unit outside of the row, an area of 1219.2 mm (48 in) of clear space is required in front of and behind the unit while it is in the row.

Receiving the unit

Your InRow RC unit has been completely tested and inspected before shipment. To ensure that you have received the unit in excellent condition, perform a careful inspection of the crating and the unit immediately upon receipt. Verify that all parts ordered were received as specified and that the unit is the correct size and voltage necessary to fulfill your environmental control needs. Report any damage discovered to the freight carrier. If necessary, contact the APC field service department for help in repairing or replacing damaged parts. While APC is not responsible for damage incurred in transit, we want to make sure that you have no undue delays in your system start-up.

Rigging

The unit is manufactured with a formed steel frame for maximum strength and unit integrity. However, as with all electrical and mechanical equipment, you must take care with proper rigging of your unit.

When using a forklift to move the unit, use the shipping skid to protect the bottom of the unit. When using chains, cables, or rope to lift the unit, use spreader bars to prevent damage to the finished panels. Four threaded M10x16 holes are provided to accommodate lifting eye bolts that can be utilized to lift the unit.

Condensate drain—ACRC100 series

Condensate from the evaporator pan is collected and discharged by the condensate pump to a 0.188 in I.D. condensate line supplied with the unit. Additional condensate piping is required to route the condensate line to the building.

Condensate drain—ACRC500 series

Condensate from the evaporator pan is collected and discharged by the condensate pump to a 0.375 in I.D. condensate line supplied with the unit. Additional condensate piping is required to route the condensate line to the building.

NOTE: Because of an ongoing program dedicated to product improvement, specifications are subject to revisions without notice. APC assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

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Customer support for this or any other APC product is available at no charge in any of the following ways:

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 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
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- Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

To obtain a repair authorization number for a Cooling Solutions product, call Cooling Solutions Technical Service between 8:00 A.M. and 5:00 P.M. Eastern time, Monday through Friday:

- Phone: (1)(888)695-6500 (USA and Canada only, toll free)
- Fax: (1)(401)788-2691

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