Technical Specifications

InRow® Direct Expansion Air Conditioners

Air-Cooled/Fluid-Cooled

Up to 42 kW

Schneider Electric

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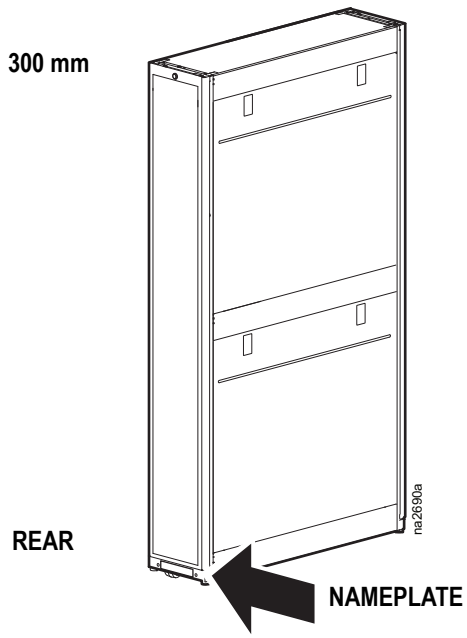
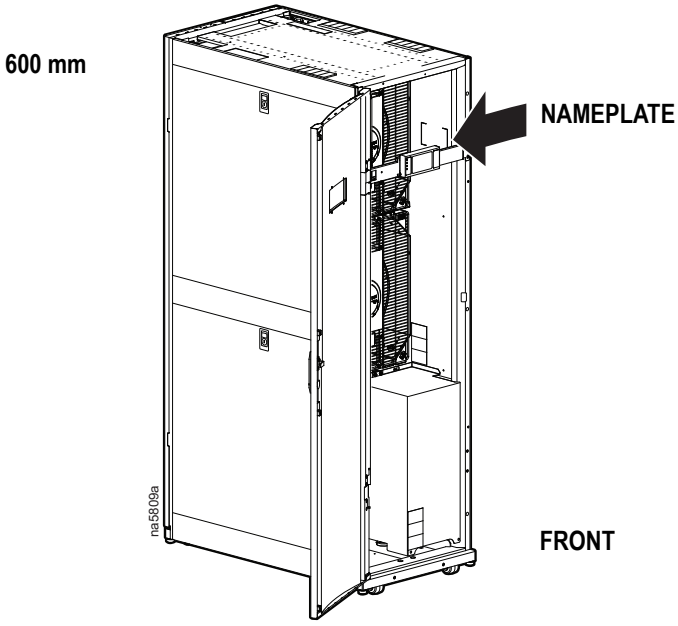
Model Identification

Nameplate location





Model descriptions

Model	Width	Range of Capacity	Heat Rejection	Humidifier/ Reheat	Power
ACRD100	300 mm	Up to 10 kW	Air-cooled	No	208–230 1-Phase 60 Hz
ACRD101	300 mm	Up to 10 kW	Air-cooled	No	220–240 1-Phase 50 Hz
ACRD200	300 mm	Up to 10 kW	Fluid-cooled	No	208–230 1-Phase 60 Hz
ACRD201	300 mm	Up to 10 kW	Fluid-cooled	No	220–240 1-Phase 50 Hz
ACRD600	600 mm	Up to 42 kW	Air-cooled	No	200–240 3-Phase 50/60 Hz
ACRD601	600 mm	Up to 42 kW	Air-cooled	No	460–480 3-Phase 60 Hz
ACRD602	600 mm	Up to 42 kW	Air-cooled	No	380–415 3-Phase 50/60 Hz
ACRD600P	600 mm	Up to 42 kW	Air-cooled	Yes	200–240V 3-Phase 50/60 Hz
ACRD601P	600 mm	Up to 42 kW	Air-cooled	Yes	460–480V 3-Phase 60 Hz
ACRD602P	600 mm	Up to 42 kW	Air-cooled	Yes	380–415V3-Phase 50/60 Hz

Standard Features and Options

The modular, row-based computer room cooling system 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 the following:

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

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Capacities

InRow Direct Expansion (DX) units are available in two sizes (300 mm and 600 mm) with nominal capacities ranging from 2–10 kW (300 mm) and 8–42 kW (600 mm).

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, thereby neutralizing the sensible heating effects of the data processing equipment. InRow® DX products deliver high volumes of airflow to eliminate hot spots in densely populated environments.

Configuration:

- Air-cooled
- Fluid-cooled

Compliance Approval:

- UL Listed
- CE
- RCM
- C-UL Listed
- EAC

Standard Features

All series

- Variable-speed fans
- Standby input
- Common alarm output
- Internal condensate pump
- Top or bottom piping
- Network Management Card (NMC)
- Remote temperature sensors
- Microprocessor controller
- Insulated cabinet

ACRD100 series and ACRD200 series only

- Washable filter
- Condensate management with two dual floats
- Condensate pumps
- Scroll compressor
- Hot gas bypass
- 2-way/3-way floating point valve (ACRD200 series only)
- Liquid line solenoid valve (ACRD100 series only)
- Isolation ball valves

ACRD600/P series only

- Backward inclined impeller
- Pleated 100-mm (4-in.) filter
- Condensate management with one dual float
- Scroll compressor with VFD control
- Liquid line solenoid valve
- Pipe adapters
- Electric reheat (ACRD600P series only)
- Humidifier (ACRD600P series only)

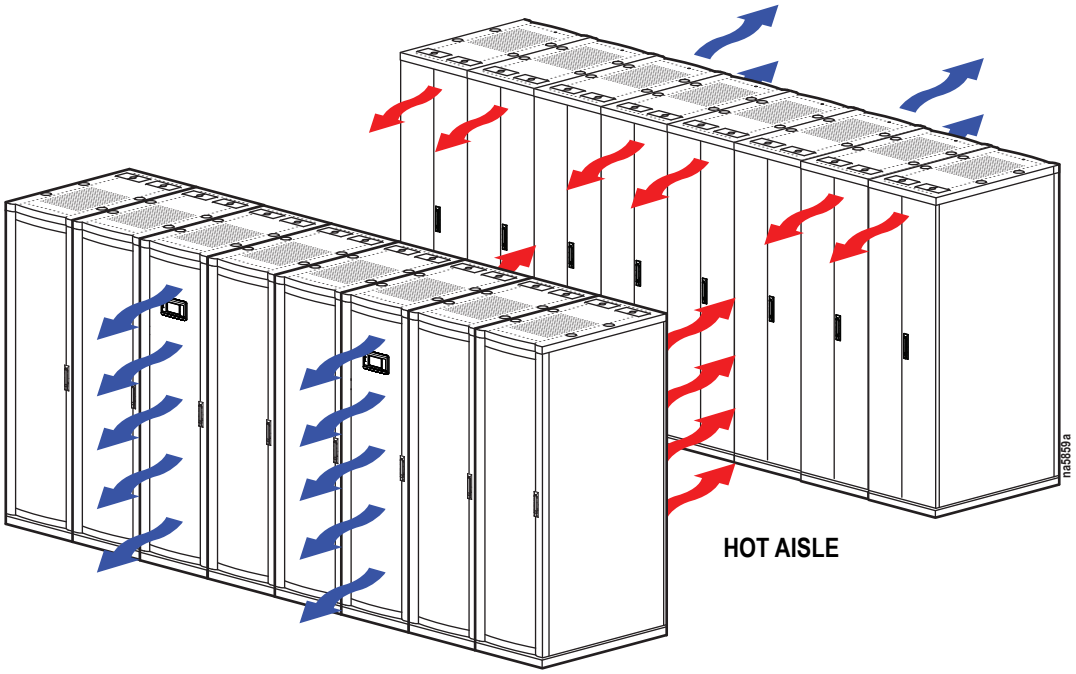
Accessories

- Cable leak detector
- Joining kit—InRow DX to NetShelter® VX rack
- NetShelter SX 42-U to 48-U height adapters
- NetShelter VX 42-U height adapters
- Bridge trough power cable shield
- Data cable bridge partition
- Fluid cooler
- Condenser
- Aisle/Rack containment

Scalable Solution for Critical Environments

InRow advantages

The row-based solution improves energy efficiency and cooling ability in a number of ways. First, the InRow DX unit draws air directly from the hot aisle, allowing the InRow DX unit 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. Placing the unit in the row enables the unit to operate at higher return and supply air temperatures, yielding 100% sensible capacity. This 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 modular design of the InRow DX unit 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-aisle containment. Containing the hot aisle 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.

Cabinet

The frame is constructed of 16-gauge formed steel for maximum strength. The 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. The front and rear exterior panels are constructed of 18 gauge perforated steel with 80% open free area. All panels, which include a key latch for safety and security, allow easy access and removal. Insulation (ACRD100 and ACRD200 series only) is 80.1 kg/m^3 (5 lb/ft^3) density and complies with ASTM E84 rating of 25/50.

Shutdown input/alarm output

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

Variable speed fans

Each unit is equipped with variable speed fans to allow for varying heat loads. In order to provide uniform airflow over the cooling coil, the fans provide a draw-through air pattern. The ACRD100 and ACRD200 series units are equipped with six direct-drive fan modules. These fans are easily replaceable while the unit is in operation. The ACRD600/P series is equipped with two backward inclined, direct drive fans.

Joining Kit—InRow DX/NetShelter SX

Joining kits made of 16-gauge steel enable joining the InRow DX unit to NetShelter enclosures.

Counterflow cooling coil/condensate pan

Designed for high-sensible heat ratios, the coil is constructed with copper tubes, raised-lance-type aluminum fins, and 18-gauge galvanized steel end plates. Coil headers are equipped with anti-drip shields in the event of condensation. The condensate pan is thermal formed non-ferrous material, and is sloped for positive drainage to provide higher indoor air quality.

Filters

Filtration of conditioned air is extremely vital to maintaining the clean, particle-free environment required by electrical equipment. Filters are easily replaceable from the rear of the unit. The ACRD100 and 200 series systems use greater-than 20% efficiency ASHRAE 52.1, 12.7 mm (1/2 in.) washable filters that meet HF-1 standards for electronics (MERV 1 per ASHRAE 52.2). The ACRD600/P series system uses a 30% efficient, 102 mm (4 in.), deep loading, pleated filter (MERV 8 per ASHRAE 52.2, EN779 G4).

Selectable top or bottom piping connections

The cooling unit includes both top and bottom piping connections. All ACRD100 and ACRD600/P series connections use threaded ring seals for ease of installation and service. The ACRD200 series uses union connectors.

Network Management Card

The Network Management Card (NMC) allows communication with the Local Area Network (LAN). In addition, the NMC permits multi-level access to monitoring, control, and event notification features over the building network.

Condensate pump

ACRD100 and ACRD200 series: A condensate pump is factory wired and piped internally to the condensate drain pan. The pump is capable of pumping 34 l/h (9 g/hr) against head pressures of up to 50 ft (15.2 m) of total run. Of that run, 16 ft (4.9 m) can be vertical lift as measured from floor level. Dual floats are included with the unit. One float is used for condensate pump control, and the other float generates a condensate pump failure alarm. The InRow DX unit can be set to either continue running in an alarm condition or shut down to prevent condensate pan overflow.

ACRD600/P series: A condensate pump is factory wired and piped internally to the condensate drain pan. The pump is capable of pumping a maximum of 18 m (60 ft) at 32 l/h (8.45 g/hr), which may include a maximum lift of 3.5 m (11.5 ft) as measured from floor level. Within the condensate pump, there is a dual position float. The first position is used for condensate pump control and the other float generates a condensate pump failure alarm to prevent condensate pan overflow.

Remote temperature sensors

To control the cooling unit based on rack inlet temperature, remote temperature sensors are provided. The ACRD100 and ACRD200 series units come equipped with one temperature sensor, and the ACRD600/P series units come equipped with three. These sensors measure temperature at a point 4 m (13 ft) from the connection inside the InRow DX unit. These sensors are used for remote placement in the field on an adjacent IT rack.

Electric reheat (ACRD600P series only)

Electric reheat elements are low watt density, wired for three-phase and loaded equally on all three phases, and electrically and thermally protected by both automatic and manual reset thermal cut outs. Reheat elements are stainless steel, fin tubular construction.

Pipe adapters (ACRD600/P series only)

Standard pipe connections are 31.75 mm (1 1/4 in.) 12 UNF female threaded ring seal (manufactured in accordance with ANSI B1.1). The adapter converts the threaded ring seal to a sweat adapter.

Humidifier (ACRD600P series only)

The humidifier is a self-contained, steam-generating type, factory piped and wired, with a disposable cylinder and an automatic solid state control circuit. Humidifier canisters are replaceable. The humidifier controller communicates directly to the microprocessor controller and provides complete status and control at the operator interface.

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 announces the leak visually, audibly, and across the network. 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 units in a redundant group, as well as to connect the Network Management Card to your LAN.

Filters

Electrical equipment requires clean, particle-free air, thus making air filtration extremely important. As an optional feature, higher efficiency filters can be purchased for the InRow DX units. The ACRD100 and ACRD200 series units optionally use an 50.8 mm (2 in.) pleated, deep loading, 30% ASHRAE 52.1 filter (MERV 8 per ASHRAE 52.2). The ACRD600/P series units optionally use 102 mm (4 in.) pleated, deep loading, 85% ASHRAE 52.1 filter (MERV 13 per ASHRAE 52.2).

Power trough

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

Data partition

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

Height adapters

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

Rack Air Containment

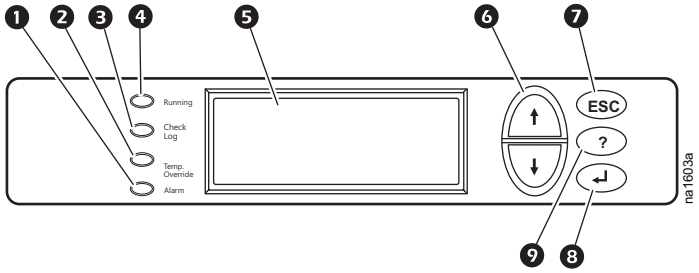
This containment solution isolates the airflow of InRow cooling units from the whole IT environment, increasing efficiency while allowing for high density deployment.

Aisle containment

This containment solution isolates pods (two rows of InRow cooling units sharing a common aisle) from the whole IT environment, increasing cooling efficiency at any density.

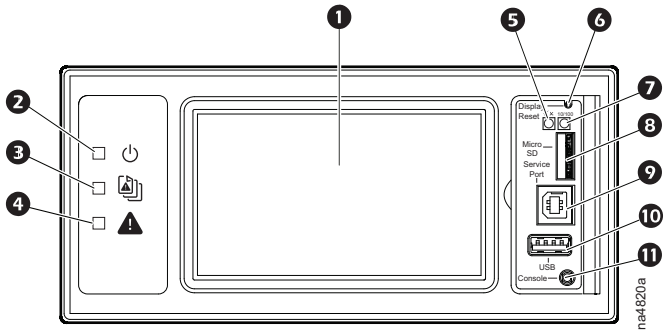
Microprocessor Controller

ACRD 100/200 series



Item		Function
1	Critical Alarm LED (red)	When lit, a critical alarm condition exists and requires your immediate attention.
2	Warning Alarm LED (yellow)	When lit, a warning alarm condition exists. Failure to correct this condition could cause a critical alarm.
3	Check Log LED (yellow)	When lit, at least one new event has been logged since the last time the log was checked. Only events that pertain to the operation of the cooling unit will activate the LED.
4	Status LED (green)	When lit, the cooling unit is receiving electrical power. When flashing green, the Cooling Unit is downloading firmware for the controller. This takes about one minute.
5	Liquid Crystal Display (LCD)	View alarms, status data, and context-sensitive help, and modify configurable items.
6	Up and Down arrow keys	Select menu items and access information.
7	ESC key	Return to previous screen or cancel current operation.
8	Enter key	Open menu items and input changes to cooling group level and cooling unit level settings.
9	Help key	Display context-sensitive help. Press the help key for information about each option on the screen and for instructions on performing tasks.

ACRD 600/P series



Item	Description	Function
❶	LCD display	4.3-in. touch-screen color display.
❷	Power LED	The cooling unit is powered when the LED is illuminated. Unit firmware is updating when LED is blinking.
❸	Check Log LED	When this LED is illuminated, a new entry has been made to the event log.
❹	Alarm LED	Displays current alarm condition of unit.
❺	Status LED	Displays current network management card status.
❻	Display Reset button	Resets the display microprocessor. This has no effect on the air conditioner controller.
❼	Link-RX/TX (10/100) LED	Displays current network link status.
❽	Micro SD card slot	Memory card expansion slot.
❾	Service port	USB-B port used only by service personnel.
❿	USB-A port	Supports firmware upgrades.
⓫	Serial Configuration port	Connects the display to a local computer to configure initial network settings or access the command line interface (CLI).

Microprocessor controller

The microprocessor controller is standard on each system. The easy-to-use display allows the operator to select options from the device menu-driven interface to control and monitor the connected air conditioning system.

Open architecture

The InRow Direct Expansion 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 uses proportional/integral/derivative (PID), a time-proven precision environmental control method. This allows for custom tuning of control variables to achieve desired 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. The controller also displays run time, in hours, for major components (air filters, fans, and condensate pump, as well as humidifier, heater, and compressor for the air-cooled unit).

Control

ACRD100/200 series: The back-lit, four-line by twenty-character display is password configurable.

ACRD600/P series: The touch-screen LCD display interface is protected by a configurable password and provides access to information and settings for the unit.

- Supply Temperature Setpoint 15–30.2°C (59–86.4°F)
- Cool Setpoint 18–35°C (64.4–95°F)
- Rack Inlet High Temperature Threshold 10–65.6°C (50–150.1°F)
- Entering Chilled Water High Temperature Threshold 1.7–37.8°C (35–100°F)
- Supply Air High Temperature Threshold 10–65.6°C (50–150.1°F)
- Return Air High Temperature Threshold 10–65.6°C (50–150.1°F)

Alarms

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

All series

- Cool fail
- Air filter clogged
- Return air sensor fault
- Supply air sensor fault
- Rack temperature sensor fault
- High discharge pressure
- Low suction pressure
- Fan fault
- Water detected (if optional leak detector used)
- Check condensate management system
- Air filter run hours violation
- Group communication fault
- Supply air high temperature violation
- Return air high temperature violation
- Filter DP sensor failure
- Suction pressure sensor failure
- Discharge pressure sensor failure
- Persistent high discharge pressure fault
- Rack inlet temperature high violation
- External communication fault
- Internal communication fault
- On standby input contact fault
- A-link isolation relay fault

ACRD100 series and ACRD200 series only

- Condensate pan full
- Upper fan power supply fault
- Lower fan power supply fault
- Suction temperature sensor failure
- Persistent low suction pressure fault
- Factory configuration not completed
- Liquid refrigerant sensor failure

ACRD200 series only

- Condenser fluid valve actuator fault
- Outdoor heat exchanger (OHE) fault

ACRD600/P series only

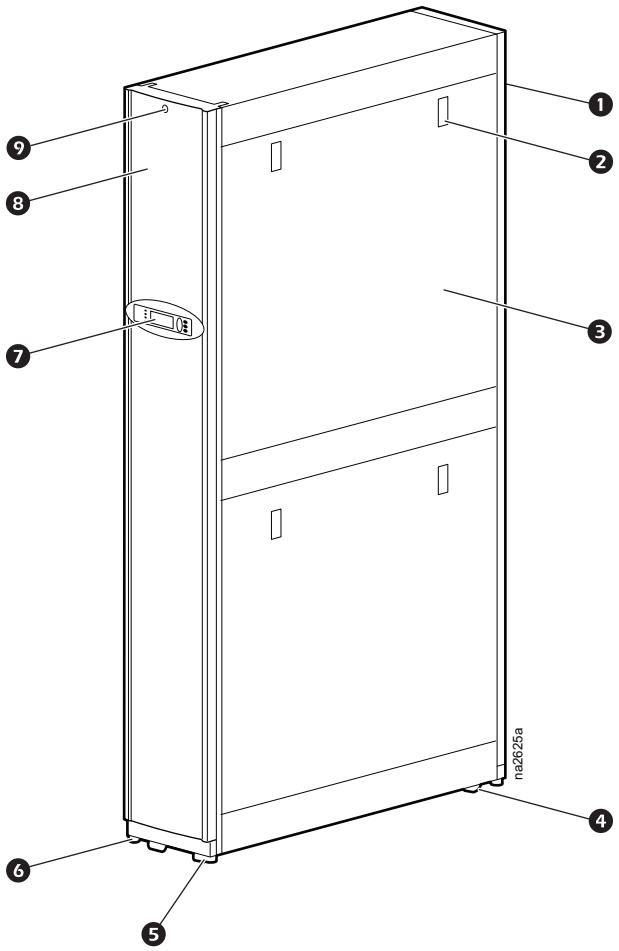
- Compressor drive communication fault
- Compressor drive fault
- Compressor run hours violation
- Condensate pump run hours violation
- Fan run hours violation
- Idle mode active
- High pressure switch active
- Compressor high pressure
- Supply humidity sensor fault
- High suction pressure
- Excessive compressor cycling
- VFD inverter overheat
- Compressor drive locked

ACRD600P series only

- Humidifier water conductivity high violation
- Humidifier fault tolerance exceeded
- Humidifier low water
- Humidifier excessive output reduction
- Humidifier drain fault
- Humidifier cylinder full
- Humidifier RS485 communication fault
- Humidifier run hours violation
- Humidity high/low violation
- Return humidity sensor fault
- Heater fault
- Heater run hours exceeded

InRow DX Models

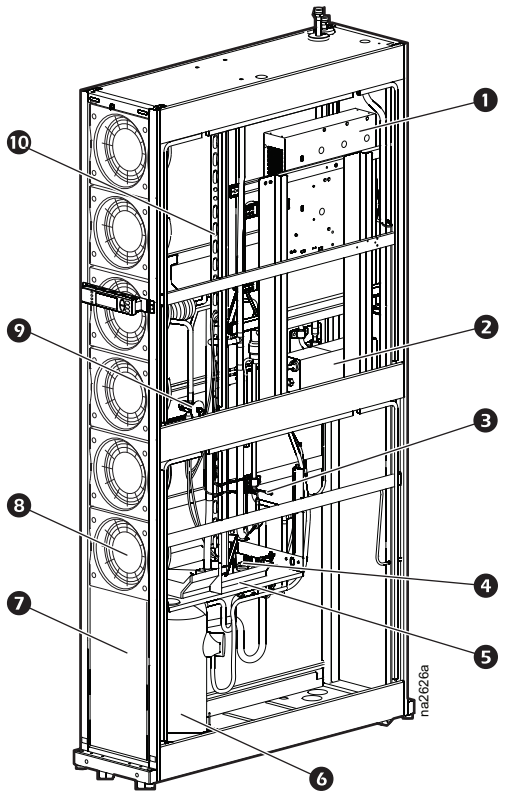
Exterior components (ACRD100 and ACRD200 series)



Item	Description
❶	Removable rear door
❷	Side panel latch
❸	Removable side panel
❹	Rear casters (non-swiveling)
❺	Front casters (swiveling)

Item	Description
❻	Adjustable leveling feet
❼	Display interface
❽	Removable front door
❾	Door lock (front and rear)

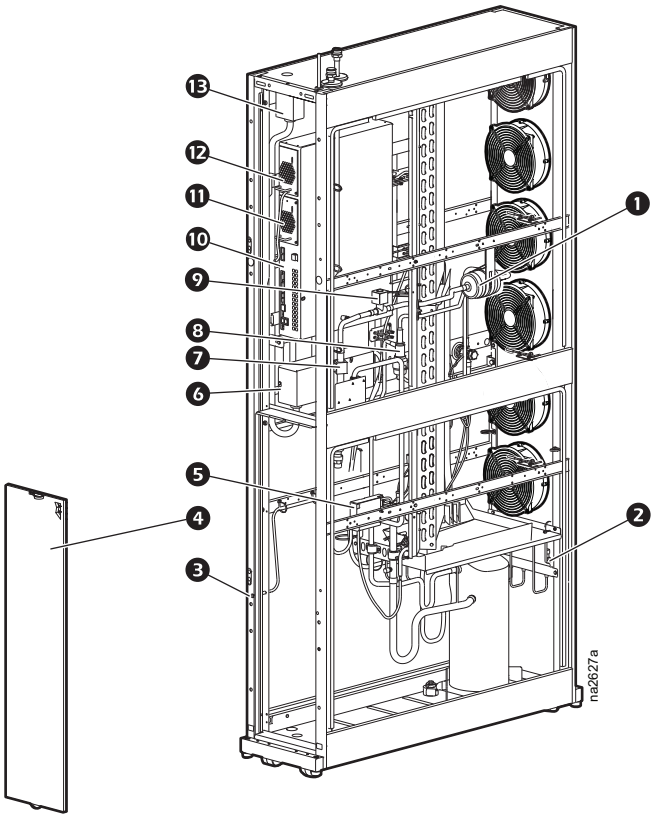
Interior components (front) (ACRD100 series)



Item	Description
1	Electrical control box 1 (retractable)
2	Electrical control box 2
3	Return air temperature sensor
4	Condensate pan floats (2 total)
5	Condensate pan

Item	Description
6	Compressor
7	Front air block panel
8	Evaporator fans (6 total)
9	Expansion valve
10	Evaporator coil

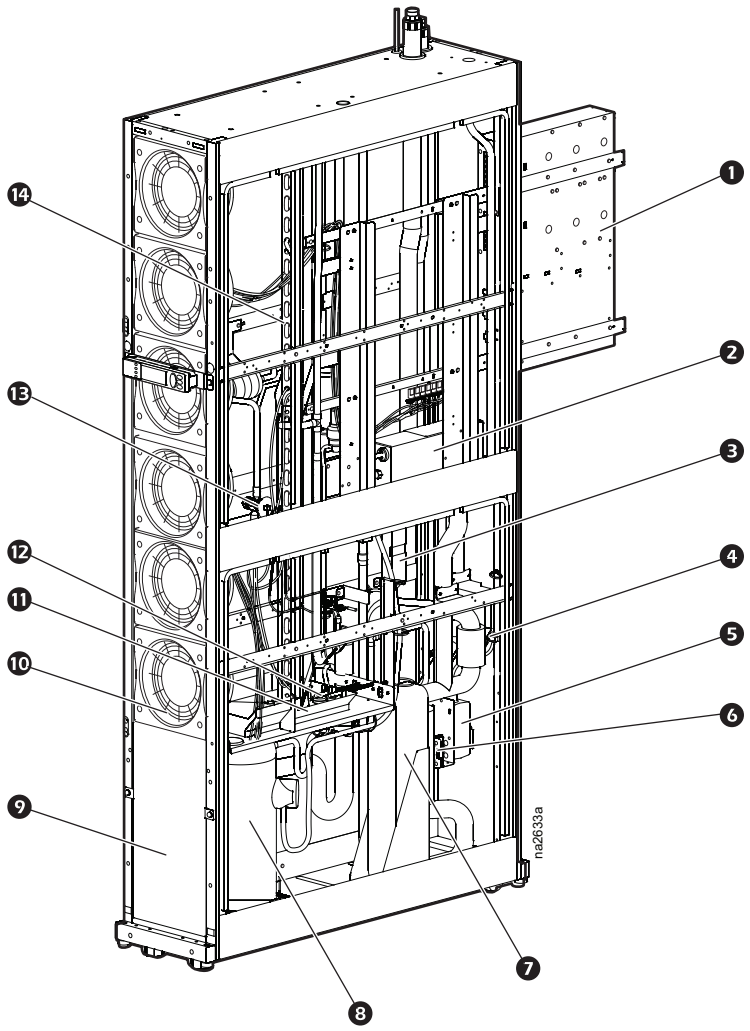
Interior components (rear) (ACRD100 series)



Item	Description
❶	Filter/dryer
❷	Pressure transducer (2 total, located behind air block)
❸	Filter differential pressure port
❹	Air filter (2 total)
❺	Condensate pump (2 total)
❻	Electrical control box 2
❼	Sight glass

Item	Description
❽	Hot gas bypass valve
❾	Liquid line shutoff solenoid
❿	Electrical control box 1
⓫	Power supply unit (bottom)
⓬	Evaporator coil
⓭	Service junction box (top entry shown)

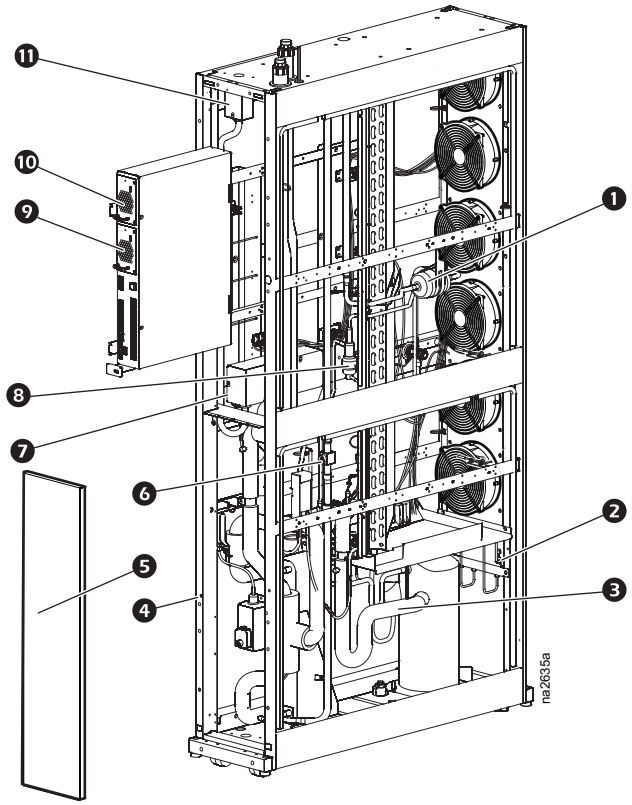
Interior components (front) (ACRD200 series)



Item	Description
1	Electrical control box 1 (retractable)
2	Electrical control box 2
3	Condensate pumps
4	Bypass shutoff valve (2-way)
5	Water control actuator
6	Water regulating valve (3-way)
7	Brazed plate heat exchanger

Item	Description
8	Compressor
9	Front air block panel
10	Evaporator fans (6 total)
11	Condensate pan
12	Condensate pan floats (2 total)
13	Expansion valve
14	Evaporator coil

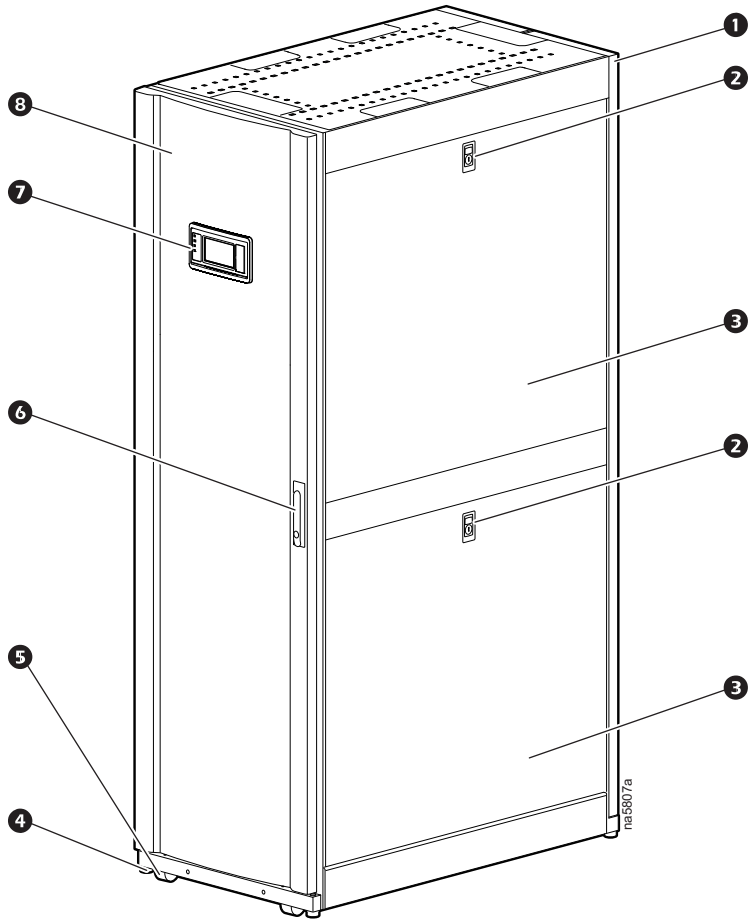
Interior components (rear) (ACRD200 series)



Item	Description
❶	Filter/dryer
❷	Pressure transducer (2 total, located behind air block)
❸	Suction line
❹	Filter differential pressure port
❺	Air filters (2 total)
❻	Sight glass

Item	Description
❼	Electrical control box 2
❽	Hot gas bypass valve
❾	Power supply unit (bottom)
❿	Power supply unit (top)
⓫	Service junction box (top entry shown)

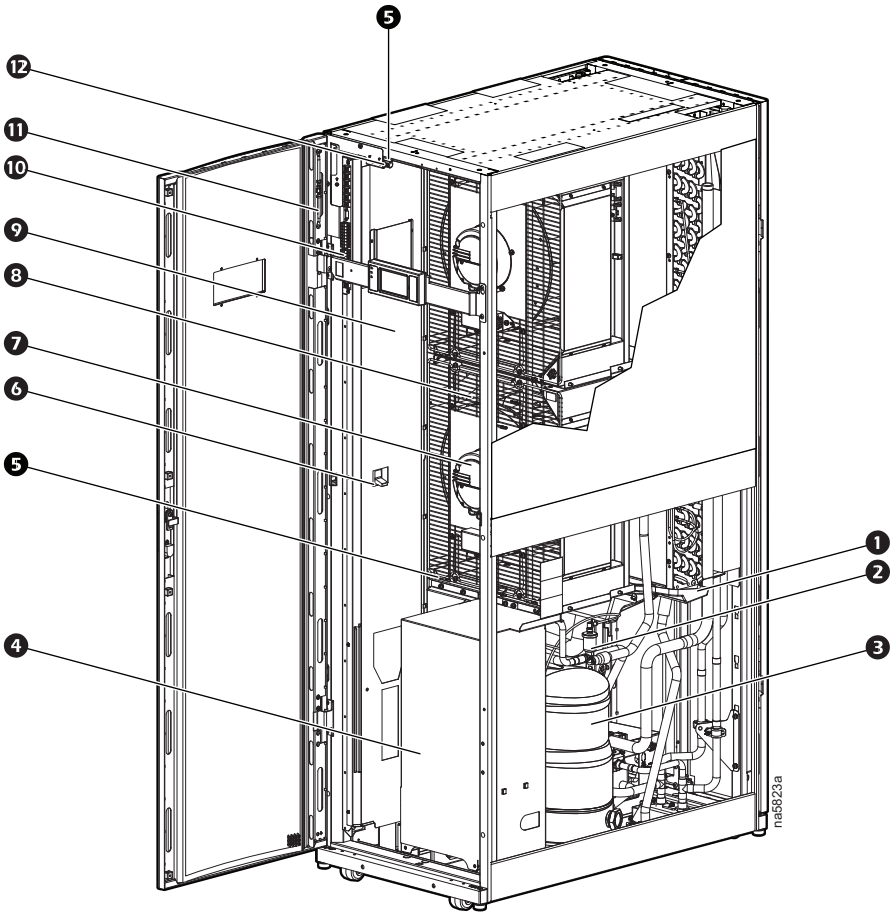
Exterior components (ACRD600/P series)



Item	Description
1	Removable rear doors
2	Side panel lock
3	Removable side panel
4	Adjustable leveling foot

Item	Description
5	Caster
6	Door handle and lock
7	Display interface
8	Removable front door

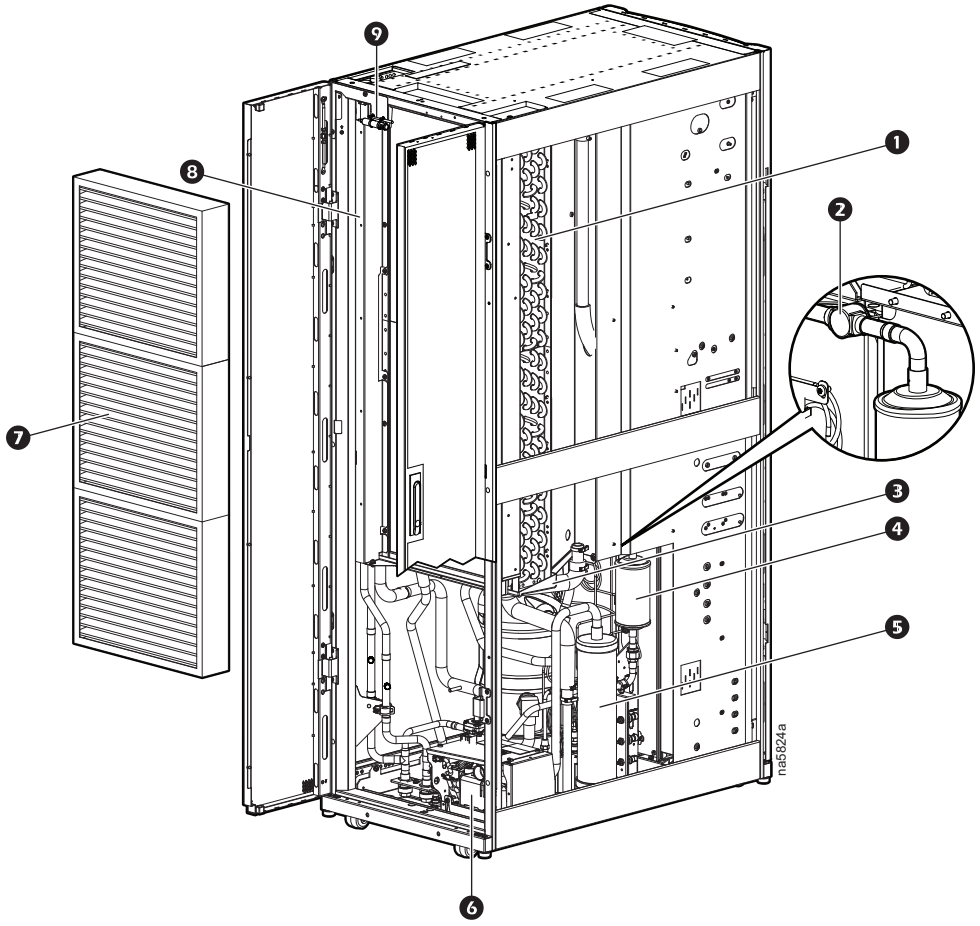
Interior components (front) (ACRD600 series)



Item	Description
❶	Condensate drain pan
❷	Electronic expansion valve
❸	Compressor
❹	Variable frequency drive (for compressor)
❺	Supply air temperature sensor
❻	Main circuit breaker

Item	Description
❼	Fan (2)
❽	Fan guard (2)
❾	Electrical panel
❿	Communication and external device connectors
⓫	Ground lug
⓬	Humidity sensor

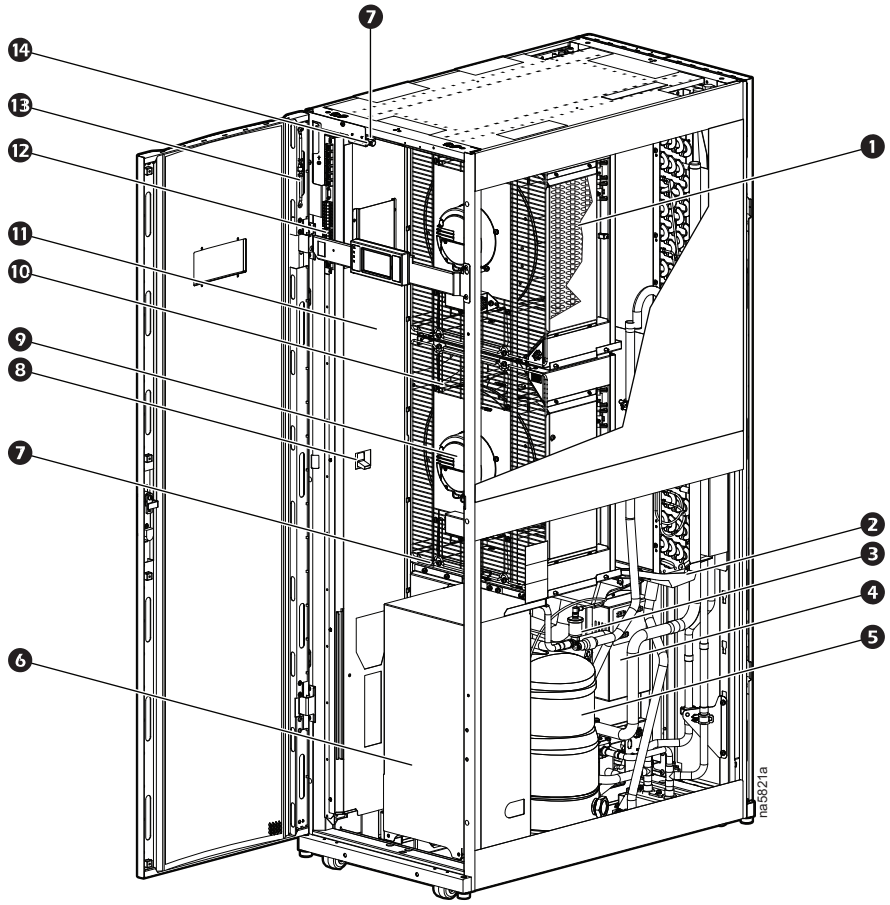
Interior components (rear) (ACRD600 series)



Item	Description
❶	Evaporator coil
❷	Sight glass
❸	Condensate drain pan
❹	Filter drier
❺	Oil separator

Item	Description
❻	Condensate pump
❼	Air filters
❽	Pipe chase
❾	Return air temperature sensor

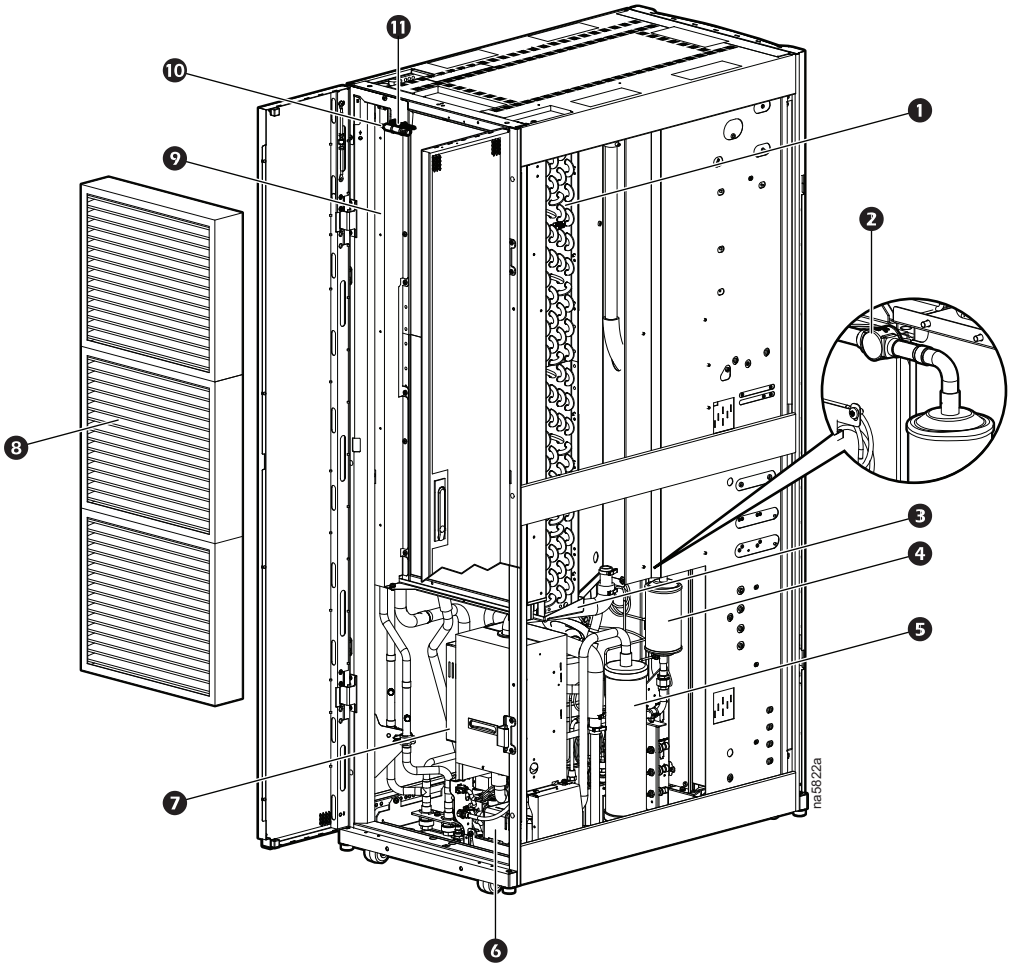
Interior components (front) (ACRD600P series)



Item	Description
❶	Electric heater
❷	Condensate drain pan
❸	Electronic expansion valve
❹	Humidifier
❺	Compressor
❻	Variable frequency drive (for compressor)
❼	Supply air temperature sensor

Item	Description
❽	Main circuit breaker
❾	Fan (2)
❿	Fan guard (2)
⓫	Electrical panel
⓬	Communication and external device connectors
⓭	Ground lug
⓮	Humidity sensor

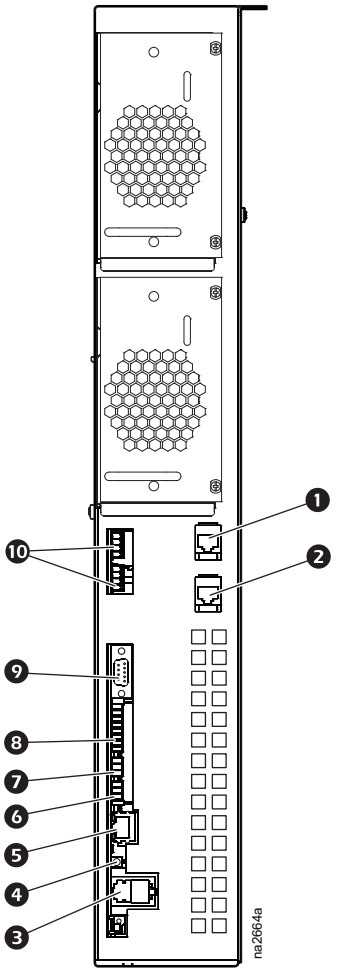
Interior components (rear) (ACRD600P series)



Item	Description
❶	Evaporator coil
❷	Sight glass
❸	Condensate drain pan
❹	Filter drier
❺	Oil separator
❻	Condensate pump

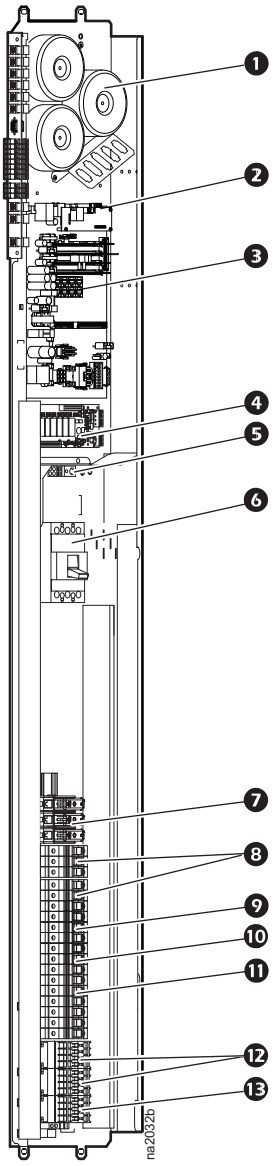
Item	Description
❼	Humidifier
❽	Air filters
❾	Pipe chase
❿	Humidity sensor
⓫	Return air temperature sensor

Electrical panel (ACRD100 and ACRD200 series)



Item	Description
1	Leak detector port
2	Remote temperature sensor port
3	A-Link ports
4	Reset button
5	Network port
6	Building management system (BMS) RS-485 port
7	Control RS-485 port
8	Form C and shutdown input
9	RS-232 console port
10	Outdoor heat exchanger (OHE) input and output ports (optional connection for ACRD100 and ACRD101)

Electrical panel (ACRD600/P series)

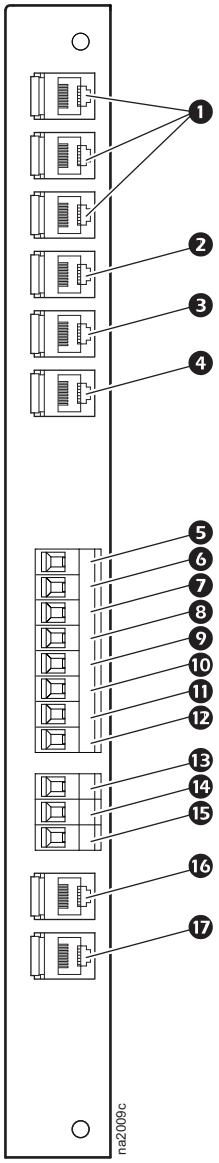


Item	Description
❶	Transformers
❷	User interface connectors
❸	Main controller board
❹	Relay board
❺	Ground lug
❻	Main circuit breaker
❼	• Compressor fuse block (ACRD600/P, ACRD601/P • Compressor circuit breaker (ACRD602/P)
❽	Fan circuit breakers
❾	Controller fuse
❿	Heater circuit breaker (ACRD600P series)
⓫	Humidifier circuit breaker (ACRD600P series)
⓬	Heater contactors (ACRD600P series)
⓭	Humidifier contactor (ACRD600P series)

NOTE: For a top installation, control wiring is routed through the wire channel located at the top-left corner, just above the user interface connectors.

For a bottom installation, the control wiring is routed to the access hole in the bottom of the equipment through wire clamps from the interface connectors. Then, the wiring is routed down along the electrical panel and secured with wire clamps.

User interface panel (ACRD600/P series)



Item	Description
❶	Rack inlet temperature sensors 1, 2, 3
❷	A-Link IN
❸	A-Link OUT
❹	Network port
❺	Alarm output, NC (Normally Closed)
❻	Alarm output, COM (Common)
❼	Alarm output, NO (Normally Open)
❽	Supply GND (Ground)
❾	Supply 12 VDC (current limit: 20 mA)
❿	Supply 24 VDC (current limit: 20 mA)
⓫	Remote shutdown+ (12–30 VAC/VDC, 24 VDC @ 11 mA)
⓬	Remote shutdown-
⓭	BMS D1 (RXTX+)
⓮	BMS D0 (RXTX–)
⓯	BMS GND
⓰	Supply air temperature sensor (front)
⓱	Supply air humidity sensor (front)

Performance Specifications

Net cooling capacity (air- and glycol-cooled)

Return Air Temperature	Model	Total Capacity kW (BTU/hr)	Sensible Capacity kW (BTU/hr)
22.2°C DB, 15.5°C WB (72°F DB, 60°F WB)	ACRD100	8.22 (28000)	8.04 (27000)
	ACRD101	8.01 (27000)	7.71 (26000)
	ACRD200	8.22 (28000)	8.04 (27000)
	ACRD201	8.01 (27000)	7.71 (26000)
	ACRD600/P	26.87 (92000)	21.03 (72000)
23.9°C DB, 16.2°C WB (75°F DB, 61.1°F WB)	ACRD100	8.52 (29000)	8.52 (29000)
	ACRD101	8.16 (28000)	8.16 (28000)
	ACRD200	8.52 (29000)	8.52 (29000)
	ACRD201	8.16 (28000)	8.16 (28000)
	ACRD600/P	27.78 (95000)	22.99 (79000)
26.7°C DB, 19.4°C WB (80°F DB, 67.0°F WB)	ACRD100	10.02 (34000)	9.12 (31000)
	ACRD101	9.72 (33000)	8.85 (30000)
	ACRD200	10.02 (34000)	9.12 (31000)
	ACRD201	9.72 (33000)	8.85 (30000)
	ACRD600/P	N/A	N/A
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)	ACRD100	9.36 (32000)	9.36 (32000)
	ACRD101	8.97 (31000)	8.97 (31000)
	ACRD200	10.02 (34000)	9.12 (31000)
	ACRD201	9.72 (33000)	8.85 (30000)
	ACRD600/P	28.94 (99000)	26.55 (92000)
29.4°C DB, 18.1°C WB (85°F DB, 64.6°F WB)	ACRD100	9.90 (34000)	9.90 (34000)
	ACRD101	9.69 (33000)	9.69 (33000)
	ACRD200	9.90 (34000)	9.90 (34000)
	ACRD201	9.69 (33000)	9.69 (33000)
	ACRD600/P	30.19 (103 000)	29.72 (99000)
32.2°C DB, 19.0°C WB (90°F DB, 66.2°F WB) [1]Airflow is reduced to 887 l/s (1880 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD100[1]	10.44 (36000)	10.44 (36000)
	ACRD101[1]	10.29 (35000)	10.29 (35000)
	ACRD200[1]	10.44 (36000)	10.44 (36000)
	ACRD201[1]	10.29 (35000)	10.29 (35000)
	ACRD600/P	31.96 (109 000)	31.96 (109 000)
35.0°C DB, 19.9°C WB (95°F DB, 67.8°F WB) [2]Airflow is reduced to 717 l/s (1520 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD100[2]	10.62 (36000)	10.62 (36000)
	ACRD101[2]	10.5 (36000)	10.5 (36000)
	ACRD200[2]	10.62 (36000)	10.62 (36000)
	ACRD201[2]	10.5 (36000)	10.5 (36000)
	ACRD600/P	33.97 (116 000)	33.97 (116 000)
37.8°C DB, 20.7°C WB (100°F DB, 69.3°F WB) [3]Airflow is reduced to 599 l/s (1270 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD100[3]	10.62 (36000)	10.62 (36000)
	ACRD101[3]	10.5 (36000)	10.5 (36000)
	ACRD200[3]	10.62 (36000)	10.62 (36000)
	ACRD201[3]	10.5 (36000)	10.5 (36000)
	ACRD600/P	35.91 (123 000)	35.91 (123 000)
40.6°C DB, 21.6°C WB) (105°F DB, 70.8°F WB [4]Airflow is reduced to 510 l/s (1080 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD100[4]	10.56 (36000)	10.56 (36000)
	ACRD101[4]	10.5 (36000)	10.5 (36000)
	ACRD200[4]	10.56 (36000)	10.56 (36000)
	ACRD201[4]	10.5 (36000)	10.5 (36000)
	ACRD600/P*	35.55 (121 000)	35.55 (121 000)

*Airflow reduced to 3300 SCFM at this condition to maintain adequate return gas temperature.
** Airflow is reduced to 1353 l/s (2900 SCFM) at this condition to maintain adequate evaporating temperature.
Airflow at full evaporating fan speed: ACRD100/200 series—1081 l/s (2290 SCFM); ACRD600/P series—1900 l/s (4000 SCFM)
Minimum recommended loads: ACRD100/200 series—2 kW (6,831 BTU); ACRD600/P series—8 kW (34,152 BTU)
Note: For ACRD100 and ACRD600/P series, the outdoor air temperature is 35°C (95°F).
Note: For ACRD200 series, a 40% at 0.64 l/s (10 gpm) entering glycol mixture temperature is 40.6°C (105°F).

Return Air Temperature	Model	Total Capacity kW (BTU/hr)	Sensible Capacity kW (BTU/hr)
43.3°C DB, 22.2°C WB) (110°F DB, 72.0°F WB	ACRD100[5]	10.6 (36000)	10.6 (36000)
	ACRD101[5]	10.5 (36000)	10.5 (36000)
	ACRD200[5]	10.6 (36000)	10.6 (36000)
[5]Airflow is reduced to 448 l/s (950 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD201[5]	10.5 (36000)	10.5 (36000)
	ACRD600/P**	35.57 (121 000)	35.57 (121 000)

*Airflow reduced to 3300 SCFM at this condition to maintain adequate return gas temperature.
** Airflow is reduced to 1353 l/s (2900 SCFM) at this condition to maintain adequate evaporating temperature.
Airflow at full evaporating fan speed: ACRD100/200 series—1081 l/s (2290 SCFM); ACRD600/P series—1900 l/s (4000 SCFM)
Minimum recommended loads: ACRD100/200 series—2 kW (6,831 BTU); ACRD600/P series—8 kW (34,152 BTU)
Note: For ACRD100 and ACRD600/P series, the outdoor air temperature is 35°C (95°F).
Note: For ACRD200 series, a 40% at 0.64 l/s (10 gpm) entering glycol mixture temperature is 40.6°C (105°F).

Net cooling capacity (water cooled)

Return Air Temperature	Model	Total Capacity kW (BTU/hr)	Sensible Capacity kW (BTU/hr)
22.2°C DB, 15.5°C WB (72°F DB, 60°F WB)	ACRD200	9.72 (33000)	8.94 (31000)
	ACRD201	9.57 (33000)	8.79 (30000)
23.9°C DB, 16.2°C WB (75°F DB, 61.1°F WB)	ACRD200	8.43 (32000)	8.43 (32000)
	ACRD201	9.30 (32000)	9.30 (32000)
26.7°C DB, 19.4°C WB (80°F DB, 67.0°F WB)	ACRD200	11.52 (39000)	9.90 (34000)
	ACRD201	11.64 (40000)	9.99 (34000)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)	ACRD200	10.38 (35000)	10.38 (35000)
	ACRD201	10.11 (35000)	10.11 (35000)
29.4°C DB, 18.1°C WB (85°F DB, 64.6°F WB)	ACRD200	10.92 (37000)	10.92 (37000)
	ACRD201	10.98 (38000)	10.98 (38000)
32.2°C DB, 19.0°C WB (90°F DB, 66.2°F WB)	ACRD200	11.64 (40000)	11.64 (40000)
Note: Airflow is reduced to 887 l/s (1880 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD201	11.76 (40000)	11.76 (40000)
35.0°C DB, 19.9°C WB (95°F DB, 67.8°F WB)	ACRD200	12.00 (41000)	12.00 (41000)
Note: Airflow is reduced to 717 l/s (1520 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD201	12.00 (41000)	12.00 (41000)
37.8°C DB, 20.7°C WB (100°F DB, 69.3°F WB)	ACRD200	12.06 (41000)	12.06 (41000)
Note: Airflow is reduced to 599 l/s (1270 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD201	12.00 (41000)	12.00 (41000)
40.6°C DB, 21.6°C WB) (105°F DB, 70.8°F WB	ACRD200	12.06 (41000)	12.00 (41000)
Note: Airflow is reduced to 510 l/s (1080 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD201	12.00 (41000)	12.00 (41000)
43.3°C DB, 22.2°C WB) (110°F DB, 72.0°F WB	ACRD200	12.06 (41000)	12.06 (41000)
Note: Airflow is reduced to 448 l/s (950 SCFM) at this condition to maintain adequate evaporating temperature.	ACRD201	12.06 (41000)	12.06 (41000)

Airflow for the ACRD200 series is 1081 l/s (2290 SCFM) at full evaporating fan speed.
Note: Minimum recommended loads: ACRD200 series—2 kW (6,831 BTU)
Note: For ACRD200 series, a 0.64 l/s (10gpm) entering water temperature is 29.4°C (85°F).

Performance at Percentage of Fan Speed

ACRD100 series

Fan Speed %	Voltage/Phase/Hz	L/S (SCFM)	Unit Power in kW	Condenser Fan Power in kW	Net Sensible Capacity kW (BTU/h)	SA Temp °C (°F)
Return Air Temperature—29.4°C (85°F)						
30	200-240/1/60	448 (950)	2.57	0.13	4.60 (15,710)	20.8 (69.5)
	200-240/1/50		2.58	0.13	4.60 (15,710)	20.8 (69.5)
40	200-240/1/60	562 (1190)	2.67	0.18	5.75 (19,637)	20.8 (69.5)
	200-240/1/50		2.70	0.20	5.75 (19,637)	20.8 (69.5)
50	200-240/1/60	947 (1370)	2.76	0.23	6.65 (22,711)	20.8 (69.5)
	200-240/1/50		2.80	0.25	6.65 (22,711)	20.8 (69.5)
60	200-240/1/60	717 (1520)	2.86	0.28	7.35 (25,102)	20.8 (69.5)
	200-240/1/50		2.90	0.29	7.35 (25,102)	20.8 (69.5)
70	200-240/1/60	779 (1650)	2.92	0.32	8.00 (27,321)	20.8 (69.5)
	200-240/1/50		2.98	0.35	8.00 (27,321)	20.8 (69.5)
80	200-240/1/60	850 (1800)	3.04	0.38	8.70 (29,712)	20.8 (69.5)
	200-240/1/50		3.08	0.40	8.70 (29,712)	20.8 (69.5)
90	200-240/1/60	944 (2000)	3.19	0.47	9.70 (33,127)	20.8 (69.5)
	200-240/1/50		3.22	0.49	9.70 (33,127)	20.8 (69.5)
100	200-240/1/60	1081 (2290)	3.46	0.50	9.90 (33,810)	21.7 (71.1)
	200-240/1/50		3.50	0.51	9.90 (33,810)	21.9 (71.5)
Return Air Temperature—35°C (95°F)						
30	200-240/1/60	448 (950)	2.68	0.28	7.55 (25,785)	20.8 (69.5)
	200-240/1/50		2.70	0.30	7.55 (25,785)	20.8 (69.5)
40	200-240/1/60	562 (1190)	2.80	0.42	9.50 (32,444)	20.8 (69.5)
	200-240/1/50		2.81	0.44	9.50 (32,444)	20.8 (69.5)
50	200-240/1/60	947 (1370)	2.89	0.48	10.20 (34,835)	21.8 (71.2)
	200-240/1/50		2.91	0.48	9.90 (33,810)	22.2 (71.9)
60	200-240/1/60	717 (1520)	3.00	0.52	10.62 (36,269)	22.6 (72.6)
	200-240/1/50		3.01	0.50	10.29 (35,142)	23.1 (73.5)
70	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
80	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
90	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
100	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
Return Air Temperature—40.6°C (105°F)						
30	200-240/1/60	448 (950)	2.78	0.47	10.20 (34,835)	21.3 (70.4)
	200-240/1/50		2.78	0.48	10.00 (34,152)	21.6 (70.9)
40	200-240/1/60	562 (1190)	2.85	0.51	10.56 (36,064)	24.8 (76.6)
	200-240/1/50		2.87	0.53	10.55 (36,030)	24.8 (76.6)
50	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
60	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
70	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
80	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
90	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A
100	200-240/1/60	N/A	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A	N/A

ACRD200 series

Fan Speed %	Voltage/Phase/Hz	L/S (SCFM)	Unit Power	Net Sensible Capacity kW	SA Temp °C (°F)
Return Air Temperature—29.4°C (85°F)					
30	200-240/1/60	448 (950)	2.35	4.60 (15,710)	20.8 (69.5)
	200-240/1/50		2.25	4.60 (15,710)	20.8 (69.5)
40	200-240/1/60	562 (1190)	2.41	5.76 (19,671)	20.8 (69.5)
	200-240/1/50		2.31	5.76 (19,671)	20.8 (69.5)
50	200-240/1/60	947 (1370)	2.47	6.63 (22,643)	20.8 (69.5)
	200-240/1/50		2.37	6.63 (22,643)	20.8 (69.5)
60	200-240/1/60	717 (1520)	2.55	7.36 (25,136)	20.8 (69.5)
	200-240/1/50		2.45	7.36 (25,136)	20.8 (69.5)
70	200-240/1/60	779 (1650)	2.60	8.00 (27,321)	20.8 (69.5)
	200-240/1/50		2.50	8.00 (27,321)	20.8 (69.5)
80	200-240/1/60	850 (1800)	2.68	8.70 (29,712)	20.8 (69.5)
	200-240/1/50		2.58	8.70 (29,712)	20.8 (69.5)
90	200-240/1/60	944 (2000)	2.80	9.70 (33,127)	20.8 (69.5)
	200-240/1/50		2.70	9.70 (33,127)	20.8 (69.5)
100	200-240/1/60	1081 (2290)	3.06	10.90 (37,225)	21.0 (69.8)
	200-240/1/50		3.00	10.98 (37,499)	20.9 (69.7)
Return Air Temperature—35°C (95°F)					
30	200-240/1/60	448 (950)	2.25	7.50 (25,614)	20.8 (69.5)
	200-240/1/50		2.25	7.50 (25,614)	20.8 (69.5)
40	200-240/1/60	562 (1190)	2.31	9.50 (32.444)	20.8 (69.5)
	200-240/1/50		2.31	9.50 (32.444)	20.8 (69.5)
50	200-240/1/60	947 (1370)	2.37	10.50 (35,859)	21.2 (70.)
	200-240/1/50		2.37	10.50 (35,859)	21.2 (70.)
60	200-240/1/60	717 (1520)	2.50	11.35 (38,762)	21.8 (71.3)
	200-240/1/50		2.45	11.35 (38,762)	21.8 (71.3)
70	200-240/1/60	779 (1650)	2.61	11.75 (40,128)	22.4 (72.4)
	200-240/1/50		2.50	11.75 (40,128)	22.4 (72.4)
80	200-240/1/60	850 (1800)	2.71	12.00 (40,982)	23.2 (73.7)
	200-240/1/50		2.58	12.00 (40,982)	23.2 (73.7)
90	200-240/1/60	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A
100	200-240/1/60	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A
Return Air Temperature—40.6°C (105°F)					
30	200-240/1/60	448 (950)	2.35	10.55 36,030)	20.8 (69.5)
	200-240/1/50		2.25	10.55 36,030)	20.8 (69.5)
40	200-240/1/60	562 (1190)	2.40	11.70 (39,958)	22.8 (73.0)
	200-240/1/50		2.31	11.70 (39,958)	22.8 (73.0)
50	200-240/1/60	947 (1370)	2.46	12.00 (40,982)	24.8 (76.7)
	200-240/1/50		2.37	12.00 (40,982)	24.8 (76.7)
60	200-240/1/60	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A
70	200-240/1/60	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A
80	200-240/1/60	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A
90	200-240/1/60	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A
100	200-240/1/60	N/A	N/A	N/A	N/A
	200-240/1/50		N/A	N/A	N/A

ACRD600 series (no humidifier/no reheat)

Fan Speed %	L/S (SCFM)	Unit Power in kW	Condenser Fan Power in kW	Net Sensible Capacity kW (BTU/h)	SA Temp °C (°F)
Return Air Temperature—29.4°C (85°F)					
30	600 (1200)	2.89	0.96	11.3 (38,583)	12.9 (55.22)*
40	800 (1600)	2.93	0.98	13.1 (44,729)	15.0 (59.00)*
50	900 (2000)	2.98	1.00	13.9 (47,461)	17.2 (62.96)*
60	1100 (2400)	3.12	1.02	14.5 (49,509)	18.8 (65.84)*
70	1300 (2800)	3.86	1.05	17.1 (58,387)	18.7 (65.66)
80	1500 (3200)	4.11	1.05	17.4 (59,411)	19.9 (67.82)
90	1700 (3600)	5.01	1.05	19.72 (67,332)	19.8 (67.64)
100	1900 (4000)	5.78	1.05	19.9 (67,947)	20.8 (69.44)
Return Air Temperature—35°C (95°F)					
30	600 (1200)	2.88	0.99	13.4 (45,753)	15.4 (59.72)*
40	800 (1600)	2.91	1.02	14.87 (50,773)	18.7 (65.66)*
50	900 (2000)	3.54	1.05	17.9 (61,118)	19.3 (66.74)
60	1100 (2400)	4.29	1.05	20.9 (71,361)	19.8 (67.64)
70	1300 (2800)	5.14	1.05	23.6 (80,580)	20.3 (68.54)
80	1500 (3200)	6.07	1.05	26.0 (88,775)	20.8 (69.40)
90	1700 (3600)	7.09	1.05	29.2 (99,701)	20.8 (69.44)
100	1900 (4000)	9.50	1.05	32.9 (11,334)	20.8 (69.44)
Return Air Temperature—40.6°C (105°F)					
30	600 (1200)	2.86	1.02	14.9 (50,875)	18.8 (65.84)*
40	800 (1600)	4.08	1.05	20.4 (69,654)	18.3 (64.94)
50	900 (2000)	4.80	1.05	23.9 (81,605)	19.7 (67.46)
60	1100 (2400)	6.36	1.05	28.7 (97,994)	19.6 (67.28)
70	1300 (2800)	7.33	1.05	31.7 (10,237)	20.8 (69.44)
80	1500 (3200)	9.19	1.05	36.1 (12,260)	20.8 (69.44)
90	1700 (3600)	11.57	1.05	40.7 (13,967)	20.8 (69.44)
100	1900 (4000)	12.47	1.05	41.9 (14,064)	22.5 (72.5)

*In this case, the compressor will cycle because its speed is down to the minimum of 25 Hz.
The minimum fan speed for the InRow mode is 30%; the minimum fan speed for HACS and RACS mode is 40%.
Note: Outdoor temperature is 35°C (95°F).

General Data

General specifications—ACRD200 series

Data	Units	Water Cooled	Glycol Mixture Cooled
Nominal flow rate entering the unit	l/s (GPM)	0.64 (10.0)	0.64 (10.0)
Design entering temperature	°C (°F)	29.4 (85.0)	40.6 (105.0)
Maximum heat rejection	kW (BTU/hr)	15.2 (52,000)	15.2 (52,000)
Maximum glycol percentage	%	0	40
Entering temperature range for 0.64 l/s (10 GPM) flow rate entering to the unit	°C (°F)	12.8–43.3 (55.0–110.0)	12.8–43.3 (55.0–110.0)
Unit pressure drop at 0.64 l/s (10 GPM)	kPa (psi)	33.1 (4.8)	43.4 (6.3)

Fluid-cooled unit performance

Model		ACRD200 Series
Air System—Fan (Standard Filter Installed)		
Size—mm (in.)		200 (7.9)
Air Volume—l/s (SCFM)		1080 (2290)
Fan Motor—W (HP) each		115 (0.15)
Number of Fans		6
Cooling Coil—Copper Tube/Aluminum Fin		
Face Area—m^2 (ft^2)		0.37 (3.97)
Rows Deep		2
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)		199.09 (438)
Height—mm (in.)		1991 (78.39)
Width—mm (in.)		300 (11.8)
Depth—mm (in.)		1070 (42.13)
Connection Sizes		
Liquid	In	7/8-in. O DF brazed
	Return	7/8-in. ODF brazed
Condensate Drain	Drain Line	3/16-in. ID, 5/16-in. OD
Refrigerant		
Type		R410A
Charge—kg (oz)		2.2 (78)

Air-cooled unit performance

Data	Model	Value
Air System—Fan (Standard Filter Installed)		
Size—mm (in.)	ACRD100 series	200 (7.9)
	ACRD600/P series	400 (15.8)
Air Volume—l/s (SCFM)	ACRD100 series	1080 (2290)
	ACRD600/P series	1900 (4000)
Fan Motor—W (HP) each	ACRD100 series	115 (0.15)
	ACRD600/P series	1100 (1.5)
Number of Fans	ACRD100 series	6
	ACRD600/P series	2
Cooling Coil—Copper Tube/Aluminum Fin		
Face Area—m^2 (ft^2)	ACRD100 series	0.37 (3.97)
	ACRD600/P series	0.56 (6.0)
Rows Deep	ACRD100 series	2
	ACRD600/P series	4
Filters—Washable (Standard)		
Quantity	ACRD100 series	2
Size—mm (in.)		238 X 933 (9.375 X 36.75)
Depth—mm (in.)		13 (1/2)
Efficiency (%)		<20% MERV 1
Filters—Pleated (Standard)		
Quantity	ACRD600/P series	3
Size—mm (in.)		418 x 470 (16.45 x 18.5)
Depth—mm (in.)		101.6 (4)
Efficiency (%)		30
Filters—Pleated (Optional)		
Quantity	ACRD100 series	2
Size—mm (in.)		238 X 933 (9.375 X 36.75)
Depth—mm (in.)		51 (2)
Efficiency (%)		30% MERV 8
Filters—Pleated (Optional)		
Quantity	ACRD600/P series	3
Size—mm (in)		418 x 470 (16.45 x 18.5)
Depth—mm (in.)		101.6 (4)
Efficiency (%)		85

Data	Model	Value
Physical Data		
Weight—kg (lbs)	ACRD100 series	183 (404)
	ACRD600	402 (886)
	ACRD601/ACRD602	391 (862)
	ACRD600P	413 (911)
	ACRD601P/ACRD602P	402 (886)
Height—mm (in.)	ACRD100 series	1991 (78.39)
	ACRD600/P series	1991 (78.39)
Width—mm (in.)	ACRD100 series	300 (11.8)
	ACRD600/P series	600 (23.62)
Depth—mm (in.)	ACRD100 series	1070 (42.13)
	ACRD600/P series	1070 (42.13)
Connection Sizes		
Refrigerant		
Discharge	ACRD100 series	1/2-in. ODF brazed
	ACRD600/P series	3/4-in. ODF brazed
Liquid	ACRD100 series	1/2-in. ODF brazed
	ACRD600/P series	3/4-in. ODF brazed
Condensate Drain		
Drain Line—in.	ACRD100 series	3/16-in. ID, 5/16-in. OD
	ACRD600/P series	1/2
Humidifier		
Supply Line—mm (in.)	ACRD100 series	6.35 (1/4)
Refrigerant		
Type	ACRD100 series	R410A (amount determined at installation)
	ACRD600/P series	R410A (amount determined at installation)
Humidification—Solid State Electrode Canister		
Flush Cycle	ACRD600P series	Automatic
Capacity—kg/hr (lbs/hr)	ACRD600P series	3.0 (6.6)
kW	ACRD600P series	2.25
Reheat—Electric (Equally Loaded Three Stage, Finned Tubular, Low-watt Density)		
Capacity—kW (BTU/hr)	ACRD600P series	6.0 (20,491)
Stages	ACRD600P series	2

Altitude correction factors

Room Condition: 72 DB/50% RH											
Altitude—m (ft)	0	305 (1000)	610 (2000)	915 (3000)	1219 (4000)	1524 (5000)	1829 (6000)	2134 (7000)	2438 (8000)	2743 (9000)	3048 (10000)
Specific Volume—cm^3/g (ft^3/lb)	847.77 (13.58)	879.61 (14.09)	912.70 (14.62)	947.66 (15.18)	983.86 (15.76)	1021.32 (16.36)	1061.28 (17.00)	1103.10 (17.67	1146.80 (18.37)	1193.00 (19.11)	1241.69 (19.89)
Density—g/m^3 (lb/ft^3)	1185.37 (0.074)	1137.31 (0.071)	1089.26 (0.068)	1057.22 (0.066)	1009.16 (0.063)	977.13 (0.061)	945.10 (0.059)	913.05 (0.057)	865.00 (0.054)	832.97 (0.052)	800.92 (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 to derate performance.

Sound performance data

ACRD100 and ACRD200 series tested sound data

Fan Speed %	Fan RPM	Airflow m^3/s (SCFM)	Sound Power dB at Frequency Hz re: $10^{-12}W$								Lp Sound Pressure dB re: 20 µPa*
			125	250	500	1000	2000	4000	8000	dBA**	dBA
60	2300	0.66 (1400)	62.3	68.3	69.8	74.8	67.8	59.3	53.3	76.5	70.5
70	3000	0.78 (1650)	65.3	76.3	74.8	77.8	73.8	67.8	61.3	80.8	74.7
80	3450	0.85 (1800)	67.3	80.3	77.3	78.2	76.3	71.8	66.3	82.7	76.6
90	3800	0.92 (1950)	68.3	81.8	78.8	80.8	77.3	74.3	68.3	84.5	78.4
100	4300	1.08 (2290)	70.3	80.8	83.3	85.3	80.3	77.8	72.3	88.3	82.2

*Weighted Sound Pressure dBA in a 28.3 m^3 (1000 ft^3) room at 1.5 m (5-ft) distance.
**Based on compressor operating at full speed.

ACRD600/P series air-cooled tested sound data

Fan Speed %	Airflow m^3/s (SCFM)	Sound Power dB at Frequency Hz re: $10^{-12}W$								Lp Sound Pressure dB re: 20 µPa*
		125	250	500	1000	2000	4000	8000	dBA**	dBA
50	0.95 (2000)	85.1	83.0	78.1	80.4	74.6	75.5	66.1	84.1	71.1
75	1.43 (3000)	89.4	84.7	86.1	83.5	78.8	76.8	68.0	88.1	75.0
100	1.89 (4000)	100.1	100.4	92.2	90.7	85.6	80.2	73.6	96.3	83.3

*Weighted Sound Pressure dBA at 4.9 ft (1.5 m) height and 6 ft (1.8 m) distance.
**Based on compressor operating at rated speed (65 Hz).

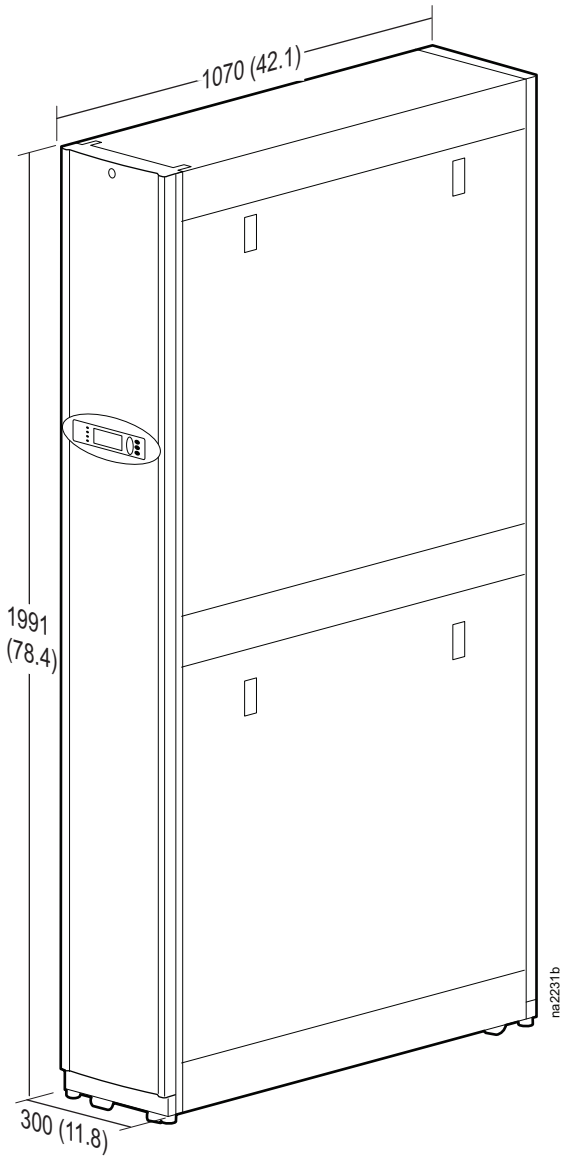
Electrical Data

Model	MCA**	MOP**	FLA**	Compressor		Power
				LRA	RLA	
ACRD100—208-240 V, 1 Ph, 60 Hz	25	40	N/A	87.5	16.0	4.6
ACRD101—220-240 V, 1 Ph, 50 Hz	N/A	N/A	21	97.0	16.3	4.4
ACRD200—208-240 V, 1 Ph, 60 Hz	25	40	N/A	87.5	16.0	4.6
ACRD201—220-240 V, 1 Ph, 50 Hz	N/A	N/A	21	97.0	16.3	4.4
ACRD600—200-240 V, 3 Ph, 50/60 Hz	51.6	80	N/A	29.7*	36.6	14.6
ACRD601—460-480 V, 3 Ph, 60 Hz	24	40	N/A	28.1*	16.6	14.6
ACRD602—380-415 V, 3 Ph, 50/60 Hz	N/A	N/A	25.2	28.1*	16.6	14.6
ACRD600P—200-240 V, 3 Ph, 50/60 Hz	77.6	110	N/A	29.7*	36.6	23.5
ACRD601P—460-480 V, 3 Ph, 60 Hz	36.5	50	N/A	28.1*	16.6	23.5
ACRD602P—380-415 V, 3 Ph, 50/60 Hz	N/A	N/A	34.2	28.1*	16.6	23.5

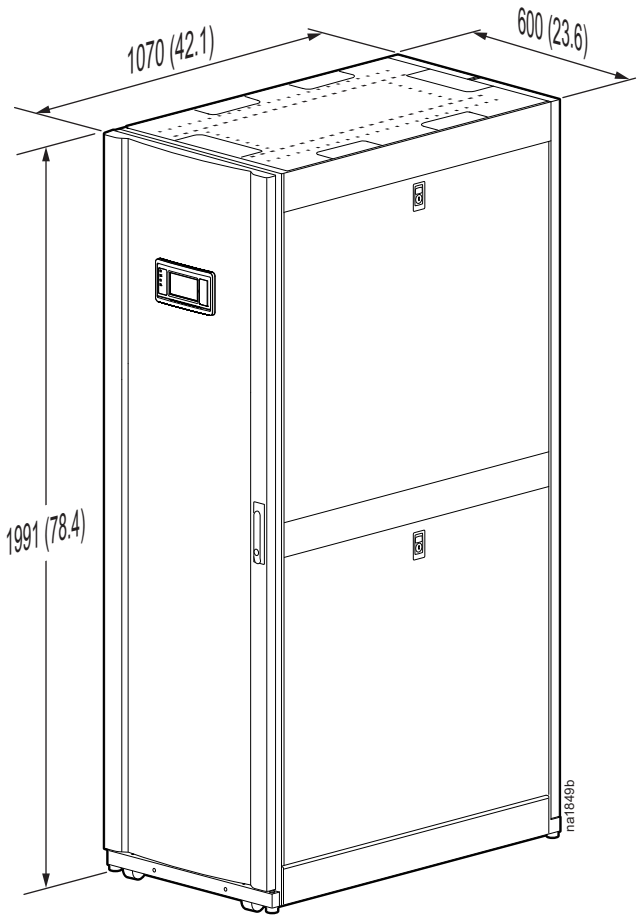
Note: Above data is based on maximum operating condition. Evaluated at maximum allowable operating conditions of: 39°C DB, 11.1°C DP, 46°C ambient, 100% fan speed, 78Hz compressor.
Note: Installation must comply with national and/or local electrical codes.
Note: All models are hard-wired.
Note: Use LRA for estimation of inrush current.
* The compressor is powered by the VFD.
**Cells marked N/A indicate that this information is not required because of regional differences in electrical codes.

Dimensional Data

ACRD100/ACRD200 series

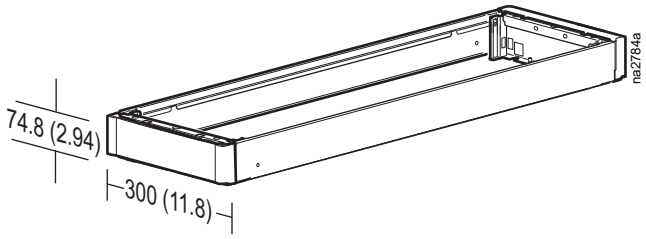


NOTE: Dimensions are shown in mm (in.).

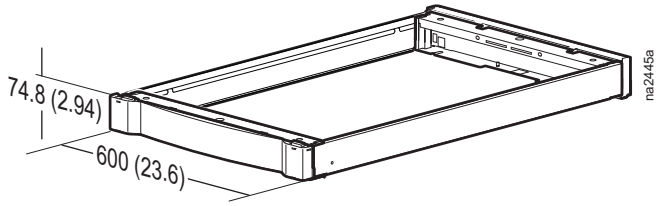


NOTE: Dimensions are shown in mm (in.).

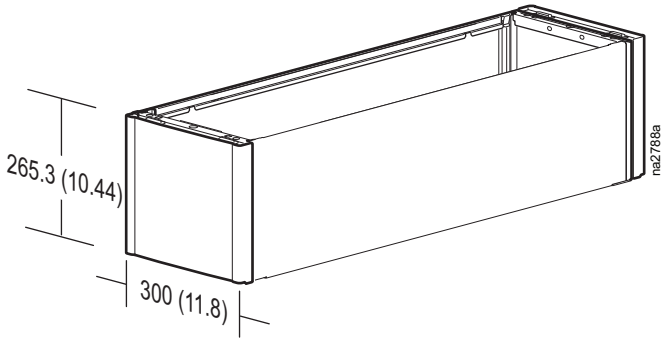
NetShelter SX to VX height adapter—ACRD100/ACRD200 series



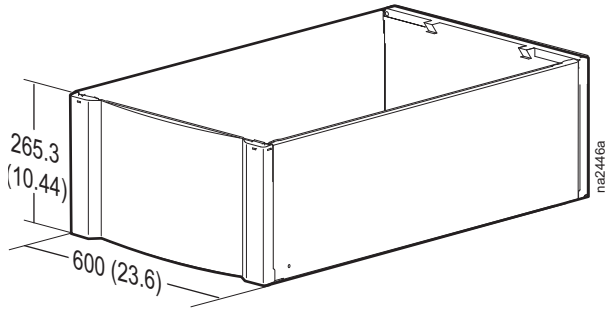
NetShelter SX to VX height adapter—ACRD600/P series



NetShelter SX to 48-U SX height adapter—ACRD100/ACRD200 series



NetShelter SX to 48-U SX height adapter—ACRD600/P series

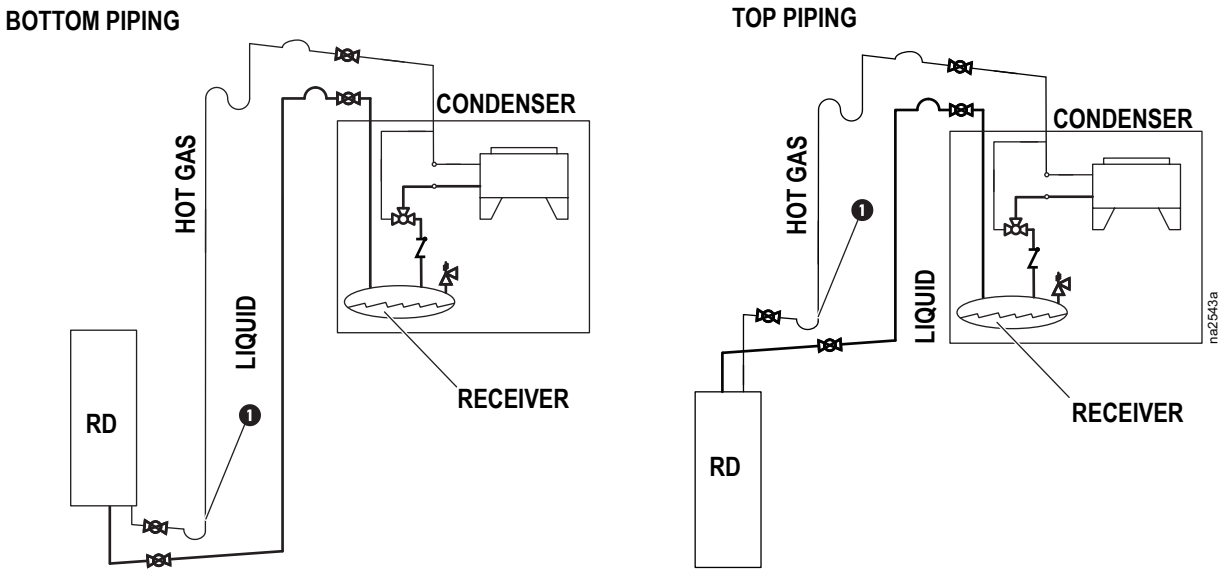


NOTE: Dimensions are shown in mm (in.).

Piping and Mechanical Connections

Refrigeration Piping Diagram

(ACRD100 and ACRD600/P series)



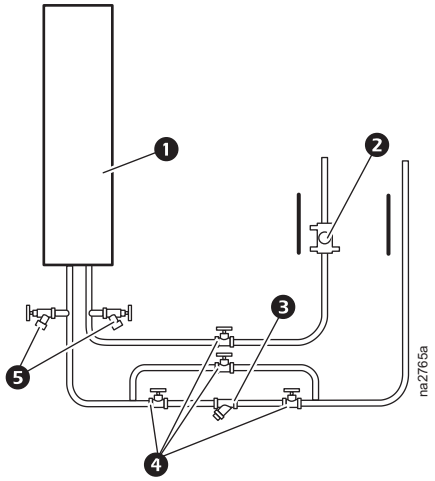
❶	Pitch in direction of refrigerant flow; 4 mm per m (1/2 in. per 10 ft)		P-trap
	Shutoff valves		S-trap
	Head pressure control valve		Inverted P-trap
	Check valve		Pressure relief valve

NOTE: Shutoff valves shown nearest to the condensers **are not** supplied by Schneider Electric.
ACRD600/P series: The shutoff valves nearest to the unit **are** supplied by Schneider Electric.
ACRD100 series: The shutoff valves **are not** supplied and must be ordered.

- Route piping through the top or bottom of the InRow ACRD600/P series.
- All lines are Type L ACR copper tubing.
- Trap the vertical discharge line every 6 m (20 ft) to ensure proper oil return.
- Pipe size should change after the P-trap based on the recommended piping charts provided with the installation manual.
- For the ACRD600/P series, the maximum piping run is 61 m (200 ft) equivalent length. Size the piping pursuant to accepted refrigeration practice.
- Fore the ACRD100 series, piping is 46m (150 ft) equivalent length. Size the piping pursuant to accepted refrigeration practices.

IMPORTANT: Do not install the air-cooled condenser below the InRow ACRD600/P series. The condenser must be positioned above or at the same level as the InRow ACRD600/P series to ensure proper function.

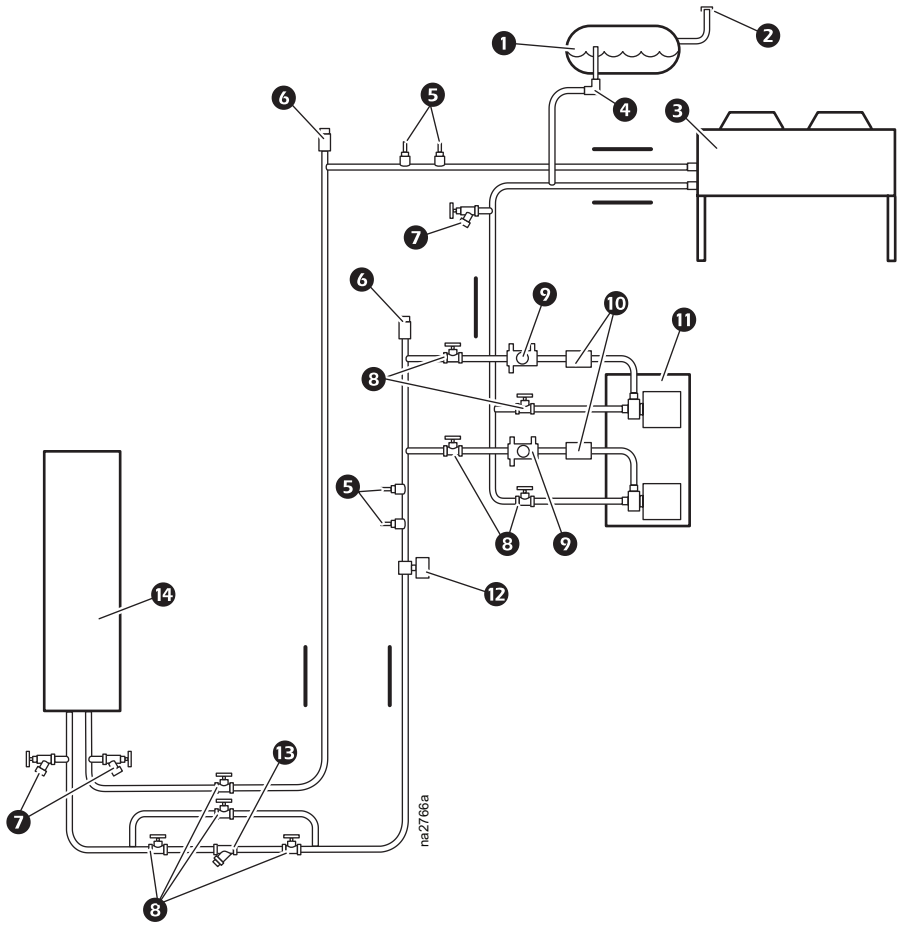
Water-cooled bottom piping (ACRD200 series)



Item	Description
❶	InRow DX
❷	Balancing valve*
❸	Strainer, 20 mesh*
❹	Gate valve*
❺	Hose bib*

*Field supplied and installed

Glycol-cooled bottom piping (ACRD200 series)

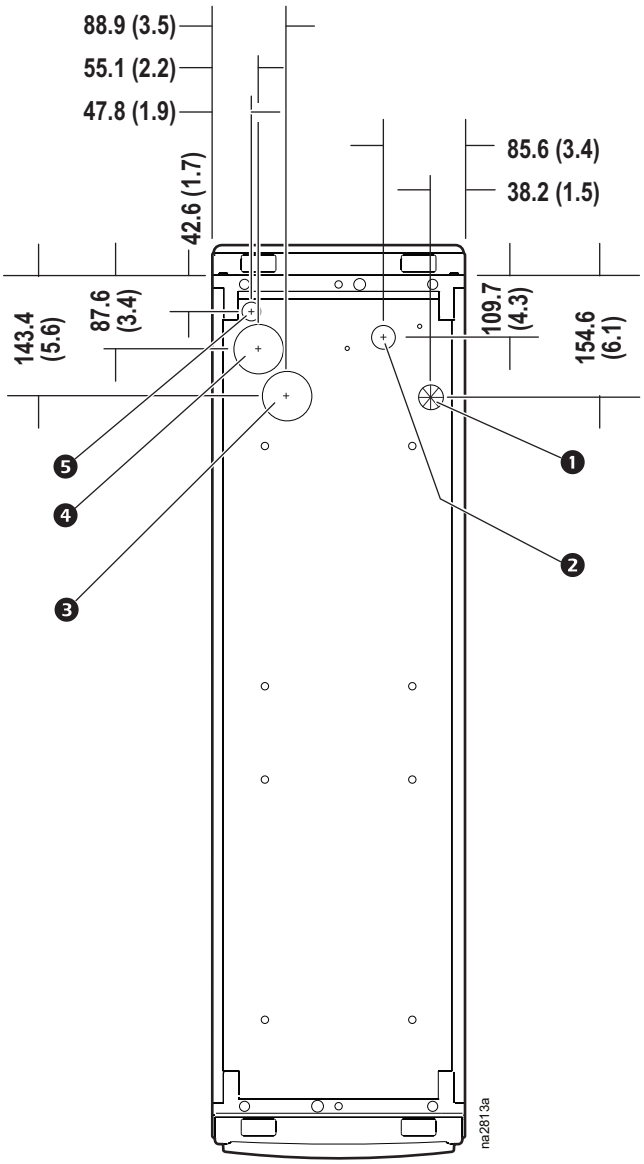


Item	Description
❶	Expansion tank*
❷	Tank fill*
❸	Fluid-cooler
❹	Airtrol fitting*
❺	Temperature and pressure gauges*
❻	Air vent*
❼	Hose bibs*

Item	Description
❽	Gate valves*
❾	Balancing valve*
❿	Check valve
⓫	Pump package*
⓬	Flow switch
⓭	Strainer, 20 mesh*
⓮	InRow RD

*Field supplied and installed

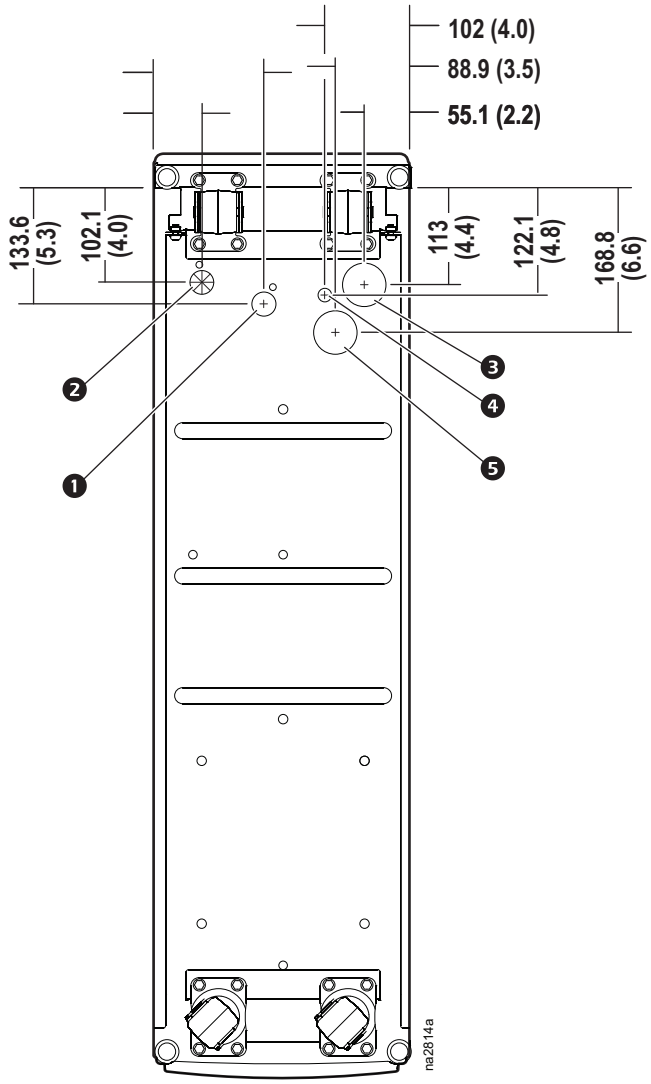
Top piping and power access locations (ACRD100/ACRD200 series)



Item	Description
❶	Low voltage wiring input
❷	Electrical input
❸	Hot gas discharge line (ACRD100 series) Water/glycol out (ACRD200 series)
❹	Liquid line (ACRD100 series) Water/glycol in (ACRD200 series)
❺	Condensate pump outlet

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

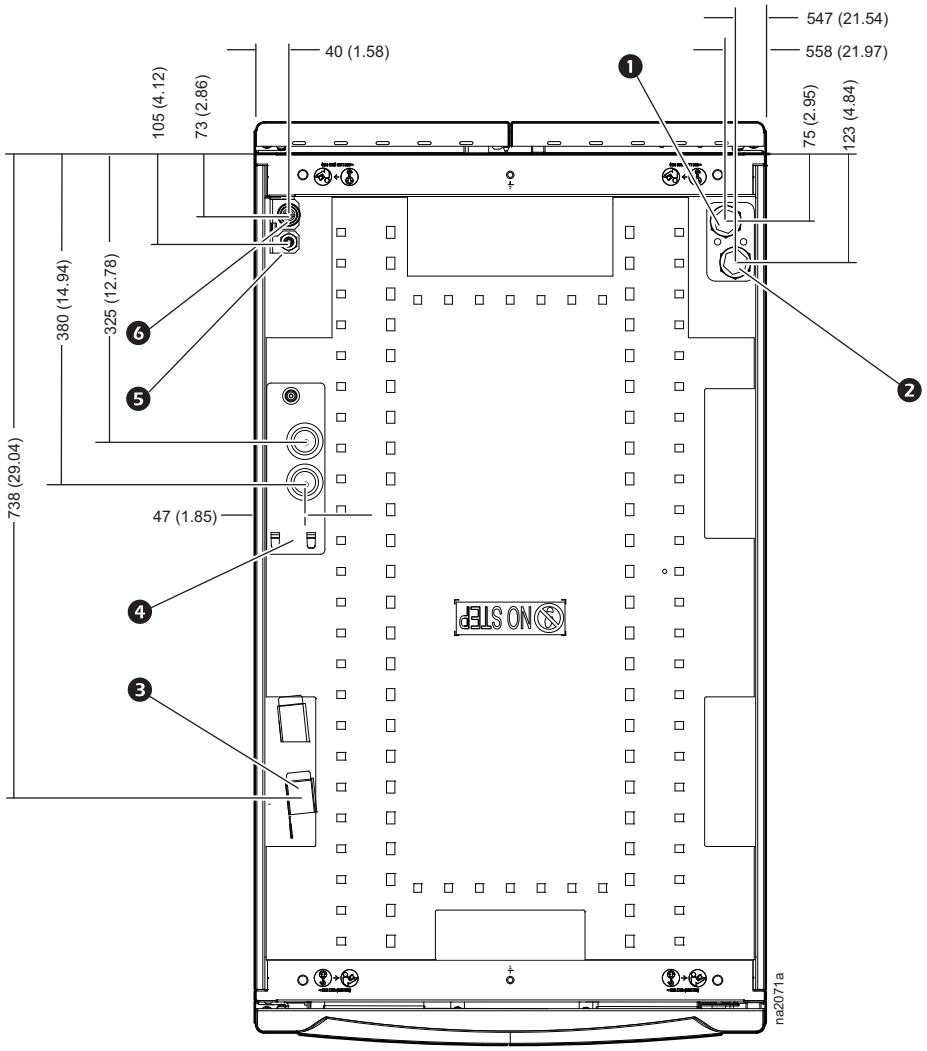
Bottom piping and power access locations—looking up (ACRD100/ACRD200 series)



Item	Description
❶	Electrical input
❷	Low voltage wiring input
❸	Liquid line (ACRD100 series) Water/glycol in (ACRD200 series)
❹	Condensate pump outlet
❺	Hot discharge gas line (ACRD100 series) Water/glycol out (ACRD200 series)

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

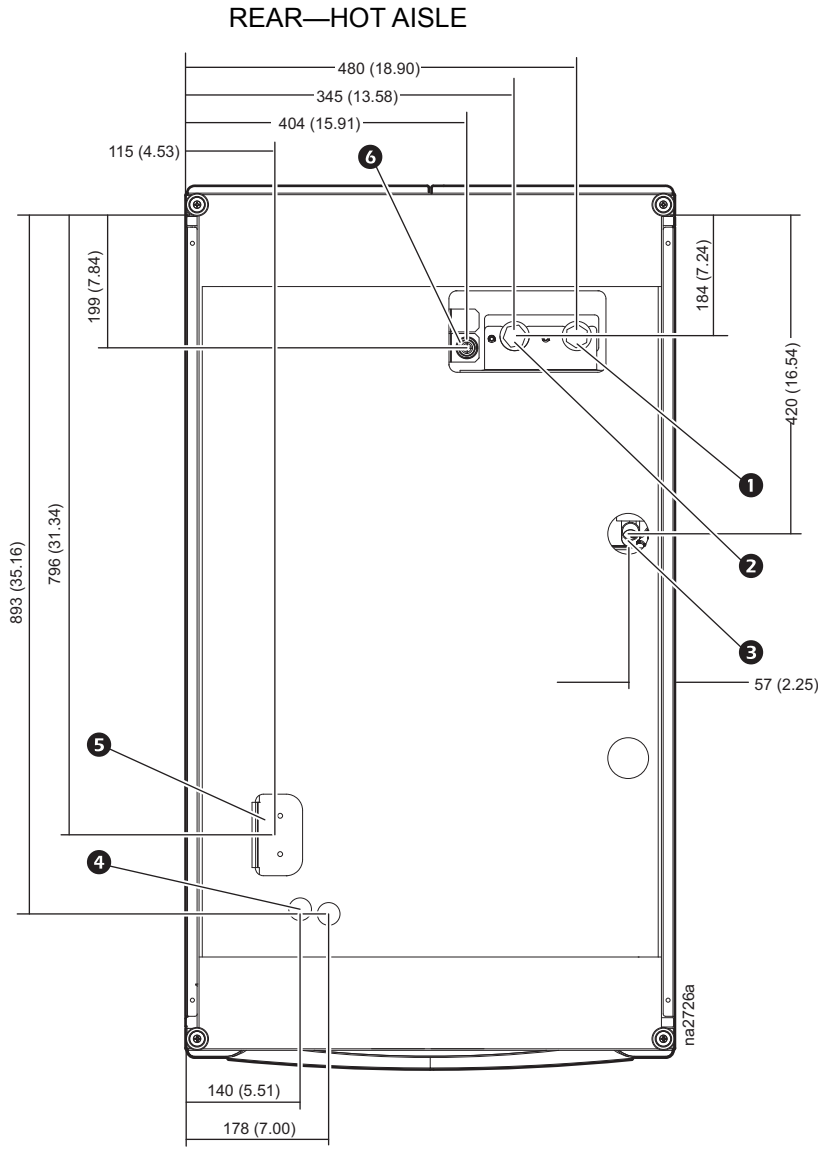
Air-cooled piping access—top view, looking down (ACRD600/P series)



Item	Description
❶	Refrigerant discharge line
❷	Refrigerant liquid line
❸	Trough for communication cables
❹	Power connections
❺	Humidifier water supply (ACRD600P only)
❻	Condensate drain

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

Air-cooled piping access—bottom view, looking up (ACRD600/P series)



Item	Description
❶	Humidifier water supply
❷	Condensate drain
❸	Power connections
❹	Communication connections—27.80 mm (1.09 in.)
❺	Condensate overflow—50.00 mm (1.97 in.)
❻	Refrigerant discharge line
❼	Refrigerant liquid line

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

Outdoor Heat Exchangers

Air-cooled condensers—mechanical data (ACRD100 series)

Model	Ambient Temp °C (°F)	Sound Pressure *	Air Quantity	Fan	Unit	Connection Size		Weight	Capacity	
			l/s (CFM)	Qty.	kW	Hot Gas	Liquid	Kg (lbs)	MBH/1F TD	kW/1C TD
ACCD75214	35 (95) / 40 (104)	65	2380 (5050)	1	1.1	1 1/8 in.	7/8 in.	82 (180)	2.43	1.28
ACCD75215	46 (115)	66	3040 (6450)	1	1.1	1 1/8 in.	7/8 in.	118 (260)	4.00	2.11
ACCD75216	35 (95) / 40 (104)	59	2140 (4530)	1	0.8	22 mm	18 mm	48 (105.8)	2.35	1.24
ACCD75217	46 (115)	62	4280 (9060)	2	1.6	28 mm	22 mm	89 (196.2)	4.30	2.27
ACCD75218	35 (95) / 40 (104)	59	2140 (4530)	1	0.6	22 mm	18 mm	48 (105.8)	2.35	1.24
ACCD75219	46 (115)	62	4280 (9060)	2	1.3	28 mm	22 mm	89 (196.2)	4.30	2.27
ACCD75220 **	35 (95) / 40 (104)	59	2140 (4530)	1	0.6	22 mm	18 mm	48 (105.8)	2.35	1.24

* (dbA) at 10 ft and 100% Fan Speed
** ACCD75220 is CCC certified for use in China.

Air-cooled condensers—mechanical data (ACRD600 series)

Model	Ambient Temp °C (°F)	Sound Pressure *		Air Quantity	Fan	Unit	Connection Size		Weight	Capacity	
		Horizontal Airflow	Vertical Airflow	l/s (CFM)	Qty.	kW	Hot Gas	Liquid	Kg (lbs)	MBH/1F TD	kW/1C TD
ACCD75228	35 (95)*	67.2**	65.0**	7780 (16 672)	3	3.13	7/8 in.	5/8 in.	218 (480)	5.7	3
ACCD75229	46 (115)	67.2**	64.5**	7488 (16 045)	3	3.19	7/8 in.	5/8 in.	230 (509)	7.8	4.1
ACCD75230	35 (95)*	67.8**	65.0**	7780 (16 672)	3	3.13	7/8 in.	5/8 in.	218 (480)	5.7	3
ACCD75231	46 115)	67.8**	64.5**	7488 (16 045)	3	3.19	7/8 in.	5/8 in.	230 (509)	7.8	4.1
ACCD75232	35 (95) / 46 (115)*	60.7	56.6	5133 (11 000)	2	1.20	22 mm	16 mm	144 (318)	8.3	4.4
ACCD75232-C	35 (95) / 46 (115)*	60.7	56.6	5133 (11 000)	2	1.32	22 mm	16 mm	135 (298)	8.3	4.4
ACCD75233-C	35 (95) / 46 (115)*	60.7	56.6	5133 (11 000)	2	1.44	22 mm	16 mm	136 (300)	8.3	4.4

* Condenser can work at 40ºC (105ºF).
** Condenser is at 3 m.
Condenser is at 5 m unless otherwise noted.

Fluid coolers—mechanical data (ACRD200 Series)

Model	Ambient Temp °C (°F)	Sound Pressure *	Air Quantity	Fan	Unit	Connection Size	Weight	Capacity	
			l/s (CFM)	Qty.	kW		Kg (lbs)	MBH/1F TD	kW/1C TD
ACFC75210	40 (105)	68	4760 (10100)	2	2.0	1 3/8 in.	205 (450)	3.20	1.69
ACFC75255	35 (95)	65	2380 (5050)	1	1.0	1 1/8 in.	150 (330)	2.36	1.24
ACFC75256	35 (95)	62	4220 (8950)	2	1.6	1 1/2 in.	90 (198)	2.50	1.32
ACFC75257	40 (105)	56	5500 (11650)	2	1.4	2 in.	151 (333)	3.30	1.74

* (dbA) at 10 ft and 100% Fan Speed

Air-cooled condensers—electrical data (ACRD100 series)

Model	Voltage Phase Frequency	Receiver Model	Receiver Qty	FLA***	MCA***	MOP***
ACCD75214	208-240V, 1 ph, 60 Hz	ACAC75009	1	4.8	15	15
ACCD75215	208-240V, 1 ph, 60 Hz	ACAC75009	2	4.8	15	15
ACCD75216	380-415V, 3 ph, 50 Hz	ACAC75009	1	1.35	N/A	N/A
ACCD75217	380-415V, 3 ph, 50 Hz	ACAC75009	1	2.7	N/A	N/A
ACCD75218	220-240V, 1 ph, 50 Hz	ACAC75009	1	3.0	N/A	N/A
ACCD75219	220-240V, 1 ph, 50 Hz	ACAC75009	1	6.0	N/A	N/A
ACCD75220*	220-240V, 1 ph, 50 Hz	ACAC75009	1	3.0	N/A	N/A

*ACCD75220 is CCC certified for use in China.
**Receiver model is ACAC75009
***Cells marked N/A indicate that this information is not required because of regional differences in electrical codes.

Air-cooled condensers—electrical data (ACRD600/P series)

Model	Voltage Phase Frequency	Receiver Model	Receiver Qty	FLA*	MCA*	MOP*
ACCD75228	208-230 V 3 ph 60 Hz	ACAC75014	1	9.9	12	15
ACCD75229	208-230 V 3 ph 60 Hz	ACAC75014	1	6.0	8	10
ACCD75230	460-480 V 3 ph 60 Hz	ACAC75014	1	9.9	12	15
ACCD75231	460-480 V 3 ph 60 Hz	ACAC75014	1	6.0	8	10
ACCD75232	230 V 1 ph 50 Hz	ACAC75013	1	6.0	N/A	N/A
ACCD75232-C	230 V 1 ph 50 Hz	ACAC75015	1	6.0	N/A	N/A
ACCD75233-C	230 V 1 ph 60 Hz	ACAC75015	1	6.0	N/A	N/A

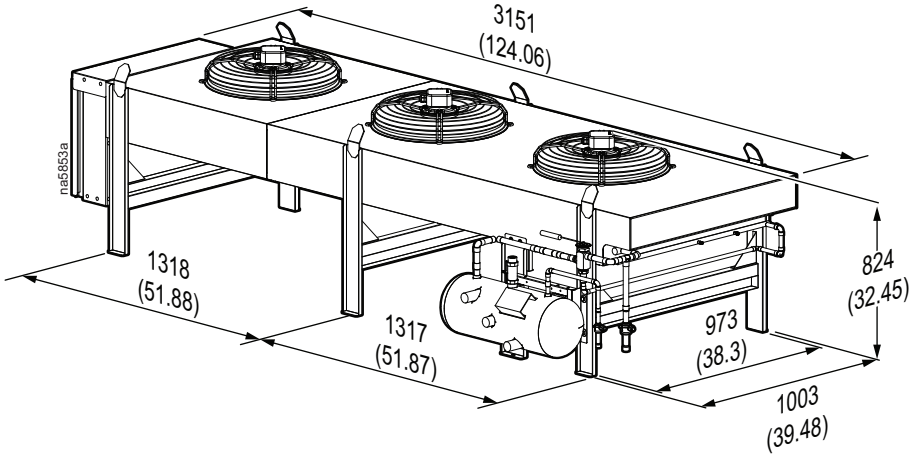
*Cells marked N/A indicate that this information is not required because of regional differences in electrical codes.

Fluid coolers—electrical data (ACRD200 series)

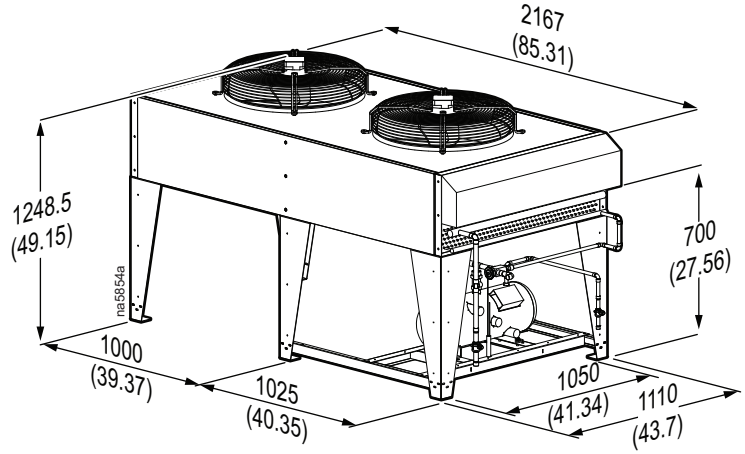
Model	Voltage Phase Frequency	FLA*	MCA*	MOP*
ACFC75210	460V 3 ph 60 Hz	2.6	15	15
ACFC75255	480V 3 ph 60 Hz	1.3	15	15
ACFC75256	380-415V 3 ph 50 Hz	2.7	N/A	N/A
ACFC75257	380-415V 3 ph 50 Hz	2.7	N/A	N/A

*Cells marked N/A indicate that this information is not required because of regional differences in electrical codes.

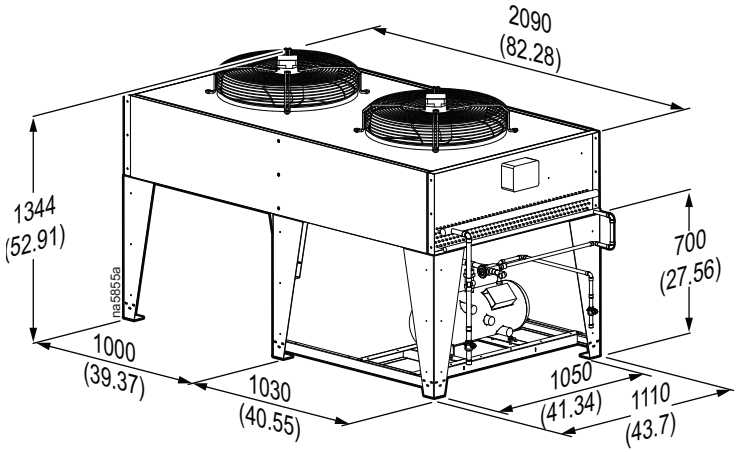
ACCD75228, ACCD75229, ACCD75230, ACCD75231



ACCD75232



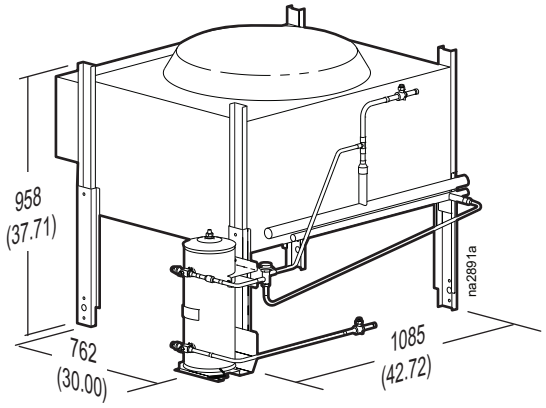
ACCD75232-C, ACCD75233-C



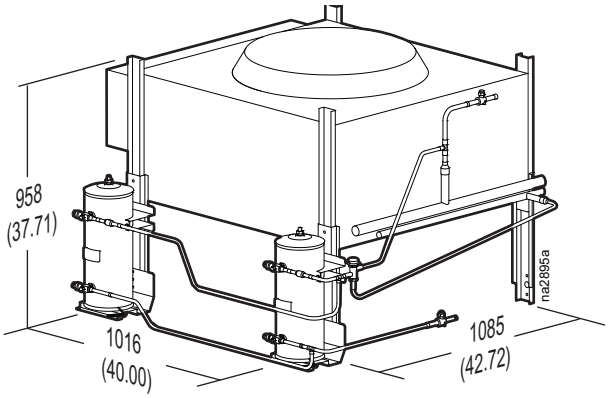
NOTE: Dimensions are shown in mm (in.).

NOTE: Condensers shown above have eight 22 mm (0.875 in.) mounting holes on their lower rails.

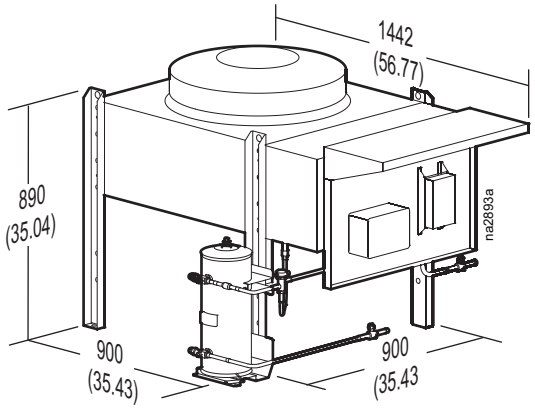
ACCD75214



ACCD75215

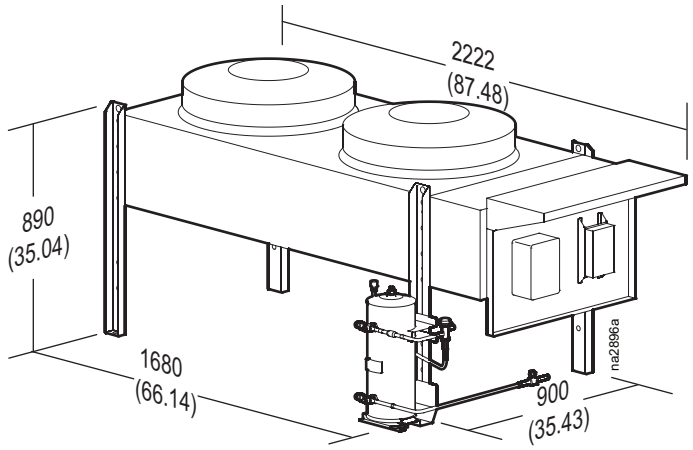


ACCD75216, ACCD75218, and ACCD75220

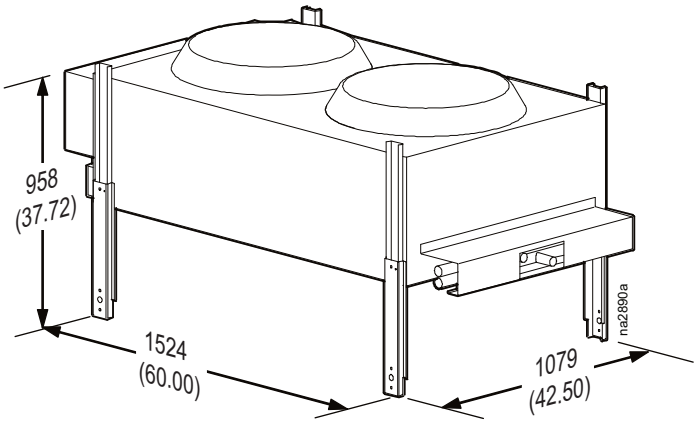


NOTE: Dimensions are shown in mm (in.).

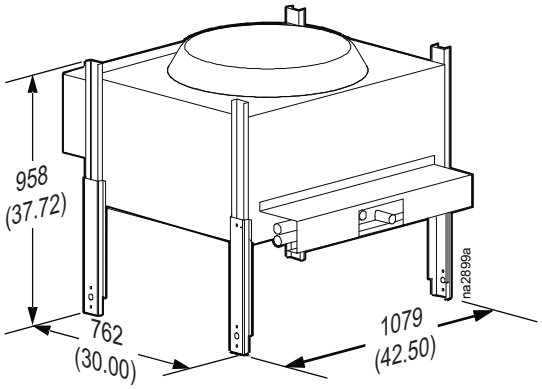
ACCD75217 and ACCD75219



ACFC75210

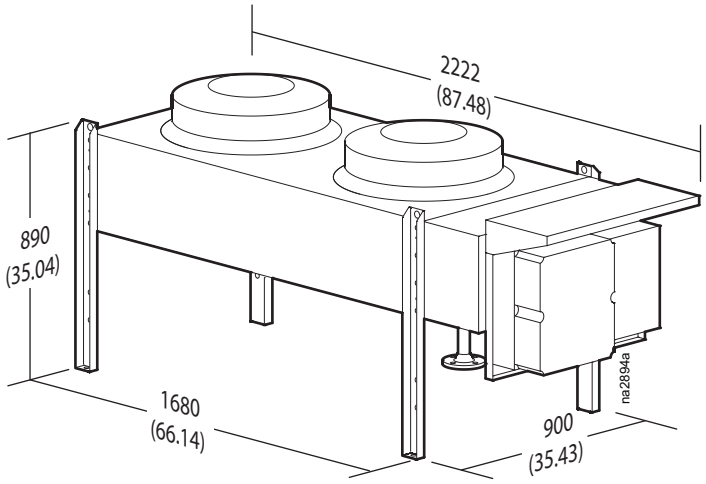


ACFC75255

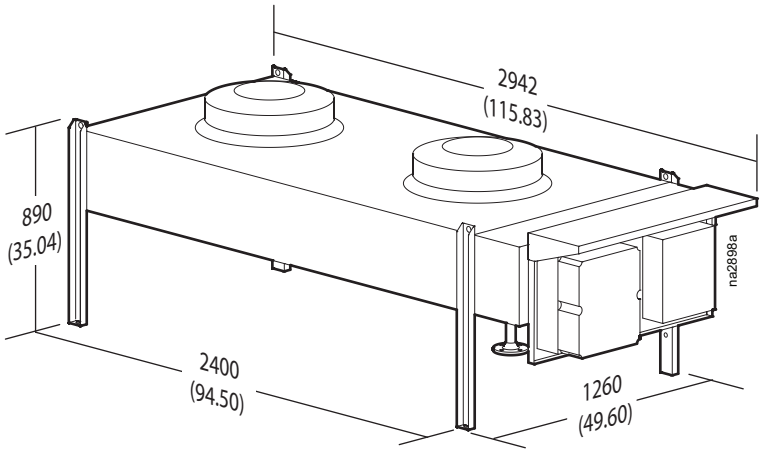


NOTE: Dimensions are shown in mm (in.).

ACFC75256



ACFC75257



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

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