# InRow® Direct Expansion Air Conditioners

# ACRD100, ACRD200, ACRD600, and ACRD600P Series

# **Technical Specifications**

Up to 42kW

990-5801C-001

Release Date: 10/2019





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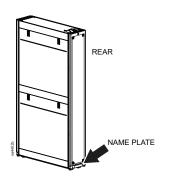
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# **Technical Data**

# **Model Identification**

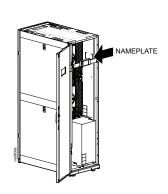
#### ACRD100 Series and ACRD200 Series—300 mm Units



The model number can be found on the outside of the shipping crate and on the name plate located on the unit as shown. Use the table below to verify that the equipment is the right type and voltage.

Model	Range of Capacity	Heat Rejection	Voltage/Phase/ Frequency	Humidifier/Reheat	Air Pattern
ACRD100	Up to 10 kW	Air-cooled	208-240/1~/60 Hz	None	Back to front
ACRD101	Up to 10 kW	Air-cooled	220-240/1~/50 Hz	None	Back to front
ACRD200	Up to 10 kW	Fluid-cooled	208-240/1~/60 Hz	None	Back to front
ACRD201	Up to 10 kW	Fluid-cooled	220-240/1~/50 Hz	None	Back to front

#### ACRD600 and ACRD600P Series—600 mm Units



The model number can be found on the outside of the shipping crate and on the nameplate located inside the equipment as shown. Use the table below to verify that the equipment is the correct size and voltage.

SKU	Range of Capacity	Heat Rejection	Voltage	Frequency	Reheat	Humidifier	Air Pattern
ACRD600	Up to 42 kW	Air-cooled	200–240	50/60 Hz	N/A	N/A	Rear to front
ACRD601	Up to 42 kW	Air-cooled	460–480	60 Hz	N/A	N/A	Rear to front
ACRD602	Up to 42 kW	Air-cooled	380–415	50/60 Hz	N/A	N/A	Rear to front
ACRD600P	Up to 42 kW	Air-cooled	200–240	50/60 Hz	Electric	Steam canister (replaceable)	Rear to front
ACRD601P	Up to 42 kW	Air-cooled	460–480	60 Hz	Electric	Steam canister (replaceable)	Rear to front
ACRD602P	Up to 42 kW	Air-cooled	380–415	50/60 Hz	Electric	Steam canister (replaceable)	Rear to front

#### **Overview**

This 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**

Agency	ACRD100	ACRD101	ACRD200	ACRD201	ACRD600
UL and cUL	Х	Х	X	X	Х
RCM		Х		Х	
CE		Х		Х	
EAC					Х
СМІМ		Х		Х	

Agency	ACRD600P	ACRD601	ACRD601P	ACRD602	ACRD602P
UL and cUL	Х	Х	Х	X	Х
RCM				Х	Х
CE				Х	Х
EAC	Х	Х	Х	Х	Х
СМІМ				Х	Х

### **Working Conditions and Environmental Limits**

InRow DX units have a minimum heat load to ensure proper operation. Failure to operate the unit with at least the minimum load will result in one or more of the following conditions:

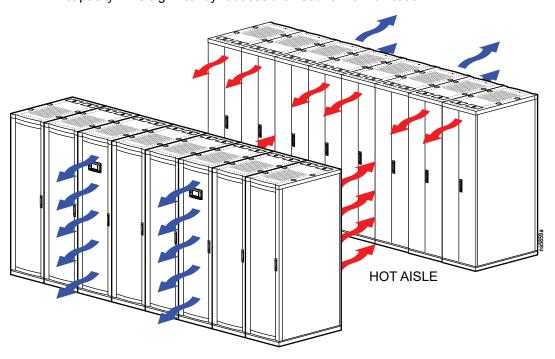
- · Decreased operating efficiency
- · Equipment on/off cycling
- · Inadequate dehumidification
- · Increased wear and tear caused by frequent on/off cycles
- · Decreased group control effectiveness
- · Potential increase in cost of ownership

Limit Working Conditions				
Models	ACRD600	ACRD601	ACRD602	
	ACRD600P	ACRD601P	ACRD602P	
Power Supply	200–240 V	460–480 V	380–415 V	
	3 Phase	3 Phase	3 Phase	
	50/60 Hz	60 Hz	50/60 Hz	
Minimum Recommended Load	8	3 kW (27,296 BTU/hr	)	

#### **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.

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# **Standard Features and Options**

#### 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 dual floats
  - Condensate pump
  - 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 and ACRD600P series only
  - Backward inclined impeller
  - Pleated 100-mm (4-in.) filter
  - Condensate management with a dual-position 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 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

#### **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/m³ (5 lb/ft³) density and complies with ASTM E84 rating of 25/50.

#### **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 RD unit can be set to either continue running in an alarm condition or shut down to prevent condensate pan overflow.
- ACRD600 and ACRD600P series: A condensate pump is factory wired and piped internally to the condensate drain pan. 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.

#### **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.

#### **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.

#### **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 and ACRD600P series system uses a 30% efficient, 102 mm (4 in.), deep loading, pleated filter (MERV 8 per ASHRAE 52.2, EN779 G4).

#### **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.

#### Joining Kit—InRow/NetShelter SX

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

#### **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.

#### Pipe Adapters (ACRD600 and ACRD600P 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.

#### **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 and ACRD600P 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.

#### **Shutdown Input/Alarm Output**

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

#### **Selectable Top or Bottom Piping Connections**

The cooling unit includes both top and bottom piping connections. All ACRD100, ACRD600, and ACRD600P series connections use threaded ring seals for ease of installation and service. The ACRD200 series uses union connectors.

#### 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 and ACRD600P series is equipped with two backward inclined, direct drive fans.

#### **Optional Features**

#### **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.

#### **Cable Water Detector**

A leak detection cable is placed on the floor or sub-floor 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).

#### **Data Partition**

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

#### **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

#### **Height Adapters**

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

#### **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.

#### **Power Trough**

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

#### **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.

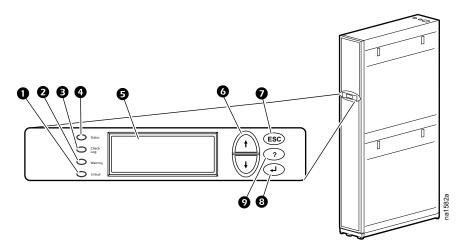
#### **Seismic Latch**

Users must obtain and install this latch kit for deployments that require seismic certification (ACRD100 and ACRD200 series only).

# **Microprocessor Controller**

### **ACRD100 and ACRD200 Series**

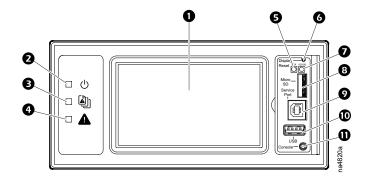
# **Display Interface**



Item	Description	Function
0	Critical alarm LED (red)	When illuminated, a critical alarm condition exists that requires your immediate attention.
0	Warning alarm LED (yellow)	When illuminated, a warning alarm condition exists. Failure to correct this condition could cause a critical alarm.
3	Check log LED (yellow)	When illuminated, 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 this LED.
•	Check log LED (yellow)	When illuminated, the cooling unit is receiving electrical power. When the LED is flashing, the cooling unit is downloading firmware for the controller. This may take a few minutes.
6	Liquid crystal display (LCD)	View alarms, status data, context-sensitive help, and modify configurable items.
0	Up and down arrow keys	Select menu items and access information.
0	ESC key	Return to previous screen or cancel current operation.
8	Enter key	Open menu items and input changes to the cooling unit settings.
•	Help key	Display context-sensitive help. Press the help key for information about each option on the screen and for instructions on performing the tasks.

#### **ACRD600 and ACRD600P Series**

#### **Display Interface**



Item	Description	Function
0	LCD Display	4.3-inch touch-screen color display
0	Power LED	The cooling unit is powered when the LED is illuminated. Unit firmware is updating when LED is blinking.
€	Check Log LED	When this LED is illuminated, a new entry has been made to the event log.
4	Alarm LED	Displays current alarm condition of unit.
6	Status LED	Displays current network management card status.
6	Display Reset button	Resets the display microprocessor. This has no effect on the air conditioner controller.
0	Link-RX/TX (10/100) LED	Displays current network link status.
8	Micro SD card slot	Memory card expansion slot.
9	Service port	USB-B port used only by service personnel.
•	USB-A port	Supports firmware upgrades.
0	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/ACRD200 Series

The back-lit, four-line by twenty-character display is password configurable.

#### **ACRD600 and ACRD600P 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: 15.0–30.2°C (59.0–86.4°F)
- Cool Setpoint: 18.0–32.2°C (64.4–90.0°F)
- Rack Inlet High Temperature Threshold: 10.0–65.6°C (50.0–150.1°F)
- Supply Air High Temperature Threshold: 10.0–65.6°C (50.0–150.1°F)
- Return Air High Temperature Threshold: 10.0–65.6°C (50.0–150.1°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 and ACRD600P 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**

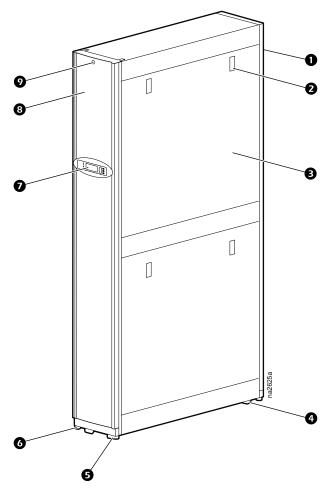
- · Humidifier water conductivity high violation
- · Humidifier fault tolerance exceeded
- · Humidifier low water
- · Humidifier excessive output reduction

- 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

# **Component Identification**

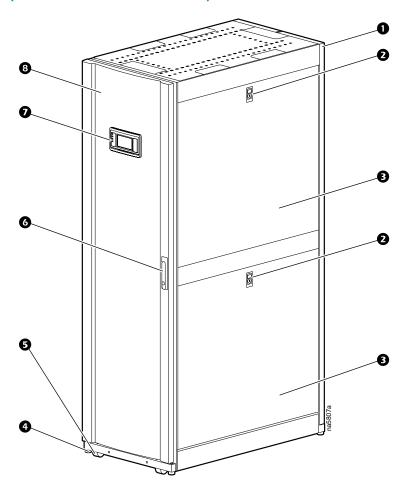
# **External Components**

### **ACRD100 and ACRD200 Series**



Item	Description
0	Removable rear door
2	Side panel latch
3	Removable side panel
•	Rear casters (non-swiveling)
6	Front casters (swiveling)
6	Adjustable leveling foot
Ø	Display interface
8	Removable front door
0	Door lock

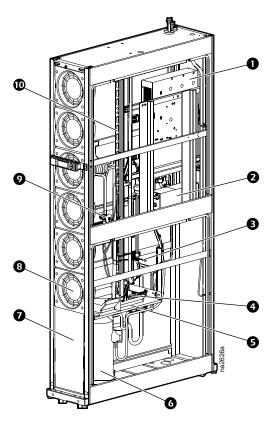
# Front (ACRD60x and ACRD60xP)



ltem	Description
0	Removable rear doors
<b>2</b>	Side panel lock
€	Removable side panel
4	Adjustable leveling foot
6	Caster
6	Door handle and lock
Ø	Display interface
ß	Removable front door

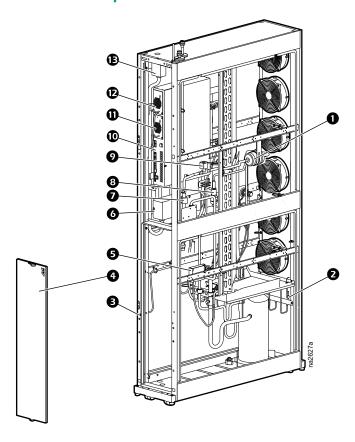
# **Internal Components**

# Internal Components—Front



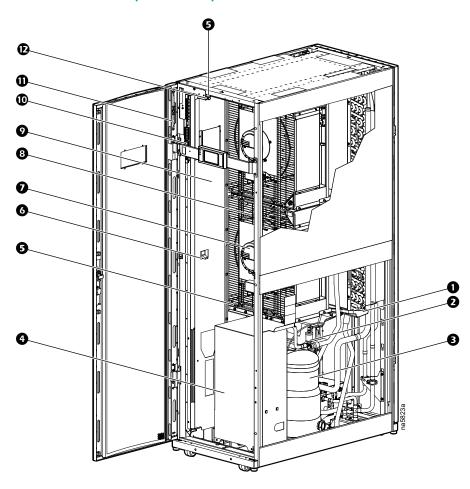
ltem	Description
0	Electrical control box 1
2	Electrical control box 2
€	Temperature sensor (7 total)
4	Condensate pan floats (2)
6	Condensate pan
6	Compressor
Ø	Front air block panel
8	Evaporator fans (6)
0	Expansion valve
•	Evaporator coil

# Internal Components—Rear



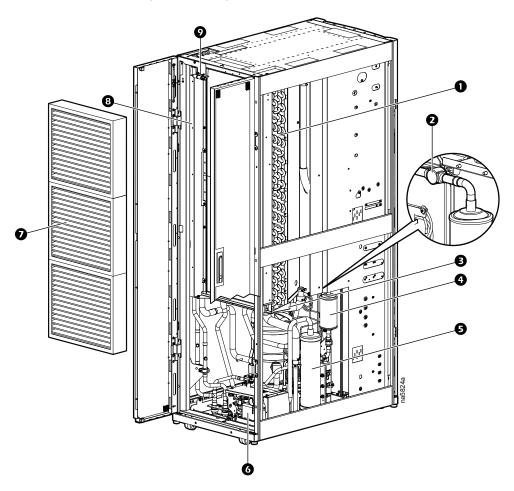
Item	Description
0	Filter drier
2	Pressure transducer (2) (located behind air block)
€	Filter differential pressure port
4	Air filter (2)
•	Condensate pump (2)
6	Electrical control box 2
Ø	Sight glass
8	Hot gas bypass valve
9	Liquid line shutoff solenoid
•	Electrical control box 1
•	Power supply unit #2
<b>©</b>	Power supply unit #1
Œ	Service junction box (top entry shown)

# Front (ACRD60x)



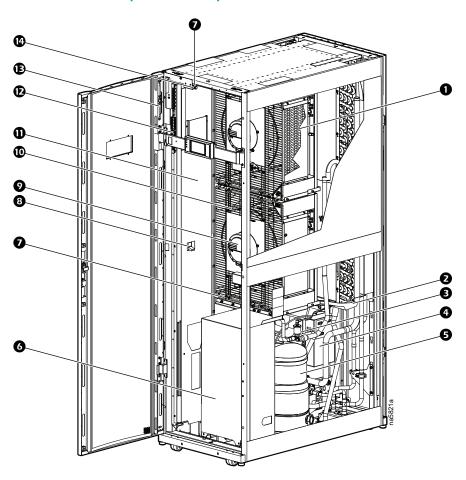
ltem	Description	ltem	Description
0	Condensate drain pan	•	Fan (2)
2	Electronic expansion valve	8	Fan guard (2)
€	Compressor	9	Electrical panel
4	Variable frequency drive for compressor (VFD)	•	Communication and external device connectors
6	Supply air temperature sensor	•	Ground lug
0	Main circuit breaker	<b>©</b>	Humidity sensor

# Rear (ACRD60x)



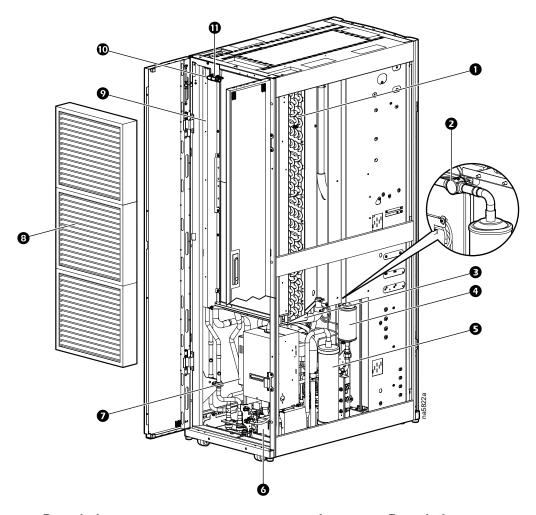
ltem	Description	ltem	Description
0	Evaporator coil	<u> </u>	Condensate pump
2	Sight glass	•	Air filters
3	Condensate drain pan	8	Pipe chase
4	Filter drier	9	Return air temperature sensor
6	Oil separator		

# Front (ACRD60xP)



ltem	Description	Item	Description
0	Electric heater	8	Main circuit breaker
2	Condensate drain pan	9	Fan (2)
3	Electronic expansion valve	•	Fan guard (2)
4	Humidifier	0	Electrical panel
6	Compressor	<b>®</b>	Communication and external device connectors
0	Variable frequency drive for compressor (VFD)	Œ	Ground lug
•	Supply air temperature sensor	•	Humidity sensor

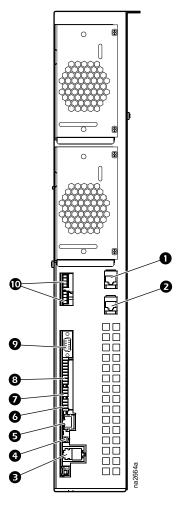
# Rear (ACRD60xP)



ltem	Description	ltem	Description
0	Evaporator coil	<b>0</b>	Humidifier
2	Sight glass	8	Air filters
€	Condensate drain pan	0	Pipe chase
4	Filter drier	•	Humidity sensor
6	Oil separator	0	Return air temperature sensor
6	Condensate pump		

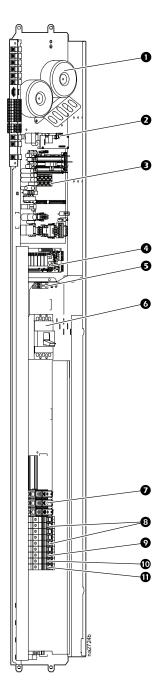
### **Electrical Panels**

### ACRD100 and ACRD200 Series



ltem	Description
0	Leak detector port
2	Remote temperature sensor port
₿	A-Link ports
4	Reset button
6	Network port
6	Building management system (BMS) RS-485 port
Ø	Control RS-485 port
8	Form C and shutdown input
0	RS-232 console port
•	Outdoor heat exchanger (OHE) ports (optional)

#### **ACRD600, ACRD601, ACRD602**

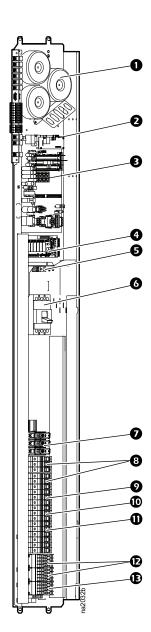


Item	Description
0	Transformers
2	Display interface connectors
<b>⑤</b>	Main controller board
4	Relay board
•	Ground lug
<b>6</b>	Main circuit breaker
•	Compressor fuse block (ACRD600, ACRD601) Compressor circuit breaker (ACRD602)
8	Fan circuit breakers
0	Fuse not populated
•	Transformer A fuse
•	Transformer C/MB fuse

**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



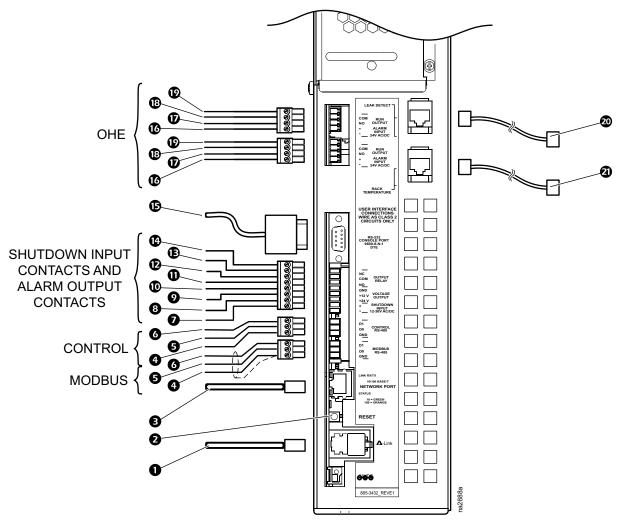


Item	Description
0	Transformers
<b>2</b>	Display interface connectors
€	Main controller board
4	Relay board
6	Ground lug
6	Main circuit breaker
0	Compressor fuse block (ACRD600P, ACRD601P) Compressor circuit breaker (ACRD602P)
8	Fan circuit breakers
9	Controller fuse
<b>10</b>	Heater circuit breaker
•	Humidifier circuit fuse
<b>®</b>	Heater contactors
Œ	Humidifier contactor

**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

# **Customer Interface Connections—ACRD100 and ACRD200 Series**



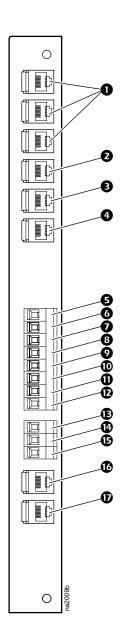
Item	Description	Item	Description
0	A-Link ports: Pin 1 = High; pin 2 = Low; Pins 3,6 = Perf Power; Pins 4, 5 = Ground	Ð	NO (normally open contact)
2	Reset button	Œ	COM (common contact)
€	Network port	<b>@</b>	NC (normally closed contact)
<b>4</b>	Shield/ground	Œ	RS-232 console port
5	RTRX(-)	•	OHE (outdoor heat exchanger) alarm input - (not used)
6	RTRX(+)	Ū	OHE alarm input + (not used)
Ø	Shutdown –	®	OHE COM (optional*)
8	Shutdown +	10	OHE NO port (optional*)
0	24 VDC (bias)	20	Leak detector port (AP9325)
Ō	12 VDC (bias)	20	Remote temperature sensor
m	Return (bias)	•	·

<sup>\*</sup>To avoid unnecessary condenser operation when the ambient temperature exceeds 43°C (110°F), connect these leads.

# **Customer Interface Connections—ACRD600 and ACRD600P Series**

NOTE: Wire all input and output connections as Class 2 circuits.

Depending on the configuration, additional customer interface connections may be required for the A-Link remote communications through the Network Management Card support or traditional equipment-monitoring software.



Item	Description
0	Rack inlet temperature sensors 1, 2, 3
2	A-Link IN
€	A-Link OUT
4	Network port
6	Customer output, NC (normally closed)
6	Customer output, COM (common)
0	Customer output, NO (normally open)
8	Supply GND (Ground)
9	Supply 12 VDC (current limit: 20 mA)
•	Supply 24 VDC (current limit: 20 mA)
•	Customer input + (12–30 VAC/VDC, 24 VDC @ 11 mA)
<b>®</b>	Supply COM
Œ	RTRX(-)
<b>(</b>	RTRX(+)
<b>©</b>	Modbus GND
<b>©</b>	Supply air temperature sensor (front)
<b>©</b>	Supply air humidity sensor (front)

ltem	Description		
0	Rack inlet temperature sensors 1, 2,	Three temperature sensors which must be installed on	
	3	the cold aisle side of the server racks. See	
2	A-Link IN	In and out connections for A-Link. The terminators	
3	A-Link OUT	supplied with the equipment must be plugged into the first A-link port and the final A-Link port for the group.	
•	Network port	<ul> <li>10/100 Base-T Network port. Connects the equipment to the network; Status and Link LEDs indicate network traffic.</li> <li>Status LED—blinks orange and green at startup; indicates the status of the network connection (solid green—IP address established; blinking green— attempting to obtain an IP address).</li> </ul>	
		<ul> <li>Link LED—blinks to indicate network traffic (green         — operating at at 10 mbps; orange—operating at         100</li> </ul>	
5	Customer output, NC (normally closed)	Customer-configurable output relay which can be activated for all types of alarms or critical alarms. The relay can be connected to external equipment using 30 VAC/VDC, 2 A.	
0	Customer output, COM (common)		
0	Customer output, NO (normally open)	30 VAC/VDC, 2 A.	
8	Supply GND (Ground)	Can be used for customer input and output interface.	
0	Supply 12 VDC (current limit: 20 mA)	Can be used for customer input and output interface. Current limit is 20 mA.	
•	Supply 24 VDC (current limit: 20 mA)	Can be used for customer input and output interface. Current limit is 20 mA.	
0	Customer input + (12–30 VAC/VDC, 24 VDC @ 11 mA)	Used for remote shutdown of an InRow DX unit. Voltage is applied from the internal power supply or by using an external power supply.	
<b>®</b>	Supply COM	Ground connection point for remote shutdown supply source.	
Œ	RTRX(-)	Connections for Building Management System. Wire a	
12	RTRX(+)	150-Ohm terminator resistor (supplied) into the final	
Œ	Modbus GND	InRow DX unit, between Modbus D0 and Modbus D1.	
•	Supply air temperature sensor (front)	Temperature sensor installed on the front of the equipment.	
<b>O</b>	Supply air humidity sensor (front)	Humidity sensor installed on the front of the equipment.	

# **Performance Specifications**

#### **Net Cooling Capacity**

#### Air-Cooled and Glycol-Cooled Units

	Cooling Performance at a Fix	ed Compressor Speed	
Return Air Temperature	Model	Total Capacity – kW (BTU/ hr)	Sensible Capacity – kW (BTU/hr)
	ACRD100	8.22 (28,000)	8.04 (27,000)
	ACRD101	8.01 (27,000)	7.71 (26,000)
22.2°C DB, 15.5°C WB (72.0°F DB, 60.0°F WB)	ACRD200	8.22 (28,000)	8.04 (27,000)
,	ACRD201	8.01 (27,000)	7.71 (26,000)
	ACRD600, ACRD600P	26.87 (92,000)	21.03 (72,000)
	ACRD100	8.52 (29,000)	8.52 (29,000)
	ACRD101	8.16 (28,000)	8.16 (28,000)
23.9°C DB, 16.2°C WB (75.0°F DB, 61.1°F WB)	ACRD200	8.52 (29,000)	8.52 (29,000)
,	ACRD201	8.16 (28,000)	8.16 (28,000)
	ACRD600, ACRD600P	27.78 (95,000)	22.99 (79,000)
	ACRD100	10.02 (34,000)	9.12 (31,000)
	ACRD101	9.72 (33,000)	8.85 (30,000)
26.7°C DB, 19.4°C WB (80.0°F DB, 67.0°F WB)	ACRD200	10.02 (34,000)	9.12 (31,000)
,	ACRD201	9.72 (33,000)	8.85 (30,000)
	ACRD600, ACRD600P	N/A	N/A
	ACRD100	9.36 (32,000)	9.36 (32,000)
	ACRD101	8.97 (31,000)	8.97 (31,000)
26.7°C DB, 17.1°C WB (80.0°F DB, 62.8°F WB)	ACRD200	10.02 (34,000)	9.12 (31,000)
,	ACRD201	9.72 (33,000)	8.85 (30,000)
	ACRD600, ACRD600P	28.94 (99,000)	26.55 (92,000)
	ACRD100	9.90 (34,000)	9.90 (34,000)
	ACRD101	9.69 (33,000)	9.69 (33,000)
29.4°C DB, 18.1°C WB (85.0°F DB, 64.6°F WB)	ACRD200	9.90 (34,000)	9.90 (34,000)
,	ACRD201	9.69 (33,000)	9.69 (33,000)
	ACRD600, ACRD600P	30.19 (103,000)	29.72 (99,000)

NOTE: For ACRD100, ACRD600, and ACRD600P 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).

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<sup>1</sup>Airflow is reduced to 887 l/s (1880 SCFM) at this condition to maintain adequate evaporating temperature. 2Airflow is reduced to 717 l/s (1520 SCFM) at this condition to maintain adequate evaporating temperature. 3Airflow is reduced to 599 l/s (1270 SCFM) at this condition to maintain adequate evaporating temperature. 4Airflow is reduced to 510 l/s (1080 SCFM) at this condition to maintain adequate evaporating temperature. 5Airflow is reduced to 448 l/s (950 SCFM) at this condition to maintain adequate evaporating temperature. 4Airflow reduced to 3300 SCFM at this condition to maintain adequate return gas temperature.

<sup>\*</sup>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 and ACRD600P series—1900 l/s (4000 SCFM) Minimum recommended loads: ACRD100/200 series—2 kW (6831 BTU); ACRD600 and ACRD600P series—8 kW (34,152 BTU)

Cooling Performance at a Fixed Compressor Speed							
Return Air Temperature	Model	Total Capacity – kW (BTU/ hr)	Sensible Capacity – kW (BTU/hr)				
	ACRD100 <sup>1</sup>	10.44 (36,000)	10.44 (36,000)				
32.2°C DB, 19.0°C WB (90.0°F DB, 66.2°F WB)	ACRD1011	10.29 (35,000)	10.29 (35,000)				
	ACRD2001	10.44 (36,000)	10.44 (36,000)				
	ACRD2011	10.29 (35,000)	10.29 (35,000)				
	ACRD600, ACRD600P	31.96 (109,000)	31.96 (109,000)				
35.0°C DB, 19.9°C WB (95.0°F DB, 67.8°F WB)	ACRD100 <sup>2</sup>	10.62 (36,000)	10.62 (36,000)				
	ACRD101 <sup>2</sup>	ACRD101 <sup>2</sup> 10.50 (36,000)					
	ACRD200 <sup>2</sup>	ACRD200 <sup>2</sup> 10.62 (36,000)					
	ACRD201 <sup>2</sup>	10.50 (36,000)	10.50 (36,000)				
	ACRD600, ACRD600P	33.97 (116,000)	33.97 (116,000)				
37.8°C DB, 20.7°C WB (100.0°F DB, 69.3°F WB)	ACRD100 <sup>3</sup>	10.62 (36,000)	10.62 (36,000)				
	ACRD101 <sup>3</sup>	10.50 (36,000)	10.50 (36,000)				
	ACRD200 <sup>3</sup>	10.62 (36,000)	10.62 (36,000)				
	ACRD201 <sup>3</sup>	10.50 (36,000)	10.50 (36,000)				
	ACRD600, ACRD600P	35.91 (123,000)	35.91 (123,000)				
	ACRD100 <sup>4</sup>	10.56 (36,000)	10.56 (36,000)				
	ACRD1014	10.5 (36,000)	10.5 (36,000)				
40.6°C DB, 21.6°C WB) (105.0°F DB, 70.8°F WB	ACRD200 <sup>4</sup>	10.56 (36,000)	10.56 (36,000)				
	ACRD2014	10.5 (36,000)	10.5 (36,000)				
	ACRD600, ACRD600P*	35.55 (121,000)	35.55 (121,000)				
	ACRD100⁵	10.6 (36,000)	10.6 (36,000)				
	ACRD101⁵	10.5 (36,000)	10.5 (36,000)				
43.3°C DB, 22.2°C WB) (110.0°F DB, 72.0°F WB	ACRD200⁵	10.6 (36,000)	10.6 (36,000)				
	ACRD201⁵	10.5 (36,000)	10.5 (36,000)				
	ACRD600, ACRD600P**	35.57 (121,000)	35.57 (121,000)				

<sup>1</sup>Airflow is reduced to 887 l/s (1880 SCFM) at this condition to maintain adequate evaporating temperature.

NOTE: For ACRD100, ACRD600, and ACRD600P 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).

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<sup>&</sup>lt;sup>2</sup>Airflow is reduced to 717 l/s (1520 SCFM) at this condition to maintain adequate evaporating temperature.

<sup>&</sup>lt;sup>3</sup>Airflow is reduced to 599 l/s (1270 SCFM) at this condition to maintain adequate evaporating temperature. <sup>4</sup>Airflow is reduced to 510 l/s (1080 SCFM) at this condition to maintain adequate evaporating temperature.

<sup>&</sup>lt;sup>5</sup>Airflow is reduced to 448 l/s (950 SCFM) at this condition to maintain adequate evaporating temperature.

<sup>\*</sup>Airflow reduced to 3300 SCFM at this condition to maintain adequate return gas temperature.

<sup>\*\*</sup>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 and ACRD600P series—1900 l/s (4000 SCFM) Minimum recommended loads: ACRD100/200 series—2 kW (6831 BTU); ACRD600 and ACRD600P series—8 kW (34,152 BTU)

#### **Water-Cooled Units**

	Cooling Performance at a Fixed Compressor Speed						
Return Air Temperature	Model	Total Capacity – kW (BTU/ hr)	Sensible Capacity – kW (BTU/hr)				
22.2°C DB, 15.5°C WB (72.0°F DB,	ACRD200	9.72 (33,000)	8.94 (31000)				
60.0°F WB)	ACRD201	9.57 (33,000)	8.79 (30,000)				
23.9°C DB, 16.2°C WB (75.0°F DB, 61.1°F WB)	ACRD200	8.43 (32,000)	8.43 (32,000)				
	ACRD201	9.30 (32,000)	9.30 (32,000)				
26.7°C DB, 19.4°C WB (80.0°F DB, 67.0°F WB)	ACRD200	11.52 (39,000)	9.90 (34,000)				
	ACRD201	11.64 (40,000)	9.99 (34,000)				
26.7°C DB, 17.1°C WB (80.0°F DB, 62.8°F WB)	ACRD200	10.38 (35,000)	10.38 (35,000)				
	ACRD201	10.11 (35,000)	10.11 (35,000)				
29.4°C DB, 18.1°C WB (85.0°F DB,	ACRD200	10.92 (37,000)	10.92 (37,000)				
64.6°F WB)	ACRD201	10.98 (38,000)	10.98 (38,000)				
Airflow is reduced to 887 l/s (1880 SCF	M) at the condition below to ma	aintain adequate evaporating te	mperature.				
32.2°C DB, 19.0°C WB (90.0°F DB,	ACRD200	11.64 (40,000)	11.64 (40,000)				
66.2°F WB)	ACRD201	11.76 (40,000)	11.76 (40,000)				
Airflow is reduced to 717 l/s (1520 SCF	M) at the condition below to ma	aintain adequate evaporating te	mperature.				
35.0°C DB, 19.9°C WB (95.0°F DB,	ACRD200	12.00 (41,000)	12.00 (41,000)				
67.8°F WB)	ACRD201	12.00 (41,000)	12.00 (41,000)				
Airflow is reduced to 599 l/s (1270 SCF	M) at the condition below to ma	aintain adequate evaporating te	mperature.				
37.8°C DB, 20.7°C WB (100.0°F DB,	ACRD200	12.06 (41,000)	12.06 (41,000)				
69.3°F WB)	ACRD201	12.00 (41,000)	12.00 (41,000)				
Airflow is reduced to 510 l/s (1080 SCF	M) at the condition below to ma	aintain adequate evaporating te	mperature.				
40.6°C DB, 21.6°C WB) (105.0°F DB,	ACRD200	12.06 (41,000)	12.00 (41,000)				
70.8°F WB	ACRD201	12.00 (41,000)	12.00 (41,000)				
Airflow is reduced to 448 l/s (950 SCFM	l) at the condition below to mai	ntain adequate evaporating ten	perature.				
43.3°C DB, 22.2°C WB) (110.0°F DB,	ACRD200	12.06 (41,000)	12.06 (41,000)				
72.0°F WB	ACRD201	12.06 (41,000)	12.06 (41,000)				

Airflow for the ACRD200 series is 1081 l/s (2290 SCFM) at full evaporating fan speed.

NOTE: Minimum recommended loads: ACRD200 series—2 kW (6831 BTU)

**NOTE:** For ACRD200 series, a 0.64 l/s (10 gpm) entering water temperature is 29.4°C (85°F).

# Performance at Percentage of Fan Speed

# **ACRD100 Series**

Fan Speed – %	Voltage/Ph/Hz	Air Flow – L/S (SCFM)	Unit Power – kW	Condenser Fan Power – kW	Net Sensible Capacity – kW (BTU/h)	Supply Air Temp – ° C (°F)
Return Air Tempe	rature—29.4°C (85°	°F)		I		
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)
	200-240/1/60	850 (1800)	3.04	0.38	8.70 (29,712)	20.8 (69.5)
80	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 Tempe	rature—35°C (95°F	)		1		
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
70	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
	200-240/1/60	N/A	N/A	N/A	N/A	N/A
90	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

	Cooling Performance at a Target Supply Air Temperature of 20.8°C (69.5°F) when Possible										
Fan Speed – %	Voltage/Ph/Hz	Air Flow – L/S (SCFM)	Unit Power – kW	Condenser Fan Power – kW	Net Sensible Capacity – kW (BTU/h)	Supply Air Temp – ° C (°F)					
Return Air Tempe	rature—40.6°C (10	5°F)									
00	200-240/1/60	449 (050)	2.78	0.47	10.20 (34,835)	21.3 (70.4)					
30	200-240/1/50	448 (950)	2.78	0.48	10.00 (34,152)	21.6 (70.9)					
40	200-240/1/60	500 (4400)	2.85	0.51	10.56 (36,064)	24.8 (76.6)					
40	200-240/1/50	562 (1190)	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					
50	200-240/1/50	N/A	N/A	N/A	N/A	N/A					
60	200-240/1/60	N/A	N/A	N/A	N/A	N/A					
00	200-240/1/50	IN/A	N/A	N/A	N/A	N/A					
70	200-240/1/60	N/A	N/A	N/A	N/A	N/A					
70	200-240/1/50	IN/A	N/A	N/A	N/A	N/A					
80	200-240/1/60	N/A	N/A	N/A	N/A	N/A					
60	200-240/1/50	IN/A	N/A	N/A	N/A	N/A					
90	200-240/1/60	N/A	N/A	N/A	N/A	N/A					
90	200-240/1/50	IN/A	N/A	N/A	N/A	N/A					
100	200-240/1/60	N/A	N/A	N/A	N/A	N/A					
100	200-240/1/50	IN/A	N/A	N/A	N/A	N/A					

### **ACRD200 Series**

Fan Speed – %	Voltage/Ph/Hz	Air Flow – L/S (SCFM)	Unit Power – kW	Net Sensible Capacity – kW (BTU/h)	Supply Air Temp - °C (°F)
Return Air Temperatu	re—29.4°C (85°F)				
200-240/1/60		440 (050)	2.35	4.60 (15,710)	20.8 (69.5)
30	200-240/1/50	448 (950)	2.25	4.60 (15,710)	20.8 (69.5)
40	200-240/1/60	F00 (4400)	2.41	5.76 (19,671)	20.8 (69.5)
40	200-240/1/50	562 (1190)	2.31	5.76 (19,671)	20.8 (69.5)
	200-240/1/60	0.47 (4.070)	2.47	6.63 (22,643)	20.8 (69.5)
50	200-240/1/50	947 (1370)	2.37	6.63 (22,643)	20.8 (69.5)
	200-240/1/60	-4-44-00)	2.55	7.36 (25,136)	20.8 (69.5)
60	200-240/1/50	717 (1520)	2.45	7.36 (25,136)	20.8 (69.5)
	200-240/1/60	770 (40-2)	2.60	8.00 (27,321)	20.8 (69.5)
70	200-240/1/50	779 (1650)	2.50	8.00 (27,321)	20.8 (69.5)
	200-240/1/60	850 (1800)	2.68	8.70 (29,712)	20.8 (69.5)
80	200-240/1/50		2.58	8.70 (29,712)	20.8 (69.5)
	200-240/1/60		2.80	9.70 (33,127)	20.8 (69.5)
90	200-240/1/50	944 (2000)	2.70	9.70 (33,127)	20.8 (69.5)
	200-240/1/60		3.06	10.90 (37,225)	21.0 (69.8)
100	200-240/1/50	1081 (2290)	3.00	10.98 (37,499)	20.9 (69.7)
Return Air Temperatu	re—35°C (95°F)	l			
	200-240/1/60	440 (050)	2.25	7.50 (25,614)	20.8 (69.5)
30	200-240/1/50	448 (950)	2.25	7.50 (25,614)	20.8 (69.5)
	200-240/1/60	500 (4400)	2.31	9.50 (32.444)	20.8 (69.5)
40	200-240/1/50	562 (1190)	2.31	9.50 (32.444)	20.8 (69.5)
	200-240/1/60	0.47 (4.070)	2.37	10.50 (35,859)	21.2 (70.2)
50	200-240/1/50	947 (1370)	2.37	10.50 (35,859)	21.2 (70.2)
	200-240/1/60	-4-44-00)	2.50	11.35 (38,762)	21.8 (71.3)
60	200-240/1/50	717 (1520)	2.45	11.35 (38,762)	21.8 (71.3)
	200-240/1/60	(10-0)	2.61	11.75 (40,128)	22.4 (72.4)
70	200-240/1/50	779 (1650)	2.50	11.75 (40,128)	22.4 (72.4)
	200-240/1/60		2.71	12.00 (40,982)	23.2 (73.7)
80	200-240/1/50	850 (1800)	2.58	12.00 (40,982)	23.2 (73.7)
22	200-240/1/60		N/A	N/A	N/A
90	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
100	200-240/1/50	IN/A	N/A	N/A	N/A

Ean Croad 0/	Voltogo/Ph/Hz	Air Flow – L/S	Unit Power – kW	Net Sensible	Cupply Air Tomp
Fan Speed – %	Voltage/Ph/Hz	(SCFM)	Unit Power – KW	Capacity – kW (BTU/h)	Supply Air Temp – °C (°F)
Return Air Temperatu	re—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 2	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 Humidification/No Reheat)

Cooling Performance at a Target Supply Air Temperature of 20.8°C (69.5°F) when Possible									
Fan Speed – %	Air Flow – L/S (SCFM)	Unit Power – kW	Condenser Fan Power – kW	Net Sensible Capacity – kW (BTU/h)	Supply Air Temp – °C (°F)				
Return Air Temperatu	ure—29.4°C (85°F)				•				
30	600 (1200)	2.89	0.96	11.3 (38,583)	12.9 (55.2)*				
40	800 (1600)	2.93	0.98	13.1 (44,729)	15.0 (59.0)*				
50	900 (2000)	2.98	1.00	13.9 (47,461)	17.2 (63.0)*				
60	1100 (2400)	3.12	1.02	14.5 (49,509)	18.8 (65.8)*				
70	1300 (2800)	3.86	1.05	17.1 (58,387)	18.7 (65.7)				
80	1500 (3200)	4.11	1.05	17.4 (59,411)	19.9 (67.8)				
90	1700 (3600)	5.01	1.05	19.72 (67,332)	19.8 (67.6)				
100	1900 (4000)	5.78	1.05	19.9 (67,947)	20.8 (69.4)				
Return Air Temperatu	ure—35°C (95°F)				1				
30	600 (1200)	2.88	0.99	13.4 (45,753)	15.4 (59.7)*				
40	800 (1600)	2.91	1.02	14.87 (50,773)	18.7 (65.7)*				
50	900 (2000)	3.54	1.05	17.9 (61,118)	19.3 (66.7)				
60	1100 (2400)	4.29	1.05	20.9 (71,361)	19.8 (67.6)				
70	1300 (2800)	5.14	1.05	23.6 (80,580)	20.3 (68.5)				
80	1500 (3200)	6.07	1.05	26.0 (88,775)	20.8 (69.4)				
90	1700 (3600)	7.09	1.05	29.2 (99,701)	20.8 (69.4)				
100	1900 (4000)	9.50	1.05	32.9 (112,260)	20.8 (69.4)				
Return Air Temperatu	ure—40.6°C (105°F)				1				
30	600 (1200)	2.86	1.02	14.9 (50,875)	18.8 (65.8)*				
40	800 (1600)	4.08	1.05	20.4 (69,654)	18.3 (64.9)				
50	900 (2000)	4.80	1.05	23.9 (81,605)	19.7 (67.5)				
60	1100 (2400)	6.36	1.05	28.7 (97,994)	19.6 (67.3)				
70	1300 (2800)	7.33	1.05	31.7 (108,165)	20.8 (69.4)				
80	1500 (3200)	9.19	1.05	36.1 (123,178)	20.8 (69.4)				
90	1700 (3600)	11.57	1.05	40.7 (138,874)	20.8 (69.4)				
100	1900 (4000)	12.47	1.05	41.9 (142,969)	22.5 (72.5)				

NOTE: Outdoor temperature is 35°C (95°F).

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<sup>\*</sup>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%.

### **General Data**

## General Specifications—ACRD200 Series

Data	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
Temperature range of fluid entering the unit at a flow rate of 0.64 l/s (10 GPM) – °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 Specifications**

Model	ACRD200 Series
Air System—Fan (Standard Filter Installed)	·
Size – mm (in.)	200 (7.9)
Air Volume – I/s (SCFM)	1080 (2290)
Fan Motor – W (HP) each	115 (0.15)
Number of Fans	6
Cooling Coil—Copper Tube/Aluminum Fin	
Face Area – m² (ft²)	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 (lb)	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. ODF brazed
Return	7/8-in. ODF brazed
Condensate Drain	
Drain Line	3/16-in. ID, 5/16-in. OD
Refrigerant	
Туре	R410A
Charge – kg (oz)	2.2 (78)

## **Air-Cooled Unit Specifications**

Data	Model	Value
Air System—Fan (Standard Filter Installed)		
Siza mm (in )	ACRD100 series	200 (7.9)
Size – mm (in.)	ACRD600, ACRD600P series	400 (15.8)
Air Volume 1/a (CCFM)	ACRD100 series	1080 (2290)
Air Volume – I/s (SCFM)	ACRD600, ACRD600P series	1900 (4000)
For Mater, W//ID) and	ACRD100 series	115 (0.15)
Fan Motor – W (HP) each	ACRD600, ACRD600P series	1100 (1.5)
Number of Fore	ACRD100 series	6
Number of Fans	ACRD600, ACRD600P series	2
Cooling Coil—Copper Tube/Aluminum Fin		
Face Area – m² (ft²)	ACRD100 series	0.37 (3.97)
Tace Area - III- (II-)	ACRD600, ACRD600P series	0.56 (6.0)
Rows Deep	ACRD100 series	2
Nows Deep	ACRD600, ACRD600P series	4
Filters—Washable (Standard)		
Quantity		2
Size – mm (in.)	ACRD100 series	238 X 933 (9.375 X 36.75)
Depth – mm (in.)	ACRD 100 series	13 (1/2)
Efficiency (%)		<20% MERV 1
Filters—Pleated (Standard)		
Quantity		3
Size – mm (in.)	ACRD600, ACRD600P series	418 x 470 (16.45 x 18.5)
Depth – mm (in.)	ACRDOOU, ACRDOOUF Selles	101.6 (4)
Efficiency (%)		30
Filters—Pleated (Optional)		
Quantity		2
Size – mm (in.)	A OPP 400 parties	238 X 933 (9.375 X 36.75)
Depth – mm (in.)	ACRD100 series	51 (2)
Efficiency (%)		30% MERV 8
Filters—Pleated (Optional)		
Quantity		3
Size – mm (in)	ACRDCCC ACRDCCCC	418 x 470 (16.45 x 18.5)
Depth – mm (in.)	ACRD600, ACRD600P series	101.6 (4)
Efficiency (%)		85

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

### **Altitude Correction Factors**

	Room Conditions: 22°C (72°F) DB/50%RH										
Altitude – m (ft)	Specific Volume – cm <sup>3</sup> / kg (ft <sup>3</sup> /lb)	Density –g/m³ (lb/ft³)	Density Ratio*	Capacity Correction**							
0 (0)	847.77 (13.58)	1185.37 (0.074)	1.000	1.000							
305 (1000)	879.61 (14.09)	1137.31 (0.071)	0.964	0.981							
610 (2000)	912.70 (14.62)	1089.26 (0.068)	0.929	0.962							
915 (3000)	947.66 (15.18)	1057.22 (0.066)	0.895	0.933							
1219 (4000)	983.86 (15.76)	1009.16 (0.063)	0.862	0.913							
1524 (5000)	1021.32 (16.36)	977.13 (0.061)	0.830	0.884							
1829 (6000)	1061.28 (17.00)	945.10 (0.059)	0.799	0.865							
2134 (7000)	1103.10 (17.67)	913.05 (0.057)	0.769	0.846							
2438 (8000)	1146.80 (18.37)	865.00 (0.054)	0.739	0.826							
2743 (9000)	1193.00 (19.11)	832.97 (0.052)	0.711	0.807							
3048 (10,000)	1241.69 (19.89)	80.92 (0.050)	0.683	0.787							

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<sup>\*</sup>Density ratio is used for air flow correction factor.
\*\*Capacity correction is used to de-rate performance.

#### **Electrical Data**

				Compressor		
Model	MCA**	MOP**	FLA**	LRA	RLA	Power
ACRD100—208-240 V, 1 Ph, 60 Hz	25.0	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	25.0	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	52.6	80	N/A	29.7*	36.6	14.6
ACRD601—460-480 V, 3 Ph, 60 Hz	24.4	40	N/A	28.1*	16.6	14.6
ACRD602—380-415 V, 3 Ph, 50/60 Hz	31.1	50	25.2	28.1*	16.6	14.6
ACRD600P—200-240 V, 3 Ph, 50/60 Hz	78.6	110	N/A	29.7*	36.6	23.5
ACRD601P—460-480 V, 3 Ph, 60 Hz	36.9	50	N/A	28.1*	16.6	23.5
ACRD602P—380-415 V, 3 Ph, 50/60 Hz	45.8	60	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 (102°F) DB, 11.1°C (52.0°F) DP, 46.0°C (115.0°F) ambient, 100% fan speed, 78 Hz 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.

<sup>\*</sup> The compressor is powered by the VFD.

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

### **Sound Data**

#### **ACRD100 and ACRD200 Series Tested Sound Data**

Fan Speed – %	Fan – RPM	Airflow – m³/ s (SCFM)		Sound Power dB at Frequency – Hz re: 10 <sup>-12</sup> 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

<sup>\*</sup>Weighted sound pressure dBA in a 28.3  $\rm m^3$  (1000  $\rm ft^3$ ) room at 1.5 m (5-ft) distance. \*\*Based on compressor operating at full speed.

### ACRD600 and ACRD600P Series Air-Cooled Tested Sound Data

Fan Speed – %	Airflow – m³/s (SCFM)		Sound Power dB at Frequency – Hz re: 10 <sup>-12</sup> W							
		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

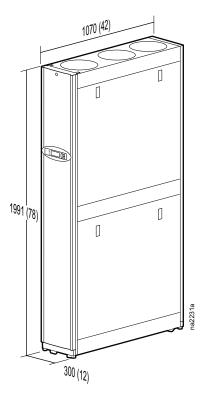
<sup>\*</sup>Weighted sound pressure dBA in a 28.3 m³ (1000 ft³) room at 1.5 m (5-ft) distance. \*\*Based on compressor operating at full speed.

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## **Dimensions and Weights**

### **ACRD100 and ACRD200 Series**

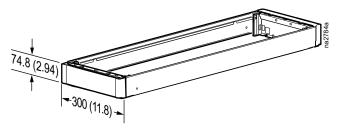
### **Cooling Units**



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

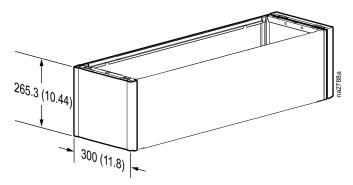
Model	Packaged Weight – kg (lb)	Unpackaged Weight – kg (lb)		
ACRD100, ACRD101	221.0 (488.0)	183.0 (404.0)		
ACRD200, ACRD201	237.1 (522.7)	199.1 (438.0)		

### **NetShelter SX to VX Height Adapter**



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

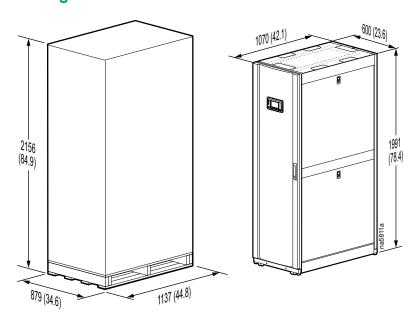
## NetShelter SX to 48-U SX Height Adapter



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

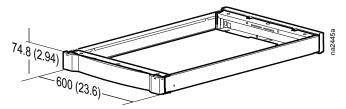
### **ACRD600 and ACRD600P Series**

### **Cooling Units**



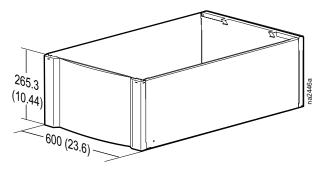
Model	Net Weight – kg (lb)	Shipping Weight – kg (lb)
ACRD600	402 (886)	447 (986)
ACRD601	391 (862)	436 (961)
ACRD602	391 (862)	436 (961)
ACRD600P	413 (911)	458 (1,010)
ACRD601P	402 (886)	447 (986)
ACRD602P	402 (886)	447 (986)

## **NetShelter SX to VX Height Adapter**



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

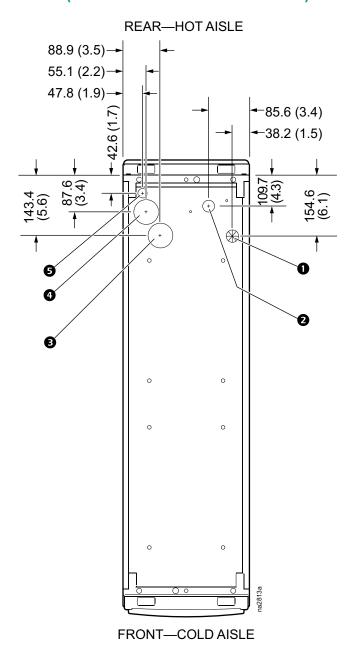
## NetShelter SX to 48-U SX Height Adapter



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

### **Piping and Electrical Access Locations**

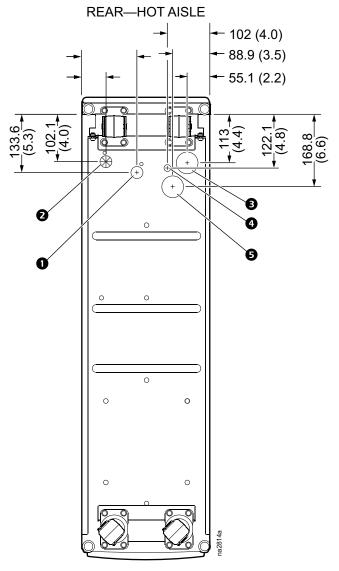
## Top Piping and Power Access Locations—Top View, Looking Down (ACRD100 and ACRD200 Series)



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

Item	Description
0	Low voltage wiring input
2	Electrical input
€	Hot gas discharge line (ACRD100 series) Water/glycol out (ACRD200 series)
4	Liquid line (ACRD100 series) Water/glycol in (ACRD200 series)
•	Condensate pump outlet

## Bottom Piping and Power Access Locations—Bottom View, Looking Up (ACRD100 and ACRD200 Series)

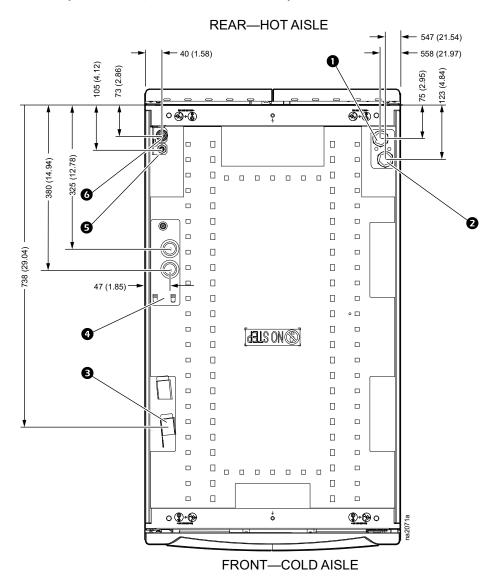


FRONT—COLD AISLE

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

ltem	Description
0	Electrical input
2	Low voltage wiring input
3	Liquid line (ACRD100 series) Water/glycol in (ACRD200 series)
4	Condensate pump outlet
•	Hot gas discharge line (ACRD100 series) Water/glycol out (ACRD200 series)

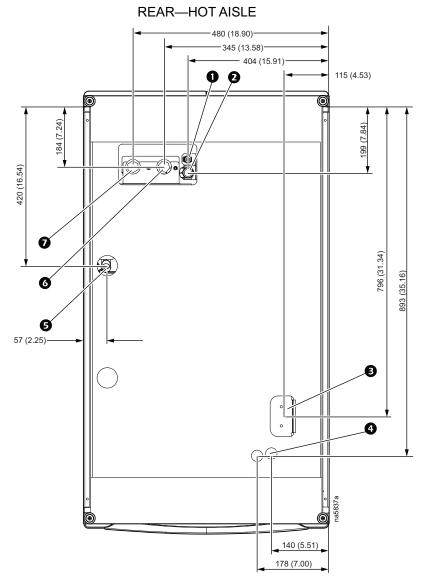
## Top Piping and Power Access Locations—Top View, Looking Down (ACRD600, ACRD600P Series)



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

Item	Description
0	Refrigerant discharge line
2	Refrigerant liquid line
8	Trough for communication cables
•	Power connections
6	Humidifier water supply (ACRD600P series only)
6	Condensate drain line outlet

# Bottom Piping and Power Access Locations—Bottom View, Looking Up (ACRD600, ACRD600P Series)

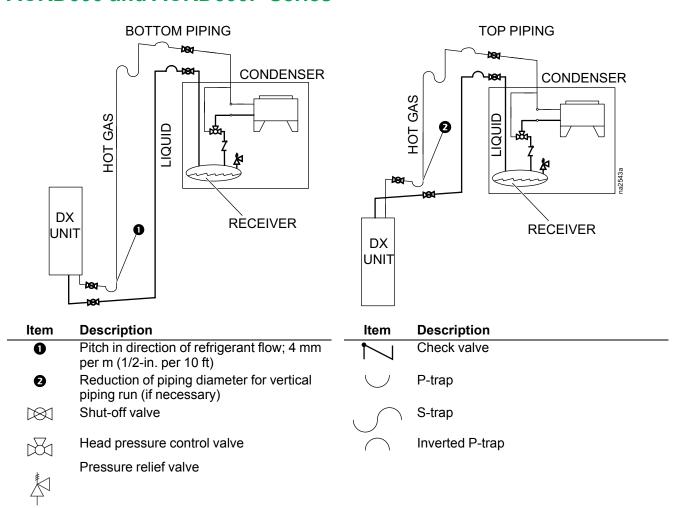


FRONT—COLD AISLE

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

Item	Description
0	Humidifier water supply (ACRD600P series only)
2	Condensate drain line outlet
3	Power connections
4	Communication connections—27.80 mm (1.09 in.)
6	Condensate overflow—50.00 mm (1.97 in.)
6	Refrigerant discharge line
0	Refrigerant liquid line

### ACRD600 and ACRD600P Series



NOTE: All lines are Type L ACR copper tubing.

**NOTE:** Shutoff valves shown nearest to the condenser are provided in receiver kit.

**NOTE:** Route piping through the top or bottom of the InRow DX.

**NOTE:** Trap the vertical discharge line every 6 m (20 ft) to ensure proper oil return

**NOTE:** The maximum piping run is 91 m (300 ft) equivalent length. Size the piping pursuant to accepted refrigeration practice.

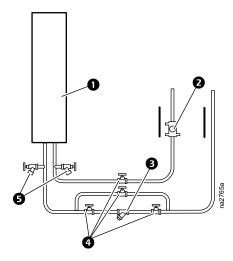
**NOTE:** The condenser can be placed up to 4.5 m (15 ft) below the indoor cooling unit for equivalent line lengths of 8 m (25 ft) or less.

For Condensers Mounted Below the Level of the Indoor Unit									
Piping Equivalent Length – m (ft)         91 (300)         76 (250)         61 (200)         46 (150)         30 (100)         15 (50)         8 (25)							8 (25)		
Allowable Distance From Bottom of Condenser to Bottom of Indoor Unit* – m (ft)	0.3 (1)	1.5 (5)	2.1 (7)	2.7 (9)	3.3 (11)	3.9 (13)	4.5 (15)		

<sup>\*</sup>When condenser is installed below unit level, use 7/8 in. pipe for liquid line.

**NOTE:** The condenser can be placed higher than indoor cooling unit but height shall be no more than 27 m (90 ft), regardless of piping length.

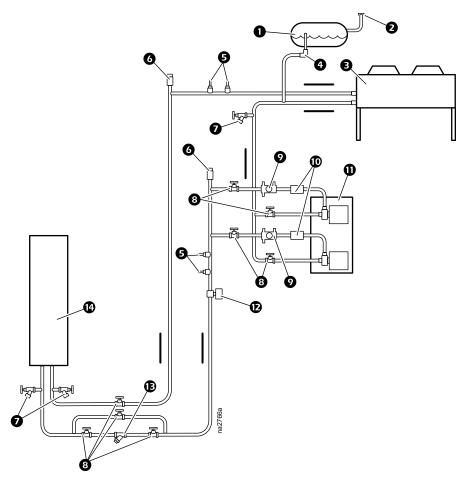
## **Water-Cooled Bottom Piping (ACRD200 Series)**



Item	Description
0	InRow DX
<b>2</b>	Balancing valve*
<b>⑤</b>	Strainer, 20 mesh*
4	Gate valve*
Ø	Hose bib*

<sup>\*</sup>Field supplied and field installed

## **Glycol-Cooled Bottom Piping (ACRD200 Series)**



Item	Description
0	Expansion tank*
2	Tank fill*
3	Fluid-cooler
4	Airtrol fitting*
•	Temperature and pressure gauges*
6	Air vent*
Ø	Hose bibs*
8	Gate valve*
9	Balancing valve*
•	Check valve
0	Pump package*
<b>©</b>	Flow switch
<b>⊕</b>	Strainer, 20 mesh*
<b>(2</b> )	InRow DX
اد ماما م	onlind and field installed

<sup>\*</sup>Field supplied and field installed

## **Outdoor Heat Exchanger Data**

## **Mechanical Data**

### **Air-Cooled Condensers (ACRD100 Series)**

_	Model Ambient Temp Sound Quanti	Carrad	Air	Fan –	Unit –	Connection Size		Weight -	Capacity	
Model		Quantity – I/s (CFM)	Quantity - Oty	kW	Hot Gas	Liquid	kg (lb)	MBH/1°F TD	kW/1°C TD	
ACCD75214	35.0–40.6 (95.0–105.1)	65	2380 (5,050)	1	1.1	1 1/8 in.	7/8 in.	82 (180.0)	2.43	1.28
ACCD75215	46.0 (114.8)	66	3040 (6,450)	1	1.1	1 1/8 in.	7/8 in.	118 (260.0)	4.00	2.11
ACCD75216	35.0–40.6 (95.0–105.1)	59	2140 (4,530)	1	0.8	22 mm	18 mm	48 (105.8)	2.35	1.24
ACCD75217	46.0 (114.8)	62	4280 (9,060)	2	1.6	28 mm	22 mm	89 (196.2)	4.30	2.27
ACCD75218	35.0–40.6 (95.0–105.1)	59	2140 (4,530)	1	0.6	22 mm	18 mm	48 (105.8)	2.35	1.24
ACCD75219	46.0 (114.8)	62	4280 (9,060)	2	1.3	28 mm	22 mm	89 (196.2)	4.30	2.27
ACCD75220	35.0–40.6 (95.0–105.1)	59	2140 (4,530)	1	0.6	22 mm	18 mm	48 (105.8)	2.35	1.24

<sup>\*(</sup>dbA) at 10 ft and 100% fan speed

NOTE: ACCD75220 is CCC certified for use in China.

NOTE: ACCD75216, ACCD75217, and ACCD75218 are CMIM compliant.

### **Air-Cooled Condensers (ACRD600 Series)**

	Ambient	Sound Pres	sure – (dbA)	Air Quantity – I/			
Model	Temperature – ° C (°F)	Horizontal Airflow	Vertical Airflow	s (CFM)	Fan – Qty.	Unit – kW	
ACCD75228	35.0–40.6 (95.0–105.1)	67.2**	65.0**	7780 (16,672)	3	3.13	
ACCD75229	46.0 (114.8)	67.2**	64.5**	7488 (16,045)	3	3.19	
ACCD75230	35.0–40.6 (95.0–105.1)	67.8**	65.0**	7780 (16,672)	3	3.13	
ACCD75231	46.0 (114.8)	67.8**	64.5**	7488 (16,045)	3	3.19	
ACCD75232	35.0–46.0 (95.0–114.8)	60.7	56.6	5133 (11,000)	2	1.20	
ACCD75232-C	35.0–46.0 (95.0–114.8)	60.7	56.6	5133 (11,000)	2	1.32	
ACCD75232-40C***	-40.0-46.0 (-40.0-114.8)	60.7	56.6	5133 (11,000)	2	1.32	
ACCD75233-C	35.0–46.0 (95.0–114.8)	60.7	56.6	5133 (11,000)	2	1.44	
ACCD75234*	35.0–40.6 (95.0–105.1)	64	59	5400 (11,500)	1	1.45	
ACCD75235*	35.0–40.6 (95.0–105.1)	64	59	5400 (11,500)	1	1.45	

NOTE: ACCD75232-C is CMIM compliant.

Model	Connec	tion Size	Weight kg (lb)	Capacity		
Модеі	Hot Gas	Liquid	Weight – kg (lb)	MBH/1°F TD	kW/1°C TD	
ACCD75228	7/8 in.	5/8 in.	218 (480)	5.7	3.0	
ACCD75229	7/8 in.	5/8 in.	230 (509)	7.8	4.1	
ACCD75230	7/8 in.	5/8 in.	218 (480)	5.7	3.0	
ACCD75231	7/8 in.	5/8 in.	230 (509)	7.8	4.1	
ACCD75232	22 mm	16 mm	144 (318)	8.3	4.4	
ACCD75232-C	22 mm	16 mm	135 (298)	8.3	4.4	
ACCD75232-40C	22 mm	16 mm	135 (298)	8.3	4.4	
ACCD75233-C	22 mm	16 mm	136 (300)	8.3	4.4	
ACCD75234*	1 3/8 in.	1 1/8 in.	250 (550)	50 (550) 10.0		
ACCD75235*	1 3/8 in.	1 1/8 in.	250 (550)	10.0	5.3	

NOTE: ACCD75232-C is CMIM compliant.

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 $<sup>^{\</sup>star}$  Make-to-order. Additional lead times may apply.  $^{\star\star}$  (dbA) is at 3 m. Note: (dbA) is at 5 m unless otherwise noted.  $^{\star\star\star}$  Minimum working temperature is –40°C (–40°F).

<sup>\*</sup> Make-to-order. Additional lead times may apply. \*\* (dbA) is at 3 m. Note: (dbA) is at 5 m unless otherwise noted.

## Fluid Coolers (ACRD200 Series)

Model	Ambient Temp – °C (°F)	Sound Pressure*	Air Quantity – I/s (CFM)	Fan – Qty.	Unit – kW	Con- nection Size	Weight – kg (lb)	Capacity	
								MBH/1°F TD	kW/1°C TD
ACFC75210	40.0 (104.0)	68	4760 (10,100)	2	2.0	1 3/8 in.	205 (450)	3.20	1.69
ACFC75255	35.0 (95.0)	65	2380 (5050)	1	1.0	1 1/8 in.	150 (330)	2.36	1.24
ACFC75256	35.0 (95.0)	62	4220 (8950)	2	1.6	1 1/2 in.	90 (198)	2.50	1.32
ACFC75257	40.0 (104.0)	56	5500 (11,650)	2	1.4	2 in.	151 (333)	3.30	1.74

<sup>\*(</sup>dbA) at 10 ft and 100% fan speed

NOTE: ACFC75257 is CMIM compliant.

### **Electrical Data**

### **Air-Cooled Condensers (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

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

NOTE: ACCD75220 is CCC certified for use in China.

NOTE: ACCD75216, ACCD75217, and ACCD75218 are CMIM compliant.

### **Air-Cooled Condensers (ACRD600 Series)**

Model	Voltage, Phase, Frequency	Receiver Model	Receiver Qty.	FLA*	MCA*	MOP*
ACCD75228	208-240 V, 3 ph, 60 Hz	ACAC75014	1	N/A	10.7	15
ACCD75229	208-240 V, 3 ph, 60 Hz	ACAC75014	1	N/A	10.7	15
ACCD75230	460-480 V, 3 ph, 60 Hz	ACAC75014	1	N/A	6.5	15
ACCD75231	460-480 V, 3 ph, 60 Hz	ACAC75014	1	N/A	6.5	15
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
ACCD75232- 40C	230 V, 1 ph, 50 Hz	ACAC75015	1	7.0	N/A	N/A
ACCD75233-C	230 V, 1 ph, 60 Hz	ACAC75015	1	6.0	N/A	N/A
ACCD75234*	208-240 V, 3 ph, 60 Hz	ACAC75014	1	6.4	8.8	15
ACCD75235*	460-480 V, 3 ph, 60 Hz	ACAC75014	1	2.9	4.0	15

NOTE: ACCD75232-C is CMIM compliant.

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<sup>\*</sup> Make-to-order. Additional lead times may apply.
\*\*Cells marked N/A indicate that this information is not required because of regional differences in electrical codes.

### Fluid Coolers (ACRD200 Series)

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

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

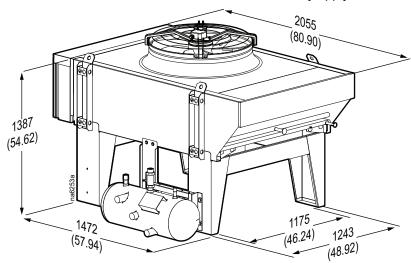
NOTE: ACFC75257 is CMIM compliant.

### **Dimensions**

### ACCD75234, ACCD75235

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

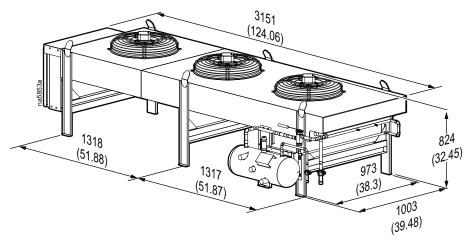
NOTE: Make-to-order. Additional lead times may apply.



### ACCD75228, ACCD75229, ACCD75230, ACCD75231

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

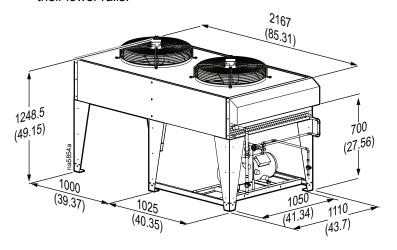
**NOTE:** Condensers shown have eight 22-mm (0.875 in.) mounting holes on their lower rails.



### ACCD75232

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

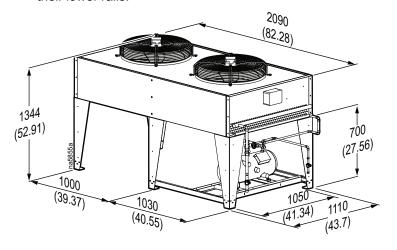
**NOTE:** Condensers shown have eight 22-mm (0.875 in.) mounting holes on their lower rails.



### ACCD75232-C, ACCD75232-40C, ACCD75233-C

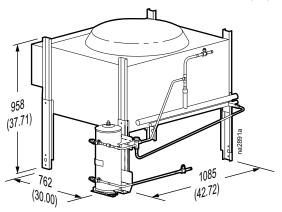
NOTE: Dimensions are shown in mm (in.).

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



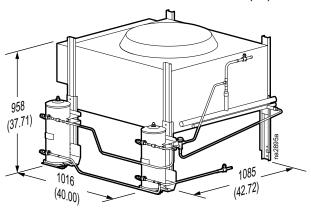
### ACCD75214

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



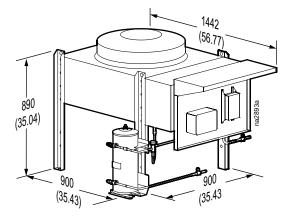
### ACCD75215

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



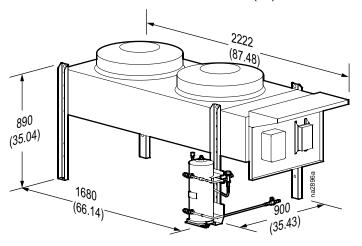
### ACCD75216, ACCD75218, ACCD75220

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



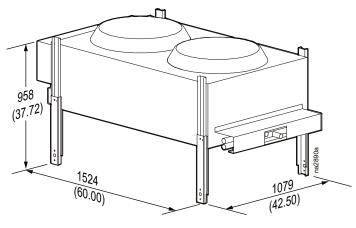
### ACCD75217, ACCD75219

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



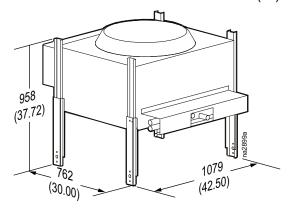
### **ACFC75210**

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



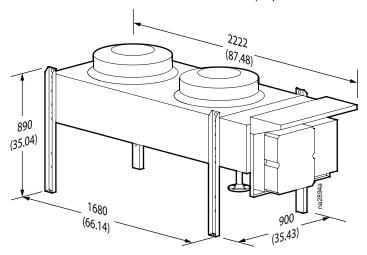
### ACFC75255

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



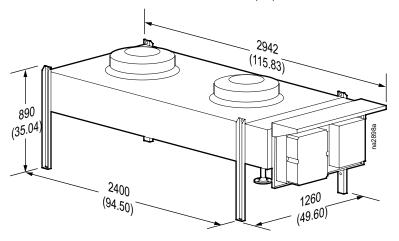
### ACFC75256

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



### ACFC75257

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



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