



FRIEDRICH

1 8 8 3

Friedrich Commercial Split F-Series Air Conditioner

15, 20 Ton



10, 12.5 Ton



6.5, 7.5, 10 Ton



RACY Series

Cooling Efficiencies up to: 11.2 EER/14.8 IEER

Nominal Sizes: 6.5, 7.5, 10, 12.5, 15 & 20 Tons

[22.9, 26.4, 35.2, 44.0, 52.7 & 70.3 kW]

Cooling Capacities: 72.2k BTU/h to 240.0k BTU/h

Refrigerant Type: R-454B



9001:2015



LISTED



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RACY STANDARD FEATURES INCLUDE:

- Factory charged with nitrogen for shipping
- Ready to be charged with R-454B Low GWP refrigerant in the field after installation
- Wired and run tested
- Scroll compressors with internal line break overload and high pressure protection
- High and Low Pressure switches provide additional system protection
- Convertible airflow—vertical down-flow or vertical up-flow
- Forkable base rails on 10, 12.5, 15, and 20 Ton for easy handling and lifting
- Cooling operation up to 125°F ambient
- Tube and Fin condenser and evaporator coils
- Single-piece control door
- 6.5, 7.5 and 10 Ton includes a single 2-Stage scroll compressor
- 12.5, 15, and 20 Ton includes a tandem scroll compressor configuration
- MERV 8 & MERV 13 filters are available as an accessory
- Designing for Sustainability with Low GWP: For 2025, the Environmental Protection Agency (EPA) has set a global warming potential (GWP) limit of 700 for refrigerant used in heating and cooling systems. This new requirement will result in a 78%¹ lower GWP than previous-generation refrigerants—with only minimal changes to system installation. For us, this is another step toward our continued sustainability goal of reducing greenhouse gas emissions, while still delivering an exceptional level of energy efficient, dependable comfort.

ACCESSORIES

ACCESSORY DESCRIPTION	MODEL NUMBER	SIZE USED ON
Low Ambient Control	RXAD-A08	078, 090, 119, 120, 150, 180, 240

WHY USE AN AIR COOLED CONDENSING UNIT?

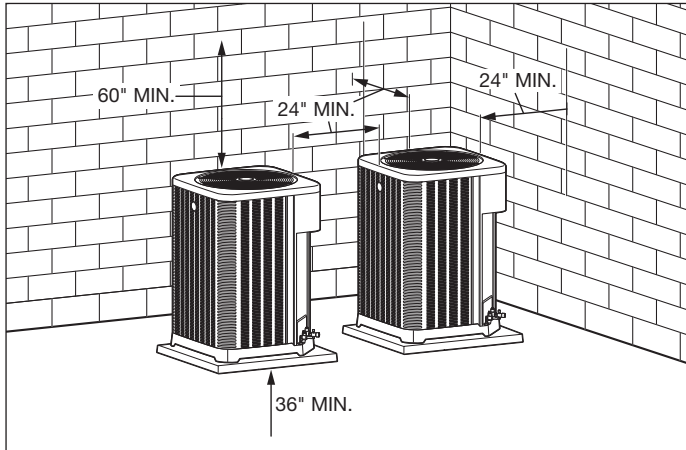
- The size ranges offered by Friedrich® allow you to mix or match components to meet actual job requirements, thus eliminating the need to use oversized or undersized equipment. Equipment sized to meet the actual load will provide better operating economy, better humidity control, and longer equipment life.
- With an air cooled system, you have no water or sewer connections to make, and no troublesome and costly water treatment problems.
- Since the AC condensing unit is located outside the building, and the low profile air handling unit can be installed in the drop ceiling or in the conditioned space, you will not need a separate equipment room which takes up valuable building space.
- Remote mounting of the already quiet AC condensing unit keeps the compressor and condenser fan noise outside, and the vertical discharge fans carry the sound up and away from the surrounding area.
- Because of the simple design of the Friedrich remote AC condensing unit, installation is quick and simple, and very little maintenance is required.

¹When comparing the GWP of A2L refrigerants to A1 or R-410A refrigerant

GENERAL INSTALLATION

The Remote AC Condensing unit must be installed outdoors. It should be located as near as possible to the indoor section to keep connecting refrigerant tubing lengths to a minimum. The unit must be installed to allow a free air flow to the outdoor coils.

If several units are installed adjacent to each other, care must be taken to avoid recirculation of air from one remote condenser to another. In all installations, adequate space must be provided for installation and servicing.



The outdoor unit must not be connected to any duct work. Do not locate unit under a roof drip; if necessary, install gutters, etc., to prevent water run-off from hitting the unit. To prevent air recirculation, it is recommended that the unit not be installed under an overhang, but if necessary **allow a minimum of 60 inches [1524 mm] above the unit for air discharge.**

[] Designates Metric Conversions

SLAB INSTALLATION

Remote Condensing units should be set on a solid level foundation. When installed at ground level, the unit should be placed on a 6 inch [152.4 mm] cement slab. If the pad is formed at the installation site, do not pour the pad tight against the structure, otherwise vibration will be transmitted from the unit through the pad.

ROOFTOP INSTALLATION

If rooftop installation is required, make certain that the building construction is adequate for the weight of the unit. (Refer to physical data chart.) Before placing the unit on the roof, make certain that the nylon rigging slings are of sufficient length to maintain equilibrium of the unit when lifting. Under no circumstances should the unit be lifted by only one corner for rooftop installation.

<u>R</u>	<u>A</u>	<u>C</u>	<u>Y</u>	<u>2</u>	<u>078</u>	<u>C</u>	<u>A</u>	<u>Z</u>
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>678</u>	<u>9</u>	<u>10</u>	<u>11</u>

1—Brand

R = Friedrich®

2—Unit Type

A = Remote Condensing Unit

3—Cabinet Type

C = Commercial

4—Refrigerant

Y = R-454B

5—Heat Configuration

2 = 2-stage compressor

6,7,8—Capacity

078 = 6.5 Ton

090 = 7.5 Ton

119 = 10 Ton (1 fan)

120 = 10 Ton (2 fan)

150 = 12.5 Ton

180 = 15 Ton

240 = 20 Ton

9—Electrical Designation

C = 208/230 V, 3 PH, 60 Hz

D = 460 V, 3 PH, 60 Hz

10—Minor Series

A = 1st Design

11—Compressor

Z = Scroll compressor

SELECTION PROCEDURE

To select an RACY Remote AC Condensing unit to meet a job requirement, follow this procedure.

1. DETERMINE COOLING AND HEATING REQUIREMENTS AND SPECIFIC OPERATING CONDITIONS FROM PLANS AND SPECS.

Example: Total cooling capacity—	84,000 BTUH [24.61 kW]
Sensible cooling capacity—	68,000 BTUH [19.92 kW]
Heating capacity—	120,000 BTUH [35.16 kW]
*Condenser Entering Air—	95°F [35°C] DB
*Evaporator Mixed Air Entering	78°F [26°C] DB; 65°F [18°C] WB
*Indoor Air Flow (vertical)	3000 CFM [1416 L/s]
*External Static Pressure	.5 in. WG
Available Power	240 V, 3 PH

2. SELECT UNIT TO MEET COOLING REQUIREMENTS.

Since total cooling is within the range of a nominal 7.5 ton [26.4 kW] unit, enter cooling performance table at 95°F [35°C] DB condenser inlet air. Interpolate between 63°F [2°C] and 67°F [19°C] to determine total and sensible capacity and power input for 65°F [18°C] WB evap inlet air at 3200 CFM [1510 L/s] indoor air flow (table basis):

Total Capacity = 85,150 BTUH [25.0 kW]
Sensible Capacity = 73,850 BTUH [23.0 kW]
Power Input (Compressor and Cond. Fans) = 6,750 Watts

Use formula in note ① on the cooling performance table to determine sensible capacity at 78°F [26°C] DB evaporator entering air:

Sensible Capacity = 67,250 BTUH [19.7 kW]

3. CORRECT CAPACITIES OF STEP 2 FOR ACTUAL AIR FLOW.

Select factors from airflow correction table at 3000 CFM [1416 L/s] and apply to data obtained in step 2 to obtain gross capacity:

Total Capacity = 85,150 x .99 = 84,299 BTUH [24.7 kW]
Sensible Capacity = 73,850 x .97 = 71,634 BTUH [21.0 kW]
Power Input = 6,750 x 1.00 = 6,750 Watts

These are Gross Capacities, not corrected for blower motor heat or power.

4. DETERMINE BLOWER SPEED AND WATTS TO MEET SYSTEM DESIGN.

In the “Commercial Air Handler Specification Sheet” follow the bold line example on the “Blower Performance Curve – 10 ton (wet coil)”. Enter the graph at 3000 CFM [1416 L/s]. Determine which “number of turns” line is closest to the intersection of 0.5 IN [.12 kPa] static and 3000 CFM [1416 L/s]. In this case 4 turns is the closest. Continue following the 3000 CFM line to the next intersection of 4 turns. From this intersection draw a line to the right to determine the watts.

WATTS = 950

5. CALCULATE INDOOR BLOWER BTUH HEAT EFFECT FROM MOTOR WATTS, STEP 4.

HEAT = 950 x 3.412 = 3,240 BTUH

6. CALCULATE NET COOLING CAPACITIES, EQUAL TO GROSS CAPACITY, STEP 3, MINUS INDOOR BLOWER MOTOR HEAT.

Net Total Capacity = 84,299 – 3,240 = 81,059 BTUH [23.76 kW] Net
Net Sensible Capacity = 71,634 – 3,240 = 68,394 BTUH [20.00 kW]

7. CALCULATE UNIT INPUT AND JOB EER.

Total Power Input = 6,750 (step 3) + 950 (step 4) = 7,700 Watts
$$EER = \frac{\text{Net Total BTUH [kW] (step 6)}}{\text{Power Input, Watts (above)}} = \frac{81,059}{7,700} = 10.5$$

8. SELECT UNIT HEATING CAPACITY.

In the “Commercial Air Handler Specification Sheet” turn to the “electrical heater kit characteristics table,” find a heater kit that is compatible and has minimum of 120,000 BTUH. The RXHE-DE020CA [20 kW] has a capacity of 114,000 BTUH at 208/230 V.

*NOTE: These operating conditions are typical of a commercial application in a 95°F/79°F [35°C/26°C] design area with indoor design of 76°F [24°C] DB and 50% RH and 10% ventilation air, with the unit mounted and centered on the zone it conditions by ducts.

[] Designates Metric Conversions

GENERAL DATA

Model RACY2 Series	078CAZ	078DAZ	090CAZ	090DAZ
Cooling Performance^A				CONTINUED →
Gross Cooling Capacity Btu [kW]	78,000 [22.9]	78,000 [22.9]	90,000 [26.4]	90,000 [26.4]
EER	11.2	11.2	11.2	11.2
IEER ^B	14.8	14.8	14.8	14.8
Nominal CFM/AHRI Rated CFM [L/s]	2600/2580 [1227/1218]	2600/2580 [1227/1218]	2600/2580 [1227/1218]	2600/2580 [1227/1218]
AHRI Net Cooling Capacity Btu [kW]	72,200 [21.2]	72,200 [21.2]	85,500 [25.1]	85,500 [25.1]
Net Sensible Capacity Btu [kW]	55,869 [16.4]	55,869 [16.4]	63,869 [18.7]	63,869 [18.7]
Net Latent Capacity Btu [kW]	16,331 [4.8]	16,331 [4.8]	21,631 [6.3]	21,631 [6.3]
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)^C	86	86	86	86
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Diameter	0.375	0.375	0.375	0.375
Outer Face Area sq. ft. [sq. m]	31.8 [3.0]	31.8 [3.0]	31.8 [3.0]	31.8 [3.0]
Inner Face Area sq. ft. [sq. m]	29.6 [2.7]	29.6 [2.7]	29.6 [2.7]	29.6 [2.7]
Rows/FPI [FPcm]	2/22 [56]	2/22 [56]	2/22 [56]	2/22 [56]
Indoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	10.2 [0.9]	10.2 [0.9]	10.2 [0.9]	10.2 [0.9]
Rows/FPI [FPcm]	4/15	4/15	4/15	4/15
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Blades/Diameter in. [mm]	4/26 [660]	4/26 [660]	4/26 [660]	4/26 [660]
Drive Type/No. Speeds	ECM/1	ECM/1	ECM/1	ECM/1
CFM [L/s]	5,700 [2,690]	5,700 [2,690]	5,700 [2,690]	5,700 [2,690]
No. Motors/HP	1 at 1/2HP	1 at 3/4HP	1 at 1/2HP	1 at 3/4HP
Motor RPM	1100	1100	1100	1100
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Diameter in. [mm]	12x12 [305x305]	12x12 [305x305]	12x12 [305x305]	12x12 [305x305]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds (Standard/VFD)	Single/Multiple	Single/Multiple	Single/Multiple	Single/Multiple
No. Motors	1	1	1	1
Motor HP	2	2	2	2
Motor RPM	1725	1725	1725	1725
Refrigerant Charge Oz. [g]	338 [9,582]	338 [9,582]	338 [9,582]	338 [9,582]
Weights				
Net Weight lbs. [kg]	383 [174]	383 [174]	383 [174]	383 [174]
Ship Weight lbs. [kg]	403 [183]	403 [183]	403 [183]	403 [183]

NOTES:

A. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to 20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.

B. EER and Integrated Efficiency Ratio (IEER) is rated at AHRI conditions in accordance with AHRI Standard 340/360.

C. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

[] Designates Metric Conversions

GENERAL DATA (CON'T.)

Model RACY2 Series	120CAZ	120DAZ	119CAZ	119DAZ
Cooling Performance^A				CONTINUED ➔
Gross Cooling Capacity Btu [kW]	120,000 [35.2]	120,000 [35.2]	120,000 [35.2]	120,000 [35.2]
EER	11.2	11.2	11.2	11.2
IEER ^B	14.8	14.8	14.8	14.8
Nominal CFM/AHRI Rated CFM [L/s]	4000/3900 [1888/1841]	4000/3900 [1888/1841]	4000/3900 [1888/1841]	4000/3900 [1888/1841]
AHRI Net Cooling Capacity Btu [kW]	114,000 [33.4]	114,000 [33.4]	112,000 [32.8]	112,000 [32.8]
Net Sensible Capacity Btu [kW]	86,000 [25.2]	86,000 [25.2]	86,000 [25.2]	86,000 [25.2]
Net Latent Capacity Btu [kW]	28,000 [8.2]	28,000 [8.2]	26,000 [7.6]	26,000 [7.6]
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)^C	88	88	86	86
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Diameter	0.375	0.375	0.375	0.375
Outer Face Area sq. ft. [sq. m]	16.4 [1.5]	16.4 [1.5]	31.8 [3.0]	31.8 [3.0]
Inner Face Area sq. ft. [sq. m]	16.4 [1.5]	16.4 [1.5]	29.6 [2.7]	29.6 [2.7]
Rows/FPI [FPcm]	2/22 [56]	2/22 [56]	2/22 [56]	2/22 [56]
Indoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	10.2 [0.9]	10.2 [0.9]	16.5 [1.5]	16.5 [1.5]
Rows/FPI [FPcm]	4/15	4/15	3/15	3/15
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Blades/Diameter in. [mm]	4/26 [660]	4/26 [660]	4/26 [660]	4/26 [660]
Drive Type/No. Speeds	ECM/1	ECM/1	ECM/1	ECM/1
CFM [L/s]	11,400 [5380]	11,400 [5380]	5,700 [2,690]	5,700 [2,690]
No. Motors/HP	1 at 1/2HP	1 at 3/4HP	1 at 1/2HP	1 at 3/4HP
Motor RPM	1100	1100	1100	1100
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Diameter in. [mm]	12x12 [305x305]	12x12 [305x305]	18x15 [457x381]	18x15 [457x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds (Standard/VFD)	Single/Multiple	Single/Multiple	Single/Multiple	Single/Multiple
No. Motors	1	1	1	1
Motor HP	2	2	2	2
Motor RPM	1725	1725	1725	1725
Refrigerant Charge Oz. [g]	373.5 [10,589]	373.5 [10,589]	328 [9,299]	328 [9,299]
Weights				
Net Weight lbs. [kg]	565 [256]	565 [256]	411 [186]	411 [186]
Ship Weight lbs. [kg]	585 [265]	585 [265]	431 [195]	431 [195]

NOTES:

A. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to 20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.

B. EER and Integrated Efficiency Ratio (IEER) is rated at AHRI conditions in accordance with AHRI Standard 340/360.

C. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

[] Designates Metric Conversions

GENERAL DATA (CON'T.)

Model RACY2 Series	150CAZ	150DAZ	180CAZ	180DAZ
Cooling Performance^A				CONTINUED →
Gross Cooling Capacity Btu [kW]	150,000 [44.0]	150,000 [44.0]	180,000 [52.8]	180,000 [52.8]
EER	11.0	11.0	11.0	11.0
IEER ^B	14.2	14.2	14.2	14.2
Nominal CFM/AHRI Rated CFM [L/s]	4500/4350 [2124/2053]	4500/4350 [2124/2053]	5400/5200 [2549/2454]	5400/5200 [2549/2454]
AHRI Net Cooling Capacity Btu [kW]	142,500 [42.0]	142,500 [42.0]	171,000 [50.1]	171,000 [50.1]
Net Sensible Capacity Btu [kW]	106,000 [31.1]	106,000 [31.1]	125,000 [36.6]	125,000 [36.6]
Net Latent Capacity Btu [kW]	36,500 [10.7]	36,500 [10.7]	46,000 [13.5]	46,000 [13.5]
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)^C	88	88	90	90
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Diameter	0.375	0.375	0.375	0.375
Outer Face Area sq. ft. [sq. m]	16.4 [1.5]	16.4 [1.5]	30.3 [2.8]	30.3 [2.8]
Inner Face Area sq. ft. [sq. m]	16.4 [1.5]	16.4 [1.5]	30.3 [2.8]	30.3 [2.8]
Rows/FPI [FPcm]	2/22 [56]	2/22 [56]	2/24 [610]	2/24 [610]
Indoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	16.5 [1.5]	16.5 [1.5]	16.5 [1.5]	16.5 [1.5]
Rows/FPI [FPcm]	3/15	3/15	4/15	4/15
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Blades/Diameter in. [mm]	4/26 [660]	4/26 [660]	2/24 [610]	2/24 [610]
Drive Type/No. Speeds	ECM/1	ECM/1	ECM/2	ECM/2
CFM [L/s]	11,400 [5380]	11,400 [5380]	12,000 [5663]	12,000 [5663]
No. Motors/HP	1 at 1/2HP	1 at 3/4HP	1 at 1/2HP	1 at 3/4HP
Motor RPM	1100	1100	1100	1100
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Diameter in. [mm]	18x15 [457x381]	18x15 [457x381]	18x15 [457x381]	18x15 [457x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds (Standard/VFD)	Single/Multiple	Single/Multiple	Single/Multiple	Single/Multiple
No. Motors	1	1	1	1
Motor HP	2	2	2	2
Motor RPM	1725	1725	1725	1725
Refrigerant Charge Oz. [g]	381.5 [10,815]	381.5 [10,815]	681.5 [19,320]	681.5 [19,320]
Weights				
Net Weight lbs. [kg]	647 [293]	647 [293]	832 [337]	832 [337]
Ship Weight lbs. [kg]	667 [303]	667 [303]	852 [386]	852 [386]

NOTES:

A. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to 20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.

B. EER and Integrated Efficiency Ratio (IEER) is rated at AHRI conditions in accordance with AHRI Standard 340/360.

C. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

[] Designates Metric Conversions

GENERAL DATA (CON'T.)

Model RACY2 Series	240CAZ	240DAZ
Cooling Performance^A		
Gross Cooling Capacity Btu [kW]	240,000 [70.3]	240,000 [70.3]
EER	10.0	10.0
IEER ^B	13.2	13.2
Nominal CFM/AHRI Rated CFM [L/s]	6800/6650 [3209/3138]	6800/6650 [3209/3138]
AHRI Net Cooling Capacity Btu [kW]	240,000 [70.3]	240,000 [70.3]
Net Sensible Capacity Btu [kW]	165,000 [48.4]	165,000 [48.4]
Net Latent Capacity Btu [kW]	75,000 [22.0]	75,000 [22.0]
Compressor		
No./Type	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)^C		
	90	90
Outdoor Coil - Fin Type		
Tube Type	Louvered	Louvered
Tube Diameter	Rifled	Rifled
Outer Face Area sq. ft. [sq. m]	0.375	0.375
Inner Face Area sq. ft. [sq. m]	30.3 [2.8]	30.3 [2.8]
Rows/FPI [FPcm]	30.3 [2.8]	30.3 [2.8]
	3/18 [46]	3/18 [46]
Indoor Coil - Fin Type		
Tube Type	Louvered	Louvered
Tube Size	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]
Rows/FPI [FPcm]	16.5 [1.5]	16.5 [1.5]
Refrigerant Control	4/15	4/15
	TX Valves	TX Valves
Outdoor Fan - Type		
No. Blades/Diameter in. [mm]	Propeller	Propeller
Drive Type/No. Speeds	4/24 [609]	4/24 [609]
CFM [L/s]	ECM/1	ECM/1
No. Motors/HP	12,000 [5663]	12,000 [5663]
Motor RPM	1 at 1/2HP	1 at 3/4HP
	1100	1100
Indoor Fan - Type		
Diameter in. [mm]	FC Centrifugal	FC Centrifugal
Drive Type	18x18 [457x457]	18x18 [457x457]
No. Speeds (Standard/VFD)	Belt (Adjustable)	Belt (Adjustable)
No. Motors	Single/Multiple	Single/Multiple
Motor HP	1	1
Motor RPM	5	5
	1725	1725
Refrigerant Charge Oz. [g]		
	587.5 [16,655]	587.5 [16,655]
Weights		
Net Weight lbs. [kg]	926 [420]	926 [420]
Ship Weight lbs. [kg]	946 [429]	946 [429]

NOTES:

A. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to 20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.

B. EER and Integrated Efficiency Ratio (IEER) is rated at AHRI conditions in accordance with AHRI Standard 340/360.

C. Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270.

[] Designates Metric Conversions

UNIT DIMENSIONS

MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
RACY2078	51.00	1295	35.75	908	35.75	908	53.00	1346	38.38	975	38.38	975
RACY2090	51.00	1295	35.75	908	35.75	908	53.00	1346	38.38	975	38.38	975
RACY2119	51.00	1295	35.25	895	35.25	895	53.00	1346	38.38	975	38.38	975
RACY2120	44.75	1137	73.88	1876	38.38	975	46.75	1187	75.88	1927	41.25	1048
RACY2150	44.75	1137	73.88	1876	38.38	975	46.75	1187	75.88	1927	41.25	1048
RACY2180	44.75	1137	83.88	2130	38.38	975	46.75	1187	86.13	2188	41.25	1048
RACY2240	44.75	1137	83.88	2130	38.38	975	46.75	1187	86.13	2188	41.25	1048

ELECTRICAL AND PHYSICAL DATA

ELECTRICAL DATA – RACY2 SERIES									
		078CAZ	078DAZ	090CAZ	090DAZ	120CAZ	120DAZ	119CAZ	119DAZ
Unit Information	Unit Operating Voltage Range	187-253	414-506	187-253	414-506	187-253	414-506	187-253	414-506
	Volts	208/230	460	208/230	460	208/230	460	208/230	460
	Minimum Circuit Ampacity	39/39	17/17	39/39	17/17	44/44	24	39/39	21
	Minimum Overcurrent Protection Device Size	45	20	45	20	60	30	60	30
	Maximum Overcurrent Protection Device Size	60	25	60	25	70	35	70	35
Compressor Motor	No.	1	1	1	1	1	1	1	1
	Volts	208/230	460	208/230	460	208/230	460	208/230	460
	Phase	3	3	3	3	3	3	3	3
	Amps (RLA), Comp. 1	26.3	11	26.3	11	26.5	14	26.5	14
	Amps (LRA), Comp. 1	178.5	95.3	178.5	95.3	255	123	255	123
Condenser Motor	No.	1	1	1	1	1	1	1	1
	Volts	208/230	460	208/230	460	208/230	460	208/230	460
	Phase	1	1	1	1	1	1	1	1
	HP	1/2	3/4	1/2	3/4	1/2	3/4	1/2	3/4
	Amps (FLA, each)	5.2	3	5.2	3	5.2	3	5.2	3
	Amps (LRA, each)	—	—	—	—	—	—	—	—

ELECTRICAL DATA – RACY2 SERIES							
		150CAZ	150DAZ	180CAZ	180DAZ	240CAZ	240DAZ
Unit Information	Unit Operating Voltage Range	187-253	414-506	187-253	414-506	187-253	414-506
	Volts	208/230	460	208/230	460	208/230	460
	Minimum Circuit Ampacity	61/61	26	78/78	35	91/91	44
	Minimum Overcurrent Protection Device Size	70	30	90	40	100	50
	Maximum Overcurrent Protection Device Size	80	30	100	45	110	50
Compressor Motor	No.	1	1	1	1	1	1
	Volts	208/230	460	208/230	460	208/230	460
	Phase	3	3	3	3	3	3
	Amps (RLA), Comp. 1	44.8	18.4	55.4	23	66.6	30.8
	Amps (LRA), Comp. 1	332.4	149.2	357	206	510	280
Condenser Motor	No.	1	1	1	1	1	1
	Volts	208/230	460	208/230	460	208/230	460
	Phase	1	1	1	1	1	1
	HP	1/2	3/4	1/2	3/4	1/2	3/4
	Amps (FLA, each)	5.2	3	5.2	3	5.2	3
	Amps (LRA, each)	—	—	—	—	—	—

[] Designates Metric Conversions

A2L REFRIGERANT INSTALLATION SAFETY DATA

QMIN AT RATING PLATE CHARGE WEIGHT [0'-200' 1/2" LINE SET]						
RACY2		078/2090 [0']	2078/2090 [50']	078/2090 [100']	078/2090 [150']	078/2090 [200']
Refrigerant Chart Weight (oz)		338.0	388.0	438.0	488.0	538.0
Minimum Total Room Area, T _{Amin} (ft²)		317.0	364.0	410.0	457.0	504.0
Minimum Circulation Airflow, Q _{min} (cfm)		572.0	614.0	698.0	783.0	868.0
INSTALLED ALTITUDE (FT ABOVE SEA LEVEL)	ALTITUDE ADJUSTMENT FACTOR	MINIMUM TOTAL CONDITIONED ROOM AREA, T _{AMIN} (SQ FT)				
0	1.000	317	364	410	457	504
1000	1.025	325	373	421	469	517
2000	1.051	333	382	431	481	530
3000	1.078	342	392	443	493	544
4000	1.107	351	403	454	506	558
5000	1.138	360	414	467	520	574
6000	1.170	371	425	480	535	590
6500	1.187	376	432	487	543	598

QMIN AT RATING PLATE CHARGE WEIGHT [0'-200' 1/2" LINE SET]						
RACY2		119 [0']	119 [50']	119 [100']	119 [150']	119 [200']
Refrigerant Chart Weight (oz)		328.0	378.0	428.0	478.0	528.0
Minimum Total Room Area, T _{Amin} (ft²)		307.0	354.0	401.0	448.0	495.0
Minimum Circulation Airflow, Q _{min} (cfm)		555.0	639.0	724.0	808.0	893.0
INSTALLED ALTITUDE (FT ABOVE SEA LEVEL)	ALTITUDE ADJUSTMENT FACTOR	MINIMUM TOTAL CONDITIONED ROOM AREA, T _{AMIN} (SQ FT)				
0	1.000	307	354	401	448	495
1000	1.025	325	373	421	469	517
2000	1.051	333	382	431	481	530
3000	1.078	342	392	443	493	544
4000	1.107	351	403	454	506	558
5000	1.138	360	414	467	520	574
6000	1.170	371	425	480	535	590
6500	1.187	376	432	487	543	598

[] Designates Metric Conversions

A2L REFRIGERANT INSTALLATION SAFETY DATA (CON'T.)

QMIN AT RATING PLATE CHARGE WEIGHT [0' - 200' 5/8" LINE SET]						
RACY2		120 [0']	120 [50']	120 [100']	120 [150']	120 [200']
Refrigerant Chart Weight (oz)		373.5	411.0	486.0	561.0	636.0
Minimum Total Room Area, TAmin (ft²)		350.0	397.0	444.0	491.0	537.0
Minimum Circulation Airflow, Qmin (cfm)		632.0	716.0	801.0	885.0	970.0
INSTALLED ALTITUDE (FT ABOVE SEA LEVEL)	ALTITUDE ADJUSTMENT FACTOR	MINIMUM TOTAL CONDITIONED ROOM AREA, TAMIN (SQ FT)				
0	1.000	350	385	455	526	596
1000	1.025	325	373	421	469	517
2000	1.051	333	382	431	481	530
3000	1.078	342	392	443	493	544
4000	1.107	351	403	454	506	558
5000	1.138	360	414	467	520	574
6000	1.170	371	425	480	535	590
6500	1.187	376	432	487	543	598

QMIN AT RATING PLATE CHARGE WEIGHT [0' - 200' 5/8" LINE SET]						
RACY2		150 [0']	150 [50']	150 [100']	150 [150']	150 [200']
Refrigerant Chart Weight (oz)		381.5	456.5	531.5	606.5	681.5
Minimum Total Room Area, TAmin (ft²)		358.0	404.0	451.0	498.0	545.0
Minimum Circulation Airflow, Qmin (cfm)		645.0	730.0	814.0	899.0	983.0
INSTALLED ALTITUDE (FT ABOVE SEA LEVEL)	ALTITUDE ADJUSTMENT FACTOR	MINIMUM TOTAL CONDITIONED ROOM AREA, TAMIN (SQ FT)				
0	1.000	358	428	498	568	639
1000	1.025	325	373	421	469	517
2000	1.051	333	382	431	481	530
3000	1.078	342	392	443	493	544
4000	1.107	351	403	454	506	558
5000	1.138	360	414	467	520	574
6000	1.170	371	425	480	535	590
6500	1.187	376	432	487	543	598

[] Designates Metric Conversions

A2L REFRIGERANT INSTALLATION SAFETY DATA (CON'T.)

QMIN AT RATING PLATE CHARGE WEIGHT [0' - 200' 7/8" LINE SET]						
RACY2		180 [0']	180 [50']	180 [100']	180 [150']	180 [200']
Refrigerant Chart Weight (oz)		681.5	756.5	831.5	906.5	981.5
Minimum Total Room Area, T _{Amin} (ft ²)		639.0	686.0	732.0	779.0	829.0
Minimum Circulation Airflow, Q _{min} (cfm)		1153.0	1237.0	1322.0	1406.0	1491.0
INSTALLED ALTITUDE (FT ABOVE SEA LEVEL)	ALTITUDE ADJUSTMENT FACTOR	MINIMUM TOTAL CONDITIONED ROOM AREA, T _{AMIN} (SQ FT)				
0	1.000	639	709	779	850	920
1000	1.025	325	373	421	469	517
2000	1.051	333	382	431	481	530
3000	1.078	342	392	443	493	544
4000	1.107	351	403	454	506	558
5000	1.138	360	414	467	520	574
6000	1.170	371	425	480	535	590
6500	1.187	376	432	487	543	598

QMIN AT RATING PLATE CHARGE WEIGHT [0' - 200' 7/8" LINE SET]						
RACY2		240 [0']	240 [50']	240 [100']	240 [150']	240 [200']
Refrigerant Chart Weight (oz)		537.5	692.5	847.5	1002.5	1157.5
Minimum Total Room Area, T _{Amin} (ft ²)		504.0	551.0	597.0	644.0	691.0
Minimum Circulation Airflow, Q _{min} (cfm)		909.0	994.0	1078.0	1163.0	1247.0
INSTALLED ALTITUDE (FT ABOVE SEA LEVEL)	ALTITUDE ADJUSTMENT FACTOR	MINIMUM TOTAL CONDITIONED ROOM AREA, T _{AMIN} (SQ FT)				
0	1.000	504	649	794	940	1085
1000	1.025	325	373	421	469	517
2000	1.051	333	382	431	481	530
3000	1.078	342	392	443	493	544
4000	1.107	351	403	454	506	558
5000	1.138	360	414	467	520	574
6000	1.170	371	425	480	535	590
6500	1.187	376	432	487	543	598

[] Designates Metric Conversions

COOLING PERFORMANCE DATA – RACY2078 & RACY2090

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			3475 [1640]	2400 [1133]	2525 [1192]	3475 [1640]	2400 [1133]	2525 [1192]	3475 [1640]	2400 [1133]	2525 [1192]
DR ①			0.05	0.09	0.12	0.05	0.09	0.12	0.05	0.09	0.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75°F [23.9]°C	Total BTUH [kW]	110.1 [32.3]	101.8 [29.8]	102.8 [30.1]	99.3 [29.1]	91.8 [26.9]	92.7 [27.2]	93.3 [27.3]	86.2 [25.3]	87.0 [25.5]
		Sens BTUH [kW]	66.3 [19.4]	54.9 [16.1]	56.2 [16.5]	77.4 [22.7]	64.0 [18.8]	65.6 [19.2]	86.3 [25.3]	71.4 [20.9]	73.1 [21.4]
		Power	6.2	5.9	6.0	5.9	5.7	5.7	6.0	5.8	5.8
	80°F [26.7]°C	Total BTUH [kW]	110.6 [32.4]	102.3 [30.0]	103.2 [30.2]	99.8 [29.2]	92.2 [27.0]	93.1 [27.3]	93.7 [27.5]	86.7 [25.4]	87.5 [25.6]
		Sens BTUH [kW]	67.5 [19.8]	55.8 [16.4]	57.2 [16.8]	78.6 [23.0]	65.0 [19.1]	66.6 [19.5]	87.5 [25.6]	72.4 [21.2]	74.1 [21.7]
		Power	6.7	6.4	6.4	6.5	6.2	6.2	6.5	6.3	6.3
	85°F [29.4]°C	Total BTUH [kW]	111.0 [32.5]	102.6 [30.1]	103.6 [30.4]	100.1 [29.3]	92.6 [27.1]	93.5 [27.4]	94.1 [27.6]	87.0 [25.5]	87.8 [25.7]
		Sens BTUH [kW]	68.4 [20.0]	56.6 [16.6]	57.9 [17.0]	79.5 [23.3]	65.7 [19.3]	67.3 [19.7]	88.4 [25.9]	73.1 [21.4]	74.9 [22.0]
		Power	7.2	6.9	6.9	7.0	6.7	6.7	7.0	6.8	6.8
	90°F [32.2]°C	Total BTUH [kW]	111.2 [32.6]	102.8 [30.1]	103.8 [30.4]	100.4 [29.4]	92.8 [27.2]	93.7 [27.5]	94.3 [27.6]	87.2 [25.6]	88.1 [25.8]
		Sens BTUH [kW]	69.0 [20.2]	57.1 [16.7]	58.5 [17.1]	80.1 [23.5]	66.3 [19.4]	67.9 [19.9]	89.1 [26.1]	73.7 [21.6]	75.4 [22.1]
		Power	7.7	7.4	7.4	7.5	7.2	7.2	7.5	7.3	7.3
	95°F [35]°C	Total BTUH [kW]	111.3 [32.6]	103.0 [30.2]	103.9 [30.5]	100.5 [29.5]	92.9 [27.2]	93.8 [27.5]	94.5 [27.7]	87.4 [25.6]	88.2 [25.8]
		Sens BTUH [kW]	69.4 [20.3]	57.4 [16.8]	58.8 [17.2]	80.5 [23.6]	66.6 [19.5]	68.2 [20.0]	89.4 [26.2]	74.0 [21.7]	75.8 [22.2]
		Power	8.2	7.9	7.9	8.0	7.7	7.7	8.1	7.7	7.8
	100°F [37.8]°C	Total BTUH [kW]	111.3 [32.6]	103.0 [30.2]	103.9 [30.5]	100.5 [29.5]	92.9 [27.2]	93.8 [27.5]	94.5 [27.7]	87.4 [25.6]	88.2 [25.8]
		Sens BTUH [kW]	69.6 [20.4]	57.5 [16.9]	58.9 [17.3]	80.7 [23.7]	66.7 [19.5]	68.3 [20.0]	89.6 [26.3]	74.1 [21.7]	75.9 [22.2]
		Power	8.7	8.4	8.4	8.5	8.1	8.2	8.6	8.2	8.3
	105°F [40.6]°C	Total BTUH [kW]	111.2 [32.6]	102.9 [30.2]	103.8 [30.4]	100.4 [29.4]	92.8 [27.2]	93.7 [27.5]	94.4 [27.7]	87.3 [25.6]	88.1 [25.8]
		Sens BTUH [kW]	69.5 [20.4]	57.5 [16.9]	58.9 [17.3]	80.6 [23.6]	66.6 [19.5]	68.3 [20.0]	89.5 [26.2]	74.0 [21.7]	75.8 [22.2]
		Power	9.2	8.8	8.9	9.0	8.6	8.7	9.1	8.7	8.8
	110°F [43.3]°C	Total BTUH [kW]	111.0 [32.5]	102.6 [30.1]	103.6 [30.4]	100.1 [29.3]	92.6 [27.1]	93.5 [27.4]	94.1 [27.6]	87.0 [25.5]	87.9 [25.8]
		Sens BTUH [kW]	69.1 [20.3]	57.2 [16.8]	58.5 [17.1]	80.2 [23.5]	66.3 [19.4]	67.9 [19.9]	89.1 [26.1]	73.7 [21.6]	75.5 [22.1]
		Power	9.7	9.3	9.4	9.5	9.1	9.2	9.6	9.2	9.2
	115°F [46.1]°C	Total BTUH [kW]	110.6 [32.4]	102.3 [30.0]	103.3 [30.3]	99.8 [29.2]	92.3 [27.1]	93.1 [27.3]	93.8 [27.5]	86.7 [25.4]	87.5 [25.6]
		Sens BTUH [kW]	68.5 [20.1]	56.6 [16.6]	58.0 [17.0]	79.6 [23.3]	65.8 [19.3]	67.4 [19.8]	88.5 [25.9]	73.2 [21.5]	75.0 [22.0]
		Power	10.2	9.8	9.9	10.0	9.6	9.7	10.1	9.7	9.7
	120°F [48.9]°C	Total BTUH [kW]	110.2 [32.3]	101.9 [29.9]	102.8 [30.1]	99.3 [29.1]	91.8 [26.9]	92.7 [27.2]	93.3 [27.3]	86.3 [25.3]	87.1 [25.5]
		Sens BTUH [kW]	67.6 [19.8]	55.9 [16.4]	57.3 [16.8]	78.7 [23.1]	65.1 [19.1]	66.7 [19.5]	87.6 [25.7]	72.5 [21.2]	74.2 [21.7]
		Power	10.7	10.3	10.4	10.5	10.1	10.1	10.6	10.2	10.2
	125°F [51.7]°C	Total BTUH [kW]	109.6 [32.1]	101.3 [29.7]	102.3 [30.0]	98.7 [28.9]	91.3 [26.8]	92.1 [27.0]	92.7 [27.2]	85.7 [25.1]	86.5 [25.4]
		Sens BTUH [kW]	66.5 [19.5]	55.0 [16.1]	56.3 [16.5]	77.6 [22.7]	64.2 [18.8]	65.7 [19.3]	86.5 [25.4]	71.5 [21.0]	73.3 [21.5]
		Power	11.2	10.8	10.8	11.0	10.6	10.6	11.1	10.7	10.7

DR —Depression ratio
dbE —Entering air dry bulb
wbE—Entering air wet bulb

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power —KW input

NOTES:
① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACY2119

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			4250 [2006]	3900 [1841]	3075 [1451]	4250 [2006]	3900 [1841]	3075 [1451]	4250 [2006]	3900 [1841]	3075 [1451]
DR ①			0.05	0.09	0.12	0.05	0.09	0.12	0.05	0.09	0.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75°F [23.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	123.9 [36.3] 76.4 [22.4] 7.4	121.9 [35.7] 73.3 [21.5] 7.4	117.2 [34.3] 66.1 [19.4] 7.2	115.7 [33.9] 87.4 [25.6] 7.3	113.8 [33.4] 83.9 [24.6] 7.2	109.4 [32.1] 75.6 [22.2] 7.1	111.1 [32.6] 102.1 [29.9] 7.2	109.3 [32.0] 98.0 [28.7] 7.1	105.1 [30.8] 88.4 [25.9] 7.0
	80°F [26.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	124.8 [36.6] 77.5 [22.7] 8.0	122.8 [36.0] 74.4 [21.8] 8.0	118.0 [34.6] 67.1 [19.7] 7.8	116.5 [34.1] 88.5 [25.9] 7.9	114.7 [33.6] 85.0 [24.9] 7.9	110.3 [32.3] 76.6 [22.5] 7.7	112.0 [32.8] 103.3 [30.3] 7.8	110.2 [32.3] 99.1 [29.0] 7.7	105.9 [31.0] 89.4 [26.2] 7.6
	85°F [29.4]°C	Total BTUH [kW] Sens BTUH [kW] Power	125.0 [36.6] 78.0 [22.9] 8.7	123.0 [36.0] 74.9 [22.0] 8.6	118.3 [34.7] 67.5 [19.8] 8.5	116.8 [34.2] 89.1 [26.1] 8.6	114.9 [33.7] 85.5 [25.1] 8.5	110.5 [32.4] 77.0 [22.6] 8.3	112.2 [32.9] 103.8 [30.4] 8.4	110.4 [32.4] 99.6 [29.2] 8.4	106.2 [31.1] 89.8 [26.3] 8.2
	90°F [32.2]°C	Total BTUH [kW] Sens BTUH [kW] Power	124.6 [36.5] 77.9 [22.8] 9.4	122.6 [35.9] 74.8 [21.9] 9.3	117.9 [34.6] 67.4 [19.8] 9.1	116.4 [34.1] 88.9 [26.1] 9.2	114.5 [33.6] 85.3 [25.0] 9.2	110.1 [32.3] 76.9 [22.5] 9.0	111.8 [32.8] 103.7 [30.4] 9.1	110.0 [32.2] 99.5 [29.2] 9.0	105.8 [31.0] 89.7 [26.3] 8.9
	95°F [35]°C	Total BTUH [kW] Sens BTUH [kW] Power	123.6 [36.2] 77.1 [22.6] 10.0	121.6 [35.6] 74.0 [21.7] 10.0	116.9 [34.3] 66.7 [19.5] 9.8	115.4 [33.8] 88.1 [25.8] 9.9	113.5 [33.3] 84.6 [24.8] 9.8	109.1 [32.0] 76.2 [22.3] 9.6	110.8 [32.5] 102.9 [30.2] 9.8	109.0 [31.9] 98.8 [29.0] 9.7	104.8 [30.7] 89.0 [26.1] 9.5
	100°F [37.8]°C	Total BTUH [kW] Sens BTUH [kW] Power	121.9 [35.7] 75.7 [22.2] 10.7	120.0 [35.2] 72.7 [21.3] 10.6	115.4 [33.8] 65.5 [19.2] 10.4	113.7 [33.3] 86.7 [25.4] 10.6	111.9 [32.8] 83.2 [24.4] 10.5	107.6 [31.5] 75.0 [22.0] 10.3	109.1 [32.0] 101.5 [29.7] 10.5	107.4 [31.5] 97.4 [28.5] 10.4	103.2 [30.2] 87.8 [25.7] 10.2
	105°F [40.6]°C	Total BTUH [kW] Sens BTUH [kW] Power	119.6 [35.1] 73.6 [21.6] 11.4	117.7 [34.5] 70.7 [20.7] 11.3	113.2 [33.2] 63.7 [18.7] 11.1	111.4 [32.6] 84.6 [24.8] 11.3	109.6 [32.1] 81.2 [23.8] 11.2	105.4 [30.9] 73.2 [21.5] 11.0	106.8 [31.3] 99.4 [29.1] 11.2	105.1 [30.8] 95.4 [28.0] 11.1	101.1 [29.6] 86.0 [25.2] 10.9
	110°F [43.3]°C	Total BTUH [kW] Sens BTUH [kW] Power	116.7 [34.2] 70.9 [20.8] 12.1	114.8 [33.6] 68.1 [20.0] 12.0	110.4 [32.4] 61.3 [18.0] 11.8	108.5 [31.8] 81.9 [24.0] 12.0	106.8 [31.3] 78.6 [23.0] 11.9	102.7 [30.1] 70.9 [20.8] 11.7	103.9 [30.5] 96.7 [28.3] 11.9	102.3 [30.0] 92.8 [27.2] 11.8	98.3 [28.8] 83.6 [24.5] 11.6
	115°F [46.1]°C	Total BTUH [kW] Sens BTUH [kW] Power	113.2 [33.2] 67.6 [19.8] 12.8	111.4 [32.6] 64.8 [19.0] 12.7	107.1 [31.4] 58.4 [17.1] 12.5	105.0 [30.8] 78.6 [23.0] 12.7	103.3 [30.3] 75.4 [22.1] 12.6	99.3 [29.1] 68.0 [19.9] 12.4	100.4 [29.4] 93.3 [27.3] 12.6	98.8 [29.0] 89.6 [26.3] 12.5	95.0 [27.8] 80.7 [23.7] 12.3
	120°F [48.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	109.0 [31.9] 63.5 [18.6] 13.6	107.2 [31.4] 61.0 [17.9] 13.5	103.1 [30.2] 55.0 [16.1] 13.2	100.8 [29.5] 74.6 [21.9] 13.5	99.2 [29.1] 71.6 [21.0] 13.3	95.3 [27.9] 64.5 [18.9] 13.1	96.2 [28.2] 89.3 [26.2] 13.3	94.7 [27.8] 85.7 [25.1] 13.2	91.0 [26.7] 77.3 [22.7] 13.0
125°F [51.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	104.2 [30.5] 58.9 [17.3] 14.3	102.5 [30.0] 56.5 [16.6] 14.2	98.6 [28.9] 50.9 [14.9] 13.9	96.0 [28.1] 69.9 [20.5] 14.2	94.4 [27.7] 67.1 [19.7] 14.1	90.8 [26.6] 60.5 [17.7] 13.8	91.4 [26.8] 84.7 [24.8] 14.1	89.9 [26.3] 81.3 [23.8] 14.0	86.5 [25.4] 73.2 [21.5] 13.7	

DR —Depression ratio
dbE —Entering air dry bulb
wbE—Entering air wet bulb

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power—KW input

NOTES:

① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding $[1.10 \times \text{CFM} \times (1 - \text{DR}) \times (\text{dbE} - 80)]$.

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACY2120

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			4400 [2077]	3900 [1841]	3175 [1498]	4400 [2077]	3900 [1841]	3175 [1498]	4400 [2077]	3900 [1841]	3175 [1498]
DR ①			0.05	0.09	0.12	0.05	0.09	0.12	0.05	0.09	0.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75°F [23.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	130.0 [38.1] 77.7 [22.8] 7.6	127.0 [37.2] 73.3 [21.5] 7.5	122.7 [36.0] 67.0 [19.6] 7.4	119.3 [35.0] 84.7 [24.8] 7.7	116.6 [34.2] 79.9 [23.4] 7.6	112.7 [33.0] 73.0 [21.4] 7.5	112.1 [32.9] 95.2 [27.9] 7.8	109.6 [32.1] 89.9 [26.3] 7.7	105.9 [31.0] 82.1 [24.1] 7.6
	80°F [26.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	131.4 [38.5] 80.3 [23.5] 8.3	128.4 [37.6] 75.8 [22.2] 8.2	124.1 [36.4] 69.2 [20.3] 8.1	120.7 [35.4] 87.3 [25.6] 8.4	118.0 [34.6] 82.4 [24.2] 8.3	114.0 [33.4] 75.2 [22.0] 8.1	113.5 [33.3] 97.9 [28.7] 8.5	110.9 [32.5] 92.3 [27.1] 8.4	107.2 [31.4] 84.3 [24.7] 8.2
	85°F [29.4]°C	Total BTUH [kW] Sens BTUH [kW] Power	132.0 [38.7] 82.2 [24.1] 8.9	129.0 [37.8] 77.6 [22.7] 8.8	124.6 [36.5] 70.8 [20.8] 8.7	121.3 [35.6] 89.2 [26.1] 9.0	118.6 [34.8] 84.1 [24.6] 8.9	114.6 [33.6] 76.8 [22.5] 8.8	114.1 [33.4] 99.7 [29.2] 9.1	111.5 [32.7] 94.1 [27.6] 9.0	107.8 [31.6] 85.9 [25.2] 8.9
	90°F [32.2]°C	Total BTUH [kW] Sens BTUH [kW] Power	131.9 [38.7] 83.3 [24.4] 9.6	128.9 [37.8] 78.6 [23.0] 9.5	124.5 [36.5] 71.8 [21.0] 9.3	121.2 [35.5] 90.2 [26.4] 9.7	118.5 [34.7] 85.1 [24.9] 9.6	114.4 [33.5] 77.8 [22.8] 9.4	114.0 [33.4] 100.8 [29.5] 9.7	111.4 [32.6] 95.1 [27.9] 9.6	107.7 [31.6] 86.9 [25.5] 9.5
	95°F [35]°C	Total BTUH [kW] Sens BTUH [kW] Power	131.0 [38.4] 83.6 [24.5] 10.2	128.0 [37.5] 78.8 [23.1] 10.1	123.7 [36.3] 72.0 [21.1] 9.9	120.3 [35.3] 90.5 [26.5] 10.3	117.6 [34.5] 85.4 [25.0] 10.2	113.6 [33.3] 78.0 [22.9] 10.0	113.1 [33.1] 101.1 [29.6] 10.4	110.5 [32.4] 95.4 [28.0] 10.2	106.8 [31.3] 87.1 [25.5] 10.1
	100°F [37.8]°C	Total BTUH [kW] Sens BTUH [kW] Power	129.3 [37.9] 83.1 [24.4] 10.8	126.4 [37.0] 78.4 [23.0] 10.7	122.1 [35.8] 71.6 [21.0] 10.5	118.7 [34.8] 90.0 [26.4] 10.9	116.0 [34.0] 84.9 [24.9] 10.8	112.1 [32.9] 77.6 [22.7] 10.6	111.5 [32.7] 100.6 [29.5] 11.0	108.9 [31.9] 94.9 [27.8] 10.8	105.3 [30.9] 86.7 [25.4] 10.7
	105°F [40.6]°C	Total BTUH [kW] Sens BTUH [kW] Power	126.9 [37.2] 81.8 [24.0] 11.4	124.1 [36.4] 77.2 [22.6] 11.2	119.9 [35.1] 70.5 [20.7] 11.1	116.3 [34.1] 88.7 [26.0] 11.5	113.6 [33.3] 83.7 [24.5] 11.3	109.8 [32.2] 76.5 [22.4] 11.1	109.1 [32.0] 99.3 [29.1] 11.5	106.6 [31.2] 93.7 [27.5] 11.4	103.0 [30.2] 85.6 [25.1] 11.2
	110°F [43.3]°C	Total BTUH [kW] Sens BTUH [kW] Power	123.8 [36.3] 79.7 [23.4] 11.9	121.0 [35.5] 75.2 [22.0] 11.8	116.9 [34.3] 68.7 [20.1] 11.6	113.1 [33.1] 86.7 [25.4] 12.0	110.5 [32.4] 81.8 [24.0] 11.9	106.8 [31.3] 74.7 [21.9] 11.7	105.9 [31.0] 97.2 [28.5] 12.1	103.5 [30.3] 91.7 [26.9] 12.0	100.0 [29.3] 83.8 [24.6] 11.8
	115°F [46.1]°C	Total BTUH [kW] Sens BTUH [kW] Power	119.9 [35.1] 76.9 [22.5] 12.5	117.1 [34.3] 72.5 [21.2] 12.3	113.2 [33.2] 66.2 [19.4] 12.1	109.2 [32.0] 83.8 [24.6] 12.5	106.7 [31.3] 79.1 [23.2] 12.4	103.1 [30.2] 72.2 [21.2] 12.2	102.0 [29.9] 94.4 [27.7] 12.6	99.7 [29.2] 89.1 [26.1] 12.5	96.3 [28.2] 81.3 [23.8] 12.3
	120°F [48.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	115.2 [33.8] 73.2 [21.5] 13.0	112.6 [33.0] 69.1 [20.3] 12.8	108.8 [31.9] 63.1 [18.5] 12.6	104.5 [30.6] 80.2 [23.5] 13.1	102.1 [29.9] 75.7 [22.2] 12.9	98.7 [28.9] 69.1 [20.3] 12.7	97.3 [28.5] 90.7 [26.6] 13.1	95.1 [27.9] 85.6 [25.1] 13.0	91.9 [26.9] 78.2 [22.9] 12.8
	125°F [51.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	109.8 [32.2] 68.8 [20.2] 13.5	107.3 [31.4] 64.9 [19.0] 13.3	103.6 [30.4] 59.3 [17.4] 13.1	99.1 [29.0] 75.8 [22.2] 13.6	96.8 [28.4] 71.5 [21.0] 13.4	93.6 [27.4] 65.3 [19.1] 13.2	91.9 [26.9] 86.3 [25.3] 13.6	89.8 [26.3] 81.5 [23.9] 13.5	86.8 [25.4] 74.4 [21.8] 13.3

DR —Depression ratio
dbE —Entering air dry bulb
wbE—Entering air wet bulb

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power —KW input

NOTES:
① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACY2150

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			
CFM [L/s]		5375 [2537]	4350 [2053]	3875 [1829]	5375 [2537]	4350 [2053]	3875 [1829]	5375 [2537]	4350 [2053]	3875 [1829]	
DR ①		0.05	0.09	0.12	0.05	0.09	0.12	0.05	0.09	0.12	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75°F [23.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	141.4 [41.4] 85.7 [25.1] 8.7	135.6 [39.7] 77.2 [22.6] 8.5	132.9 [39.0] 73.3 [21.5] 8.4	136.1 [39.9] 101.5 [29.7] 8.5	130.5 [38.2] 91.5 [26.8] 8.3	127.9 [37.5] 86.8 [25.4] 8.2	130.7 [38.3] 117.3 [34.4] 8.5	125.4 [36.8] 105.7 [30.1] 8.3	122.9 [36.0] 100.3 [29.4] 8.2
	80°F [26.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	144.7 [42.4] 88.0 [25.8] 9.7	138.8 [40.7] 79.3 [23.2] 9.5	136.0 [39.9] 75.3 [22.1] 9.4	139.4 [40.9] 103.8 [30.4] 9.4	133.7 [39.2] 93.6 [27.4] 9.3	130.1 [38.4] 88.8 [26.0] 9.2	134.1 [39.3] 119.6 [35.1] 9.5	128.6 [37.7] 107.8 [31.6] 9.3	126.0 [36.9] 102.3 [30.0] 9.2
	85°F [29.4]°C	Total BTUH [kW] Sens BTUH [kW] Power	148.1 [43.4] 90.4 [26.5] 10.7	142.0 [41.6] 81.4 [23.9] 10.5	139.2 [40.8] 77.3 [22.7] 10.3	142.8 [41.9] 106.2 [31.1] 10.4	136.9 [40.1] 95.6 [28.0] 10.2	134.2 [39.3] 90.8 [26.6] 10.1	137.4 [40.3] 121.9 [35.7] 10.5	131.8 [38.6] 109.9 [32.2] 10.3	129.2 [37.9] 104.3 [30.6] 10.2
	90°F [32.2]°C	Total BTUH [kW] Sens BTUH [kW] Power	151.4 [44.4] 92.7 [27.2] 11.7	145.2 [42.6] 83.5 [24.5] 11.4	142.3 [41.7] 79.2 [23.2] 11.3	146.1 [42.8] 108.5 [31.8] 11.4	140.1 [41.1] 97.7 [28.6] 11.2	137.3 [40.2] 92.7 [27.2] 11.1	140.8 [41.3] 124.3 [36.4] 11.5	135.0 [39.6] 111.9 [32.8] 11.2	132.3 [38.8] 106.2 [31.1] 11.1
	95°F [35]°C	Total BTUH [kW] Sens BTUH [kW] Power	154.8 [45.4] 95.0 [27.8] 12.7	148.4 [43.5] 85.6 [25.1] 12.4	145.5 [42.6] 81.2 [23.8] 12.3	149.5 [43.8] 110.8 [32.5] 12.4	143.3 [42.0] 99.8 [29.2] 12.2	140.5 [41.2] 94.7 [27.8] 12.1	144.1 [42.2] 126.6 [37.1] 12.5	138.2 [40.5] 114.0 [33.4] 12.2	135.5 [39.7] 108.2 [31.7] 12.1
	100°F [37.8]°C	Total BTUH [kW] Sens BTUH [kW] Power	158.1 [46.3] 97.3 [28.5] 13.7	151.7 [44.5] 87.7 [25.7] 13.4	148.6 [43.6] 83.2 [24.4] 13.2	152.8 [44.8] 113.1 [33.1] 13.4	146.5 [42.9] 101.9 [29.9] 13.2	143.6 [42.1] 96.7 [28.3] 13.0	147.5 [43.2] 128.9 [37.8] 13.5	141.4 [41.4] 116.1 [34.0] 13.2	138.6 [40.6] 110.2 [32.3] 13.1
	105°F [40.6]°C	Total BTUH [kW] Sens BTUH [kW] Power	161.5 [47.3] 99.6 [29.2] 14.7	154.9 [45.4] 89.7 [26.3] 14.4	151.8 [44.5] 85.2 [25.0] 14.2	156.2 [45.8] 115.4 [33.8] 14.4	149.8 [43.9] 104.0 [30.5] 14.1	146.8 [43.0] 98.7 [28.9] 14.0	150.9 [44.2] 131.2 [38.5] 14.5	144.7 [42.4] 118.2 [34.6] 14.2	141.8 [41.6] 112.2 [32.9] 14.0
	110°F [43.3]°C	Total BTUH [kW] Sens BTUH [kW] Power	164.9 [48.3] 101.9 [29.9] 15.6	158.1 [46.3] 91.8 [26.9] 15.3	154.9 [45.4] 87.1 [25.5] 15.2	159.5 [46.7] 117.7 [34.5] 15.4	153.0 [44.8] 106.1 [31.1] 15.1	149.9 [43.9] 100.6 [29.5] 15.0	154.2 [45.2] 133.5 [39.1] 15.4	147.9 [43.3] 120.3 [35.3] 15.1	144.9 [42.5] 114.1 [33.4] 15.0
	115°F [46.1]°C	Total BTUH [kW] Sens BTUH [kW] Power	168.2 [49.3] 104.2 [30.5] 16.6	161.3 [47.3] 93.9 [27.5] 16.3	158.1 [46.3] 89.1 [25.5] 16.1	162.9 [47.7] 120.0 [35.2] 16.4	156.2 [45.8] 108.1 [31.7] 16.1	153.1 [44.9] 102.6 [30.1] 15.9	157.6 [46.2] 135.8 [39.8] 16.4	151.1 [44.3] 122.4 [35.9] 16.1	148.1 [43.4] 116.1 [34.0] 16.0
	120°F [48.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	171.6 [50.3] 106.5 [31.2] 17.6	164.5 [48.2] 96.0 [28.1] 17.3	161.3 [47.3] 91.1 [26.7] 17.1	166.2 [48.7] 122.3 [35.8] 17.4	159.4 [46.7] 110.2 [32.3] 17.1	156.3 [45.8] 104.6 [30.7] 16.9	160.9 [47.2] 138.1 [40.5] 17.4	154.3 [45.2] 124.4 [36.5] 17.1	151.2 [44.3] 118.1 [34.6] 16.9
125°F [51.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	174.9 [51.3] 108.9 [31.9] 18.6	167.7 [49.2] 98.1 [28.8] 18.3	164.4 [48.2] 93.1 [27.3] 18.1	169.6 [49.7] 124.7 [36.5] 18.4	162.6 [47.7] 112.3 [32.9] 18.0	159.4 [46.7] 106.6 [31.2] 17.9	164.3 [48.2] 140.4 [41.1] 18.4	157.5 [46.2] 126.5 [37.1] 18.1	154.4 [45.3] 120.1 [35.2] 17.9	

DR —Depression ratio
dbE —Entering air dry bulb
wbE—Entering air wet bulb

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power—KW input

NOTES:

① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACY2180

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE			71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
CFM [L/s]			6775 [3197]	5200 [2454]	4900 [2313]	6775 [3197]	5200 [2454]	4900 [2313]	6775 [3197]	5200 [2454]	4900 [2313]
DR ①			0.05	0.09	0.12	0.05	0.09	0.12	0.05	0.09	0.12
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75°F [23.9]°C	Total BTUH [kW]	200.9 [58.9]	260.3 [76.3]	188.4 [55.2]	186.5 [54.7]	176.8 [51.8]	174.9 [51.3]	176.2 [51.6]	167.0 [48.9]	165.2 [48.4]
		Sens BTUH [kW]	119.2 [34.9]	138.1 [40.5]	101.6 [29.8]	140.0 [41.0]	122.7 [36.0]	119.3 [35.0]	165.2 [48.4]	144.7 [42.4]	140.8 [41.3]
		Power	10.6	17.0	10.3	10.4	10.2	10.1	10.2	10.0	9.9
	80°F [26.7]°C	Total BTUH [kW]	203.8 [59.7]	261.5 [76.6]	191.2 [56.0]	189.4 [55.5]	179.5 [52.6]	177.7 [52.1]	179.1 [52.5]	169.8 [49.8]	168.0 [49.2]
		Sens BTUH [kW]	122.7 [36.0]	140.8 [41.3]	104.7 [30.7]	143.5 [42.1]	125.7 [36.8]	122.4 [35.9]	168.7 [49.4]	147.8 [43.3]	143.9 [42.2]
		Power	11.6	18.8	11.2	11.4	11.1	11.0	11.2	10.9	10.9
	85°F [29.4]°C	Total BTUH [kW]	205.5 [60.2]	262.8 [77.0]	192.7 [56.5]	191.1 [56.0]	181.1 [53.1]	179.2 [52.5]	180.8 [53.0]	171.3 [50.2]	169.5 [49.7]
		Sens BTUH [kW]	124.9 [36.6]	143.6 [42.1]	106.5 [31.2]	145.7 [42.7]	127.6 [37.4]	124.2 [36.4]	170.9 [50.1]	149.7 [43.9]	145.7 [42.7]
		Power	12.6	20.5	12.2	12.4	12.1	12.0	12.2	11.9	11.9
	90°F [32.2]°C	Total BTUH [kW]	205.9 [60.3]	264.1 [77.4]	193.1 [56.6]	191.5 [56.1]	181.5 [53.2]	179.6 [52.6]	181.2 [53.1]	171.7 [50.3]	169.9 [49.8]
		Sens BTUH [kW]	125.7 [36.8]	146.4 [42.9]	107.2 [31.4]	146.5 [42.9]	128.3 [37.6]	124.9 [36.6]	171.7 [50.3]	150.4 [44.1]	146.4 [42.9]
		Power	13.7	22.3	13.3	13.5	13.2	13.1	13.4	13.0	13.0
95°F [35]°C	Total BTUH [kW]	205.0 [60.1]	265.4 [77.8]	192.3 [56.4]	190.6 [55.9]	180.7 [53.0]	178.8 [52.4]	180.3 [52.8]	170.9 [50.1]	169.1 [49.6]	
	Sens BTUH [kW]	125.1 [36.7]	149.1 [43.7]	106.6 [31.2]	145.9 [42.8]	127.8 [37.5]	124.3 [36.4]	171.1 [50.1]	149.9 [43.9]	145.8 [42.7]	
	Power	14.9	24.0	14.5	14.8	14.4	14.3	14.6	14.2	14.1	
100°F [37.8]°C	Total BTUH [kW]	202.9 [59.5]	266.6 [78.1]	190.3 [55.8]	188.4 [55.2]	178.6 [52.3]	176.7 [51.8]	178.1 [52.2]	168.8 [49.5]	167.1 [49.0]	
	Sens BTUH [kW]	123.1 [36.1]	151.9 [44.5]	105.0 [30.8]	143.9 [42.2]	126.1 [37.0]	122.7 [36.0]	169.1 [49.6]	148.1 [43.4]	144.2 [42.3]	
	Power	16.2	25.8	15.7	16.0	15.6	15.6	15.9	15.5	15.4	
105°F [40.6]°C	Total BTUH [kW]	199.4 [58.4]	267.9 [78.5]	187.0 [54.8]	185.0 [54.2]	175.4 [51.4]	173.5 [50.8]	174.7 [51.2]	165.6 [48.5]	163.9 [48.0]	
	Sens BTUH [kW]	119.7 [35.1]	154.7 [45.3]	102.1 [29.9]	140.5 [41.2]	123.1 [36.1]	119.8 [35.1]	165.7 [48.6]	145.2 [42.6]	141.3 [41.4]	
	Power	17.6	27.6	17.1	17.4	17.0	16.9	17.2	16.8	16.7	
110°F [43.3]°C	Total BTUH [kW]	194.7 [57.1]	269.2 [78.9]	182.6 [53.5]	180.3 [52.8]	170.9 [50.1]	169.1 [49.6]	170.0 [49.8]	161.1 [47.2]	159.4 [46.7]	
	Sens BTUH [kW]	115.0 [33.7]	157.4 [46.1]	98.1 [28.8]	135.8 [39.8]	119.0 [34.9]	115.8 [33.9]	161.0 [47.2]	141.1 [41.4]	137.3 [40.2]	
	Power	19.1	29.3	18.5	18.9	18.4	18.3	18.7	18.2	18.1	
115°F [46.1]°C	Total BTUH [kW]	188.8 [55.3]	270.5 [79.3]	177.0 [51.9]	174.3 [51.1]	165.2 [48.4]	163.5 [47.9]	164.0 [48.1]	155.5 [45.6]	153.8 [45.1]	
	Sens BTUH [kW]	108.9 [31.9]	160.2 [47.0]	92.8 [27.2]	129.7 [38.0]	113.6 [33.3]	110.6 [32.4]	154.9 [45.4]	135.7 [39.8]	132.0 [38.7]	
	Power	20.6	31.1	20.0	20.4	19.9	19.8	20.2	19.7	19.6	
120°F [48.9]°C	Total BTUH [kW]	181.5 [53.2]	271.7 [79.6]	170.2 [49.9]	167.1 [49.0]	158.4 [46.4]	156.7 [45.9]	156.8 [46.0]	148.6 [43.6]	147.0 [43.1]	
	Sens BTUH [kW]	101.4 [29.7]	163.0 [47.8]	86.5 [25.4]	122.2 [35.8]	107.0 [31.4]	104.2 [30.5]	147.4 [43.2]	129.1 [37.8]	125.7 [36.8]	
	Power	22.2	32.8	21.5	22.0	21.5	21.4	21.9	21.3	21.2	
125°F [51.7]°C	Total BTUH [kW]	173.0 [50.7]	273.0 [80.0]	162.2 [47.5]	158.6 [46.5]	150.3 [44.1]	148.7 [43.6]	148.3 [43.5]	140.5 [41.2]	139.0 [40.7]	
	Sens BTUH [kW]	92.5 [27.1]	165.7 [48.6]	78.9 [23.1]	113.3 [33.2]	99.3 [29.1]	96.6 [28.3]	138.5 [40.6]	121.4 [35.6]	118.1 [34.6]	
	Power	23.9	34.6	23.2	23.8	23.1	23.0	23.6	23.0	22.8	

DR —Depression ratio
dbE —Entering air dry bulb
wbE —Entering air wet bulb

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power —KW input

NOTES:
① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

COOLING PERFORMANCE DATA—RACY2240

ENTERING INDOOR AIR @ 80°F [26.7°C] dbE ①											
wbE		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			
CFM [L/s]		6775 [3197]	5200 [2454]	4900 [2313]	6775 [3197]	5200 [2454]	4900 [2313]	6775 [3197]	5200 [2454]	4900 [2313]	
DR ①		0.05	0.09	0.12	0.05	0.09	0.12	0.05	0.09	0.12	
OUTDOOR DRY BULB TEMPERATURE °F [°C]	75°F [23.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	281.3 [82.4] 166.8 [48.9] 17.7	260.3 [76.3] 138.1 [40.5] 17.0	262.3 [76.9] 140.9 [41.3] 17.1	261.4 [76.6] 189.9 [55.7] 16.9	241.8 [70.9] 157.2 [46.1] 16.2	243.7 [71.4] 160.4 [47.0] 16.3	241.4 [70.8] 213.0 [62.4] 17.4	223.3 [65.4] 176.4 [51.7] 16.7	225.1 [66.0] 179.9 [52.7] 16.8
	80°F [26.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	282.7 [82.9] 170.1 [49.9] 19.5	261.5 [76.6] 140.8 [41.3] 18.8	263.6 [77.3] 143.7 [42.1] 18.8	262.7 [77.0] 193.2 [56.6] 18.7	243.1 [71.2] 160.0 [46.9] 18.0	245.0 [71.8] 163.2 [47.8] 18.1	242.8 [71.2] 216.4 [63.4] 19.2	224.6 [65.8] 179.1 [52.5] 18.5	226.3 [66.3] 182.7 [53.5] 18.6
	85°F [29.4]°C	Total BTUH [kW] Sens BTUH [kW] Power	284.1 [83.3] 173.5 [50.8] 21.3	262.8 [77.0] 143.6 [42.1] 20.5	264.9 [77.6] 146.5 [42.9] 20.6	264.1 [77.4] 196.6 [57.6] 20.5	244.3 [71.6] 162.8 [47.7] 19.8	246.3 [72.2] 166.0 [48.7] 19.8	244.2 [71.6] 219.7 [64.4] 21.0	225.9 [66.2] 181.9 [53.3] 20.2	227.6 [66.7] 185.6 [54.4] 20.3
	90°F [32.2]°C	Total BTUH [kW] Sens BTUH [kW] Power	285.5 [83.7] 176.8 [51.8] 23.2	264.1 [77.4] 146.4 [42.9] 22.3	266.2 [78.0] 149.3 [43.8] 22.4	265.5 [77.8] 199.9 [58.6] 22.4	245.6 [72.0] 165.5 [48.5] 21.5	247.5 [72.5] 168.8 [49.5] 21.6	245.5 [72.0] 223.0 [65.4] 22.9	227.1 [66.6] 184.7 [54.1] 22.0	228.9 [67.1] 188.4 [55.2] 22.1
	95°F [35]°C	Total BTUH [kW] Sens BTUH [kW] Power	286.9 [84.1] 180.1 [52.8] 25.0	265.4 [77.8] 149.1 [43.7] 24.0	267.4 [78.4] 152.1 [44.6] 24.1	266.9 [78.2] 203.3 [59.6] 24.2	246.9 [72.4] 168.3 [49.3] 23.3	248.8 [72.9] 171.7 [50.3] 23.4	246.9 [72.4] 226.4 [66.4] 24.7	228.4 [66.9] 187.4 [54.9] 23.8	230.2 [67.5] 191.2 [56.0] 23.9
	100°F [37.8]°C	Total BTUH [kW] Sens BTUH [kW] Power	288.2 [84.5] 183.5 [53.8] 26.8	266.6 [78.1] 151.9 [44.5] 25.8	268.7 [78.8] 154.9 [45.4] 25.9	268.3 [78.6] 206.6 [60.6] 26.0	248.2 [72.7] 171 [50.1] 25.0	250.1 [73.3] 174.5 [51.1] 25.1	248.3 [72.8] 229.7 [67.3] 26.5	229.7 [67.3] 190.2 [55.7] 25.5	231.5 [67.8] 194.0 [56.9] 25.6
	105°F [40.6]°C	Total BTUH [kW] Sens BTUH [kW] Power	289.6 [84.9] 186.8 [54.7] 28.6	267.9 [78.5] 154.7 [45.3] 27.6	270.0 [79.1] 157.8 [46.2] 27.7	269.6 [79.0] 209.9 [61.5] 27.8	249.4 [73.1] 173.8 [50.9] 26.8	251.4 [73.7] 177.3 [52.0] 26.9	249.7 [73.2] 233.1 [68.3] 28.4	231.0 [67.7] 193.0 [56.6] 27.3	232.8 [68.2] 196.8 [57.7] 27.4
	110°F [43.3]°C	Total BTUH [kW] Sens BTUH [kW] Power	291.0 [85.3] 190.1 [55.7] 30.5	269.2 [78.9] 157.4 [46.1] 29.3	271.3 [79.5] 160.6 [47.1] 29.4	271.0 [79.4] 213.3 [62.5] 29.7	250.7 [73.5] 176.6 [51.8] 28.6	252.7 [74.1] 180.1 [52.8] 28.7	251.1 [73.6] 236.4 [69.3] 30.2	232.3 [68.1] 195.7 [57.4] 29.0	234.1 [68.6] 199.6 [58.5] 29.1
	115°F [46.1]°C	Total BTUH [kW] Sens BTUH [kW] Power	292.4 [85.7] 193.5 [56.7] 32.3	270.5 [79.3] 160.2 [47.0] 31.1	272.6 [79.9] 163.4 [47.9] 31.2	272.4 [79.8] 216.6 [63.5] 31.5	252.0 [73.9] 179.3 [52.5] 30.3	254.0 [74.4] 182.9 [53.6] 30.4	252.4 [74.0] 239.7 [70.3] 32.0	233.5 [68.4] 198.5 [58.2] 30.8	235.4 [69.0] 202.5 [59.3] 30.9
	120°F [48.9]°C	Total BTUH [kW] Sens BTUH [kW] Power	293.7 [86.1] 196.8 [57.7] 34.1	271.7 [79.6] 163.0 [47.8] 32.8	273.9 [80.3] 166.2 [48.7] 33.0	273.8 [80.2] 219.9 [64.4] 33.3	253.3 [74.2] 182.1 [53.4] 32.1	255.3 [74.8] 185.8 [54.5] 32.2	253.8 [74.4] 243.1 [71.2] 33.8	234.8 [68.8] 201.2 [59.0] 32.6	236.6 [69.3] 205.3 [60.2] 32.7
125°F [51.7]°C	Total BTUH [kW] Sens BTUH [kW] Power	295.1 [86.5] 200.2 [58.7] 35.9	273.0 [80.0] 165.7 [48.6] 34.6	275.2 [80.7] 169.0 [49.5] 34.7	275.2 [80.7] 223.3 [65.4] 35.2	254.6 [74.6] 184.9 [54.2] 33.8	256.5 [75.2] 188.6 [55.3] 34.0	255.2 [74.8] 246.4 [72.2] 35.7	236.1 [69.2] 204.0 [59.8] 34.3	237.9 [69.7] 208.1 [61.0] 34.4	

DR —Depression ratio
dbE —Entering air dry bulb
wbE —Entering air wet bulb

Total —Total capacity x 1000 BTUH
Sens —Sensible capacity x 1000 BTUH
Power —KW input

NOTES:

① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

[] Designates Metric Conversions

UNIT DIMENSIONS AND WEIGHTS
6.5, 7.5 & 10 TON [22.9, 26.4 & 35.2 kW]

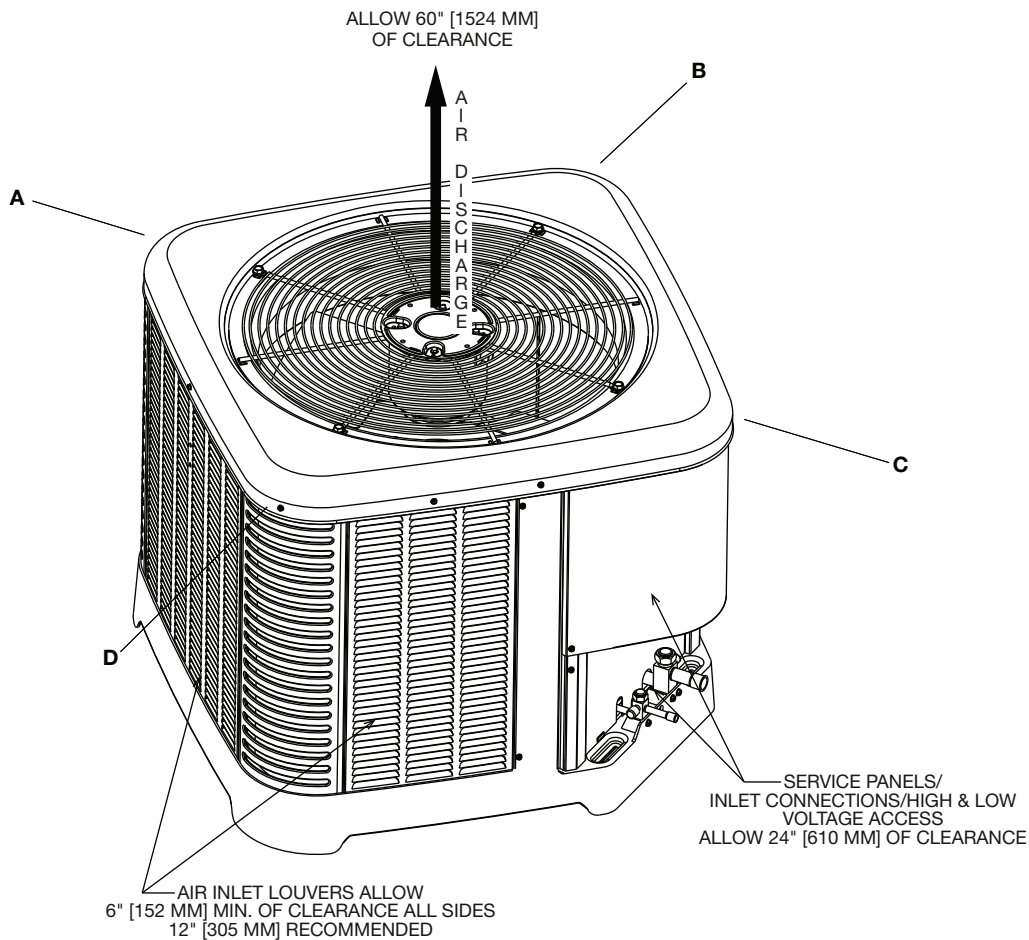


Illustration
ST-A1226-106-01

6.5, 7.5 & 10 TON [22.9, 26.4 & 35.2 kW]

MODEL	TOTAL WEIGHT LBS. [kg]	CORNER WEIGHTS, LBS. [kg]			
		A	B	C	D
RACY2078	383 [174]	104 [47]	82 [37]	107 [49]	89 [40]
RACY2090	383 [174]	104 [47]	82 [37]	107 [49]	89 [40]
RACY2119	411 [186]	112 [51]	88 [40]	115 [52]	96 [44]

[] Designates Metric Conversions

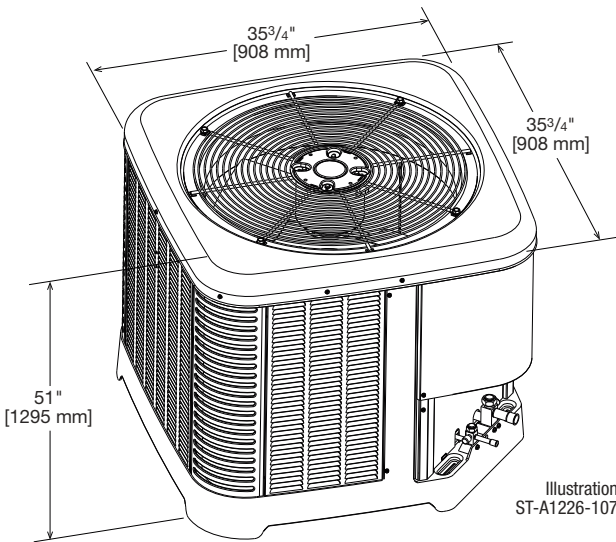


Illustration
ST-A1226-107

UNIT DIMENSIONS AND WEIGHTS 10 & 12.5 TON [35.2 & 44.0 kW]

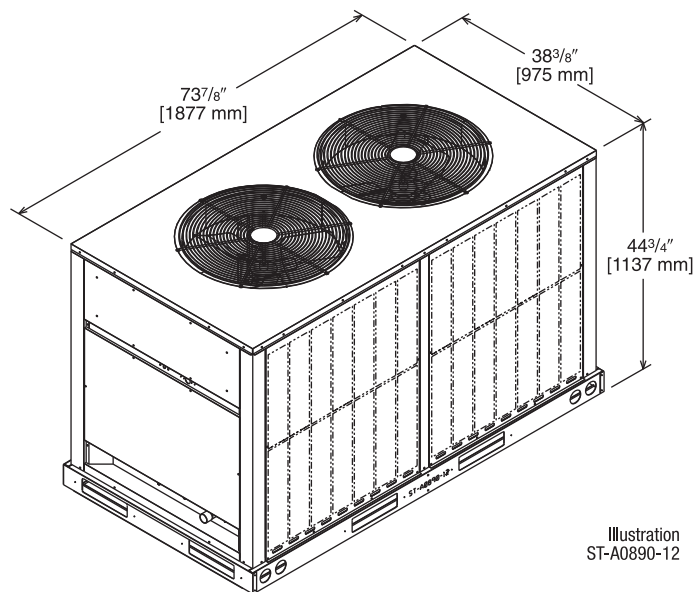
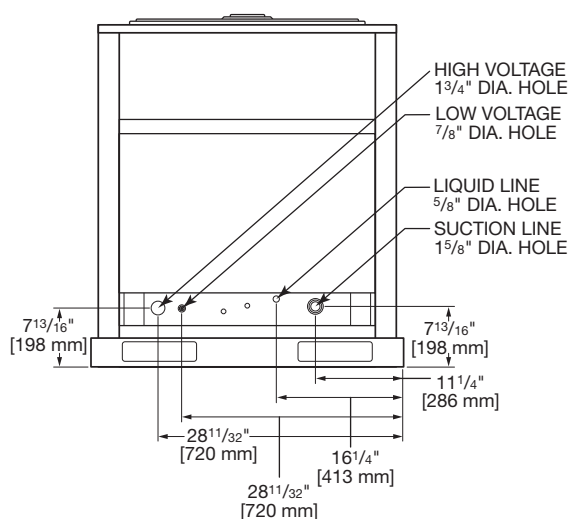


Illustration
ST-A0890-12

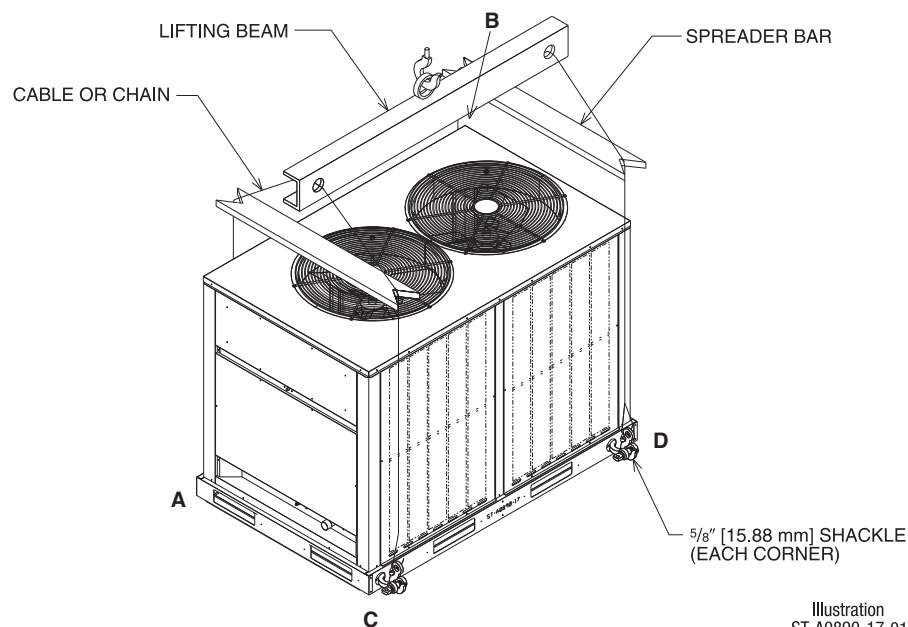


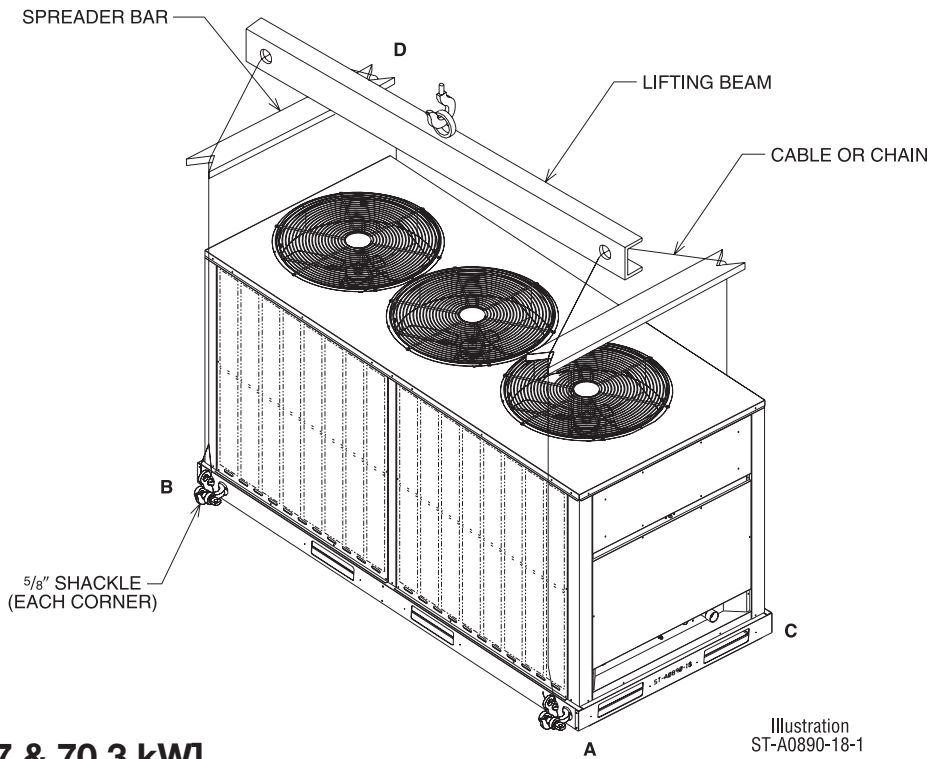
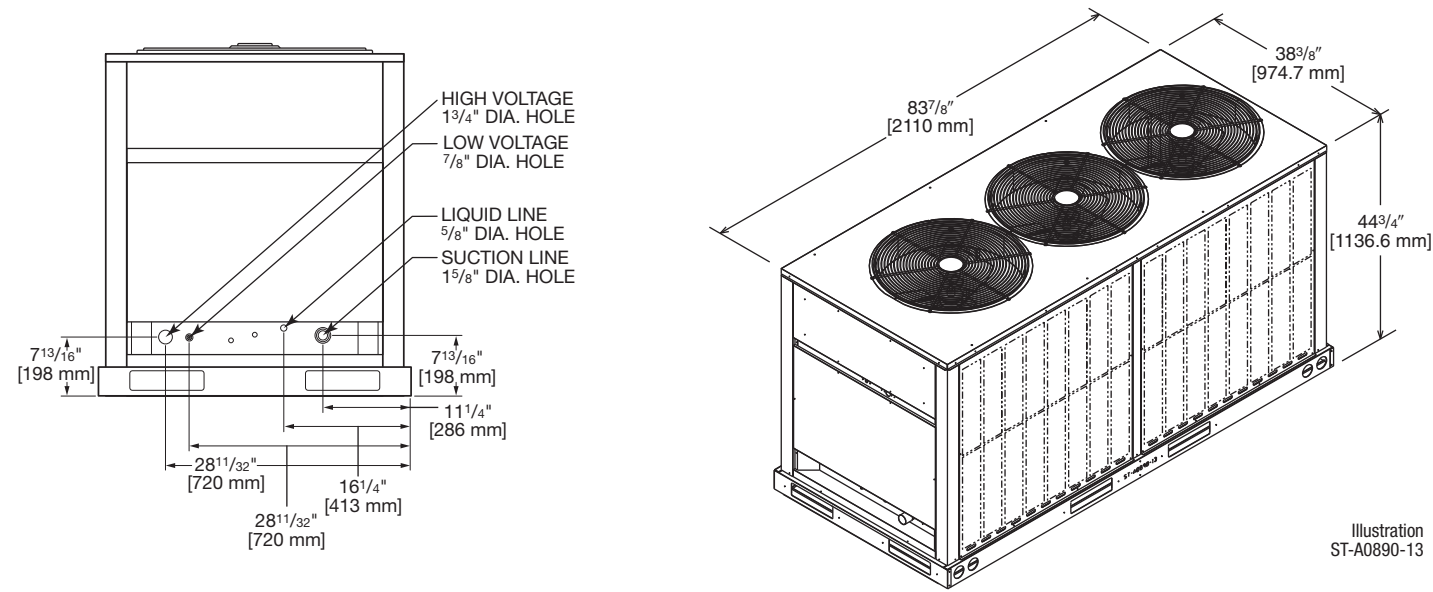
Illustration
ST-A0890-17-01

10 & 12.5 TON [35.2 & 44.0 kW]

MODEL	TOTAL WEIGHT LBS. [kg]	CORNER WEIGHTS, LBS. [kg]			
		A	B	C	D
RACY2120	565 [256]	97 [44]	181 [82]	167 [76]	73 [33]
RACY2150	647 [293]	189 [86]	157 [71]	161 [73]	139 [63]

[] Designates Metric Conversions

UNIT DIMENSIONS AND WEIGHTS 15 & 20 TON [52.8 & 70.3 kW]



15 & 20 TON [52.7 & 70.3 kW]

CORNER WEIGHTS (LBS.) [kg]

MODEL	TOTAL WEIGHT LBS. [kg]	CORNER WEIGHTS, LBS. [kg]			
		A	B	C	D
RACY2180	832 [377]	240 [109]	183 [83]	167 [76]	242 [110]
RACY2240	926 [420]	308 [140]	128 [58]	161 [73]	328 [149]

[] Designates Metric Conversions

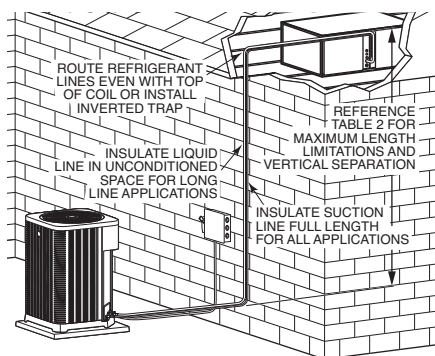
TYPICAL REFRIGERANT PIPING RECOMMENDATIONS

General Notes:

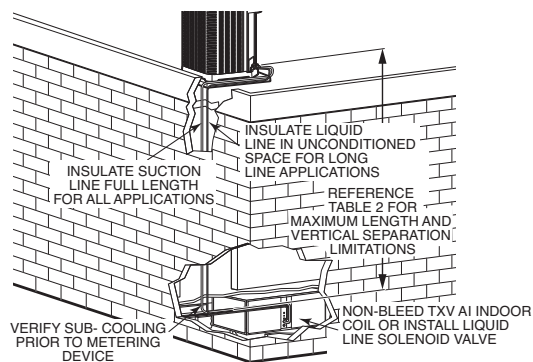
1. Vertical risers not to exceed 60 feet [18.29 m].
2. Locate the remote condensing unit and indoor air handler as close together as possible to minimize piping runs.
3. Remote condensing units are shipped with a nitrogen holding charge. Evacuate remote condensing unit before charging with refrigerant.
4. Runs between remote condensing and indoor air handler are not to exceed 90' [27.43 m] linear length.

EQUIVALENT LENGTH (FT.) [m] OF STRAIGHT TYPE "L" TUBING FOR NON-FERROUS VALVES AND FITTINGS (BRAZED)				
TUBE SIZE INCHES [mm] O.D.	ANGLE VALVE	SHORT RADIUS ELL	LONG RADIUS ELL	TEE LINE FLOW
1/2 [12.7]	24 [7.32]	4.7 [1.43]	3.2 [0.98]	1.7 [0.52]
5/8 [15.88]	25 [7.62]	5.7 [1.74]	3.9 [1.19]	2.3 [0.70]
3/4 [19.05]	25 [7.62]	6.5 [1.98]	4.5 [1.37]	2.9 [0.88]
7/8 [22.23]	28 [8.53]	7.8 [2.38]	5.3 [1.62]	3.7 [1.13]
1 1/8 [28.58]	29 [8.84]	2.7 [0.82]	1.9 [0.58]	5.2 [1.59]
1 3/8 [34.93]	33 [10.06]	3.2 [0.98]	2.2 [0.67]	6.9 [2.10]

COIL ABOVE CONDENSING UNIT



COIL BELOW CONDENSING UNIT



[] Designates Metric Conversions

TYPICAL REFRIGERANT PIPING RECOMMENDATIONS

REQUIRED OUNCES. R-454B CHARGE PER FOOT [m] OF TUBING									
TUBE SIZE		LIQUID TUBE		VAPOR TUBE		TOTAL		INTERNAL VOLUME	
OD (IN)	OD (MM)	OZ ^M /FT	KG/M	OZ ^M /FT	KG/M	OZ ^M /FT	KG/M	ft ³ /ft	M ³ /M
3/8	9.5	0.5	0.05	0.0	0.00	0.5	0.05	0.000555	0.000048
1/2	12.7	1.0	0.09	0.0	0.00	1.0	0.09	0.00108	0.0000929
5/8	15.9	1.5	0.14	0.1	0.00	1.6	0.15	0.00173	0.000149
3/4	19.1	2.2	0.21	0.1	0.01	2.3	0.21	0.00248	0.000214
7/8	22.2	3.1	0.29	0.1	0.01	3.2	0.30	0.00343	0.000296
1	25.4	4.0	0.37	0.1	0.01	4.2	0.39	0.0045	0.000389
1 1/8	28.6	5.2	0.49	0.2	0.02	5.4	0.50	0.00585	0.000503
1 1/4	31.8	6.5	0.60	0.2	0.02	6.7	0.62	0.00721	0.000623
1 3/8	34.9	7.3	0.68	0.2	0.02	7.6	0.70	0.008165	0.000758595
1 1/2	38.1	9.4	0.87	0.3	0.03	9.7	0.90	0.0105	0.00091
1 5/8	41.3	11.2	1.04	0.4	0.03	11.6	1.08	0.0125	0.00108
2 1/8	54.0	19.5	1.82	0.6	0.06	20.2	1.88	0.0218	0.00188

Quantities based on 110°F liquid and 45°F vapor.

Guide Specifications RACY-078–240

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AC CONDENSING UNIT

HVAC Guide Specifications

Size Range: 6.5 to 20 Nominal Tons

1.01 Quality Assurance

- A. Unit shall be rated in accordance with AHRI Standard 340/360.
- B. Unit construction shall comply with ANSI/ASHRAE 15 safety code latest revision and comply with NEC.
- C. Unit shall be constructed in accordance with UL 60335-2-40 standard and shall carry the UL label.
- D. Unit cabinet shall be capable of withstanding 500 hour salt spray exposure per ASTM B117 (scribed specimen).
- E. Air-cooled condenser coils for hermetic scroll compressor units shall be leak tested at 250 psig, and pressure tested at 450 psig.
- F. Unit shall be subjected to run test on the assembly line.
- G. Unit meets ASHRAE 90.1 2022 minimum efficiency requirements.

1.02 Manufacturer Qualifications

- A. Unit shall be manufactured in a facility registered to ISO 9001:2019 manufacturing quality standard.

1.03 Installer Qualifications

- A. The installer shall be trained to install and service equipment with A2L refrigerants.

1.04 Delivery, Storage, and Handling

Unit shall be shipped as single package only, and shall be stored and handled according to unit manufacturer's recommendations.

- A. Unit shall be stored and handled per manufacturer's recommendations.
- B. Refer to the manufacturer's installation and operation manual for guidance on how to properly lift the unit.
- C. Unit shall only be stored or positioned in the upright position.

1.05 Unit Cabinet

- A. Unit cabinet shall be constructed of galvanized steel and coated with a pre-painted baked enamel finish.
- B. A heavy-gauge roll-formed perimeter base rail with forklift slots and lifting holes shall be provided to facilitate rigging.
 - i. Unit cabinet exterior paint shall be pre-painted steel.
- C. No base pan penetration, other than those authorized by the manufacturer, is permitted.
 - i. Heavy-Gauge Base Pan and Base Rail 120-240:
 - a. Unit shall have base rails on a minimum of 4 sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop for fork truck.
 - d. Base rail shall be a minimum of 14 gauge thickness.
 - ii. Plastic Base Pan 078, 090, and 119:
 - a. Shall be a sloped condensate drain pan made of a non-corrosive material and be removable for cleaning.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 3/4" NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.
 - d. Shall be able to be easily removed.
 - iii. Top panel 6.5T - 10T:
 - a. Top panel is removable for service access.
 - iv. Electrical Connections:
 - a. All unit power wiring shall enter unit cabinet a single, factory-prepared, continuous raised flange opening in the base pan.
 - 1. Thru-the-base capability for 6.5T - 10T: Electrical connections are located close to the ground for a neat-looking installation.
 - v. Component access panels (standard):
 - a. Cabinet panels shall be easily opened for servicing.
 - b. Control box as well as the compressor and other refrigerant controls being accessible through access panels. Control box may be open without affecting the normal operation of the unit. Condenser fan motors are accessible by removing wire grilles.
 - c. Fasteners shall be permanently attached.

1.06 Condenser Fans

- A. Condenser fans shall be direct driven, propeller type, discharging air vertically upward.
- B. Fan blades shall be balanced.
- C. Condenser fan discharge openings shall be equipped with PVC-coated steel wire safety guards.
- D. Condenser fan and motor shaft shall be corrosion resistant.
- E. Condenser fan motors are accessible by removing wire grilles.

1.07 Refrigerant Components

- A. The refrigerant circuit shall include the following control, safety, and maintenance features:
 - i. Refrigerant filter drier.
 - ii. Service gauge connections on suction and discharge lines.
 - iii. External pressure gauge ports allows pressures to be checked on the side, without removing access panel.

1.08 Compressors

- A. Compressor shall be of the hermetic scroll type.
- B. Compressor shall be mounted on rubber grommets.
- C. Compressors shall include overload protection.
- D. Compressors shall be equipped with a crankcase heater.
- E. Compressor shall be equipped with internal high pressure and high temperature protection.

1.09 Condenser Coils

- A. Standard Aluminum fin - Copper Tube Coils:
 - i. Condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
 - ii. Condenser coils shall be leak tested to 250 psig, pressure tested to 450 psig, and qualified to UL 60335-2-40.

1.10 Controls and Safeties

- A. Minimum control functions shall include:
 - i. Control wire terminal blocks.
 - ii. Compressor lockout on auto-reset safety until reset from thermostat.
 - iii. Minimum safety devices which are equipped with automatic reset (after resetting first at thermostat), shall include:
 - a. High discharge pressure cutout.
 - b. Low pressure cutout.
- B. Turn off electric power at the fuse box or service panel before making any electrical connections.
- C. The unit must be permanently grounded.
- D. Components are not compatible between different refrigerants. Do not use R-410A service equipment or components on R-454B equipment. System or part failure could occur.

1.11 Operating Characteristics

- A. Standard unit shall be capable to operate up to 125.6°F (52°C) and down to 40°F (4°C).
- B. Compressor with standard controls shall be capable of operation down to 50°F (10°C), ambient outdoor temperatures. Low ambient accessory kit is necessary if mechanically cooling at ambient temperatures to 0°F (-17.7°C).

1.11 Electrical Requirements

- A. Nominal unit electrical characteristics:
 - i. Shall be 208/230v, 3-ph, 60 Hz. The unit shall be capable of satisfactory operation within voltage limits of 187v to 253v.
 - ii. Shall be 460v, 3-ph, 60 Hz. The unit shall be capable of satisfactory operation within voltage limits of 414v to 506v.
- B. Unit control circuit shall contain a 24-v transformer for unit control.
- C. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

1.12 Special Features

- A. Low-Ambient Temperature Control:
 - i. A low-ambient temperature control shall be available as a factory-installed option or as a field-installed accessory. This low-ambient control shall regulate the speed of the condenser-fan motors in response to the saturated condensing temperature of the unit. The control shall maintain correct condensing pressure opens at 250 psig and closes at 450 psig. Allows unit to operate to 0°F.
- B. Condenser Coil Grille: Grille shall add decorative appearance to unit and protect condenser coil from large objects and vandalism.



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GENERAL TERMS OF LIMITED PARTS WARRANTY*

Friedrich® will furnish a replacement for any part of this product which fails in normal use and service within the applicable periods stated, in accordance with the terms of the limited warranty.

Compressor.....Five (5) Years
PartsOne (1) Year

***For Complete Details of the Limited Warranty, Including Applicable Terms and Conditions, See Your Local Installer or Contact the Manufacturer for a Copy.**

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

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