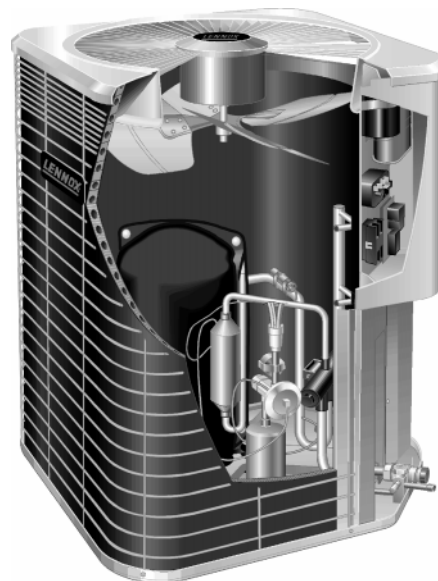
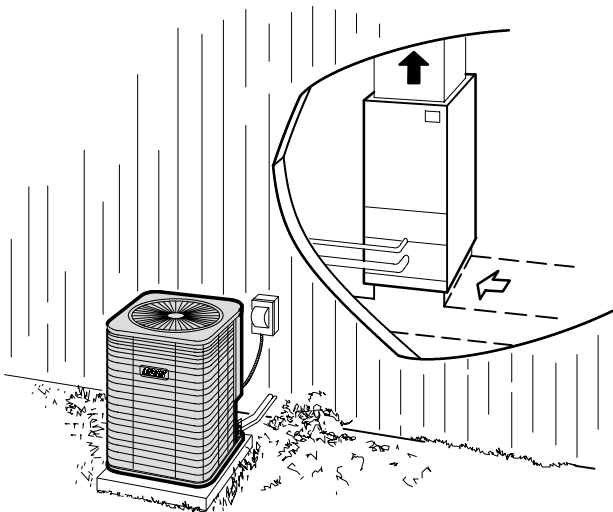


Typical Application



FEATURES

Applications

- Energy Efficiency Ratios (EER's) of up to 9.21.
- 7 through 17.5+ kW (2 through 5+ Ton) sizes.
- Vertical air discharge allows concealment behind shrubs at grade level or out of sight on a roof.
- Matching up-flow, down-flow and horizontal blower coil units with supplemental electric heat provide a wide range of cooling and heating capacities and applications. See ratings table for match-ups.
- For indoor blower coil unit data, see Coils - Blower Coil Units, this section.
- Units shipped completely factory assembled, piped and wired. Each unit is test operated at the factory insuring proper operation.
- Installer must set outdoor unit, connect refrigerant lines and make electrical connections to complete job.

Refrigerant

- For use with non-chlorine, ozone friendly, R-407C.
- Unit is shipped with nitrogen holding charge.
- Unit **Must be Field Charged** with refrigerant. See unit name plate for amount required.

Completely Tested

- Tested in the Lennox Research Laboratory environmental test rooms which meet American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 37 requirements.
- Rating test conditions are those included in Air-Conditioning and Refrigeration Institute (ARI) Standard 210/240-94 while operating at rated voltages and air volumes.
- Sound rated in Lennox reverberant sound test room in accordance with test conditions for Air-Conditioning and Refrigeration Institute (ARI) Standard 270-95.
- Condensing units and components within bonded for grounding to meet safety standards for servicing required by Underwriters Laboratories (U.L.) and the International Electrotechnical Commission (IEC).
- Developed in accordance with International Standards Organization (ISO) 9000 quality standards.

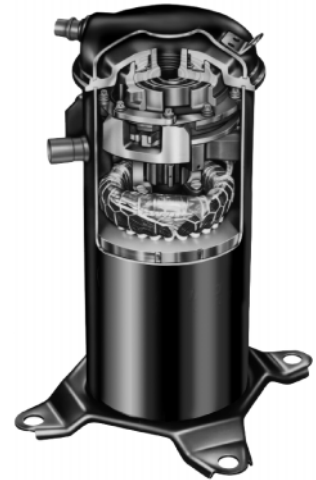
Unit Cabinet

- Heavy gauge steel cabinet with five station metal wash process.
- Powder paint finish provides rust and corrosion protection.
- Painted base section.
- Control box is conveniently located with all controls factory wired.
- Corner patch plate allows access to compressor.
- Drainage holes are provided in base section for moisture removal.

FEATURES

Copeland® Compliant Scroll Compressor

- Compressor features high efficiency with uniform suction flow, constant discharge flow and high volumetric efficiency and quiet operation.
- Compressor consists of two involute spiral scrolls matched together to generate a series of crescent shaped gas pockets between them.
- During compression, one scroll remains stationary while the other scroll orbits around it.
- Gas is drawn into the outer pocket, the pocket is sealed as the scroll rotates.
- As the spiral movement continues, gas pockets are pushed to the center of the scrolls. Volume between the pockets is simultaneously reduced.
- When pocket reaches the center, gas is now at high pressure and is forced out of a port located in the center of the fixed scrolls.
- During compression, several pockets are compressed simultaneously resulting in a smooth continuous compression cycle.
- Continuous flank contact, maintained by centrifugal force, minimizes gas leakage and maximizes efficiency.
- Scroll compressor is tolerant to the effects of slugging and contaminants. If this occurs, scrolls separate, allowing liquid or contaminants to be worked toward the center and discharged.
- Low gas pulses during compression reduces operational sound levels.
- Compressor motor is internally protected from excessive current and temperature.
- Compressor is installed in the unit on resilient rubber mounts for vibration free operation.



Defrost Control

- Solid-state time/temperature defrost control is furnished as standard equipment.
- Control initiates a defrost cycle every 30, 60 or 90 minutes of compressor "on" time at outdoor temperatures below 2°C (35° F) (factory setting 60 minutes).
- Maximum defrost cycle 14 minutes.
- Defrost thermostat mounted on liquid line determines when defrost cycle is required and when to terminate cycle.

Reversing Valve

- Factory installed 4-way reversing valve provides rapid change in refrigerant flow direction resulting in quick changeover from cooling to heating and vice-versa.
- Valve operates on pressure differential between outdoor unit and indoor unit.

Copper Tube/Enhanced Fin Coil

- Lennox designed and fabricated coil.
- Ripple-edged aluminum fins.
- Copper tube construction.
- Lanced fins provide maximum exposure of fin surface to air stream resulting in excellent heat transfer.
- Fin collars grip tubing for maximum contact area.
- Flared shoulder tubing connections/silver soldering construction.
- Coil is factory tested under high pressure to insure leakproof construction.
- Entire coil is accessible for cleaning.
- Polyvinyl Chloride (PVC) coated steel wire coil guard furnished as standard.

Outdoor Coil Fan

- Direct drive fan moves large air volumes uniformly through entire outdoor coil for high refrigerant cooling capacity.
- Vertical air discharge minimizes operating sounds and eliminates damage to lawn and shrubs.
- Fan motor has sleeve bearings and is inherently protected.
- Motor totally enclosed for maximum protection from weather, dust and corrosion.
- Rain shield on motor provides additional protection from moisture.
- Louvered steel top fan guard furnished as standard.
- Fan service access accomplished by removal of fan guard.

Expansion Valve

- Factory installed and piped expansion valve is designed and sized specifically for use in heat pump system.
- Sensing bulb is located on suction line between reversing valve and compressor to sense suction temperature in any cycle.

Hi-Capacity Drier

- Factory installed.
- Drier traps any moisture or dirt that could contaminate the refrigerant system.

High Pressure Switch

- Automatic reset switch shuts off unit if abnormal operating conditions cause discharge pressure to rise above setting.

Refrigerant Line Connections, Electrical Inlets, Service Valves

- Sweat connection suction and liquid lines are located on corner of unit cabinet.
- Fully serviceable brass service valves prevent corrosion and provide access to refrigerant system. Suction valve can be fully shut off, while liquid valve may be front seated to manage refrigerant charge while servicing system.
- 45° elbow furnished for ease of suction line connection.
- HP40-024 models are stubbed with 9.5 mm (3/8 in.) liquid line connection. 9.5 mm x 7.9 mm (3/8 in. x 5/16 in.) reducer bushing furnished with for liquid line connection.
- Field installed thermometer well furnished for installation in the liquid line to check refrigerant charge.
- Refrigerant line connections and field wiring inlets are located in one central area of cabinet for easy access. See dimension drawing.

Check and Expansion Valve Kits

- **Check and Expansion valve shipped with outdoor unit MUST be field installed on indoor unit. Factory installed check and expansion valves on indoor units MUST be replaced with valve shipped with outdoor unit.**
- Chatleff style fitting.
- Furnished as standard for field installation.

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Thermostat

- Thermostat not furnished with unit. See Lennox Price Book.

Refrigerant Line Kits

- Refrigerant lines (suction & liquid) are shipped refrigeration clean. Lines are cleaned, dried, pressurized and sealed at factory.
- Suction line fully insulated.
- L15 lines are stubbed at both ends.
- See Refrigerant Line Kit table for selection.

Low Ambient Kit

- Outdoor units operate satisfactorily in the cooling mode down to 7°C (45°F) outdoor air temperature without any additional controls.
- Low Ambient Control Kit LB-57113BM (**27J00**) can be field installed, allowing proper unit operation in the cooling mode down to -1°C (30°F).

Unit Stand-Off Kit

- Black high density polyethylene feet (**94J45**) are available to raise unit off of mounting surface away from damaging moisture.
- Four feet are furnished per order number.

Crankcase Heater

- Crankcase heater prevents migration of liquid refrigerant into compressor and ensures proper compressor lubrication.
- For field installation, order (**90P12**)

SPECIFICATIONS

| Model Number | | | HP40-024 | HP40-036 | HP40-048 | HP40-065 |
|--|--|------------|-------------------------|--------------|-------------|--------------|
| Nominal kW (Tonnage) | | | 7 (2) | 10.5 (3) | 14 (4) | 17.5+ (5+) |
| Liquid line connection - outside diameter - mm (in.) sweat | | | *9.5 (3/8) | 9.5 (3/8) | | |
| Vapor line connection - outside diameter - mm (in.) sweat | | | 15.9 (5/8) | 19.1 (3/4) | 22.2 (7/8) | 28.6 (1-1/8) |
| †Refrigerant charge | | | Nitrogen holding charge | | | |
| Outdoor Coil | Net face area — m ² (ft. ²) | Inner coil | ---- | 1.34 (14.4) | | 1.88 (20.2) |
| | | Outer coil | 1.06 (11.41) | 1.40 (15.11) | | 1.95 (21.0) |
| | Tube outside diameter — mm (in.) | | 7.9 (5/16) | | | |
| | Number of rows | | 1 | 2 | | |
| Fins per m (inch) | | | 22 | 18 | | 22 |
| Outdoor Coil Fan | Diameter — mm (in.) | | 457 (18) | | | 559 (22) |
| | Number of blades | | 3 | 4 | | |
| | Motor output — W (hp) | | 125 (1/6) | | 250 (1/3) | |
| | Air volume — L/s (cfm) | | 945 (2000) | 985 (2085) | 1190 (2520) | 1705 (3610) |
| | Rev/Min | | 920 | | 940 | 900 |
| | Motor input — W | | 140 | 155 | 255 | 320 |
| Shipping weight — kg (lbs.) 1 package | | | 69 (152) | 87 (192) | 86 (190) | 117 (257) |

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

| | |
|--------------------|-----------------------------|
| Low Ambient Kit | LB-57113BM (27J00) |
| Unit Stand-Off Kit | 94J45 |
| Crankcase Heater | 90P12 |

†R-407C refrigerant MUST be field supplied, see name plate for required amount

*Furnished with 9.5 mm x 8 mm (3/8 inch x 5/16 inch) reducer adaptor for refrigerant line connections.

ELECTRICAL DATA

| Model Number | | HP40-024 | HP40-036 | HP40-048 | HP40-065 |
|-----------------------------------|-------------------|---------------------|---------------------|----------------------|----------------------|
| Line voltage and phase (50hz) | | 220/240V 1 phase | 380/420V 3 phase | †380/420V 3 phase | †380/420V 3 phase |
| Voltage range (minimum — maximum) | | 198 — 264V | 342 — 462V | 342 — 462V | 342 — 462V |
| Compressor | Rated load amps | 10.3 | 15.4 | 6.41 | 9.0 |
| | Locked rotor amps | 60 | 97 | 46 | 64 |
| Outdoor Coil Fan Motor (1 phase) | Full load amps | 1.0 | | 0.6 | 0.8 |
| | Locked rotor amps | 1.9 | | 1.0 | 2.1 |

NOTE — Refer to local electrical codes to determine wire, fuse and disconnect size requirements.

†Neutral required with optional Transformer Kit (**16F34**).

RATINGS

| Outdoor Unit Model Number (² Sound Rating Number db) | ① Net Cooling and Heating Ratings | | | | | | | | | | | | | Blower Coil Unit | Check and Expansion Kit Required |
|---|-----------------------------------|--------|-----------------------------------|--------|----------------------------------|--------|----------------------|----------------------------------|-------------------------------------|--------------------------|----------------------------------|-------------------------|----------------------------------|------------------|--|
| | Cooling Capacity | | High Temperature Heating Capacity | | Low Temperature Heating Capacity | | Cooling | | | High Temperature Heating | | Low Temperature Heating | | | |
| | kW | Btuh | kW | Btuh | kW | Btuh | Total Power Input kW | (Out/In) Performance Coefficient | (Btuh/Watt) Ratio Efficiency Energy | Total Power Input kW | (Out/In) Performance Coefficient | Total Power Input kW | (Out/In) Performance Coefficient | | |
| HP40-024 (76) | 6.2 | 21 200 | 6.4 | 21 800 | 4.1 | 14 000 | 2.91 | 2.58 | 8.80 | 2.12 | 3.01 | 1.94 | 2.11 | CB29M-21/26 | Check and expansion valve shipped with outdoor unit MUST be field installed on indoor unit. Factory installed check and expansion valves on indoor units MUST be replaced with valve shipped with outdoor unit. |
| HP40-036 (76) | 9.8 | 33 600 | 10.8 | 36 800 | 7.0 | 24 000 | 3.65 | 2.70 | 9.21 | 3.83 | 2.01 | 3.45 | 2.04 | CB29M-31/41 | |
| HP40-048 (84) | 13.5 | 46 000 | 12.3 | 42 000 | 7.9 | 27 000 | 5.04 | 2.67 | 9.13 | 4.27 | 2.88 | 3.85 | 2.05 | CB29M-51 | |
| HP40-065 (84) | 16.3 | 55 500 | 16.1 | 55 000 | 10.4 | 35 500 | 6.73 | 2.41 | 8.25 | 5.99 | 2.69 | 5.32 | 1.95 | CB29M-65 | |

① The rating test conditions are those included in Air-Conditioning and Refrigeration Institute (ARI) Standard 210/240-89 while operating at rated voltage and air volumes;

Cooling Ratings — 35°C (95°F) outdoor air temperature, 26.7°C (80°F) dry bulb and 19.4°C (67°F) wet bulb entering indoor coil air.

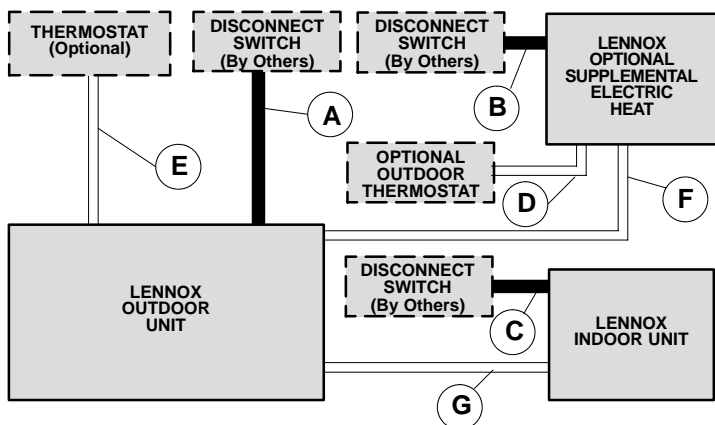
High Temperature Heating Ratings — 8.3°C (47°F) dry bulb, 6.1°C (43°F) wet bulb outdoor air temperature and 21.1°C (70°F) entering indoor coil air.

Low Temperature Heating Ratings — minus 8.3°C (17°F) dry bulb, minus 9.4°C (15°F) wet bulb outdoor air temperature and 21.1°C (70°F) entering indoor coil air.

² Sound rating number rated at test conditions for Air-Conditioning and Refrigeration Institute (ARI) Standard 270.

³ Furnished as standard with coil.

FIELD WIRING



- A — Single Or Three Phase With Neutral (see Electrical Data)
- B — Single Phase (size to heater capacity)
- C — Single Phase (size to indoor coil blower motor)
- D — Two Wire 24 Volt — 18 ga. minimum
- E — Eight Wire 24 Volt — 18 ga. minimum — with Electric Heat
— Ten Wire 24 Volt with Optional Outdoor Thermostat
- F — Four Wire 24 Volt — 18 ga. minimum
- G — Three Wire 24 Volt — 18 ga. minimum

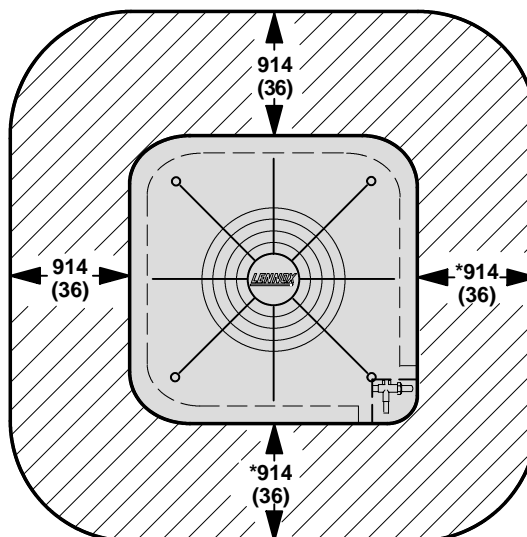
— Field Wiring Not Furnished —

All wiring must conform to local electrical codes.

REFRIGERANT LINE KITS

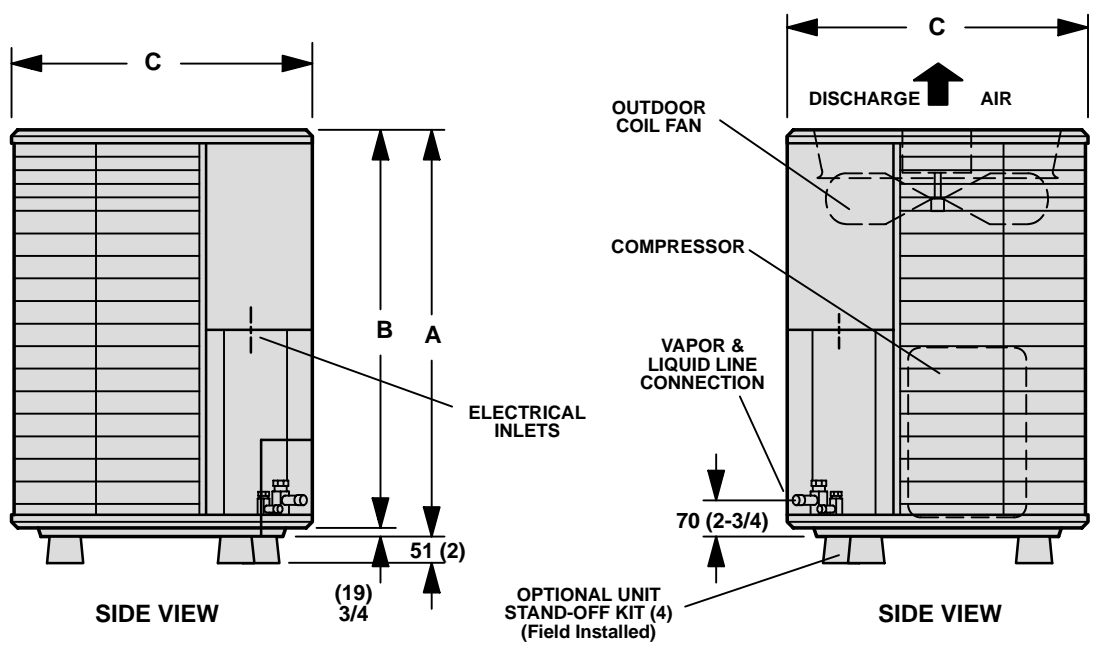
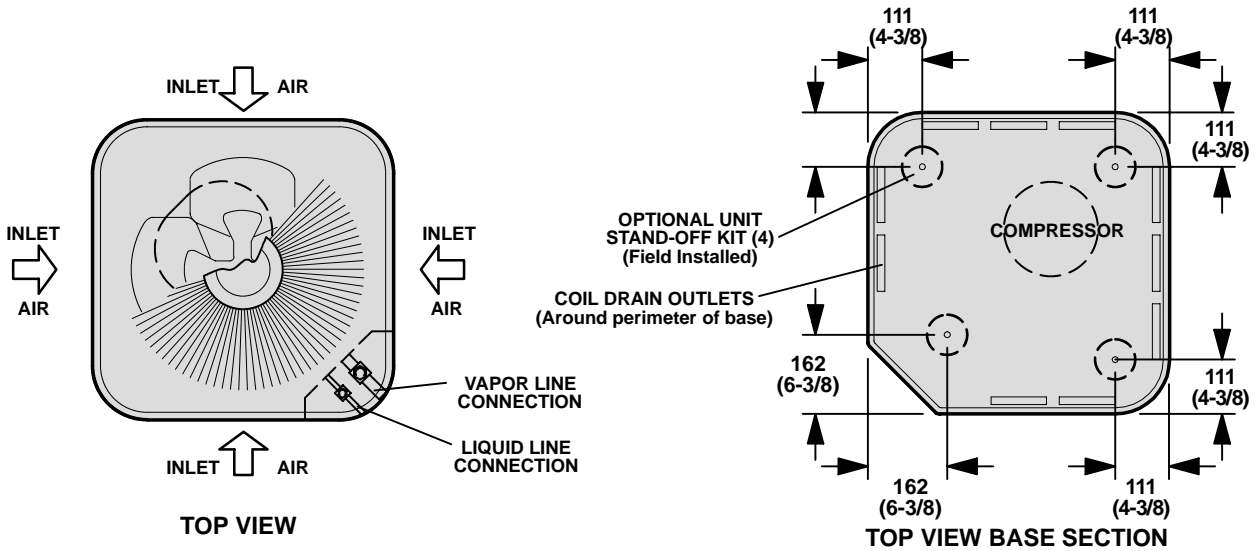
| Outdoor Unit Model Number | Line Set Model Number | Length of Lines | | Liquid Line Outside Diameter | | Vapor Line Outside Diameter | |
|---------------------------|-----------------------|-----------------|----|------------------------------|-----|-----------------------------|------|
| | | ft. | m | in. | mm | in. | mm |
| HP40-024 | L15-21-20 | 20 | 6 | 5/16 | 7.9 | 5/8 | 15.9 |
| | L15-21-25 | 25 | 8 | | | | |
| | L15-21-35 | 35 | 11 | | | | |
| | L15-21-50 | 50 | 15 | | | | |
| HP40-036 | L15-41-20 | 20 | 6 | 3/8 | 9.5 | 3/4 | 19 |
| | L15-41-30 | 30 | 9 | | | | |
| | L15-41-40 | 40 | 12 | | | | |
| | L15-41-50 | 50 | 15 | | | | |
| HP40-048 | L15-65-30 | 30 | 9 | 3/8 | 9.5 | 7/8 | 22.2 |
| | L15-65-40 | 40 | 12 | | | | |
| | L15-65-50 | 50 | 15 | | | | |
| HP40-065 | Field Fabricate | | | 3/8 | 9.5 | 1-1/8 | 28.5 |

INSTALLATION CLEARANCES - MM (IN.)



NOTE—1219 mm (48 in.) clearance required on top of unit.
*NOTE—One side must be 914 mm (36 in.) for service.
Two of the remaining three sides may be 305 mm (12 in.).

DIMENSIONS – MM (INCHES)



| Model Number | | A | B | C |
|----------------------|-----|--------|--------|--------|
| HP40-024 | mm | 641 | 616 | 616 |
| | in. | 25-1/4 | 24-1/4 | 24-1/4 |
| HP40-036 HP40-048 | mm | 845 | 819 | 616 |
| | in. | 33-1/4 | 32-1/4 | 24-1/4 |
| HP40-065 | mm | 946 | 927 | 718 |
| | in. | 37-1/4 | 36-1/2 | 28-1/4 |

COOLING AND HEATING RATINGS – 50HZ

NOTE — For Temperatures and Capacities not shown in tables, see bulletin — Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data Section. All values are gross capacities and do not include evaporator blower motor heat deduction.

HP40-024 — CB29M-21/26 COOLING CAPACITY

| Entering Wet Bulb Temperature | Total Air Volume | | Outdoor Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|------------------|-----|---|------|---------------------|-------------------------------|-----------|-----------|------------------------|------|---------------------|-------------------------------|-----------|-----------|------------------------|-------|---------------------|-------------------------------|-----------|------|------------------------|-----------|---------------------|-------------------------------|------|-------|
| | | | 29°C (85°F) | | | | | | 35°C (95°F) | | | | | | 41°C (105°F) | | | | | | 46°C (115°F) | | | | | |
| | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | |
| | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | |
| | | | m³/s | cfm | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh |
| 17°C (63°F) | .30 | 650 | 6.2 | 21.2 | 1.71 | .74 | .88 | .99 | 5.9 | 20.1 | 1.95 | .76 | .91 | 1.00 | 5.6 | 19.0 | 2.23 | .78 | .93 | 1.00 | 5.2 | 17.8 | 2.56 | .80 | .96 | 1.00 |
| | .38 | 800 | 6.4 | 21.9 | 1.72 | .79 | .95 | 1.00 | 6.1 | 20.9 | 1.96 | .81 | .96 | 1.00 | 5.8 | 19.8 | 2.23 | .84 | .98 | 1.00 | 5.5 | 18.6 | 2.57 | .86 | 1.00 | 1.00 |
| | .45 | 950 | 6.6 | 22.6 | 1.73 | .84 | .99 | 1.00 | 6.3 | 21.6 | 1.96 | .86 | 1.00 | 1.00 | 6.0 | 20.5 | 2.24 | .89 | 1.00 | 1.00 | 5.7 | 19.3 | 2.58 | .91 | 1.00 | 1.00 |
| 19°C (67°F) | .30 | 650 | 6.6 | 22.6 | 1.72 | .58 | .71 | .85 | 6.3 | 21.4 | 1.96 | .58 | .73 | .87 | 5.9 | 20.2 | 2.24 | .60 | .75 | .90 | 5.5 | 18.9 | 2.58 | .61 | .78 | .93 |
| | .38 | 800 | 6.8 | 23.2 | 1.73 | .60 | .77 | .91 | 6.4 | 22.0 | 1.97 | .62 | .79 | .93 | 6.1 | 20.7 | 2.25 | .63 | .81 | .96 | 5.7 | 19.4 | 2.58 | .65 | .84 | .98 |
| | .45 | 950 | 6.9 | 23.6 | 1.74 | .64 | .82 | .97 | 6.6 | 22.4 | 1.97 | .65 | .84 | .98 | 6.2 | 21.2 | 2.25 | .67 | .86 | 1.00 | 5.8 | 19.8 | 2.59 | .69 | .89 | 1.00 |
| 22°C (71°F) | .30 | 650 | 7.1 | 24.1 | 1.74 | .43 | .56 | .69 | 6.7 | 22.9 | 1.98 | .43 | .57 | .71 | 6.3 | 21.6 | 2.26 | .44 | .58 | .73 | 5.9 | 20.2 | 2.60 | .44 | .60 | .75 |
| | .38 | 800 | 7.2 | 24.7 | 1.74 | .44 | .59 | .74 | 6.9 | 23.5 | 1.98 | .44 | .60 | .76 | 6.5 | 22.1 | 2.27 | .45 | .62 | .79 | 6.1 | 20.7 | 2.60 | .45 | .64 | .82 |
| | .45 | 950 | 7.4 | 25.2 | 1.75 | .45 | .62 | .79 | 7.0 | 23.9 | 1.99 | .46 | .64 | .82 | 6.6 | 22.5 | 2.27 | .47 | .66 | .85 | 6.2 | 21.0 | 2.61 | .47 | .68 | .88 |

HP40-024 - CB29M-21/26 - HEATING CAPACITY

| Indoor Coil Air Volume 21°C db (70°F db) | | Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | |
|---|-------|---------------------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|-------------------------|-------|----------------------|
| | | 18°C (65°F) | | | 7°C (45°F) | | | minus 4°C (25°F) | | | minus 15°C (5°F) | | | minus 28°C (minus 15°F) | | |
| | | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input |
| kW | kBtuh | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | |
| m³/s | cfm | kW | kBtuh | Input | kW | kBtuh | Input | kW | kBtuh | Input | kW | kBtuh | Input | kW | kBtuh | Input |
| .30 | 650 | 7.6 | 26.0 | 1.92 | 6.0 | 20.6 | 1.78 | 4.4 | 15.0 | 1.64 | 3.0 | 10.4 | 1.47 | 1.5 | 5.1 | 1.10 |
| .38 | 800 | 7.7 | 26.4 | 1.81 | 6.2 | 21.0 | 1.68 | 4.5 | 15.4 | 1.53 | 3.2 | 10.8 | 1.37 | 1.6 | 5.5 | 1.00 |
| .45 | 950 | 7.9 | 26.8 | 1.74 | 6.3 | 21.4 | 1.61 | 4.6 | 15.8 | 1.46 | 3.3 | 11.2 | 1.30 | 1.7 | 5.9 | .93 |

HP40-036 — CB29M-31/41 COOLING CAPACITY

| Entering Wet Bulb Temperature | Total Air Volume | | Outdoor Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|------------------|------|---|------|---------------------|-------------------------------|-----------|-----------|------------------------|------|---------------------|-------------------------------|-----------|-----------|------------------------|-------|---------------------|-------------------------------|-----------|------|------------------------|-----------|---------------------|-------------------------------|------|-------|
| | | | 29°C (85°F) | | | | | | 35°C (95°F) | | | | | | 41°C (105°F) | | | | | | 46°C (115°F) | | | | | |
| | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | |
| | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | |
| | | | m³/s | cfm | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh |
| 17°C (63°F) | .47 | 1000 | 9.8 | 33.6 | 2.64 | .72 | .86 | .98 | 9.4 | 32.1 | 3.00 | .73 | .88 | .99 | 8.9 | 30.4 | 3.44 | .75 | .90 | 1.00 | 8.4 | 28.6 | 3.96 | .78 | .93 | 1.00 |
| | .56 | 1200 | 10.2 | 34.7 | 2.65 | .76 | .91 | 1.00 | 9.7 | 33.1 | 3.02 | .78 | .93 | 1.00 | 9.2 | 31.4 | 3.45 | .80 | .96 | 1.00 | 8.7 | 29.6 | 3.97 | .83 | .98 | 1.00 |
| | .66 | 1400 | 10.4 | 35.6 | 2.66 | .80 | .96 | 1.00 | 10.0 | 34.0 | 3.03 | .82 | .98 | 1.00 | 9.5 | 32.3 | 3.46 | .85 | .99 | 1.00 | 8.9 | 30.5 | 3.99 | .87 | 1.00 | 1.00 |
| 19°C (67°F) | .47 | 1000 | 10.5 | 35.9 | 2.66 | .56 | .69 | .83 | 10.0 | 34.2 | 3.03 | .57 | .71 | .84 | 9.5 | 32.3 | 3.47 | .58 | .73 | .87 | 8.9 | 30.3 | 3.99 | .59 | .75 | .90 |
| | .56 | 1200 | 10.8 | 36.7 | 2.67 | .58 | .74 | .88 | 10.3 | 35.0 | 3.04 | .60 | .75 | .90 | 9.7 | 33.1 | 3.48 | .61 | .78 | .93 | 9.1 | 31.0 | 4.00 | .62 | .80 | .96 |
| | .66 | 1400 | 11.0 | 37.4 | 2.68 | .61 | .78 | .93 | 10.4 | 35.6 | 3.05 | .62 | .80 | .95 | 9.9 | 33.7 | 3.49 | .64 | .82 | .98 | 9.3 | 31.6 | 4.01 | .65 | .85 | .99 |
| 22°C (71°F) | .47 | 1000 | 11.2 | 38.3 | 2.69 | .42 | .54 | .67 | 10.7 | 36.5 | 3.06 | .42 | .55 | .68 | 10.1 | 34.6 | 3.50 | .43 | .56 | .70 | 9.5 | 32.5 | 4.02 | .43 | .58 | .72 |
| | .56 | 1200 | 11.5 | 39.2 | 2.70 | .43 | .57 | .71 | 10.9 | 37.3 | 3.07 | .43 | .58 | .73 | 10.3 | 35.3 | 3.52 | .44 | .60 | .75 | 9.7 | 33.1 | 4.04 | .44 | .61 | .78 |
| | .66 | 1400 | 11.7 | 39.9 | 2.71 | .44 | .60 | .75 | 11.1 | 37.9 | 3.08 | .44 | .61 | .77 | 10.5 | 35.8 | 3.52 | .45 | .63 | .80 | 9.8 | 33.6 | 4.06 | .46 | .64 | .83 |

HP40-036 - CB29M-31/41 - HEATING CAPACITY

| Indoor Coil Air Volume 21°C db (70°F db) | | Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | |
|---|-------|---------------------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|-------------------------|-------|----------------------|
| | | 18°C (65°F) | | | 7°C (45°F) | | | minus 4°C (25°F) | | | minus 15°C (5°F) | | | minus 28°C (minus 15°F) | | |
| | | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input |
| kW | kBtuh | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | |
| m³/s | cfm | kW | kBtuh | Input | kW | kBtuh | Input | kW | kBtuh | Input | kW | kBtuh | Input | kW | kBtuh | Input |
| .47 | 1000 | 12.9 | 44.1 | 3.68 | 10.3 | 35.1 | 3.40 | 7.6 | 25.8 | 3.11 | 5.3 | 18.2 | 2.77 | 2.7 | 9.1 | 2.08 |
| .56 | 1200 | 13.0 | 44.5 | 3.49 | 10.4 | 35.5 | 3.21 | 7.7 | 26.2 | 2.92 | 5.5 | 18.6 | 2.58 | 2.8 | 9.5 | 1.89 |
| .66 | 1400 | 13.2 | 44.9 | 3.38 | 10.5 | 35.9 | 3.10 | 7.8 | 26.6 | 2.80 | 5.6 | 19.0 | 2.47 | 2.9 | 9.9 | 1.77 |

COOLING AND HEATING RATINGS – 50HZ

NOTE — For Temperatures and Capacities not shown in tables, see bulletin — Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data Section. All values are gross capacities and do not include evaporator blower motor heat deduction.

HP40-048 — CB29M-51 COOLING CAPACITY

| Entering Wet Bulb Temperature | Total Air Volume | | Outdoor Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|------------------|------|---|-----------|---------------------|-------------------------------|-----|-------|------------------------|-----------|---------------------|-------------------------------|-------|-----------|------------------------|-----------|---------------------|-------------------------------|-----------|-----------|------------------------|------|---------------------|-------------------------------|-----------|-----------|
| | | | 29°C (85°F) | | | | | | 35°C (95°F) | | | | | | 41°C (105°F) | | | | | | 46°C (115°F) | | | | | |
| | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | |
| | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | |
| m³/s | cfm | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F |
| 17°C (63°F) | .66 | 1400 | 13.6 | 46.5 | 3.55 | .72 | .87 | .99 | 13.0 | 44.2 | 4.05 | .74 | .90 | 1.00 | 12.3 | 41.8 | 4.62 | .76 | .92 | 1.00 | 11.5 | 39.3 | 5.28 | .78 | .95 | 1.00 |
| | .75 | 1600 | 13.9 | 47.5 | 3.57 | .75 | .91 | 1.00 | 13.3 | 45.3 | 4.07 | .77 | .94 | 1.00 | 12.5 | 42.8 | 4.64 | .80 | .96 | 1.00 | 11.8 | 40.3 | 5.31 | .83 | .99 | 1.00 |
| | .85 | 1800 | 14.2 | 48.4 | 3.59 | .79 | .95 | 1.00 | 13.5 | 46.2 | 4.08 | .81 | .97 | 1.00 | 12.8 | 43.8 | 4.66 | .83 | .99 | 1.00 | 12.1 | 41.3 | 5.34 | .87 | 1.00 | 1.00 |
| 19°C (67°F) | .66 | 1400 | 14.5 | 49.4 | 3.60 | .56 | .70 | .84 | 13.8 | 47.0 | 4.09 | .57 | .71 | .86 | 13.0 | 44.4 | 4.68 | .58 | .73 | .88 | 12.2 | 41.6 | 5.35 | .60 | .76 | .92 |
| | .75 | 1600 | 14.7 | 50.3 | 3.61 | .58 | .73 | .88 | 14.0 | 47.8 | 4.12 | .59 | .75 | .91 | 13.2 | 45.1 | 4.69 | .60 | .77 | .93 | 12.4 | 42.3 | 5.36 | .62 | .80 | .96 |
| | .85 | 1800 | 14.9 | 51.0 | 3.62 | .60 | .76 | .92 | 14.2 | 48.5 | 4.13 | .61 | .78 | .95 | 13.4 | 45.8 | 4.71 | .62 | .81 | .97 | 12.5 | 42.8 | 5.39 | .64 | .84 | .99 |
| 22°C (71°F) | .66 | 1400 | 15.5 | 52.8 | 3.66 | .42 | .54 | .67 | 14.7 | 50.2 | 4.16 | .42 | .56 | .69 | 13.9 | 47.4 | 4.75 | .43 | .57 | .71 | 13.0 | 44.4 | 5.42 | .43 | .58 | .73 |
| | .75 | 1600 | 15.7 | 53.6 | 3.67 | .43 | .57 | .71 | 14.9 | 50.9 | 4.18 | .43 | .58 | .72 | 14.1 | 48.1 | 4.76 | .43 | .59 | .75 | 13.2 | 45.1 | 5.43 | .44 | .61 | .78 |
| | .85 | 1800 | 15.9 | 54.4 | 3.68 | .43 | .59 | .74 | 15.1 | 51.6 | 4.19 | .44 | .60 | .76 | 14.3 | 48.7 | 4.77 | .44 | .61 | .79 | 13.3 | 45.5 | 5.46 | .45 | .63 | .82 |

HP40-048 - CB29M-51 - HEATING CAPACITY

| Indoor Coil Air Volume 21°C db (70°F db) | | Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | | | | | | |
|--|-------|---------------------------------------|-------|----------------------|------------------------|------------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------------------------|----------------------|--|--|
| | | 18°C (65°F) | | | | 7°C (45°F) | | | | minus 4°C (25°F) | | | | minus 15°C (5°F) | | | | minus 28°C (minus 15°F) | | | |
| | | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | | |
| kW | kBtuh | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | | |
| .66 | 1400 | 15.1 | 51.6 | 4.04 | 12.0 | 40.8 | 3.64 | 8.7 | 29.6 | 3.23 | 6.0 | 20.6 | 2.81 | 3.0 | 10.3 | 2.10 | | | | | |
| .75 | 1600 | 15.3 | 52.1 | 3.90 | 12.1 | 41.3 | 3.50 | 8.8 | 30.1 | 3.08 | 6.2 | 21.1 | 2.66 | 3.2 | 10.8 | 1.96 | | | | | |
| .85 | 1800 | 4.0 | 13.6 | 3.79 | .8 | 2.8 | 3.39 | -2.5 | -8.4 | 2.97 | -5.1 | -17.4 | 2.55 | -8.1 | -27.7 | 1.85 | | | | | |

HP40-065 — CB29M-65 COOLING CAPACITY

| Entering Wet Bulb Temperature | Total Air Volume | | Outdoor Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|------------------|------|---|-----------|---------------------|-------------------------------|-----|-------|------------------------|-----------|---------------------|-------------------------------|-------|-----------|------------------------|-----------|---------------------|-------------------------------|-----------|-----------|------------------------|------|---------------------|-------------------------------|-----------|-----------|
| | | | 29°C (85°F) | | | | | | 35°C (95°F) | | | | | | 41°C (105°F) | | | | | | 46°C (115°F) | | | | | |
| | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible To Total Ratio (S/T) | | |
| | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | Dry Bulb | | |
| m³/s | cfm | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F | kW | kBtuh | 24°C 75°F | 27°C 80°F | 29°C 85°F |
| 17°C (63°F) | .80 | 1700 | 16.9 | 57.5 | 4.37 | .68 | .84 | .97 | 16.1 | 55.0 | 4.94 | .69 | .86 | .99 | 15.4 | 52.4 | 5.58 | .71 | .88 | 1.00 | 14.6 | 49.8 | 6.31 | .73 | .91 | 1.00 |
| | .89 | 1900 | 17.1 | 58.5 | 4.39 | .71 | .88 | 1.00 | 16.4 | 56.0 | 4.96 | .72 | .90 | 1.00 | 15.6 | 53.4 | 5.60 | .74 | .92 | 1.00 | 14.9 | 50.8 | 6.34 | .77 | .95 | 1.00 |
| | .99 | 2100 | 17.4 | 59.5 | 4.41 | .73 | .91 | 1.00 | 16.7 | 56.9 | 4.98 | .75 | .93 | 1.00 | 15.9 | 54.2 | 5.63 | .78 | .96 | 1.00 | 15.2 | 51.7 | 6.35 | .80 | .98 | 1.00 |
| 19°C (67°F) | .80 | 1700 | 17.9 | 61.2 | 4.44 | .53 | .66 | .80 | 17.1 | 58.4 | 5.01 | .54 | .67 | .82 | 16.3 | 55.6 | 5.65 | .55 | .69 | .85 | 15.5 | 52.9 | 6.38 | .56 | .71 | .87 |
| | .89 | 1900 | 18.2 | 62.1 | 4.45 | .55 | .68 | .84 | 17.4 | 59.3 | 5.03 | .55 | .70 | .86 | 16.5 | 56.4 | 5.67 | .56 | .72 | .89 | 15.7 | 53.6 | 6.40 | .58 | .74 | .92 |
| | .99 | 2100 | 18.4 | 62.8 | 4.47 | .56 | .71 | .87 | 17.6 | 60.0 | 5.04 | .57 | .73 | .90 | 16.7 | 57.1 | 5.69 | .58 | .75 | .93 | 15.9 | 54.2 | 6.43 | .59 | .77 | .95 |
| 22°C (71°F) | .80 | 1700 | 19.1 | 65.2 | 4.52 | .40 | .52 | .63 | 18.3 | 62.3 | 5.09 | .40 | .53 | .65 | 17.4 | 59.4 | 5.75 | .40 | .53 | .66 | 16.5 | 56.4 | 6.49 | .41 | .54 | .68 |
| | .89 | 1900 | 19.4 | 66.2 | 4.53 | .40 | .53 | .66 | 18.5 | 63.2 | 5.11 | .41 | .54 | .67 | 17.6 | 60.1 | 5.77 | .41 | .55 | .69 | 16.8 | 57.2 | 6.50 | .41 | .56 | .71 |
| | .99 | 2100 | 19.6 | 66.9 | 4.55 | .41 | .55 | .68 | 18.7 | 63.9 | 5.13 | .41 | .56 | .70 | 17.8 | 60.8 | 5.78 | .42 | .57 | .72 | 16.9 | 57.7 | 6.52 | .42 | .58 | .75 |

HP40-065 - CB29M-65 - HEATING CAPACITY

| Indoor Coil Air Volume 21°C db (70°F db) | | Air Temperature Entering Outdoor Coil | | | | | | | | | | | | | | | | | | | |
|--|-------|---------------------------------------|-------|----------------------|------------------------|------------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------|----------------------|------------------------|-------------------------|----------------------|--|--|
| | | 18°C (65°F) | | | | 7°C (45°F) | | | | minus 4°C (25°F) | | | | minus 15°C (5°F) | | | | minus 28°C (minus 15°F) | | | |
| | | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | Total Heating Capacity | | Comp. Motor kW Input | | |
| kW | kBtuh | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | kW | kBtuh | | | |
| .80 | 1700 | 18.8 | 64.2 | 5.05 | 14.9 | 51.0 | 4.53 | 11.0 | 37.4 | 4.01 | 7.7 | 26.2 | 3.48 | 3.8 | 12.9 | 2.60 | | | | | |
| .89 | 1900 | 19.1 | 65.1 | 4.90 | 15.2 | 51.9 | 4.39 | 11.2 | 38.3 | 3.86 | 7.9 | 27.1 | 3.33 | 4.0 | 13.8 | 2.45 | | | | | |
| .99 | 2100 | 19.3 | 66.0 | 4.79 | 15.5 | 52.8 | 4.27 | 11.5 | 39.2 | 3.75 | 8.2 | 28.0 | 3.22 | 4.3 | 14.7 | 2.34 | | | | | |