

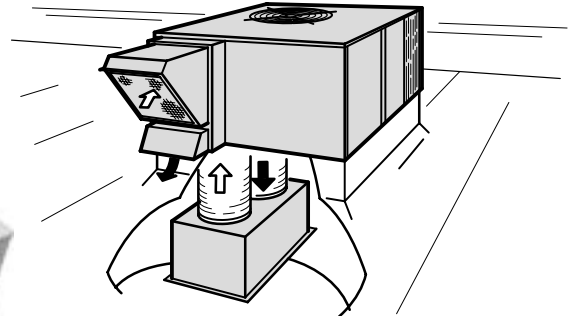
2 to 5 Ton (7.0 to 17.6 kW)
SEER - up to 12.05

Net Cooling Capacity - 24,000 to 59,000 Btuh (7.0 to 17.3 kW)
Heating Capacity - 24,200 to 62,500 (7.1 to 18.3 kW)
Optional Electric Heat - 5 to 25 kW

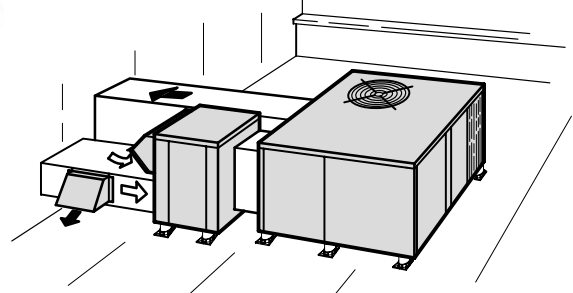
Bulletin No. 210031
September 2001
Supersedes March 2001



CHP20 Basic Unit

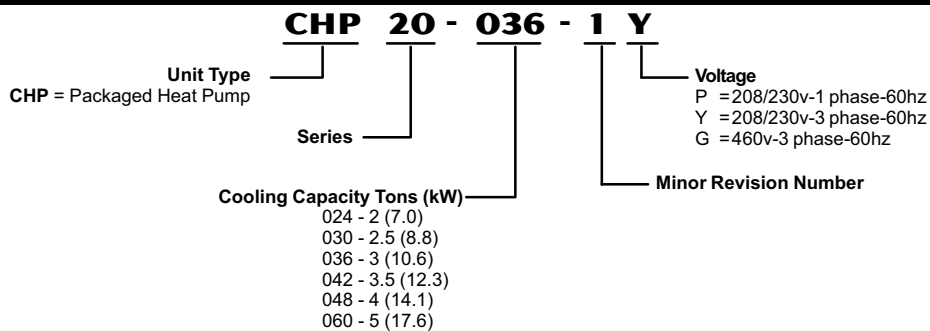


Rooftop Installation With Economizer and Combination Supply and Return Air System



Rooftop Installation With Horizontal Economizer

MODEL NUMBER IDENTIFICATION



FEATURES

Application

- SEER of up to 12.05.
- 2 through 5 ton (7.0 through 17.6 kW).
- Single and three phase power supply.
- Bottom (down-flow) or horizontal supply and return air.
- Designed for outdoor rooftop or ground level installations in light commercial applications.

Approvals

- Certified in accordance with the USE certification program, which is based on ARI Standard 210/240-94.
- Sound rated in the Lennox reverberant sound test room in accordance with test conditions included in ARI Standard 270-95.
- Tested in the Lennox Research Laboratory environmental test room.
- Rated according to U.S. Department of Energy (DOE) test procedures.
- Units and components within are bonded for grounding to meet safety standards for servicing required by UL, ULC, NEC and CEC.
- Blower data is from unit tests conducted in the Lennox Laboratory air test chamber.
- Optional electric heaters are UL and ULC listed and are rated and tested according to DOE test procedures and FTC labeling regulations.
- Developed in accordance with ISO 9002 quality standards.

FEATURES - CONTINUED

Equipment Warranty

- Compressor (all 1 phase models) - limited warranty for ten years in residential applications and five years in non-residential applications.
- All other covered components - limited warranty for five years in residential applications and one year in non-residential applications.
- Refer to Lennox Equipment Limited Warranty certificate for specific details.

Refrigeration System

- All models include: check/expansion valve, reversing valve, filter drier, suction and liquid line service gauge ports, high pressure switch (manual reset) and full refrigerant charge.
- Freezestat prevents coil freeze-up during low ambient operation or loss of air flow.
- Low ambient operation down to 30°F (-1°C).

Cabinet

- Heavy gauge, galvanized steel cabinet with five station metal wash process.
- Powder enamel paint, electrostatically bonded to the metal, provides superior rust and corrosion protection.
- Control box is conveniently located with all controls factory wired.
- Large removable panels provide service access.
- Base section and cabinet panels exposed to conditioned air are lined with thick fiberglass insulation.
- Flanged supply and return air openings.
- Electrical inlets furnished for entry into the cabinet.
- Indoor coil drain pan constructed of painted, corrosion resistant galvanized with galvanized steel pipe drain outlet coupling.
- Lifting brackets factory installed.

Copeland 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.
- Crankcase heater assures proper compressor lubrication.



Outdoor Coil Fan

- Direct drive fan moves large air volumes uniformly through entire outdoor coil for high refrigerant cooling capacity.
- Vertical air discharge keeps air up and away from building.
- Permanently lubricated, permanent split capacitor (PSC) motor.
- Motor totally enclosed for maximum protection from weather, dust and corrosion.
- Corrosion resistant PVC (polyvinyl chloride) coated steel wire fan guard is furnished as standard.

Copper Tube/Enhanced Fin Coil

- Lennox designed and fabricated coil.
- Ripple-edged aluminum fins.
- Long life copper tubing for ease of field servicing.
- Copper tube construction, indoor coil tubes are rifled for improved efficiency.
- 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.
- Corrosion resistant PVC (polyvinyl chloride) coated steel coil guard furnished on all 1 phase model units (optional for 3 phase models).
- Coil is factory tested under high pressure to insure leakproof construction.

Defrost Control

- A solid-state defrost control board is furnished as standard equipment. It gives a defrost cycle (14 minutes) for every 30, 60 or 90 minutes (adjustable) of compressor "on" time at outdoor coil temperature below 35°F (1.7°C).
- A sensing element mounted on the low pressure side of the outdoor thermal expansion valve determines when the defrost cycle is required. Pressure switch mounted on discharge vapor line terminates defrost cycle.

Blower

- Multi-speed direct drive blowers.
- Each blower assembly statically and dynamically balanced.
- Multiple-speed permanent split capacitor (PSC) motor resiliently mounted.
- Blower speeds are easily changed on the blower motor.
- See blower performance tables.

Air Filter

- Washable or vacuum cleanable one inch (25mm) thick polyurethane frame type air filter.
- Filter rack is furnished for field installation in down-flow applications.
- Filter rack will accept up to two inch (51mm) thick filter.
- Filters must be field installed in return air duct for horizontal applications without economizer.
- See dimension drawings.

Economizer Wiring

- Furnished and factory installed on all models.
- Economizer wiring harness with jack plug connections.
- See page 3 for economizer options.

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Model No.	CHP20-024 CHP20-030 CHP20-036	CHP20-042 CHP20-048	CHP20-060
<p>Ceiling Diffusers - Aluminum grilles, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), adapts to T-bar ceiling grids or plaster ceilings - Net Weight</p>	<p>Step-Down - double deflection louvers</p>	<p>RTD9-65 - 67 lbs. (30 kg)</p>	
	<p>Flush - fixed blade louvers</p>	<p>FD9-65 - 37 lbs.(17 kg)</p>	
<p>Ceiling Diffuser Transitions (Supply and Return) - Used with diffusers, installs in roof mounting frame, galvanized steel construction, flanges furnished for duct connection, fully insulated - Net Weight</p>	<p>SRT16 - 20 lbs. (9 kg)</p>		
<p>Coil Guards - PVC coated steel wire guards to protect outdoor coil (3 phase models only - furnished with 1 phase model units). Not for use with Hail Guards.</p>	<p>LB-82199CF (47J23) 2 guards per order</p>	<p>LB-82199CG (47J24) 3 guards per order</p>	
<p>Control Systems</p>	<p>See pages 19-20</p>		
<p>Economizer with Gravity Exhaust Dampers (Down-Flow) - Installs directly in cabinet, recirculated air dampers with pressure operated gravity exhaust damper, formed, gasketed damper blades, nylon bearings, 3 position or fully modulating 24v damper motor has adjustable minimum position switch, electronic discharge air sensor, adjustable outdoor air enthalpy control. Utilizes filter furnished with unit, filter rack will accept up to 2 in. (51 mm) filter. Removable exhaust air hood and outdoor air intake hood with aluminum mesh filter. Choice of economizer controls. Model No. - Net Weight - No. & size of filter - in. (mm)</p>	<p>3 Position: REMD16-41 - 48 lbs. (22 kg) Fully Modulating: REMD16M-41 - 48 lbs. (22 kg) □ Indoor: (1) 16 x 25 x 1 (406 x 635 x 25) Outdoor : (1) 14 x 25 x 1 (356 x 635 x 25)</p>	<p>3 Position: REMD16-65 - 66 lbs. (30 kg) Fully Modulating: REMD16M-65 - 66 lbs. (30 kg) □ Indoor: (1) 20 x 25 x 1 (508 x 635 x 25) Outdoor : (1) 18 x 25 x 1 (457 x 635 x 25)</p>	
<p>Economizer Dampers (Horizontal) - Installs directly in cabinet, combination outdoor air and recirculated air damper, formed, gasketed damper blades, nylon bearings, 3 position or fully modulating 24v damper motor has adjustable minimum position switch, electronic discharge air sensor, adjustable outdoor air enthalpy control. 1 in (25 mm) fiberglass filter furnished, filter rack will accept up to 2 in. (51 mm) filter, outdoor air intake hood with aluminum mesh filter. Choice of economizer controls. Model No. - Net Weight - No. & size of filter - in. (mm)</p>	<p>3 Position: EMDH16-41 - 110 lbs. (50 kg) Fully Modulating: EMDH16M-41 - 110 lbs. (50 kg) Indoor : (1) 20 x 24 x 1 (508 x 610 x 25) Outdoor : (1) 8 x 24 x 1 (203 x 610 x 25)</p>	<p>3 Position: EMDH16-65 - 130 lbs. (59 kg) Fully Modulating: EMDH16M-65 - 130 lbs. (59 kg) Indoor : (1) 16 x 25 x 1 (406 x 635 x 25) & (1) 14 x 25 x1 (356 x 635 x 1) Outdoor : (1) 8 x 28 x 1 (203 x 711 x 25)</p>	
<p>Economizer Gravity Exhaust Dampers - For use with EMDH16. Pressure operated assembly field installs in the return air duct adjacent to the economizer assembly. Includes bird screen. - Net Weight</p>	<p>GEDH16-65 - 4 lbs. (2 kg)</p>		
<p>Economizer Enthalpy Control, Differential - Used in conjunction with outdoor air enthalpy control. Determines and selects which air has the lowest enthalpy. Return air enthalpy sensor field installs in economizer damper section</p>	<p>54G44</p>		
<p>Electric Heat - Field installed, helix wound nichrome elements, time delay for element staging, individual element limit controls, wiring harness, may be two-stage controlled. ECH16R - Supplemental thermal cutoff safety fuses and thermal relay sequencer. ECH16 - Supplemental secondary limits, heating control relay, fuse block, thermal relay sequencer (20-25 kW 208/230v) and galvanized steel control box.</p>	<p>See Electric Heat Data Tables Pages 13-17</p>		

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Model No.		CHP20-024 CHP20-030 CHP20-036	CHP20-042 CHP20-048	CHP20-060
Electric Heat Single Point Power Source Sub-Fuse Box - Use with ECH16R electric heaters, use in conjunction with ECH16 fuse box for single point power source applications, installs internal to unit, fuses furnished, constructed of galvanized steel with prepunched mounting holes		See Electric Heat Data Tables, Pages 13-17		
Unit Single Point Power Source Sub Fuse Box - Installs internal to unit, provides sub-fusing to the unit, used in conjunction with ECH16 or ECH16R for single point power source applications, fuses furnished, constructed of galvanized steel with prepunched mounting holes and electrical inlet and outlet holes, hinged box cover		See Electric Heat Data Tables, Pages 13-17		
Hail Guards - Heavy duty field installed coil guard protects coils from damage. Not for use with Coil Guards.		90N90 2 guards per order	90N91 3 guards per order	
Low Ambient Control Kit - Units operate down to 30°F (-1°C) outdoor air temperature in cooling mode without any additional controls. A Low Ambient Kit can be field installed, enabling unit to operate properly down to 0°F (-17.7°C).		LB-57113BM (27J00)		
Outdoor Air Damper Section - For down-flow applications, damper assembly replaces blower access panel, manually adjustable, 0 to 25% (fixed) outdoor air, outdoor air hood with cleanable filter included, number and size of filter - Net Weight		OAD16-41 - 12 lbs. (5 kg) (1) 5 x 17 x 1 in. (127 x 432 x 25 mm)	OAD16-65 - 12 lbs. (5 kg) (1) 8 x 17 x 1 in. (203 x 432 x 25 mm)	
Outdoor Air Damper Section - For horizontal applications, installs in return air duct adjacent to unit, manually adjustable (fixed) outdoor air - Net Weight		OAD3-46/65 - 8 lbs. (4 kg)		
Outdoor Thermostat Kit - Used to lock out some of the electric heating elements on indoor units where two stage control is applicable. Outdoor thermostat maintains the heating load on the low power input as long as possible before allowing the full power load to come on line	Thermostat Kit	LB-29740BA (56A87)		
	Mounting Box	M-1595 (31461)		
Roof Curb Power Entry Kit - Allows power entry through roof mounting frame, knockouts provided in roof frame, kit contains 40 in. (1016 mm) armored conduit and installation hardware, two kits are required, one for low voltage and one for high voltage. See Dimension Drawing	1/2 in. (13 mm)	18H70		
	1 in. (26 mm)	18H71		
	1-1/2 in. (39 mm)	18H72		
Roof Mounting Frame - Nailer strip furnished, mates to unit, U.S. National Roofing Contractors Approved, shipped knocked down. RMF16-41 may be used on all sizes, with a slight unit overhang on CHP20-048 and CHP20-060 units - Net Weight. NOTE (US Only) - Sound Reduction Plate must be ordered separately for field installation.		RMF16-41 - 75 lbs. (35 kg) Plate (order separately) (73H80)	RMF16-41 - 75 lbs. (35 kg) Plate (order separately) (73H80) RMF16-65 - 86 lbs. (39 kg) Plate (order separately) (73H82)	
Timed Off Control - Prevents compressor short-cycling and allows time for suction and discharge pressure to equalize, permitting the compressor to start in an unloaded condition. Automatic reset control provides a time delay between compressor shutoff and start-up.		LB-50709BK (47J27)		
Unit Stand-Off Mounting Kit - Elevates horizontal application units above mounting surface. Includes six high impact polystyrene stand-off mounts. See dimension drawings.		38H18		

☐ Indoor filter is not furnished with economizer. REMD16 utilizes existing filter furnished with CHP20 unit.

SPECIFICATIONS

Heating/ Cooling Performance		Model No.	CHP20-024	CHP20-030	CHP20-036	CHP20-042	CHP20-048	CHP20-060
Nominal Tonnage (kW)			2 (7.0)	2.5 (8.8)	3 (10.5)	3.5 (12.3)	4 (14.0)	5 (17.5)
★ARI Cooling Ratings	Cooling Capacity - Btuh (kW)		24,000 (7.0)	30,200 (8.8)	33,600 (9.8)	43,000 (12.6)	46,500 (13.6)	59,000 (17.3)
	Total unit watts		2555	3145	3535	4105	4875	6325
	SEER (Btuh/Watts)		11.0	11.0	11.05	12.05	11.00	11.05
	EER (Btuh/Watts)		9.4	9.6	9.5	10.5	9.5	9.4
★ARI High Temperature Heating Ratings	Total Capacity - Btuh (kW)		24,200 (7.1)	29,800 (8.7)	34,200 (10.0)	41,500 (12.2)	48,500 (14.2)	62,500 (18.3)
	Total unit watts		2245	2800	3000	3880	4695	6180
	C.O.P		3.16	3.12	3.34	3.20	3.04	2.98
	HSPF - Region IV (Region V)		6.60 (5.90)	6.60 (5.90)	7.35 (6.50)	7.15 (6.30)	7.55 (6.70)	6.85 (6.05)
★ARI Low Temperature Heating Ratings	Total Capacity - Btuh (kW)		14,800 (4.3)	18,600 (5.4)	21,400 (6.3)	26,200 (7.7)	31,600 (9.3)	38,500 (11.3)
	Total unit watts		2085	2595	2725	3515	4225	5425
	C.O.P		2.06	2.10	2.30	2.26	2.20	2.10
*Sound Rating Number (db)			80	80	80	82	82	84
Refrigerant Charge (HCFC-22)			5 lbs. 0 oz. (2.27 kg)	6 lbs. 8 oz. (2.95 kg)	6 lbs. 7 oz. (2.92 kg)	9 lbs. 12 oz. (4.42 kg)	10 lbs. 8 oz. (4.76 kg)	10 lbs. 5 oz. (4.68 kg)
Outdoor Coil	Net face area - sq. ft. (m ²) Outer coil		8.6 (0.80)	8.6 (0.80)	8.6 (0.80)	14.3 (1.33)	14.3 (1.33)	14.3 (1.33)
	Inner coil		5.3 (0.49)	8.3 (0.77)	8.3 (0.77)	9.9 (1.28)	13.8 (1.28)	13.8 (1.28)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	No. of rows		1.6	2	2	1.7	2	2
	Fins per inch (m)		20 (787)	20 (787)	20 (787)	20 (787)	20 (787)	20 (787)
Outdoor Coil Fan	Motor output - hp (W)		1/6 (124)	1/6 (124)	1/6 (124)	1/4 (187)	1/4 (187)	1/3 (249)
	Motor watts		220	220	220	340	340	430
	Diameter - in. (mm)		20 (508)	20 (508)	20 (508)	24 (610)	24 (610)	24 (610)
	No. of blades		4	4	4	4	4	3
	Air Volume - cfm (L/s)		2350 (1110)	2200 (1040)	2200 (1040)	3600 (1700)	3600 (1700)	4000 (1890)
Indoor Coil	Net face area - sq. ft. (m ²)		3.2 (0.30)	4.1 (0.38)	4.1 (0.38)	5.8 (0.54)	5.8 (0.54)	5.8 (0.54)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	No. of rows		3	3	3	3	3	3
	Fins per inch (m)		15 (591)	15 (591)	15 (591)	15 (591)	15 (591)	15 (591)
	Condensate drain coupling size npt - in.		3/4	3/4	3/4	3/4	3/4	3/4
Indoor Coil Blower	Motor output - hp (W)		1/3 (249)	1/3 (249)	1/3 (249)	1/2 (373)	1/2 (373)	3/4 (560)
	Blower wheel nom. diameter x width - in. (mm)		9 x 8 (229 x 203)	10 x 7 (254 x 178)	10 x 7 (254 x 178)	10 x 8 (254 x 203)	10 x 8 (254 x 203)	11 x 8 (279 x 203)
No. & size of cleanable polyurethane filters - in. (mm)			(1) 16 x 25 x 1 (406 x 635 x 25)			(1) 20 x 25 x 1 (508 x 635 x 25)		
Shipping Data	Net weight of basic unit - lbs. (kg)		305 (138)	355 (161)	355 (161)	455 (206)	535 (243)	535 (243)
	Shipping weight of basic unit - lbs. (kg) 1 pkg.		390 (177)	419 (190)	419 (190)	525 (238)	610 (277)	610 (277)
Electrical characteristics (60 hz)			208/230v-1ph		208/230v-1ph 208/230v or 460v - 3ph	208/230v-1ph	208/230v-1ph 208/230v or 460v - 3ph	

*Sound Rating Number in accordance with test conditions included in ARI Standard 270.

★Certified in accordance with the USE certification program, which is based on ARI standard 210/240.

Cooling Ratings— 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19.5°C) wb entering indoor coil air.

High Temperature Heating Ratings— 47°F (8°C) db/43°F (6°C) wb outdoor air temperature and 70°F (21°C) entering indoor coil air.

Low Temperature Heating Ratings— 17°F (-8°C) db/15°F (-9°C) wb outdoor air temperature and 70°F (21°C) entering indoor coil air.

COOLING AND HEATING RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin — Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

CHP20-024 — COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	640	300	23.5	6.9	1.75	.70	.83	.96	22.6	6.6	1.98	.71	.85	.97	21.7	6.4	2.23	.72	.87	.99	20.8	6.1	2.51	.74	.89	1.00
	800	380	24.5	7.2	1.76	.75	.90	1.00	23.5	6.9	1.98	.77	.92	1.00	22.6	6.6	2.23	.78	.94	1.00	21.7	6.4	2.52	.80	.96	1.00
	960	455	25.3	7.4	1.76	.80	.96	1.00	24.3	7.1	1.99	.82	.98	1.00	23.4	6.9	2.24	.84	.99	1.00	22.5	6.6	2.52	.86	1.00	1.00
67°F (19°C)	640	300	25.1	7.4	1.76	.55	.67	.80	24.1	7.1	1.99	.56	.69	.81	23.2	6.8	2.24	.56	.70	.83	22.2	6.5	2.52	.57	.71	.85
	800	380	26.0	7.6	1.76	.58	.73	.87	24.9	7.3	2.00	.59	.74	.89	23.9	7.0	2.25	.60	.76	.91	22.9	6.7	2.53	.61	.77	.92
	960	455	26.6	7.8	1.77	.61	.78	.93	25.5	7.5	2.00	.62	.80	.95	24.5	7.2	2.26	.63	.81	.97	23.4	6.9	2.54	.65	.84	.99
71°F (22°C)	640	300	26.8	7.9	1.77	.42	.54	.65	25.8	7.6	2.00	.42	.54	.66	24.8	7.3	2.26	.42	.55	.67	23.7	6.9	2.53	.43	.56	.69
	800	380	27.7	8.1	1.77	.43	.56	.70	26.6	7.8	2.01	.43	.57	.72	25.5	7.5	2.26	.43	.59	.73	24.4	7.2	2.54	.44	.60	.75
	960	455	28.4	8.3	1.77	.44	.60	.76	27.2	8.0	2.01	.44	.61	.77	26.0	7.6	2.27	.45	.62	.79	24.9	7.3	2.55	.45	.63	.81

CHP20-030 — COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	800	380	30.0	8.8	2.15	.72	.85	.97	28.9	8.5	2.42	.72	.86	.98	27.8	8.1	2.73	.74	.88	1.00	26.5	7.8	3.10	.75	.90	1.00
	1000	470	31.2	9.1	2.16	.77	.92	1.00	30.1	8.8	2.43	.78	.93	1.00	28.9	8.5	2.75	.79	.95	1.00	27.6	8.1	3.12	.81	.97	1.00
	1200	565	32.2	9.4	2.17	.82	.97	1.00	31.1	9.1	2.44	.84	.99	1.00	29.9	8.8	2.76	.85	1.00	1.00	28.7	8.4	3.12	.87	1.00	1.00
67°F (19°C)	800	380	31.9	9.3	2.17	.56	.69	.82	30.8	9.0	2.44	.57	.70	.83	29.5	8.6	2.76	.58	.71	.84	28.3	8.3	3.12	.59	.73	.86
	1000	470	33.0	9.7	2.18	.59	.74	.88	31.8	9.3	2.45	.60	.76	.90	30.5	8.9	2.77	.61	.77	.92	29.2	8.6	3.14	.62	.79	.94
	1200	565	33.8	9.9	2.19	.62	.80	.95	32.6	9.6	2.46	.63	.81	.96	31.2	9.1	2.78	.64	.83	.98	29.8	8.7	3.15	.66	.85	1.00
71°F (22°C)	800	380	34.1	10.0	2.19	.43	.55	.66	32.9	9.6	2.47	.43	.55	.67	31.6	9.3	2.78	.43	.56	.69	30.2	8.9	3.15	.43	.57	.70
	1000	470	35.2	10.3	2.20	.43	.58	.72	33.9	9.9	2.48	.44	.59	.73	32.5	9.5	2.79	.44	.59	.74	31.0	9.1	3.16	.45	.61	.76
	1200	565	35.9	10.5	2.21	.45	.61	.77	34.6	10.1	2.49	.45	.62	.79	33.1	9.7	2.81	.46	.64	.80	31.6	9.3	3.17	.46	.65	.83

CHP20-024 - HEATING CAPACITY

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil														
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
cfm	L/s	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
		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
640	300	29.2	8.6	2.02	22.6	6.6	1.87	15.7	4.6	1.73	10.8	3.2	1.48	5.4	1.6	1.12
800	380	29.6	8.7	1.89	23.0	6.7	1.74	16.1	4.7	1.60	11.2	3.3	1.35	5.8	1.7	.99
960	455	29.9	8.8	1.81	23.3	6.8	1.66	16.4	4.8	1.52	11.5	3.4	1.27	6.1	1.8	.91

CHP20-030 - HEATING CAPACITY

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil														
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
cfm	L/s	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
		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
800	380	36.0	10.6	2.43	27.6	8.1	2.26	18.7	5.5	2.08	13.8	4.0	1.87	6.8	2.0	1.40
1000	470	36.5	10.7	2.27	28.1	8.2	2.10	19.2	5.6	1.92	14.3	4.2	1.71	7.3	2.1	1.24
1200	565	37.1	10.9	2.17	28.7	8.4	2.00	19.8	5.8	1.82	14.9	4.4	1.61	7.9	2.3	1.14

CHP20-024 - HEATING PERFORMANCE at 800 cfm (380 L/s) Indoor Coil Air Volume

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	1.89	29.6	8.7
60	16	1.84	28.1	8.2
55	13	1.80	26.5	7.8
50	10	1.76	25.0	7.3
47	8	1.74	24.1	7.1
45	7	1.74	23.0	6.7
40	4	1.73	20.4	6.0
35	2	1.72	17.8	5.2
30	-1	1.66	16.9	5.0
25	-4	1.60	16.1	4.7
20	-7	1.53	15.3	4.5
17	-8	1.50	14.8	4.3
15	-9	1.48	14.1	4.1
10	-12	1.44	12.6	3.7
5	-15	1.35	11.2	3.3
0	-18	1.26	9.9	2.9
-5	-21	1.17	8.5	2.5
-10	-23	1.08	7.1	2.1
-15	-26	.99	5.8	1.7
-20	-29	.90	4.4	1.3

CHP20-030 - HEATING PERFORMANCE at 1000 cfm (470 L/s) Indoor Coil Air Volume

*Outdoor Temperature		Compressor Motor kW Input	Total Output	
°F	°C		kBtuh	kW
65	18	2.27	36.5	10.7
60	16	2.23	34.7	10.2
55	13	2.18	32.8	9.6
50	10	2.14	30.9	9.1
47	8	2.12	29.8	8.7
45	7	2.10	28.1	8.2
40	4	2.03	24.0	7.0
35	2	1.97	19.9	5.8
30	-1	1.94	19.5	5.7
25	-4	1.92	19.2	5.6
20	-7	1.89	18.8	5.5
17	-8	1.88	18.6	5.5
15	-9	1.86	17.9	5.2
10	-12	1.82	16.0	4.7
5	-15	1.71	14.3	4.2
0	-18	1.59	12.5	3.7
-5	-21	1.48	10.8	3.2
-10	-23	1.36	9.0	2.6
-15	-26	1.24	7.3	2.1
-20	-29	1.13	5.6	1.6

COOLING AND HEATING RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin — Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

CHP20-036 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)					95°F (35°C)					105°F (41°C)					115°F (46°C)								
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C	kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C	kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C	kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C
63°F (17.2°C)	495	1050	10.0	34,400	2400	.76	.90	1.00	9.7	33,100	2690	.77	.91	1.00	9.5	32,300	3060	.79	.94	1.00	9.1	30,900	3530	.80	.96	1.00
	565	1200	10.4	35,400	2420	.78	.94	1.00	10.0	34,200	2710	.80	.95	1.00	9.7	33,000	3090	.82	.98	1.00	9.3	31,800	3560	.84	1.00	1.00
	635	1350	10.5	36,000	2430	.81	.97	1.00	10.2	34,800	2730	.82	.99	1.00	9.9	33,900	3110	.85	1.00	1.00	9.6	32,700	3600	.88	1.00	1.00
67°F (19.4°C)	495	1050	10.6	36,300	2440	.60	.73	.86	10.3	35,100	2730	.60	.74	.88	10.0	34,200	3210	.61	.76	.90	9.6	32,900	3600	.62	.78	.93
	565	1200	10.9	37,300	2450	.61	.76	.90	10.5	36,000	2750	.62	.77	.92	10.3	35,000	3140	.63	.79	.95	9.9	33,800	3640	.65	81	.97
	635	1350	11.1	38,100	2470	.63	.79	.94	10.8	36,900	2770	.64	.80	.96	10.5	35,800	3160	.65	.82	.99	10.1	34,600	3670	.67	.85	1.00
71°F (21.7°C)	495	1050	11.2	38,200	2470	.44	.58	.71	10.9	37,200	2780	.45	.59	.72	10.6	36,100	3180	.45	.60	.73	10.2	34,800	3690	.45	.61	.75
	565	1200	11.5	39,300	2490	.45	.60	.73	11.1	38,000	2800	.45	.61	.75	10.8	37,000	3210	.46	.62	.76	10.5	35,800	3730	.46	.63	.79
	635	1350	11.7	40,100	2500	.46	.61	.76	11.4	38,800	2820	.46	.62	.78	11.1	37,800	3230	.47	.64	.80	10.7	36,500	3760	.48	.65	.82

NOTE — All values are gross capacities and do not include indoor coil blower motor heat deduction.

CHP20-042 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)					95°F (35°C)					105°F (41°C)					115°F (46°C)								
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C	kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C	kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C	kW	Btuh		75°F/24°C	80°F/27°C	85°F/29°C
63°F (17.2°C)	580	1225	12.3	41,800	2780	.78	.94	1.00	11.6	39,700	3100	.79	.96	1.00	11.1	37,800	3500	.81	.99	1.00	10.5	35,800	4000	.82	1.00	1.00
	660	1400	12.6	43,000	2800	.81	.98	1.00	12.0	41,000	3120	.82	1.00	1.00	11.5	39,100	3520	.84	1.00	1.00	10.9	37,100	4030	.86	1.00	1.00
	745	1575	12.9	44,000	2810	.84	1.00	1.00	12.4	42,200	3140	.85	1.00	1.00	11.8	40,300	3550	.87	1.00	1.00	11.3	38,500	4070	.89	1.00	1.00
67°F (19.4°C)	580	1225	13.0	44,400	2820	.61	.76	.91	12.5	42,500	3150	.62	.77	.92	11.9	40,500	3550	.62	.79	.94	11.3	38,400	4060	.63	.81	.96
	660	1400	13.4	45,700	2840	.63	.79	.95	12.8	43,600	3170	.64	.81	.97	12.2	41,500	3580	.65	.83	.99	11.5	39,400	4090	.66	.85	1.00
	745	1575	13.7	46,800	2860	.65	.82	.99	13.1	44,600	3190	.66	.85	1.00	12.4	42,400	3600	.67	.87	1.00	11.8	40,300	4120	.68	.89	1.00
71°F (21.7°C)	580	1225	13.8	47,000	2860	.45	.59	.76	13.2	45,000	3200	.46	.60	.77	12.6	42,900	3610	.46	.61	.78	12.0	40,800	4130	.46	.63	.80
	660	1400	14.2	48,400	2880	.46	.62	.79	13.6	46,300	3220	.46	.63	.80	12.9	44,100	3640	.47	.64	.81	12.3	41,900	4160	.47	.65	.83
	745	1575	14.5	49,500	2900	.47	.64	.82	13.9	47,300	3240	.47	.65	.83	13.2	45,100	3670	.48	.66	.85	12.5	42,800	4190	.48	.68	.87

NOTE — All values are gross capacities and do not include indoor coil blower motor heat deduction.

CHP20-036 HEATING CAPACITY

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil																	
	65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-28°C)					
	L/s	cfm	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	kW	Btuh	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity
495	1050	12.2	41,800	2505	9.4	32,100	2305	6.3	21,600	2100	4.8	16,300	1815	2.4	8200	1385		
565	1200	12.3	42,000	2425	9.5	32,300	2230	6.4	21,900	2020	4.9	16,600	1740	2.5	8500	1305		
635	1350	12.4	42,200	2370	9.5	32,500	2170	6.5	22,100	1965	4.9	16,700	1680	2.5	8600	1250		

NOTE — Heating capacities include the effect of defrost cycles in the temperature range where they occur.

CHP20-042 HEATING CAPACITY

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil																	
	65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-28°C)					
	L/s	cfm	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity	kW	Btuh	Compressor Motor Watts Input	Total Heating Capacity	Compressor Motor Watts Input	Total Heating Capacity
580	1225	15.2	51,800	3400	11.5	39,300	3050	8.4	28,500	2775	5.7	19,500	2385	2.8	9600	1830		
660	1400	15.4	52,500	3245	11.7	40,000	2895	8.6	29,200	2620	5.9	20,300	2230	3.0	10,300	1675		
745	1575	15.6	53,200	3135	11.9	40,700	2785	8.8	29,900	2510	6.1	20,900	2125	3.2	11,000	1570		

NOTE — Heating capacities include the effect of defrost cycles in the temperature range where they occur.

CHP20-036 HEATING PERFORMANCE at 1200 cfm (565 L/s) Indoor Coil Air Volume

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18	2425	42,000	12.3
60	16	2380	39,900	11.7
55	13	2335	37,700	11.0
50	10	2290	35,600	10.4
47	8	2265	34,300	10.0
45	7	2230	32,300	9.5
40	4	2140	27,400	8.0
35	2	2050	22,500	6.6
30	-1	2035	22,200	6.5
25	-4	2020	21,900	6.4
20	-7	2005	21,600	6.3
17	-8	2000	21,400	6.3
15	-9	1955	20,600	6.0
10	-12	1845	18,600	5.4
5	-15	1740	16,600	4.9
0	-18	1630	14,500	4.2
-5	-21	1525	12,500	3.7
-10	-23	1415	10,500	3.1
-15	-26	1305	8500	2.5
-20	-29	1200	6400	1.9

*Outdoor temperature 70% relative humidity. Indoor temperature 70°F(21°C).

CHP20-042 HEATING PERFORMANCE at 1400 cfm (660 L/s) Indoor Coil Air Volume

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18	3245	52,500	15.4
60	16	3160	49,400	14.5
55	13	3075	46,300	13.6
50	10	2990	43,200	12.7
47	8	2935	41,400	12.1
45	7	2895	40,000	11.7
40	4	2790	36,500	10.7
35	2	2690	33,100	9.7
30	-1	2655	31,200	9.1
25	-4	2620	29,200	8.6
20	-7	2585	27,300	8.0
17	-8	2565	26,200	7.7
15	-9	2510	25,200	7.4
10	-12	2370	22,700	6.7
5	-15	2230	20,300	5.9
0	-18	2090	17,800	5.2
-5	-21	1955	15,300	4.5
-10	-23	1815	12,800	3.8
-15	-26	1675	10,300	3.0
-20	-29	1540	7900	2.3

*Outdoor temperature 70% relative humidity. Indoor temperature 70°F(21°C).

COOLING AND HEATING RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin — Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

CHP20-048 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)			95°F (35°C)			105°F (41°C)			115°F (46°C)														
			Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb	Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb	Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb	Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb												
L/s	cfm	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C					
63°F (17.2°C)	660	1400	13.5	45,900	3400	.78	.93	1.00	12.9	44,000	3750	.79	.96	1.00	12.3	42,000	4180	1.00	1.00	1.00	11.7	40,000	4720	.82	1.00	1.00
	755	1600	13.8	47,000	3410	.81	.98	1.00	13.2	45,100	3770	.82	1.00	1.00	12.6	43,100	4210	.84	1.00	1.00	12.0	40,900	4750	.86	1.00	1.00
	850	1800	14.1	48,200	3430	.84	1.00	1.00	13.5	46,200	3780	.86	1.00	1.00	13.0	44,200	4230	.87	1.00	1.00	12.4	42,300	4780	.89	1.00	1.00
67°F (19.4°C)	660	1400	14.2	48,500	3440	.61	.76	.91	13.7	46,600	3790	.62	.77	.92	13.0	44,500	4230	.63	.79	.94	12.4	42,400	4790	.64	.81	.96
	755	1600	14.6	49,900	3460	.63	.79	.95	14.0	47,800	3820	.64	.81	.97	13.4	45,700	4260	.65	.83	.99	12.7	43,400	4820	.66	.85	1.00
	850	1800	14.9	50,900	3470	.65	.82	.99	14.3	48,800	3840	.66	.84	1.00	13.7	46,600	4280	.67	.86	1.00	13.0	44,300	4840	.68	.89	1.00
71°F (21.7°C)	660	1400	15.0	51,100	3470	.46	.60	.76	14.4	49,100	3840	.46	.61	.77	13.8	47,000	4290	.46	.62	.78	13.1	44,800	4850	.47	.63	.80
	755	1600	15.4	52,500	3500	.46	.62	.79	14.8	50,400	3860	.47	.63	.80	14.1	48,200	4320	.47	.64	.82	13.5	45,900	4880	.48	.66	.83
	850	1800	15.7	53,600	3510	.47	.64	.82	15.1	51,400	3880	.48	.65	.83	14.4	49,200	4340	.48	.67	.85	13.7	46,800	4910	.48	.68	.87

NOTE — All values are gross capacities and do not include indoor coil blower motor heat deduction.

CHP20-060 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)			95°F (35°C)			105°F (41°C)			115°F (46°C)														
			Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb	Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb	Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb	Total Cooling Capacity	Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb												
L/s	cfm	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C					
63°F (17.2°C)	825	1750	17.5	59,600	4340	.78	.94	1.00	16.7	56,900	4870	.79	.96	1.00	15.8	53,900	5520	.81	.98	1.00	15.0	51,100	6350	.82	1.00	1.00
	945	2000	17.9	61,000	4360	.81	.98	1.00	17.1	58,300	4900	.82	1.00	1.00	16.3	55,500	5560	.84	1.00	1.00	15.5	52,800	6400	.86	1.00	1.00
	1060	2250	18.3	62,400	4390	.84	1.00	1.00	17.5	59,700	4920	.86	1.00	1.00	16.7	57,000	5600	.88	1.00	1.00	15.9	54,300	6450	.89	1.00	1.00
67°F (19.4°C)	825	1750	18.5	63,100	4400	.61	.76	.91	17.7	60,400	4940	.62	.77	.92	16.9	57,600	5610	.63	.79	.94	16.0	54,600	6460	.64	.81	.97
	945	2000	19.0	64,900	4430	.63	.79	.95	18.2	62,000	4970	.64	.81	.97	17.3	59,000	5650	.65	.83	.99	16.4	55,900	6500	.66	.85	1.00
	1060	2250	19.4	66,300	4450	.65	.82	.99	18.6	63,300	4990	.66	.84	1.00	17.6	60,200	5680	.67	.87	1.00	16.7	57,000	6530	.68	.89	1.00
71°F (21.7°C)	825	1750	19.5	66,600	4450	.45	.60	.76	18.7	63,800	5000	.46	.61	.77	17.8	60,800	5690	.46	.62	.79	16.9	57,700	6550	.46	.63	.80
	945	2000	20.0	68,400	4480	.46	.62	.79	19.2	65,400	5030	.47	.63	.80	18.3	62,300	5730	.47	.64	.82	17.3	59,100	6590	.47	.66	.84
	1060	2250	20.5	69,800	4510	.47	.64	.82	19.6	66,800	5060	.47	.65	.83	18.6	63,600	5750	.48	.67	.85	17.6	60,200	6630	.48	.68	.87

NOTE — All values are gross capacities and do not include indoor coil blower motor heat deduction.

CHP20-048 HEATING CAPACITY

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil															
	65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-28°C)			
L/s	cfm	kW	Btuh	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input		
660	1400	18.1	61,700	4145	13.5	46,000	3685	9.8	33,500	3320	7.0	23,800	2855	3.5	11,800	2190
755	1600	18.3	62,400	3955	13.7	46,700	3495	10.0	34,200	3135	7.2	24,500	2665	3.7	12,500	2005
850	1800	18.4	62,900	3810	13.8	47,200	3350	10.2	34,700	2985	7.3	25,000	2520	3.8	13,000	1855

NOTE — Heating capacities include the effect of defrost cycles in the temperature range where they occur.

CHP20-060 HEATING CAPACITY

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil															
	65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-28°C)			
L/s	cfm	kW	Btuh	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input	Total Heating Capacity	Comp. Motor Watts Input		
825	1750	22.7	77,500	5530	17.1	58,200	4950	11.4	38,900	4375	8.5	28,900	3810	4.2	14,200	2935
945	2000	23.1	78,700	5240	17.4	59,400	4660	11.8	40,100	4085	8.8	30,100	3515	4.5	15,400	2645
***	2250	23.4	79,700	4820	17.7	60,400	4240	12.0	41,000	3665	9.1	31,100	3095	4.8	16,300	2225

NOTE — Heating capacities include the effect of defrost cycles in the temperature range where they occur.

CHP20-048 HEATING PERFORMANCE

at 1600 cfm (755 L/s) Indoor Coil Air Volume

*Outdoor Temperature	Compressor Motor Watts Input	Total Output
°F	°C	Btuh
65	18	3955
60	16	3845
55	13	3730
50	10	3620
47	8	3550
45	7	3495
40	4	3355
35	2	3220
30	-1	3175
25	-4	3135
20	-7	3090
17	-8	3065
15	-9	3000
10	-12	2835
5	-15	2665
0	-18	2500
-5	-21	2335
-10	-23	2170
-15	-26	2005
-20	-29	1840

*Outdoor temperature 70% relative humidity. Indoor temperature 70°F(21°C).

CHP20-060 HEATING PERFORMANCE

at 2000 cfm (945 L/s) Indoor Coil Air Volume

*Outdoor Temperature	Compressor Motor Watts Input	Total Output
°F	°C	Btuh
65	18	5240
60	16	5110
55	13	4975
50	10	4845
47	8	4765
45	7	4660
40	4	4400
35	2	4135
30	-1	4110
25	-4	4085
20	-7	4055
17	-8	4040
15	-9	3955
10	-12	3735
5	-15	3515
0	-18	3300
-5	-21	3080
-10	-23	2860
-15	-26	2645
-20	-29	2425

*Outdoor temperature 70% relative humidity. Indoor temperature 70°F(21°C).

BLOWER DATA

CHP20-024 BLOWER PERFORMANCE 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
		in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1385	655	1025	485	900	425	685	325
.05	12	1380	650	1035	490	915	430	700	330
.10	25	1365	645	1045	495	925	435	710	335
.15	37	1350	635	1045	495	930	440	715	335
.20	50	1330	630	1040	490	930	440	715	335
.25	62	1305	615	1030	485	925	435	715	335
.30	75	1275	600	1010	475	915	430	705	335
.40	100	1205	570	965	455	880	415	680	320
.50	125	1120	530	890	420	820	385	640	300
.60	150	1015	480	800	380	740	350	585	275
.70	175	900	425	685	325	640	300	510	240
.75	185	835	395	615	290	580	275	470	220

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

CHP20-024 BLOWER PERFORMANCE 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
		in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1435	675	1035	490	895	420	625	295
.05	12	1420	670	1050	495	915	430	645	305
.10	25	1400	660	1060	500	925	435	660	310
.15	37	1380	650	1060	500	935	440	670	315
.20	50	1360	640	1060	500	935	440	675	320
.25	62	1335	630	1050	495	930	440	675	320
.30	75	1305	615	1035	490	920	435	670	315
.40	100	1235	585	985	465	875	415	650	305
.50	125	1155	545	910	430	810	380	605	285
.60	150	1065	505	810	380	720	340	545	255
.70	175	960	455	690	325	605	285	465	220
.75	185	905	425	620	295	540	255	415	195

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

CHP20-030 BLOWER PERFORMANCE 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
		in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1485	700	1250	590	1085	500	905	425
.05	12	1460	690	1250	590	1075	505	900	425
.10	25	1430	675	1240	585	1070	505	895	420
.15	37	1400	660	1235	585	1060	500	890	420
.20	50	1375	650	1225	580	1045	495	885	420
.25	62	1345	635	1215	575	1035	490	875	415
.30	75	1315	620	1200	565	1020	480	865	410
.40	100	1255	590	1165	550	990	465	835	395
.50	125	1190	560	1125	530	950	450	805	380
.60	150	1125	530	1075	510	910	430	770	365
.70	175	1060	500	1015	480	865	410	725	340
.75	185	1025	485	985	465	840	395	700	330

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

CHP20-030 BLOWER PERFORMANCE 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
		in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1485	700	1345	635	1115	525	920	435
.05	12	1480	700	1340	630	1120	530	930	440
.10	25	1465	690	1335	630	1120	530	940	445
.15	37	1455	685	1325	625	1115	525	945	445
.20	50	1435	675	1315	620	1110	525	945	445
.25	62	1420	670	1305	615	1105	520	940	445
.30	75	1400	660	1285	605	1095	515	935	440
.40	100	1350	635	1250	590	1065	505	910	430
.50	125	1295	610	1200	565	1025	485	875	415
.60	150	1230	580	1145	540	975	460	820	385
.70	175	1160	545	1075	505	915	430	755	355
.75	185	1120	530	1040	490	885	420	720	340

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

CHP20-036 BLOWER PERFORMANCE 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
		in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1360	640	1270	600	1070	505	890	420
.05	12	1355	640	1250	590	1060	500	885	420
.10	25	1350	635	1230	580	1050	495	880	415
.15	37	1330	630	1220	575	1035	490	870	410
.20	50	1310	620	1210	570	1020	480	860	405
.25	62	1295	610	1190	560	1005	475	845	340
.30	75	1280	605	1170	550	990	470	830	390
.40	100	1230	580	1130	535	960	455	800	380
.50	125	1170	550	1070	505	910	430	760	360
.60	150	1100	520	990	465	850	400	700	330
.70	175	1020	480	890	420	780	370	620	295
.75	185	975	460	830	390	740	350	570	270

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

CHP20-036 BLOWER PERFORMANCE 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
		in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1450	685	1370	645	1080	510	900	425
.05	12	1430	675	1350	635	1070	505	890	420
.10	25	1410	665	1330	630	1060	500	880	415
.15	37	1395	660	1310	615	1055	500	875	415
.20	50	1380	650	1290	610	1050	495	870	410
.25	62	1360	640	1270	600	1040	490	860	405
.30	75	1340	630	1250	590	1030	485	850	400
.40	100	1300	615	1210	570	1010	475	830	390
.50	125	1250	590	1170	550	970	460	810	380
.60	150	1200	565	1120	530	930	440	770	365
.70	175	1150	545	1060	500	890	420	710	335
.75	185	1125	530	1025	485	870	410	670	315

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

BLOWER DATA

CHP20-036 BLOWER PERFORMANCE 460 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1560	735	1380	650	1070	505
.05	12	1555	735	1355	640	1075	505
.10	25	1540	725	1330	630	1080	510
.15	37	1510	715	1320	625	1070	505
.20	50	1475	695	1315	620	1060	500
.25	62	1450	685	1295	610	1040	490
.30	75	1430	675	1270	600	1025	485
.40	100	1360	640	1215	575	980	460
.50	125	1280	605	1145	540	925	435
.60	150	1185	560	1045	495	850	400
.70	175	1070	505	925	435	750	355
.75	185	990	465	860	405	680	320

NOTE — All air data is measured external to the unit with dry coil and without air filter.

CHP20-036 BLOWER PERFORMANCE 460 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1665	785	1490	705	1080	510
.05	12	1640	775	1465	690	1080	510
.10	25	1610	760	1440	680	1080	510
.15	37	1585	750	1420	670	1075	505
.20	50	1555	735	1400	660	1070	505
.25	62	1525	720	1380	650	1060	500
.30	75	1495	705	1355	640	1050	495
.40	100	1435	675	1300	615	1015	480
.50	125	1365	645	1250	590	985	465
.60	150	1295	610	1180	555	935	440
.70	175	1205	570	1100	520	860	405
.75	185	1145	540	1060	500	800	380

NOTE — All air data is measured external to the unit with dry coil and without air filter.

CHP20-042-048 BLOWER PERFORMANCE 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2015	950	1610	760	1425	670	1240	585
.05	12	2000	945	1595	755	1420	670	1235	585
.10	25	1980	935	1580	745	1415	670	1235	585
.15	37	1960	925	1575	745	1415	670	1230	580
.20	50	1935	915	1560	735	1405	665	1225	580
.25	62	1910	900	1540	725	1395	660	1215	575
.30	75	1885	890	1520	715	1385	655	1205	570
.40	100	1825	860	1485	700	1355	640	1185	560
.50	125	1760	830	1445	680	1315	620	1160	550
.60	150	1690	800	1395	660	1260	595	1130	535
.70	175	1615	760	1335	630	1190	560	1095	515
.75	185	1575	745	1300	615	1145	540	1065	505

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

CHP20-042-048 BLOWER PERFORMANCE 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2075	980	1675	790	1445	680	1275	600
.05	12	2060	970	1660	785	1440	680	1270	600
.10	25	2040	965	1645	775	1435	675	1270	600
.15	37	2020	955	1635	770	1435	675	1265	595
.20	50	1995	940	1620	765	1425	670	1260	595
.25	62	1965	930	1600	755	1415	670	1250	590
.30	75	1940	915	1580	745	1405	665	1240	585
.40	100	1880	890	1545	730	1375	650	1220	575
.50	125	1815	855	1500	710	1335	630	1195	565
.60	150	1740	820	1450	685	1280	605	1165	550
.70	175	1655	780	1395	660	1210	570	1130	535
.75	185	1605	755	1365	645	1165	550	1110	525

NOTE — For 208v unit operation, derate air volume by 7%.
All air data is measured external to the unit with dry coil and without air filter.

CHP20-048 BLOWER PERFORMANCE 460 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2075	980	1650	780	1105	520
.05	12	2045	965	1635	770	1105	520
.10	25	2015	950	1625	765	1100	520
.15	37	1980	935	1615	760	1100	520
.20	50	1945	920	1600	755	1095	515
.25	62	1915	905	1585	750	1090	515
.30	75	1880	890	1570	740	1085	510
.40	100	1810	855	1535	725	1070	505
.50	125	1735	820	1490	705	1045	495
.60	150	1650	780	1430	675	1010	475
.70	175	1555	735	1355	640	965	455
.75	185	1500	710	1310	620	935	440

NOTE — All air data is measured external to the unit with dry coil and without air filter.

CHP20-048 BLOWER PERFORMANCE 460 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2090	985	1755	830	1115	525
.05	12	2065	975	1740	820	1115	525
.10	25	2035	960	1720	810	1110	525
.15	37	2005	945	1705	805	1110	525
.20	50	1975	930	1685	795	1105	520
.25	62	1950	920	1675	790	1100	520
.30	75	1920	905	1650	780	1095	515
.40	100	1860	880	1600	755	1080	510
.50	125	1790	845	1555	735	1055	500
.60	150	1720	810	1495	705	1020	480
.70	175	1640	775	1425	670	975	460
.75	185	1595	755	1385	655	945	445

NOTE — All air data is measured external to the unit with dry coil and without air filter.

BLOWER DATA

CHP20-060 BLOWER PERFORMANCE 230 VOLTS (With Down-Flow Air Openings)											
External Static Pressure		Air Volume at Various Blower Speeds									
		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2450	1155	2200	1040	1990	940	1760	830	1460	690
.05	12	2430	1145	2180	1030	1980	935	1750	825	1470	695
.10	25	2410	1135	2170	1025	1970	930	1740	820	1490	705
.15	37	2390	1130	2160	1020	1960	925	1730	815	1500	710
.20	50	2360	1115	2140	1010	1950	920	1720	810	1490	705
.25	62	2340	1105	2120	1000	1930	910	1710	805	1490	705
.30	75	2320	1095	2100	990	1910	900	1700	800	1480	700
.40	100	2270	1070	2060	970	1880	885	1670	780	1470	695
.50	125	2230	1052	2010	950	1830	865	1640	775	1430	675
.60	150	2170	1025	1930	910	1780	840	1600	755	1390	655
.70	175	2120	1000	1890	890	1730	815	1550	730	1340	630
.75	185	2080	980	1850	875	1700	800	1530	720	1310	620

NOTE — For 208v unit operation, derate air volume by 7%
All air data is measured external to the unit with dry coil and without air filter.

CHP20-060 BLOWER PERFORMANCE 230 VOLTS (With Horizontal Air Openings)											
External Static Pressure		Air Volume at Various Blower Speeds									
		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2570	1215	2220	1050	2000	945	1780	840	1510	715
.05	12	2560	1210	2210	1045	1990	940	1780	840	1520	715
.10	25	2540	1200	2200	1040	1980	935	1770	835	1530	720
.15	37	2520	1190	2190	1035	1970	930	1770	835	1520	715
.20	50	2500	1180	2180	1030	1960	925	1760	830	1510	715
.25	62	2480	1170	2160	1020	1940	915	1750	825	1510	715
.30	75	2440	1150	2140	1010	1920	905	1740	820	1500	710
.40	100	2390	1130	2100	990	1900	895	1710	805	1470	695
.50	125	2320	1095	2060	970	1860	880	1670	790	1440	680
.60	150	2240	1055	2010	950	1810	855	1630	770	1400	660
.70	175	2160	1020	1950	920	1760	830	1580	745	1350	635
.75	185	2120	1000	1920	905	1720	810	1560	735	1330	630

NOTE — For 208v unit operation, derate air volume by 7%
All air data is measured external to the unit with dry coil and without air filter.

CHP20-060 BLOWER PERFORMANCE 460 VOLTS (With Down-Flow Air Openings)							
External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2450	1155	2090	985	1740	820
.05	12	2430	1145	2080	980	1740	820
.10	25	2410	1135	2060	970	1730	815
.15	37	2390	1130	2040	965	1720	810
.20	50	2360	1115	2020	955	1710	805
.25	62	2340	1105	2000	945	1700	800
.30	75	2320	1095	1990	940	1680	795
.40	100	2270	1070	1940	915	1630	770
.50	125	2230	1050	1880	885	1590	750
.60	150	2170	1025	1840	870	1520	715
.70	175	2120	1000	1770	835	1460	690
.75	185	2080	980	1740	820	1440	680

NOTE — All air data is measured external to the unit with dry coil and without air filter.

CHP20-060 BLOWER PERFORMANCE 460 VOLTS (With Horizontal Air Openings)							
External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2570	1215	2100	990	1760	830
.05	12	2560	1210	2090	985	1770	835
.10	25	2540	1200	2070	975	1760	830
.15	37	2520	1190	2050	965	1760	830
.20	50	2500	1180	2030	960	1750	825
.25	62	2480	1170	2010	950	1740	820
.30	75	2440	1150	2000	945	1720	810
.40	100	2390	1130	1960	925	1670	790
.50	125	2320	1095	1910	900	1620	765
.60	150	2240	1105	1870	880	1550	730
.70	175	2160	1020	1800	850	1490	705
.75	185	2120	1000	1760	830	1470	695

NOTE — All air data is measured external to the unit with dry coil and without air filter.

BLOWER DATA

FILTER AND ACCESSORY AIR RESISTANCE

Unit Model No.	Air Volume		Total Air Resistance											
			1 in. (25mm) Filter Furnished		REMD16 Down-Flow Economizer						EMDH16 Horizontal Economizer			
					Less Filter		With Optional Pleated Polyester 2 in. (51mm) Filter		With Optional Fiberglass 2 in. (51mm) Filter		With Furnished 1 in. (25mm) Filter		Less Filter	
cfm	L/s	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	
CHP20-024 CHP20-030 CHP20-036	800	380	.15	37	.05	12	.27	67	.13	32	.18	45	.10	25
	1000	470	.18	45	.06	15	.34	85	.18	45	.26	65	.15	37
	1200	565	.21	52	.09	22	.42	104	.24	60	.35	87	.21	52
	1400	660	.25	62	.15	37	.51	127	.31	77	.46	114	.29	72
CHP20-042 CHP20-048 CHP20-060	1600	755	.15	37	.05	12	.40	99	.27	67	.30	75	.17	42
	1800	850	.17	42	.06	15	.48	119	.33	82	.35	87	.19	47
	2000	945	.20	50	.08	20	.56	139	.39	97	.40	99	.22	55
	2200	1040	.23	57	.13	32	.66	164	.46	114	.47	117	.26	85

DIFFUSER AIR RESISTANCE

Unit Model No.	Air Volume		Total Air Resistance							
			RTD9-65 Diffuser				FD9-65 Diffuser			
			2 Ends Open		1 Side 2 Ends Open		All Ends & Sides Open		FD9-65 Diffuser	
cfm	L/s	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	
CHP20-024 CHP20-030 CHP20-036	800	380	.15	37	.13	32	.11	27	.11	27
	1000	470	.19	47	.16	40	.14	35	.14	35
	1200	565	.25	62	.20	50	.17	42	.17	42
	1400	660	.33	82	.26	65	.20	50	.20	50
CHP20-042 CHP20-048 CHP20-060	1600	755	.43	107	.32	80	.20	50	.24	60
	1800	850	.56	139	.40	90	.30	75	.30	75
	2000	945	.73	182	.50	124	.36	90	.36	90
	2200	1040	.95	236	.63	157	.44	109	.44	109

NOTE - Electric heaters have no appreciable air resistance.

CEILING DIFFUSER AIR THROW DATA

Model No.		RTD9-65		FD9-65	
Air Volume		Effective Throw		Effective Throw	
cfm	L/s	ft.	m	ft. — ft.	(m) m
1000	470	10-17	3-5	15-20	5-6
1200	565	11-18	3-5	16-22	5-7
1400	660	12-19	4-6	17-24	5-7
1600	755	12-20	4-6	18-25	5-8
1800	850	13-21	4-6	20-28	6-9
2000	945	14-23	4-7	21-29	6-9
2200	1040	16-25	5-8	22-30	7-9

Effective throw based on terminal velocities of 75 ft. (22.9 m) per minute.

WET INDOOR COIL AIR RESISTANCE

Model Number	Air Volume		Air Resistance	
	cfm	L/s	in. w.g.	Pa
CHP20-024	600	285	0.05	12
	800	380	0.06	15
	1000	470	0.07	17
	1200	565	0.08	20
CHP20-030	800	380	0.09	22
	1000	470	0.10	25
	1200	565	0.11	27
CHP20-036	800	380	0.09	22
	1000	470	0.10	25
	1200	565	0.11	27
	1400	660	0.12	30
CHP20-042 CHP20-048	1600	755	0.11	27
	1800	850	0.12	30
	2000	945	0.13	32
	2200	1040	0.14	35
CHP20-060	1600	755	0.08	20
	1800	850	0.09	22
	2000	945	0.10	25
	2200	1040	0.11	27

ELECTRICAL DATA - 1 PHASE

General Data	Model No.	CHP20-024	CHP20-030	CHP20-036	CHP20-042	CHP20-048	CHP20-060
		Line voltage data - 60 hz - 1 phase		208/230v	208/230v	208/230v	208/230v
Rec. maximum fuse size (amps)		30	35	40	50	60	70
†Minimum Circuit Ampacity		19	22	25	32	36	44
Compressor	Rated load amps	12.2	13.8	16.1	20.1	23.7	28.8
	Locked rotor amps	61.0	73.0	88.0	104.0	129.0	169.0
Outdoor Coil Fan Motor	Full load amps	1.1	1.1	1.1	2.3	2.3	2.4
	Locked rotor amps	2.2	2.2	2.2	4.4	4.4	4.4
Indoor Coil Blower Motor	Motor output - hp (W)	1/3 (249)	1/3 (249)	1/3 (249)	1/2 (373)	1/2 (373)	3/4 (560)
	Full load amps	2.1	3.0	3.0	3.9	3.9	4.6
	Locked rotor amps	4.2	6.2	6.2	8.3	8.3	10.0

†Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.
NOTE - Extremes of operating range are plus and minus 10% of line voltage.

ELECTRICAL DATA - 3 PHASE

General Data	Model No.	CHP20-036		CHP20-048		CHP20-060	
		Line voltage data - 60 hz - 3 phase		208/230v	460v	208/230v	460v
Rec. maximum fuse size (amps)		25	15	35	15	45	20
†Minimum Circuit Ampacity		17	10	24	13	29	15
Compressor	Rated load amps	10.3	5.2	13.5	7.4	17.3	9
	Locked rotor amps	77	39	120	49.5	137	62
Outdoor Coil Fan Motor	Full load amps	1.1	0.73	2.3	1.1	2.4	1.3
	Locked rotor amps	2.2	1.3	4.4	2	4.4	2.0
Indoor Coil Blower Motor (1 phase)	Motor output - hp (W)	1/3 (249)	1/3 (249)	1/2 (373)	1/2 (373)	3/4 (560)	3/4 (560)
	Full load amps	3	1.8	3.9	1.8	4.6	2.4
	Locked rotor amps	6.2	4.4	8.3	4.4	10	3.8

†Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.
NOTE - Extremes of operating range are plus and minus 10% of line voltage.

ELECTRIC HEAT DATA - CHP20-024-030

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps	Volts Input	Electric Heat kW Input	Electric Heat Btuh Input	Heater Only †Minimum Circuit Ampacity	†Total Unit + Electric Heat		Optional Single Point Power Source Boxes	
							†Minimum Circuit Ampacity	Maximum Fuse Size	Heater Sub-Fuse Box	Unit Sub-Fuse Box
CHP20-024 1 phase	5 kW ECH16R-5 (31H46) 4 lbs. (2 kg)	1	208	3.8	12,800	23	42	45	ECH16R-26/41-5 (31H26)	ECH16-261 (31H10)
		1	220	4.2	14,300	26	45	50		
		1	230	4.6	15,700	26	45	50		
		1	240	5.0	17,100	26	45	50		
	7 kW ECH16R-7 (31H47) 5 lbs. (2 kg)	1	208	5.3	17,900	32	51	60	ECH16R-26/65-7 (31H25)	ECH16-261 (31H10)
		1	220	5.9	20,100	37	55	60		
		1	230	6.4	21,900	37	55	60		
		1	240	7.0	23,900	37	55	60		
	10 kW ECH16R-10 (31H48) 5 lbs. (2 kg)	1	208	7.5	25,600	46	64	70	ECH16R-26/65-10 (31H24)	ECH16-261 (31H10)
		1	220	8.4	28,700	53	71	80		
		1	230	9.2	31,300	53	71	80		
		1	240	10.0	34,100	53	71	80		
15 kW ECH16R-15 (31H27) 18 lbs. (8 kg)	1	208	11.3	38,400	68	87	90	Not required	ECH16-261 (31H10)	
	1	220	12.6	43,000	79	97	100			
	1	230	13.8	47,100	79	97	100			
	1	240	15.0	51,200	79	97	100			
CHP20-030 1 phase	5 kW ECH16R-5 (31H46) 4 lbs. (2 kg)	1	208	3.8	12,800	23	44	50	ECH16R-26/41-5 (31H26)	ECH16-311 (31H11)
		1	220	4.2	14,300	26	48	50		
		1	230	4.6	15,700	26	48	50		
		1	240	5.0	17,100	26	48	50		
	7 kW ECH16R-7 (31H47) 5 lbs. (2 kg)	1	208	5.3	17,900	32	53	60	ECH16R-26/65-7 (31H25)	ECH16-311 (31H11)
		1	220	5.9	20,100	37	58	60		
		1	230	6.4	21,800	37	58	60		
		1	240	7.0	23,900	37	58	60		
	10 kW ECH16R-10 (31H48) 5 lbs. (2 kg)	1	208	7.5	25,600	46	67	70	ECH16R-26/65-10 (31H24)	ECH16-311 (31H11)
		1	220	8.4	28,700	53	74	80		
		1	230	9.2	31,300	53	74	80		
		1	240	10.0	34,100	53	74	80		
15 kW ECH16R-15 (31H27) 18 lbs. (8 kg)	1	208	11.3	38,400	68	90	90	Not required	ECH16-311 (31H11)	
	1	220	12.6	43,000	79	100	100			
	1	230	13.8	47,100	79	100	100			
	1	240	15.0	51,200	79	100	100			

†Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).

ELECTRIC HEAT DATA - CHP20-036

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps	Volts Input	Electric Heat kW Input	Electric Heat Btuh Input	Heater Only †Minimum Circuit Ampacity	†Total Unit + Electric Heat		Optional Single Point Power Source Boxes	
							†Minimum Circuit Ampacity	Maximum Fuse Size	Heater Sub-Fuse Box	Unit Sub-Fuse Box
CHP20-036 1 phase	5 kW ECH16R-5 (31H46) 4 lbs. (2 kg)	1	208	3.7	12,600	23	47	50	ECH16R-26/41-5 (31H26)	ECH16-411 (31H12)
		1	220	4.2	14,300	26	51	60		
		1	230	4.6	15,700	26	51	60		
		1	240	5.0	17,100	26	51	60		
	7 kW ECH16R-7 (31H47) 5 lbs. (2 kg)	1	208	5.3	18,100	32	56	60	ECH16R-26/65-7 (31H25)	ECH16-411 (31H12)
		1	220	5.9	20,100	37	61	70		
		1	230	6.4	21,800	37	61	70		
	10 kW ECH16R-10 (31H48) 5 lbs. (2 kg)	1	208	7.5	25,600	46	70	70	ECH16R-26/65-10 (31H24)	ECH16-411 (31H12)
		1	220	8.4	28,700	53	77	80		
		1	230	9.2	31,400	53	77	80		
	15 kW ECH16-15 (31H27) 18 lbs. (8 kg)	1	208	11.3	38,600	68	92	100	Not required	ECH16-411 (31H12)
		1	220	12.6	43,000	79	103	110		
		1	230	13.8	47,100	79	103	110		
		1	240	15.0	51,200	79	103	110		
	20 kW ECH16-20 (31H28) 19 lbs. (9 kg)	1	208	15.0	51,200	91	115	120	Not required	ECH16-411 (31H12)
		1	220	16.8	57,300	105	128	150		
		1	230	18.4	62,800	105	128	150		
		1	240	20.0	68,300	105	128	150		
1		208	15.0	51,200	91	115	120			
1		220	16.8	57,300	105	128	150			
CHP20-036 3 phase	5 kW ECH16-5 208/230v (31H30) 17 lbs. (9 kg)	1	208	3.8	12,800	14	30	35	Not required	ECH16-413 208/230v (31H15)
		1	220	4.2	14,300	16	32	40		
		1	230	4.6	15,700	16	32	40		
		1	240	5.0	17,100	16	32	40		
	7 kW ECH16-7 208/230v (31H31) 460v (31H36)	1	208	5.3	18,000	19	36	40	Not required	ECH16-413 208/230v (31H15) 460v (31H18)
		1	220	5.9	20,000	22	38	45		
		1	230	6.4	22,000	22	38	45		
		1	240	7.0	23,900	22	38	45		
		1	440	5.8	19,800	11	20	20		
		1	460	6.5	22,200	11	20	20		
	10 kW ECH16-10 208/230v (31H32) 460v (31H37)	1	208	7.5	25,600	27	43	45	Not required	ECH16-413 208/230v (31H15) 460v (31H18)
		1	220	8.4	28,700	31	47	50		
		1	230	9.2	31,400	31	47	50		
		1	240	10.0	34,100	31	47	50		
		1	440	8.4	28,700	16	25	25		
		1	460	9.2	31,400	16	25	25		
	15 kW ECH16-15 208/230v (31H33) 460v (31H38)	1	208	11.3	38,500	40	57	60	Not required	ECH16-413 208/230v (31H15) 460v (31H18)
		1	220	12.6	43,000	46	63	70		
		1	230	13.8	47,100	46	63	70		
		1	240	15.0	51,200	46	63	70		
		1	440	12.6	43,000	23	32	35		
		1	460	13.8	47,100	23	32	35		
		1	480	15.0	51,200	23	32	35		
	20 kW ECH16-20 208/230v (31H34) 460v (31H39)	2	208	15.0	51,300	53	70	70	Not required	ECH16-413 208/230v (31H15) 460v (31H18)
2		220	16.8	57,300	61	78	80			
2		230	18.4	62,800	61	78	80			
2		240	20.0	68,300	61	78	80			
1		440	16.8	57,300	31	40	40			
1		460	18.4	62,800	31	40	40			
1		480	20.0	68,200	31	40	40			
1		480	20.0	68,200	31	40	40			

†Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).

ELECTRIC HEAT DATA - CHP20-042

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps	Volts Input	Electric Heat kW Input	Electric Heat Btuh Input	Heater Only †Minimum Circuit Ampacity	†Total Unit + Electric Heat		Optional Single Point Power Source Boxes	
							†Minimum Circuit Ampacity	Maximum Fuse Size	Heater Sub-Fuse Box	Unit Sub-Fuse Box
CHP20-042 1 phase	7 kW ECH16R-7 (31H47) 5 lbs. (2 kg)	1	208	5.3	18,000	32	63	70	ECH16R-26/65-7 (31H25)	ECH16-511 (31H13)
		1	220	5.9	20,000	37	68	80		
		1	230	6.4	22,000	37	68	80		
		1	240	7.0	23,900	37	68	80		
	10 kW ECH16R-10 (31H48) 5 lbs. (2 kg)	1	208	7.5	25,600	46	77	80	ECH16R-26/65-10 (31H24)	ECH16-511 (31H13)
		1	220	8.4	28,700	53	84	90		
		1	230	9.2	31,300	53	84	90		
		1	240	10.0	34,100	53	84	90		
	15 kW ECH16-15 (31H27) 18 lbs. (8 kg)	1	208	11.3	38,500	68	100	100	Not required	ECH16-511 (31H13)
		1	220	12.6	43,000	79	110	110		
		1	230	13.8	47,000	79	110	110		
		1	240	15.0	51,200	79	110	110		
	20 kW ECH16-20 (31H28) 19 lbs. (9 kg)	1	208	15.0	51,200	91	122	125	Not required	ECH16-511 (31H13)
		1	220	16.8	57,300	105	136	150		
		1	230	18.4	62,700	105	136	150		
		1	240	20.0	68,200	105	136	150		
	25 kW ECH16-25 (31H29) 19 lbs. (9 kg)	1	208	18.8	64,200	113	145	150	Not required	ECH16-511 (31H13)
		1	220	21.0	71,700	131	162	175		
		1	230	23.0	78,500	131	162	175		
		1	240	25.0	85,300	131	162	175		

†Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).

ELECTRIC HEAT DATA - CHP20-048

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps	Volts Input	Electric Heat kW Input	Electric Heat Btuh Input	Heater Only †Minimum Circuit Ampacity	†Total Unit + Electric Heat		Optional Single Point Power Source Boxes	
							†Minimum Circuit Ampacity	Maximum Fuse Size	Heater Sub-Fuse Box	Unit Sub-Fuse Box
CHP20-048 1 phase	7 kW ECH16R-7 (31H47) 5 lbs. (2 kg)	1	208	5.3	18,000	32	68	80	ECH16R-26/65-7 (31H25)	ECH16-511 (31H13)
		1	220	5.9	20,000	37	73	80		
		1	230	6.4	22,000	37	73	80		
		1	240	7.0	23,900	37	73	80		
	10 kW ECH16R-10 (31H48) 5 lbs. (2 kg)	1	208	7.5	25,600	46	81	90	ECH16R-26/65-10 (31H24)	ECH16-511 (31H13)
		1	220	8.4	28,700	53	88	100		
		1	230	9.2	31,300	53	88	100		
		1	240	10.0	34,100	53	88	100		
	15 kW ECH16-15 (31H27) 18 lbs. (8 kg)	1	208	11.3	38,500	68	104	110	Not required	ECH16-511 (31H13)
		1	220	12.6	43,000	79	114	125		
		1	230	13.8	47,000	79	114	125		
		1	240	15.0	51,200	79	114	125		
	20 kW ECH16-20 (31H28) 19 lbs. (9 kg)	1	208	15.0	51,200	91	127	150	Not required	ECH16-511 (31H13)
		1	220	16.8	57,300	105	141	150		
		1	230	18.4	62,700	105	141	150		
		1	240	20.0	68,200	105	141	150		
	25 kW ECH16-25 (31H29) 19 lbs. (9 kg)	1	208	18.8	64,200	113	149	150	Not required	ECH16-511 (31H13)
		1	220	21.0	71,700	131	167	175		
		1	230	23.0	78,500	131	167	175		
		1	240	25.0	85,300	131	167	175		
CHP20-048 3 phase	7 kW ECH16-7 208/230v (31H31) 460v (31H36)	1	208	5.3	18,000	19	42	50	Not required	ECH16-513 208/230v (31H16) ECH16-413/513 460v (31H21)
		1	220	5.9	20,000	21	45	50		
		1	230	6.4	22,000	21	45	50		
		1	240	7.0	23,900	21	45	50		
		1	440	5.8	19,800	11	23	25		
		1	460	6.5	22,200	11	23	25		
		1	480	7.0	23,900	11	23	25		
	10 kW ECH16-10 208/230v (31H32) 460v (31H37)	1	208	7.5	25,600	27	50	50	Not required	ECH16-513 208/230v (31H16) ECH16-413/513 460v (31H21)
		1	220	8.4	28,700	31	54	60		
		1	230	9.2	31,300	31	54	60		
		1	240	10.0	34,100	31	54	60		
		1	440	8.4	28,700	15	28	30		
		1	460	9.2	31,400	15	28	30		
	15 kW ECH16-15 208/230v (31H33) 460v (31H38)	1	208	11.3	38,500	40	63	70	Not required	ECH16-513 208/230v (31H16) ECH16-413/513 460v (31H21)
		1	220	12.6	43,000	46	69	70		
		1	230	13.8	47,100	46	69	70		
		1	240	15.0	51,200	46	69	70		
		1	440	12.6	43,000	23	35	35		
		1	460	13.8	47,100	23	35	35		
	20 kW ECH16-20 208/230v (31H34) 460v (31H39)	2	208	15.0	51,200	53	76	80	Not required	ECH16-513 208/230v (31H16) ECH16-413/513 460v (31H21)
		2	220	16.8	57,300	61	84	90		
		2	230	18.4	62,700	61	84	90		
		2	240	20.0	68,200	61	84	90		
		1	440	16.8	57,300	31	43	45		
		1	460	18.4	62,700	31	43	45		
	25 kW ECH16-25 208/230v (31H35) 460v (31H40)	2	208	18.8	64,000	66	89	90	Not required	ECH16-513 208/230v (31H16) ECH16-413/513 460v (31H21)
		2	220	21.0	71,600	76	99	100		
		2	230	22.9	78,300	76	99	100		
2		240	25.0	85,300	76	99	100			
1		440	21.0	71,800	38	50	50			
1		460	22.9	78,300	38	50	50			
1		480	25.0	85,300	38	50	50			

†Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).

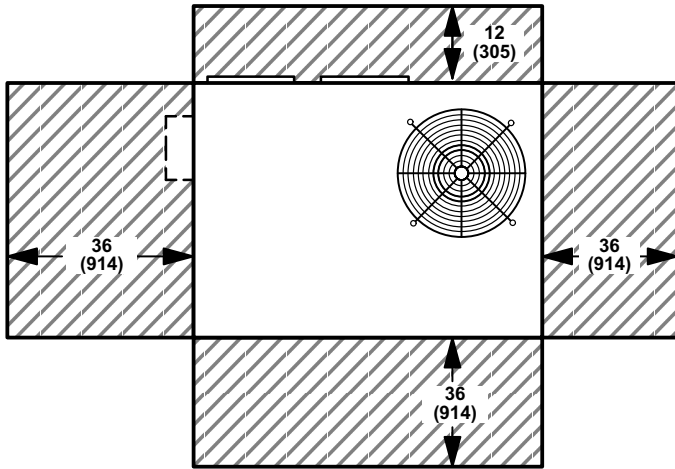
ELECTRIC HEAT DATA - CHP20-060

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps	Volts Input	Electric Heat kW Input	Electric Heat Btuh Input	Heater Only †Minimum Circuit Ampacity	†Total Unit + Electric Heat		Optional Single Point Power Source Boxes		
							†Minimum Circuit Ampacity	Maximum Fuse Size	Heater Sub-Fuse Box	Unit Sub-Fuse Box	
CHP20-060 1 phase	7 kW ECH16R-7 (31H47) 5 lbs. (2 kg)	1	208	5.3	18,000	32	75	90	ECH16R-26/65-7 (31H25)	ECH16-651 (31H14)	
		1	220	5.9	20,000	37	80	100			
		1	230	6.4	22,000	37	80	100			
		1	240	7.0	23,900	37	80	100			
	ECH16R-10 (31H48) 5 lbs. (2 kg)	1	208	7.5	25,600	46	89	100	ECH16R-26/65-10 (31H24)	ECH16-651 (31H14)	
		1	220	8.4	28,700	53	96	110			
		1	230	9.2	31,300	53	96	110			
	ECH16-15 (31H27) 18 lbs. (8 kg)	1	208	11.3	38,500	68	111	125	Not required	ECH16-651 (31H14)	
		1	220	12.6	43,000	79	122	125			
		1	230	13.8	47,000	79	122	125			
	ECH16-20 (31H28) 19 lbs. (9 kg)	1	208	15.0	51,200	91	134	150	Not required	ECH16-651 (31H14)	
		1	220	16.8	57,300	105	148	150			
		1	230	18.4	62,700	105	148	150			
	ECH16-25 (31H29) 19 lbs. (9 kg)	1	208	18.8	64,200	113	156	175	Not required	ECH16-651 (31H14)	
		1	220	21.0	71,700	131	174	175			
		1	230	23.0	78,500	131	174	175			
		1	240	25.0	85,300	131	174	175			
	CHP16-060 3 phase	ECH16-7 208/230v (31H31) 460v (31H36)	1	208	5.3	18,000	19	47	60	Not required	ECH16-653 208/230v (58L07) ECH16-513/653 460v (31H19)
			1	220	5.9	20,000	20	50	60		
			1	230	6.4	22,000	21	50	60		
1			240	7.0	23,900	21	50	60			
1			440	5.8	20,000	11	26	30			
1			460	6.5	22,000	11	26	30			
ECH16-10 208/230v (31H32) 460v (31H37)		1	208	7.5	25,600	27	55	60	Not required	ECH16-653 208/230v (58L07) ECH16-513/653 460v (31H19)	
		1	220	8.4	28,700	31	59	70			
		1	230	9.2	31,300	31	59	70			
		1	240	10.0	34,100	31	59	70			
		1	440	8.4	28,600	15	30	35			
		1	460	9.2	31,300	15	30	35			
ECH16-15 208/230v (31H33) 460v (31H38)		1	208	11.3	38,500	40	68	70	Not required	ECH16-653 208/230v (58L07) ECH16-513/653 460v (31H19)	
		1	220	12.6	43,000	46	74	80			
		1	230	13.8	47,100	46	74	80			
		1	240	15.0	51,200	46	74	80			
		1	440	12.6	43,000	23	38	40			
		1	460	13.8	47,100	23	38	40			
ECH16-20 208/230v (31H34) 460v (31H39)		2	208	15.0	51,200	53	81	90	Not required	ECH16-653 208/230v (58L07) ECH16-513/653 460v (31H19)	
		2	220	16.8	57,300	61	89	90			
		2	230	18.4	62,700	61	89	90			
		2	240	20.0	68,200	61	89	90			
		1	440	16.8	57,500	31	45	45			
		1	460	18.4	62,800	31	45	45			
ECH16-25 208/230v (31H35) 460v (31H40)	2	208	18.8	64,000	66	94	100	Not required	ECH16-653 208/230v (58L07) ECH16-513/653 460v (31H19)		
	2	220	21.0	71,600	76	104	110				
	2	230	22.9	78,100	76	104	110				
	2	240	25.0	85,300	76	104	110				
	1	440	21.0	71,800	38	53	60				
	1	460	22.9	78,300	38	53	60				
	1	480	25.0	85,300	38	53	60				

†Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).

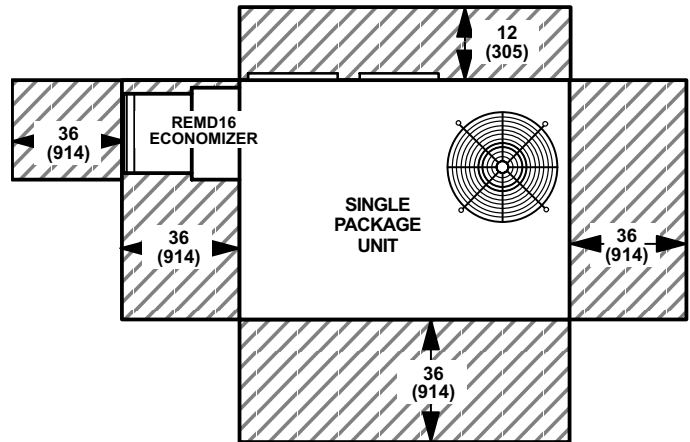
INSTALLATION CLEARANCES - INCHES (MM)

CHP20 BASIC UNIT



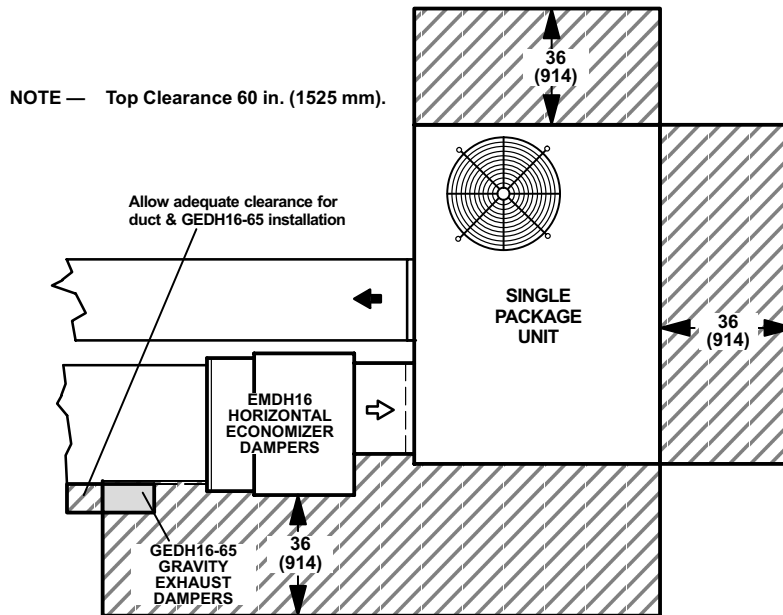
NOTE — Top Clearance 60 in. (1525 mm).
 NOTE — Entire perimeter of unit requires support when elevated above mounting surface.

CHP20 UNIT WITH REMD16 ECONOMIZER



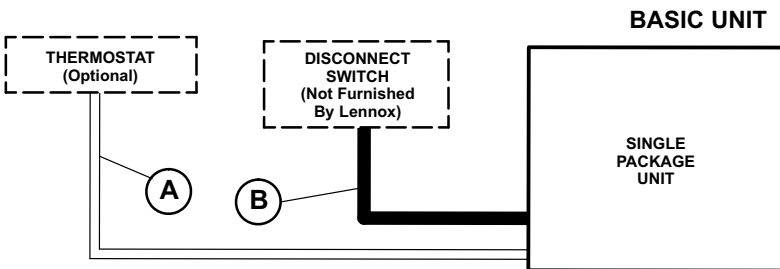
NOTE — Top Clearance 60 in. (1525 mm).

CHP20 UNIT WITH EMD16H ECONOMIZER AND GEDH16-65 GRAVITY EXHAUST DAMPER



NOTE — Top Clearance 60 in. (1525 mm).

FIELD WIRING



- A — *Five Wire Low Voltage (Electro-mechanical)
- *Six Wire Low Voltage (Electronic)
- B — Two or Three Wire Power (See Electrical Data Table)

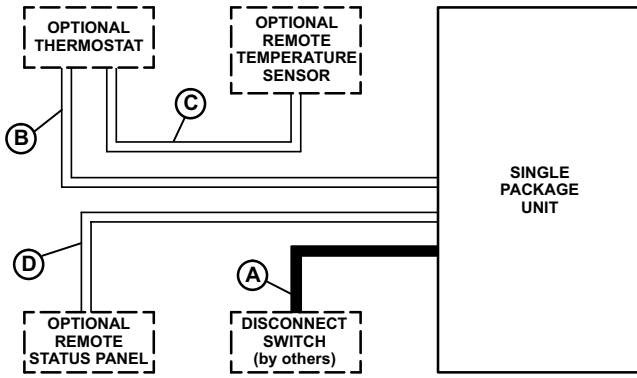
— Field Wiring Not Furnished —

*When economizer with two stage thermostat is used, one additional wire is required

NOTE - All wiring must conform to NEC or CEC and local electrical codes.

FIELD WIRING

T7300/T8600/T8624 THERMOSTAT CONTROL SYSTEM

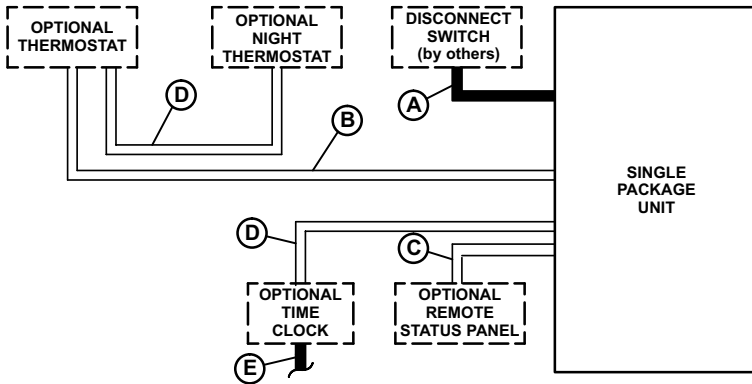


- A - Two or Three wire power (See Electrical Data Table)
- B - Nine wire low voltage
- C - Two wire low voltage
- Nine wire low voltage (T7300 Room Sensor with Override)
- D - Eleven wire low voltage

- Field wiring not furnished -

NOTE - All wiring must conform to NEC or CEC and local electrical codes.

ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM



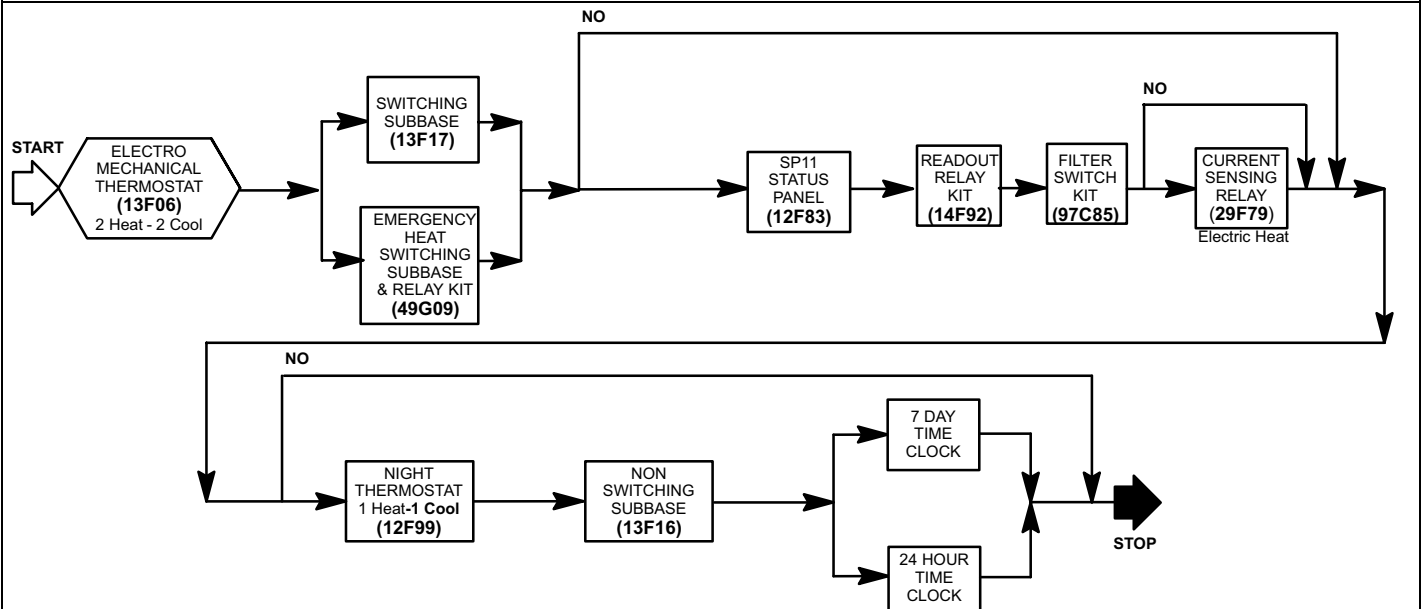
- A - Two or Three wire power (See Electrical Data Table)
- B - Six wire low voltage
Ten wire low voltage - with Emergency Heat Switching Subbase
- C - Eleven wire low voltage
- D - Two wire low voltage
- E - Two wire low voltage

- Field wiring not furnished -

NOTE - All wiring must conform to NEC or CEC and local electrical codes.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS (FIELD INSTALLED)

System and Component Description	Catalog No.
ELECTRO-MECHANICAL THERMOSTAT	
Thermostat - Two stage heat & two stage cool with dual temperature levers, subbase choice	13F06
Subbase - Manual system switch (Off-Heat-Auto-Cool), fan switch (Auto-On)	13F17
Emergency Heat Subbase and Relay Kit	49G09
Status Panel - May be ordered extra	12F83
Night Setback Operation - Order components below	
Thermostat - One stage heat & one stage cool	12F99
Subbase - Non-switching	13F16
Time Clock - 7 day operation, indicates day and night periods, 2 hour increments, battery back-up	See Price Book for Selection
Time Clock - 24 hour night setback operation, 15 minute increments, battery back-up	See Price Book for Selection



OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS (FIELD INSTALLED)

System and Component Description	Catalog No.																												
HONEYWELL T7300 THERMOSTAT																													
Thermostat - Programmable, internal or optional remote temperature sensing (sensor required), touch sensitive keyboard, automatic switching, °F or °C readout, no anticipator, droop/no droop selection, indicator LED's, hour/day programming, override capabilities, time and operational mode readout, stage status indicators, battery back-up, subbase choice, manual system switch (Heat-Off-Auto-Cool), fan switch (Auto-On)	37L54																												
Subbase - Selectable staging, indicator LED's, auxiliary relay output for economizer operation	Up to two stage heat & two stage cool 37L55																												
	Up to three stage heat & three stage cool 37L53																												
Sensor - Room temperature	58C92																												
Sensor - Room temperature with 3 hour override and setpoint adjustment	86G67																												
Sensor - Return air temperature	27C40																												
Status Panel - May be ordered extra	12F83																												
HONEYWELL T8611G THERMOSTAT																													
Thermostat - Programmable, touch sensitive keypad, automatic heat/cool switching, °F or °C readout, indicator LED's, four temperature settings per daily schedule, override capabilities, time and operational mode readout, battery back-up (batteries included)	—																												
T8611G Thermostat — 2 heat/1 cool, 7 day programming, wiring wall plate included	37L60																												
Status Panel - May be ordered extra	12F83																												
STATUS PANEL																													
SP11 Status Panel - Allows remote monitoring of unit through status lights, requires Status Panel Readout Kit																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 20%;">Status Light</th> <th style="width: 40%;">Definition</th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>Cool Mode</td> <td style="text-align: center;">Green</td> <td>Cooling operation</td> <td></td> </tr> <tr> <td>Heat Mode</td> <td style="text-align: center;">Green</td> <td>Heating operation</td> <td></td> </tr> <tr> <td>Compressor 1</td> <td style="text-align: center;">Green</td> <td>Compressor operation</td> <td></td> </tr> <tr> <td>Compressor 2</td> <td style="text-align: center;">Red</td> <td>Compressor malfunction</td> <td style="text-align: center;">12F83</td> </tr> <tr> <td>No Heat</td> <td style="text-align: center;">Red</td> <td>Not used</td> <td></td> </tr> <tr> <td>Filter</td> <td style="text-align: center;">Red</td> <td>Requires service</td> <td></td> </tr> </tbody> </table>		Status Light	Definition		Cool Mode	Green	Cooling operation		Heat Mode	Green	Heating operation		Compressor 1	Green	Compressor operation		Compressor 2	Red	Compressor malfunction	12F83	No Heat	Red	Not used		Filter	Red	Requires service		
	Status Light	Definition																											
Cool Mode	Green	Cooling operation																											
Heat Mode	Green	Heating operation																											
Compressor 1	Green	Compressor operation																											
Compressor 2	Red	Compressor malfunction	12F83																										
No Heat	Red	Not used																											
Filter	Red	Requires service																											
Status Panel Readout Kit - Required to interface SP11 to unit operation		14F92																											
Filter Switch Kit - Required with Filter light option on SP11		97C85																											
Current Sensing Relay - For operation of No Heat light with electric heat on SP11		29F79																											

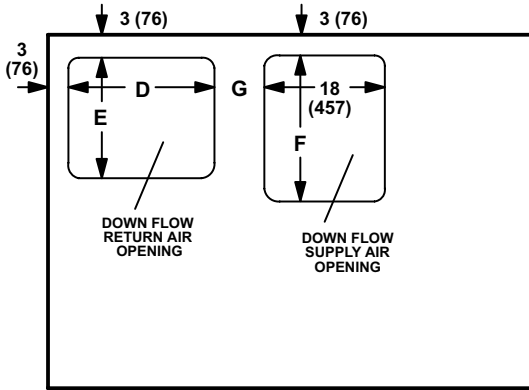
DIMENSIONS - INCHES (MM) BASIC UNIT

CORNER WEIGHTS

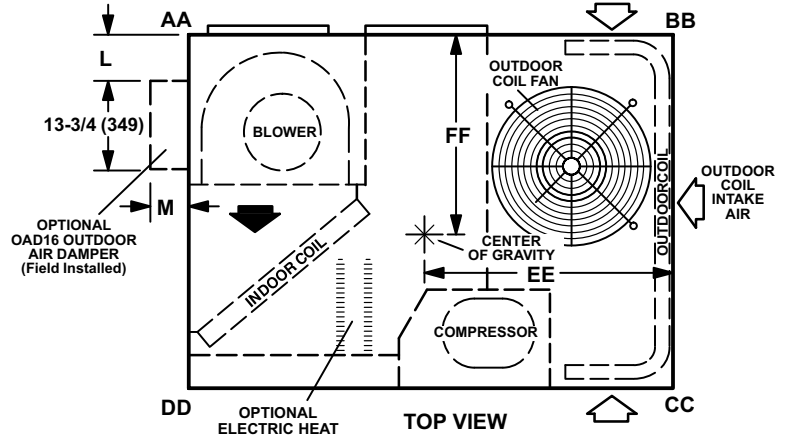
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
CHP20-024	61	28	65	30	92	42	87	39
CHP20-030-036	71	32	76	34	108	49	101	46
CHP20-042	89	40	95	43	140	64	131	60
CHP20-048-060	104	47	112	51	165	75	154	70

CENTER OF GRAVITY

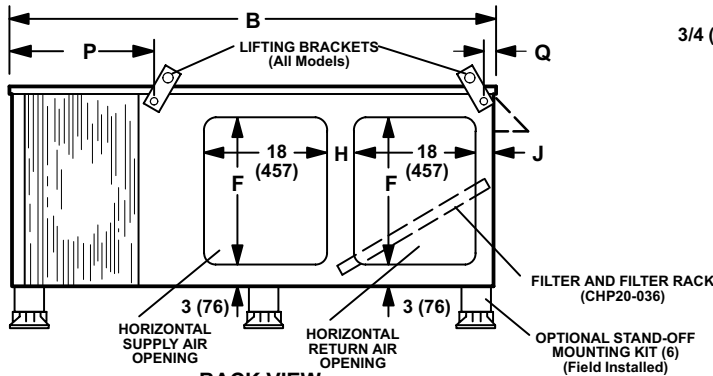
Model Number	EE		FF	
	inch	mm	inch	mm
CHP20-024-030-036	29	737	27	686
CHP20-042-048-060	35	889	31	787



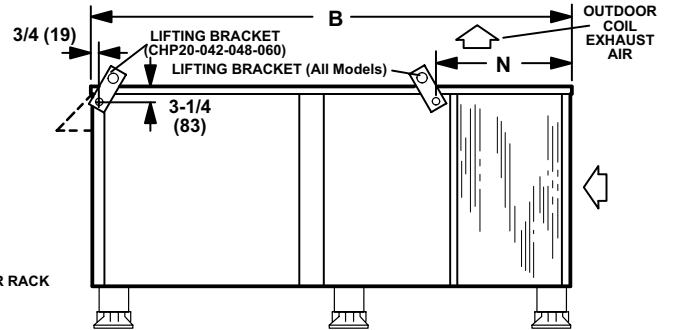
TOP VIEW BASE SECTION



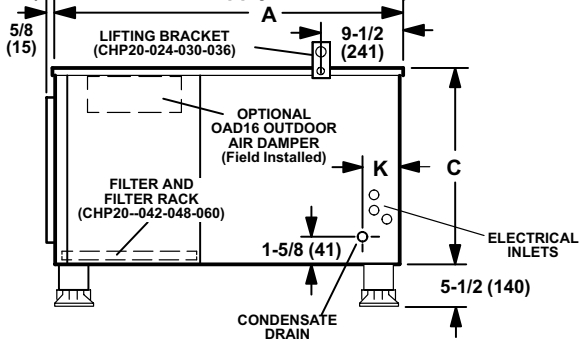
TOP VIEW



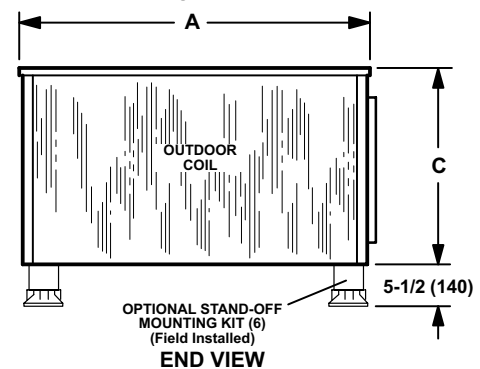
BACK VIEW
(With Horizontal Supply & Return Air)



FRONT VIEW



END VIEW



END VIEW

Model No.	A		B		C		D		E		F		G		H	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
CHP20-024-030-036	46	1168	60	1524	23	584	18	457	13	330	13	330	10	254	3	76
CHP20-042-048-060	52	1321	72-1/2	1842	29	737	22	559	18	457	22	737	7-1/2	191	5	127

Model No.	J		K		L		M		N		P		Q	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
CHP20-024-030-060	4	102	6-1/2	165	2	51	5	127	20	508	16-5/8	422	4	102
CHP20-042-048-060	3	76	6-1/8	156	5	127	8	203	19-3/8	492	19-3/8	492	3/4	19

ACCESSORY DIMENSIONS - INCHES (MM)

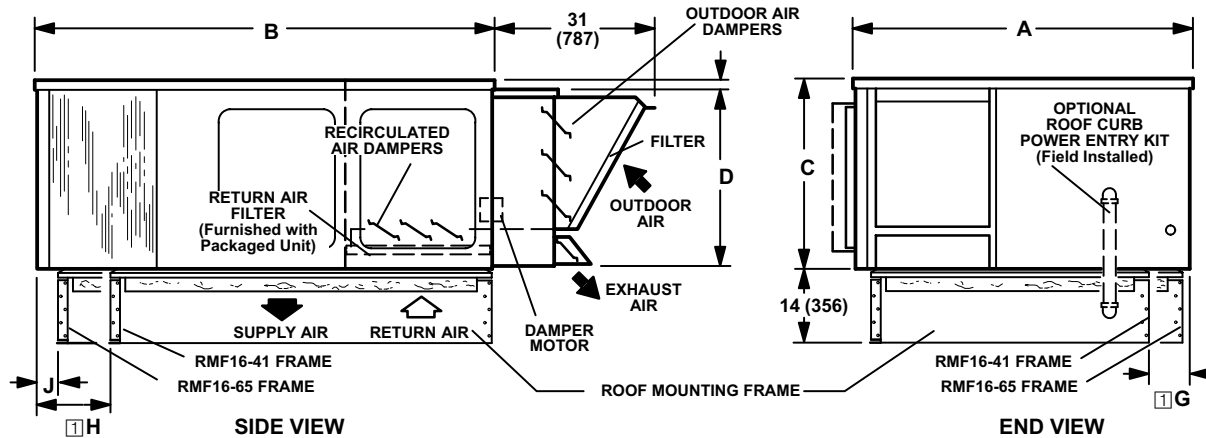
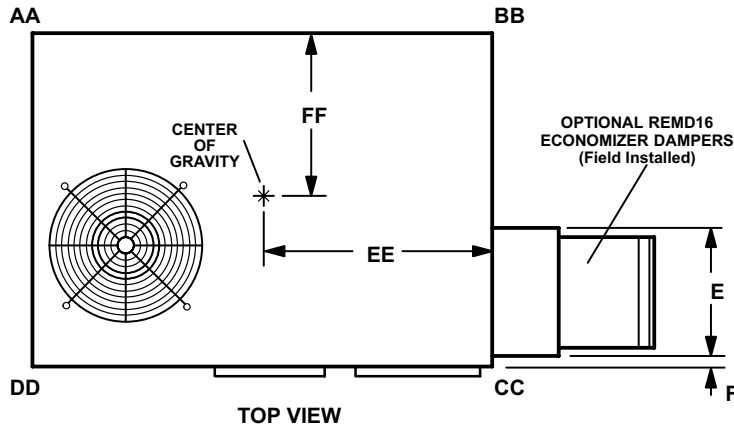
CHP20 UNIT WITH REMD16 ECONOMIZER DAMPER SECTION AND RMF16 ROOF MOUNTING FRAME

CORNER WEIGHTS

Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
CHP20-024	104	47	123	56	109	50	92	42
CHP20-030-036	116	53	137	62	122	55	103	47
CHP20-042	149	68	176	80	152	69	129	59
CHP20-048-060	174	79	199	91	168	76	146	66

CENTER OF GRAVITY

Model Number	EE		FF	
	inch	mm	inch	mm
CHP20-024-030-036	27-1/2	699	21-5/8	549
CHP20-042	33-1/4	845	24-1/8	613
CHP20-048-060	33-3/4	857	23-3/4	603

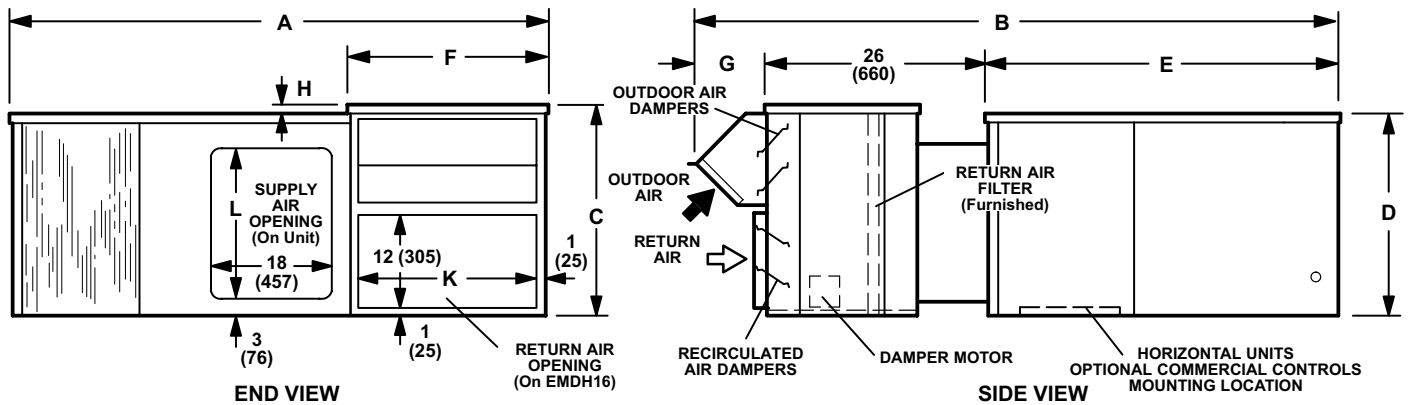
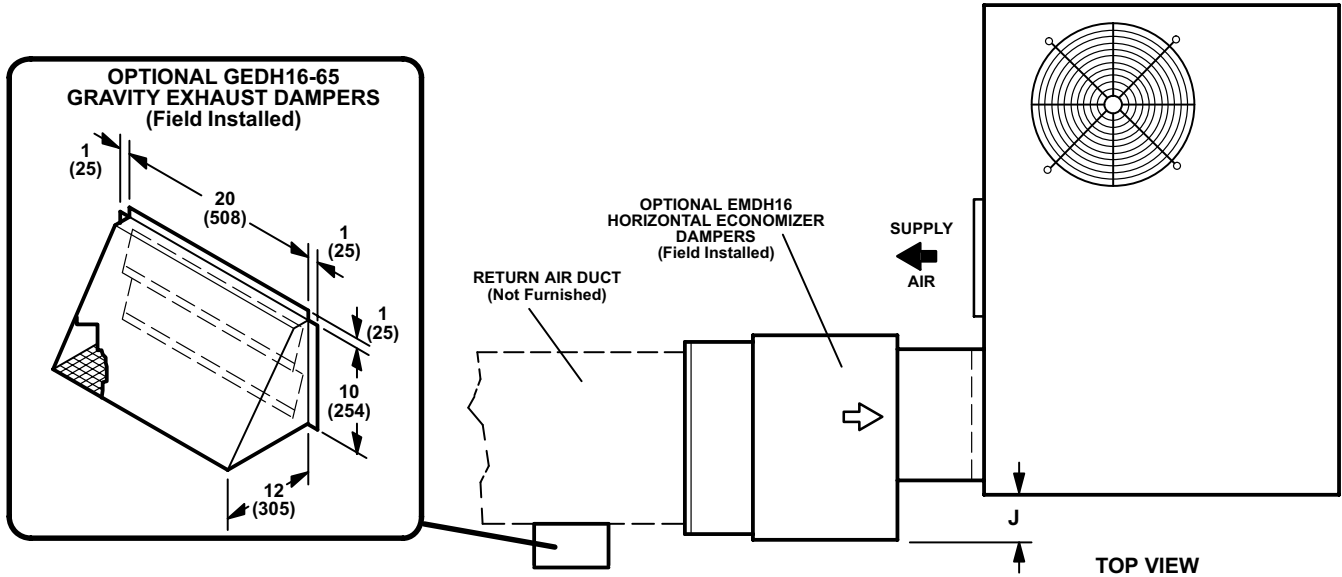


Model No.	A		B		C		D		E		F		G		H		J	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
CHP20-024 CHP20-030 CHP20-036	46	1168	60	1524	23	584	21-3/4	552	16-1/4	413	3/4	19	---	---	---	---	---	---
CHP20-048 CHP20-060	52	1321	72-1/2	1842	29	737	27-3/4	705	20-7/16	519	1-1/2	38	7	178	16	406	3-1/2	89

☐ Dimensions reflect usage with RMF16-41 mounting frame.

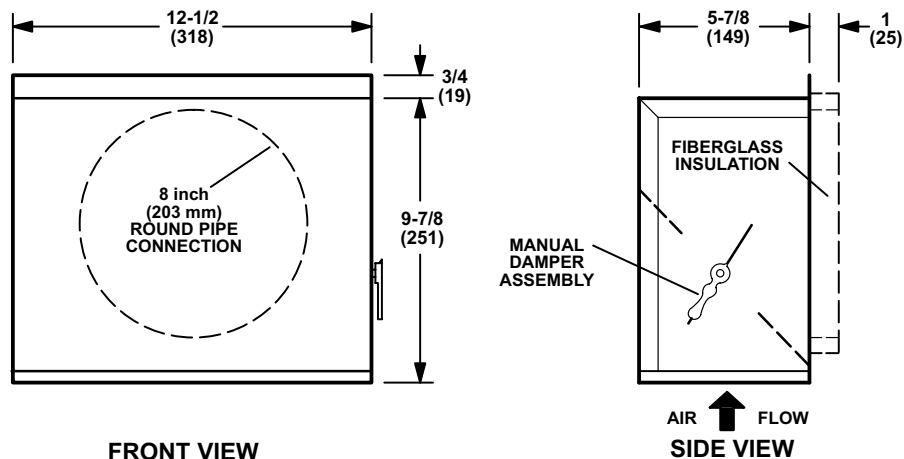
ACCESSORY DIMENSIONS - INCHES (MM)

CHP20 UNIT WITH EMDH16 HORIZONTAL ECONOMIZER DAMPER SECTION AND GEDH16-65 GRAVITY EXHAUST DAMPERS



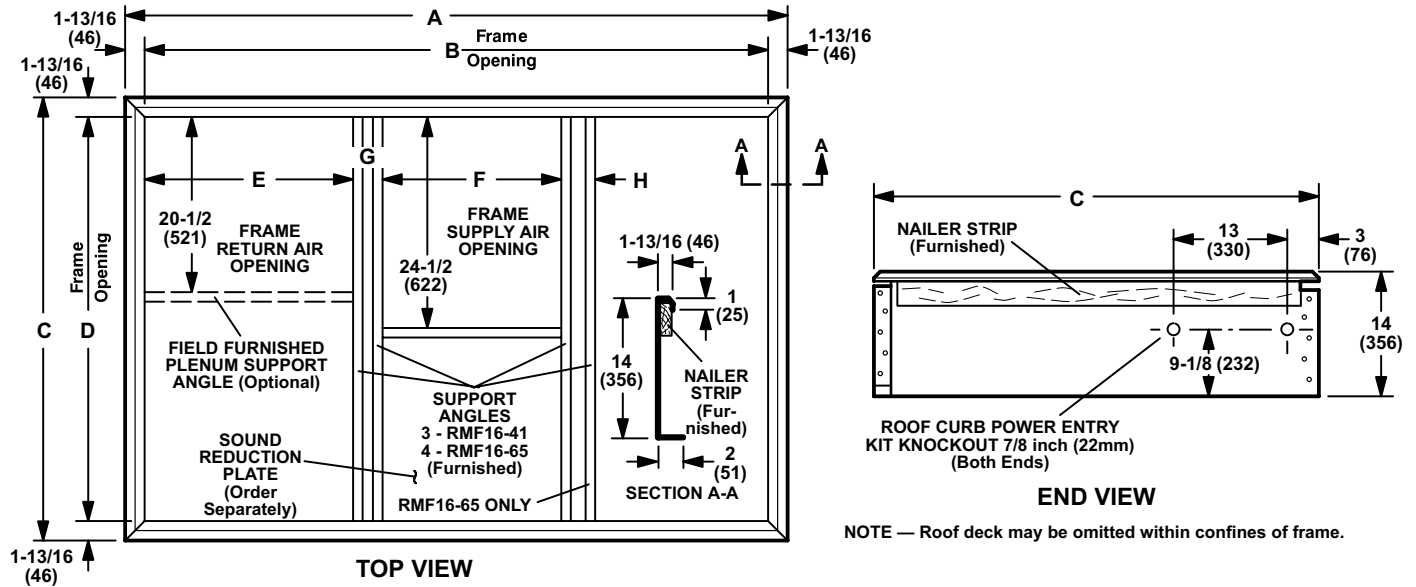
Model No.	A		B		C		D		E		F		G		H		J		K		L	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
CHP20-024 CHP20-030 CHP20-036	63	1600	81-1/2	2070	26	660	23	584	46	1168	26	660	9-1/2	241	3	76	3	76	24	610	13	330
CHP20-042 CHP20-048 CHP20-060	79-1/2	2019	90	2286	30-3/8	772	29	737	52	1321	30-1/2	775	12	305	1-1/2	38	7	178	28-7/8	733	22	559

OAD3-46/65 MANUAL MINIMUM OUTDOOR AIR DAMPER



ACCESSORY DIMENSIONS - INCHES (MM)

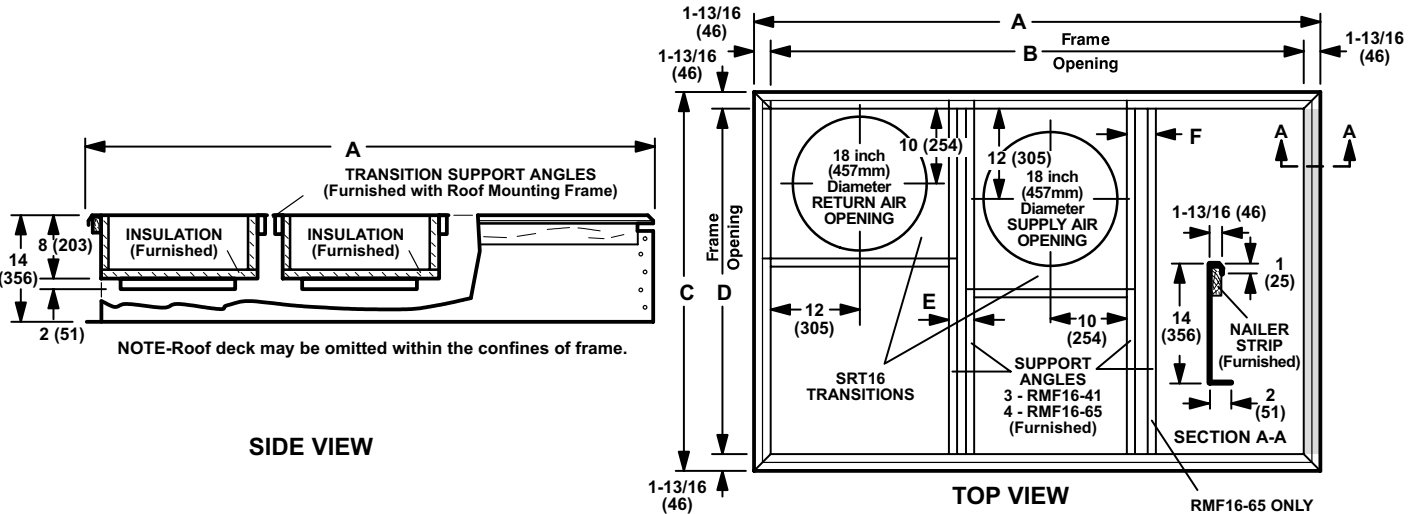
RMF16-41 & RMF16-65 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING



Model Number	A		B		C		D		E		F		G		H	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RMF16-41	56-3/8	1432	52-3/4	1340	44-1/8	1121	40-1/2	1029	24-3/8	619	20-9/16	522	4	102	---	---
RMF16-65	69	1753	65-3/8	1661	50-1/2	1283	46-7/8	1191	24-1/4	616	20-1/2	521	4	102	4	102

□ 3-1/4 inches (83 mm) for CHP20-024-030-036.

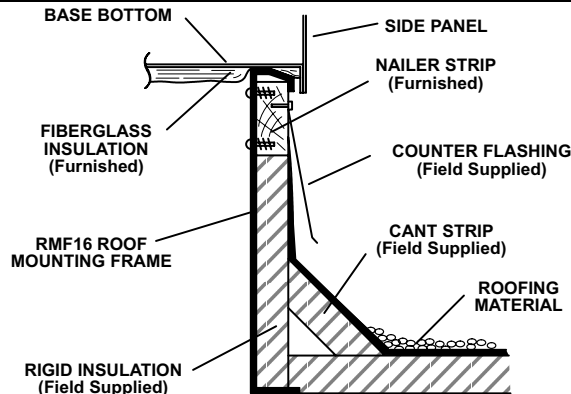
RMF16-41 & RMF16-65 ROOF MOUNTING FRAMES WITH SRT16-65 SUPPLY AND RETURN AIR TRANSITIONS FOR FD9-65 & RTD9-65 CEILING DIFFUSERS



Model Number	A		B		C		D		E		F	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RMF16-41 With SRT16-65	56-3/8	1432	52-3/4	1340	44-1/8	1121	40-1/2	1029	4	102	---	---
RMF16-65 With SRT16-65	69	1753	65-3/8	1661	50-1/2	1283	46-7/8	1191	4	102	4	102

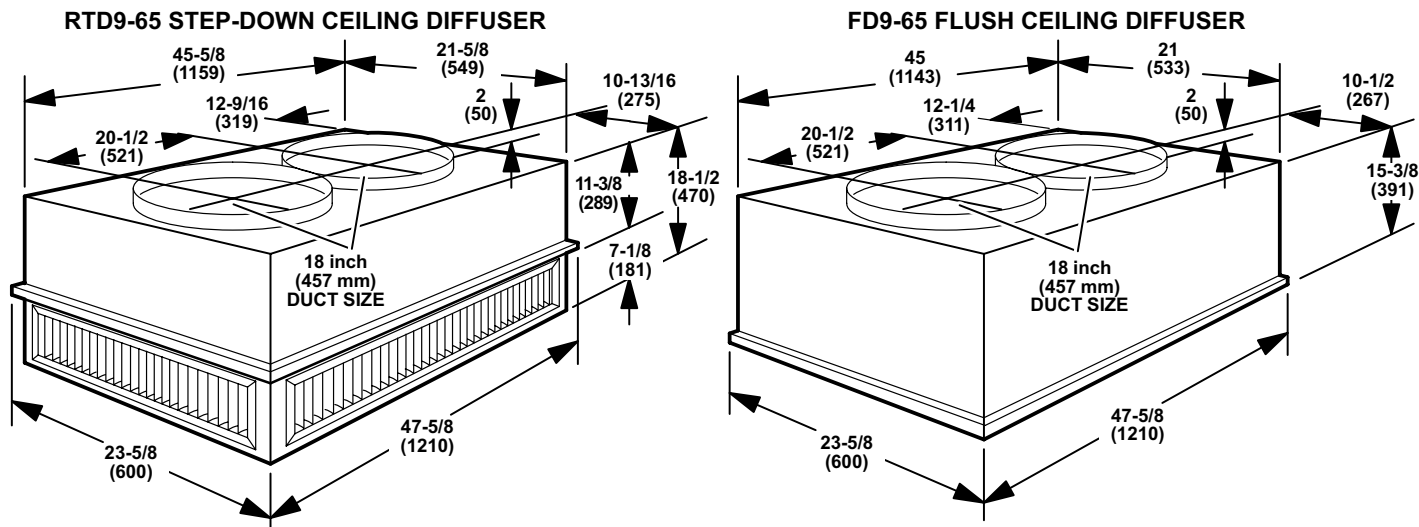
□ 3-1/4 inches (83 mm) for CHP20-024-030-036.

TYPICAL FLASHING DETAIL FOR RMF16 ROOF MOUNTING FRAME



ACCESSORY DIMENSIONS - INCHES (MM)

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS



GUIDE SPECIFICATIONS

General

- Furnish and install a single package heat pump unit, complete with automatic controls.
- The single package unit shall be a standard product of a firm regularly engaged in the manufacture of heating-cooling equipment.
- The manufacturer shall have parts and service available throughout the U.S.
- The equipment shall be shipped completely factory assembled, precharged, piped and wired internally ready for field connections.
- The manufacturer shall test operate system at the factory before shipment.

Air Distribution

- Equipment shall be capable of bottom (down-flow) or side (horizontal) handling of conditioned air.

Approvals

- All electrical components shall have UL and ULC Listing. All wiring shall be in compliance with NEC and CEC.
- Shall be rated and certified in accordance with the USE certification program, which is based on ARI Standard 210/240-94.

Equipment Warranty

- Compressors have a limited warranty for a full five years.
- All other covered components have a limited warranty for one year.
- Refer to the Lennox Equipment Limited Warranty certificate for details.

Refrigeration System

- The coils shall be non-ferrous construction with aluminum fins mechanically bonded to durable copper tubes. Coils shall be pressure leak tested.
- Outdoor coil shall be formed coil construction. Single phase units shall have coil guards. Optional coil guards shall be available for three phase units.
- Compressors shall be resiliently mounted, have overload protection and compressor crankcase heater. All models shall have scroll compressors. The refrigeration system shall have discharge, suction and liquid line service gauge ports, freestat, high pressure switch, liquid line filter drier, check and expansion valve, reversing valve and full refrigerant charge.
- Control options available shall consist of low ambient controls, timed-off control and thermostat.

Cabinet

- Shall be galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal.
- Cabinet panels where conditioned air is handled shall be fully insulated to prevent sweating and minimize sound. Openings shall be provided for power connection entry.
- Supply and return air openings shall be flanged.
- Indoor coil condensate drain shall be provided.
- Lifting brackets shall be factory installed.

Economizer Wiring

- Economizer wiring harness shall be furnished and factory installed.

Service Access

- All components, wiring and inspection areas shall be completely accessible through removable panels.

Supply Air Blowers

- Centrifugal supply air blower shall be direct driven by a multi-speed motor.
- Blower shall be statically and dynamically balanced.

Outdoor Coil Fans

- Direct drive propeller type condenser fans shall discharge vertically.
- Fan motor shall be permanently lubricated and inherently protected.
- Fans shall have a safety guard.

Air Filters

- Cleanable 1 inch (25 mm) thick filters shall be furnished.

OPTIONAL ACCESSORIES

Ceiling Diffusers

- Furnish and install a (flush or stepdown) optional combination ceiling supply and return air diffuser.

Ceiling Diffuser Supply and Return Air Transitions

- Supply and return transitions shall be available, for field installation in the roof mounting frame, to facilitate duct connection to the diffuser.

Coil Guards

- Furnish and install PVC (polyvinyl chloride) coated steel wire coil guards shall be available for field installation to protect outdoor coils (3 phase models only).

Control Systems

- Shall provide a selection of thermostats and related controls to automatically operate the mechanical equipment through the heating or cooling and ventilating cycles as required.

Economizer Dampers

- Furnish and install, complete with controls, an air mixing damper assembly including outdoor air and recirculated air dampers.
- The assembly shall provide for the introduction of outside air for minimum ventilation and free cooling.
- Damper motor shall be 24 volt fully modulating or three position spring return.
- Down-flow models shall include Gravity Exhaust Dampers.
- Horizontal models shall require optional Gravity Exhaust Dampers.
- Controls shall include electronic discharge air sensor, minimum position switch, and solid-state adjustable enthalpy control.
- Control option available shall consist of differential enthalpy control (return air sensor).

Electric Heaters

- Shall be available for field installation.
- Heating elements shall be nichrome bare wire exposed directly to the air stream.
- ECH16R safety devices shall consist of limit controls and thermal cutoff safety fuses. ECH16 safety devices shall consist of limit controls and fuse block.
- ECH16-20 and 25kW (208/240v-3ph) heaters shall have thermal time delay relay to bring elements on and off in sequence with at time delay between each element.
- Heaters shall be UL and ULC listed.
- Optional heater sub-fuse box shall be available for ECH16R electric heaters for single point power supply applications.

Hail Guards

- Hail guards shall be available for field installation to protect outdoor coils from damage.

Horizontal Gravity Exhaust Dampers

- Pressure operated dampers shall install in return air duct for horizontal applications.
- Damper blades shall ride in nylon bearings and be gasketed for tight seal and quiet operation.

Outdoor Air Damper Section

- Optional manual outdoor dampers shall be available to provide outdoor air requirements of up to 25%.
- Damper section field installs external to the unit.
- Shall be equipped with outdoor air hood filter for extra air filtering and bird screen protection.

Remote Status Panel

- Shall be available for installation within the conditioned area to observe equipment operation.
- The panel shall include signal lights for Cool Mode, Heat Mode, Compressor 1, Compressor 2, No Heat and Filter.

Roof Curb Power Entry Kit

- Optional kit shall provide power entry to the unit through the roof mounting frame.

Roof Mounting Frame

- Mechanical contractor shall install a steel roof mounting frame for bottom discharge and return air duct connection.
- It shall mate to the bottom perimeter of the equipment.
- When flashed into the roof it shall make a unit mounting curb and provide weatherproof duct connection and entry into the conditioned area.
- Flashing shall be the responsibility of a roofing contractor.
- Frame shall be approved by US National Roofing Contractors Association.

Single Point Power Source Unit Sub-Fuse Box

- Optional box shall field install internal to the unit and provide single point power source connection and sub-fusing for unit.
- Shall be of galvanized steel with mounting holes, electrical inlets and hinged cover.

Stand-Off Mounting Kit

- Optional kit shall be available to elevate unit above mounting surface in horizontal applications.