

### HP19 SERIES HEAT PUMP OUTDOOR UNITS 10.05 to 12.15 SEER

# HP19

Bulletin No. 210048  
August 1994  
Supersedes November 1993

\*18,000 to 61,000 Btuh (5.3 to 17.9 kW) Cooling Capacity  
\*18,800 to 59,000 Btuh (5.5 to 17.3 kW) Heating Capacity

\*ARI Standard 210/240 certified Ratings



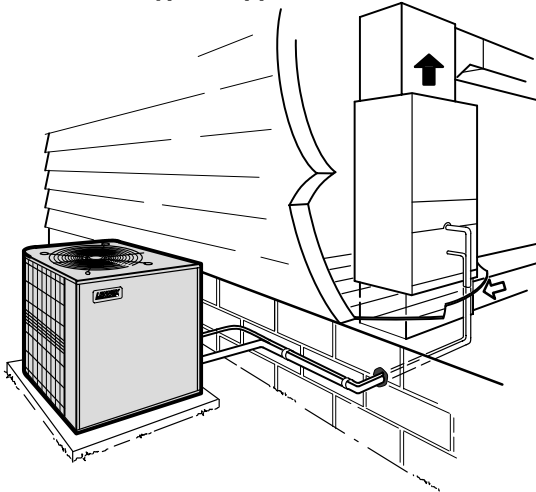
CERTIFICATION APPLIES ONLY  
WHEN THE COMPLETE  
SYSTEM IS LISTED  
WITH ARI



CERTIFICATION APPLIES ONLY  
WHEN USED WITH PROPER  
COMPONENTS AS LISTED  
WITH ARI



Typical Application



## FEATURES

**Applications** — The Lennox HP19 series heat pump outdoor units consist of seven models ranging from 1-1/2 thru 5 tons. Energy efficient outdoor units have SEER's of up to 12.15 with a cooling capacity range of 18,000 to 61,000 Btuh (5.3 to 17.9 kW) and COP ratings of up to 3.48 with heating capacities of 18,800 to 59,000 Btuh (5.5 to 17.3 kW). The units are designed for applications with remotely located indoor blower-coil units or indoor add-on coils in FM21 system installations. The outdoor units are equally suited for installation on a slab at grade level or on a rooftop. A variety of matching up-flo, down-flo and horizontal blower powered indoor units, with optional supplemental electric heat, provide selective sizing and installation versatility. For FM21 applications, see bulletin indexed in this tab section. For complete data on indoor units, see tab section, Coils — Blower Coil Units. HP19 units are test operated at the factory to insure proper operation and are shipped ready for installation. Installer has only to locate unit and make refrigerant line and electrical connections to complete installation.

**Approvals** — Units have been tested with matching indoor units in the Lennox Research Laboratory environmental test room and rated according to U.S. Department of Energy (DOE) test procedures and in accordance with ARI Standard 210/240-89. Units have been sound rated in the Lennox reverberant sound test room in accordance with ARI Standard 270-84. Units and components within are bonded for grounding to meet safety standards for servicing required by U.L., N.E.C. and C.E.C. Units are also U.L. listed and C.S.A. certified.

**Equipment Warranty** — The compressor has a limited warranty for ten years in residential installations and five years in non-residential installations. All other covered components have a limited warranty for five years. Refer to Lennox Equipment Limited Warranty included with the unit for specific details.

**Copper Tube Outdoor Coil** — Lennox designed and fabricated coil is constructed of precisely spaced ripple-edge aluminum fins machine fitted to seamless copper tubes. Precise coil circuiting gives uniform refrigerant distribution for high efficiency. Extra large wrap around "U" shaped coil configuration provides extra large surface area for excellent heat transfer with minimum air resistance. Fins are equipped with collars that grip tubing for maximum contact area. Inverted coil circuiting prevents ice buildup at coil base in low ambients. Discharge gas enters bottom of coil during defrost and heat of refrigerant flows counter to water drainage resulting in extremely clean and unobstructed fins and tubes. Fin spacing allows rapid and complete water drainage. Flared tubing connections and silver soldering provide tight, leakproof joints. Long life copper tubing is corrosion-resistant and easy to service. Coil is factory tested under high pressure to insure leakproof construction. HP19-650 model is equipped with enhanced fin coil. Entire coil is accessible for cleaning.

**Cabinet** — Heavy gauge galvanized steel cabinet is subject to a five station metal wash process. This preparation process results in a perfect bonding surface for the finish coat of baked-on outdoor enamel. The attractive enamel finish gives the cabinet long lasting protection from the weather. Drainage holes are furnished in base section for moisture removal. High density polyethylene base channels raise the unit off of the mounting surface away from damaging moisture. A non-corrosive PVC coated steel wire outdoor coil guard is furnished.

**Control Box** — Large size and conveniently located in the compressor and controls compartment for easy access. All controls are pre-wired at the factory. A low voltage terminal strip is furnished for ease of field wiring connections.

## FEATURES (Continued)

**Compressor and Controls Compartment** — Separate compressor and controls compartment protects all components from weather conditions and keeps sound transmission at a minimum. Large removable access panel provides complete service access.

**Compressor** — Rugged and reliable compressor is hermetically sealed, suction cooled and overload protected. Internally protected from excessive current and temperature. Operates efficiently at low outdoor temperatures during heating mode. Strategically located discharge muffler reduces sound level. Immersible self-regulating type crankcase heater is temperature actuated to operate only when required and ensures proper lubrication at all times. Running gear is spring mounted within sealed housing. In addition, compressor is installed on resilient rubber mounts in the unit, assuring quiet and vibration-free operation.

**Outdoor Fan** — Efficient direct drive fan moves large volumes of air uniformly through the entire outdoor coil resulting in high refrigerant cooling capacity. Vertical discharge of air minimizes operating sounds and eliminates hot air damage to lawn and shrubs. Fan motor is totally enclosed for maximum protection from weather, dust and corrosion. A rain shield on the motor provides additional protection from moisture. Fan service access is accomplished by removal of fan guard. Corrosion resistant PVC coated steel wire fan guard is furnished as standard.

**Refrigerant Line Connections, Electrical Inlets and Service Valves** — Liquid and vapor line connections are made with sweat connections inside the unit. Fully serviceable brass service valves prevent corrosion and provide easy access to refrigerant system. Liquid and vapor valves can be fully shut off, and the liquid valve can be backseated to manage refrigerant charge while servicing the system. Furnished and factory installed are gauge ports on the vapor and liquid lines and a thermometer well in the liquid line. In addition a hi-capacity drier with internal check valve and a strainer are furnished and factory installed in the liquid line. Field wiring inlets are conveniently located for ease of entry.

## OPTIONAL ACCESSORIES (Must Be Ordered Extra)

**Check and Expansion Valve Kits (Optional)** — Must be ordered extra and field installed on some indoor coil units. See ARI Ratings table for kit selection.

**Refrigerant Line Kits (Optional)** — Lines are available in several lengths and must be ordered extra. See Refrigerant Line Kit table for selection. The refrigerant lines (vapor and liquid) are shipped refrigeration clean. Lines are cleaned, dried, pressurized and sealed at the factory. Vapor line is fully insulated. Lines are furnished with a flare fitting (Indoor unit connection) on one end and less any fitting (stubbed) on the opposite end for connection to the outdoor unit. Kits are not available for HP19-650 models and lines must be furnished by the installer. Refrigerant line length should not exceed 50 ft. (15 m) in any installation. If longer length lines are required, contact your Lennox District Service Manager.

**Mounting Base (Optional)** — Rugged mounting base provides permanent foundation for outdoor units. High density polyethylene structural material is lightweight, sturdy, sound absorbing and will withstand the rigors of the sun, heat, cold, moisture, oil and refrigerant. Will not mildew or rot. Can be shipped singly or in packages of 6 to a carton. Use MB1-24 (78H50) 32" x 34" x 3" (813 mm x 864 mm x 76 mm) shipping weight 15 lbs. (7 kg) each.

**Defrost Control** — A solid-state defrost control 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 temperature below 35°F (2°C). A sensing element mounted on the outdoor coil determines when the defrost cycle is required and also when to terminate a cycle.

**Charge Compensator** — HP19-650 models only are equipped with a charge compensator located on the vapor line between the reversing valve and outdoor coil manifold. The compensator is used to collect and store excess refrigerant during the heating mode.

**Suction Line Accumulator** — Factory installed and piped accumulator is furnished on the HP19-410, 460, 510 and 650 models only. Traps and prevents large amounts of liquid refrigerant from flooding directly into the compressor and causing damage on start-ups and refrigerant cycle change.

**Reversing Valve** — 4-way interchange reversing valve effects a rapid change in direction of refrigerant flow resulting in quick changeover from cooling to heating and vice versa. Valve operates on pressure differential between outdoor unit and indoor unit of the system. Factory installed.

**Expansion Valve** — Designed and sized specifically for use in heat pump system. Sensing bulb is located on the suction line between reversing valve and compressor thus sensing suction temperature in any cycle. Factory installed and piped.

**High Pressure Switch** — Factory installed and wired. Protects system from abnormal operating conditions. Manual reset.

**Start Controls** — Furnished and factory installed. Provides assistance for compressor start under loaded conditions or in the event of low voltage.

**Service Light Thermostat** — Factory installed on the compressor discharge line. Required for operation of conditioned area thermostat with service light.

**Ambient Compensating Thermistor** — Reduces thermostat droop to improve the operating characteristics of the heat pump system. The thermistor varies the heat anticipator resistance as ambient temperature changes. Factory installed in the discharge air stream.

**Timed-Off Control (Optional)** — Timed-Off Control LB-50709BA (32F21) prevents compressor short-cycling and also allows time for suction and discharge pressure to equalize, permitting the compressor to start in an unloaded condition. Automatic reset control provides a five minute time delay between compressor shutoff and start-up.

**Thermostat (Optional)** — Thermostat is not furnished with the unit and must be ordered extra. See Thermostats bulletin in Accessories Section and Lennox Price Book.

**Low Ambient Control Kit (Optional)** — Units will operate satisfactorily in the cooling mode down to 45°F (7°C) outdoor air temperature without any additional controls. For cases where operation of the unit is required at low ambients, A Low Ambient Control Kit LB-57113BM (27J00) can be added in the field, enabling the unit to operate properly down to 30°F (-1°C).

**Outdoor Thermostat Kit (Optional)** — An outdoor thermostat can be 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 the line. Thermostat kit LB-29740BA (56A87) and mounting box M-1595 (31461) or ♂ BM-10260 (33A09) must be ordered extra.

# ARI RATINGS

Outdoor Unit Model No. ★ARI Std. 270 SRN (bels)	†ARI Standard 210/240 Ratings											Indoor Unit	★Check and Expansion Valve Kit Required	
	Cool. Cap. Btuh (kW)	High Temp. Htg. Cap. Btuh (kW)	Low Temp. Htg. Cap. Btuh (kW)	Total Unit Cool. Watts	SEER (EER) (Btuh/Watt)	Cool. C.O.P.	Total Unit High Temp. Htg. Watts	◆HSPF Region IV (Region V)	High Temp. Htg. C.O.P.	Total Unit Low Temp. Htg. Watts	Low Temp. Htg. C.O.P.			
HP19-211 (7.2)	18,000 (5.27)	19,000 (5.57)	10,800 (3.16)	1870	11.10 (9.65)	2.83	1780	7.20 (6.30)	3.12	1465	2.16	**CH22-41	●Factory Installed	
	18,000 (5.27)	18,800 (5.50)	10,800 (3.16)	1865	11.05 (9.65)	2.83	1795	7.10 (6.20)	3.06	1465	2.16	**CH22-31		
	19,000 (5.57)	19,000 (5.57)	10,800 (3.16)	1910	11.25 (9.95)	2.92	1785	7.20 (6.30)	3.12	1465	2.16	C22-31FC/B24, C22-31WFC/B24 CR22-31/B24, CR22-31W/B24 **C26-31(FC), **C26-31W(FC)		
	19,000 (5.57)	19,500 (5.71)	11,200 (3.28)	1940	10.90 (9.80)	2.92	1790	7.35 (6.35)	3.20	1505	2.18	⊕ *CVP10-26/EC10Q3	LB-85759F (56J19)	
	19,100 (5.60)	19,200 (5.63)	11,000 (3.22)	1929	11.00 (9.90)	2.90	1815	7.30 (6.25)	3.10	1505	2.14	**CR18-41		
	19,600 (5.74)	19,000 (5.57)	10,800 (3.16)	1915	11.50 (10.20)	2.99	1775	7.30 (6.30)	3.14	1465	2.16	C22-41FC/B24, CR22-41/B24 **C26-41(FC)		●Factory Installed
	19,600 (5.74)	19,200 (5.63)	10,900 (3.19)	1825	12.00 (10.70)	3.15	1670	7.80 (6.60)	3.36	1380	2.30	*CB19-21, *CBH19-21 *CB19-26, *CBH19-26		
HP19-261 (7.4)	24,200 (7.09)	24,600 (7.21)	14,200 (4.16)	2465	10.85 (9.80)	2.87	2305	7.35 (6.50)	3.12	1820	2.28	**CH22-31	●Factory Installed	
	24,400 (7.15)	24,600 (7.21)	14,400 (4.22)	2475	10.85 (9.85)	2.89	2275	7.35 (6.50)	3.16	1805	2.32	**CH22-41		
	24,600 (7.21)	24,600 (7.21)	14,400 (4.22)	2520	10.65 (9.75)	2.86	2305	7.50 (6.50)	3.12	1840	2.28	C22-31FC/B24, C22-31WFC/B24 CR22-31/B24, CR22-31W/B24 **C26-31(FC), **C26-31W(FC)		
	24,600 (7.21)	25,200 (7.38)	14,500 (4.25)	2570	10.55 (9.60)	2.80	2305	7.60 (6.45)	3.20	1845	2.30	⊕ *CVP10-31/EC10Q3	LB-85759F (56J19)	
	24,800 (7.27)	25,000 (7.33)	14,600 (4.28)	2525	11.00 (9.80)	2.87	2305	7.35 (6.50)	3.18	1840	2.32	C22-41FC/B24, CR22-41/B24 **C26-41(FC)		
	24,800 (7.27)	25,400 (7.44)	14,500 (4.25)	2585	10.50 (9.60)	2.80	2320	7.60 (6.55)	3.22	1860	2.28	⊕ *CVP10-26/EC10Q3		
	25,000 (7.33)	25,200 (7.38)	14,100 (4.13)	2577	10.65 (9.70)	2.85	2337	7.35 (6.30)	3.16	1861	2.22	**CR18-41		
	25,200 (7.38)	25,000 (7.33)	14,000 (4.10)	2455	11.30 (10.20)	3.00	2180	7.80 (6.65)	3.36	1720	2.36	*CB19-26, *CBH19-26	●Factory Installed	
26,000 (7.62)	25,200 (7.38)	13,900 (4.07)	2470	11.55 (10.50)	3.10	2140	7.90 (6.65)	3.46	1690	2.38	*CB19-31, *CBH19-31			
HP19-311 (7.4)	29,000 (8.50)	29,000 (8.50)	16,600 (4.86)	2843	10.70 (10.20)	3.00	2833	7.00 (6.00)	3.00	2211	2.20	**CR18-51	LB-85759F (56J19)	
	29,000 (8.50)	28,800 (8.44)	16,700 (4.89)	3010	10.35 (9.60)	2.80	2840	7.75 (6.45)	2.98	2240	2.14	⊕ *CVP10-31/EC10Q3		
	29,400 (8.61)	29,400 (8.61)	17,000 (4.98)	2980	11.05 (9.85)	2.89	2755	7.00 (6.00)	3.12	2215	2.24	**CH22-51	●Factory Installed	
	29,600 (8.67)	29,800 (8.73)	16,600 (4.86)	3050	10.60 (9.70)	2.85	2850	7.85 (6.45)	3.06	2320	2.10	⊕ *CVP10-41/EC10Q3		
	30,000 (8.79)	28,600 (8.38)	16,000 (4.69)	3000	11.10 (10.00)	2.93	2755	7.00 (6.00)	3.04	2225	2.10	**CH22-65		
	30,000 (8.79)	30,000 (8.79)	17,000 (4.98)	3270	10.50 (9.20)	2.70	2715	7.00 (6.00)	3.20	2195	2.20	**C26-51(FC)		
	30,600 (8.96)	30,200 (8.85)	17,000 (4.98)	3040	11.05 (10.05)	3.08	2715	7.00 (6.00)	3.26	2195	2.26	C22-51FC/B24, CR22-51/B24		
	30,500 (8.94)	28,000 (8.20)	15,800 (4.63)	3260	10.50 (9.35)	2.74	2880	7.00 (6.00)	2.80	2260	2.00	**C26-65(FC)		
	31,000 (9.08)	30,000 (8.79)	17,100 (5.01)	2885	11.80 (10.70)	3.15	2610	7.90 (6.75)	3.36	2100	2.38	*CB19-31, *CBH19-31		
	31,000 (9.08)	30,200 (8.85)	17,200 (5.04)	2910	11.60 (10.60)	3.10	2640	7.85 (6.70)	3.36	2130	2.38	*CB19-41, *CBH19-41		
	31,600 (9.26)	28,600 (8.38)	15,800 (4.63)	3090	11.20 (10.20)	2.99	2880	7.00 (6.00)	2.90	2260	2.04	C22-65FC/B24, CR22-65/B24 **C26-65(FC)EAP		
	32,400 (9.49)	30,200 (8.85)	16,900 (4.95)	2895	11.90 (11.20)	3.28	2550	7.85 (6.70)	3.48	2065	2.40	*CB21V-41, *CBH21V-41		

★Sound Rating Number in accordance with ARI Standard 270.

†Rated in accordance with ARI Standard 210/240 with 25 ft. (7.6 m) of connecting refrigerant lines;

Cooling Ratings — 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°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) db entering indoor coil air.

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

★Kit is required and must be ordered extra unless shown as factory installed.

NOTE — B24 blower not included in ratings for C22 / CR22 series coils. B24 shown for matching reference only.

\*Blower powered indoor coil unit.

\*\*For FM21 Heat Pump Control use with any Lennox furnace that meets system design requirements. See FM21 bulletin in this section for additional data.

CH22 coil may also be matched with B24 series blower units.

⊕ For Canadian usage only.

●Furnished as standard with coil.

◆Heating Seasonal Performance Factor

# ARI RATINGS

Outdoor Unit Model No. ★ARI Std. 270 SRN (bels)	†ARI Standard 210/240 Ratings											Indoor Unit	★Check and Expansion Valve Kit Required
	Cool. Cap. Btuh (kW)	High Temp. Htg. Cap. Btuh (kW)	Low Temp. Htg. Cap. Btuh (kW)	Total Unit Cool. Watts	SEER (EER) (Btuh/Watt)	Cool. C.O.P.	Total Unit High Temp. Htg. Watts	◆HSPF Region IV (Region V)	High Temp. Htg. C.O.P.	Total Unit Low Temp. Htg. Watts	Low Temp. Htg. C.O.P.		
HP19-411 HP19-413 (7.8)	35,400 (10.37)	35,000 (10.26)	20,000 (5.86)	3649	10.50 (9.70)	2.85	3374	6.80 (6.30)	3.04	2640	2.22	**CR18-51	LB-85759F (56J19)
	35,400 (10.37)	35,000 (10.26)	18,800 (5.51)	3649	10.50 (9.70)	2.85	3374	6.80 (6.30)	3.04	2575	2.14	**CR18-65	
	35,400 (10.37)	35,000 (10.26)	19,900 (5.83)	3675	10.05 (9.60)	2.80	3400	7.75 (6.55)	3.02	2675	2.18	⊕ *CVP10-46/EC10Q4	●Factory Installed
	35,400 (10.37)	35,000 (10.26)	19,900 (5.83)	3705	10.00 (9.55)	2.80	3425	7.70 (6.50)	3.00	2700	2.16	⊕ *CVP10-41/EC10Q3	
	35,400 (10.37)	35,400 (10.37)	20,400 (5.98)	3490	10.90 (10.20)	3.00	3140	8.00 (6.85)	3.30	2490	2.40	*CB19-31, *CBH19-31	
	36,000 (10.55)	35,800 (10.49)	20,600 (6.04)	3560	11.00 (10.10)	2.96	3270	7.00 (6.00)	3.20	2585	2.34	**C26-51(FC)	
	36,000 (10.55)	33,000 (9.67)	18,800 (5.51)	3550	11.05 (10.15)	2.97	3445	7.00 (6.00)	2.80	2610	2.10	**C26-65(FC)	
	36,000 (10.55)	35,800 (10.49)	20,600 (6.04)	3520	11.00 (10.20)	3.00	3140	8.10 (6.95)	3.34	2490	2.42	*CB19-41, *CBH19-41	
	36,400 (10.37)	35,000 (10.26)	20,200 (5.92)	3425	11.05 (10.60)	3.11	3050	8.05 (6.95)	3.38	2370	2.50	*CB21V-41, *CBH21V-41	
	36,600 (10.72)	35,000 (10.26)	20,000 (5.86)	3595	10.75 (10.20)	2.99	3325	7.00 (6.00)	3.08	2595	2.26	**CH22-51	
	37,000 (10.84)	35,800 (10.49)	20,600 (6.04)	3600	10.75 (10.25)	3.00	3270	7.00 (6.00)	3.20	2585	2.34	C22-51FC/B24, CR22-51/B24	
	37,000 (10.84)	36,200 (10.61)	20,800 (6.09)	3680	10.80 (10.05)	2.95	3245	7.85 (6.70)	3.26	2615	2.32	**CH19-51	
	37,200 (10.90)	36,200 (10.61)	20,800 (6.09)	3600	11.15 (10.30)	3.00	3170	8.05 (6.90)	3.36	2540	2.40	*CB19-51, *CBH19-51	
	37,400 (10.96)	35,800 (10.49)	20,000 (5.86)	3615	11.05 (10.35)	3.03	3320	7.00 (6.00)	3.16	2595	2.26	**CH22-65	
	38,500 (11.28)	33,000 (9.67)	18,800 (5.51)	3640	11.05 (10.60)	3.09	3445	7.00 (6.00)	2.80	2610	2.10	C22-65FC/B24, CR22-65/B24 **C26-65(FC)EAP	
	38,500 (11.28)	36,400 (10.67)	20,000 (5.86)	3460	12.05 (11.40)	3.34	3125	8.00 (6.80)	3.54	2450	2.46	*CB21V-51, *CBH21V-51	
HP19-461 HP19-463 (7.8)	41,000 (12.01)	41,500 (12.16)	23,600 (6.92)	4227	10.80 (9.70)	2.85	3975	7.50 (6.55)	3.06	2956	2.34	**CR18-51	LB-85759G (56J20)
	41,000 (12.01)	41,500 (12.16)	23,600 (6.92)	4227	10.80 (9.70)	2.85	3975	7.50 (6.55)	3.06	3144	2.20	**CR18-65	
	41,000 (12.01)	42,000 (12.31)	23,800 (6.97)	4325	10.50 (9.50)	2.80	3965	7.60 (6.55)	3.10	3045	2.28	⊕ *CVP10-46/EC10Q4	Factory Installed
	42,000 (12.31)	40,000 (11.72)	22,000 (6.45)	4600	11.00 (9.15)	2.68	4145	7.10 (6.20)	2.92	3115	2.16	**C26-65(FC)	
	42,500 (12.45)	43,000 (12.60)	24,400 (7.15)	4290	11.15 (9.90)	2.90	3770	8.20 (7.00)	3.34	2920	2.44	**CH19-51	
	43,000 (12.60)	43,000 (12.60)	24,400 (7.15)	4200	11.50 (10.20)	3.00	3680	8.30 (7.10)	3.42	2830	2.52	*CB19-51, *CBH19-51	
	43,500 (12.74)	41,500 (12.16)	23,000 (6.74)	4495	11.05 (9.65)	2.83	4000	7.10 (6.20)	3.04	3065	2.20	**CH22-65	
	44,500 (13.04)	41,500 (12.16)	23,000 (6.74)	4510	11.20 (9.85)	2.89	4145	7.10 (6.20)	2.92	3115	2.16	C22-65FC/B24, CR22-65/B24 **C26-65(FC)EAP	
	46,000 (13.48)	41,500 (12.16)	23,600 (6.91)	4260	12.15 (10.80)	3.16	3645	8.25 (7.15)	3.34	2720	2.54	*CB21V-51, *CBH21V-51	

★Sound Rating Number in accordance with ARI Standard 270.

†Rated in accordance with ARI Standard 210/240 with 25 ft. (7.6 m) of connecting refrigerant lines;

**Cooling Ratings** — 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°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) db entering indoor coil air.

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

★Kit is required and must be ordered extra unless shown as factory installed.

⊕ For Canadian usage only.

NOTE — B24 blower not included in ratings for C22 / CR22 series coils. B24 shown for matching reference only.

●Furnished as standard with coil.

\*Blower powered indoor coil unit.

◆Heating Seasonal Performance Factor

\*\*For FM21 Heat Pump Control use with any Lennox furnace that meets system design requirements. See FM21 bulletin in this section for additional data.

CH22 coil may also be matched with B24 series blower units.

# ARI RATINGS

Outdoor Unit Model No. ★ARI Std. 270 SRN (bels)	†ARI Standard 210/240 Ratings											Indoor Unit	★Check and Expansion Valve Kit Required
	Cool. Cap. Btuh (kW)	High Temp. Htg. Cap. Btuh (kW)	Low Temp. Htg. Cap. Btuh (kW)	Total Unit Cool. Watts	SEER (EER) (Btuh/Watt)	Cool. C.O.P.	Total Unit High Temp. Htg. Watts	◆HSPF Region IV (Region V)	High Temp. Htg. C.O.P.	Total Unit Low Temp. Htg. Watts	Low Temp. Htg. C.O.P.		
HP19-511 HP19-513 (8.0)	48,000 (14.06)	47,500 (13.92)	27,000 (7.91)	4729	11.00 (10.15)	2.95	4378	7.55 (6.50)	3.18	3381	2.34	**CR18-51, **CR18-65	LB-85759G (56J20)
	48,000 (14.06)	48,000 (14.06)	27,100 (7.90)	4810	10.75 (9.95)	2.90	4500	7.55 (6.40)	3.12	3460	2.28	⊕ *CVP10-51/EC10Q4	●Factory Installed
	49,000 (14.36)	47,000 (13.77)	28,200 (8.26)	4740	11.55 (10.35)	3.03	4205	7.10 (6.75)	3.28	3380	2.44	**C26-65(FC)	
	49,500 (14.50)	49,500 (14.50)	27,400 (8.03)	4695	11.35 (10.55)	3.10	4140	8.05 (6.70)	3.50	3240	2.48	*CB19-51, *CBH19-51	
	50,000 (14.65)	47,000 (13.77)	28,200 (8.26)	4425	11.55 (11.30)	3.31	4205	7.10 (6.75)	3.28	3380	2.44	C22-65FC/B24, CR22-65/B24 CH22-65/B24	
	50,000 (14.65)	49,500 (14.50)	27,400 (8.03)	4790	11.20 (10.45)	3.05	4210	8.10 (6.70)	3.44	3310	2.42	**CH19-51	
	50,500 (14.80)	49,000 (14.36)	26,800 (7.85)	4555	12.15 (11.05)	3.24	3870	8.30 (7.00)	3.70	3010	2.60	*CB21V-51, *CBH21V-51	
	52,000 (15.24)	49,500 (14.50)	27,400 (8.03)	4775	11.75 (10.90)	3.20	4145	8.20 (6.80)	3.50	3240	2.48	*CB19-65, *CBH19-65	
	52,000 (15.24)	49,500 (14.50)	27,600 (8.09)	4855	11.60 (10.70)	3.10	4190	8.10 (6.75)	3.46	3310	2.44	**CH19-65	
	53,000 (15.53)	48,500 (14.21)	26,800 (7.85)	4580	12.30 (11.60)	3.40	3930	8.35 (7.00)	3.60	3040	2.58	*CB21V-65, *CBH21V-65	
HP19-651 HP19-653 (8.0)	54,000 (15.82)	54,500 (15.99)	32,000 (9.38)	5340	11.00 (10.10)	2.96	4850	7.50 (6.40)	3.26	3925	2.36	**CH22-65	
	56,000 (16.41)	56,000 (16.41)	32,900 (9.64)	5940	10.45 (9.40)	2.75	5200	7.85 (6.75)	3.14	4030	2.38	⊕ *CVP10-65/EC10Q5	
	56,500 (16.55)	54,500 (15.99)	31,500 (9.23)	5375	11.00 (10.50)	3.08	4945	7.50 (6.40)	3.22	4005	2.30	CR22-65/B24	
	57,000 (16.70)	53,000 (15.53)	32,000 (9.38)	5955	10.50 (9.55)	2.80	4945	7.50 (6.40)	3.22	4095	2.28	**C26-65(FC)	
	57,500 (16.85)	54,500 (15.82)	32,000 (9.38)	5580	11.00 (10.30)	3.02	4945	7.50 (6.40)	3.22	4095	2.28	C22-65FC/B24 **C26-65(FC)EAP	
	60,000 (17.58)	56,500 (16.55)	32,800 (9.60)	5920	11.25 (10.15)	2.95	4980	7.90 (6.80)	3.32	3880	2.46	*CB19-65, *CBH19-65	
	60,500 (17.73)	56,000 (16.41)	32,200 (9.43)	5745	11.80 (10.50)	3.08	4790	8.35 (7.10)	3.42	3700	2.54	*CB21V-65, *CBH21V-65	
	60,500 (17.73)	56,500 (16.55)	32,800 (9.60)	5940	11.30 (10.20)	2.99	4960	8.15 (7.00)	3.34	3880	2.48	**CH19-65	

★Sound Rating Number in accordance with ARI Standard 270.

†Rated in accordance with ARI Standard 210/240 with 25 ft. (7.6 m) of connecting refrigerant lines;

**Cooling Ratings** — 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°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) db entering indoor coil air.

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

★Kit is required and must be ordered extra unless shown as factory installed.

●Furnished as standard with coil.

◆Heating Seasonal Performance Factor

\*Blower powered indoor coil unit.

\*\*For FM21 Heat Pump Control use with any Lennox furnace that meets system design requirements. See FM21 bulletin in this section for additional data.

C22FC/CR22/CH22 coil may also be matched with B24 series blower units.

NOTE — B24 blower not included in ratings for C22 / CR22 series coils. B24 shown for matching reference only.

⊕ For Canadian usage only.

## SPECIFICATIONS

Model No.		HP19-211	HP19-261	HP19-311	HP19-411 HP19-413	HP19-461 HP19-463	HP19-511 HP19-513	HP19-651 HP19-653	
Outdoor Coil	Net face area — sq. ft. (m <sup>2</sup> )	Outer coil	11.83 (1.10)	11.83 (1.10)	15.94 (1.48)	15.94 (1.48)	18.22 (1.69)	21.64 (2.01)	23.92 (2.22)
		Inner coil	8.57 (0.80)	8.57 (0.80)	15.34 (1.43)	15.34 (1.43)	17.53 (1.63)	20.81 (1.93)	23.01 (2.14)
	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)	3/8 (9.5)	
	Number of rows	1.75	1.75	2	2	2	2	2	
	Fins per inch (m)	18 (709)	18 (709)	18 (709)	18 (709)	18 (709)	18 (709)	20 (787)	
Outdoor Fan	Diameter — in. (mm) & no. of blades		20 (508) — 4	20 (508) — 4	24 (610) — 3	24 (610) — 3	24 (610) — 3	24 (610) — 4	24 (610) — 4
	Motor hp (w)		1/6 (124)	1/6 (124)	1/6 (124)	1/6 (124)	1/6 (124)	1/4 (187)	1/4 (187)
	Cfm (L/s)		2300 (1085)	2300 (1.85)	3350 (1580)	3350 (1580)	3400 (1605)	4200 (1980)	4175 (1970)
	Rpm		840	840	820	820	820	840	825
	Watts		185	185	210	210	200	315	330
*Refrigerant charge furnished (HCFC-22)			6 lbs. 5 oz. (2.86 kg)	6 lbs. 14 oz. (3.12 kg)	9 lbs. 5 oz. (4.22 kg)	12 lbs. 10 oz. (5.78 kg)	12 lbs. 10 oz. (5.78 kg)	14 lbs. 12 oz. (6.69)	18 lbs. 8 oz. (8.39)
Liquid line o.d. — in. (mm) connection (sweat)			3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Vapor line o.d. — in. (mm) connection (sweat)			5/8 (16)	5/8 (16)	3/4 (19)	3/4 (19)	7/8 (22.2)	7/8 (22.2)	1-1/8 (28.6)
Shipping weight — lbs. (kg) 1 package			201 (91)	204 (93)	261 (118)	267 (121)	301 (137)	321 (146)	359 (163)

\*Refrigerant charge sufficient for 25 ft. (7.6 m) length of refrigerant lines.

## ELECTRICAL DATA

Model No.		HP19-211	HP19-261	HP19-311	HP19-411	HP19-413	HP19-461	HP19-463
Line voltage data		208/230v 60hz-1ph	208/230v 60hz-1ph	208/230v 60hz-1ph	208/230v 60hz-1ph	208/230v 60hz-3ph	208/230v 60hz-1ph	208/230v 60hz-3ph
Compressor	Rated load amps	9.7	12.1	14.2	15.6	10.8	18.3	11.7
	Power factor	.98	.98	.98	.98	.88	.98	.88
	Locked rotor amps	54.0	57.0	66.0	75.8	65.0	97.6	73.7
Outdoor Coil Fan Motor	Full load amps	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	Locked rotor amps	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Rec. max. fuse or HACR circuit breaker size (amps)		20	25	30	35	25	40	25
*Minimum circuit ampacity		13.3	16.3	18.9	20.6	14.6	24.0	15.8

\*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

NOTE — Extremes of operating range are plus 10% and minus 5% of line voltage.

## ELECTRICAL DATA

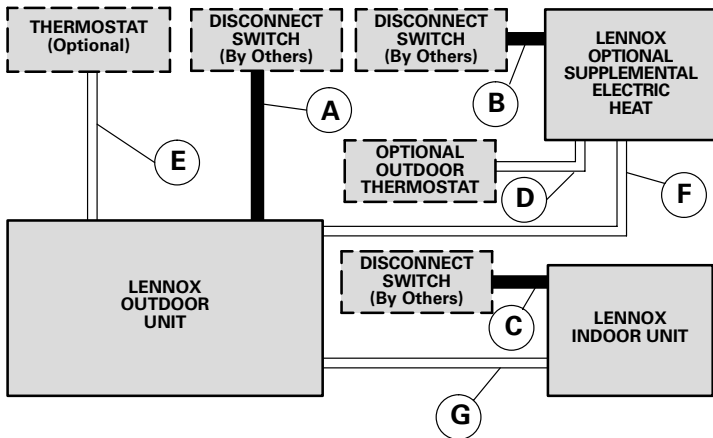
Model No.		HP19-511	HP19-513		HP19-651	HP19-653	
Line voltage data — 60 hz		208/230v 1ph	208/230v 3ph	**460v 3ph	208/230v 1ph	208/230v 3ph	**460v 3ph
Compressor	Rated load amps	18.0	12.6	6.4	22.0	14.5	7.2
	Power factor	.99	.79	.79	.99	.79	.79
	Locked rotor amps	105.0	130.0	64.0	135.0	150.0	73.0
Condenser Coil Fan Motor	Full load amps	1.7	1.7	1.1	1.7	1.7	1.1
	Locked rotor amps	3.1	3.1	2.0	3.1	3.1	2.0
Rec. max. fuse or HACR circuit breaker size (amps)		50	30	15	60	35	20
*Minimum circuit ampacity		30.5	20.1	9.9	36.9	22.5	13.1

\*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

\*\* Extremes of operating range are plus and minus 10% of line voltage.

NOTE — Extremes of operating range are plus 10% and minus 5% of line voltage.

## FIELD WIRING

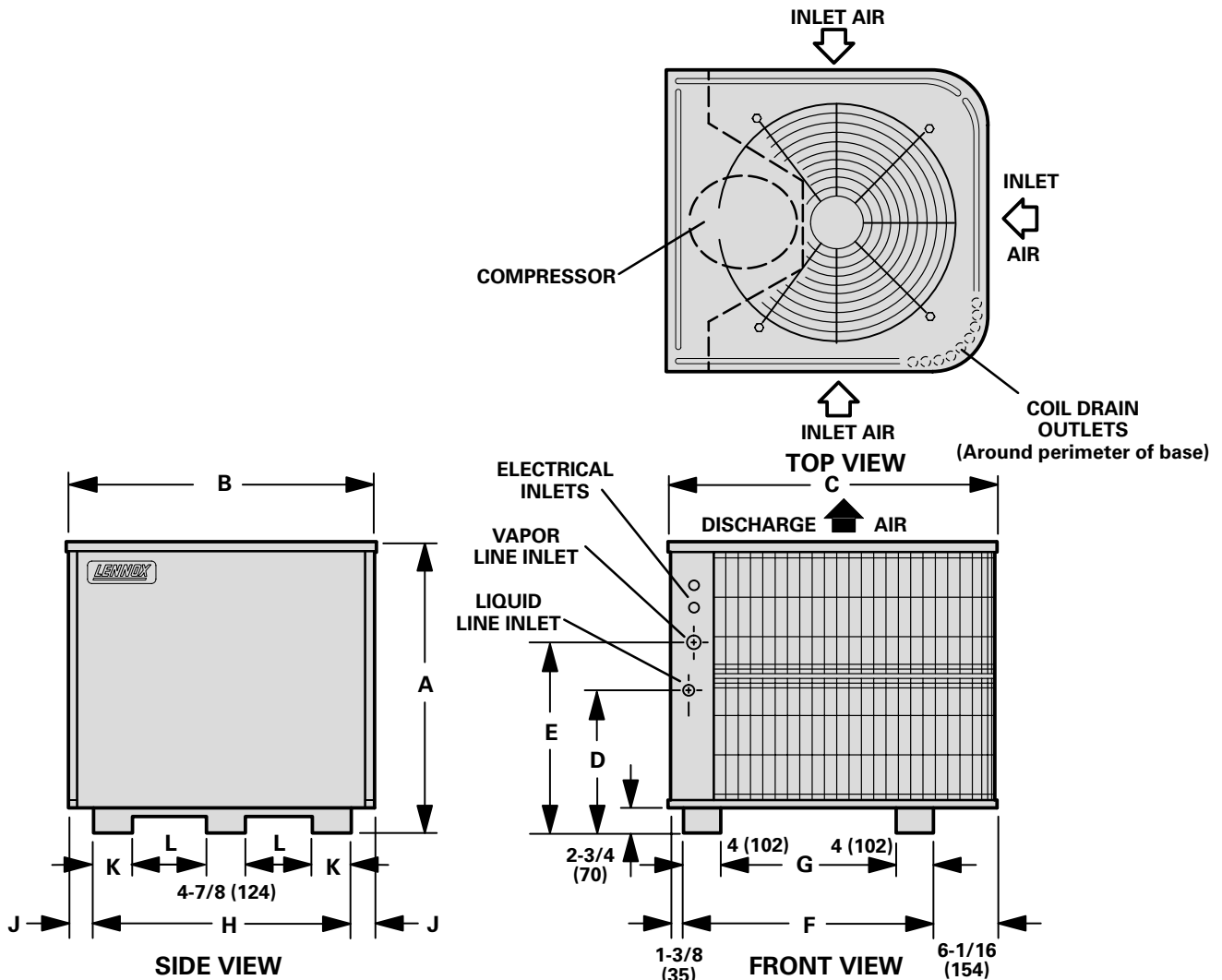


- A — Two or Three Wire Power (see Electrical Data)
- B — Two or Three Wire Power (size to heater capacity)
- C — Two Wire Power (size to indoor coil blower motor)
- D — Two Wire Low Voltage — 18 ga. minimum
- E — Eight Wire Low Voltage — 18 ga. minimum — with Electric Heat  
— Ten Wire Low Voltage with Optional Outdoor Thermostat
- F — Four Wire Low Voltage — 18 ga. minimum
- G — Three Wire Low Voltage — 18 ga. minimum

— Field Wiring Not Furnished —

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

## DIMENSIONS — inches (mm)



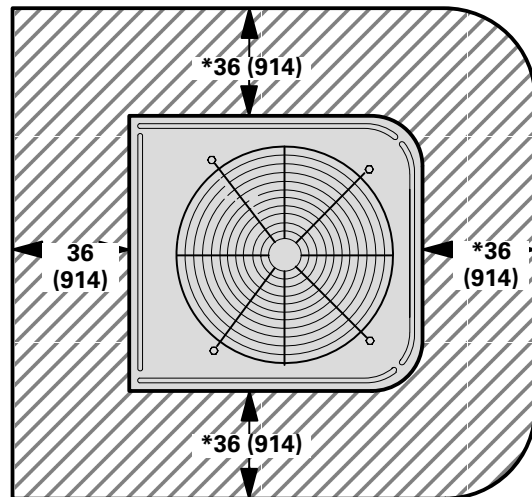
Model No.	A		B		C		D		E		F		G		H		J		K		L	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
HP19-211 HP19-261	27-7/8	581	25-7/8	657	29-7/8	759	12-1/4	311	16-3/4	425	22-7/16	570	14-7/16	367	22-1/8	562	1-7/8	48	2-7/8	73	5-1/2	140
HP19-311 HP19-411-413	30-7/8	784	32-1/8	816	34-1/16	865	12-3/4	324	17-1/4	438	26-5/8	676	18-5/8	473	28-1/8	714	2	51	3-7/8	98	7-1/2	191
HP19-461-463	34-7/8	886	32-1/8	816	34-1/16	865	13-3/4	349	18-1/4	464	26-5/8	676	18-5/8	473	28-1/8	714	2	51	3-7/8	98	7-1/2	191
HP19-511-513	40-7/8	1038	32-1/8	816	34-1/16	865	25-1/4	641	20-3/4	527	26-5/8	676	18-5/8	473	28-1/8	714	2	51	3-7/8	98	7-1/2	191
HP19-651-653	44-7/8	1140	32-1/8	816	34-1/16	865	29-1/4	743	20-3/4	527	26-5/8	676	18-5/8	473	28-1/8	714	2	51	3-7/8	98	7-1/2	191

## REFRIGERANT LINE KITS

Outdoor Unit Model No.	Line Set Model No.	Line Length		Liquid Line (o.d.)		Vapor Line (o.d.)	
		ft.	m	in.	mm	in.	mm
HP19-211 HP19-261	L10-26-20	20	6	3/8	9.5	5/8	15.8
	L10-26-25	25	8				
	L10-26-35	35	11				
	L10-26-50	50	15				
HP19-311 HP19-411 HP19-413	L10-41-20	20	6	3/8	9.5	3/4	19
	L10-41-30	30	9				
	L10-41-40	40	12				
	L10-41-50	50	15				
HP19-461 HP19-463 HP19-511 HP19-513	L10-65-30	30	9	3/8	9.5	7/8	22.2
	L10-65-40	40	12				
	L10-65-50	50	15				
	*Not available						

NOTE — Refrigerant line set should not exceed 50 ft. (15m) in any installation.  
\*Field fabricated.

## INSTALLATION CLEARANCES inches (mm)



NOTE — 48" (1219 mm) clearance required on top of unit.  
\*NOTE — One side of coil may be 12 (305) inches.

## 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.

### HP19-211 — COOLING CAPACITY — CH22-41

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 Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb		
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	210	450	5.1	17,400	1330	.68	.81	.93	4.8	16,500	1430	.69	.84	.95	4.6	15,700	1540	.71	.86	.97	4.5	15,200	1670	.71	.89	.98
	285	600	5.5	18,900	1350	.73	.87	1.00	5.2	17,900	1450	.75	.90	1.00	5.0	17,000	1570	.77	.93	1.00	4.7	16,200	1700	.78	.96	1.00
	355	750	5.8	19,900	1360	.79	.93	1.00	5.5	18,900	1480	.81	.96	1.00	5.2	17,900	1600	.83	.99	1.00	5.0	17,100	1730	.84	1.00	1.00
67°F (19.4°C)	210	450	5.3	18,200	1340	.54	.68	.80	5.1	17,400	1450	.55	.69	.81	5.0	16,900	1570	.55	.71	.82	4.7	16,100	1700	.56	.73	.84
	285	600	5.8	19,700	1350	.57	.72	.87	5.5	18,800	1470	.58	.73	.89	5.2	17,800	1600	.59	.76	.91	5.0	17,000	1730	.60	.78	.93
	355	750	6.1	20,900	1380	.60	.75	.93	5.8	19,800	1500	.62	.78	.96	5.5	18,800	1630	.63	.80	.98	5.2	17,800	1760	.64	.83	1.00
71°F (21.7°C)	210	450	5.7	19,500	1350	.41	.54	.67	5.5	18,600	1470	.41	.55	.68	5.2	17,900	1600	.41	.56	.69	5.0	17,100	1740	.42	.57	.70
	285	600	6.0	20,600	1370	.42	.57	.72	5.8	19,700	1500	.43	.58	.74	5.5	18,800	1630	.43	.60	.75	5.3	18,100	1770	.43	.62	.76
	355	750	6.4	21,800	1400	.43	.59	.77	6.1	20,700	1520	.44	.61	.79	5.7	19,600	1650	.44	.62	.81	5.5	18,700	1790	.45	.64	.83

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

### HP19-211 — HEATING CAPACITY — CH22-41

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)				
	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	Total Heating Capacity		Comp. Motor Watts Input							
L/s	cfm	kW		Btuh	kW		Btuh	kW		Btuh	kW		Btuh	kW		Btuh	kW		Btuh	kW	Btuh				
190	400	6.6	22,600	1665	5.0	17,100	1450	3.4	11,500	1240	2.1	7100	1015	0.9	3000	790									
285	600	7.0	24,000	1565	5.4	18,500	1355	3.8	12,900	1140	2.5	8500	920	1.3	4300	690									
375	800	7.3	24,900	1515	5.7	19,400	1300	4.1	13,900	1090	2.8	9400	870	1.6	5300	640									

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

### HP19-211 HEATING PERFORMANCE AT 600 cfm (285 L/s) Indoor Coil Air Volume (CH22-41)

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18	1565	24,000	7.0
60	16	1515	22,600	6.6
55	13	1460	21,300	6.2
50	10	1405	19,900	5.8
47	8	1375	19,100	5.6
45	7	1355	18,500	5.4
40	4	1300	16,900	5.0
35	2	1245	15,300	4.5
30	-1	1195	14,100	4.1
25	-4	1140	12,900	3.8
20	-7	1085	11,700	3.4
17	-8	1055	11,000	3.2
15	-9	1035	10,600	3.1
10	-12	975	9600	2.8
5	-15	920	8500	2.5
0	-18	860	7500	2.2
-5	-21	805	6400	1.9
-10	-23	745	5400	1.6
-15	-26	690	4300	1.3
-20	-29	635	3300	1.0

\*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.

HP19-261 - COOLING CAPACITY - CR18-41

Table with columns: Entering Wet Bulb Temperature, Total Air Volume (L/s, cfm), Outdoor Air Temperature (85°F, 95°F, 105°F, 115°F), Total Cooling Capacity (kW, Btuh), Compressor Motor Watts Input, and Sensible To Total Ratio (S/T) Dry Bulb.

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

HP19-261 - COOLING CAPACITY - CB19-26 - CBH19-26

Table with columns: Entering Wet Bulb Temperature, Total Air Volume (L/s, cfm), Outdoor Air Temperature (85°F, 95°F, 105°F, 115°F), Total Cooling Capacity (kW, Btuh), Compressor Motor Watts Input, and Sensible To Total Ratio (S/T) Dry Bulb.

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

HP19-261 - HEATING CAPACITY - CR18-41

Table with columns: Indoor Coil Air Volume (70°F db), Air Temperature Entering Outdoor Coil (65°F, 45°F, 25°F, 5°F, -15°F), Total Heating Capacity (kW, Btuh), and Compressor Motor Watts Input.

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

HP19-261 - HEATING CAPACITY - CB19-26 - CBH19-26

Table with columns: Indoor Coil Air Volume (70°F db), Air Temperature Entering Outdoor Coil (65°F, 45°F, 25°F, 5°F, -15°F), Total Heating Capacity (kW, Btuh), and Compressor Motor Watts Input.

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

HP19-261 HEATING PERFORMANCE AT 900 CFM (425 L/s) Indoor Coil Air Volume (CR18-41)

Table with columns: Outdoor Temperature (°F, °C), Compressor Motor Watts Input, and Total Output (Btuh, kW).

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

HP19-261 HEATING PERFORMANCE AT 900 CFM (425 L/s) Indoor Coil Air Volume (CB19/CBH19-26)

Table with columns: Outdoor Temperature (°F, °C), Compressor Motor Watts Input, and Total Output (Btuh, kW).

\*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.

## HP19-261 — COOLING CAPACITY — CB19-31 — CBH19-31

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)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb						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)	380	800	7.4	25,200	1830	.78	.93	1.00	7.0	23,800	1980	.80	.96	1.00	6.6	22,500	2140	.82	.98	1.00	6.2	21,100	2290	.85	1.00	1.00
	425	900	7.6	25,800	1840	.81	.97	1.00	7.2	24,500	2000	.83	.99	1.00	6.8	23,200	2170	.86	1.00	1.00	6.4	21,800	2340	.89	1.00	1.00
	470	1000	7.8	26,500	1860	.84	.99	1.00	7.4	25,100	2030	.86	1.00	1.00	7.0	23,800	2210	.89	1.00	1.00	6.6	22,400	2380	.92	1.00	1.00
67°F (19.4°C)	380	800	7.9	26,800	1860	.60	.75	.89	7.4	25,400	2040	.62	.77	.92	7.0	23,900	2210	.63	.80	.95	6.5	22,200	2370	.65	.83	.98
	425	900	8.1	27,500	1890	.62	.78	.93	7.6	26,000	2070	.64	.80	.96	7.2	24,400	2240	.65	.83	.98	6.6	22,600	2400	.67	.87	1.00
	470	1000	8.2	28,000	1910	.64	.81	.96	7.8	26,500	2090	.65	.84	.99	7.3	24,800	2260	.67	.87	1.00	6.8	23,100	2420	.70	.90	1.00
71°F (21.7°C)	380	800	8.4	28,500	1930	.45	.59	.72	7.9	27,000	2110	.45	.60	.74	7.4	25,400	2290	.46	.62	.77	6.9	23,600	2450	.46	.63	.80
	425	900	8.6	29,200	1950	.45	.61	.75	8.1	27,600	2140	.46	.62	.78	7.6	25,900	2320	.47	.64	.81	7.0	24,000	2480	.48	.66	.84
	470	1000	8.7	29,800	1970	.46	.63	.78	8.2	28,100	2160	.47	.64	.81	7.7	26,300	2340	.48	.66	.84	7.1	24,400	2500	.49	.69	.88

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

## HP19-311 — COOLING CAPACITY — CR18-51

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)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb						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)																										
67°F (19.4°C)																										
71°F (21.7°C)																										

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

## HP19-261 — HEATING CAPACITY — CB19-31 — CBH19-31

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)			
	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	Total Heating Capacity		Comp. Motor Watts Input		
	kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh			
380	800	8.6	29,500	2040	6.9	23,600	1735	5.1	17,300	1420	3.8	12,800	1145	1.8	6300	870				
425	900	8.8	30,000	2015	7.1	24,100	1710	5.2	17,800	1395	3.9	13,300	1120	2.0	6800	845				
470	1000	9.0	30,600	2000	7.2	24,700	1695	5.4	18,400	1380	4.1	13,900	1105	2.2	7400	830				

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

## HP19-311 — HEATING CAPACITY — CR18-51

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)			
	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	Total Heating Capacity		Comp. Motor Watts Input		
	kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh			

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

### HP19-261 HEATING PERFORMANCE at 900 cfm (425 L/s) Indoor Coil Air Volume (CB19/CBH19-31)

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18	2015	30,000	8.8
60	16	1940	28,700	8.4
55	13	1865	27,300	8.0
50	10	1790	26,000	7.6
47	8	1745	25,200	7.4
45	7	1710	24,100	7.1
40	4	1615	21,400	6.3
35	2	1525	18,600	5.5
30	-1	1460	18,200	5.3
25	-4	1395	17,800	5.2
20	-7	1330	17,400	5.1
17	-8	1290	17,200	5.0
15	-9	1260	16,500	4.8
10	-12	1190	14,900	4.4
5	-15	1120	13,300	3.9
0	-18	1050	11,700	3.4
-5	-21	985	10,000	2.9
-10	-23	915	8400	2.5
-15	-26	845	6800	2.0
-20	-29	775	5200	1.5

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

### HP19-311 HEATING PERFORMANCE at 900 cfm (425 L/s) Indoor Coil Air Volume (CR18-51)

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18			
60	16			
55	13			
50	10			
47	8			
45	7			
40	4			
35	2			
30	-1			
25	-4			
20	-7			
17	-8			
15	-9			
10	-12			
5	-15			
0	-18			
-5	-21			
-10	-23			
-15	-26			
-20	-29			

\*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.

## HP19-411-413 — COOLING CAPACITY — CR18-51

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		
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	615	1300	10.7	36,500	2710	.79	.93	1.00	10.0	34,100	2900	.81	.96	1.00	9.4	32,200	3090	.84	.99	1.00	8.8	30,100	3250	.87	1.00	1.00
67°F (19.4°C)	615	1300	11.4	38,900	2760	.61	.76	.90	10.7	36,600	2970	.62	.78	.92	10.1	34,300	3150	.64	.80	1.00	9.3	31,800	3310	.66	.84	.98
71°F (21.7°C)	615	1300	12.1	41,400	2820	.45	.59	.73	11.4	39,000	3030	.46	.61	.75	10.7	36,600	3220	.46	.62	.77	10.0	34,100	3390	.47	.64	.81
	685	1450	12.4	42,300	2840	.46	.61	.75	11.7	39,900	3050	.46	.62	.78	10.9	37,300	3240	.47	.64	.81	10.2	34,800	3410	.48	.66	.84

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

## HP19-411-413 — COOLING CAPACITY — CR18-65

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		
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)																										
67°F (19.4°C)																										
71°F (21.7°C)																										

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

## HP19-411-413 — HEATING CAPACITY — CR18-51

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)			
	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					
																kW	Btuh	kW	Btuh	kW
615	1300	12.9	44,000	3130	9.8	33,500	2625	6.7	22,700	2110	4.5	15,500	1690	2.3	7900	1270				
685	1450	13.1	44,800	3105	10.0	34,300	2600	6.9	23,500	2085	4.8	16,300	1665	2.6	8700	1245				

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

## HP19-411-413 — HEATING CAPACITY — CR18-65

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)			
	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					
																kW	Btuh	kW	Btuh	kW

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

### HP19-411-413 HEATING PERFORMANCE at 1300 cfm (615 L/s) Indoor Coil Air Volume (CR18-51)

*Outdoor Temperature		Compressor Motor Watts Input		Total Output	
°F	°C			Btuh	kW
65	18		3130	44,000	12.9
60	16		3005	41,500	12.2
55	13		2880	39,000	11.4
50	10		2760	36,500	10.7
47	8		2685	35,000	10.3
45	7		2625	33,500	9.8
40	4		2470	29,800	8.7
35	2		2320	26,000	7.6
30	-1		2215	24,300	7.1
25	-4		2110	22,700	6.7
20	-7		2005	21,000	6.2
17	-8		1940	20,000	5.9
15	-9		1900	19,200	5.6
10	-12		1795	17,400	5.1
5	-15		1690	15,500	4.5
0	-18		1585	13,600	4.0
-5	-21		1480	11,700	3.4
-10	-23		1375	9800	2.9
-15	-26		1270	7900	2.3
-20	-29		1165	6000	1.8

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

### HP19-411-413 HEATING PERFORMANCE at 1300 cfm (615 L/s) Indoor Coil Air Volume (CR18-65)

*Outdoor Temperature		Compressor Motor Watts Input		Total Output	
°F	°C			Btuh	kW
65	18				
60	16				
55	13				
50	10				
47	8				
45	7				
40	4				
35	2				
30	-1				
25	-4				
20	-7				
17	-8				
15	-9				
10	-12				
5	-15				
0	-18				
-5	-21				
-10	-23				
-15	-26				
-20	-29				

\*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.

## HP19-461-463 — COOLING CAPACITY — CR18-51

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		
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	660	1400	12.3	42,100	3220	.76	.91	1.00	11.7	40,000	3440	.78	.93	1.00	11.0	37,400	3910	.81	.97	1.00	10.3	35,000	4050	.84	.99	1.00
67°F (19.4°C)	660	1400	12.7	43,300	3240	.79	.94	1.00	11.9	40,500	3470	.81	.97	1.00	11.3	38,400	3750	.84	.99	1.00	10.5	35,900	4090	.87	1.00	1.00
71°F (21.7°C)	660	1400	13.1	44,800	3280	.80	.94	.87	12.4	42,400	3520	.81	.96	.90	11.7	39,900	3810	.82	.98	.92	10.9	37,200	4170	.84	.98	.96
63°F (17.2°C)	730	1550	13.4	45,800	3300	.61	.76	.90	12.7	43,300	3540	.62	.78	.93	11.9	40,700	3840	.64	.81	.96	11.1	37,900	4200	.66	.84	.99
67°F (19.4°C)	730	1550	13.9	47,500	3340	.45	.58	.71	13.2	45,000	3590	.45	.59	.73	12.4	42,400	3910	.46	.61	.75	11.6	39,600	4290	.46	.62	.78
71°F (21.7°C)	730	1550	14.2	48,500	3360	.45	.60	.73	13.5	45,900	3620	.46	.61	.75	12.7	43,200	3940	.46	.62	.78	11.8	40,300	4330	.47	.64	.81

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

## HP19-461-463 — COOLING CAPACITY — CR18-65

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		
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)																										
67°F (19.4°C)																										
71°F (21.7°C)																										

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

## HP19-461-463 — HEATING CAPACITY — CR18-51

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)			
	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	Total Heating Capacity		Comp. Motor Watts Input		
				kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh			
660	1400	15.3	52,200	3850	11.7	39,900	3175	8.0	27,300	2495	5.3	18,200	1950	2.7	9300	1465				
730	1550	15.6	53,200	3820	12.0	40,900	3145	8.3	28,300	2465	5.6	19,200	1920	3.0	10,300	1435				

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

## HP19-461-463 — HEATING CAPACITY — CR18-65

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)			
	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	Total Heating Capacity		Comp. Motor Watts Input		
				kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh			

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

### HP19-461-463 HEATING PERFORMANCE at 1400 cfm (660 L/s) Indoor Coil Air Volume (CR18-51)

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18	3850	52,200	15.3
60	16	3680	49,200	14.4
55	13	3515	46,300	13.6
50	10	3345	43,300	12.7
47	8	3245	41,500	12.2
45	7	3175	39,900	11.7
40	4	2995	36,000	10.5
35	2	2815	32,000	9.4
30	-1	2655	29,700	8.7
25	-4	2495	27,300	8.0
20	-7	2335	25,000	7.3
17	-8	2240	23,600	6.9
15	-9	2190	22,700	6.7
10	-12	2070	20,500	6.0
5	-15	1950	18,200	5.3
0	-18	1830	16,000	4.7
-5	-21	1705	13,800	4.0
-10	-23	1585	11,500	3.4
-15	-26	1465	9300	2.7
-20	-29	1345	7100	2.1

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

### HP19-461-463 HEATING PERFORMANCE at 1400 cfm (660 L/s) Indoor Coil Air Volume (CR18-65)

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18			
60	16			
55	13			
50	10			
47	8			
45	7			
40	4			
35	2			
30	-1			
25	-4			
20	-7			
17	-8			
15	-9			
10	-12			
5	-15			
0	-18			
-5	-21			
-10	-23			
-15	-26			
-20	-29			

\*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.

**HP19-651-653 — COOLING CAPACITY — C22-65/B24 — C26-65(FC) — C26-65(FC)EAP**

Table with columns for Entering Wet Bulb Temperature, Total Air Volume, Outdoor Air Temperature (85°F, 95°F, 105°F, 115°F), Total Cooling Capacity, Compressor Motor Watts Input, and Sensible To Total Ratio (S/T) Dry Bulb. Rows include temperature ranges from 63°F to 71°F and air volumes from 800 to 1085.

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

**HP19-651-653 — COOLING CAPACITY — CB19-65 — CBH19-65 — CH19-65**

Table with columns for Entering Wet Bulb Temperature, Total Air Volume, Outdoor Air Temperature (85°F, 95°F, 105°F, 115°F), Total Cooling Capacity, Compressor Motor Watts Input, and Sensible To Total Ratio (S/T) Dry Bulb. Rows include temperature ranges from 63°F to 71°F and air volumes from 800 to 1015.

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

**HP19-651-653 — HEATING CAPACITY — C22-65FC/B24 — C26-65(FC) — C26-65(FC)EAP**

Table with columns for Indoor Coil Air Volume, Air Temperature Entering Outdoor Coil (65°F, 45°F, 25°F, 5°F, -15°F), Total Heating Capacity, and Comp. Motor Watts Input. Rows include air volumes from 800 to 2300.

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

**HP19-651-653 — HEATING CAPACITY — CB19-65 — CBH19-65 — CH19-65**

Table with columns for Indoor Coil Air Volume, Air Temperature Entering Outdoor Coil (65°F, 45°F, 25°F, 5°F, -15°F), Total Heating Capacity, and Comp. Motor Watts Input. Rows include air volumes from 800 to 1015.

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

**HP19-651-653 HEATING PERFORMANCE at 2000 cfm (945 L/s) Indoor Coil Air Volume (C22-65 — C26-65)**

Table with columns for \*Outdoor Temperature, Compressor Motor Watts Input, and Total Output (Btuh and kW). Rows range from 65°F to -20°F.

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

**HP19-651-653 HEAT PERFORMANCE at 1925 cfm (910 L/s) Indoor Coil Air Volume (CB19/CBH19-65 — CH19-65)**

Table with columns for \*Outdoor Temperature, Compressor Motor Watts Input, and Total Output (Btuh and kW). Rows range from 65°F to -20°F.

\*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.

## HP19-651-653 — COOLING CAPACITY — CB21V-65 — CBH21V-65

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)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)				
				Dry Bulb						Dry Bulb						Dry Bulb						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	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	710	1500	17.3	58,900	4770	.70	.83	.94	16.4	55,900	5140	.72	.84	.97	15.5	52,900	5510	.73	.87	.99	14.7	50,000	5920	.75	.89	1.00
	825	1750	18.0	61,300	4840	.73	.86	.99	17.1	58,200	5210	.75	.89	1.00	16.1	54,900	5610	.76	.91	1.00	15.2	51,800	6020	.78	.94	1.00
	945	2000	18.5	63,200	4890	.76	.90	1.00	17.5	59,700	5270	.77	.93	1.00	16.6	56,600	5690	.79	.95	1.00	15.6	53,400	6110	.82	.98	1.00
67°F (19.4°C)	710	1500	18.3	62,400	4870	.56	.68	.79	17.4	59,500	5260	.57	.69	.81	16.5	56,400	5680	.58	.70	.83	15.6	53,400	6110	.58	.72	.85
	825	1750	19.0	65,000	4940	.58	.70	.82	18.1	61,900	5350	.59	.72	.85	17.2	58,700	5780	.59	.74	.87	16.3	55,500	6230	.61	.75	.90
	945	2000	19.7	67,100	5000	.59	.73	.86	18.7	63,800	5420	.60	.75	.89	17.8	60,600	5860	.61	.77	.91	16.8	57,300	6330	.63	.79	.94
71°F (21.7°C)	710	1500	19.3	66,000	4970	.43	.54	.65	18.5	63,000	5390	.43	.55	.66	17.6	60,000	5840	.43	.56	.68	16.7	56,900	6310	.44	.57	.69
	825	1750	20.1	68,600	5050	.44	.56	.68	19.2	65,500	5480	.44	.57	.69	18.3	62,300	5960	.44	.58	.71	17.3	59,200	6450	.44	.59	.72
	945	2000	20.8	71,000	5110	.44	.58	.70	19.8	67,500	5570	.45	.59	.72	18.8	64,300	6050	.45	.60	.74	17.9	61,000	6570	.45	.61	.76

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

## HP19-651-653 — HEATING CAPACITY — CB21V-65 — CBH21V-65

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)			
	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	Total Heating Capacity		Comp. Motor Watts Input		
L/s	cfm	kW		Btuh	kW		Btuh	kW		Btuh	kW		Btuh	kW		Btuh	kW		Btuh	
660	1400	20.6	70,300	5280	15.6	53,400	4440	10.5	35,900	3605	6.8	23,100	2830	3.2	11,000	2160				
755	1600	21.0	71,800	5145	16.1	54,900	4305	11.0	37,400	3470	7.2	24,600	2695	3.7	12,500	2025				
850	1800	21.5	73,500	5040	16.6	56,600	4200	11.5	39,100	3365	7.7	26,300	2590	4.2	14,200	1920				

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

### HP19-651-653 HEATING PERFORMANCE at 1600 cfm Indoor Coil Air Volume (CB21V/CBH21V-65)

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18	5145	71,800	21.0
60	16	4935	67,700	19.8
55	13	4720	63,600	18.6
50	10	4505	59,500	17.4
47	8	4380	57,000	16.7
45	7	4305	54,900	16.1
40	4	4120	49,700	14.6
35	2	3935	44,400	13.0
30	-1	3700	40,900	12.0
25	-4	3470	37,400	11.0
20	-7	3235	33,900	9.9
17	-8	3095	31,800	9.3
15	-9	3030	30,600	9.0
10	-12	2860	27,600	8.1
5	-15	2695	24,600	7.2
0	-18	2525	21,600	6.3
-5	-21	2360	18,600	5.4
-10	-23	2195	15,600	4.6
-15	-26	2025	12,500	3.7
-20	-29	1860	9500	2.8

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