

LENNOX[®]

ENGINEERING DATA

CANADIAN EDITION

COOLING & ELECTRIC HEAT

**CHA16-823 thru CHA16-2753
PACKAGED UNITS
COOLING & ELECTRIC HEAT**

CHA16

(6 to 20 Ton)

(21.1 to 70.3 kW)

***73,000 to 240,000 Btuh (21.4 to 70.3 kW) Cooling Capacity
25,600 to 307,100 Btuh (7.5 to 90.0 kW) Optional Electric Heat**

Bulletin No. 485042

January 1993

Supersedes June 1991

*ARI Standard Ratings



FEATURES

Application — Lennox CHA16 single package air conditioning units are designed for bottom (down-flo) or side (horizontal) handling of supply and return air. A separate roof mounting frame mates to the unit base and when flashed into the roof permits weatherproof duct connections and entry into the conditioned area in down-flo applications. The units can also be installed at grade level with horizontal (side) duct connections. A choice of RTD11 step-down or FD11 flush ceiling diffusers are available for combination ceiling supply and return air distribution systems. Optional economizer dampers provide “free cooling” by using outdoor air in lieu of mechanical refrigeration. Units are available for cooling only or cooling with electric heat. Voltage options provide a choice for power supply requirements. Thermostat and system controls are not furnished and must be ordered extra. Available as options are W973 control system, W7400 control system, electro-mechanical or T7300 thermostat control systems. Units are shipped factory assembled, piped and wired. Each unit is factory test operated insuring unit dependability.

Approvals — CHA16-823, 953 & 1353 models have been rated in the Lennox Laboratory environmental test room in accordance with ARI Standard 210/240-89. CHA16-823, 953 & 1353 units have been sound rated in the Lennox sound test room in accordance with ARI Standard 270-84. CHA16-1603, 1853, 2553 & 2753 models have been rated in accordance with ARI Standard 360-86. Blower data is from unit tests in the Lennox air test chamber. Units are C.S.A. Listed and components within are bonded for grounding to meet safety standards for servicing required by C.S.A. and CEC.

Equipment Warranty — Compressors have a limited warranty for a full 5 years. All other components have a limited warranty for a full one year. Refer to Lennox Equipment Limited Warranty included with equipment.

Weather Resistant Cabinet — Rugged cabinet is constructed of heavy gauge galvanized steel. Cabinet is subject to a five station metal wash process resulting in a perfect bonding surface for a paint finish of powder enamel, electrostatically bonded to the metal. Large removable cabinet panels allow service access. CHA16-1853-2553-2753 filter access panel is hinged and equipped with quarter turn fasteners. Base section and cabinet panels exposed to conditioned air are lined with thick fiberglass insulation. Electrical inlets are provided in cabinet base and condenser section cabinet panel for wiring entry. Control box with factory installed controls is conveniently located for service access. A low voltage terminal strip is provided in the control box for ease of field wiring connections. Lifting brackets are furnished for ease of handling and rigging. Evaporator coil condensate drain connection extends outside of cabinet for ease of connection.

Refrigeration System — Factory sealed refrigerant system consists of multiple compressors, condenser coil and direct drive fan(s), evaporator coil and belt drive blower, expansion valve, high capacity driers, thermometer wells, high pressure switch and loss of charge switch, refrigerant lines connected with a full operating charge of refrigerant. Factory installed freeze-stat prevents evaporator coil freeze-up during low ambient operation. Independent refrigerant circuits provide staging control to fit varying cooling loads.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Optional ECH16 Additive Electric Heat — Available factory or field installed in 10kW through 90kW sizes. Heater design permits use of single point power supply. Helix wound nichrome heating elements are exposed directly in the air stream resulting in instant heat transfer, lower coil temperatures and long service life. Elements are accurately located and insulated from the heavy gauge steel support frame by high quality insulators. Time delays bring the elements on and off the line in sequence and equal increments in response to demand with a time delay between each element. Elements are equipped with individual limit controls providing positive protection in case of overheating. Heaters may be two stage controlled with each stage being energized only when required. Fuse block for electric heaters must be ordered extra, see Optional Accessories tables. Factory installed heaters will have the fuse block factory installed. Fuse block must be field installed on field installed heaters. Wiring harness and mount-ing screws are provided with fuse block.

Optional Timed-Off Control — Timed-off control is available for field installation. Prevents compressor short-cycling. Automatic reset control provides a time delay between compressor shutoff and start-up. Kit (40G20) includes two LB-50709BA controls and must be ordered extra. Furnished as standard on CHA16-1853 thru -2753 models.

Copper Tube Evaporator and Condenser Enhanced Fin Coils — Extra large surface area and circuiting of coils provide maximum cooling efficiency, excellent heat transfer and low air resistance. Coils are constructed of precisely spaced ripple-edged aluminum fins fitted to durable copper tubes. Fins are equipped with collars that grip tubing for maximum contact area. Flared shoulder tubing connections and silver soldering provide tight, leakproof joints. Long life copper tubing is easy to field service. Coil is thoroughly factory tested under high pressure to insure leakproof construction. The evaporator coil is face split with separate circuits. Each circuit has its separate expansion valve, compressor and refrigerant charge.

Condenser Fan(s) — CHA16-823 and CHA16-953 are equipped with a single fan. CHA16-1353-1603-1853-2553-2753 have two. Direct drive fan(s) draw large air volumes uniformly through condenser coils and discharges it vertically. Fan orifice design and low fan tip speed keeps operating sound level at a minimum. Uniform air flow through the coil results in high refrigerant cooling capacity. Fan motor is permanently lubricated and overload protected. Motor is resiliently mounted. Corrosion resistant PVC coated steel wire fan guard(s) are furnished.

Powerful Supply Air Blower — Belt drive centrifugal blower delivers large air volume efficiently and with minimum power consumption. Blower wheel is heavy duty, with forward curved blades and double inlet. Wheel is statically and dynamically balanced to eliminate vibration and designed to give maximum air delivery. Bearings are heavy duty, self aligning, permanently sealed and lubricated. Design of motor mounting base permits quick and simple motor changeover, belt tension adjustment or belt changing. Adjustable motor pulley allows for variable speed adjustments. Motor is overload protected. See specifications table for motors and drives available.

Dependable Compressors — Rugged and reliable compressors are hermetically sealed, suction cooled and overload protected. CHA16-823, -953, -1353, -1603 (2nd stage only) and -1853 units have internal pressure relief valve. Compressors are internally protected from excessive current and temperature. Crankcase heaters are furnished on all compressors. CHA16-823 thru -1603 and CHA16-2553 & -2753 units have two compressors and CHA16-1853 unit has three. Compressor monitor (non-adjustable) prevents compressor operation when outdoor temperature is below 40°F (4°C). In addition, the compressors are installed on resilient rubber mounts in the unit, assuring quiet and vibration free operation.

Air Filters — Disposable frame type two inch (51 mm) thick commercial grade filters are furnished as standard. Filters are readily accessible for service. See dimension drawings. Filter rack is designed to accept one inch (25 mm) thick cleanable filters.

Optional Bottom Power Entry Kit (CHA16-823, 953, 1353 & 1603 Models Only) — Factory or field installed kit LB-55757CA (34G70) is provided for bottom power entry into the unit within the confines of the roof mount-ing frame. Kit contains wiring junction box with cover 6" x 8" x 10" (152 mm x 203 mm x 254 mm), 78 inch (2.0 m) length of armored cable and necessary installing hardware. Galvanized steel junction box with prepunched mounting holes and electrical knockouts installs on electrical inlet openings located in the unit base. Kit must be ordered extra. See basic unit dimension drawing. Furnished as standard on the CHA16-1853 thru -2753 model.

Optional Low Ambient Control Kit — System will operate satisfactorily down to 45°F (7°C) outdoor air temperature without additional controls. If air conditioning operation is required at low ambients a field installed low ambient kit can be added enabling the unit to operate down to 30°F (-1°C). Kits must be ordered extra. See Optional Accessories tables.

Optional RMF16 Roof Mounting Frame — Sturdy mounting frame mates to the single package unit and provides an automatic weather sealed rooftop installation. Shipped knocked down for ease of shipping and handling it is easily field assembled. A nailer strip is secured to the frame sides to facilitate flashing. Approved by National Roofing Contractors Association.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Optional RMF16U-26/95 Universal Roof Mounting Frame (For CHA16-823 & -953 Models Only) — Mounting frame mates to the single package unit and provides a totally weather sealed rooftop installation. Shipped knocked down for ease of shipping and handling, it is easily field assembled. A nailer strip is secured to the frame sides to facilitate flashing. Optional DK16U-95 Duct Kit is available and must be ordered extra. Kit contains duct and unit support channels. See dimension drawing.

Optional REMD16M Economizer Dampers — Economizer consists of: mechanically linked recirculated air dampers and outdoor air dampers, damper motor and controls. Economizers are shipped factory wired and only require plug-in connection. Formed low leakage (less than 3%) dampers rotate smoothly in nylon bearings. Outdoor air dampers are equipped with stainless steel seals for minimum air leakage. The positioning of the dampers is accomplished with a 24 volt fully modulating spring return damper motor with adjustable minimum damper position switch. Damper motor is controlled by the room thermostat, mixed air controller and solid-state adjustable outdoor air enthalpy control. The enthalpy control allows for 0 to 100% outdoor air (first stage of cooling) to be used for “free cooling” when outdoor humidity and temperature are acceptable. Additionally, an integrated economizer cycle can be accomplished by allowing the outside air dampers to remain open, continuing to admit outside air, and cycling the compressors to provide dehumidification and additional cooling, as needed. The integrated economizer cycle uses only the amount of mechanical cooling necessary. Two cleanable polyurethane media frame filters are furnished for extra air filtering and bird screen protection.

REMD16M-95, 135 & 160 are available for down-flo applications only. Economizer cabinet is constructed of heavy gauge galvanized steel with a powder enamel paint finish electrostatically bonded to the metal and completely insulated with thick fiberglass insulation. Economizer cabinet field installs on the unit cabinet. Provisions have been made in the economizer cabinet for easy field installation of optional GED16 gravity exhaust dampers. See dimension drawings.

REMD16M-185 & -300 are available for down-flo or horizontal applications. Factory or field installed damper assembly slides in cavity provided in unit cabinet. Outdoor air hood field installs over outdoor air dampers external to the unit. Gravity exhaust dampers are also furnished for field installation. See dimension drawings. Horizontal applications require Optional Horizontal Supply and Return Air Kit for duct connection to unit. See Optional Accessories tables.

Optional PED16 Power Exhaust Fans (CHA16-1853, -2553 & -2753 Units Only) — Fans field install on REMD16M-185-300 economizer in down-flo applications and must be ordered extra. Fans provide pressure relief and are interlocked to run when return air dampers are closed and supply air blowers are operating. Motors are overload protected. See dimension drawing.

Optional EMDH16M Horizontal Economizer Dampers (CHA16-823, 953, 1353 & 1603 Units Only) — The EMDH16M horizontal economizer cabinet section contains recirculated air dampers, outdoor air dampers, damper motor and controls. Economizer section field installs on the unit cabinet. Outdoor air hood is shipped separately and is field installed. Economizer is factory assembled and wired and only requires field plug-in connection. Cabinet is constructed of heavy gauge galvanized steel with a powdered enamel finish electrostatically bonded to the metal. Completely insulated with thick fiberglass insulation. Recirculated damper section of cabinet has flanged air openings for ease of duct connection. Formed low leakage (less than 3%) dampers rotate smoothly in nylon bearings. Outdoor air damper blades are equipped with stainless steel seals for minimum air leakage. The positioning of the dampers is accomplished with a 24 volt fully modulating spring return damper motor with adjustable minimum positioner. Damper motor is controlled by the room thermostat, mixed air controller and solid-state adjustable outdoor air enthalpy control. The enthalpy control allows for 0 to 100% outdoor air (first stage of cooling) to be used for “free cooling” when outdoor humidity and temperature are acceptable. Additionally, an integrated economizer cycle can be accomplished by allowing the outside air dampers to remain open, continuing to admit outside air, and cycling the compressors to provide dehumidification and additional cooling as needed. The integrated economizer cycle uses only the amount of mechanical cooling necessary. Two cleanable polyurethane media frame filters are furnished for extra air filtering and bird screen protection. See dimension drawing. Provisions have been made in the economizer cabinet for easy field installation of optional GED16 gravity exhaust dampers. Requires Optional Horizontal Supply and Return Air Kit for duct connection to unit. See Optional Accessories tables.

Optional Differential Enthalpy Control — A solid-state return air enthalpy sensor is available to be used with the outdoor air enthalpy control to determine which air has the lowest enthalpy. The air with the lowest enthalpy will be selected. Return air enthalpy sensor (54G44) field installs in the return air section and must be ordered extra.

Optional GED16 Gravity Exhaust Dampers — For use with REMD16M and EMD16M-95, 135 & 160 economizer damper sections and must be ordered extra. Furnished as standard with REMD16M-185 & -300. Openings are provided in the economizer cabinet for easy field installation. See dimension drawing. Two exhaust dampers are furnished for installation on the economizer section. Rainhoods are also furnished for field installation on the 95/135/160 model. Neoprene coated fiberglass dampers prevent blow-back and outdoor air infiltration during off cycle. Bird screen is provided. Exhaust dampers are field installed on the return air duct adjacent to the unit in horizontal applications with REMD16M-185 & -300.

Optional OAD16 Outdoor Air Damper Section — Damper section with factory installed and linked dampers field installs external to the unit cabinet and must be ordered extra. Interchangeable unit cabinet panel with opening for installation is furnished with damper for down-flo air applications. Two-piece cabinet panel allows access to controls. See unit dimension drawing for location. Damper section field installs in return air duct for horizontal supply and return air applications. A cleanable polyurethane media frame type air filter is furnished and factory installed. Dampers allow a fixed amount of outdoor air into the system and can be adjusted for air quantities up to 25%. Damper section is available for manual or automatic operation. Manually operated dampers may be adjusted and locked in place for the amount of air desired. Automatic operation is available with the addition of a spring return 3 position damper actuator. Actuator only requires plug-in connection for operation. Automatic OAD16 Damper Kit (35G21) must be ordered extra.

Optional Horizontal Supply & Return Air Kit — Provides horizontal supply and return air duct connection to the side of the unit. Kit contains duct connection flanges for field installation on the supply and return air openings, screws for installing, two filler panels for supply and return air openings in the unit base not being used and a filter access panel to replace the existing cabinet panel above the return air opening. Kit must be ordered extra. See Optional Accessories tables.

Optional RTD11 Combination Ceiling Supply and Return Diffuser Assembly — Step-down mount diffuser extends slightly below ceiling level and discharges conditioned air out through grilles on all four sides. Aluminum grilles are fitted with double deflection louvers for precise directional control of air flow. Return air enters through the large center grille. Assembly also includes insulated diffuser box with flanges for ease of duct connection, hanging rings for suspending and interior transition to insure low static and even air flow on all four sides. Transition is sealed internally to prevent recirculation. Diffuser assembly is completely factory assembled. Diffuser readily adapts to T-bar ceiling grids and plaster ceilings. Must be ordered extra, see Optional Accessories tables.

Optional FD11 Combination Ceiling Supply and Return Diffuser Assembly — Flush mount diffuser installs almost flush with the ceiling level and discharges conditioned air out through fixed blade louvers on all four sides. Fixed blade louvers insure that air flow will be evenly distributed. Return air enters through large center grille. Assembly also includes insulated diffuser box with flanges for ease of duct connections, support hanger eyelets at the top corners for secure installation and interior transition to insure low static and even air flow on all four sides. Transition is sealed internally to prevent recirculation. Diffuser assembly is completely factory assembled. Diffuser readily adapts to T-bar ceiling grids and plaster ceilings. Must be ordered extra, see Optional Accessories tables.

Optional SRT16 Supply and Return Transitions — Transitions field install in the roof mounting frame and provide segregated and simple duct connections to supply and return diffuser. Completely insulated galvanized steel transitions have flanges for ease of duct connection. Duct from the transitions to the diffuser is not furnished and must be provided by installer. Transitions are completely factory assembled and easily field installed in the roof mounting frame with minimum costs and labor requirements. Must be ordered extra, see Optional Accessories tables.

- SRT16-95 used with the RMF16-95 with CHA16-823 & -953.
- SRT16-135 used with the RMF16-135/160 with CHA16-1353.
- SRT16-160 used with the RMF16-135/160 with CHA16-1603.
- SRT16-185 used with the RMF16-185 with CHA16-1853.
- SRT16-300 used with the RMF16-300 with CHA16-2553 & CHA16-2753 units.

OPTIONAL TEMPERATURE CONTROL SYSTEMS

Optional Electro-Mechanical Thermostat and Controls System — Two stage heat and two stage cool thermostat (13F06) with dual temperature selector levers. Uses subbase (13F17) with manual system switch (Off-Heat-Auto-Cool) and fan switch (Auto-On) or non-switching subbase (13F16). SP11 Remote Status Panel (12F83) or SSP11 Remote Switching Status Panel (12F84) is available for observing and controlling unit operation from the conditioned area. A SSP11 Relay Kit (41G39) is required for switching functions of the Switching Status Panel. Kit must be ordered extra and field installed. For nite operation the following are available. Single stage heating thermostat (13F12) and non-switching subbase (13F16). For applications without the economizer a Nite Kit (39G74), containing a plug-in relay, is required to override the operation of day thermostat. Two time clocks are available for the system. Automatic 7 day time clock programs a weekly schedule. Any day or days can be omitted. Each day of the week is clearly separated from every other day. Day and nite periods are distinctly marked. When the settings have been made the clock will turn the system on and off. Spaced in 2 hour increments and equipped with battery back-up in case of power outage. 24 hour nite setback time clock automatically programs the system to keep conditioned area at a more conservative temperature level (nite setback thermostat setting) during a period of vacancy. Spaced in 15 minute increments and equipped with battery back-up in case of power outage. See Price Book for time clock selection and catalog numbers. Also available is a Warm Up Kit (39G77) which holds the economizer outdoor air dampers closed during nite heat operation and morning warm up. Cycle Control (42H51) is required with CHA16-823 thru -1603 units. Furnished on CHA16-1853 thru -2753 models. Control, with plug-in connections, provides a timed-on and timed-off function to prevent compressor short-cycling. See Flow Chart on page 5.

Optional W973 Control System — Logic Panel (39G76) controls the operation of the economizer dampers and the stages of cooling and heating in response to a signal from the thermostat. To maintain stable temperatures the logic panel balances the conditioned space thermostat demand against the system output. System output is measured by a discharge sensor (furnished with the logic panel) located in the discharge air duct of the unit. The combined demand and output signals from the sensor determines economizer damper position and number of cooling or heating stages energized. The logic panel field installs in the unit or in a remote panel located within the conditioned space. W973 Plug-In Relay (furnished with the logic panel) is required to adapt the control system to the unit. Two thermostats are available for the system. Dual set point room thermostat (25C52) or transmitter (25C51) with a choice of remote sensors. Both have separate heating-cooling locking set points concealed under the cover and do not have indicating thermometer. The room thermostat has integral sensor and installs in the conditioned space. The transmitter installs outside the conditioned space with a Room Temperature Sensor (58C92) in the conditioned area or a Return Air Temperature Sensor (27C40) in the return air duct of the unit. Thermostat and transmitter are furnished with a wiring wallplate. Also available is switching subbase (58C93) with system selector switch (Heat-Auto-Cool-Off) and fan switch (Auto-On). SP11 Remote Status Panel (12F83) or SSP11 Remote Switching Status Panel (12F84) is available for observing and controlling unit operation from the conditioned area. Two time clocks are available for the system. Automatic 7 day time clock programs a weekly schedule. Any day or days can be omitted. Each day of the week is clearly separated from every other day. Day and nite periods are distinctly marked. When the settings have been made the clock will turn the system on and off. Spaced in 2 hour increments and equipped with battery back-up in case of power outage. 24 hour nite setback time clock automatically programs the system to keep the conditioned area at a more conservative temperature level (nite set back thermostat setting) during a period of vacancy. Spaced in 15 minute increments and equipped with battery back-up in case of power outage. See Price Book for time clock selection and catalog numbers. Also available is a Warm Up Kit (39G77) which holds the economizer outdoor air dampers closed during nite heat operation and warm up. See Flow Chart on page 5.

Optional W7400 Control System — Control Module (74G11) controls the operation of the economizer dampers and the stages of heating and cooling. Controlling input signals are setpoint, space temperature sensor and time-of-day scheduling from the thermostat. The control module balances the space temperature signal against the number of stages operating for system output. System output is measured and updated by monitoring the actual space temperature deviation from set point, and the rate of change of the space temperature. The control module field installs in the unit or in a remote panel located within the conditioned area. Two thermostats are available for the system. A room thermostat (36G63) with integral sensor that installs in the conditioned space or a remote thermostat (36G65) that installs outside the conditioned space with a Room Temperature Sensor (58C92) in the conditioned area or a Return Air Temperature Sensor (27C40) in the return air duct of the unit. Both thermostats are equipped with touch sensitive keyboard, automatic switching from heat to cool, no anticipator, zero droop, indicator lights, hour/day programming, override capabilities, time readout, stage status indicators, battery back-up and wiring wallplate. W7400 Plug-In Relay (furnished with the control module) provides separate set points for the economizer dampers and DX cooling. SP11 Remote Status Panel (12F83) is available for checking unit operation within the conditioned area. See Flow Chart on page 6.

Optional T8600 and T8621 Electronic Thermostat Control Systems — All thermostats feature, built-in time delays, system switch (Heat-Off-Cool-Auto), fan switch (Auto-On) for continuous or intermittent blower operation, touch sensitive keyboard and LCD display with time, day, status and temperature readout in °F or °C. T8600 thermostats have a wiring wallplate and 5-1-1 day programming for weekdays and Saturday/Sunday schedules. T8621 thermostats have a switching subbase and full independent 7 day programming. Both thermostats have four different time and temperature settings per day. T8600 has two LED's to indicate Energy Savings (Setback) and System "On". T8621 has one LED to indicate System "On". Both thermostats have instant override capabilities for skipping current program, running previous program, temporarily raising or lowering temperature for current program or overriding program indefinitely. Three "AAA" alkaline batteries protect programs in case of power failure. See below for catalog nos. and descriptions.

Model No.	Catalog No.	Description
T8600C1055	71E91	Man. Change 1 htg. 5-1-1 day
T8600A1018	72E02	Man. Change 1 htg./1 clg. 5-1-1 day
T8600D1012	72E03	Auto Change 1 htg./1 clg. 5-1-1 day
T8621A7010	75E25	Auto Change 1 htg./1 clg. 7 day
T8621D7014	75E27	Auto Change 2 htg./2 clg. 7 day

SP11 Remote Status Panel (12F83) is available for checking unit operation from within the conditioned area. See flowchart on page 6.

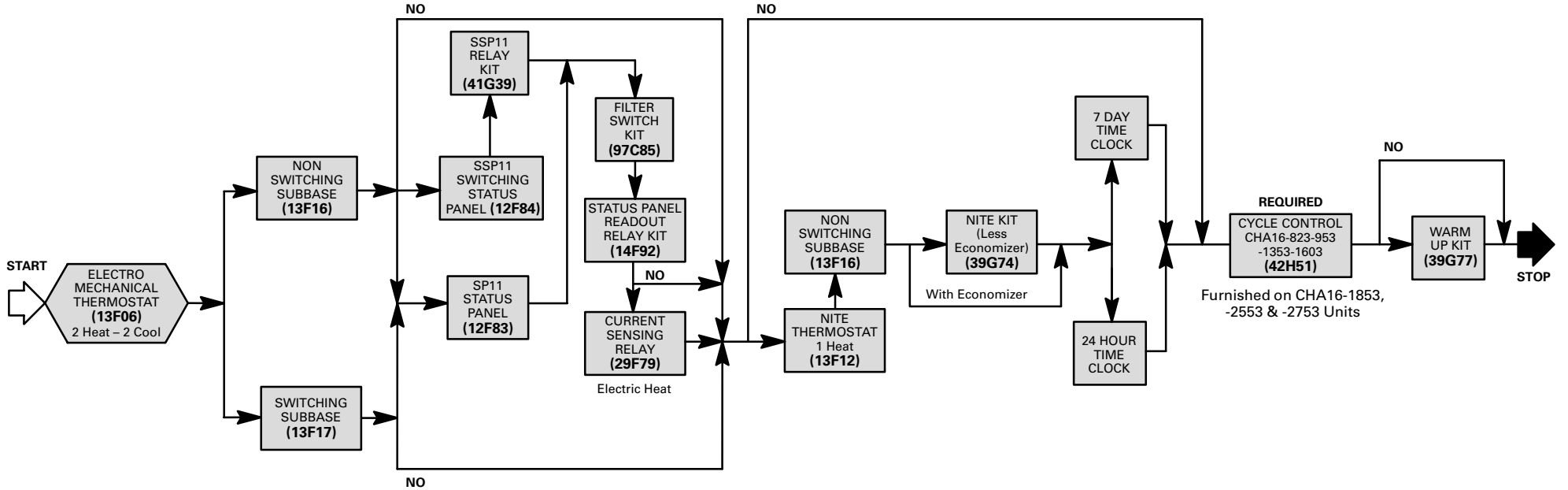
Optional T7300 Thermostat and Control System — T7300 programmable thermostat (81G59) has internal or optional remote temperature sensing, touch sensitive keyboard, automatic switching from heat to cool, °F or °C temperature readout, no anticipator, droop/ no droop selection, indicator LED's, hour/day programming, override capabilities, time readout, stage status indicators, operational mode readout and battery back-up. T7300 thermostat has a choice of subbases. Switching subbase (81G60) features selectable output staging up to two heat and two cool, indicator LED's, manual system switch (Heat-Off-Auto-Cool) and fan switch (Auto-On). Switching subbase (13H76) features selectable output staging up to three heat and two cool, indicator LED's, manual system switch (Auto-Cool-Off-Heat-Emergency Heat) (Heat Pump Only) and fan switch (Auto-On). Both subbases also features an auxiliary relay output which controls economizer operation during occupied and unoccupied periods. Also available is a Room Temperature Sensor (58C92) or Room Temperature Sensor (86G67) with 3-hour override and setpoint adjustment for installation in the conditioned area and a Return Air Temperature Sensor (27C40) for installation in the return air duct of the unit. SP11 Status Panel (12F83) is available for checking unit operation from within the conditioned area. See Flow Chart on page 6.

Optional SP11 Remote Status Panel — The operation of the unit can be checked at a glance on the Remote Status Panel (12F83) conveniently located within the conditioned area. Signal lights on the panel indicate "Cool Mode", "Heat Mode", "Compressor 1", "Compressor 2", "No Heat" and "Filter". The Cool Mode signal light is green when lit and indicates economizer damper operation or DX cooling operation for units without the economizer. Heat Mode light is green and reflects heating operation. Compressor 1 and Compressor 2 lights are green when operating and will turn red if there is an operational malfunction. The No Heat and Filter lights will show red and indicate a requirement for service. The following field installed controls are required for use with the status panel and must be ordered extra. Filter Switch Kit (97C85) is required for operation of the filter light. Status Panel Readout Relay Kit (14F92) is required to interface status panel with unit operation. Current Sensing Relay (29F79) is required with electric heat for operation of the No Heat light.

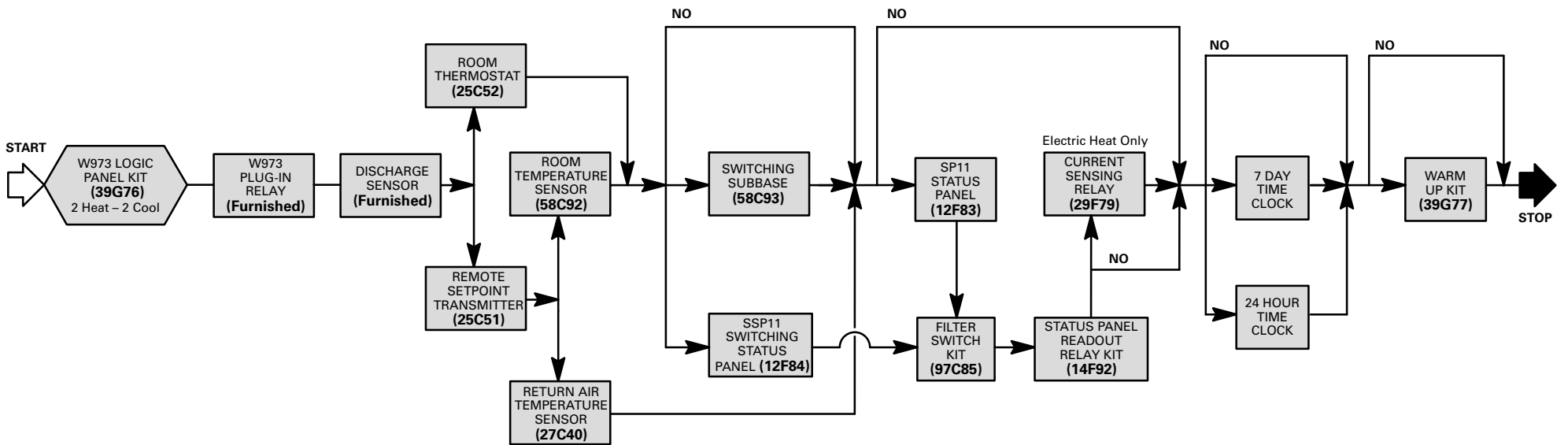
Optional SSP11 Remote Switching Status Panel — The operation of the unit can be controlled and observed on the Switching Status Panel (12F84) conveniently located within the conditioned area. Signal lights on the panel indicate "Cool Mode", "Heat Mode", "Compressor 1", "Compressor 2", "No Heat" and "Filter". The Cool Mode signal light is green when lit and indicates economizer damper operation or DX cooling operation for units without the economizer. Heat Mode light is green and reflects heating operation. Compressor 1 and Compressor 2 lights are green when operating and will turn red if there is an operational malfunction. The No Heat and Filter lights will show red and indicates a requirement for service. Additionally, panel is equipped with a system selector switch (Off — Heat — Auto — Cool — Emergency Heat) (Heat Pump Only), fan switch (Auto — On) and after hours timer. Fan switch provides a choice of intermittent (Auto) or continuous (On) blower operation. Manually operated after hours timer (0 to 12 hours) overrides night setback controls providing normal operation for time period set. A momentary push button switch is used to initiate the timer period. The following field installed controls are required for use with the status panel and must be ordered extra. Filter Switch Kit (97C85) is required for operation of the filter light. Status Panel Readout Relay Kit (14F92) is required to interface status panel with unit operation. Current Sensing Relay (29F79) is required with electric heat for operation of the No Heat light.

TEMPERATURE CONTROL SELECTION FLOWCHARTS

OPTIONAL ELECTRO-MECHANICAL THERMOSTAT

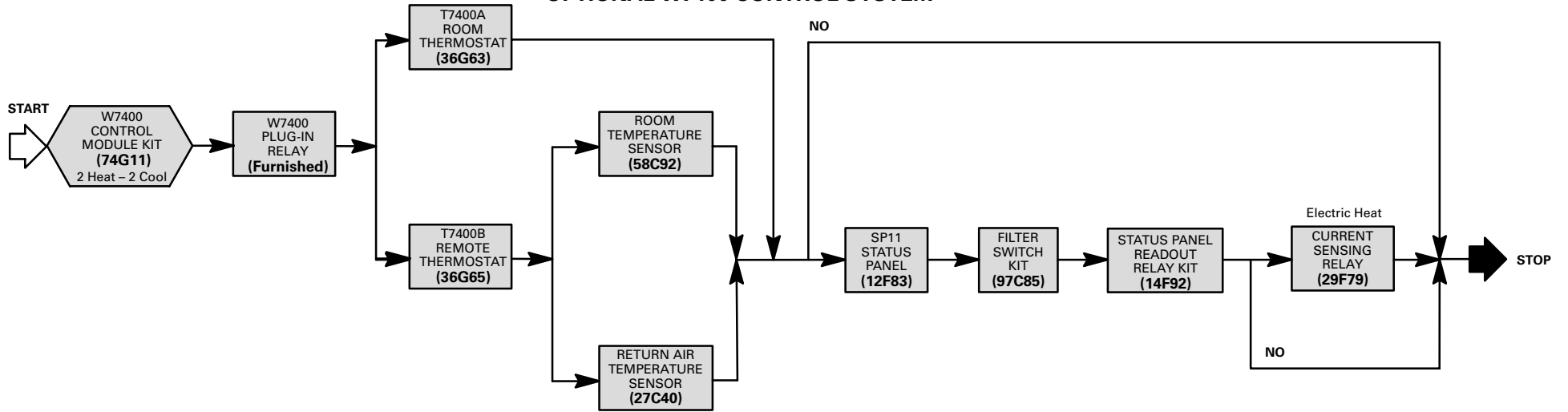


OPTIONAL W973 CONTROL SYSTEM

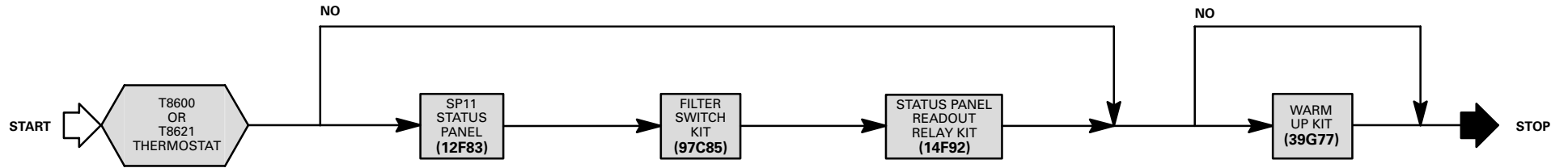


TEMPERATURE CONTROL SELECTION FLOWCHARTS

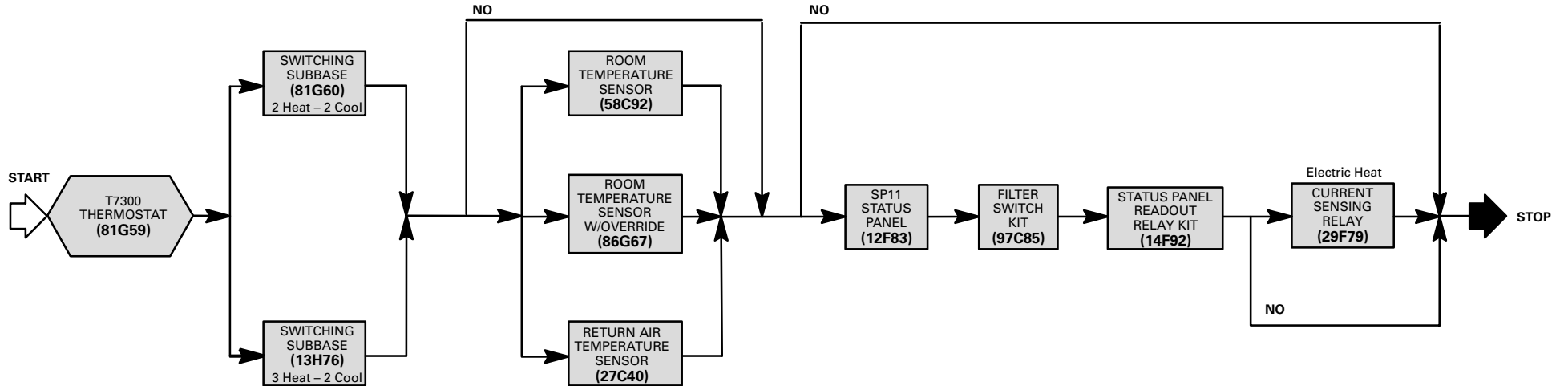
OPTIONAL W7400 CONTROL SYSTEM



OPTIONAL T8600/T8621 THERMOSTAT CONTROL SYSTEM



OPTIONAL T7300 CONTROL SYSTEM



SPECIFICATIONS – CHA16-823 & CHA16-953

Model No.		CHA16-823	CHA16-953
*ARI Standard 210/240 Ratings	Total cooling capacity – btuh (kW)	73,000 (21.4)	88,000 (25.8)
	Total unit watts	8,110	9,780
	EER (Btuh/Watts)	9.0	9.0
★ARI Standard 270 SRN (Bels)		8.6	8.6
Refrigerant (22) Charge	Stage 1	5 lbs. 10 oz. (2.55 kg)	6 lbs. 4 oz. (2.83 kg)
	Stage 2	5 lbs. 2 oz. (2.32 kg)	5 lbs. 14 oz. (2.66 kg)
Evaporator Blower and Drive Selection	Blower wheel nom. dia. x width – in. (mm)		12 x 12 (305 x 305)
	**Factory Installed Drives	Nominal motor horsepower (W)	2 (1492)
		Voltage & phase	208/230/460v or 575v-3ph
		RPM range	740 – 1010
Evaporator Coil	Net face area – sq. ft. (m2)		7.75 (0.72)
	Tube diameter – in. (mm) & No. of rows		3/8 (9.5) – 3
	Fins per inch (m)		14 (551)
Condenser Coil	Net face area – sq. ft. (m2)		15.67 (1.46)
	Tube diameter – in. (mm) & No. of rows		3/8 (9.5) – 2
	Fins per inch (m)		20 (787)
Condenser Fan	Diameter – in. (mm) & No. of blades		24 (610) – 4
	Air volume – cfm (L/s)		4800 (2255)
	Motor horsepower (W)		1/2 (373)
	Motor watts		620
Condensate drain size mpt – in. (mm)		3/4 (19)	
No. & size of filters – in. (mm)		(4) 16 x 20 x 2 (406 x 508 x 51)	
Net weight of basic unit – lbs. (kg) (1 Package)		765 (347)	
Electrical characteristics		208/230v to 575v – 60 hertz – 3 phase	

★Sound Rating Number in accordance with ARI Standard 270.

*Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.

**Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required.

OPTIONAL ACCESSORIES CHA16-823 & CHA16-953 (Must Be Ordered Extra)

Unit Model No.		CHA16-823 & CHA16-953	
Electric Heat	Model No.	ECH16-82/95	
	kW input range		10-15-20-30-40
	*Fuse Block	208/230 volt	61H86 (-823) 61H83 (-953)
		460 volt	61H87 (-823) 61H84 (-953)
575 volt		61H88 (-823) 61H85 (-953)	
Roof Mounting Frame – (Net Weight)		RMF16-95 (107 lbs.) (49 kg) (32G90)	
Universal Roof Mounting Frame – (Net Weight)		RMF16U-26/95 (22 lbs.) (10 kg) (94H90)	
Duct Kit for Universal Roof Mounting Frame – (Net Weight)		DK16U-95 (10 lbs.) (5 kg) (94H92)	
Economizer Dampers – (Net Weight) No. & size of filters – in. (mm)		REMD16M-95 (118 lbs.) (54 kg) (74G22) (2) 16 x 25 x 1 (406 x 635 x 25)	
Horizontal Economizer Dampers – (Net Weight) No. & size of filters – in. (mm)		EMDH16M-95 (120 lbs.) (54 kg) (24H03) (2) 16 x 25 x 1 (406 x 635 x 25)	
Exhaust Dampers – (Net Weight) (Net Face Area)		GED16-95/135/160 (5 lbs.) (2 kg) (0.43 sq. ft.) (0.04 m ²) (34G80)	
Differential Enthalpy Control		54G44	
Horizontal Supply and Return Air Kit (LB-55756BA) – (Net Weight)		34G71 (30 lbs.) (14 kg)	
Bottom Power Entry Kit (LB-55757CA) – (Net Weight)		34G70 (12 lbs.) (5 kg)	
Ceiling Supply and Return Air Diffusers (Net Weight)	Step-Down	RTD11-95 (88 lbs.) (40 kg) (29G04)	
	Flush	FD11-95 (75 lbs.) (34 kg) (29G05)	
	Transition	SRT16-95 (29 lbs.) (13 kg) (33G96)	
Outdoor Air Dampers – (Net Weight) No. & size of filters – in. (mm)		OAD16-95 (41 lbs.) (19 kg) (35G26) (1) 16 x 20 x 1 (406 x 508 x 25)	
Automatic OAD16 Damper Kit – (Net Weight)		35G21 (7 lbs.) (3 kg)	
Low Ambient Control Kit (LB-57113BG)		15J80	
Timed-Off Control (2) LB-50709BA		40G20	

*Must be ordered extra. Factory installed heaters will have fuse block installed. Fuse block must be field installed in field installed heaters.

SPECIFICATIONS — CHA16-1353 & CHA16-1603

Model No.		CHA16-1353	CHA16-1603
*ARI Standard 210/240 Ratings or Standard ☆360 Ratings	Total cooling capacity — btuh (kW)	119,000 (34.9)	☆142,000 (41.6)
	Total unit watts	13,220	16,820
	EER (Btuh/Watts)	9.0	8.50
	Integrated Part Load Value	----	8.8
★ARI Standard 270 SRN (Bels)		8.8	----
Refrigerant (22) Charge	Stage 1	7 lbs. 4 oz. (3.29 kg)	10 lbs. 12 oz. (4.88 kg)
	Stage 2	7 lbs. 4 oz. (3.29 kg)	7 lbs. 12 oz. (3.52 kg)
Evaporator Blower and Drive Selection	Blower wheel nom. dia. x width — in. (mm)		15 x 15 (381 x 381)
	**Factory Installed Drives	Nominal motor horsepower (W)	2 (1492)
		Voltage & phase	208/230/460v or 575v-3ph
		RPM range	730 — 950
	**Optional Factory Installed Drives	Nominal motor horsepower (W)	3 (2238)
		Voltage & phase	208/230/460v-3ph
RPM range		730 — 950	
Evaporator Coil	Net face area — sq. ft. (m ²)		9.46 (0.88)
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 4
	Fins per inch (m)		12 (472)
Condenser Coil	Net face area — sq. ft. (m ²)		20.0 (1.86)
	Tube diameter — in.(mm) & No. of rows		3/8 (9.5) — 2
	Fins per inch (m)		20 (787)
Condenser Fans	Diameter — in.(mm) & No. of blades		(2) 20 (508) — 5
	Air volume — cfm (L/s)		6400 (3020) total
	Motor horsepower (W)		(2) 1/3 (224)
	Motor watts		875 (total)
Condensate drain size mpt — in. (mm)		3/4 (19)	3/4 (19)
No. & size of filters — in. (mm)		(4) 16 x 25 x 2 (406 x 635 x 51)	(4) 20 x 25 x 2 (508x 635 x 51)
Net weight of basic unit — lbs. (kg) (1 Package)		1055 (479)	1140 (517)
Electrical characteristics		208/230v to 575v — 60 hertz — 3 phase	

★Sound Rating Number in accordance with ARI Standard 270.

* Rated in accordance with ARI Standard 210/240 or ☆360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.

**Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required.

OPTIONAL ACCESSORIES — CHA16-1353 & CHA16-1603 (Must Be Ordered Extra)

Unit Model No.		CHA16-1353	CHA16-1603	
Electric Heat	Model No.	ECH16-135/160	ECH16-135/160	
	kW input range		15-20-30-40-50	
	*Fuse Block	208/230 volt	72G10	72G13
		460 volt	72G11	72G14
575 volt		72G12	72G15	
Roof Mounting Frame — (Net Weight)		RMF16-135/160 (119 lbs.) (54 kg) (32G91)		
Economizer Dampers	Model No. Net Weight	REMD16M-135 (74G23) (125 lbs.) (57 kg)	REMD16M-160 (51G25) (140 lbs.) (64 kg)	
	No. & size of filters — in. (mm)		(2) 16 x 25 x 1 (406 x 635 x 25)	
Horizontal Economizer Dampers	Model No. Net Weight	EMDH16M-135 (24H04) (137 lbs.) (62 kg)	EMDH16M-160 (24H05) (147 lbs.) (67 kg)	
	No. & size of filters — in. (mm)		(2) 16 x 25 x 1 (406 x 635 x 25)	
Exhaust Dampers — (Net Weight) (Net Face Area)		GED16-95/135/160 (5 lbs.) (2 kg) (0.43 sq. ft.) (0.04 m ²) (34G80)		
Differential Enthalpy Control		54G44		
Horizontal Supply and Return Air Kit — (Net Weight)		LB-55756BB (35 lbs.) (16 kg) (35G42)	LB-55756BC (42 lbs.) (19 kg) (51G27)	
Bottom Power Entry Kit (LB-55757CA) — (Net Weight)		34G70 (12 lbs.) (5 kg)		
Ceiling Supply and Return Air Diffusers (Net Weight)	Step-Down	RTD11-135 (125 lbs.) (57kg) (29G05)	RTD11-185 (392 lbs.) (178 kg) (29G06)	
	Flush	FD11-135 (95 lbs.) (43 kg) (29G09)	FD11-185 (289 lbs.) (131 kg) (29G10)	
	Transition	SRT16-135 (38 lbs.) (17 kg) (97H10)	SRT16-160 (70 lbs.) (32 kg) (97H11)	
Outdoor Air Dampers — (Net Weight) No. & size of filters (in.)	OAD16-135 (43 lbs.) (20 kg) (35G25) (1) 16 x 20 x 1 (406 x 508 x 25)	OAD16-160 (45 lbs.) (20 kg) (51G30) (1) 16 x 20 x 1 (406 x 508 x 25)		
Automatic OAD16 Damper Kit — (Net Weight)		35G21 (7 lbs.) (3 kg)		
Low Ambient Control Kit		LB-57113BH (16J86)	LB-57113BJ (16J87)	
Timed-Off Control (2) LB-50709BA		40G20		

*Must be ordered extra. Factory installed heaters will have fuse block installed. Fuse block must be field installed in field installed heaters.

SPECIFICATIONS – CHA16-1853

Model No.		CHA16-1853	
*ARI Standard 360 Ratings	Total cooling capacity – btuh (kW)	178,000 (52.2)	
	Total unit watts	20,300	
	EER (Btuh/Watts)	8.8	
	Integrated Part Load Value	9.6	
Refrigerant (22) Charge	Stage 1	7 lbs. 9 oz. (3.43 kg)	
	Stage 2	7 lbs. 9 oz. (3.43 kg)	
	Stage 3	7 lbs. 9 oz. (3.43 kg)	
Evaporator Blower and Drive Selection	Blower wheel nom. diameter x width – in. (mm)	18 x 18 (457 x 457)	
	**Factory Installed Drives	Nominal motor horsepower (W)	3 (2238)
		Voltage & phase	208/230/460v or 575v-3ph
		RPM range	610 – 780
	**Optional Factory Installed Drives	Nominal motor horsepower	5 (3730)
		Voltage & phase	208/230/460v or 575v-3ph
RPM range		770 – 980	
Evaporator Coil	Net face area – sq. ft. (m ²)	16.0 (1.49)	
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 3	
	Fins per inch (m)	13 (512)	
Condenser Coil	Net face area – sq. ft. (m ²)	30.5 (2.83)	
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 2	
	Fins per inch (m)	20 (787)	
Condenser Fans	Diameter – in. (mm) & No. of blades	(2) 26 (660) – 4	
	Air volume – cfm (L/s)	12,000 (5665) total	
	Motor horsepower (W)	(2) 1 (746)	
	Motor watts	2200 (total)	
Condensate drain size mpt – in. (mm)		1 (25)	
No. & size of filters – in. (mm)		(4) 24 x 24 x 2 (610 x 610 x 51)	
Net weight of basic unit – lbs. (kg) (1 Package)		1581 (717)	
Electrical characteristics		208/230v to 575v – 60 hertz – 3 phase	

*Rated in accordance with ARI Standard 360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure.

**Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required.

OPTIONAL ACCESSORIES – CHA16-1853 (Must Be Ordered Extra)

Unit Model No.		CHA16-1853	
Electric Heat	Model No.	ECH16-185/275	
	kW input range	15-30-45-60-75	
	*Fuse Block	208/230 volt – 3 hp (2238 W) motor	29H26
		208/230 volt – 5 hp (3730 W) motor	29H27
		460 volt	29H31
		575 volt – 3 hp (2238 W) motor	29H28
	575 volt – 5 hp (3730 W) motor	29H29	
Roof Mounting Frame – (Net Weight)		RMF16-185 (127 lbs.) (12H05)	
Economizer Dampers with Gravity Exhaust– (Net Weight)		REMD16M-185 (160 lbs.) (40H14)	
No. & size of filters – in. (mm)		(2) 25 x 25 x 1 (635 x 635 x 25)	
Differential Enthalpy Control		54G44	
Power Exhaust Fans (Down-Flo Only)	Model No. (Net Weight)	208/230 volt	PED16-185 (60 lbs.) (27 kg) (12H16)
		460 volt	PED16-185 (60 lbs.) (27 kg) (12H17)
		575 volt	PED16-185 (60 lbs.) (27 kg) (12H18)
	Diameter – in. (mm) & No. of Blades		(2) 16 (406) – 5
	Total air volume – cfm (L/s)		4200 (1980)
	Motor Horsepower (W)		(2) 1/4 (187)
	Watts Input (total)		500
Horizontal Supply and Return Air Kit (LB-55756BD) – (Net Weight)		12H04 (52 lbs.) (24 kg)	
Ceiling Supply and Return Air Diffusers (Net Weight)	Step-Down	RTD11-185 (392 lbs.) (178 kg) (29G06)	
	Flush	FD11-185 (289 lbs.) (131 kg) (29G10)	
	Transition	SRT16-185 (75 lbs.) (34 kg) (97H12)	
Outdoor Air Dampers – (Net Weight)		OAD16-185 (120 lbs.) (54 kg) (12H03)	
No. & size of filters – in. (mm)		(1) 25 x 27 x 1 (635 x 686 x 25)	
Automatic OAD16 Damper Kit – (Net Weight)		35G21 (7 lbs.) (3 kg)	
Low Ambient Control Kit (LB-57113BK)		16J88	

*Must be ordered extra. Factory installed heaters will have fuse block installed. Fuse block must be field installed in field installed heaters.

SPECIFICATIONS – CHA16-2553 & -2753

Model No.		CHA16-2553	CHA16-2753	
*ARI Standard 360 Ratings	Total Cooling Capacity – btuh (kW)	●210,000 (61.5)	†240,000 (70.3)	
	Total Unit Watts	21,400	26,700	
	EER (Btuh/Watts)	●9.8	†9.0	
	Integrated Part Load Value	10.4	9.7	
Refrigerant (22) Charge	Stage 1	18 lbs. 8 oz. (8.39 kg)	19 lbs. 0 oz. (8.62 kg)	
	Stage 2	18 lbs. 8 oz. (8.39 kg)	19 lbs. 0 oz. (8.62 kg)	
Evaporator Blower and Drive Selection	Blower wheel nom. dia. x width – in. (mm)		20 x 18 (508 x 457)	
	Factory Installed **Drives	Nominal motor horsepower (W)	5 (3730)	
		Voltage & phase	208/230/460v or 575v-3ph	
		RPM range	660 – 840	
	Optional Factory Installed **Drives	Nominal motor horsepower (W)	7.5 (5595)	
		Voltage & phase	208/230/460v or 575v-3ph	
RPM range		750 – 905		
Evaporator Coil	Net face area – sq. ft. (m ²)	21.0 (1.95)		
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 3		
	Fins per inch (m)	13 (512)		
Condenser Coil	Net face area – sq. ft. (m ²)	48.5 (4.51)		
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 2		
	Fins per inch (m)	20 (787)		
Condenser Fans	Diameter – in. (mm) & No. of blades	(2) 26 (660) – 4		
	Air volume – cfm (L/s)	14,000 (6605) Total		
	Motor horsepower (W)	(2) 1 (746)		
	Motor watts	2100 (Total)		
Condensate drain size mpt – in. (mm)		(2) 1 (25)		
No. & size of filters – in. (mm)		(6) 20 x 25 x 2 (508 x 635 x 51)		
Net weight of basic unit – lbs. (kg) (1 Package)		2040 (925)	2040 (925)	
Electrical characteristics		208/230v to 575v – 60 hertz – 3 phase		

*Rated in accordance with ARI Standard 360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure.

**Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required.

●208,000 Btuh (60.9 kW) and 9.6 EER at 208 volts.

†238,000 Btuh (69.7 kW) and 8.9 EER at 208 volts.

OPTIONAL ACCESSORIES – CHA16-2553 & -2753 (Must Be Ordered Extra)

Unit Model No.		CHA16-2553 & CHA16-2753		
Electric Heat	Model No.	ECH16-185/275	ECH16-275/300	
	Kw input range	30-45-60-75 90		
	*Fuse Block	208/230 volt	50H27 (5hp) 50H28 (7.5hp)	50H28
		460 volt	50H31	
575 volt		29H31	50H30	
Roof Mounting Frame – (Net Weight)		RMF16-300 (180 lbs.) (82 kg) (41H04)		
Economizer Dampers with Gravity Exhaust – (Net Weight) No. & size of filters – in. (mm)		REMD16M-300 (210 lbs.) (95 kg) (44H47) (3) 20 x 25 x 1 (508 x 635 x 25)		
Differential Enthalpy Control		54G44		
Power Exhaust Fans (Down-Flo Only)	Model No. (Net Weight)	208/230v	PED16-300 (91 lbs.) (41 kg) (44H79)	
		460v	PED16-300 (91 lbs.) (41 kg) (44H80)	
		575v	PED16-300 (91 lbs.) (41 kg) (44H81)	
	Diameter – in. (mm) & No. of Blades		(3) 16 (406) – 5	
	Total air volume – cfm (L/s)		6300 (2975)	
	Motor Horsepower (W)		(3) 1/4 (187)	
Watts Input (total)		750		
Horizontal Supply and Return Air Kit (LB-55756BE) – (Net Weight)		41H23 (60 lbs.) (27 kg)		
Ceiling Supply and Return Air Diffusers (Net Weight)	Step-Down	RTD11-275 (403 lbs.) (183 kg) (29G07)		
	Flush	FD11-275 (363 lbs.) (165 kg) (29G11)		
	Transition	SRT16-300 (120 lbs.) (54 kg) (97H13)		
Outdoor Air Dampers – (Net Weight) No. & size of filters – in. (mm)		OAD16-300 (84 lbs.) (38 kg) (40H47) (1) 26 x 31 x 1 (660 x 787 x 25)		
Automatic OAD16 Damper Kit – (Net Weight)		35G21 (7 lbs.) (3 kg)		
Low Ambient Control Kit (LB-57113BL)		16J89		

*Must be ordered extra. Factory installed heaters will have fuse block installed. Fuse block must be field installed in field installed heaters.

ELECTRICAL DATA — CHA16-823 & -953

Model No.		CHA16-823			CHA16-953		
Line voltage data — 60 hz — 3 phase		208/230v	460v	575v	208/230v	460v	575v
Compressors (2)	Rated load amps — each (total)	11.4/11.4 (22.8)	5.3/5.3 (10.6)	4.6/4.6 (9.2)	14.8/14.1 (28.9)	7.7/7.1 (14.8)	6.4/5.8 (12.2)
	Locked rotor amps — each (total)	66/66 (132.0)	35/35 (70.0)	29/29 (58.0)	130/130 (260.0)	64/64 (128.0)	52/52 (104.0)
Condenser Fan Motor(s)	Full load amps (total)	2.6	1.6	1.2	3.7	1.9	1.6
	Locked rotor amps (total)	5.9	3.3	2.6	7.3	3.7	3.4
Evaporator Blower Motor	Motor Output	hp	2	2	2	2	2
		W	1492	1492	1492	1492	1492
	Full load amps	7.5	3.4	2.7	7.5	3.4	2.7
	Locked rotor amps	41.0	20.4	16.2	41.0	20.4	16.2
Recommended maximum fuse size (amps)		45	20	15	50	25	20
*Minimum Circuit Ampacity		36.0	17.0	15.0	44.0	23.0	19.0
Unit power factor		.88	.88	.88	.88	.88	.88

*Refer to Canadian 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 — CHA16-1353 & -1603

Model No.		CHA16-1353						CHA16-1603		
Line voltage data — 60 hz — 3 phase		208/230v		460v		575v		208/230v	460v	575v
Compressors (2)	Rated load amps — each (total)	17.3/17.3 (34.6)		9.6/9.6 (19.2)		8.3/8.3 (16.6)		27.1/17.9 (45.0)	14.2/10.0 (24.2)	11.2/8.6 (19.8)
	Locked rotor amps — each (total)	150/150 (300.0)		73/73 (146.0)		50/50 (100.0)		183/150 (323.0)	91/73 (164)	73/50 (123.0)
Condenser Fan Motor(s)	Full load amps (total)	2.1/2.1 (4.2)		1.2/1.2 (2.4)		1.0/1.0 (2.0)		3.0/3.0 (6.0)	1.5/1.5 (3.0)	1.2/1.2 (2.4)
	Locked rotor amps (total)	5.1/5.1 (10.2)		2.7/2.7 (5.4)		2.3/2.3 (4.6)		6.2/6.2 (12.4)	3.4/3.4 (6.8)	2.9/2.9 (5.8)
Evaporator Blower Motor	Motor Output	hp	2	3	2	3	2	3	3	3
		W	1492	2238	1492	2238	1492	2238	2238	2238
	Full load amps	7.5	10.6	3.4	4.8	3.3	3.9	10.6	4.8	3.9
	Locked rotor amps	41.0	58.0	20.4	26.8	16.2	23.4	58.0	26.8	23.4
Recommended maximum fuse size (amps)		60	60	35	35	30	30	90	45	35
*Minimum Circuit Ampacity		51.0	54.0	28.0	29.0	24.0	25.0	69.0	36.0	29.0
Unit power factor		.88	.88	.88	.88	.88	.88	.88	.88	.88

*Refer to Canadian 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 — CHA16-1853 & -2553

Model No.		CHA16-1853						CHA16-2553						
Line voltage data — 60 Hz — 3 phase		208/230v		460v		575v		208/230v		460v		575v		
Compressors (3) -1853 (2) -2553	Rated load amps each (total)	19.2/19.2/19.2 (57.6)		9.6/9.6/9.6 (28.8)		7.7/7.7/7.7 (23.1)		35.0/35.0 (70.0)		18.0/18.0 (36.0)		12.3/12.3 (24.6)		
	Locked rotor amps each (total)	124/124 (372.0)		62/62/62 (186.0)		50/50/50 (150.0)		103.0/103.0 (206.0)		96.5/96.5 (193.0)		78.4/78.4 (156.8)		
Condenser Fan Motor(s)	Full load amps (total)	9.6		4.8		3.0		9.6		4.8		4.0		
	Locked rotor amps (total)	24.0		12.0		8.9		46.0		23.0		16.8		
Evaporator Blower Motor	Motor Output	hp	3	5	3	5	3	5	5	7-1/2	5	7-1/2	5	7-1/2
		W	2238	3730	2238	3730	2238	3730	3730	5595	3730	5595	3730	5595
	Full load amps (total)	10.6	16.7	4.8	7.6	3.9	6.1	16.7	24.2	7.6	11.0	6.1	9.0	
	Locked rotor amps (total)	58.0	91.0	26.8	45.6	23.4	36.6	105.0	152.0	45.6	66.0	36.6	54.0	
Optional Power Exhaust Fans	(No.) Horsepower (W)	(2) — 1/4 (187)						(3) — 1/4 (187)						
	Full load amps (total)	2.8		1.4		1.2		4.2		2.2		2.1		
	Locked rotor amps (total)	6.5		3.3		2.8		8.7		3.9		3.9		
Rec. max. fuse size (amps)	With Exhaust Fans	100	110	50	50	35	40	125	125	70	70	50	50	
	Less Exhaust Fans	100	110	50	50	35	40	110	125	60	70	50	50	
*Minimum Circuit Ampacity	With Exhaust Fans	82.0	92.0	43.0	48.0	34.0	34.0	110.0	117.0	55.0	59.0	42.0	45.0	
	Less Exhaust Fans	85.0	95.0	45.0	50.0	35.0	35.0	101.0	108.0	53.0	57.0	38.0	41.0	
Unit Power Factor	With Exhaust Fans	.84	.84	.84	.84	.84	.84	.88	.88	.88	.88	.88	.88	
	Less Exhaust Fans	.84	.84	.84	.84	.84	.84	.88	.88	.88	.88	.88	.88	

*Refer to Canadian 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 — CHA16-2753

Model No.		CHA16-2753						
Line voltage data — 60 Hz — 3 phase		208/230v		460v		575v		
Compressors (2)	Rated load amps each (total)	38.9/38.9 (77.8)		18.9/18.9 (37.8)		15.7/15.7 (31.4)		
	Locked rotor amps each (total)	207.0/207.0 (414.0)		104.0/104.0 (208.0)		111.0/111.0 (222.0)		
Condenser Fan Motor(s)	Full load amps (total)	9.6		4.8		4.0		
	Locked rotor amps (total)	46.0		23.0		16.0		
Evaporator Blower Motor	Motor Output	hp	5	7-1/2	5	7-1/2	5	7-1/2
		W	3730	5595	3730	5595	3730	5595
	Full load amps (total)	16.7	24.2	7.6	11.0	6.1	9.0	
	Locked rotor amps (total)	105.0	152.0	45.6	66.0	36.6	54.0	
Optional Power Exhaust Fans	(No.) Horsepower (W)	(3) — 1/4 (187)						
	Full load amps (total)	4.2		2.2		2.1		
	Locked rotor amps (total)	8.7		3.9		3.9		
Rec. max. fuse size (amps)	With Exhaust Fans	150	150	70	70	60	60	
	Less Exhaust Fans	150	150	70	70	60	60	
*Minimum Circuit Ampacity	With Exhaust Fans	118.0	126.0	57.0	61.0	47.0	50.0	
	Less Exhaust Fans	114.0	122.0	55.0	58.0	46.0	49.0	
Unit Power Factor	With Exhaust Fans	.88	.88	.88	.88	.88	.88	
	Less Exhaust Fans	.88	.88	.88	.88	.88	.88	

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

OPTIONAL ELECTRIC HEAT DATA (Heater Fuse Block Must Be Ordered Extra)

CHA16-823 MODELS

CHA16-953 MODELS

Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kw Input	Btuh Output	*Total Unit & Electric Heat Minimum Circuit Ampacity
ECH16-82/95-10 208/230v (61H68) 460v (61H73) 575v (61H78) 38 lbs. (17 kg)	1	208	7.5	25,600	36.0
		220	8.4	28,700	39.0
		230	9.2	31,400	
		240	10.0	34,100	
	1	440	8.4	28,700	20.0
		460	9.2	31,400	
		480	10.0	34,100	
	1	550	8.4	28,700	16.0
		575	9.2	31,400	
600		10.0	34,100		
ECH16-82/95-15 208/230v (61H69) 460v (61H74) 575v (61H79) 38 lbs. (17 kg)	1	208	11.3	38,600	49.0
		220	12.6	43,000	54.0
		230	13.5	46,100	
		240	15.0	51,200	
	1	440	12.6	43,000	27.0
		460	13.8	46,100	
		480	15.0	51,200	
	1	550	12.6	43,000	22.0
		575	13.8	46,100	
600		15.0	51,200		
ECH16-82/95-20 208/230v (61H70) 460v (61H75) 575v (61H80) 42 lbs. (19 kg)	**2	208	15.0	51,200	62.0
		220	16.8	57,300	69.0
		230	18.4	62,800	
		240	20.0	68,300	
	1	440	16.8	57,300	35.0
		460	18.4	62,800	
		480	20.0	68,300	
	1	550	16.8	57,300	28.0
		575	18.4	62,800	
600		20.0	68,300		
ECH16-82/95-30 208/230v (61H71) 460v (61H76) 575v (61H81) 42 lbs. (19 kg)	**2	208	22.5	76,800	88.0
		220	25.2	86,000	99.0
		230	27.5	93,900	
		240	30.0	102,400	
	1	440	25.2	86,000	50.0
		460	27.6	93,900	
		480	30.0	102,400	
	1	550	25.2	86,000	40.0
		575	27.6	93,900	
600		30.0	102,400		
ECH16-82/95-40 208/230v (61H72) 460v (61H77) 575v (61H82) 53 lbs. (24 kg)	**3	208	30.0	102,400	114.0
		220	33.6	114,700	129.0
		230	36.8	125,600	
		240	40.0	136,500	
	**2	440	33.6	114,700	65.0
		460	36.8	125,600	
		480	40.0	136,500	
	**2	550	33.6	114,700	52.0
		575	36.8	125,600	
600		40.0	136,500		

Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kw Input	Btuh Output	*Total Unit & Electric Heat Minimum Circuit Ampacity
ECH16-82/95-10 208/230v (61H68) 460v (61H73) 575v (61H78) 38 lbs. (17 kg)	1	208	7.5	25,600	44.0
		220	8.4	28,700	44.0
		230	9.2	31,400	
		240	10.0	34,100	
	1	440	8.4	28,700	23.0
		460	9.2	31,400	
		480	10.0	34,100	
	1	550	8.4	28,700	19.0
		575	9.2	31,400	
600		10.0	34,100		
ECH16-82/95-15 208/230v (61H69) 460v (61H74) 575v (61H79) 38 lbs. (17 kg)	1	208	11.3	38,600	49.0
		220	12.6	43,000	54.0
		230	13.5	46,100	
		240	15.0	51,200	
	1	440	12.6	43,000	27.0
		460	13.8	46,100	
		480	15.0	51,200	
	1	550	12.6	43,000	22.0
		575	13.8	46,100	
600		15.0	51,200		
ECH16-82/95-20 208/230v (61H70) 460v (61H75) 575v (61H80) 42 lbs. (19 kg)	**2	208	15.0	51,200	62.0
		220	16.8	57,300	69.0
		230	18.4	62,800	
		240	20.0	68,300	
	1	440	16.8	57,300	35.0
		460	18.4	62,800	
		480	20.0	68,300	
	1	550	16.8	57,300	28.0
		575	18.4	62,800	
600		20.0	68,300		
ECH16-82/95-30 208/230v (61H71) 460v (61H76) 575v (61H81) 42 lbs. (19 kg)	**2	208	22.5	76,800	88.0
		220	25.2	86,000	99.0
		230	27.5	93,900	
		240	30.0	102,400	
	1	440	25.2	86,000	50.0
		460	27.6	93,900	
		480	30.0	102,400	
	1	550	25.2	86,000	40.0
		575	27.6	93,900	
600		30.0	102,400		
ECH16-82/95-40 208/230v (61H72) 460v (61H77) 575v (61H82) 53 lbs. (24 kg)	**3	208	30.0	102,400	114.0
		220	33.6	114,700	129.0
		230	36.8	125,600	
		240	40.0	136,500	
	**2	440	33.6	114,700	65.0
		460	36.8	125,600	
		480	40.0	136,500	
	**2	550	33.6	114,700	52.0
		575	36.8	125,600	
600		40.0	136,500		

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

**May be used with two stage control.

NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in field installed heaters. See Optional Accessories tables.

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

**May be used with two stage control.

NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in field installed heaters. See Optional Accessories tables.

OPTIONAL ELECTRIC HEAT DATA (Heater Fuse Block Must Be Ordered Extra)

CHA16-1353 MODELS

Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kw Input	Btuh Output	*Total Unit & Electric Heat Minimum Circuit Ampacity	
					2 hp (1492W)	3 hp (2238W)
ECH16-135/160-15 208/230v (72G21) 460v (72G26) 575v (72G31) 38 lbs. (17 kg)	1	208	11.3	38,600	51.0	54.0
		220	12.6	43,000	55.0	58.0
		230	13.5	46,100		
		240	15.0	51,200		
	1	440	12.6	43,000	28.0	29.0
		460	13.8	46,100		
		480	15.0	51,200		
	1	550	12.6	43,000	24.0	25.0
		575	13.8	46,100		
600		15.0	51,200			
ECH16-135/160-20 208/230v (72G22) 460v (72G27) 575v (72G32) 42 lbs. (19 kg)	**2	208	15.0	51,200	62.0	66.0
		220	16.8	57,300	69.0	73.0
		230	18.4	62,800		
		240	20.0	68,300		
	1	440	16.8	57,300	35.0	37.0
		460	18.4	62,800		
		480	20.0	68,300		
	1	550	16.8	57,300	28.0	29.0
		575	18.4	62,800		
600		20.0	68,300			
ECH16-135/160-30 208/230v (72G23) 460v (72G28) 575v (72G33) 42 lbs. (19 kg)	**2	208	22.5	76,800	88.0	92.0
		220	25.2	86,000	99.0	103.0
		230	27.5	93,900		
		240	30.0	102,400		
	1	440	25.2	86,000	50.0	52.0
		460	27.6	93,900		
		480	30.0	102,400		
	1	550	25.2	86,000	40.0	41.0
		575	27.6	93,900		
600		30.0	102,400			
ECH16-135/160-40 208/230v (72G24) 460v (72G29) 575v (72G34) 53 lbs. (24 kg)	**3	208	30.0	102,400	114.0	118.0
		220	33.6	114,700	129.0	133.0
		230	36.8	125,600		
		240	40.0	136,500		
	**2	440	33.6	114,700	65.0	67.0
		460	36.8	125,600		
		480	40.0	136,500		
	**2	550	33.6	114,700	52.0	53.0
		575	36.8	125,600		
600		40.0	136,500			
ECH16-135/160-50 208/230v (72G25) 460v (72G30) 575v (72G35) 58 lbs. (26 kg)	**4	208	37.5	128,000	140.0	144.0
		220	42.0	143,300	159.0	163.0
		230	46.0	157,000		
		240	50.0	170,600		
	**2	440	43.8	149,500	80.0	82.0
		460	46.0	157,000		
		480	50.0	170,600		
	**2	550	43.8	149,500	64.0	65.0
		575	46.0	157,000		
600		50.0	170,600			

CHA16-1603 MODELS

Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kw Input	Btuh Output	*Total Unit & Electric Heat Minimum Circuit Ampacity
220	12.6	43,000	69.0		
230	13.5	46,100			
240	15.0	51,200			
1	440	12.6	43,000	36.0	
	460	13.8	46,100		
	480	15.0	51,200		
1	550	12.6	43,000	29.0	
	575	13.8	46,100		
	600	15.0	51,200		
ECH16-135/160-20 208/230v (72G22) 460v (72G27) 575v (72G32) 42 lbs. (19 kg)	**2	208	15.0	51,200	69.0
		220	16.8	57,300	73.0
		230	18.4	62,800	
		240	20.0	68,300	
	1	440	16.8	57,300	37.0
		460	18.4	62,800	
		480	20.0	68,300	
	1	550	16.8	57,300	29.0
		575	18.4	62,800	
600		20.0	68,300		
ECH16-135/160-30 208/230v (72G23) 460v (72G28) 575v (72G33) 42 lbs. (19 kg)	**2	208	22.5	76,800	92.0
		220	25.2	86,000	103.0
		230	27.5	93,900	
		240	30.0	102,400	
	1	440	25.2	86,000	52.0
		460	27.6	93,900	
		480	30.0	102,400	
	1	550	25.2	86,000	41.0
		575	27.6	93,900	
600		30.0	102,400		
ECH16-135/160-40 208/230v (72G24) 460v (72G29) 575v (72G34) 53 lbs. (24 kg)	**3	208	30.0	102,400	118.0
		220	33.6	114,700	133.0
		230	36.8	125,600	
		240	40.0	136,500	
	**2	440	33.6	114,700	67.0
		460	36.8	125,600	
		480	40.0	136,500	
	**2	550	33.6	114,700	53.0
		575	36.8	125,600	
600		40.0	136,500		
ECH16-135/160-50 208/230v (72G25) 460v (72G30) 575v (72G35) 58 lbs. (26 kg)	**4	208	37.5	128,000	144.0
		220	42.0	143,300	163.0
		230	46.0	157,000	
		240	50.0	170,600	
	**2	440	43.8	149,500	82.0
		460	46.0	157,000	
		480	50.0	170,600	
	**2	550	43.8	149,500	65.0
		575	46.0	157,000	
600		50.0	170,600		

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

**May be used with two stage control.

NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in field installed heaters. See Optional Accessories tables.

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

**May be used with two stage control.

NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in field installed heaters. See Optional Accessories tables.

OPTIONAL ELECTRIC HEAT DATA (Heater Fuse Block Must Be Ordered Extra)

CHA16-1853 MODELS

Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kw Input	Btuh Output	*Total Unit & Electric Heat Minimum Circuit Ampacity		
					3 hp (2238W)	5 hp (3730W)	
ECH16-185-15 208/230v (24H27) 460v (24H32) 575v (24H38) 47 lbs. (21 kg)	1	208	11.3	38,600	86.0	92.0	
		220	12.6	43,000			
		230	13.5	46,100	86.0	92.0	
		240	15.0	51,200			
	1	440	12.6	43,000	44.0	47.0	
		460	13.8	46,100			
		480	15.0	51,200			
	1	550	12.6	43,000	31.0	34.0	
		575	13.8	46,100			
		600	15.0	51,200			
	ECH16-185/300-30 208/230v (24H28) 460v (24H33) 575v (24H39) 51 lbs. (23 kg)	**2	208	22.5	76,800	92.0	99.0
			220	25.2	86,000		
230			27.5	93,900	103.0	110.0	
240			30.0	120,400			
1		440	25.2	86,000	52.0	55.0	
		460	27.5	93,900			
		480	30.0	102,400			
1		550	25.2	86,000	43.0	44.0	
		575	27.5	93,900			
		600	30.0	102,400			
ECH16-185/300-45 208/230v (24H29) 460v (24H34) 575v (24H40) 62 lbs. (28 kg)		**3	208	33.8	115,300	131.0	139.0
			220	37.8	129,000		
	230		41.3	141,000	148.0	155.0	
	240		45.0	153,600			
	**2	440	37.8	129,000	74.0	78.0	
		460	41.3	141,000			
		480	45.0	153,600			
	**2	550	37.8	129,000	61.0	62.0	
		575	41.3	141,000			
		600	45.0	153,600			
	ECH16-185/300-60 208/230v (24H30) 460v (24H35) 575v (24H41) 67 lbs. (30 kg)	**4	208	45.0	153,600	170.0	177.0
			220	50.4	172,000		
230			55.1	188,000	193.0	200.0	
240			60.0	204,800			
**2		440	50.4	172,000	97.0	100.0	
		460	55.1	188,000			
		480	60.0	204,800			
**2		550	50.4	172,000	79.0	80.0	
		575	55.1	188,000			
		600	60.0	204,800			
ECH16-185/300-75 460v (24H36) 575v (24H42) 88 lbs. (40 kg)		**3	440	63.0	215,000	119.0	123.0
			460	68.9	235,100		
	480		75.0	255,900			
	**3	550	63.0	215,000	97.0	98.0	
		575	68.9	235,100			
		600	75.0	255,900			

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

**May be used with two stage control.

NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in field installed heaters. See Optional Accessories tables.

CHA16-2553 MODELS

Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kw Input	Btuh Output	*Total Unit & Electric Heat Minimum Circuit Ampacity		
					5 hp (3730W)	7.5 hp (5595W)	
ECH16-185/300-30 208/230v (24H28) 460v (24H33) 575v (24H39) 51 lbs. (23 kg)	**2	208	22.5	76,800	110.0	117.0	
		220	25.2	86,000			
		230	27.5	93,900	110.0	118.0	
		240	30.0	102,400			
	1	440	25.2	86,000	55.0	59.0	
		460	27.5	93,900			
		480	30.0	104,400			
	1	550	25.2	86,000	44.0	48.0	
		575	27.5	93,900			
		600	30.0	104,400			
	ECH16-185/300-45 208/230v (24H29) 460v (24H34) 575v (24H40) 62 lbs. (28 kg)	**3	208	33.8	115,300	139.0	148.0
			220	37.8	129,000		
230			41.3	141,000	155.0	163.0	
240			45.0	153,600			
**2		440	37.8	129,000	78.0	82.0	
		460	41.3	141,000			
		480	45.0	153,600			
**2		550	37.8	129,000	62.0	66.0	
		575	41.3	141,000			
		600	45.0	153,600			
ECH16-185/300-60 208/230v (24H30) 460v (24H35) 575v (24H41) 67 lbs. (30 kg)		**4	208	45.0	153,600	178.0	187.0
			220	50.4	172,000		
	230		55.1	188,100	200.0	208.0	
	240		60.0	204,800			
	**2	440	50.4	172,000	100.0	104.0	
		460	55.1	188,100			
		480	60.0	204,800			
	**2	550	50.4	172,000	80.0	84.0	
		575	55.1	188,100			
		600	60.0	204,800			
	ECH16-185/300-75 208/230v (24H31) 460v (24H36) 575v (24H42) 88 lbs. (40 kg)	**5	208	56.3	192,200	217.0	226.0
			220	63.0	215,000		
230			68.9	235,000	245.0	253.0	
240			75.0	255,900			
**3		440	63.0	215,000	123.0	127.0	
		460	68.9	235,000			
		480	75.0	255,900			
**3		550	63.0	215,000	98.0	102.0	
		575	68.9	235,000			
		600	75.0	255,900			
ECH16-275/300-90 460v (24H37) 575v (24H43) 92 lbs. (42 kg)		**3	440	75.6	258,000	145.0	150.0
			460	82.7	282,000		
	480		90.0	307,100			
	**3	550	75.6	258,000	116.0	120.0	
		575	82.7	282,000			
		600	90.0	307,100			

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

**May be used with two stage control.

NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in field installed heaters. See Optional Accessories tables.

OPTIONAL ELECTRIC HEAT DATA (Heater Fuse Block Must Be Ordered Extra)

CHA16-2753 MODELS

Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kw Input	Btuh Output	*Total Unit & Electric Heat Minimum Circuit Ampacity	
					5 hp (3730W)	7.5 hp (5595W)
ECH16-185/300-30 208/230v (24H28) 460v (24H33) 575v (24H39) 51 lbs. (23 kg)	**2	208	22.5	76,800	118.0	126.0
		220	25.2	86,000	117.0	124.0
		230	27.5	93,900		
		240	30.0	102,400		
	1	440	25.2	86,000	57.0	61.0
		460	27.5	93,900		
		480	30.0	104,400		
	1	550	25.2	86,000	47.0	50.0
		575	27.5	93,900		
600		30.0	104,400			
ECH16-185/300-45 208/230v (24H29) 460v (24H34) 575v (24H40) 62 lbs. (28 kg)	**3	208	33.8	115,300	139.0	148.0
		220	37.8	129,000	155.0	163.0
		230	41.3	141,000		
		240	45.0	153,600		
	**2	440	37.8	129,000	78.0	82.0
		460	41.3	141,000		
		480	45.0	153,600		
	**2	550	37.8	129,000	62.0	66.0
		575	41.3	141,000		
		600	45.0	153,600		
ECH16-185/300-60 208/230v (24H30) 460v (24H35) 575v (24H41) 67 lbs. (30 kg)	**4	208	45.0	153,600	178.0	187.0
		220	50.4	172,000	200.0	208.0
		230	55.1	188,100		
		240	60.0	204,800		
	**2	440	50.4	172,000	100.0	104.0
		460	55.1	188,100		
		480	60.0	204,800		
	**2	550	50.4	172,000	80.0	84.0
		575	55.1	188,100		
		600	60.0	204,800		
ECH16-185/300-75 208/230v (24H31) 460v (24H36) 575v (24H42) 88 lbs. (40 kg)	**5	208	56.3	192,200	217.0	226.0
		220	63.0	215,000	245.0	253.0
		230	68.9	235,000		
		240	75.0	255,900		
	**3	440	63.0	215,000	123.0	127.0
		460	68.9	235,000		
		480	75.0	255,900		
	**3	550	63.0	215,000	98.0	102.0
		575	68.9	235,000		
		600	75.0	255,900		
ECH16-275/300-90 460v (24H37) 575v (24H43) 92 lbs. (42 kg)	**3	440	75.6	258,000	145.0	150.0
		460	82.7	282,000		
		480	90.0	307,100		
	**3	550	75.6	258,000	116.0	120.0
		575	82.7	282,000		
		600	90.0	307,100		

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

**May be used with two stage control.

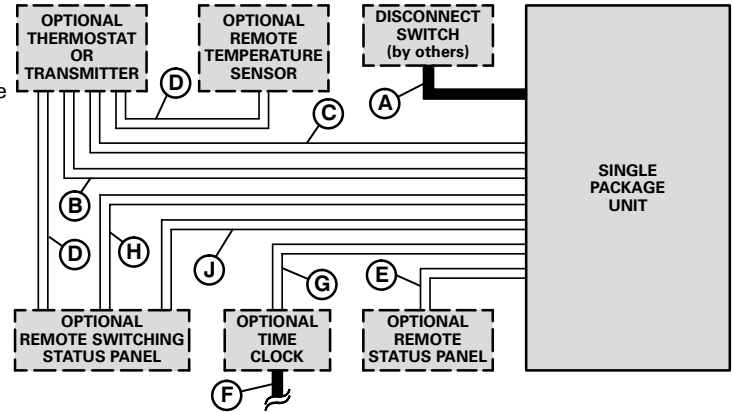
NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in field installed heaters. See Optional Accessories tables.

W973 CONTROL SYSTEM

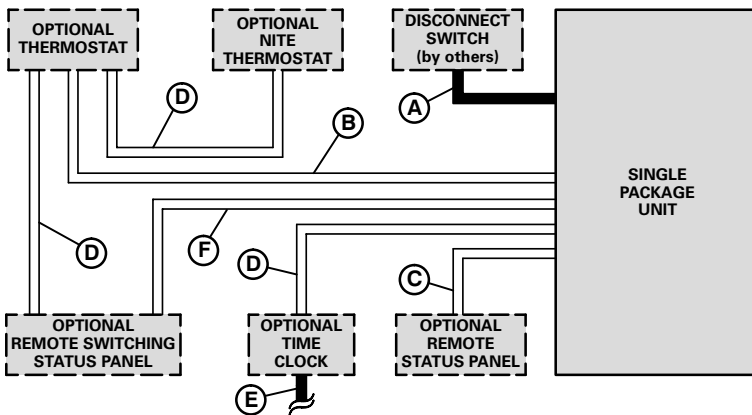
- A — Three wire power (See Electrical Data Table)
 - B — Seven wire low voltage — DC only
 - Five wire low voltage — DC only — with SSP11 Switching Status Panel
 - Seven wire low voltage — DC only — with switching subbase
 - C — Two wire low voltage — AC only — with switching subbase
 - D — Two wire low voltage — DC only
 - E — Nine wire low voltage — AC only
 - F — Two wire low voltage — AC only
 - G — Two wire low voltage — AC only
 - H — Thirteen wire low voltage — AC only
 - J — Two wire low voltage — DC only
- AC — Alternating current
DC — Direct current

NOTE — Run separate harnesses for AC and DC.
AC voltage interferes with DC signals.
— Field wiring not furnished —

NOTE — All wiring must conform to CEC and local electrical codes.



ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM



- A — Three wire power (See Electrical Data Table)
- B — Six wire low voltage
- Five wire low voltage — with SSP11 Switching Status Panel
- C — Nine wire low voltage
- D — Two wire low voltage
- E — Two wire low voltage
- F — Sixteen wire low voltage

— Field wiring not furnished —

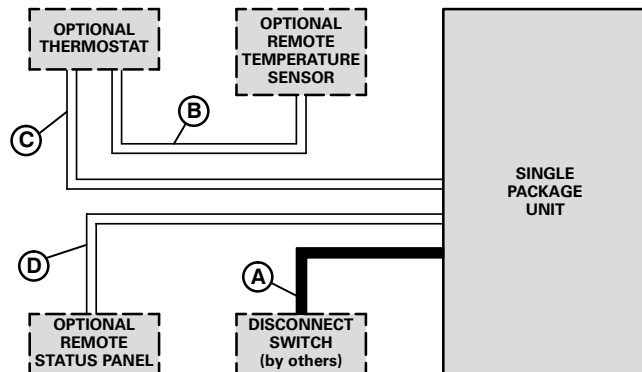
NOTE — All wiring must conform to CEC and local electrical codes.

W7400 CONTROL SYSTEM

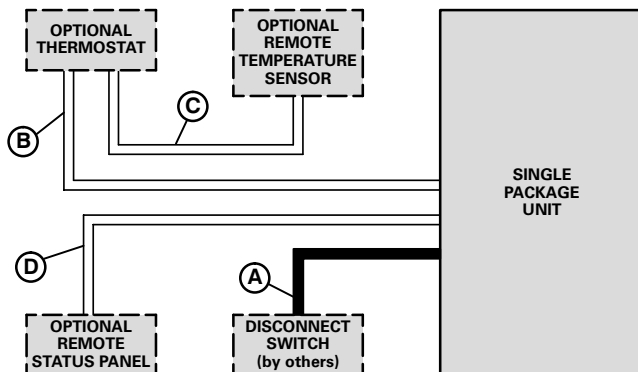
- A — Three wire power (See Electrical Data Table)
- B — Two wire low voltage
- C — Four wire low voltage
- D — Nine wire low voltage

— Field wiring not furnished —

NOTE — All wiring must conform to CEC and local electrical codes.



T8600, T8621 THERMOSTAT OR T7300 THERMOSTAT CONTROL SYSTEM



- A — Three wire power (See Electrical Data Table)
- B — Nine wire low voltage
- C — Two wire low voltage (T7300 only)
- Seven wire low voltage (T7300 Room Sensor with override)
- D — Nine wire low voltage

— Field wiring not furnished —

NOTE — All wiring must conform to CEC and local electrical codes.

RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 11.

CHA16-823 COOLING CAPACITY (With One Compressor Only Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			65°F (18°C)						75°F (24°C)						85°F (29°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	1040	2200	13.2	45,100	2710	.60	.75	.91	12.5	42,600	2850	.61	.77	.94	11.8	40,200	3020	.63	.81	.98
	1225	2600	13.8	47,100	2780	.63	.80	.97	13.1	44,600	2920	.65	.83	1.00	12.3	41,800	3090	.67	.87	1.00
	1415	3000	14.3	48,800	2830	.66	.85	1.00	13.4	45,700	2960	.68	.89	1.00	12.6	43,100	3130	.71	.93	1.00
67°F (19.4°C)	1040	2200	14.0	47,800	2800	.48	.58	.70	13.3	45,400	2950	.48	.59	.72	12.5	42,800	3120	.49	.60	.75
	1225	2600	14.6	49,800	2870	.49	.60	.75	13.8	47,200	3010	.50	.62	.78	13.0	44,400	3190	.51	.64	.82
	1415	3000	15.1	51,400	2920	.51	.63	.80	14.2	48,600	3060	.52	.65	.84	13.4	45,800	3240	.53	.68	.88
71°F (21.7°C)	1040	2200	14.8	50,400	2890	.37	.46	.55	14.0	47,900	3040	.37	.47	.57	13.3	45,300	3220	.37	.48	.58
	1225	2600	15.4	52,400	2950	.37	.48	.58	14.6	49,700	3100	.37	.49	.59	13.8	47,000	3280	.38	.50	.61
	1415	3000	15.8	53,900	3000	.38	.49	.60	15.0	51,100	3150	.38	.50	.62	14.1	48,200	3330	.38	.51	.65

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

CHA16-823 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			85°F (29°C)						95°F (35°C)						105°F (41°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	1040	2200	21.6	73,600	6230	.71	.85	.98	20.3	69,200	6640	.73	.88	1.00	18.7	63,900	7110	.75	.92	1.00
	1225	2600	22.4	76,600	6370	.74	.90	1.00	21.0	71,700	6760	.77	.94	1.00	19.4	66,200	7240	.80	.98	1.00
	1415	3000	23.1	78,900	6460	.78	.95	1.00	21.6	73,700	6860	.80	.98	1.00	20.1	68,700	7360	.84	1.00	1.00
67°F (19.4°C)	1040	2200	23.0	78,400	6450	.56	.68	.81	21.6	73,700	6870	.57	.70	.84	20.1	68,700	7350	.58	.72	.87
	1225	2600	23.9	81,400	6580	.58	.72	.86	22.4	76,400	7000	.59	.74	.89	20.8	71,100	7480	.61	.77	.93
	1415	3000	24.6	84,000	6680	.60	.75	.91	23.0	78,400	7100	.61	.78	.95	21.4	73,000	7580	.63	.81	.98
71°F (21.7°C)	1040	2200	24.3	83,000	6640	.42	.54	.66	22.9	78,000	7070	.42	.55	.67	21.4	72,900	7570	.43	.57	.70
	1225	2600	25.2	86,000	6770	.43	.56	.69	23.7	80,800	7200	.43	.57	.71	22.1	75,300	7700	.44	.59	.74
	1415	3000	25.9	88,300	6870	.43	.58	.72	24.3	82,800	7300	.44	.60	.75	22.6	77,200	7790	.45	.62	.78

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

CHA16-953 COOLING CAPACITY (With One Compressor Only Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			65°F (18°C)						75°F (24°C)						85°F (29°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	1180	2500	16.4	56,100	2940	.68	.79	.90	15.9	54,100	3230	.69	.80	.92	15.2	51,900	3530	.70	.82	.94
	1415	3000	17.3	58,900	2960	.71	.83	.95	16.6	56,700	3260	.72	.85	.97	15.9	54,300	3570	.73	.87	.98
	1650	3500	17.9	61,200	2980	.74	.87	.99	17.3	58,900	3290	.75	.89	1.00	16.4	56,100	3610	.76	.91	1.00
67°F (19.4°C)	1180	2500	17.3	59,000	2960	.55	.65	.76	16.7	56,900	3270	.55	.66	.77	16.0	54,700	3580	.56	.67	.78
	1415	3000	18.2	62,000	2990	.56	.68	.80	18.1	59,500	3300	.57	.69	.81	16.8	57,300	3630	.58	.71	.83
	1650	3500	18.8	64,000	3010	.58	.71	.84	18.1	61,700	3330	.59	.72	.85	17.3	59,200	3660	.60	.74	.87
71°F (21.7°C)	1180	2500	18.1	61,900	2990	.43	.53	.63	17.5	59,700	3300	.43	.53	.64	16.9	57,600	3630	.43	.54	.65
	1415	3000	18.9	64,600	3020	.43	.55	.66	18.3	62,300	3340	.43	.55	.67	17.6	59,900	3680	.44	.56	.68
	1650	3500	19.6	66,900	3040	.43	.56	.69	18.9	64,400	3370	.44	.57	.70	18.1	61,900	3710	.44	.58	.71

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

CHA16-953 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			85°F (29°C)						95°F (35°C)						105°F (41°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	1180	2500	25.8	88,200	7160	.72	.85	.97	24.8	84,500	7660	.73	.86	.99	23.4	80,700	8140	.75	.88	1.00
	1415	3000	26.9	91,900	7290	.75	.89	1.00	25.7	87,600	7790	.77	.92	1.00	24.4	83,400	8280	.78	.94	1.00
	1650	3500	27.7	94,500	7380	.78	.95	1.00	26.4	90,100	7890	.80	.96	1.00	25.1	85,800	8410	.82	.98	1.00
67°F (19.4°C)	1180	2500	27.2	92,700	7320	.57	.70	.81	26.0	88,900	7850	.58	.71	.83	24.9	84,900	8370	.59	.72	.85
	1415	3000	28.2	96,300	7460	.60	.73	.86	27.0	92,300	8000	.60	.74	.88	25.8	88,100	8530	.61	.76	.91
	1650	3500	29.1	99,200	7560	.62	.76	.91	27.8	94,900	8120	.63	.78	.93	26.5	90,600	8650	.64	.80	.96
71°F (21.7°C)	1180	2500	28.5	97,100	7490	.44	.56	.67	27.3	93,200	8040	.44	.56	.68	26.1	89,200	8580	.44	.57	.69
	1415	3000	29.5	100,700	7620	.44	.58	.70	28.3	96,600	8190	.45	.59	.72	27.0	92,300	8740	.45	.60	.73
	1650	3500	30.3	103,600	7730	.45	.60	.74	29.1	99,200	8310	.45	.61	.75	27.7	94,700	8860	.46	.62	.77

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

RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 11.

CHA16-1353 COOLING CAPACITY (With One Compressor Only Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																		
			65°F (18°C)				75°F (24°C)				85°F (29°C)										
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			
			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			
L/s	cfm			75°F 24°C	80°F 27°C	85°F 29°C															
63°F (17.2°C)	1650	3500	20.9	71,500	4010	.70	.81	.93	20.1	68,700	4390	.71	.83	.95	19.3	66,000	4780	.72	.85	.97	
	2005	4250	21.9	74,700	4080	.74	.87	.99	21.0	71,700	4470	.74	.88	1.00	20.2	68,900	4860	.76	.90	1.00	
	2360	5000	22.6	77,200	4120	.77	.91	1.00	21.7	73,900	4520	.78	.94	1.00	20.7	70,800	4910	.80	.96	1.00	
67°F (19.4°C)	1650	3500	22.1	75,400	4090	.56	.67	.78	21.3	72,700	4480	.56	.68	.79	20.5	69,900	4880	.57	.69	.81	
	2005	4250	23.1	78,800	4150	.58	.72	.83	22.2	75,700	4550	.58	.72	.85	21.3	72,700	4960	.59	.73	.87	
	2360	5000	23.7	80,900	4190	.59	.74	.88	22.8	77,900	4600	.61	.76	.90	21.9	74,800	5020	.63	.78	.92	
71°F (21.7°C)	1650	3500	23.1	78,900	4160	.44	.54	.64	21.6	76,300	4570	.43	.54	.65	21.6	73,700	4980	.43	.55	.66	
	2005	4250	24.0	81,800	4210	.43	.56	.69	23.1	79,000	4630	.44	.57	.69	22.3	76,100	5060	.45	.58	.71	
	2360	5000	24.5	83,500	4240	.44	.58	.72	23.8	81,100	4670	.44	.59	.74	22.9	78,200	5110	.45	.61	.75	

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

CHA16-1353 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																		
			85°F (29°C)				95°F (35°C)				105°F (41°C)										
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			
			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			
L/s	cfm			75°F 24°C	80°F 27°C	85°F 29°C															
63°F (17.2°C)	1650	3500	34.6	118,100	9770	.72	.86	.98	33.1	113,100	10,480	.74	.87	1.00	31.6	107,800	11,180	.75	.90	1.00	
	2005	4250	35.9	122,600	9930	.76	.91	1.00	34.4	117,400	10,650	.78	.93	1.00	32.5	111,000	11,350	.80	.96	1.00	
	2360	5000	36.9	126,100	10,040	.80	.96	1.00	35.2	120,300	10,760	.82	.99	1.00	33.5	114,300	11,500	.84	1.00	1.00	
67°F (19.4°C)	1650	3500	36.6	125,000	10,000	.57	.70	.82	35.1	119,800	10,750	.58	.71	.84	33.5	114,400	11,490	.59	.73	.86	
	2005	4250	38.0	129,600	10,170	.59	.74	.88	36.4	124,200	10,930	.60	.75	.90	34.7	118,400	11,690	.62	.77	.92	
	2360	5000	39.1	133,300	10,280	.62	.77	.92	37.2	127,100	11,060	.63	.80	.95	35.5	121,300	11,830	.64	.82	.98	
71°F (21.7°C)	1650	3500	38.6	131,800	10,230	.43	.55	.67	37.1	126,500	11,010	.44	.56	.68	35.4	120,900	11,790	.44	.57	.70	
	2005	4250	39.9	136,200	10,390	.44	.58	.71	38.3	130,800	11,190	.45	.59	.73	36.7	125,100	11,990	.45	.60	.75	
	2360	5000	40.8	139,300	10,500	.45	.60	.75	39.3	134,100	11,320	.46	.62	.77	37.5	127,900	12,130	.46	.63	.79	

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

CHA16-1603 COOLING CAPACITY (With One Compressor Only Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																		
			65°F (18°C)				75°F (24°C)				85°F (29°C)										
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			
			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			
L/s	cfm			75°F 24°C	80°F 27°C	85°F 29°C															
63°F (17.2°C)	1980	4200	28.3	96,700	6830	.68	.79	.90	27.2	92,700	7250	.69	.81	.92	26.0	88,600	7640	.70	.83	.94	
	2360	5000	29.4	100,500	6980	.71	.83	.94	28.2	96,300	7400	.72	.84	.96	27.0	92,000	7810	.73	.87	.98	
	2735	5800	30.3	103,300	7080	.73	.86	.98	28.9	98,800	7520	.74	.88	1.00	27.6	94,300	7930	.76	.90	1.00	
67°F (19.4°C)	1980	4200	29.7	101,300	7010	.55	.66	.76	28.5	97,300	7440	.55	.67	.77	27.3	93,200	7870	.56	.68	.79	
	2360	5000	30.8	105,200	7160	.56	.68	.79	29.6	101,000	7610	.57	.69	.81	28.3	96,600	8020	.58	.70	.83	
	2735	5800	31.7	108,200	7280	.57	.70	.83	30.4	103,900	7720	.58	.72	.84	29.1	99,200	8160	.59	.73	.87	
71°F (21.7°C)	1980	4200	31.0	105,800	7190	.42	.53	.63	29.9	101,900	7630	.42	.54	.64	28.6	97,700	8070	.43	.54	.65	
	2360	5000	32.2	109,800	7340	.43	.54	.66	30.9	105,600	7800	.43	.55	.67	29.6	101,100	8240	.43	.56	.68	
	2735	5800	33.0	112,700	7460	.43	.56	.68	31.8	108,400	7920	.44	.57	.69	30.4	103,600	8380	.45	.58	.71	

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

CHA16-1603 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																		
			85°F (29°C)				95°F (35°C)				105°F (41°C)										
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			
			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			k/W	Btuh		Dry Bulb			
L/s	cfm			75°F 24°C	80°F 27°C	85°F 29°C															
63°F (17.2°C)	1980	4200	41.8	142,600	12,310	.70	.83	.94	39.8	136,000	13,010	.72	.84	.96	37.9	129,300	13,660	.73	.87	.99	
	2360	5000	43.4	148,000	12,550	.73	.87	.97	41.3	141,000	13,250	.75	.89	.99	39.2	133,800	13,920	.76	.91	1.00	
	2735	5800	44.5	151,800	12,730	.76	.90	1.00	42.4	144,700	13,450	.77	.92	1.00	40.4	137,800	14,130	.79	.95	1.00	
67°F (19.4°C)	1980	4200	43.4	150,100	12,650	.56	.68	.79	42.0	143,400	13,380	.57	.69	.81	40.0	136,500	14,080	.58	.71	.83	
	2360	5000	45.6	155,600	12,880	.58	.70	.83	43.5	148,600	13,640	.58	.72	.85	41.4	141,300	14,340	.59	.74	.87	
	2735	5800	46.8	159,800	13,070	.59	.73	.87	44.7	152,500	13,840	.60	.75	.89	42.5	145,000	14,550	.61	.77	.91	
71°F (21.7°C)	1980	4200	46.1	157,400	12,950	.43	.54	.65	44.1	150,600	13,740	.43	.55	.66	42.1	143,700	14,480	.44	.56	.68	
	2360	5000	47.8	163,000	13,200	.43	.56	.68	45.6	155,800	13,990	.44	.57	.69	43.5	148,400	14,740	.44	.58	.71	
	2735	5800	49.0	167,200	13,390	.44	.58	.71	46.8	159,600	14,180	.45	.59	.72	44.6	152,100	14,960	.45	.60	.74	

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

RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 11.

CHA16-1853 COOLING CAPACITY (With Two Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			65°F (18°C)						75°F (24°C)						85°F (29°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	2550	5400	39.5	134,800	8080	.66	.79	.93	37.8	129,100	8580	.67	.82	.96	36.0	122,800	9190	.69	.84	.99
	3020	6400	41.0	139,900	8150	.69	.84	.98	39.2	133,900	8670	.70	.87	1.00	37.4	127,600	9310	.72	.90	1.00
	3490	7400	42.2	144,000	8210	.72	.88	1.00	40.4	137,700	8750	.74	.92	1.00	38.1	129,900	9570	.76	.94	1.00
67°F (19.4°C)	2550	5400	41.6	142,100	8180	.52	.63	.75	40.0	136,400	8720	.53	.65	.77	38.2	130,200	9390	.54	.66	.80
	3020	6400	43.2	147,300	8260	.54	.66	.80	41.4	141,400	8820	.55	.67	.82	39.6	135,000	9520	.55	.69	.85
	3490	7400	44.3	151,300	8310	.56	.69	.84	42.6	145,300	8890	.56	.71	.87	40.6	138,600	9620	.57	.73	.91
71°F (21.7°C)	2550	5400	43.7	149,000	8280	.40	.51	.61	42.1	143,500	8860	.40	.51	.62	40.3	137,500	9580	.40	.52	.63
	3020	6400	45.2	154,100	8340	.41	.52	.64	43.5	148,500	8950	.40	.53	.65	41.7	142,300	9710	.41	.54	.67
	3490	7400	46.4	158,200	8400	.41	.54	.66	44.7	152,400	9030	.41	.55	.68	42.8	146,000	9820	.41	.56	.70

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

CHA16-1853 TOTAL COOLING CAPACITY (With Three Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			85°F (29°C)						95°F (35°C)						105°F (41°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	2550	5400	53.0	181,000	14,290	.69	.84	.99	50.2	171,200	15,470	.71	.87	1.00	46.8	159,600	16,860	.73	.91	1.00
	3020	6400	55.5	188,000	14,480	.72	.90	1.00	52.1	177,700	15,700	.75	.94	1.00	48.4	165,300	17,170	.78	.97	1.00
	3490	7400	56.8	194,000	14,620	.76	.94	1.00	53.1	181,400	15,870	.79	.98	1.00	50.0	170,600	17,470	.82	1.00	1.00
67°F (19.4°C)	2550	5400	56.2	191,900	14,610	.54	.66	.80	53.4	182,100	15,900	.55	.68	.82	50.2	171,200	17,500	.56	.70	.86
	3020	6400	58.3	198,800	14,800	.55	.69	.85	55.3	188,600	16,150	.57	.72	.88	52.2	178,100	17,840	.59	.74	.93
	3490	7400	59.8	204,200	14,960	.57	.73	.91	56.8	193,700	16,360	.59	.76	.93	53.5	182,400	18,130	.61	.79	.98
71°F (21.7°C)	2550	5400	59.4	202,600	14,910	.40	.52	.63	56.5	192,800	16,320	.41	.53	.65	53.4	182,200	18,110	.42	.55	.67
	3020	6400	61.4	209,600	15,110	.41	.54	.67	58.5	199,500	16,600	.41	.55	.68	55.3	188,600	18,490	.42	.57	.71
	3490	7400	63.0	215,100	15,270	.42	.56	.70	60.0	204,800	16,820	.42	.57	.72	56.7	193,500	18,780	.43	.59	.75

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

CHA16-2553 COOLING CAPACITY (With One Compressor Only Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			65°F (18°C)						75°F (24°C)						85°F (29°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	2830	6000	33.3	113,700	6710	.59	.73	.85	32.2	110,000	7350	.60	.74	.86	31.0	105,700	8040	.61	.75	.88
	3540	7500	35.5	121,100	6830	.63	.77	.92	34.2	116,800	7500	.64	.79	.94	32.9	112,300	8200	.65	.80	.97
	4245	9000	37.2	126,800	6910	.67	.82	1.00	35.8	122,000	7610	.68	.84	1.00	34.3	117,000	8320	.70	.86	1.00
67°F (19.4°C)	2830	6000	35.3	120,400	6810	.46	.59	.70	34.1	116,300	7500	.47	.60	.71	32.8	112,000	8200	.47	.60	.72
	3540	7500	37.6	128,400	6930	.49	.61	.76	36.2	123,600	7640	.49	.62	.77	34.9	119,000	8370	.50	.63	.79
	4245	9000	39.2	133,900	7030	.51	.65	.81	37.8	128,900	7750	.51	.66	.83	36.3	123,800	8490	.52	.67	.85
71°F (21.7°C)	2830	6000	37.3	127,300	6920	.35	.48	.58	36.0	122,800	7630	.35	.48	.58	34.6	118,200	8350	.35	.49	.59
	3540	7500	39.6	135,100	7050	.36	.49	.61	38.2	130,400	7770	.36	.50	.62	36.8	125,500	8530	.36	.50	.63
	4245	9000	41.2	140,700	7140	.37	.51	.65	39.7	135,600	7880	.37	.52	.66	38.2	130,200	8660	.37	.52	.68

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

CHA16-2553 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			85°F (29°C)						95°F (35°C)						105°F (41°C)					
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	Comp. Motor Watts Input	75°F 24°C	80°F 27°C	85°F 29°C		
63°F (17.2°C)	2830	6000	62.4	213,000	15,680	.68	.82	.95	59.9	204,300	17,030	.69	.84	.97	57.1	194,800	18,400	.70	.86	.99
	3540	7500	65.7	224,100	15,960	.72	.89	1.00	62.7	214,100	17,340	.74	.91	1.00	59.7	203,800	18,750	.75	.94	1.00
	4245	9000	67.8	231,500	16,170	.77	.95	1.00	64.3	219,400	17,520	.79	.98	1.00	61.5	210,000	18,970	.81	.99	1.00
67°F (19.4°C)	2830	6000	66.1	225,400	16,000	.53	.67	.80	63.2	215,800	17,410	.54	.68	.81	60.4	206,100	18,850	.55	.69	.83
	3540	7500	69.4	236,800	16,300	.56	.71	.86	66.4	226,500	17,740	.57	.72	.88	63.2	215,700	19,220	.58	.74	.90
	4245	9000	71.6	244,300	16,510	.59	.75	.93	68.4	233,400	17,980	.60	.77	.95	65.1	222,100	19,490	.61	.79	.97
71°F (21.7°C)	2830	6000	69.6	237,400	16,330	.40	.53	.66	66.7	227,500	17,790	.40	.54	.67	63.7	217,300	19,300	.41	.54	.68
	3540	7500	72.9	248,700	16,620	.41	.56	.71	69.8	238,100	18,120	.42	.56	.72	66.5	227,000	19,680	.42	.58	.73
	4245	9000	75.1	256,400	16,830	.42	.58	.75	71.9	245,400	18,370	.43	.59	.77	68.4	233,500	19,960	.43	.61	.78

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

RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 11.

CHA16-2753 COOLING CAPACITY (With One Compressor Only Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			65°F (18°C)					75°F (24°C)					85°F (29°C)							
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C				
63°F (17.2°C)	3305	7000	37.0	126,100	8270	.62	.75	.86	35.5	121,300	8970	.63	.76	.87	34.0	116,000	9740	.64	.77	.89
	4010	8500	39.1	133,500	8420	.65	.78	.92	37.6	128,300	9140	.66	.79	.93	35.8	122,300	9920	.68	.81	.96
	4720	10,000	40.8	139,200	8540	.69	.81	.97	39.0	133,200	9270	.70	.83	1.00	37.3	127,300	10,070	.71	.85	1.00
67°F (19.4°C)	3305	7000	39.1	133,500	8420	.49	.62	.73	37.5	127,900	9150	.49	.63	.74	35.9	122,600	9940	.50	.64	.75
	4010	8500	41.4	141,100	8570	.51	.64	.77	39.7	135,500	9320	.51	.65	.78	38.0	129,700	10,140	.52	.66	.80
	4720	10,000	43.0	146,700	8680	.53	.67	.82	41.3	140,800	9450	.53	.68	.83	39.4	134,600	10,280	.54	.69	.85
71°F (21.7°C)	3305	7000	41.2	140,600	8560	.36	.51	.61	39.6	135,100	9320	.37	.51	.61	38.0	129,600	10,140	.37	.52	.62
	4010	8500	43.5	148,400	8700	.37	.52	.64	41.8	142,600	9490	.37	.52	.65	40.1	136,700	10,330	.38	.53	.66
	4720	10,000	45.2	154,100	8820	.38	.53	.67	43.4	148,000	9600	.38	.54	.68	41.6	141,900	10,470	.39	.55	.69

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

CHA16-2753 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																	
			85°F (29°C)					95°F (35°C)					105°F (41°C)							
			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	k/W	Btuh	75°F 24°C	80°F 27°C	85°F 29°C				
63°F (17.2°C)	3305	7000	71.3	243,200	19,930	.69	.83	.95	68.1	232,300	21,610	.70	.85	.97	65.0	221,800	23,390	.71	.87	.99
	4010	8500	74.4	253,900	20,250	.73	.88	1.00	71.0	242,400	21,970	.74	.90	1.00	67.7	231,100	23,770	.76	.93	1.00
	4720	10,000	76.6	261,500	20,490	.77	.93	1.00	73.1	249,500	22,220	.79	.96	1.00	69.1	235,800	23,970	.81	.98	1.00
67°F (19.4°C)	3305	7000	75.3	256,800	20,350	.54	.68	.81	72.0	245,700	22,090	.55	.69	.82	68.8	234,800	23,940	.56	.70	.84
	4010	8500	78.5	267,900	20,660	.57	.71	.86	75.1	256,300	22,440	.57	.73	.88	71.8	245,000	24,310	.58	.74	.89
	4720	10,000	80.9	275,900	20,880	.59	.75	.91	77.3	263,700	22,690	.60	.77	.93	73.7	251,400	24,600	.61	.78	.96
71°F (21.7°C)	3305	7000	79.2	270,300	20,730	.41	.54	.68	75.9	258,900	22,540	.41	.55	.69	72.6	247,600	24,450	.41	.56	.70
	4010	8500	82.5	281,400	21,020	.42	.56	.71	79.0	269,400	22,880	.42	.57	.73	75.5	257,600	24,820	.42	.58	.74
	4720	10,000	84.8	289,500	21,250	.43	.58	.75	81.2	277,000	23,110	.43	.60	.77	77.6	264,700	25,090	.43	.61	.78

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

BLOWER DATA

CHA16-823 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																				
	.20 (50)		.40 (100)		.50 (125)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.30 (325)		1.50 (375)		
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	
2200 (1040)	----	----	----	----	785	0.75 (0.56)	825	0.80 (0.60)	865	0.90 (0.67)	905	0.95 (0.71)	945	1.05 (0.78)	1020	1.20 (0.90)	1090	1.40 (1.04)			
2400 (1135)	----	----	----	----	805	0.85 (0.63)	845	0.90 (0.67)	880	1.00 (0.75)	920	1.10 (0.82)	955	1.15 (0.86)	1025	1.35 (1.01)	1095	1.50 (1.12)			
2600 (1225)	----	----	----	750	0.80 (0.60)	825	0.95 (0.71)	865	1.05 (0.78)	900	1.15 (0.86)	935	1.20 (0.90)	970	1.30 (0.97)	1040	1.50 (1.12)	1105	1.70 (1.27)		
2800 (1320)	----	----	740	0.85 (0.63)	775	0.95 (0.71)	850	1.10 (0.82)	885	1.20 (0.90)	920	1.30 (0.97)	955	1.40 (1.04)	985	1.45 (1.08)	1055	1.65 (1.23)	1115	1.85 (1.38)	
3000 (1415)	----	----	770	1.00 (0.75)	805	1.10 (0.82)	875	1.25 (0.94)	910	1.35 (1.01)	940	1.45 (1.08)	975	1.55 (1.16)	1005	1.65 (1.23)	1070	1.85 (1.38)	----	----	
3200 (1510)	735	1.00 (0.76)	805	1.15 (0.86)	840	1.25 (0.94)	905	1.45 (1.08)	935	1.55 (1.16)	965	1.65 (1.23)	1000	1.75 (1.31)	1030	1.85 (1.38)	----	----	----	----	
3400 (1605)	775	1.20 (0.90)	840	1.35 (1.01)	870	1.45 (1.08)	930	1.65 (1.23)	965	1.75 (1.31)	995	1.85 (1.38)	1020	1.95 (1.45)	----	----	----	----	----	----	

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 25 for Accessory Air Resistance data.

BLOWER DATA

CHA16-953 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT – Inches Water Gauge																	
	.20 (50)		.40 (100)		.50 (125)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.30 (325)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
2600 (1225)	----	----	----	----	815	1.00 (0.75)	895	1.30 (0.97)	930	1.40 (1.04)	980	1.50 (1.11)	1020	1.65 (1.23)	1055	1.80 (1.34)	----	----
2800 (1320)	----	----	800	1.05 (0.78)	840	1.15 (0.86)	920	1.40 (1.04)	955	1.55 (1.16)	995	1.65 (1.23)	1030	1.80 (1.34)	1065	1.95 (1.45)	----	----
3000 (1415)	----	----	840	1.20 (0.90)	875	1.30 (0.97)	940	1.55 (1.16)	980	1.70 (1.27)	1015	1.90 (1.42)	----	----	----	----	----	----
3200 (1510)	815	1.20 (0.90)	885	1.45 (1.08)	910	1.50 (1.12)	975	1.75 (1.31)	1005	1.90 (1.42)	----	----	----	----	----	----	----	----
*3400 (1605)	860	1.45 (1.08)	920	1.65 (1.23)	950	1.75 (1.31)	1010	2.00 (1.49)	----	----	----	----	----	----	----	----	----	----
3600 (1770)	900	1.70 (1.27)	960	1.90 (1.42)	----	----	----	----	----	----	----	----	----	----	----	----	----	----
3800 (1795)	950	1.95 (1.45)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

NOTE — All data is measured external to the unit with dry coil and air filters in place. See Page 25 for Accessory Air Resistance data.
 *Minimum air volume at .25 in. w.g. (62 Pa) with electric heat.

CHA16-1353 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT – Inches Water Gauge																			
	.20 (50)		.40 (100)		.50 (125)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.30 (325)		1.50 (375)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
3600 (1700)	585	0.89 (0.66)	655	1.13 (0.84)	700	1.25 (0.93)	770	1.52 (1.13)	795	1.65 (1.23)	820	1.80 (1.34)	850	1.93 (1.44)	875	2.08 (1.55)	935	2.41 (1.80)	985	2.68 (2.00)
3800 (1795)	605	1.00 (0.75)	685	1.25 (0.93)	720	1.37 (1.02)	785	1.67 (1.24)	805	1.80 (1.34)	830	1.94 (1.45)	860	2.08 (1.55)	890	2.26 (1.69)	940	2.56 (1.91)	995	2.85 (2.13)
4000 (1890)	630	1.14 (0.85)	705	1.41 (1.05)	740	1.50 (1.12)	795	1.81 (1.35)	820	1.96 (1.46)	845	2.11 (1.57)	875	2.26 (1.69)	905	2.43 (1.81)	955	2.67 (1.99)	----	----
4200 (1980)	650	1.29 (0.96)	725	1.57 (1.17)	755	1.70 (1.27)	810	2.01 (1.50)	835	2.16 (1.61)	865	2.31 (1.72)	890	2.46 (1.84)	920	2.63 (1.96)	970	2.93 (2.19)	----	----
4400 (2075)	680	1.46 (1.09)	745	1.76 (1.31)	780	1.91 (1.42)	825	2.22 (1.66)	855	2.37 (1.77)	880	2.51 (1.87)	910	2.69 (2.01)	930	2.83 (2.11)	----	----	----	----
4600 (2170)	705	1.65 (1.23)	770	1.95 (1.45)	795	2.11 (1.57)	845	2.43 (1.81)	870	2.58 (1.92)	900	2.75 (2.05)	925	2.92 (2.18)	----	----	----	----	----	----
4800 (2265)	730	1.85 (1.38)	790	2.17 (1.62)	810	2.33 (1.74)	865	2.66 (1.98)	890	2.82 (2.10)	920	2.99 (2.23)	----	----	----	----	----	----	----	----
5000 (2360)	755	2.07 (1.54)	810	2.42 (1.81)	835	2.59 (1.93)	885	2.91 (2.17)	----	----	----	----	----	----	----	----	----	----	----	----
5200 (2455)	775	2.30 (1.72)	830	2.69 (2.00)	855	2.84 (2.12)	----	----	----	----	----	----	----	----	----	----	----	----	----	----

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 25 for Accessory Air Resistance data.

NOTE — Data in shaded area denotes optional 3 hp (2238 W) drive kit.

BLOWER DATA

CHA16-1603 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																			
	.20 (50)		.40 (100)		.50 (125)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.30 (325)		1.50 (375)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
4200 (1980)	----	----	715	1.53 (1.14)	750	1.67 (1.25)	810	1.91 (1.42)	840	2.05 (1.53)	870	2.17 (1.62)	900	2.31 (1.72)	930	2.45 (1.83)	985	2.77 (2.07)	----	----
4400 (2075)	----	----	740	1.71 (1.28)	770	1.83 (1.41)	830	2.10 (1.57)	860	2.24 (1.67)	890	2.39 (1.78)	915	2.51 (1.87)	945	2.67 (1.99)	995	2.96 (2.21)	----	----
4600 (2170)	700	1.66 (1.24)	765	1.82 (1.36)	795	2.13 (1.59)	855	2.33 (1.74)	880	2.45 (1.83)	910	2.60 (1.94)	935	2.75 (2.05)	960	2.89 (2.16)	-----	-----	-----	-----
4800 (2265)	730	1.85 (1.38)	790	2.14 (1.60)	820	2.27 (1.69)	875	2.54 (1.89)	905	2.70 (2.01)	930	2.85 (2.13)	-----	-----	-----	-----	-----	-----	-----	-----
5000 (2360)	755	2.06 (1.54)	815	2.37 (1.77)	845	2.53 (1.89)	900	2.80 (2.09)	925	2.96 (2.21)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5200 (2455)	785	2.38 (1.78)	845	2.65 (1.98)	870	2.80 (2.09)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5400 (2550)	810	2.61 (1.95)	870	2.95 (2.20)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5600 (2645)	840	2.95 (2.20)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5800 (2735)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 25 for Accessory Air Resistance data.

CHA16-1853 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																			
	.20 (50)		.40 (100)		.50 (125)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.30 (325)		1.50 (375)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
5000 (2360)	540	1.50 (1.12)	600	1.70 (1.27)	640	1.80 (1.34)	690	2.20 (1.64)	720	2.25 (1.68)	740	2.40 (1.79)	765	2.60 (1.94)	785	2.75 (2.05)	830	3.00 (2.24)	870	3.20 (2.39)
5200 (2455)	555	1.60 (1.19)	615	1.80 (1.34)	650	2.10 (1.57)	700	2.30 (1.72)	730	2.40 (1.79)	750	2.50 (1.87)	775	2.75 (2.05)	795	2.80 (2.09)	840	3.20 (2.39)	880	3.50 (2.61)
5400 (2550)	570	1.70 (1.27)	630	2.00 (1.49)	660	2.25 (1.68)	710	2.40 (1.79)	740	2.50 (1.87)	760	2.70 (2.01)	785	2.80 (2.09)	810	3.00 (2.24)	850	3.30 (2.46)	890	3.75 (2.80)
5600 (2645)	580	1.75 (1.31)	640	2.25 (1.68)	670	2.30 (1.72)	725	2.55 (1.90)	750	2.70 (2.01)	775	2.85 (2.13)	795	3.00 (2.24)	820	3.20 (2.39)	860	3.50 (2.61)	905	3.95 (2.95)
5800 (2735)	600	2.00 (1.49)	655	2.35 (1.75)	685	2.50 (1.87)	740	2.75 (2.05)	765	2.90 (2.16)	785	3.10 (2.31)	805	3.25 (2.42)	830	3.35 (2.50)	870	3.70 (2.76)	915	4.20 (3.13)
6000 (2830)	615	2.20 (1.64)	670	2.60 (1.94)	695	2.65 (1.98)	750	2.95 (2.20)	775	3.15 (2.35)	795	3.30 (2.46)	820	3.50 (2.61)	840	3.65 (2.72)	880	4.05 (3.02)	925	4.45 (3.32)
6200 (2925)	630	2.40 (1.79)	685	2.75 (2.05)	715	2.90 (2.16)	765	3.20 (2.39)	785	3.40 (2.54)	810	3.60 (2.69)	830	3.80 (2.83)	850	3.90 (2.91)	895	4.30 (3.21)	935	4.75 (3.54)
6400 (3020)	645	2.55 (1.90)	700	2.90 (2.16)	725	3.05 (2.28)	775	3.40 (2.54)	800	3.70 (2.76)	820	3.75 (2.80)	845	4.00 (2.98)	860	4.25 (3.17)	905	4.60 (3.43)	940	5.00 (3.73)
6600 (3115)	660	2.80 (2.09)	715	3.15 (2.35)	740	3.25 (2.42)	790	3.65 (2.72)	810	3.90 (2.91)	835	4.10 (3.06)	850	4.20 (3.13)	875	4.50 (3.36)	915	4.80 (3.58)	-----	-----
6800 (3210)	670	3.00 (2.24)	730	3.40 (2.54)	760	3.55 (2.64)	800	3.95 (2.95)	825	4.15 (3.10)	845	4.40 (3.28)	865	4.50 (3.36)	890	4.90 (3.66)	-----	-----	-----	-----
7000 (3305)	695	3.30 (2.46)	745	3.60 (2.69)	770	3.75 (2.80)	815	4.20 (3.13)	840	4.50 (3.36)	860	4.65 (3.47)	880	4.90 (3.66)	-----	-----	-----	-----	-----	-----
7200 (3400)	710	3.55 (2.65)	760	3.85 (2.87)	785	4.15 (3.10)	830	4.55 (3.39)	850	4.70 (3.52)	870	4.95 (3.69)	-----	-----	-----	-----	-----	-----	-----	-----
7400 (3490)	730	3.75 (2.80)	775	4.10 (3.06)	800	4.40 (3.28)	840	4.70 (3.51)	860	5.00 (3.73)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7600 (3385)	740	3.90 (2.91)	785	4.35 (3.25)	810	4.60 (3.43)	850	4.95 (3.69)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 25 for Accessory Air Resistance data.

NOTE — Data in shaded area denotes optional 5 hp (3730 W) drive kit.

CHA16-2553 & CHA16-2753 BLOWER PERFORMANCE

STATIC PRESSURE EXTERNAL TO UNIT – Inches Water Gauge

Air Volume cfm (L/s)	.30 (75)		.40 (100)		.50 (125)		.60 (150)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.20 (300)		1.30 (325)		1.40 (350)		1.50 (375)		1.60 (400)		1.70 (425)		1.80 (450)		1.90 (470)		2.00 (490)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
6000 (2830)	465	1.60 (1.19)	495	1.80 (1.34)	520	1.95 (1.45)	545	2.15 (1.60)	565	2.30 (1.72)	590	2.45 (1.83)	610	2.65 (1.98)	635	2.85 (2.13)	655	3.00 (2.24)	675	3.20 (2.39)	695	3.40 (2.54)	710	3.55 (2.65)	730	3.75 (2.80)	750	4.00 (2.98)	765	4.15 (3.10)	785	4.40 (3.28)	800	4.60 (3.43)	815	4.75 (3.54)
6250 (2950)	480	1.80 (1.34)	505	1.95 (1.45)	530	2.15 (1.60)	555	2.30 (1.72)	575	2.45 (1.83)	600	2.65 (1.98)	620	2.85 (2.13)	640	3.00 (2.24)	665	3.25 (2.42)	680	3.40 (2.54)	700	3.60 (2.69)	720	3.80 (2.83)	740	4.00 (2.98)	755	4.20 (3.13)	775	4.45 (3.32)	790	4.60 (3.43)	810	4.85 (3.62)	825	5.05 (3.77)
6500 (3065)	490	1.95 (1.45)	515	2.15 (1.60)	540	2.30 (1.72)	565	2.50 (1.87)	585	2.65 (1.98)	610	2.85 (2.13)	630	3.05 (2.28)	650	3.25 (2.42)	670	3.45 (2.57)	690	3.65 (2.72)	710	3.85 (2.87)	730	4.05 (3.02)	745	4.25 (3.17)	765	4.45 (3.32)	780	4.65 (3.47)	800	4.90 (3.66)	815	5.10 (3.80)	830	5.30 (3.95)
6750 (3185)	500	2.15 (1.60)	525	2.30 (1.72)	550	2.50 (1.87)	575	2.70 (2.01)	600	2.90 (2.16)	620	3.10 (2.31)	640	3.30 (2.46)	660	3.45 (2.57)	680	3.70 (2.76)	700	3.90 (2.91)	720	4.10 (3.06)	735	4.30 (3.21)	755	4.50 (3.36)	770	4.70 (3.51)	790	4.95 (3.69)	805	5.15 (3.84)	820	5.35 (3.99)	840	5.60 (4.18)
7000 (3305)	515	2.35 (1.75)	540	2.55 (1.90)	565	2.75 (2.05)	585	2.90 (2.16)	610	3.15 (2.35)	630	3.35 (2.50)	650	3.50 (2.61)	670	3.70 (2.76)	690	3.95 (2.95)	710	4.15 (3.10)	730	4.40 (3.28)	745	4.55 (3.39)	765	4.80 (3.58)	780	5.00 (3.73)	800	5.25 (3.92)	815	5.45 (4.07)	830	5.65 (4.21)	845	5.90 (4.40)
7250 (3420)	530	2.60 (1.94)	555	2.80 (2.09)	575	3.00 (2.24)	600	3.20 (2.39)	620	3.40 (2.54)	640	3.55 (2.65)	660	3.75 (2.80)	680	4.00 (2.98)	700	4.20 (3.13)	720	4.45 (3.32)	735	4.60 (3.43)	755	4.85 (3.62)	770	5.05 (3.77)	790	5.30 (3.95)	805	5.50 (4.10)	820	5.70 (4.25)	840	6.00 (4.48)	855	6.25 (4.66)
7500 (3540)	540	2.80 (2.09)	565	3.00 (2.24)	590	3.25 (2.42)	610	3.45 (2.57)	630	3.60 (2.69)	650	3.85 (2.87)	670	4.05 (3.02)	690	4.25 (3.17)	710	4.50 (3.36)	730	4.75 (3.54)	745	4.90 (3.66)	765	5.15 (3.84)	780	5.35 (3.99)	800	5.65 (4.21)	815	5.85 (4.36)	830	6.05 (4.51)	845	6.30 (4.70)	860	6.50 (4.85)
7750 (3655)	555	3.05 (2.28)	575	3.25 (2.42)	600	3.50 (2.61)	620	3.70 (2.76)	645	3.95 (2.95)	665	4.15 (3.10)	680	4.30 (3.21)	700	4.55 (3.39)	720	4.80 (3.58)	740	5.05 (3.77)	755	5.20 (3.88)	775	5.45 (4.07)	790	5.70 (4.25)	805	5.90 (4.40)	825	6.20 (4.63)	840	6.40 (4.77)	855	6.65 (4.96)	870	6.90 (5.15)
8000 (3775)	570	3.35 (2.50)	590	3.55 (2.65)	610	3.75 (2.80)	635	4.00 (2.98)	655	4.20 (3.13)	675	4.45 (3.32)	695	4.65 (3.47)	710	4.85 (3.62)	730	5.10 (3.80)	750	5.35 (3.99)	765	5.55 (4.14)	785	5.80 (4.33)	800	6.05 (4.51)	815	6.25 (4.66)	830	6.50 (4.85)	850	6.80 (5.07)	865	7.00 (5.22)	880	7.25 (5.41)
8250 (3895)	580	3.60 (2.69)	605	3.85 (2.87)	625	4.05 (3.02)	645	4.25 (3.17)	665	4.50 (3.36)	685	4.75 (3.54)	705	4.95 (3.69)	725	5.20 (3.88)	740	5.40 (4.03)	760	5.70 (4.25)	775	5.90 (4.40)	795	6.15 (4.59)	810	6.40 (4.77)	825	6.60 (4.92)	840	6.85 (5.11)	855	7.10 (5.30)	870	7.35 (5.48)	----	----
8500 (4010)	595	3.90 (2.91)	615	4.10 (3.06)	635	4.35 (3.25)	660	4.60 (3.43)	675	4.80 (3.58)	695	5.05 (3.77)	715	5.30 (3.95)	735	5.55 (4.14)	750	5.75 (4.29)	770	6.05 (4.51)	785	6.25 (4.66)	805	6.55 (4.89)	820	6.75 (5.04)	835	7.00 (5.22)	850	7.25 (5.41)	865	7.50 (5.60)	----	----	----	----
8750 (4130)	610	4.25 (3.17)	630	4.45 (3.32)	650	4.70 (3.51)	670	4.90 (3.66)	690	5.15 (3.84)	710	5.40 (4.03)	725	5.60 (4.18)	745	5.90 (4.40)	760	6.10 (4.55)	780	6.40 (4.77)	795	6.60 (4.92)	815	6.90 (5.15)	830	7.15 (5.33)	845	7.40 (5.52)	----	----	----	----	----	----		
9000 (4245)	620	4.50 (3.36)	645	4.80 (3.58)	665	5.05 (3.77)	685	5.30 (3.95)	700	5.50 (4.10)	720	5.75 (4.29)	740	6.05 (4.51)	755	6.25 (4.66)	775	6.55 (4.89)	790	6.75 (5.04)	805	7.00 (5.22)	825	7.30 (5.54)	----	----	----	----	----	----	----	----	----	----		
9250 (4365)	635	4.90 (3.66)	655	5.10 (3.80)	675	5.35 (3.99)	695	5.65 (4.21)	715	5.90 (4.40)	730	6.10 (4.55)	750	6.40 (4.77)	765	6.60 (4.92)	785	6.90 (5.15)	800	7.15 (5.33)	815	7.40 (5.52)	----	----	----	----	----	----	----	----	----	----	----	----		
9500 (4485)	650	5.25 (3.92)	670	5.50 (4.10)	690	5.80 (4.33)	710	6.05 (4.51)	725	6.25 (4.66)	745	6.55 (4.89)	760	6.75 (5.04)	780	7.10 (5.29)	795	7.30 (5.45)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
9750 (4600)	665	5.65 (4.21)	685	5.90 (4.40)	705	6.20 (4.63)	720	6.40 (4.77)	740	6.70 (5.00)	755	6.95 (5.18)	775	7.25 (5.41)	790	7.50 (5.59)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
10,000 (4720)	680	6.05 (4.51)	695	6.30 (4.70)	715	6.55 (4.89)	735	6.85 (5.11)	750	7.10 (5.30)	770	7.40 (5.52)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	

NOTE — All data is measured external to the unit with dry coil and air filters in place. See Page 25 for Accessory Air Resistance data.
 Shaded area denotes optional 7-1/2 hp (5595 W) drive kit.

BLOWER DATA

ACCESSORY AIR RESISTANCE

Unit Model No.	Air Volume		Total Resistance — inches water gauge (Pa)							
			Wet Evaporator Coil	*ECH16 Electric Heat	REMD16M Down-flo Economizer	EMDH16M Horizontal Economizer	RTD11 Step-Down Diffuser			FD11 Flush Diffuser
	cfm	L/s					2 Ends Open	1 Side 2 Ends Open	All Ends & Sides Open	
CHA16-823 CHA16-953	2400	1185	.12 (30)	----	.03 (7)	.03 (7)	.21 (52)	.18 (45)	.15 (37)	.14 (35)
	2600	1225	.13 (32)	----	.04 (10)	.04 (10)	.24 (60)	.21 (52)	.18 (45)	.17 (42)
	2800	1320	.14 (35)	----	.04 (10)	.04 (10)	.27 (67)	.24 (60)	.21 (52)	.20 (50)
	3000	1415	.16 (40)	----	.05 (12)	.05 (12)	.32 (80)	.29 (72)	.25 (62)	.25 (62)
	3200	1510	.18 (45)	----	.05 (12)	.05 (12)	.41 (102)	.37 (92)	.32 (80)	.31 (77)
	3400	1605	.19 (47)	----	.06 (15)	.06 (15)	.50 (124)	.45 (112)	.39 (97)	.37 (92)
	3600	1700	.21 (52)	----	.06 (15)	.06 (15)	.61 (152)	.54 (134)	.48 (119)	.44 (109)
	3800	1795	.23 (57)	----	.07 (17)	.07 (17)	.73 (182)	.63 (157)	.57 (142)	.51 (127)
CHA16-1353	3600	1700	.12 (30)	----	.03 (7)	.03 (7)	.36 (90)	.28 (70)	.23 (57)	.15 (37)
	3800	1795	.13 (32)	----	.04 (10)	.04 (10)	.40 (99)	.32 (80)	.26 (65)	.18 (45)
	4000	1890	.14 (35)	----	.04 (10)	.04 (10)	.44 (109)	.36 (90)	.29 (72)	.21 (52)
	4200	1980	.15 (37)	----	.05 (12)	.05 (12)	.49 (122)	.40 (99)	.33 (82)	.24 (60)
	4400	2075	.16 (40)	----	.05 (12)	.05 (12)	.54 (134)	.44 (109)	.37 (92)	.27 (67)
	4600	2170	.17 (42)	----	.06 (15)	.06 (15)	.60 (149)	.49 (122)	.42 (104)	.31 (77)
	4800	2265	.18 (45)	----	.07 (17)	.07 (17)	.65 (162)	.53 (132)	.46 (114)	.35 (87)
	5000	2360	.19 (47)	----	.09 (22)	.09 (22)	.69 (172)	.58 (144)	.50 (124)	.39 (97)
CHA16-1603	5200	2455	.20 (50)	----	.10 (25)	.10 (25)	.75 (186)	.62 (154)	.54 (134)	.43 (107)
	4200	1980	.10 (25)	----	.06 (15)	.06 (15)	.22 (55)	.19 (47)	.16 (40)	.10 (25)
	4400	2075	.11 (27)	----	.07 (17)	.07 (17)	.28 (70)	.24 (60)	.20 (50)	.12 (30)
	4600	2170	.12 (30)	----	.07 (17)	.07 (17)	.34 (85)	.29 (72)	.24 (60)	.15 (37)
	4800	2265	.13 (32)	----	.08 (20)	.08 (20)	.40 (99)	.34 (85)	.29 (72)	.19 (47)
	5000	2360	.14 (35)	----	.08 (20)	.08 (20)	.46 (114)	.39 (97)	.34 (85)	.23 (57)
	5200	2455	.15 (37)	----	.09 (22)	.09 (22)	.52 (129)	.44 (109)	.39 (97)	.27 (67)
	5400	2550	.16 (40)	----	.10 (25)	.10 (25)	.58 (144)	.49 (122)	.43 (107)	.31 (77)
CHA16-1853	5600	2645	.17 (42)	----	.12 (30)	.12 (30)	.64 (159)	.54 (134)	.47 (117)	.35 (87)
	5800	2735	.18 (45)	----	.13 (32)	.13 (32)	.70 (174)	.59 (147)	.51 (127)	.39 (97)
	5000	2360	.07 (17)	.15 (37)	.11 (27)	----	.51 (127)	.44 (109)	.39 (97)	.27 (67)
	5200	2455	.08 (20)	.16 (40)	.12 (30)	----	.56 (139)	.48 (119)	.42 (104)	.30 (75)
	5400	2550	.09 (22)	.17 (42)	.13 (32)	----	.61 (152)	.52 (129)	.45 (112)	.33 (82)
	5600	2645	.10 (25)	.19 (47)	.14 (35)	----	.66 (164)	.56 (139)	.48 (119)	.36 (90)
	5800	2735	.11 (27)	.21 (52)	.15 (37)	----	.71 (177)	.59 (147)	.51 (127)	.39 (97)
	6000	2830	.12 (30)	.23 (57)	.16 (40)	----	.76 (189)	.63 (157)	.55 (137)	.42 (104)
	6200	2925	.13 (32)	.25 (62)	.17 (42)	----	.80 (199)	.68 (169)	.59 (147)	.46 (114)
	6400	3020	.14 (35)	.27 (67)	.18 (45)	----	.86 (214)	.72 (179)	.63 (157)	.50 (124)
	6600	3115	.15 (37)	.29 (72)	.20 (50)	----	.92 (229)	.77 (191)	.67 (167)	.54 (134)
	6800	3210	.16 (40)	.31 (77)	.22 (55)	----	.99 (246)	.83 (206)	.72 (174)	.58 (144)
CHA16-2553 CHA16-2753	7000	3305	.17 (42)	.32 (80)	.23 (57)	----	1.03 (256)	.87 (216)	.76 (189)	.62 (154)
	7200	3400	.18 (45)	.34 (85)	.24 (60)	----	1.09 (271)	.92 (229)	.80 (199)	.66 (164)
	7400	3490	.19 (47)	.36 (90)	.25 (62)	----	1.15 (286)	.97 (241)	.84 (209)	.70 (174)
	7600	3585	.20 (50)	.38 (95)	.26 (65)	----	1.20 (301)	1.02 (254)	.88 (219)	.74 (184)
	6000	2830	.06 (15)	.09 (22)	.01 (2)	----	.36 (90)	.31 (77)	.27 (67)	.29 (72)
	6500	3065	.07 (17)	.10 (25)	.02 (5)	----	.42 (104)	.36 (90)	.31 (77)	.34 (85)
	7000	3305	.08 (20)	.11 (27)	.02 (5)	----	.49 (122)	.41 (102)	.36 (90)	.40 (99)
	7500	3540	.09 (22)	.12 (30)	.04 (10)	----	.51 (127)	.46 (114)	.41 (102)	.45 (112)
8000	3775	.10 (25)	.13 (32)	.06 (15)	----	.59 (147)	.49 (122)	.43 (107)	.50 (124)	
8500	4010	.11 (27)	.14 (35)	.08 (20)	----	.69 (172)	.58 (144)	.50 (124)	.57 (142)	
9000	4245	.12 (30)	.15 (37)	.10 (25)	----	.79 (196)	.67 (167)	.58 (144)	.66 (164)	
9500	4485	.13 (32)	.16 (40)	.12 (30)	----	.89 (221)	.75 (186)	.65 (162)	.74 (184)	
10,000	4720	.15 (37)	.17 (42)	.14 (35)	----	1.00 (249)	.84 (209)	.73 (182)	.81 (201)	

*Electric heaters for CHA16-823 thru CHA16-1603 units have no appreciable air resistance.

**PED16-185 & PED16-300
POWER EXHAUST FANS PERFORMANCE**

Model No.	Air Volume Exhausted		Return Air System Static Pressure Inches Water Gauge (Pa)
	cfm	L/s	
PED16-185	4200	1980	0 (0)
	3800	1795	.05 (12)
	3500	1650	.10 (25)
	3200	1510	.15 (37)
	2700	1275	.20 (50)
	2200	1040	.25 (62)
PED16-300	6300	2970	0 (0)
	5750	2715	.05 (12)
	5200	2455	.10 (25)
	4625	2180	.15 (37)
	4050	1910	.20 (50)

CEILING DIFFUSER AIR THROW DATA

Model No.	Air Volume		*Effective Throw Range			
			RTD11 Step-Down		FD11 Flush	
	cfm	L/s	ft.	m	ft.	m
CHA16-823 CHA16-953	3000	1415	27 – 33	8 – 10	25 – 30	8 – 9
	3375	1595	30 – 37	9 – 11	28 – 34	9 – 10
	3750	1770	34 – 41	10 – 12	31 – 38	9 – 12
CHA16-1353	4400	2075	34 – 42	10 – 13	32 – 40	10 – 12
	4950	2335	38 – 47	12 – 14	36 – 45	11 – 14
	5500	2595	43 – 52	13 – 16	40 – 50	12 – 15
CHA16-1603	4200	1980	39 – 46	12 – 14	40 – 48	12 – 15
	5000	2360	41 – 50	12 – 15	43 – 52	13 – 16
	5800	2735	43 – 52	13 – 16	45 – 54	14 – 16
CHA16-1853	6000	2830	45 – 55	14 – 17	48 – 55	15 – 17
	6750	3190	47 – 56	14 – 17	50 – 58	15 – 18
	7500	3540	49 – 58	15 – 18	55 – 66	17 – 20
CHA16-2553 CHA16-2753	8000	3775	39 – 44	12 – 13	53 – 62	16 – 19
	9000	4245	47 – 56	14 – 17	55 – 64	17 – 20
	10,000	4720	49 – 58	15 – 18	57 – 67	17 – 20

*Throw is the horizontal or vertical distance an airstream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. (15 m) per minute. Four sides open.

GUIDE SPECIFICATIONS

Prepared for the guidance of architects, consulting engineers and mechanical contractors.

General — Furnish and install a single package air to air DX mechanical cooling system, 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 Canada.

The installed weight shall not be more than lbs. (kg) Entire unit shall have a width of not more than inches (mm), a depth of not more than inches (mm) and an overall height of not more than inches (mm). The equipment shall be shipped completely factory assembled, precharged, piped and wired internally ready for field connections. In addition, manufacturer shall test operate system at the factory before shipment.

Air Distribution — Equipment shall be capable of bottom (down-flo) or side (horizontal) handling of conditioned air. All air distribution ducts shall be fiberglass or ga. galvanized steel insulated with inch (mm) thick lb./ft.² (kg/m²) density fiberglass or equivalent.

Approvals — All electrical components shall have C.S.A. Listing. All wiring shall be in compliance with CEC.

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

Cooling System — The total certified cooling capacity shall not be less than Btuh (kW) with an evaporator air volume of cfm (L/s), an entering wet bulb air temperature of °F (°C), an entering dry bulb air temperature of °F (°C) and a condenser entering temperature of °F (°C). The compressor power input shall not exceed kW at these conditions.

The coils shall be non-ferrous construction with aluminum fins mechanically bonded to durable copper tubes. Coils shall be pressure leak tested. Coil face area shall be not less than sq. ft. (m²) (evaporator) and sq. ft. (m²) (condenser).

Multiple compressors shall be resiliently mounted, have overload protection, compressor monitor and crankcase heater. CHA16-823, -953, -1353, -1603 (2nd stage only) and -1853 units shall internal pressure relief. The refrigeration system shall have suction and liquid line service gauge ports, high pressure switches, loss of charge switches, thermometer well, driers, freeze-stat and full refrigerant charge. CHA16-2553 & -2753 shall have suction and liquid line service valves. Control option available shall consist of low ambient control and timed-off control. Shall be rated in accordance with ARI Standard 210/240-89 or 360-86.

Optional Additive Electric Heaters — The certified total heating capacity output shall be Btuh with kW input at volts power supply.

Electric heaters shall be available for factory or field installation. Heating elements shall be nichrome bare wire exposed directly to the air stream. Time delays shall bring the elements on and off in sequence with a time delay between each element. Limit controls shall provide overload and short circuit protection. Optional fuse block shall be required on electric heaters.

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. Evaporator coil condensate drain extended outside cabinet shall be provided. Lifting brackets shall be provided for rigging.

Service Access — All components, wiring and inspection areas shall be completely accessible through removable panels.

Supply Air Blowers — Centrifugal supply air blower shall have permanently lubricated ball bearings and adjustable belt drive. Motor mount base shall permit ease of motor changeover and belt tension adjustment. Blower wheel shall be statically and dynamically balanced. Blower shall be capable of delivering cfm (L/s) at an external static pressure of inches water gauge (Pa) requiring bhp (W) and rpm.

Condenser Fan(s) — Direct drive propeller type condenser fan(s) shall discharge vertically and be direct driven by a hp (W) motor. Fan motor shall be permanently lubricated and inherently protected. Fan(s) shall have a safety guard.

Air Filters — Disposable filters furnished shall have not less than sq. ft. (m²) of free area.

OPTIONAL ACCESSORIES

Roof Mounting Frame — Furnish and 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 National Roofing Contractors Association.

Economizer Damper Section — Furnish and install complete with recirculated air dampers, outside air dampers, air filters, damper actuator and controls. Low leakage dampers shall ride in nylon bearings. The economizer section shall provide for the introduction of 100% outdoor air for minimum ventilation and free cooling. REMD16M-185 & -300 shall include gravity operated exhaust air dampers. Integrated economizer cycle shall allow compressors to cycle for dehumidification and additional cooling, as needed, with 100% outdoor air intake. Damper actuator shall be 24 volt, fully modulating spring return. Controls shall include fixed 55°F (13°C) mixed air controller, damper actuator, adjustable minimum position switch and solid-state adjustable outdoor air enthalpy control. Cabinet shall be galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal. Control option shall consist of differential enthalpy control (return air sensor).

Gravity Exhaust Dampers — Optional pressure operated dampers shall be available for field installation in economizer damper section. Neoprene coated fiberglass dampers shall prevent blow-back and outdoor air infiltration during off cycle. Shall be equipped with rain-hoods and bird screen. Shall be furnished with REMD16M-185 & -300.

Power Exhaust Fans — Shall be available for CHA16-1853-2553-2753 with REMD16M economizer installed in the down-flo position only. Direct drive propeller type fans shall exhaust air through exhaust dampers. Motors shall be overload protected. Fans shall install in-between the unit and exhaust dampers.

Outdoor Air Damper Section — Optional outdoor dampers shall be available to provide outdoor air requirements of up to 25%. Shall be available for manual or automatic operation. Damper section field installs external to the unit. Shall be equipped with filter for extra air filtering and bird screen protection.

Horizontal Supply & Return Air Kit — Optional kit shall provide necessary cabinet parts to field convert unit for side (horizontal) supply and return air duct connections.

Bottom Power Entry Kit — Optional kit shall provide bottom power entry to the unit within the confines of the roof mounting frame.

Ceiling Diffusers — Furnish and install a (flush or stepdown) optional combination ceiling supply and return air diffuser. It shall be capable of not less than ft. (m) radius of effective throw. Supply and return transitions shall be available, for field installation in the roof mounting frame, to provide duct connection to the diffuser.

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.

Remote Switching Status Panel — Shall be available for installation within the conditioned area to control and observe equipment operation. The panel shall include signal lights for Cool Mode, Heat Mode, Compressor 1, Compressor 2, No Heat and Filter. System selector switch and fan switch shall provide operational mode and blower operation. After hours timer switch shall override night setback controls and provide normal operation for time period set.

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.

UNIT DIMENSIONS – inches (mm)

CHA16-823, -953, -1353, -1603 & -1853

CORNER WEIGHTS – lbs. (kg)

CENTER OF GRAVITY – in. (mm)

Model No.	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
CHA16-823 CHA16-953	177	80	284	129	186	84	116	53
CHA16-1353	210	95	346	157	308	140	187	85
CHA16-1603	227	103	399	181	327	148	186	84
CHA16-1853	325	147	524	238	452	205	280	127

Model No.	EE		FF	
	in.	mm	in.	mm
CHA16-823 CHA16-953	29	737	36-1/4	921
CHA16-1353	31-3/4	806	35-1/2	902
CHA16-1603	33	838	37	940
CHA16-1853	36-1/2	927	44-3/8	1127

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
CHA16-823 CHA16-953	39	991	88-1/2	2248	48	1219	16-1/2	419	30-3/8	772	5-5/8	142	32-1/8	816	19-7/16	494	24-5/8	625	33	838	1-5/8	41
CHA16-1353	46	1168	94	2388	60	1524	24	610	30-3/8	772	4-7/16	113	39-1/8	994	25-1/4	641	31-5/8	803	33	838	2	51
CHA16-1603	46	1168	102	2591	60	1524	24	610	38	965	4-7/16	113	39-1/8	994	25-1/4	641	31-5/8	803	41	1041	2	51
CHA16-1853	51-1/2	1308	116	2946	68	1727	24-1/2	622	44	1118	5-5/8	143	41-1/2	1054	25-3/4	654	32-3/4	832	50-1/8	1273	2	51

Model No.	M		N		P		Q		R		S		T		U		V		W	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
CHA16-823 CHA16-953	25-1/16	637	22-1/8	562	64-7/8	1648	54-1/2	1384	2-3/8	60	2-3/4	70	1-1/2	38	3-1/16	78	4-3/16	106	3-1/16	78
CHA16-1353	31-3/16	792	28-1/2	724	64	1626	54-1/2	1384	2-3/8	60	2-3/4	70	1-1/2	38	3-1/16	78	4-3/16	106	3-1/16	78
CHA16-1603	31-3/16	792	28-1/2	724	72	1829	62-1/2	1588	2-3/8	60	2-3/4	70	1-1/2	38	3-1/16	78	4-3/16	106	3-1/16	78
CHA16-1853	33-1/2	851	33	838	81-1/2	2070	36	914	4	102	4-1/4	108	3	76	5	127	7-1/4	184	4-1/16	103

UNIT DIMENSIONS – inches (mm)

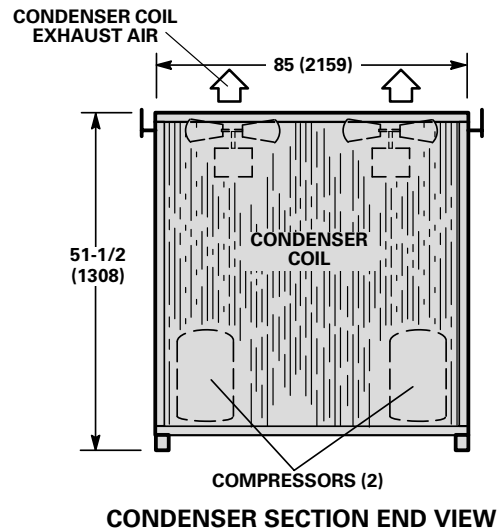
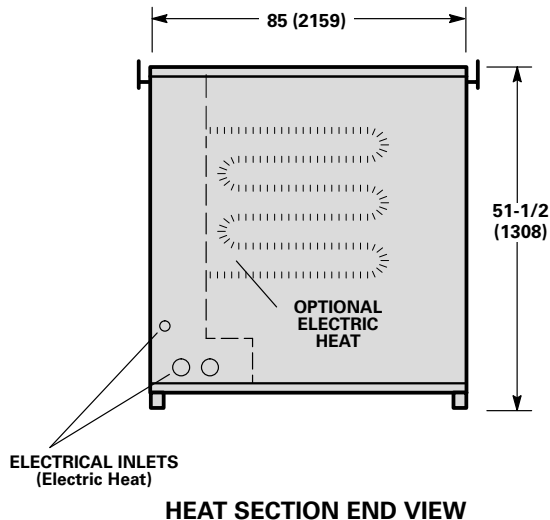
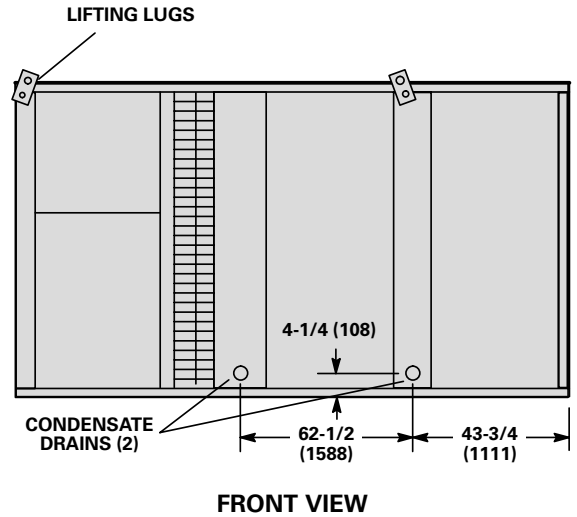
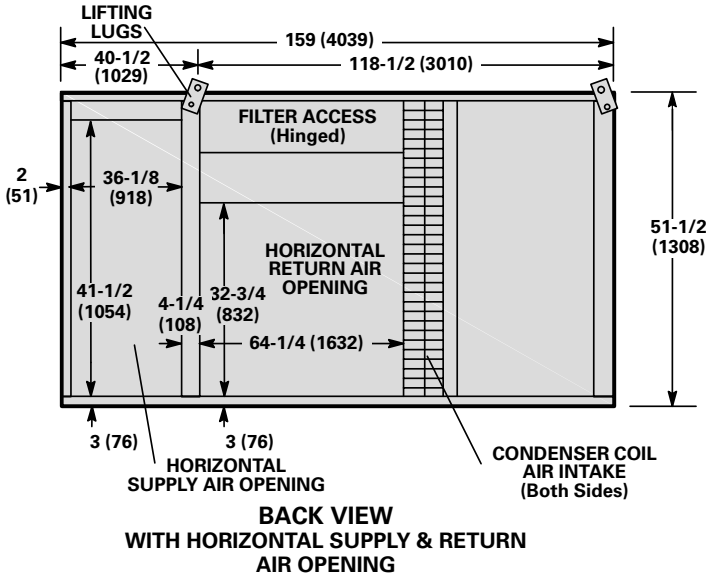
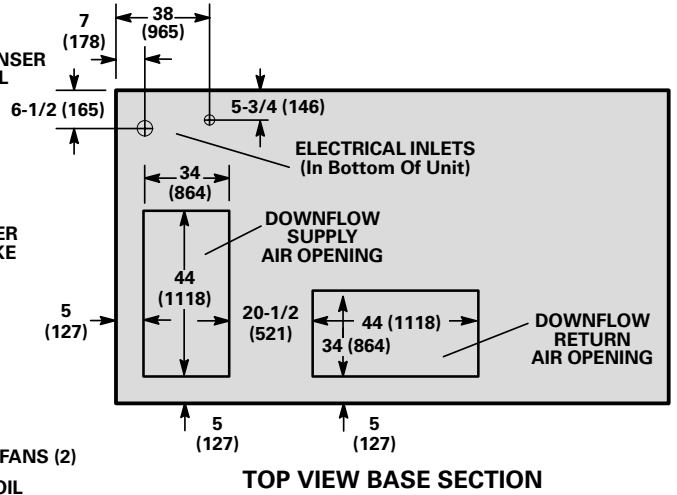
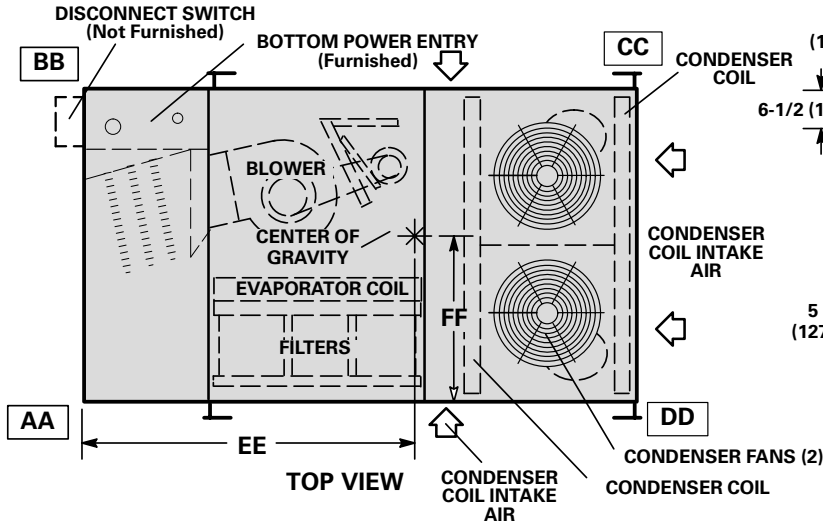
CHA16-2553 & -2753

CORNER WEIGHTS – lbs. (kg)

Model No.	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
CHA16-2553	390	177	460	209	644	292	546	248
CHA16-2753								

CENTER OF GRAVITY – in. (mm)

Model No.	EE		FF	
	in.	mm	in.	mm
CHA16-2553	92-3/4	2356	46	1168
CHA16-2753				



ACCESSORY DIMENSIONS – inches (mm)

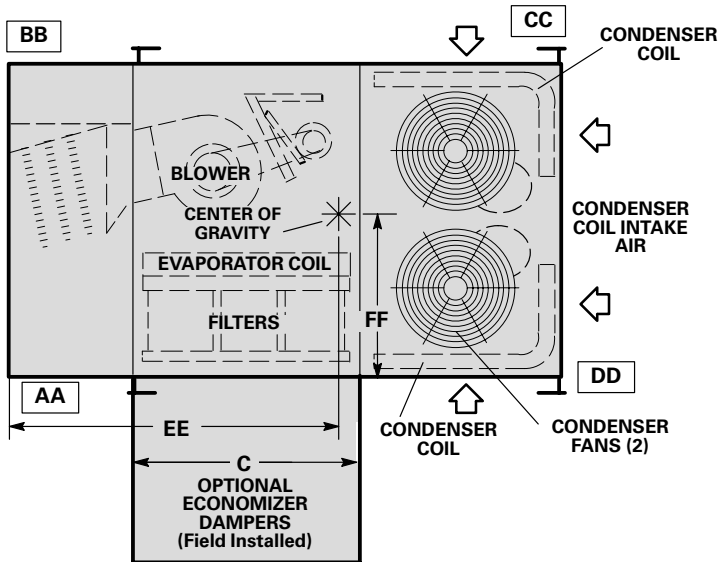
**CHA16-823, -953, -1353 & -1603 UNITS WITH REMD16M ECONOMIZER DAMPER SECTION
AND RMF16 ROOF MOUNTING FRAME**

ACCESSORY DIMENSIONS – inches (mm)

CHA16-823, -953, -1353 & -1603 UNITS WITH
EMDH16 HORIZONTAL ECONOMIZER DAMPER SECTION

ACCESSORY DIMENSIONS – inches (mm)

**CHA16-1853, -2553 & -2753 UNIT
WITH REMD16M ECONOMIZER DAMPER SECTION AND RMF16 ROOF MOUNTING FRAME
(DOWN-FLOW APPLICATION)
(CHA16-1853 Model Shown)**



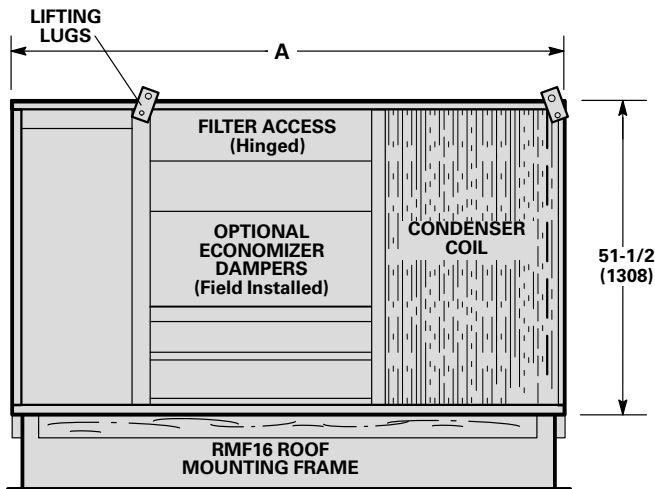
TOP VIEW

CORNER WEIGHTS – lbs. (kg)

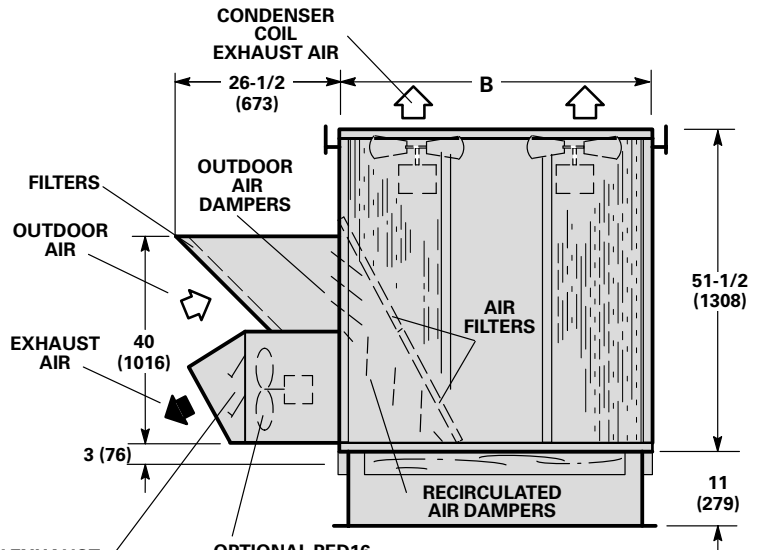
Model No.	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
CHA16-1853	331	150	378	171	550	249	482	219
CHA16-2553	535	243	517	235	677	307	701	318
CHA16-2753	535	243	517	235	677	307	701	318

CENTER OF GRAVITY – in. (mm)

Model No.	EE		FF	
	in.	mm	in.	mm
CHA16-1853	67-3/4	1721	35-1/4	895
CHA16-2553	90-3/16	2291	41-3/4	1060
CHA16-2753	90-3/16	2291	41-3/4	1060



BACK VIEW



GRAVITY EXHAUST DAMPERS
(Furnished With REMD16M)
Net Face Area:
-185 – 4.3 ft.² (0.40 m²)
-300 – 5.6 ft.² (0.52 m²)

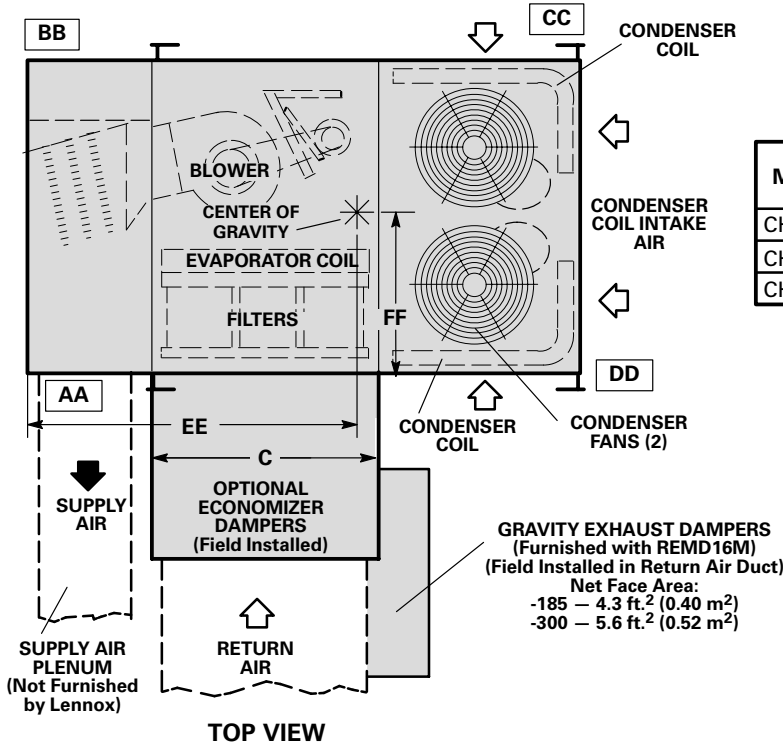
OPTIONAL PED16 POWER EXHAUST FANS
(PED16-185 has two fans)
(PED16-300 has three fans)

CONDENSER SECTION END VIEW

Model No.	A		B		C	
	in.	mm	in.	mm	in.	mm
CHA16-1853	116	2946	68	1727	50-3/4	1289
CHA16-2553	159	4039	85	2159	64-1/2	1638
CHA16-2753	159	4039	85	2159	64-1/2	1638

ACCESSORY DIMENSIONS – inches (mm)

**CHA16-1853, -2553 & -2753 UNIT
WITH REMD16M ECONOMIZER DAMPER SECTION
(HORIZONTAL APPLICATION)
(CHA16-1853 Model Shown)**

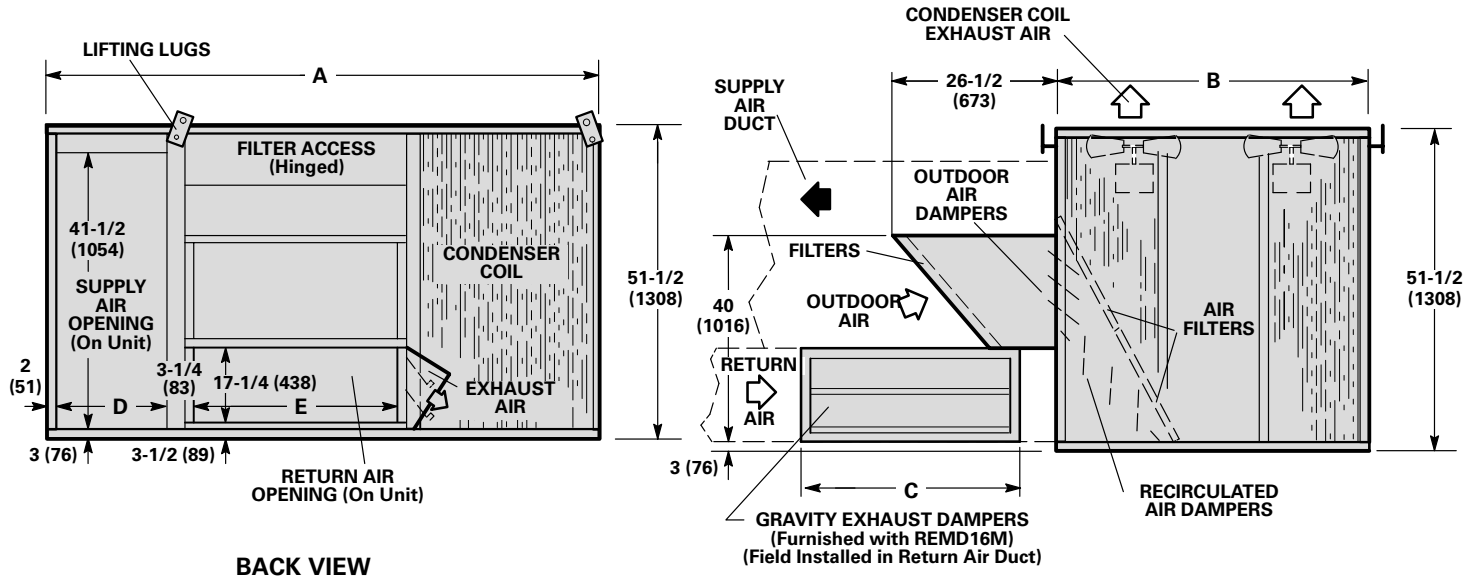


CORNER WEIGHTS – lbs. (kg)

Model No.	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
CHA16-1853	359	163	387	176	505	229	543	246
CHA16-2553	490	222	472	214	632	287	656	298
CHA16-2753	490	222	472	214	632	287	656	298

CENTER OF GRAVITY – in. (mm)

Model No.	EE		FF	
	in.	mm	in.	mm
CHA16-1853	68-3/4	1746	36-1/4	921
CHA16-2553	91-1/16	2313	41-3/4	1060
CHA16-2753	91-1/16	2313	41-3/4	1060

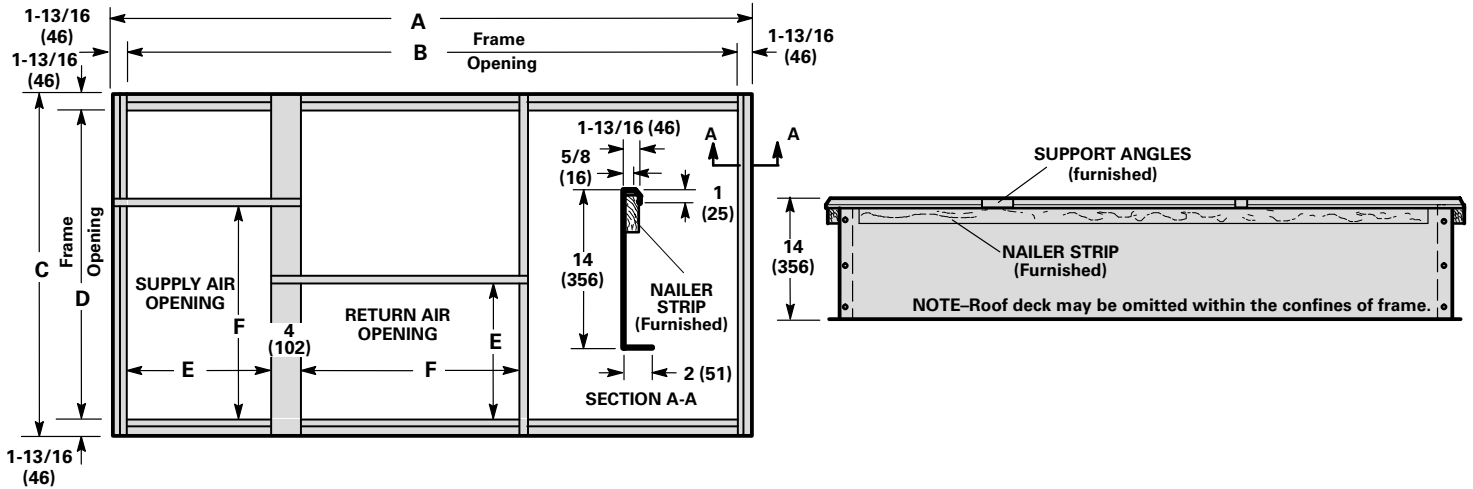


CONDENSER SECTION END VIEW

Model No.	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
CHA16-1853	116	2946	68	1727	50-3/4	1289	25-3/4	654	50	1270
CHA16-2553	159	4039	85	2159	64-1/2	1638	36-1/8	918	64-1/4	1632
CHA16-2753	159	4039	85	2159	64-1/2	1638	36-1/8	918	64-1/4	1632

ACCESSORY DIMENSIONS – inches (mm)

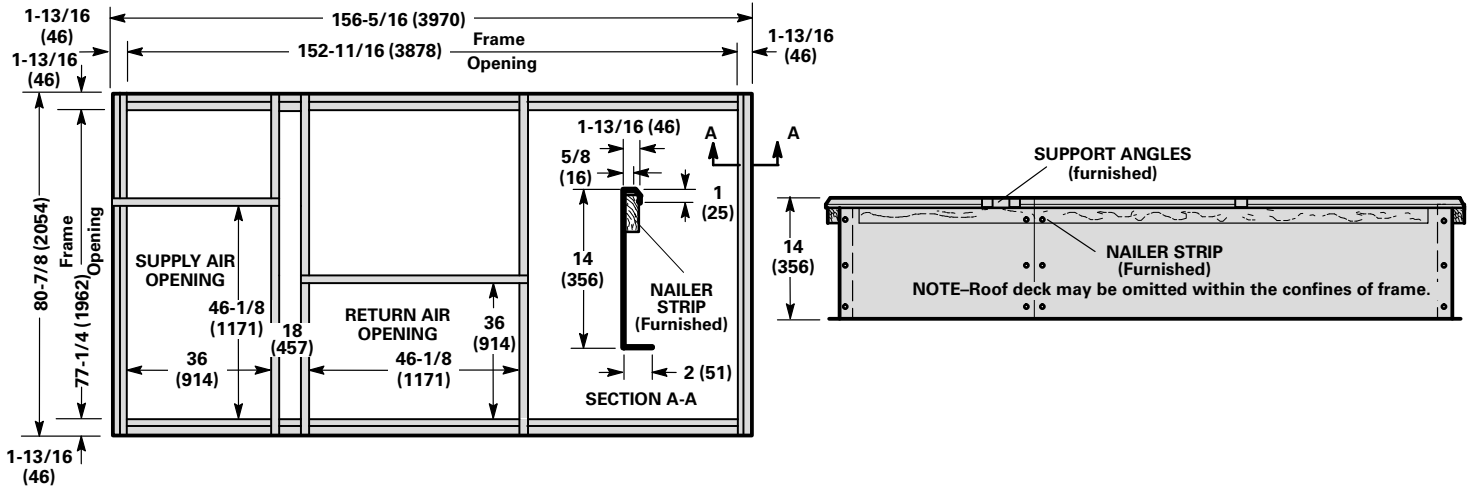
RMF16-95, -135/160 and -185 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING



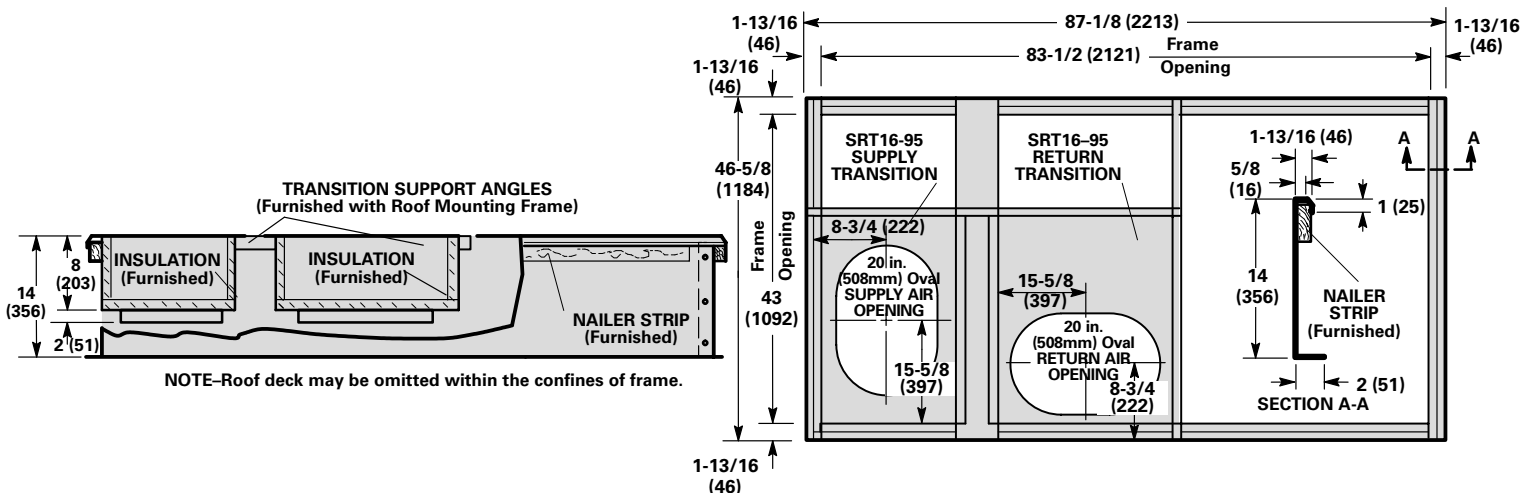
Model No.	A		B		C		D		E		F	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
RMF16-95	87-1/8	2213	83-1/2	2121	46-5/8	1184	43	1092	17-15/16	456	31-1/2	800
RMF16-135/160	92-1/2	2350	88-7/8	2257	58-1/2	1486	54-7/8	1394	25-1/4	641	*	*
RMF16-185	111-3/4	2838	108-1/8	2746	63-7/8	1622	60-1/4	1530	26-3/8	670	46-1/8	1171

*31-1/2 inches (800 mm) for -1353 units. 39-1/2 inches (1003 mm) for -1603 units.

RMF16-300 SERIES ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING

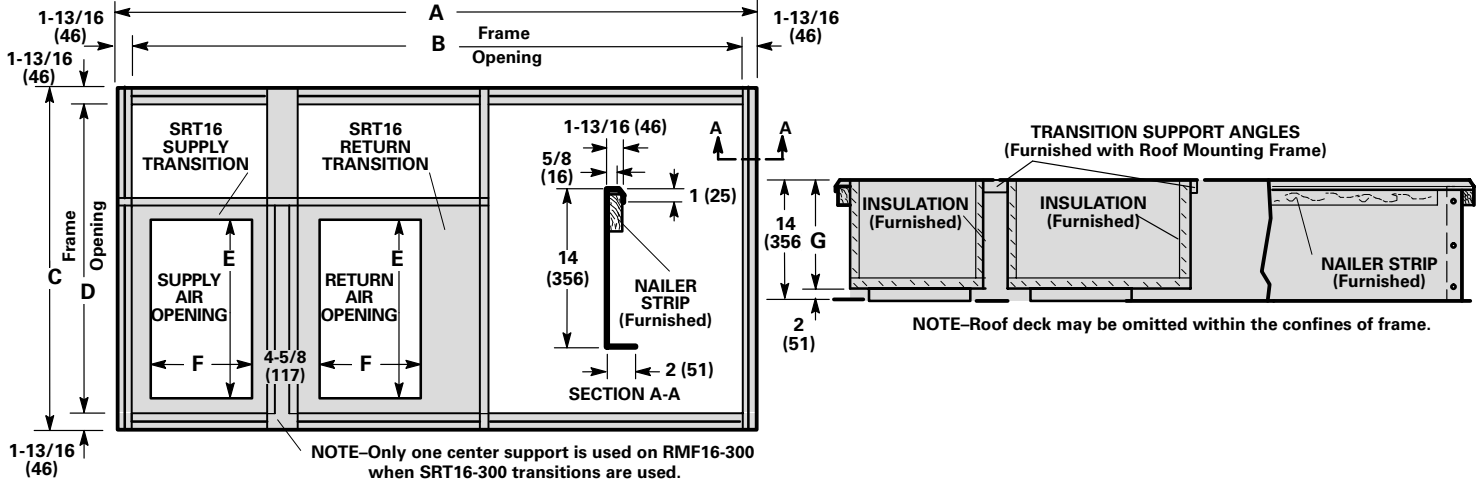


RMF16-95 ROOF MOUNTING FRAMES WITH SRT16 SUPPLY AND RETURN AIR TRANSITIONS FOR FD11-95 & RTD11-95 CEILING DIFFUSERS



ACCESSORY DIMENSIONS – inches (mm)

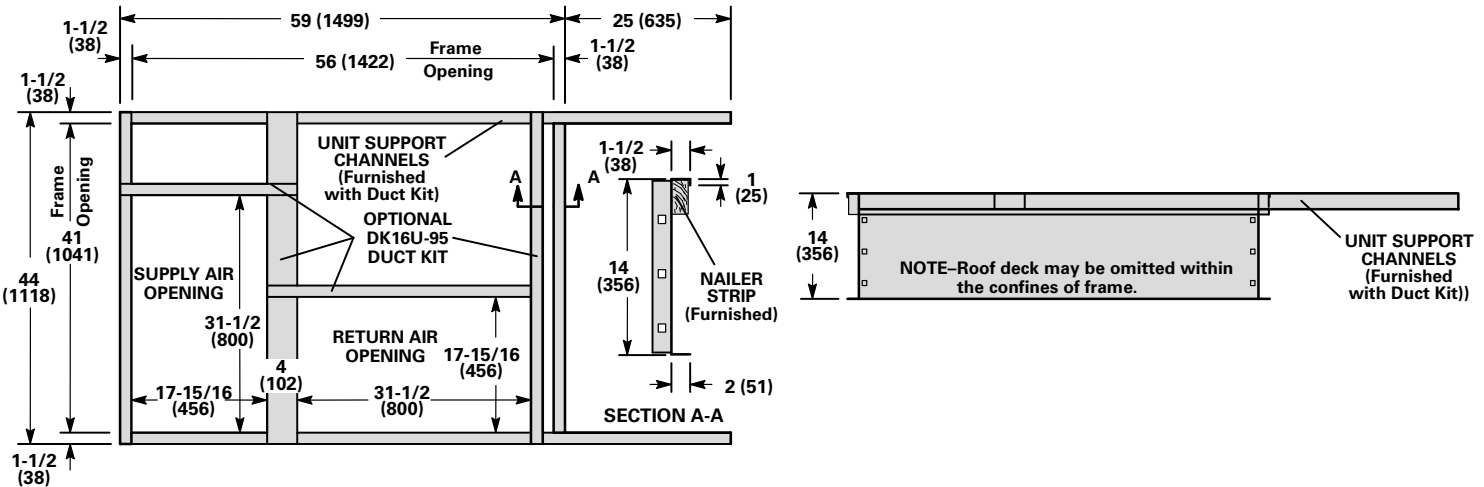
**RMF16-135/160, -185 & -300 ROOF MOUNTING FRAMES WITH SRT16
SUPPLY AND RETURN AIR TRANSITIONS FOR FD11 & RTD11 CEILING DIFFUSERS**



Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
RMF16-135/160	92-1/2	2346	88-7/8	2257	58-1/2	1486	54-7/8	1394	*	*	18	457	8	203
RMF16-185	111-3/4	2838	108-1/8	2746	63-7/8	1622	60-1/4	1530	36	914	18	457	12	305
RMF16-300	156-5/16	3970	152-11/16	3878	80-7/8	2054	77-1/4	1962	48	1219	24	610	12	305

*28 inches (711 mm) for SRT16-135 Transition. 36 inches (914 mm) for SRT16-160 Transition.

RMF16U-26/95 UNIVERSAL ROOF MOUNTING FRAME WITH OPTIONAL DK16U-95 DUCT KIT



TYPICAL FLASHING DETAIL FOR RMF16 ROOF MOUNTING FRAME

ROOF MOUNTING FRAME SPECIFICATIONS

Roof Mounting frame is rigid enough to be spanned over its entire length or cantilevered if supported on either side of center of gravity.

Roof Mounting Frame	RMF16-95 thru -300
*Frame moment of inertia (I) (in. ⁴) (cm ⁴)	42 (1748)
*Frame section modulus $\frac{I}{C}$ (in. ³) (cm ³)	5.8 (95)
Mounting frame wt. (lb/ft) (kg/m) of length	5.5 (8.2)
Mounting frame design strength (psi) (kPa)	20,000 (137,900)

OAD16 OUTDOOR AIR DAMPER SECTION

Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
OAD16-95, OAD16-135, OAD16-160	24	610	21	533	18-1/2	470	17-1/8	435	17-1/8	435	3/4	19	5/8	16
OAD16-185	33	838	30	762	28-3/8	594	27	686	22-1/4	565	3/4	19	5/8	16
OAD16-300	33	838	30	762	34-5/8	879	33-1/4	845	34-1/4	870	1/2	13	1/2	13

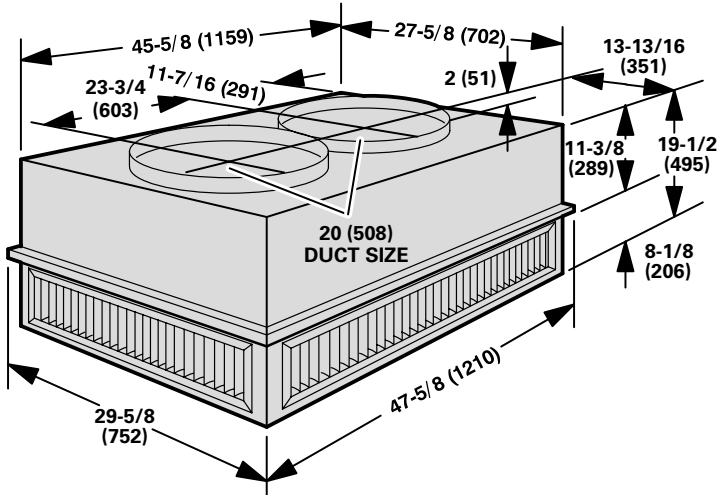
**CHA16 UNIT WITH OAD16 OUTDOOR AIR DAMPER SECTION
DOWN-FLO SUPPLY AND RETURN AIR**

Model No.	A		B	
	in.	mm	in.	mm
OAD16-95, OAD16-135, OAD16-160	17-1/8	435	17-1/8	435
OAD16-185	27	686	22-1/4	565
OAD16-300	33-1/4	845	24-1/4	616

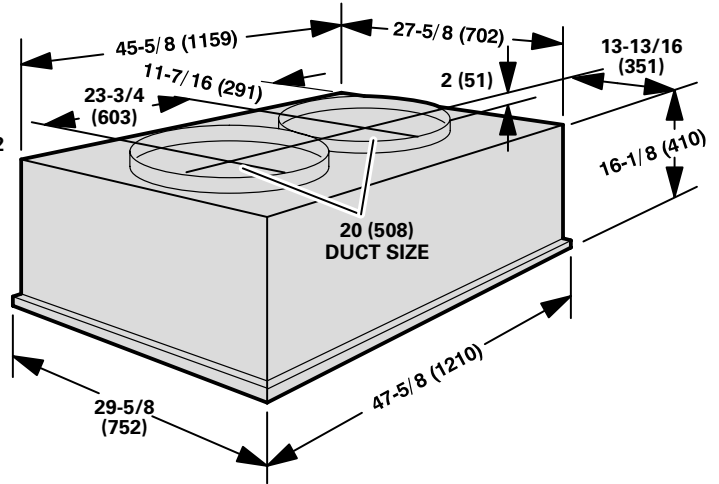
ACCESSORY DIMENSIONS – inches (mm)

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

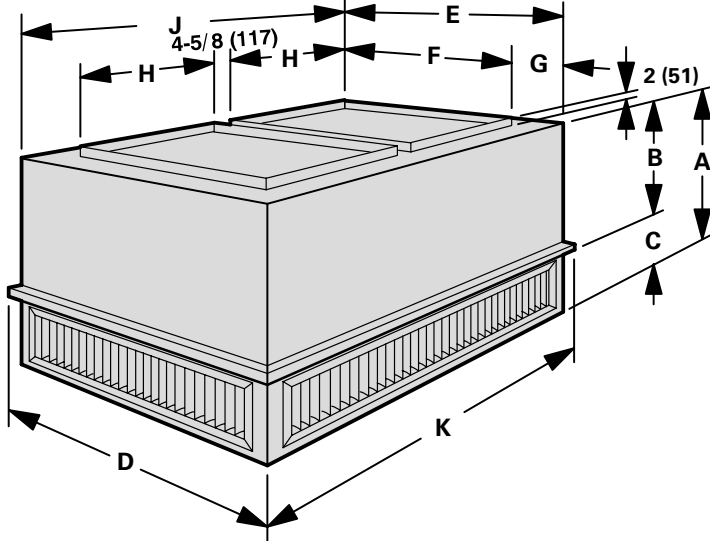
RTD11-95 STEP-DOWN CEILING DIFFUSER



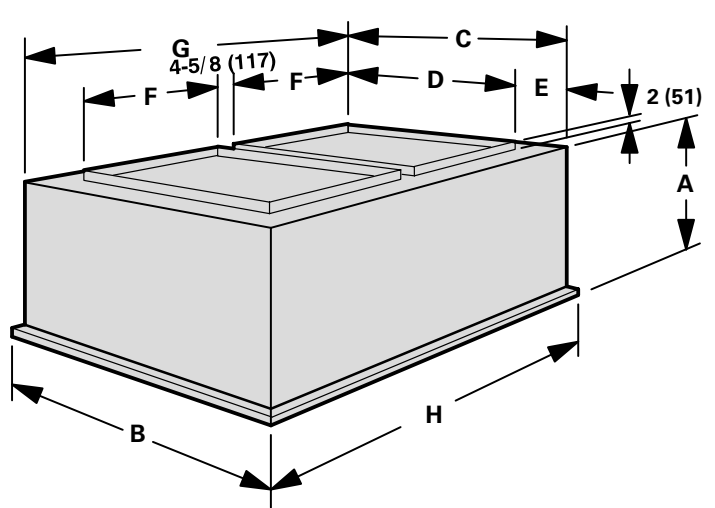
FD11-95 FLUSH CEILING DIFFUSER



**RTD11-135, RTD11-185 & RTD11-275
STEP-DOWN CEILING DIFFUSER**



**FD11-135, FD11-185 & FD11-275
FLUSH CEILING DIFFUSER**



Model Number	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
RTD11-135	28	711	18-7/8	479	9-1/8	232	35-5/8	905	33-5/8	854
RTD11-185	34	864	23-7/8	606	10-1/8	257	47-5/8	1210	45-5/8	1159
RTD11-275	40	1016	28-7/8	725	11-1/8	283	59-5/8	1514	57-7/8	1470

Model Number	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
FD11-135	24-1/8	613	35-5/8	905	33-5/8	854	28	711
FD11-185	30-1/8	763	47-5/8	1210	45-5/8	1159	36	914
FD11-275	36-1/8	918	59-5/8	1514	57-5/8	1464	48	1219

Model Number	F		G		H		J		K	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
RTD11-135	28	711	2-13/16	71	18	457	45-5/8	1159	47-5/8	1210
RTD11-185	36	914	4-13/16	122	18	457	45-5/8	1159	47-5/8	1210
RTD11-275	48	1219	4-13/16	122	24	610	57-5/8	1464	59-5/8	1521

Model Number	E		F		G		H	
	in.	mm	in.	mm	in.	mm	in.	mm
FD11-135	2-13/16	71	18	457	45-5/8	1159	47-5/8	1210
FD11-185	4-13/16	122	18	457	45-5/8	1159	47-5/8	1210
FD11-275	4-13/16	122	24	610	57-5/8	1464	59-5/8	1521

CHA16 BASIC UNIT

**CHA16 UNIT WITH REMD16M ECONOMIZER DAMPER SECTION
OR OAD16 OUTDOOR AIR DAMPER**

**CHA16 UNIT WITH EMDH16M HORIZONTAL ECONOMIZER
DAMPER SECTION**