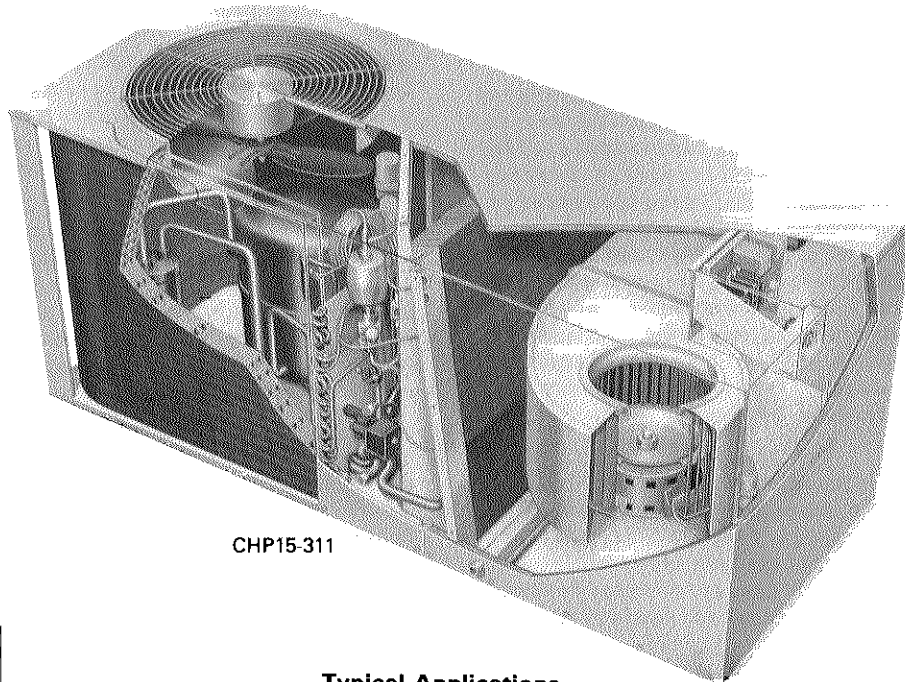




CHP15 SERIES SINGLE PACKAGE HEAT PUMPS

*24,800 to 59,000 Btuh Total Cooling Capacity
*25,000 to 62,000 Btuh Total Heating Capacity
12,800 to 85,300 Btuh Optional Electric Heat

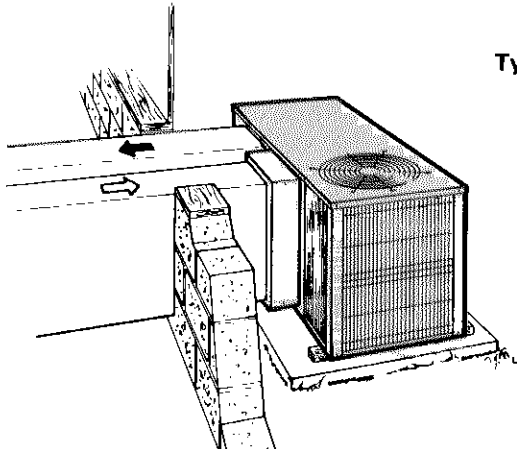
*DOE and ARI Standard 240 Ratings



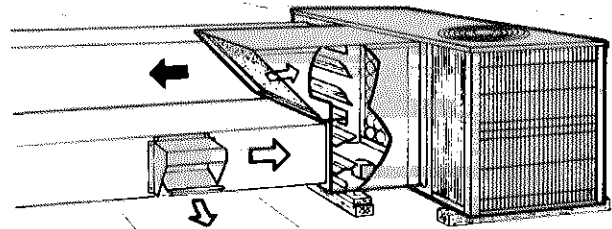
CHP15-311



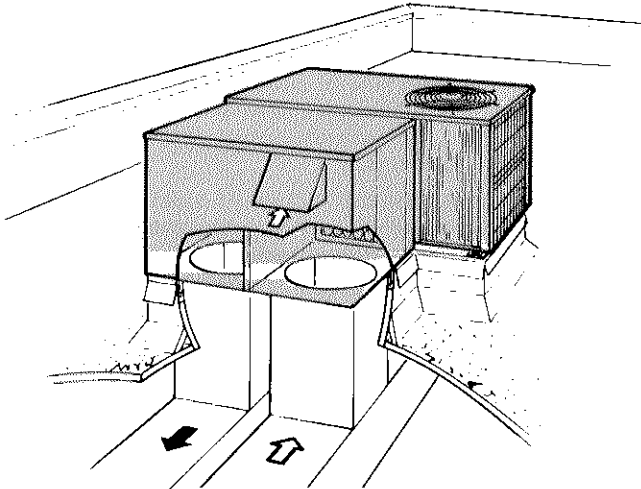
Typical Applications



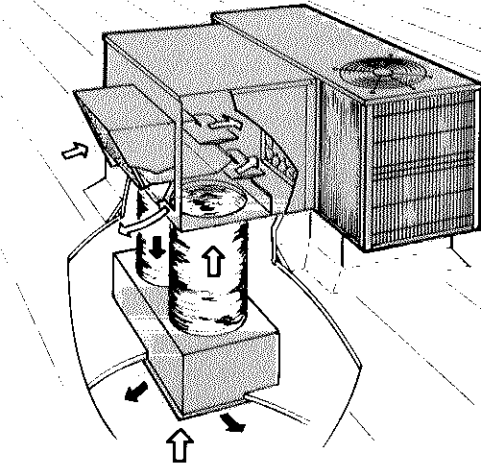
Grade Level Installation
Unit with filter section



Rooftop Installation
Unit with EMDH15 horizontal economizer



Rooftop Installation
Unit with RMF15 roof mounting frame
and RDE15 duct enclosure



Rooftop Installation
Unit with RMF15 roof mounting frame,
REMD15 economizer and combination ceiling
supply and return diffuser

NOTE - Specifications, Ratings and Dimensions subject to change without notice.

FEATURES

Applications — Lennox single package CHP15 heat pump units are designed for residential or small commercial installations. Units can be installed with ducts extended through a wall, in a crawlspace, basement, utility room or attic. Installation on a slab at grade level or on a rooftop will save valuable interior floor space. Unit has side by side supply and return air openings and is adaptable to over and under duct systems and combination ceiling diffuser supply and return systems. Optional accessories available include; electric heaters, roof mounting frame, over/under duct transition, filter section, duct enclosures, economizer dampers, gravity exhaust dampers and ceiling diffusers. See page 4 for control system options available for the CHP15-511-513 and CHP15-651-653 models only. Units are factory assembled, test operated and shipped ready for installation.

Completely Tested and Certified — Units have been thoroughly tested in the Lennox Research Laboratory environmental test room and accurately rated according to Department of Energy (DOE) test procedures and Air-Conditioning And Refrigeration Institute (ARI) Standard 240 conditions. In addition, units are tested and listed by ETL Testing Laboratories Inc. and have been sound tested in the Lennox reverberant sound test room and rated according to ARI Standard 270. Units are certified under the ARI Certification Program. DOE covered products are rated under 65,000 Btuh with single phase power input. Units and components within are bonded for grounding to meet safety standards for servicing required by ETL and NEC. Optional electric heaters are ETL listed and rated and tested according to DOE test procedures and Federal Trade Commission (FTC) labeling regulations. Blower data is from unit tests conducted in the Lennox Laboratory air test chamber.

Refrigeration System — Complete factory sealed system consists of: compressor, outdoor coil and fan, indoor coil and blower, suction and discharge line service gauge ports, hi-capacity drier, high pressure switch, reversing valve, check valve and a full operating charge of refrigerant. CHP15-261 & 311 models have a sight glass and discharge thermostat. CHP15-410, 460, 510 & 650 units are equipped with expansion valve, thermometer well and crankcase thermostat.

Thermostat (Optional) — Thermostat is not furnished and must be ordered extra. See Lennox Price Book. For CHP15-511-513 and CHP15-651-653 models only, see Control Systems Options on page 4.

Dependable and Quiet Compressor — Rugged and reliable compressor is hermetically sealed. Suction cooled, overload protected, and equipped with internal pressure relief valve. Internally protected from excessive current and temperature. Immersible self-regulating type crankcase heater is temperature actuated to operate only when required and ensures proper lubrication at all times. Design of the CHP15-311 compressor does not require a crankcase heater. The entire running gear is spring mounted within the sealed housing. In addition, the compressor is installed on resilient rubber mounts in the unit, assuring quiet and vibration free operation.

Suction Line Accumulator — Factory installed and piped. Traps and prevents large amounts of liquid refrigerant from flooding directly into the compressor and causing damage on start-ups.

Rugged Cabinet — Constructed of heavy gauge galvanized steel. A five station wash metal preparation assures a perfect bonding surface for the finish coat of baked-on outdoor enamel. Conditioned air section of cabinet is lined with thick fiberglass insulation. Supply and return air openings have flanges for ease of duct connection. Removable panels permit complete access to interior of cabinet. Indoor coil drain pan is equipped with a pipe drain outlet exterior to the cabinet. Drainage outlets are furnished in the outdoor coil section of the base. Electrical inlets are furnished in cabinet for wiring entry. Control box is conveniently located for service access with controls installed and wired.

Powerful Indoor Coil Blower — Units are equipped with direct drive centrifugal blower precisely matched to the unit for maximum efficiency and minimum noise level. Blower is statically and dynamically balanced as an assembly before being installed in the unit. Multiple speed permanent split capacitor (PSC) motor is resiliently mounted. A choice of blower speeds is available, see blower performance tables. Change in blower speed is easily accomplished by a simple field change in wiring.

Efficient Outdoor Coil Fan — Direct drive fan draws air through the wrap-around outdoor coil and discharges it vertically, up and away from the building. Fan orifice design and low fan tip speed keeps operating sound level at a minimum. Uniform air movement through the coil results in high refrigerant cooling capacity. Permanently lubricated, inherently protected, PSC motor is totally enclosed for maximum protection from rain, dust and corrosion. Corrosion resistant PVC coated steel wire fan guard is furnished.

Large Outdoor and Indoor Coils — Lennox designed and fabricated coils are constructed of precisely spaced ripple-edged aluminum fins machine fitted to copper tubes. Design of coil provides large surface and contact area for maximum efficiency. Fins are strengthened to resist bending which can restrict air flow and reduce efficiency. Fins are equipped with collars that grip tubing for maximum contact area resulting in excellent heat transfer. Flared shoulder tubing joints and silver soldering provide tight leak proof joints. Copper tubing construction provides maximum coil life and ease of service. Coil is thoroughly tested under pressure to insure leak proof construction.

Defrost Control — A clock timer defrost control is furnished as standard equipment. The control for the CHP15-261 thru 460 models gives a defrost cycle for every 45 or 90 minutes (adjustable) of compressor "on" time at outdoor temperature below 45°F. The solid-state control for the CHP15-510-650 models provides a defrost cycle every 30 or 90 minutes. A thermostat mounted on the outdoor coil determines when the defrost cycle is required and also when to terminate a cycle.

Start Controls — Furnished as standard with CHP15-411 thru 651 models. Start controls are not furnished with CHP15-261 & 311 and must be ordered extra for field installation. Provides assistance for compressor start under loaded conditions or in the event of low voltage. See Repair Parts Master Price List Card PL1 for Hard Start Kit requirements.

Supplemental Electric Heat (Optional) — Additive electric heaters field install internal to the unit cabinet and are available in several kw sizes, see Electric Heat table. Heaters are factory assembled with controls installed and wired and only require plug-in field connection. The helix wound nichrome heating elements are exposed directly in the air stream resulting in instant heat transfer, low element temperatures and long service life. The elements are accurately located and insulated from the heavy gauge steel support frame by high quality insulators. Each heating element is equipped with accurately located limit control with fixed temperature off setting and automatic reset. In addition, elements have supplemental thermal cutoff safety fuse providing positive protection in case of excessive temperatures. Cutoff fuses are mounted external to the element face plate for quick and easy replacement. Thermal sequencer relay brings the heating elements on and off line, in sequence and equal increments, with a time delay between each element. Sequencer also initiates and terminates blower operation. Heating control relay(s) is furnished as standard. Control box and access cover are constructed of heavy gauge galvanized steel.

Optional Outdoor Coil Guards — Coil guards are available (2 per unit) and must be ordered extra, LB-55404BA for CHP15-261 & 311 models, LB-55404BB for CHP15-410 & 460 models and LB-55404BC for CHP15-510 & 650 models. Two guards are furnished per order number.

Timed-Off Control (Optional) — Timed-off control (LB-50709BA) is available and must be ordered extra for field installation. Prevents compressor short-cycling and also allows time for suction and discharge pressure to equalize on CHP15-261 & 311 models, permitting the compressor to start in an unloaded condition. Automatic reset control will shut the compressor off and hold it off for 5 minutes.

Low Ambient Control (Optional) — Units will operate satisfactorily in the cooling mode down to 50°F outdoor air temperature without any additional controls. For cases where operation of the unit in the cooling mode is required at lower ambients, a Low Ambient Control Kit (LB-44961BB) can be added in the field, enabling it to operate properly down to 0°F.

Outdoor Thermostat (Optional) — Maintains the heating load on the heat pump as long as possible before allowing the auxiliary electric heat to come on the line. Order no. M-1595 thermostat box and LB-29740BA outdoor thermostat.

FEATURES

RMF15-65 Roof Mounting Frame (Optional) — The roof mounting frame mates to the unit and duct enclosure providing weather sealed installation. Heavy gauge steel platform on roof frame provides weather seal and mounting surface for the equipment. Shipped in two sections, it is easily field assembled. Assembling hardware is furnished. A wood nailer is attached to the frame to facilitate flashing. Design is approved by the National Roofing Contractors Association.

RDE15 Duct Enclosure (Optional) — The duct enclosure mounts to the unit and roof mounting frame. Duct enclosure is also furnished as standard with the REMD15 economizer section. Enclosure is completely insulated with thick fiberglass insulation, has a baked-on polyester paint finish and is shipped factory assembled. Supply and return air openings (18 inch diameter) are located in the bottom of the enclosure. Minimum outdoor air damper allows a fixed amount (0-25%) of outdoor air into the system. A one inch thick frame type disposable filter is furnished in the enclosure. Filter rack will accept up to two inch thick filter. Access door is equipped with quarter turn latches allowing easy access to air filter(s).

REMD15 Economizer (Optional) — The complete economizer assembly consists of: RDE15 duct enclosure, air intake hood, combination outdoor air and recirculated air damper with pressure operated exhaust air dampers. Formed damper blades rotate smoothly in nylon bearings and are gasketed for tight seal. The economizer dampers and controls are shipped factory assembled, adjusted and cycled and only require plug-in connection. The positioning of the outdoor and recirculated air damper is accomplished by a 24 volt three position electronic spring return damper motor with adjustable minimum position potentiometer and controlled by the room thermostat, electronic discharge air sensor and solid-state adjustable outdoor air enthalpy control. The enthalpy control allows 0 to 100% outdoor air to be used for "free cooling" when outdoor humidity and temperature are acceptable. Supply and return air openings (18 inch diameter) are located in the bottom of the duct enclosure. A one inch thick frame type disposable filter is furnished in the enclosure. Filter rack will accept up to two inch thick filter. Removable panel allows easy access to filter. Outdoor air intake hood is field installed. A cleanable aluminum or polyurethane media frame filter in the outdoor air hood provides extra air filtering and bird screen protection.

REMD15M Economizer (Optional) — The REMD15M economizer damper section is identical to the REMD15 model except it is equipped with a fully modulating electronic spring return damper motor. See specification table.

Differential Enthalpy Control (Optional) — A solid-state return air enthalpy sensor is available to be used with the outdoor air enthalpy sensor 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 REMD15 or EMDH15 economizer damper section and must be ordered extra.

EMDH15 Horizontal Economizer (Optional) — The horizontal economizer section is shipped factory assembled, adjusted and cycled, field installs on the unit and only requires plug-in connection. The economizer section consists of: heavy gauge steel cabinet with baked-on polyester paint finish, fully insulated with thick fiberglass insulation, recirculated air and outdoor air dampers. Formed damper blades rotate smoothly in nylon bearings and are gasketed for tight seal. The positioning of the outdoor and recirculated air dampers is accomplished by a 24 volt three position electronic spring return damper motor with adjustable minimum position potentiometer and controlled by the room thermostat, electronic discharge air sensor and solid-state adjustable outdoor air enthalpy control. The enthalpy control allows 0 to 100% outdoor air to be used for "free cooling" when outdoor humidity and temperature are acceptable. A one inch thick frame type disposable filter is furnished. Filter rack will accept up to two inch thick filter. Removable panel allows easy access to filter. A cleanable aluminum or polyurethane media frame filter in the outdoor air hood provides extra air filtering and bird screen protection.

EMDH15M Economizer (Optional) — The EMDH15M horizontal economizer damper section is identical to the EMDH15 model except it is equipped with a fully modulating electronic spring return damper motor. See specification table.

GED10-65 Gravity Exhaust Dampers (Optional) — Available for use with EMDH15 horizontal economizer assembly. Pressure operated assembly field installs in the return air duct adjacent to the economizer assembly.

RTDE15 Triangular Duct Enclosure (Optional) — The duct enclosure mounts to the unit and roof mounting frame. Enclosure is completely insulated with thick fiberglass insulation, has a baked-on polyester paint finish and is shipped factory assembled. Supply and return air openings (18 inch diameter) are located in the bottom of the enclosure. Minimum outdoor air damper allows a fixed amount (0-25%) of outdoor air into the system. A one inch thick frame type disposable filter is furnished in the enclosure. Filter rack will accept up to two inch thick filter. Removable panel allows easy access to filter.

FS15 Filter Section (Optional) — Installs on return air opening of the CHP15 unit. Constructed of heavy gauge galvanized steel with a baked-on polyester paint finish. Completely insulated with thick matt faced fiberglass insulation. Shipped factory assembled ready to install. Equipped with flanges for ease of duct connection. Removable panel allows easy access to filter(s). Disposable one inch frame filter(s) with fiberglass media is furnished. Filter rack is designed to accept alternate two inch thick filter(s).

DT15 Side by Side to Over/Under Duct Transition (Optional) — Installs over supply and return air openings of CHP15 unit for replacement of units in installation with over/under duct connections. Constructed of heavy gauge galvanized steel with a baked-on polyester paint finish. Completely insulated with thick matt faced fiberglass insulation. Disposable one inch frame filter(s) with fiberglass media is furnished. Filter rack is designed to accept alternate two inch thick filter(s). Removable panel allows easy access to filter(s). Shipped factory assembled ready to install.

Single-Point Power Source Control Box (Optional) — Available for electric heat applications. Field installs external to the unit cabinet. Provides single power service connection to the unit and sub-fusing. Constructed of galvanized steel with outdoor enamel paint finish, prepunched mounting holes and electrical inlet knockouts. Box cover is hinged for easy access. 6 boxes are available. Box is 12" x 10" x 6" deep, shipping weight 15 lbs. See Electric Heat Data Tables for usage.

SP11 Remote Status Panel (Optional) — The operation of the unit can be checked on the Remote Status Panel (12F83) 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 cooling operation. Heat Mode light is green and reflects heating operation. Compressor 1 light is green when operating and will turn red if there is an operational malfunction. Compressor 2 light is not required and should be disregarded. The No Heat and Filter lights will show red and indicate a requirement for service. Additional controls are required for use with the Status Panel and must be specified when ordering. Filter Switch Kit (97C85) is used in conjunction with the Filter light. Operation of No Heat light with electric heat requires a Current Sensing Relay (29F79). Status Panel Readout Relay Kit (14F92) is required to interface status panel with unit operation.

RTD9-65 Combination Supply and Return Diffuser (Optional) — RTD9-65 step-down mount diffuser extends slightly below ceiling level when installed 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 connection collars for round duct connection, hanging rings for suspending and molded fiberglass 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.

FD9-65 Combination Ceiling Supply and Return Diffuser (Optional) — FD9-65 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 connection collars for round duct connection, support hanger eyelets at the top corners for secure installation and molded fiberglass 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.

CHP15-511-513 AND CHP15-651-653 CONTROL SYSTEM OPTIONS

Optional Electro-Mechanical Thermostat and Controls System —

The thermostat and related controls of this system must be ordered extra for field installation. 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. 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 (43G98) 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 (43G99) 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. Also available is a Warm Up Kit (39G77) which holds the economizer outdoor air dampers closed during nite heat operation and morning warm up. See Flow Chart on page 4a.

Optional FLEXSTATTM Thermostat and Controls System — The thermostat and related controls of this system must be ordered extra for field installation. Flexstat programmable thermostat (43G01) has touch sensitive keyboard, automatic switching from heat to cool, °C or °F readout, no anticipator, zero droop, indicator lights, hour/day programming, override capabilities, time readout, stage status indicators, operational mode symbols and battery back-up. A Remote Temperature Sensor (82F75) can be adapted to the thermostat for applications where it is desirable to locate the thermostat out of the conditioned area. SP11 Remote Status Panel (12F83) is available for checking unit operation from within the conditioned area. Also available is a Warm Up Kit (39G77) which holds the economizer outdoor air dampers closed during nite heat operation and morning warm up. See Flow Chart on page 4a.

Optional PRO-STAT Thermostat and Controls System — The thermostat and related controls of this system must be ordered extra and field installed. Pro-stat Thermostat (36G67) has 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, operational mode symbols and battery back-up. A Remote Temperature Sensor (36G68) can be adapted to thermostat for applications where it is desirable to locate the thermostat out of the conditioned area. SP11 Remote Status Panel (12F83) is available for checking unit operation from within the conditioned area. Also available is a Warm Up Kit (39G77) which holds the economizer outside air dampers closed during nite heat operation and morning warm up. See Flow Chart on page 4a.

Optional W973 Control System — Control system must be ordered extra for field installation. 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

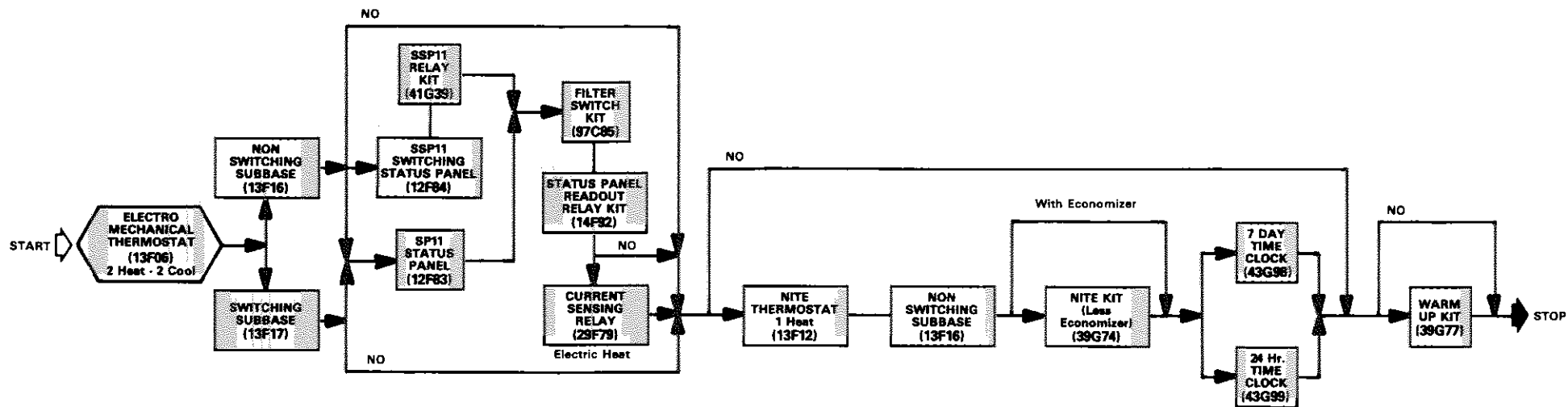
installs in the conditioned space. The transmitter installs outside the conditioned space with a Room Temperature Sensor (58C92) in the conditioned area or a Return Air Temperature Sensor (27C40) in the return air duct of the unit. Thermostat and transmitter are furnished with a wiring wallplate. Also available is a switching subbase (58C94) with system selector switch (Cool-Auto-Heat-Emergency Heat) and fan switch (On-Auto-Off). 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 (43G98) 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 (43G99) 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. 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 4b.

Optional W7400 Control System — Control system must be ordered extra for field installation. Control Module (39G75) 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 (36G62) with integral sensor that installs in the conditioned space or a remote thermostat (36G64) 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 lites, 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 4b.

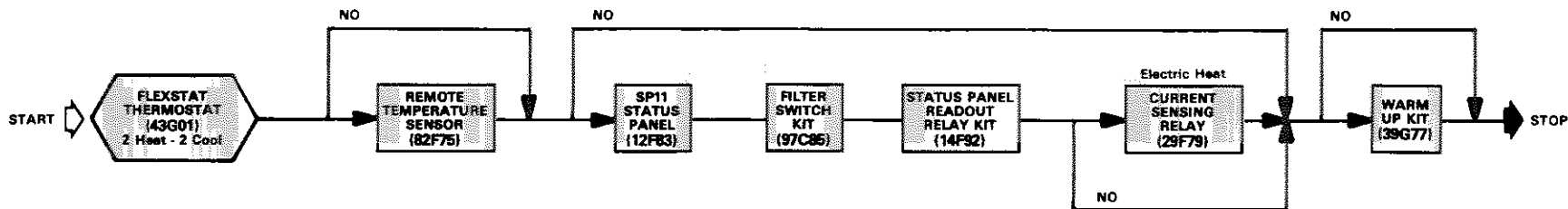
Optional SSP11 Remote Switching Status Panel — The operation of the unit can be controlled and observed on the Switching Status Panel (12F84) conveniently located within the conditioned area. Signal lights on the panel indicate "Cool Mode", "Heat Mode", "Compressor 1", "Compressor 2", "No Heat" and "Filter". 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 and will turn red when system switch is in emergency heat position. Compressor 1 light is green when operating and will turn red if there is an operational malfunction. Compressor 2 light is not required and should be disregarded. 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 for operation of No Heat light with electric heat.

CHP15-511-513 AND CHP15-651-653 MODELS ONLY
TEMPERATURE CONTROL SELECTION FLOW CHART

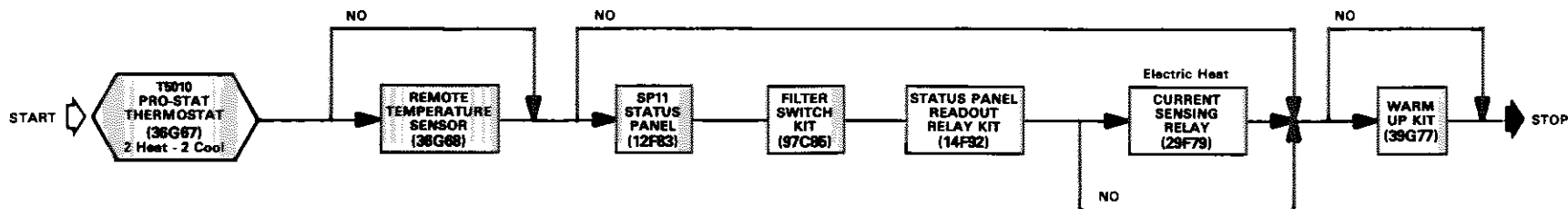
OPTIONAL ELECTRO-MECHANICAL THERMOSTAT



OPTIONAL FLEXSTAT THERMOSTAT

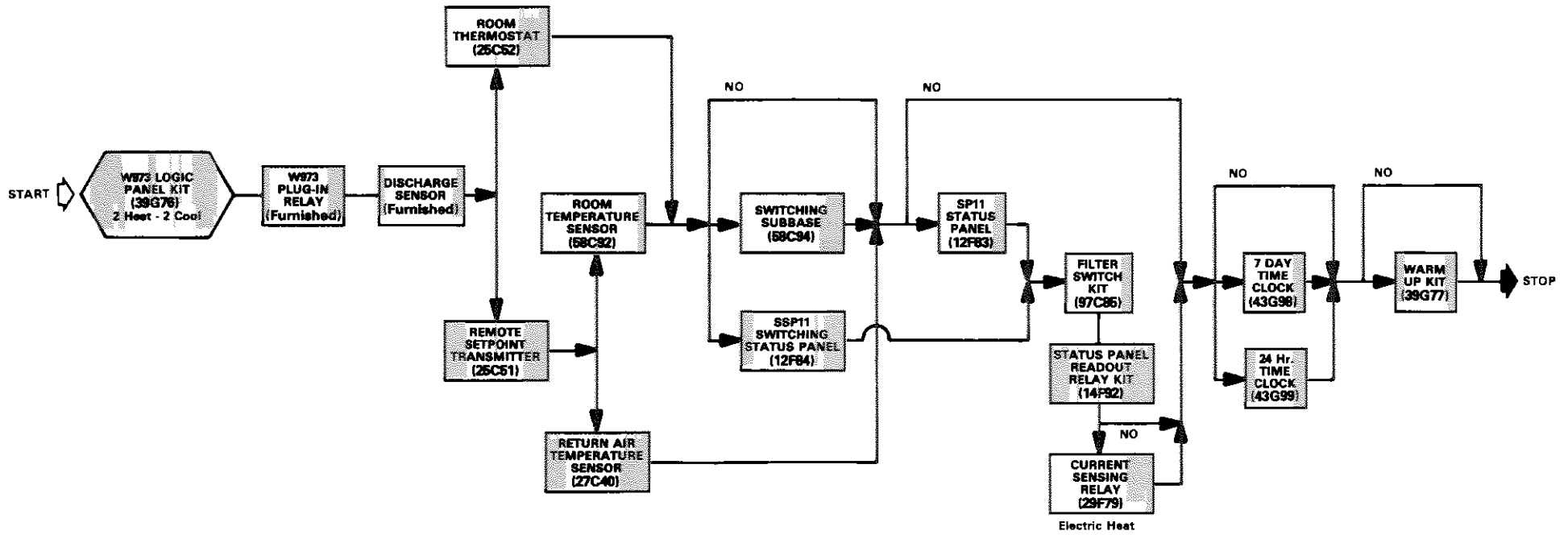


OPTIONAL PRO-STAT THERMOSTAT

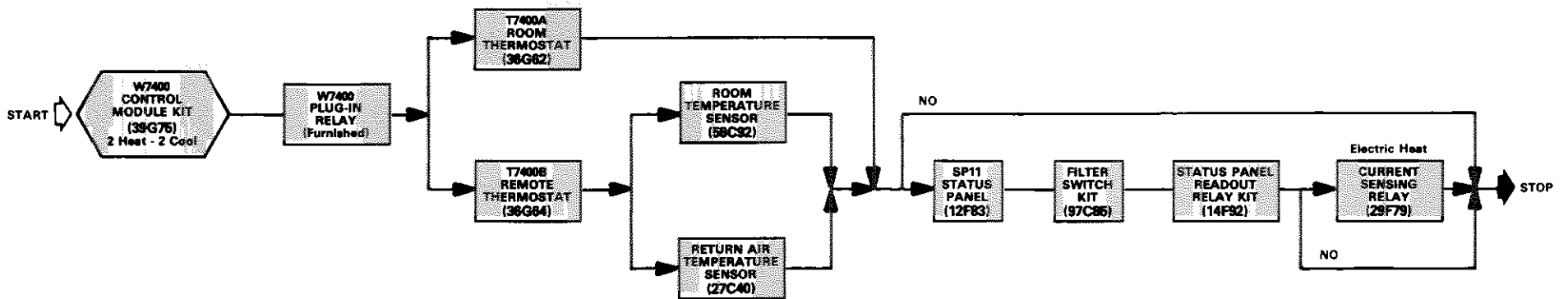


CHP15-511-513 AND CHP15-651-653 MODELS ONLY
TEMPERATURE CONTROL SELECTION FLOW CHART

OPTIONAL W973 CONTROL SYSTEM



OPTIONAL W7400 CONTROL SYSTEM



SPECIFICATIONS

Model No.			CHP15-261	CHP15-311	CHP15-411 CHP15-413	CHP15-461 CHP15-463	CHP15-511 CHP15-513	CHP15-651 CHP15-653
★ ARI Standard 270 SRN (bels)			7.8	7.8	7.8	7.8	8.0	8.0
*ARI Standard 240 Ratings	Cooling capacity (Btuh)		24,800	29,000	35,200	41,000	48,000	59,000
	Total unit watts		2820	3450	4050	5130	5780	7280
	SEER (Btuh/Watt)		9.15	9.10	10.30	9.00	9.55	9.00
	EER (Btuh/Watt)		8.80	8.40	8.70	8.00	8.30	8.10
*ARI Certified High Temperature Heating Ratings	Heating Capacity (Btuh)		25,000	29,000	36,000	45,000	50,500	62,000
	Total unit watts		2440	2830	3515	4400	4930	6060
	C.O.P. (Coefficient of Performance)		3.00	3.00	3.00	3.00	3.00	3.00
	**HSPF		6.8	6.80	7.0	6.8	7.2	7.0
*ARI Certified Low Temperature Heating Ratings	Heating Capacity (Btuh)		13,400	15,900	19,600	24,600	26,600	34,600
	Total unit watts		1960	2330	2740	3450	3950	5330
	C.O.P. (Coefficient of Performance)		2.00	2.00	2.10	2.10	2.00	2.00
Indoor Coil Blower	Blower wheel nom. diam. x width (in.)		9 x 9	9 x 9	10 x 9	10 x 9	11-1/2 x 9	11-1/2 x 9
	Motor horsepower		1/3	1/3	1/2	1/2	3/4	3/4
Indoor Coil	Net face area (sq. ft.)		3.2	3.2	4.5	4.5	6.4	6.4
	Tube diameter (in.) & No. of rows		3/8 - 4	3/8 - 4	3/8 - 3	3/8 - 3	3/8 - 4	3/8 - 4
	Fins per inch		16	16	15	15	15	15
Outdoor Coil	Net face area (sq. ft.)	Outer Coil	9.1	9.1	10.2	10.2	17.2	17.2
		Inner Coil	5.7	8.6	9.6	9.6	14.5	16.5
	Tube diameter (in.) & No. of rows		3/8 - 1.7	3/8 - 2	3/8 - 2	3/8 - 2	3/8 - 1.9	3/8 - 2
	Fins per inch		20	20	20	20	15	18
Outdoor Coil Fan	Diameter (in.) & No. of blades		18 - 4	18 - 4	20 - 4	20 - 4	24 - 4	24 - 4
	Air volume (cfm)		2200	2200	2800	2800	4300	4300
	Motor horsepower		1/6	1/6	1/6	1/6	1/4	1/4
	Motor watts		220	220	255	280	380	380
Refrigerant (22) Charge			4 lbs. 11 oz.	5 lbs. 14 oz.	7 lbs. 3 oz.	7 lbs. 10 oz.	10 lbs. 0 oz.	10 lbs. 10 oz.
Condensate drain size mpt (in.)			3/4	3/4	3/4	3/4	3/4	3/4
Net weight (lbs.) 1 package			270	300	404	404	529	540
Optional Electric Heat Ratings	ECB18-5	Output Btuh	18,000	18,000	18,000	18,000	18,000	---
		†A.F.U.E.	99.0%	99.0%	99.0%	99.0%	99.0%	---
	ECB18-7	Output Btuh	25,000	25,000	25,000	25,000	26,000	---
		†A.F.U.E.	99.0%	99.0%	99.0%	99.0%	99.0%	---
	ECB18-10	Output Btuh	35,000	35,000	35,000	35,000	36,000	36,000
		†A.F.U.E.	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%
	ECB18-15	Output Btuh	52,000	52,000	52,000	52,000	53,000	54,000
		†A.F.U.E.	99.3%	99.3%	99.3%	99.3%	99.1%	99.1%
	ECB18-20	Output Btuh	---	---	71,000	71,000	70,000	71,000
		†A.F.U.E.	---	---	99.1%	99.1%	99.1%	99.1%
	ECB18-25	Output Btuh	---	---	---	---	87,000	87,000
		†A.F.U.E.	---	---	---	---	99.2%	99.2%
Optional Roof Mounting Frame (Net Weight)			RMF15-66 (116 lbs.)					
Optional Duct Enclosure (Net Weight)			RDE15-31 (74 lbs.)		RDE15-46 (82 lbs.)		RDE15-65 (92 lbs.)	
Number and size of filters (in.)			(1) 20 x 20 x 1		(1) 20 x 25 x 1		(2) 16 x 20 x 1	
Optional Economizer Dampers	Model No.	3 position	REMD15-31		REMD15-46		REMD15-65	
		Modulating	REMD15M-31		REMD15M-46		REMD15M-65	
	Net Weight		(89 lbs.)		(107 lbs.)		(124 lbs.)	
	Number and size of filters (in.)		(1) 20 x 20 x 1 •(1) 17 x 23-7/8 x 1		(1) 20 x 25 x 1 •(1) 17 x 23-7/8 x 1		(2) 16 x 20 x 1 •(1) 17 x 23-7/8 x 1	
Optional Horizontal Economizer Dampers	Model No.	3 position	EMDH15-31		EMDH15-46		EMDH15-65	
		Modulating	EMDH15M-31		EMDH15M-46		EMDH15M-65	
	Net Weight		(92 lbs.)		(99 lbs.)		(116 lbs.)	
	Number and size of filters (in.)		(1) 16 x 20 x 1 •(1) 15-7/8 x 17-1/4 x 1		(1) 16 x 25 x 1 •(1) 15-7/8 x 17-1/4 x 1		(1) 20 x 25 x 1 •(1) 21-1/4 x 23 x 1	
Optional Gravity Exhaust Dampers (Net Weight)			GED10-65 (4 lbs.) (use with EMDH15)					
Optional Triangular Duct Enclosure (Net Weight)			RTDE15-31 (64 lbs.)		RTDE15-46 (67 lbs.)		RTDE15-65 (71 lbs.)	
Number and size of filters (in.)			(1) 20 x 20 x 1		(1) 20 x 25 x 1		(2) 16 x 20 x 1	
Optional Filter Section (Net Weight)			FS15-46 (24 lbs.)					
Number and size of filters (in.)			(1) 20 x 20 x 1					
Optional Over/Under Duct Transition (Net Weight)			DT15-46 (52 lbs.)					
Number and size of filters (in.)			(1) 20 x 20 x 1					
Optional Ceiling Diffusers (Net Weight)	Step-Down		RTD9-65 (67 lbs.)		RTD9-65 (67 lbs.)		RTD9-65 (67 lbs.)	
	Flush		FD9-65 (37 lbs.)		FD9-65 (37 lbs.)		FD9-65 (37 lbs.)	

★ Sound Rating Number in accordance with ARI Standard 270.

* Rated in accordance with ARI Standard 240; 450 cfm (maximum) indoor air volume per ton of cooling capacity.

Cooling Ratings — 95°F outdoor air temperature and 80°F db/67°F wb entering indoor coil air.

High Temperature Heating Ratings — 47°F db/43°F wb outdoor air temperature and 70°F db entering indoor coil air.

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

** Heating Seasonal Performance Factor based on DOE test procedures.

† Annual Fuel Utilization Efficiency based on DOE test procedures and FTC labeling regulations.

• Outdoor air hood filter.

ELECTRICAL DATA

Model No.		CHP15-261	CHP15-311	CHP15-411	CHP15-413		CHP15-461	CHP15-463	
Line voltage data		208/230v	208/230v	208/230v	208/230v	460v	208/230v	208/230v	460v
		60hz - 1ph	60hz - 1ph	60hz - 1ph	60hz - 3ph	60hz - 3ph	60hz - 1ph	60hz - 3ph	60hz - 3ph
Compressor	Rated load amps	11.3	13.7	18.0	12.5	5.9	21.5	14.4	6.2
	Locked rotor amps	61.0	79.3	86.7	65.1	32.8	107.4	74.0	37.0
Outdoor Coil Fan	Full load amps	1.1	1.1	1.2	1.2	0.7	1.2	1.2	0.7
	Locked rotor amps	2.2	2.2	2.1	2.1	1.3	2.1	2.1	1.3
Indoor Coil Blower	Full load amps	2.2	2.2	3.5	3.5	**1.8	3.5	3.5	**1.8
	Locked rotor amps	4.4	4.4	7.6	7.6	**3.6	7.6	7.6	**3.6
Recommended maximum fuse or HACR circuit breaker size (amps)		25	30	40	30	15	50	35	15
Unit power factor		.98	.94	.97	.87	.87	.98	.94	.88
*Minimum circuit ampacity		17.4	20.5	27.2	20.3	9.9	31.6	22.7	10.3

*Refer to National Electric Code manual to determine wire, fuse and disconnect size requirements.

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

**Motor is rated at 460 volts 1 phase.

ELECTRICAL DATA

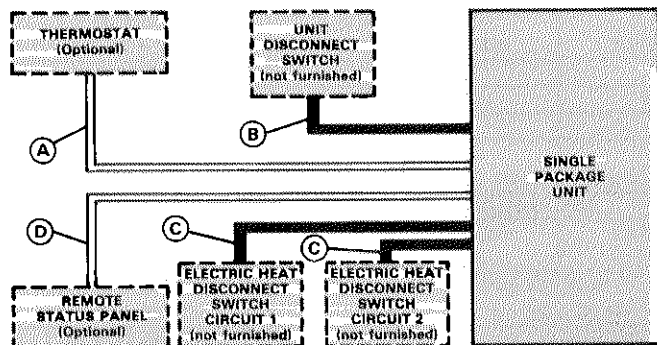
Model No.		CHP15-511	CHP15-513		CHP15-651	CHP15-653	
Line voltage data		208/230v	208/230v	460v	208/230v	208/230v	460v
		60hz - 1ph	60hz - 3ph	60hz - 3ph	60hz - 1ph	60hz - 3ph	60hz - 3ph
Compressor	Rated load amps	23.8	15.1	8.3	28.8	19.2	10.3
	Locked rotor amps	114.0	84.0	42.0	178.0	124.0	62.0
Outdoor Coil Fan	Full load amps	2.0	2.0	1.0	2.0	2.0	1.0
	Locked rotor amps	4.5	4.5	2.0	4.5	4.5	2.0
Indoor Coil Blower	Full load amps	5.0	5.0	**2.5	5.0	5.0	**2.5
	Locked rotor amps	9.8	9.8	**3.8	9.8	9.8	**3.8
Recommended maximum fuse or HACR circuit breaker size (amps)		60	40	15	60	50	25
Unit power factor		.98	.88	.88	.97	.86	.86
*Minimum circuit ampacity		36.8	25.9	13.9	43.0	31.0	16.4

*Refer to National Electric Code to determine wire, fuse and disconnect size requirements.

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

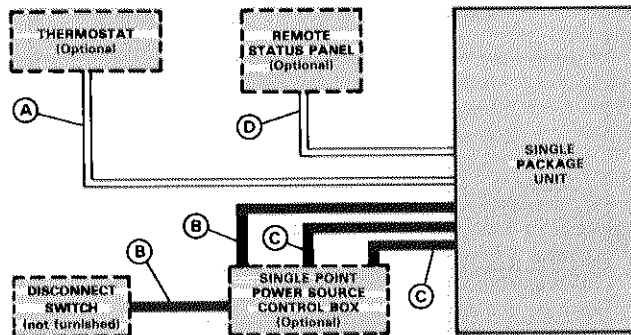
**Motor is rated at 460 volts 1 phase.

ALL MODELS WITH SP11 STATUS PANEL AND ELECTRIC HEAT



FIELD WIRING

ALL MODELS WITH OPTIONAL SINGLE POINT POWER SOURCE CONTROL BOX



- A - Five wire low voltage (Cooling Only installation)
- Six wire low voltage (Cooling with Economizer or Electric Heat)
- Seven wire low voltage (Cooling with Economizer and Electric Heat)
- B - Two or Three wire power (See Electrical Data Table)
- C - Two or Three wire power (See Electric Heat Data Table)
- D - Seven wire low voltage

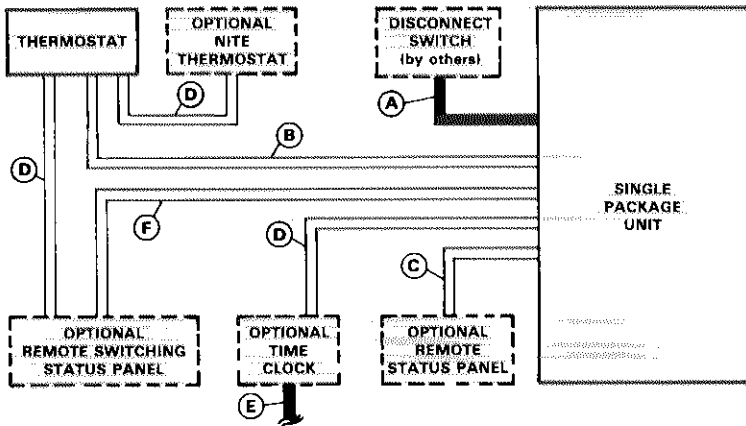
- Field Wiring Not Furnished -

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

FIELD WIRING

CHP15-511-513 AND CHP15-651-653 MODELS ONLY

ELECTRO-MECHANICAL THERMOSTAT

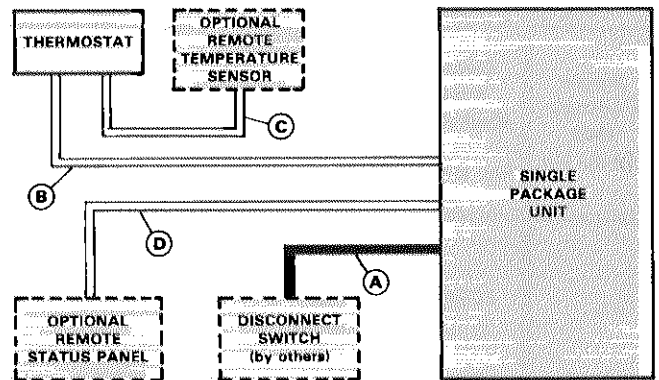


- A — Two or Three wire power (See Electrical Data Table)
- B — Seven wire low voltage
 - Five wire low voltage — with SSP11 Switching Status Panel
- C — Twelve wire low voltage
- D — Two wire low voltage
- E — Two wire low voltage
- F — Twenty-One wire low voltage

— Field wiring not furnished —

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

FLEXSTAT OR PROSTAT THERMOSTAT

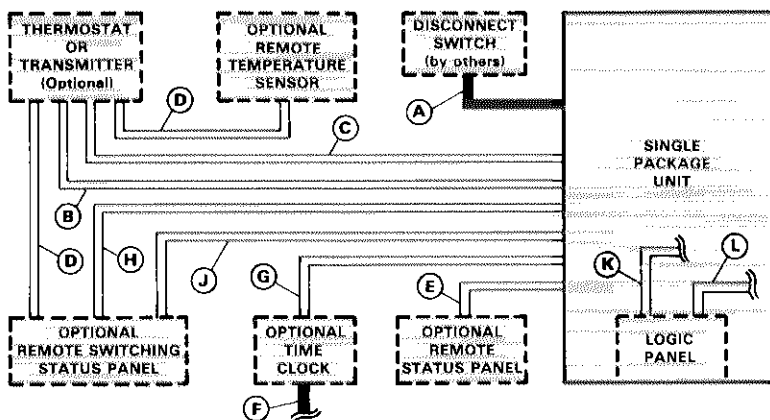


- A — Two or Three wire power (See Electrical Data Table)
- B — Seven wire low voltage
- C — Two wire low voltage
- D — Twelve wire low voltage

— Field wiring not furnished —

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

W973 CONTROL SYSTEM



- A — Two or 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
 - Eight 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 — Twelve wire low voltage — AC only
- F — Two wire low voltage — AC only
- G — Two wire low voltage — AC only
- H — Eighteen wire low voltage — AC only
- J — Two wire low voltage — DC only
- K — Seven wire low voltage — DC only
- L — Six wire low voltage — AC 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 NEC and local electrical codes.

FIELD WIRING

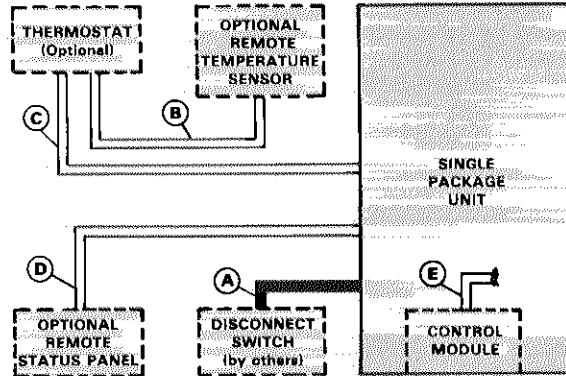
CHP15-511-513 AND CHP15-651-653 MODELS ONLY

W7400 CONTROL SYSTEM

- A – Two or Three wire power (See Electrical Data Table)
- B – Two wire low voltage
- C – Four wire low voltage
- D – Twelve wire low voltage
- E – Sixteen wire low voltage

Field wiring not furnished

NOTE – All wiring must conform to NEC and local electrical codes.



CHP15-261 AND CHP15-311 ELECTRIC HEAT DATA

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps & Phase	Volts Input	Electric Heat Kw Input	Electric Heat Btuh Input	*Electric Heat Minimum Circuit Ampacity		Optional Single Point Power Source Box		
						Circuit 1	Circuit 2	Part No.	Total Unit & Electric Heat *Minimum Circuit Ampacity	
									CHP15-261	CHP15-311
CHP15-261 CHP15-311	ECB18-5 (5 lbs.)	1 (1 phase)	208	3.8	12,800	25.4	----	LB-56030AC (CHP15-261)	40.1	43.3
			220	4.2	14,300	26.6	----		41.3	44.3
			230	4.6	15,700	27.6	----	LB-56030AD (CHP15-311)	42.4	45.5
			240	5.0	17,100	28.8	----		43.5	46.6
	ECB18-7 (6 lbs.)	2 (1 phase)	208	5.3	17,900	34.4	----	LB-56030AD (CHP15-261)	49.1	52.3
			220	5.9	20,100	36.2	----		50.8	53.8
			230	6.4	21,900	37.8	----	LB-56030AE (CHP15-311)	52.5	55.6
			240	7.0	23,900	39.3	----		54.0	57.1
	ECB18-10 (6 lbs.)	2 (1 phase)	208	7.5	25,600	47.9	----	LB-56030AD (CHP15-261)	62.7	65.8
			220	8.4	28,700	50.5	----		65.2	68.2
			230	9.2	31,400	52.8	----	LB-56030AE (CHP15-311)	67.5	70.8
			240	10.0	34,100	54.9	----		69.6	72.3
	ECB18-15 (11 lbs.)	3 (1 phase)	208	11.3	38,400	47.9	25.4	LB-56030AA (CHP15-261)	85.3	88.4
			220	12.6	43,000	50.5	26.6		89.1	92.1
			230	13.5	47,000	52.8	27.6	LB-56030AB (CHP15-311)	92.4	95.5
			240	15.0	51,200	54.9	28.8		95.6	98.8

*Includes indoor blower motor. Refer to National Electric Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

**CHP15-411-413 AND CHP15-461-463
ELECTRIC HEAT DATA**

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps & Phase	Volts Input	Electric Heat Kw Input	Electric Heat Btuh Input	*Electric Heat Minimum Circuit Ampacity		Optional Single Point Power Source Box			
						Circuit 1	Circuit 2	Part No.	Total Unit & Electric Heat *Minimum Circuit Ampacity		
									CHP15-411	CHP15-461	
CHP15-411 CHP15-461	ECB18-5 (5 lbs.)	1 (1 phase)	208	3.8	12,800	27.0	----	LB-56030AD	49.8	54.2	
			220	4.2	14,300	28.1	----		51.0	55.4	
			230	4.6	15,700	29.4	----		52.2	56.6	
			240	5.0	17,100	30.4	----		53.2	57.6	
	ECB18-7 (6 lbs.)	2 (1 phase)	208	5.3	17,900	36.0	----	LB-56030AE	58.8	63.2	
			220	5.9	20,100	37.7	----		60.5	64.9	
			230	6.4	21,900	39.4	----		62.2	66.6	
	ECB18-10 (6 lbs.)	2 (1 phase)	208	7.5	25,600	49.5	----	LB-56030AE	72.3	76.7	
			220	8.4	28,700	51.9	----		74.7	79.1	
			230	9.2	31,400	54.3	----		77.1	81.5	
	ECB18-15 (11 lbs.)	3 (1 phase)	208	11.3	38,400	49.5	22.6	LB-56030AB	94.9	99.3	
			220	12.6	43,000	51.9	23.9		98.5	102.9	
			230	13.5	47,000	54.3	25.0		102.1	106.5	
	ECB18-20 (16 lbs.)	4 (1 phase)	208	15.0	51,200	49.5	45.1	LB-56030AB	117.4	121.8	
			220	16.8	57,300	52.2	47.8		122.2	126.6	
			230	18.4	62,800	54.4	50.0		127.0	131.4	
			240	20.0	68,200	56.5	52.1		131.4	135.8	
	CHP15-413 CHP15-463	ECB18-5 (5 lbs.)	3 (3 phase)	208	3.8	12,800	17.4	----	LB-56030AC	33.3	35.7
				220	4.2	14,300	18.1	----	(CHP15-413)	34.0	36.4
				230	4.6	15,700	18.8	----	LB-56030AD	34.7	37.1
240				5.0	17,100	19.4	----	(CHP15-463)	35.3	37.7	
ECB18-7.0 (6 lbs.)		3 (3 phase)	440	5.9	20,100	11.9	----	LB-56030AF	19.3	19.7	
			460	6.4	21,800	12.3	----		19.7	20.1	
			480	7.0	23,900	12.8	----		20.2	20.6	
ECB18-7.5 (6 lbs.)		3 (3 phase)	208	5.7	19,500	23.9	----	LB-56030AC	39.8	42.2	
			220	6.3	21,500	25.0	----	(CHP15-413)	40.9	43.3	
			230	6.9	23,500	26.0	----	LB-56030AD	41.9	44.3	
ECB18-10 (6 lbs.)		3 (3 phase)	208	7.5	25,600	30.4	----	LB-56030AD	46.3	48.7	
			220	8.4	28,700	32.0	----	(CHP15-413)	47.8	50.2	
			230	9.2	31,400	33.3	----	LB-56030AE	49.2	51.6	
ECB18-10 (6 lbs.)		3 (3 phase)	240	10.0	34,100	34.5	----	(CHP15-463)	50.4	52.8	
			440	8.4	28,700	16.0	----	LB-56030AF	23.5	24.0	
			460	9.2	31,400	16.7	----		24.1	24.5	
480		10.0	34,100	17.3	----	24.7	25.1				
ECB18-15 (11 lbs.)		3 (3 phase)	208	11.3	38,400	43.5	----	LB-56030AA	59.4	61.8	
			220	12.6	43,000	45.7	----	(CHP15-413)	61.5	63.9	
			230	13.5	47,000	47.6	----	LB-56030AB	63.5	65.9	
ECB18-15 (11 lbs.)		3 (3 phase)	240	15.0	51,200	49.5	----	(CHP15-463)	65.4	67.8	
			440	12.6	43,000	22.9	----	LB-56030AF	30.3	30.7	
			460	13.8	47,100	23.9	----		31.3	31.7	
480		15.0	51,200	24.8	----	32.2	32.6				
ECB18-20 (16 lbs.)		6 (3 phase)	208	15.0	51,200	30.4	26.0	LB-56030AA	72.3	74.7	
			220	16.8	57,300	32.0	27.6	(CHP15-413)	75.2	77.6	
			230	18.4	62,800	33.3	28.9	LB-56030AB	78.1	80.5	
			240	20.0	68,200	34.3	30.1	(CHP15-463)	80.5	82.9	
ECB18-20 (16 lbs.)		6 (3 phase)	440	16.8	57,300	29.8	----	LB-56030AF	37.1	37.5	
			460	18.4	62,800	31.1	----		38.4	38.8	
	480		20.0	68,200	32.4	----	39.7		40.1		

*Includes indoor blower motor. Refer to National Electric Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

CHP15-511-513 AND CHP15-651-653 ELECTRIC HEAT DATA

Single Package Unit Model No.	Electric Heater Model No. & Net Weight	No. of Steps & Phase	Volts Input	Electric Heat Kw Input	Electric Heat Btuh Input	*Electric Heat Minimum Circuit Ampacity			Optional Single Point Power Source Box		
						Circuit 1	Circuit 2	Circuit 3	Part No.	Total Unit & Electric Heat *Minimum Circuit Ampacity	
										CHP15-511	CHP15-651
CHP15-511	ECB18-5 (5 lbs.)	1 (1 phase)	208	3.8	12,800	28.9	----	----	LB-56030AD	60.0	----
			220	4.2	14,300	30.1	----	----		61.0	----
			230	4.6	15,700	31.1	----	----		62.0	----
			240	5.0	17,100	32.3	----	----		63.0	----
CHP15-511 CHP15-651	ECB18-7 (6 lbs.)	2 (1 phase)	208	5.3	17,900	37.9	----	----	LB-56030AE	69.0	77.0
			220	5.9	20,100	39.8	----	----		70.0	77.0
			230	6.4	21,900	41.3	----	----		72.0	78.0
			240	7.0	23,900	42.8	----	----		74.0	82.0
	ECB18-10 (6 lbs.)	2 (1 phase)	208	7.5	25,600	51.4	----	----	LB-56030AE	82.0	90.0
			220	8.4	28,700	54.0	----	----		84.0	93.0
			230	9.2	31,400	56.3	----	----		87.0	95.0
	ECB18-15 (11 lbs.)	3 (1 phase)	240	10.0	34,100	58.4	----	----	LB-56030AB	89.0	97.0
			208	11.3	38,400	51.4	22.6	----		102.0	113.0
			220	12.6	43,000	54.0	23.9	----		107.0	117.0
	ECB18-20 (16 lbs.)	4 (1 phase)	230	13.5	47,000	56.3	24.9	----	LB-56030AB	112.0	120.0
			240	15.0	51,200	58.4	26.0	----		115.0	123.0
			208	15.0	51,200	51.4	45.1	----		127.0	135.0
	ECB18-25 (21 lbs.)	5 (1 phase)	220	16.8	57,300	54.0	47.8	----	LB-56030AB	132.0	140.0
			230	18.4	62,800	56.3	50.0	----		137.0	145.0
			240	20.0	68,200	58.4	52.1	----		141.0	149.0
CHP15-513	ECB18-7 (6 lbs.)	3 (3 phase)	208	18.8	64,100	51.4	45.1	22.6	LB-56030AB	150.0	158.0
			220	21.0	71,700	54.0	47.8	23.9		156.0	164.0
			230	23.0	78,300	56.3	50.0	24.9		162.0	170.0
			240	25.0	85,300	58.4	52.1	26.0		167.0	175.0
	ECB18-7.5 (6 lbs.)	3 (3 phase)	440	5.9	20,100	12.8	----	----	LB-56030AF	23.0	----
			460	6.4	21,800	13.2	----	----		24.0	----
			480	7.0	23,900	13.7	----	----		25.0	----
			208	5.7	19,500	25.8	----	----		46.0	----
	ECB18-7.5 (6 lbs.)	3 (3 phase)	220	6.3	21,500	26.9	----	----	LB-56030AD	47.0	----
			230	6.9	23,500	27.9	----	----		48.0	----
			240	7.5	25,600	28.8	----	----		49.0	----
			208	7.5	25,600	32.3	----	----		52.0	59.0
CHP15-513 CHP15-653	ECB18-10 (6 lbs.)	3 (3 phase)	220	8.4	28,700	33.9	----	----	LB-56030AE	54.0	61.0
			230	9.2	31,400	35.1	----	----		55.0	62.0
			240	10.0	34,100	36.4	----	----		56.0	63.0
			440	8.4	28,700	16.9	----	----		27.0	30.0
	ECB18-10 (6 lbs.)	3 (3 phase)	460	9.2	31,400	17.5	----	----	LB-56030AF	28.0	31.0
			480	10.0	34,100	18.2	----	----		29.0	32.0
			208	11.3	38,400	45.4	----	----		65.0	72.0
	ECB18-15 (11 lbs.)	3 (3 phase)	220	12.6	43,000	47.6	----	----	LB-56030AB	68.0	74.0
			230	13.5	47,000	49.5	----	----		70.0	76.0
			240	15.0	51,200	51.4	----	----		71.0	78.0
	ECB18-15 (11 lbs.)	3 (3 phase)	440	12.6	43,000	23.8	----	----	LB-56030AF	35.0	37.0
			460	13.8	47,100	24.8	----	----		36.0	38.0
			480	15.0	51,200	25.7	----	----		37.0	39.0
	ECB18-20 (16 lbs.)	6 (3 phase)	208	15.0	51,200	32.3	26.0	----	LB-56030AB	78.0	85.0
			220	16.8	57,300	33.9	27.6	----		81.0	88.0
			230	18.4	62,800	35.1	28.9	----		84.0	91.0
	ECB18-20 (16 lbs.)	6 (3 phase)	240	20.0	68,200	36.4	30.1	----	LB-56030AF	87.0	93.0
			440	16.8	57,300	30.7	----	----		42.0	45.0
			460	18.4	62,800	32.0	----	----		43.0	46.0
	ECB18-25 (21 lbs.)	6 (3 phase)	480	20.0	68,200	33.2	----	----	LB-56030AB	44.0	47.0
			208	18.8	64,100	45.4	26.0	----		91.0	98.0
			220	21.0	71,700	47.6	27.6	----		94.0	102.0
	ECB18-25 (21 lbs.)	6 (3 phase)	230	23.0	78,300	49.5	28.9	----	LB-56030AF	98.0	105.0
			240	25.0	85,300	51.4	30.1	----		101.0	108.0
			440	21.0	71,700	37.6	----	----		50.0	52.0
	ECB18-25 (21 lbs.)	6 (3 phase)	460	23.0	78,300	39.2	----	----	LB-56030AF	51.0	53.0
			480	25.0	85,300	40.8	----	----		52.0	54.0

*Includes indoor blower motor. Refer to National Electric Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

**CHP15-261 AND CHP15-311
BLOWER PERFORMANCE**

BLOWER DATA

**CHP15-411-413 AND CHP15-461-463
BLOWER PERFORMANCE**

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	1395	1010	890
.05	1385	1005	885
.10	1365	1005	885
.15	1340	1000	880
.20	1310	995	875
.25	1280	985	870
.30	1240	975	860
.40	1160	935	835
.50	1065	885	---
.60	970	790	---

NOTE - All cfm is measured external to the unit.
NOTE - CHP15-311 should not be operated in the heating cycle within the shaded area.

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	2175	1640	1050
.05	2155	1635	1050
.10	2135	1630	1055
.15	2115	1625	1060
.20	2090	1620	1060
.25	2065	1610	1060
.30	2035	1600	1060
.40	1970	1570	1045
.50	1875	1530	1020
.60	1720	1465	970

NOTE - All cfm is measured external to the unit.
NOTE - Units should not be operated in the heating cycle within the shaded area.

**CHP15-511-513 AND CHP15-651-653
BLOWER PERFORMANCE WITH 208/230 VOLT MOTOR**

**CHP15-513 AND CHP15-653
BLOWER PERFORMANCE WITH 460 VOLT MOTOR**

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds				
	High	Med-High	Medium	Med-Low	Low
0	2675	2380	2180	1845	1580
.05	2670	2370	2170	1830	1555
.10	2660	2355	2150	1810	1525
.15	2655	2340	2130	1785	1500
.20	2645	2320	2105	1760	1480
.25	2630	2300	2080	1730	1450
.30	2610	2280	2065	1710	1430
.40	2560	2230	2020	1655	1370
.50	2485	2160	1965	1595	1310
.60	2410	2100	1900	1540	1210
.70	2330	2030	1825	1480	1115
.80	2240	1960	1750	1420	1005
.90	2130	1870	1660	1350	880
1.00	1980	1740	1560	1250	760

NOTE - All cfm is measured external to the unit.
- CHP15-511-513 should not be operated in the heating cycle below 1600 cfm.
- CHP15-651-653 should not be operated in the heating cycle below 2000 cfm.

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	2475	2050	1800
.05	2460	2035	1775
.10	2450	2015	1750
.15	2430	1995	1725
.20	2410	1970	1705
.25	2385	1945	1680
.30	2360	1920	1650
.40	2305	1860	1600
.50	2240	1800	1545
.60	2170	1730	1490
.70	2090	1665	1430
.80	2010	1590	1375
.90	1930	1510	1315

NOTE - All cfm is measured external to the unit.
- CHP15-513 should not be operated in the heating cycle below 1600 cfm.
- CHP15-653 should not be operated in the heating cycle below 2000 cfm.

ACCESSORY AIR RESISTANCE

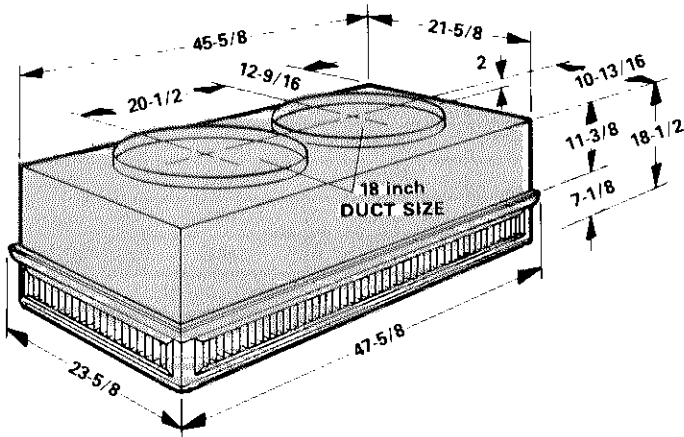
Unit Model No.	Air Volume (cfm)	†REMD15 Economizer	Total Resistance (inches water gauge)							
			†EMDH15 Economizer	†RDE15 †RTDE15 Duct Enclosures	†FS15 Filter Section	†DT15 Over/Under Duct Transition	RTD9-65 Diffuser			FD9-65 Diffuser
							2 Ends Open	1 Side 2 Ends Open	All Ends & Sides Open	
CHP15-261 CHP15-311 CHP15-411-413 CHP15-461-463	800	.16	.16	.16	.11	.16	.15	.13	.11	.11
	1000	.21	.21	.21	.12	.21	.19	.16	.14	.14
	1200	.25	.25	.25	.13	.25	.25	.20	.17	.17
	1400	.27	.27	.27	.16	.27	.33	.25	.20	.20
	1600	.30	.30	.30	.18	.30	.43	.32	.24	.24
CHP15-511-513 CHP15-651-653	1800	.33	.33	.33	.20	.33	.56	.40	.30	.30
	1200	.20	.18	.20	.08	.26	.25	.20	.17	.17
	1400	.26	.18	.26	.10	.29	.33	.25	.20	.20
	1600	.33	.19	.33	.12	.32	.43	.32	.24	.24
	1800	.40	.19	.40	.14	.35	.56	.40	.30	.30
	2000	.43	.19	.43	.17	.37	.73	.50	.36	.36
CHP15-511-513 CHP15-651-653	2200	.46	.20	.46	.18	.38	.95	.63	.44	.44
	2400	.50	.20	.50	.18	.40	1.10	.73	.50	.50

†Air resistance is with the air filter in place.
NOTE - Electric heaters have no appreciable air resistance.

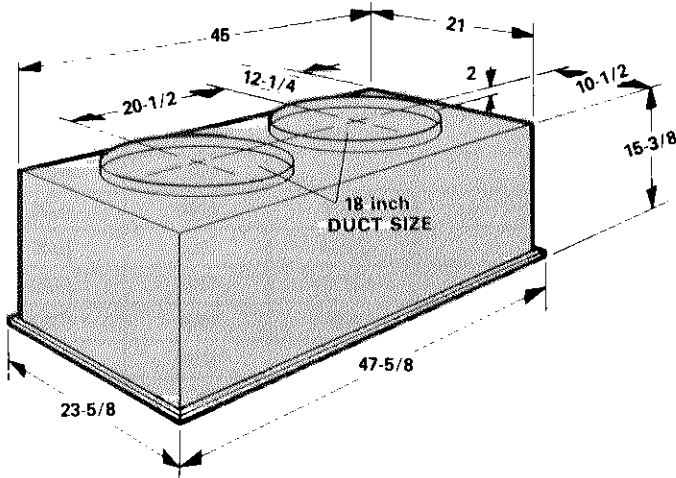
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

DIMENSIONS (inches)

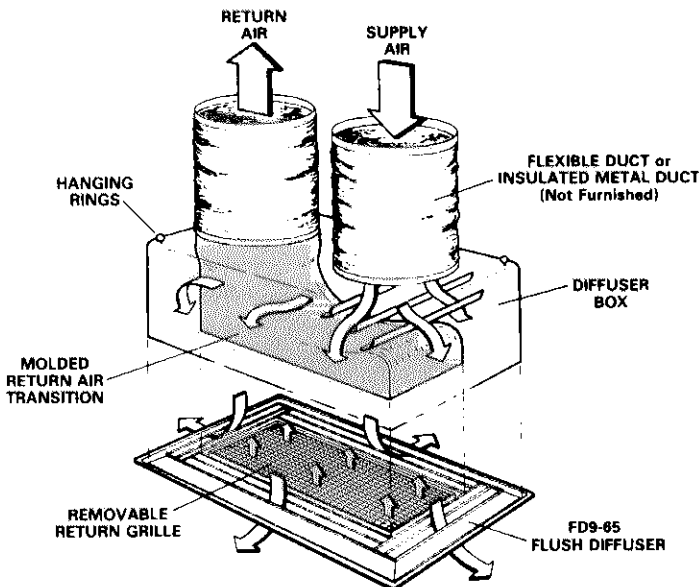
RTD9-65 STEP-DOWN DIFFUSER



FD9-65 FLUSH DIFFUSER



DIFFUSER AIR PATTERN



RTD9-65 STEP-DOWN CEILING DIFFUSER AIR THROW DATA

Grille Vanes	Air Volume (cfm)	*Effective Throw (ft.)		
		Horizontal Vanes 180° Straight	Horizontal Vanes 22° Down	Horizontal Vanes 45° Down
2 Ends Open	600	21	20	24
	800	22	21	15
	1000	24	22	16
	1200	25	23	17
	1400	27	25	18
	1600	29	26	19
	1800	31	27	20
	2000	33	28	21
	2400	38	34	23
1 Side 2 Ends Open	600	15	14	8
	800	16	15	9
	1000	17	16	10
	1200	18	17	11
	1400	19	18	12
	1600	20	18	12
	1800	21	19	13
	2400	27	24	17
All Sides And Ends Open	600	11	10	7
	800	12	11	8
	1000	13	12	8
	1200	14	13	9
	1400	15	14	9
	1600	16	14	10
	1800	17	15	10
	2000	18	16	11
	2400	20	18	12

*Effective throw is terminated at a point where conditioned air velocity has decreased to 50 ft. per minute.

FD9-65 CEILING DIFFUSER AIR THROW DATA

Air Volume (cfm)	*Effective Throw (ft.)
600	7
800	8
1000	8
1200	9
1400	9
1600	10
1800	11
2000	12
2200	12
2400	13

*Effective throw is terminated at a point where conditioned air velocity has decreased to 50 ft. per minute.

COOLING AND HEATING RATINGS

NOTE – To determine Sensible Capacity, Leaving Wet Bulb and Dry Bulb temperatures not shown in the tables see Miscellaneous Engineering Data section, Page 9.

CHP15-261 COOLING CAPACITY

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Outdoor Coil (°F)																							
		85						95						105						115					
		Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
76	80	84	76	80	84	76	80	84	76	80	84	76	80	84	76	80	84								
63	800	25,100	2070	.75	.87	1.00	23,700	2190	.77	.90	1.00	22,400	2330	.80	.91	1.00	21,200	2520	.83	1.00	1.00				
	900	25,700	2090	.79	.91	1.00	24,500	2220	.81	1.00	1.00	23,200	2380	.84	1.00	1.00	21,900	2560	.88	1.00	1.00				
	1000	26,500	2120	.82	1.00	1.00	25,300	2250	.85	1.00	1.00	23,900	2410	.88	1.00	1.00	22,600	2600	.91	1.00	1.00				
67	800	26,900	2130	.58	.69	.81	25,400	2250	.59	.71	.83	23,800	2400	.61	.74	.86	22,300	2580	.63	.77	.90				
	900	27,400	2140	.60	.73	.85	25,900	2270	.62	.75	.88	24,300	2420	.64	.78	.91	22,600	2610	.66	.81	1.00				
	1000	27,900	2160	.62	.76	.89	26,300	2290	.64	.79	.91	24,600	2440	.66	.82	1.00	23,000	2630	.69	.85	1.00				
71	800	29,000	2190	.43	.53	.64	27,400	2330	.43	.55	.66	25,700	2490	.44	.56	.68	24,000	2680	.45	.58	.71				
	900	29,500	2210	.44	.55	.67	27,800	2340	.44	.57	.69	26,000	2510	.45	.59	.72	24,300	2700	.46	.61	.75				
	1000	29,900	2220	.45	.58	.70	28,100	2360	.46	.59	.73	26,300	2520	.47	.61	.76	24,600	2720	.48	.63	.79				

CHP15-261 HEATING CAPACITY

Indoor Coil Air Volume (cfm) 70°F db	Air Temperature Entering Outdoor Coil (°F)									
	65		45		25		5		-15	
	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input
800	31,500	2130	23,800	1850	16,100	1575	9900	1280	4900	970
900	32,000	2095	24,200	1815	16,500	1540	10,400	1245	5300	935
1000	32,500	2060	24,700	1780	17,000	1505	10,900	1210	5800	900

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

CHP15-261 HEATING PERFORMANCE at 900 cfm Indoor Coil Air Volume

*Outdoor Temperature (Degree F)	Compressor Motor Watts Input	Total Output (Btuh)
65	2095	32,000
60	2025	30,000
55	1955	28,100
50	1885	26,200
47	1845	25,000
45	1815	24,200
40	1750	22,300
35	1680	20,400
30	1610	18,400
25	1540	16,500
20	1470	14,600
17	1430	13,400
15	1400	12,900
10	1320	11,600
5	1245	10,400
0	1165	9100
-5	1090	7800
-10	1010	6600
-15	935	5300
20	860	4000

*Outdoor temperature at 70% relative humidity. Indoor temperature at 70°F.

COOLING AND HEATING RATINGS

NOTE - To determine Sensible Capacity, Leaving Wet Bulb and Dry Bulb temperatures not shown in the tables see Miscellaneous Engineering Data section, Page 9.

CHP15-311 COOLING CAPACITY

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Outdoor Coil (°F)																							
		85						95						105						115					
		Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
76	80	84	76	80	84	76	80	84	76	80	84	76	80	84	76	80	84								
63	1000	29,500	2560	.78	.90	1.00	27,700	2690	.80	.92	1.00	26,100	2840	.84	1.00	1.00	24,500	2970	.87	1.00	1.00				
	1125	30,400	2590	.81	.92	1.00	28,700	2750	.84	1.00	1.00	27,100	2900	.88	1.00	1.00	25,400	3040	.92	1.00	1.00				
	1250	31,400	2620	.85	1.00	1.00	29,600	2790	.88	1.00	1.00	27,900	2940	.92	1.00	1.00	26,200	3090	.92	1.00	1.00				
67	1000	31,700	2640	.59	.71	.93	29,600	2780	.61	.74	.86	27,600	2920	.63	.77	.90	25,600	3050	.65	.80	.92				
	1125	32,300	2650	.62	.75	.88	30,200	2810	.64	.78	.91	28,100	2950	.66	.81	.92	26,100	3080	.69	.85	1.00				
	1250	32,700	2680	.65	.79	.93	30,500	2840	.67	.83	.97	28,600	2970	.69	.85	1.00	26,500	3110	.74	.90	1.00				
71	1000	34,300	2730	.43	.55	.66	32,100	2890	.44	.56	.68	29,900	3050	.45	.58	.71	27,800	3190	.46	.60	.74				
	1125	34,800	2750	.44	.57	.69	32,600	2920	.45	.59	.72	30,400	3080	.46	.61	.75	28,200	3220	.48	.63	.78				
	1250	35,300	2760	.46	.59	.72	33,000	2930	.47	.61	.75	30,700	3100	.48	.63	.78	28,500	3240	.49	.66	.82				

CHP15-311 HEATING CAPACITY

Indoor Coil Air Volume (cfm) 70°F db	Air Temperature Entering Outdoor Coil (°F)									
	65		45		25		5		-15	
	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input
1000	35,400	2540	27,500	2230	17,900	1900	12,000	1545	5900	1175
1125	35,800	2490	27,900	2180	18,300	1850	12,400	1495	6300	1125
1250	36,200	2450	28,300	2140	18,700	1810	12,800	1455	6700	1085

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

CHP15-311 HEATING PERFORMANCE at 1125 cfm Indoor Coil Air Volume

*Outdoor Temperature (Degree F)	Compressor Motor Watts Input	Total Output (Btuh)
65	2490	35,800
60	2415	34,000
55	2335	32,100
50	2260	30,300
47	2215	29,200
45	2180	27,900
40	2100	24,500
35	2015	21,200
30	1935	19,800
25	1850	18,300
20	1770	16,900
17	1720	16,000
15	1680	15,400
10	1590	13,900
5	1495	12,400
0	1405	10,900
-5	1310	9300
-10	1215	7800
-15	1125	6300
-20	1030	4800

*Outdoor temperature at 70% relative humidity. Indoor temperature at 70°F.

COOLING AND HEATING RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet Bulb and Dry Bulb temperatures not shown in the tables see Miscellaneous Engineering Data section, Page 9.

CHP15-411-413 COOLING CAPACITY

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Outdoor Coil (°F)																							
		85						95						105						115					
		Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
76	80	84	76	80	84	76	80	84	76	80	84														
63	1200	36,700	2970	.78	.91	1.00	34,600	3190	.81	.94	1.00	32,200	3460	.83	1.00	1.00	30,200	3800	.87	1.00	1.00				
	1350	37,500	2990	.82	.95	1.00	35,200	3220	.84	1.00	1.00	33,200	3510	.88	1.00	1.00	31,100	3860	.91	1.00	1.00				
	1500	38,100	3010	.85	1.00	1.00	36,100	3260	.88	1.00	1.00	34,000	3550	.91	1.00	1.00	31,800	3910	.96	1.00	1.00				
67	1200	39,000	3040	.61	.73	.84	36,600	3280	.62	.75	.87	34,200	3560	.64	.78	.91	31,600	3890	.66	.81	.95				
	1350	39,600	3060	.63	.76	.88	37,200	3300	.65	.78	.92	34,600	3590	.67	.82	.96	32,000	3930	.69	.85	1.00				
	1500	40,100	3070	.65	.79	.93	37,600	3320	.67	.82	.96	35,100	3610	.69	.85	1.00	32,400	3960	.72	.89	1.00				
71	1200	41,600	3120	.45	.56	.67	39,100	3380	.46	.58	.70	36,400	3680	.47	.59	.72	33,700	4040	.48	.62	.75				
	1350	42,200	3140	.46	.58	.71	39,500	3400	.47	.60	.73	36,900	3710	.48	.62	.76	34,000	4070	.49	.64	.79				
	1500	42,600	3150	.47	.60	.74	39,900	3410	.48	.62	.76	37,200	3720	.49	.64	.80	34,300	4090	.51	.67	.83				

CHP15-411-413 HEATING CAPACITY

Indoor Coil Air Volume (cfm) 70°F db	Air Temperature Entering Outdoor Coil (°F)									
	65		45		25		5		-15	
	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input
1200	43,500	3140	33,200	2605	21,500	2180	14,800	1750	7200	1320
1350	44,200	3115	34,000	2580	22,300	2155	15,500	1725	7900	1295
1500	44,900	3085	34,700	2550	23,000	2125	16,200	1695	8600	1265

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

CHP15-411-413 HEATING PERFORMANCE at 1350 cfm Indoor Coil Air Volume

*Outdoor Temperature (Degree F)	Compressor Motor Watts Input	Total Output (Btuh)
65	3115	44,200
60	2980	41,900
55	2840	39,500
50	2700	37,200
47	2620	36,000
45	2580	34,000
40	2475	29,500
35	2370	25,000
30	2260	23,600
25	2155	22,300
20	2045	20,900
17	1980	19,600
15	1935	19,300
10	1830	17,400
5	1725	15,500
0	1615	13,600
-5	1510	11,700
-10	1400	9800
-15	1295	7900
-20	1190	6000

*Outdoor temperature at 70% relative humidity. Indoor temperature at 70°F.

COOLING AND HEATING RATINGS

NOTE – To determine Sensible Capacity, Leaving Wet Bulb and Dry Bulb temperatures not shown in the tables see Miscellaneous Engineering Data section, Page 9.

CHP15-461-463 COOLING CAPACITY

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Outdoor Coil (°F)																							
		85						95						105						115					
		Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
			76	80	84				76	80	84				76	80	84								
63	1400	42,900	3780	.78	.90	1.00	40,500	4070	.80	.93	1.00	38,000	4420	.83	.96	1.00	35,300	4850	.86	1.00	1.00				
	1575	43,800	3810	.81	.94	1.00	41,100	4100	.84	1.00	1.00	38,800	4480	.87	1.00	1.00	36,300	4940	.91	1.00	1.00				
	1750	44,500	3840	.84	1.00	1.00	42,200	4160	.87	1.00	1.00	39,700	4550	.91	1.00	1.00	37,200	5020	.95	1.00	1.00				
67	1400	45,600	3880	.60	.72	.84	42,900	4200	.62	.74	.87	40,000	4560	.64	.77	.90	37,000	5010	.66	.80	.94				
	1575	46,300	3910	.63	.75	.88	43,500	4230	.64	.78	.91	40,500	4600	.66	.81	.95	37,500	5050	.69	.85	1.00				
	1750	46,800	3930	.65	.79	.92	44,000	4250	.67	.81	.95	41,000	4640	.69	.85	1.00	37,900	5090	.72	.89	1.00				
71	1400	48,600	4010	.45	.56	.67	45,700	4340	.46	.57	.69	42,600	4750	.46	.59	.72	39,400	5220	.48	.61	.75				
	1575	49,200	4030	.46	.58	.70	46,200	4370	.47	.60	.72	43,100	4780	.48	.62	.75	39,800	5260	.49	.64	.79				
	1750	49,800	4050	.47	.60	.73	46,700	4400	.48	.62	.76	43,400	4810	.49	.64	.79	40,100	5290	.50	.67	.83				

CHP15-461-463 HEATING CAPACITY

Indoor Coil Air Volume (cfm) 70°F db	Air Temperature Entering Outdoor Coil (°F)									
	65		45		25		5		-15	
	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input	Total Htg. Cap. (Btuh)	Comp. Motor Watts Input
1400	57,600	4085	42,800	3375	28,100	2720	18,500	2145	9000	1620
1575	58,500	4045	43,700	3335	29,000	2680	19,400	2105	9900	1580
1750	59,500	4000	44,700	3290	30,000	2635	20,400	2060	10,900	1535

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

CHP15-461-463 HEATING PERFORMANCE at 1575 cfm Indoor Coil Air Volume

*Outdoor Temperature (Degree F)	Compressor Motor Watts Input	Total Output (Btuh)
65	4045	58,500
60	3865	54,900
55	3685	51,400
50	3505	47,800
47	3400	45,000
45	3335	43,700
40	3170	38,700
35	3005	33,800
30	2845	31,400
25	2680	29,000
20	2515	26,600
17	2420	24,700
15	2365	24,200
10	2235	21,800
5	2105	19,400
0	1975	17,000
-5	1845	14,700
-10	1715	12,300
-15	1580	9900
-20	1450	7500

*Outdoor temperature at 70% relative humidity. Indoor temperature at 70°F.

COOLING AND HEATING RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet Bulb and Dry Bulb temperatures not shown in the tables see Miscellaneous Engineering Data section, Page 9.

CHP15-511-513 COOLING CAPACITY

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Outdoor Coil (°F)																			
		85					95					105					115				
		Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)		
76	80	84	76	80	84	76	80	84	76	80	84	76	80	84							
63	1600	50,300	4160	.76	.88	1.00	47,300	4480	.79	.91	1.00	44,100	4780	.82	1.00	1.00	41,500	5060	.85	1.00	1.00
	1800	51,500	4200	.80	.93	1.00	48,400	4530	.83	1.00	1.00	45,600	4850	.86	1.00	1.00	42,900	5140	.89	1.00	1.00
	2000	52,500	4240	.83	1.00	1.00	49,800	4590	.86	1.00	1.00	46,900	4920	.90	1.00	1.00	44,100	5200	.94	1.00	1.00
67	1600	53,600	4280	.59	.71	.82	50,400	4620	.61	.73	.85	47,100	4920	.62	.76	.88	43,700	5180	.65	.79	.92
	1800	54,500	4320	.62	.74	.86	51,200	4650	.63	.77	.90	47,800	4960	.65	.80	.93	44,400	5220	.68	.83	1.00
	2000	55,300	4340	.64	.78	.91	51,900	4680	.66	.80	.94	48,500	4990	.68	.84	1.00	45,000	5260	.71	.87	1.00
71	1600	57,400	4420	.44	.55	.66	53,900	4760	.45	.56	.68	50,400	5080	.45	.58	.70	46,800	5360	.46	.60	.73
	1800	58,200	4450	.45	.57	.69	54,700	4800	.46	.59	.71	51,000	5110	.47	.60	.74	47,400	5390	.48	.63	.77
	2000	58,900	4470	.46	.59	.72	55,300	4820	.47	.61	.75	51,600	5140	.48	.63	.78	47,800	5410	.49	.65	.81

CHP15-511-513 HEATING CAPACITY

Indoor Coil Air Volume (cfm) 70°F db	Air Temperature Entering Outdoor Coil (°F)									
	65		45		25		5		-15	
	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input
1600	62,400	4195	47,500	3630	30,300	2975	20,000	2325	9900	1765
1800	63,000	4125	48,100	3560	30,900	2905	20,600	2255	10,500	1695
2000	63,600	4060	48,700	3495	31,500	2840	21,200	2190	11,100	1630

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

CHP15-511-513 HEATING PERFORMANCE at 1800 cfm Indoor Coil Air Volume

*Outdoor Temperature (Degree F)	Compressor Motor Watts Input	Total Output (Btuh)
65	4125	63,000
60	3980	59,500
55	3840	56,100
50	3695	52,600
47	3610	50,500
45	3560	48,100
40	3430	42,200
35	3300	36,200
30	3100	33,500
25	2905	30,900
20	2710	28,200
17	2590	26,600
15	2535	25,600
10	2395	23,100
5	2255	20,600
0	2115	18,000
-5	1975	15,500
-10	1835	13,000
-15	1695	10,500
-20	1555	8000

*Outdoor temperature at 70% relative humidity. Indoor temperature at 70°F.

COOLING AND HEATING RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet Bulb and Dry Bulb temperatures not shown in the tables see Miscellaneous Engineering Data section, Page 9.

CHP15-651-653 COOLING CAPACITY

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Outdoor Coil (°F)																							
		85						95						105						115					
		Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
76	80	84	76	80	84	76	80	84	76	80	84	76	80	84											
63	2000	60,800	5440	.74	.86	1.00	58,100	5810	.76	.88	1.00	54,800	6160	.78	1.00	1.00	52,900	6490	.80	1.00	1.00				
	2250	62,300	5490	.78	.90	1.00	59,400	5860	.80	1.00	1.00	57,000	6230	.82	1.00	1.00	54,700	6560	.84	1.00	1.00				
	2500	63,700	5550	.81	1.00	1.00	61,200	5930	.83	1.00	1.00	58,700	6290	.86	1.00	1.00	56,300	6620	.88	1.00	1.00				
67	2000	64,900	5600	.57	.69	.80	61,900	5960	.59	.70	.82	59,000	6300	.60	.72	.84	56,100	6610	.61	.74	.87				
	2250	66,000	5640	.60	.72	.84	63,000	6000	.61	.74	.86	60,000	6340	.62	.76	.89	57,000	6650	.64	.78	1.00				
	2500	66,900	5670	.62	.75	.88	63,800	6030	.63	.77	.90	60,800	6370	.65	.79	1.00	57,900	6680	.66	.82	1.00				
71	2000	69,600	5760	.42	.53	.64	66,500	6120	.43	.54	.65	63,400	6460	.43	.55	.67	60,300	6760	.44	.56	.69				
	2250	70,600	5800	.43	.55	.67	67,400	6150	.44	.56	.68	64,300	6490	.45	.57	.70	61,200	6790	.45	.59	.72				
	2500	71,400	5830	.44	.57	.70	68,200	6180	.45	.58	.72	65,000	6510	.46	.60	.74	61,900	6810	.47	.61	.76				

CHP15-651-653 HEATING CAPACITY

Indoor Coil Air Volume (cfm) 70°F db	Air Temperature Entering Outdoor Coil (°F)									
	65		45		25		5		-15	
	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input	Total Heating Capacity (Btuh)	Comp. Motor Watts Input
2000	77,100	5340	58,300	4660	37,900	3985	26,000	3245	13,000	2470
2250	77,800	5220	59,000	4540	38,600	3865	26,700	3125	13,700	2350
2500	79,000	5100	60,200	4420	39,800	3745	27,900	3005	14,900	2230

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

CHP15-651-653 HEATING PERFORMANCE at 2250 cfm Indoor Coil Air Volume

*Outdoor Temperature (Degree F)	Compressor Motor Watts Input	Total Output (Btuh)
65	5520	77,800
60	5050	73,400
55	4880	69,000
50	4705	64,600
47	4605	62,000
45	4540	59,000
40	4375	51,300
35	4210	43,700
30	4035	41,200
25	3865	38,600
20	3695	36,100
17	3590	34,600
15	3510	33,300
10	3320	30,000
5	3125	26,700
0	2930	23,500
-5	2735	20,200
-10	2540	16,900
-15	2350	13,700
-20	2155	10,400

*Outdoor temperature at 70% relative humidity. Indoor temperature at 70°F.

GUIDE SPECIFICATIONS

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

General — Furnish and install a single package heat pump unit complete with automatic controls. The single package unit shall be a standard product of a firm regularly engaged in the manufacture of heating-cooling equipment. The manufacturer shall have parts and service available throughout the United States.

The installed weight shall not be more than lbs. Entire unit shall have a width of not more than inches, a depth of not more than inches and an overall height of not more than inches. 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.

Approvals — Single package unit shall have ETL Listing. All wiring shall be in compliance with NEC.

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

Air Distribution — Equipment shall be capable of horizontal or down-flo handling of conditioned air. All air distribution ducts shall be fiberglass or ga. galvanized steel insulated with inch thick lb. density fiberglass or equivalent.

Furnish and install a (flush or stepdown) optional combination ceiling supply and return air grille. It shall be capable of not less than ft. radius of effective throw.

DX Cooling System — The total certified cooling capacity shall not be less than Btuh with an indoor coil air volume of cfm, an entering wet bulb air temperature of °F, an entering dry bulb air temperature of °F, and an outdoor coil entering air temperature of °F. The total compressor power input shall not exceed Kw at these conditions.

Heating System — The total certified heating capacity shall not be less than Btuh with an indoor coil air volume of cfm, an entering wet bulb air temperature of °F, an entering dry bulb temperature of °F and an outdoor coil entering air temperature of °F. The total compressor power input shall not exceed Kw at the above 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. (indoor) and sq. ft. (outdoor).

The compressor shall be resiliently mounted, have overload protection, internal pressure relief and crankcase heater (not required on CHP15-311). The refrigeration system shall have reversing valve, suction and discharge line service gauge ports, high pressure switch, suction line accumulator, check valve, hi-capacity drier, defrost control, (expansion valve, thermometer well and crankcase thermostat, CHP15-410, 460, 510, 650 only), (sight glass and discharge thermostat, CHP15-261 & 311 only) and full refrigerant charge. Control options available shall consist of thermostat, timed-off control, low ambient control, outdoor thermostat and start controls (start controls shall be factory installed on CHP15-411, 461, 511, 651 models) Shall comply with ARI standard 240 test conditions and DOE test procedures.

Supplementary Electric Heating System — The certified total heating capacity output shall be Btuh with Kw input at volts power supply.

Optional electric heaters shall be field installed. Heating elements shall be nichrome bare wire exposed directly to the air stream. Thermal time delay relay shall bring the elements on and off in sequence with a time delay between each element. Safety devices shall consist of limit controls and thermal cutoff safety fuses. Heaters shall be ETL Listed.

Cabinet — Shall be of galvanized steel with a baked-on outdoor enamel paint finish. 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. Base shall have drainage holes in outdoor coil section.

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

Air Movers — Centrifugal conditioned air blower shall be direct driven by a multi-speed motor and be capable of delivering cfm at an external static pressure of inches water gauge requiring not more than bhp and rpm. Blower shall be statically and dynamically balanced.

Propeller type outdoor fan shall be direct driven by a hp motor. Fan motor shall be permanently lubricated and inertently protected.

Air Filters — Cleanable filters furnished shall have not less than sq. ft. of free area.

Roof Mounting Frame — Furnish and install a steel roof mounting frame with mounting platform. 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 design shall be approved by National Roofing Contractors Association.

Duct Enclosure — Enclosure shall attach to the single package unit and mate to the roof mounting frame providing weatherproof duct connection and entry into the conditioned area. Enclosure shall be of galvanized steel with a baked-on polyester paint finish and shall be completely insulated. Shall include minimum outdoor air intake damper and disposable air filter(s) with not less than sq. ft. of free area.

Economizer Dampers — Furnish and install complete with controls an air mixing damper assembly including outdoor air and recirculated air dampers. REMD15 shall include pressure operated exhaust air dampers. The assembly shall provide for the introduction of outside air for minimum ventilation and free cooling. The assembly shall include air filter(s). Damper motor shall be 24 volt three position electronic or fully modulating electronic spring return. Controls shall include electronic discharge air sensor, minimum position potentiometer, and solid-state adjustable enthalpy control. Control option available shall consist of differential enthalpy control (return air sensor).

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

Filter Section — Optional filter section shall field install to single package unit. Shall be of galvanized steel with a baked-on outdoor polyester paint finish and completely insulated. Shall have frame type disposable air filter(s).

Over/Under Duct Transition — Optional transition shall be available for field conversion of single package unit from side by side supply and return air openings to over/under openings. Shall be of galvanized steel with a baked-on polyester paint finish and shall be insulated. Shall have frame type disposable air filter(s).

Single-Point Power Source Control Box — Optional box shall field install external to the unit and provide single power source connection and sub-fusing for electric heat. Shall be of galvanized steel with outdoor enamel paint, mounting holes, electrical inlets and hinged cover.

Remote Status Panel — Optional 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, No Heat and Filter.

CHP15-511-513 and CHP15-651-653 Control Systems — Shall provide a selection of optional thermostats and related controls to automatically operate the mechanical equipment through the heating or cooling and ventilating cycles as required.

DIMENSIONS (inches)

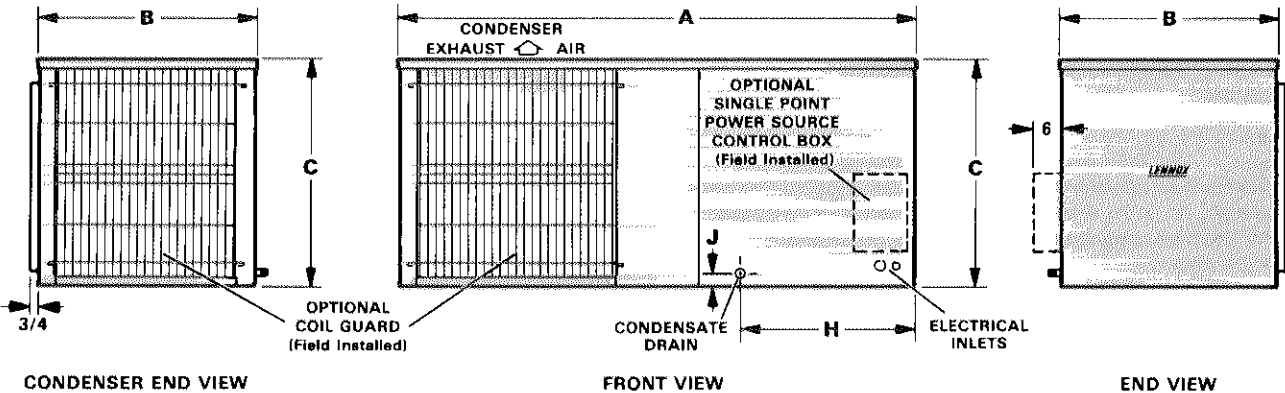
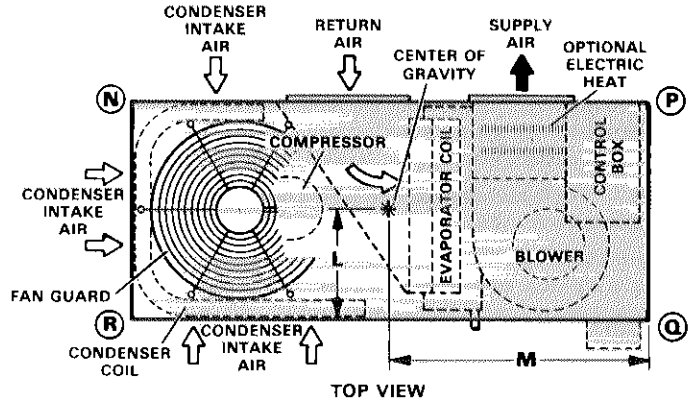
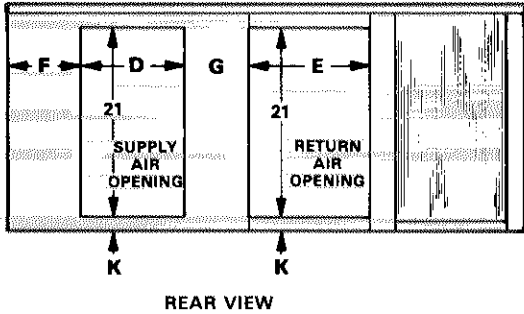
CHP15 BASIC UNIT

CENTER OF GRAVITY — in.

Model No.	L	M
CHP15-261-311	12	29-3/4
CHP15-410-460	14-1/8	32-3/4
CHP15-510-650	18	36

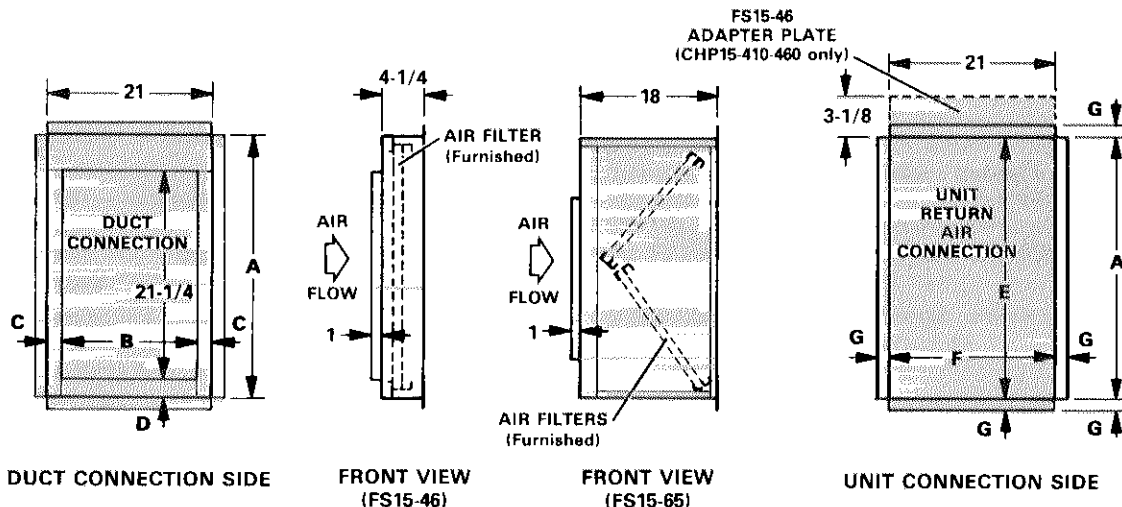
CORNER WEIGHTS — lbs.

Model No.	N	P	Q	R
CHP15-261	70	65	65	70
CHP15-311	78	72	72	78
CHP15-410	97	80	96	114
CHP15-460	98	82	97	115
CHP15-510	132	125	132	140
CHP15-650	135	128	135	143



Model No.	A	B	C	D	E	F	G	H	J	K
CHP15-261-311	57-1/4	24	25-1/4	13-11/16	13-7/16	8-1/4	4-13/16	19-3/8	1-3/8	1-5/8
CHP15-410-460	60-1/4	30-3/4	28-1/8	13-11/16	13-5/16	8-1/4	4-13/16	21-3/16	1-1/2	1-5/8
CHP15-510-650	70	37	34-5/8	15-3/8	17-5/16	7-3/4	5-3/16	22-1/16	2-1/8	5-3/8

FS15 FILTER SECTION

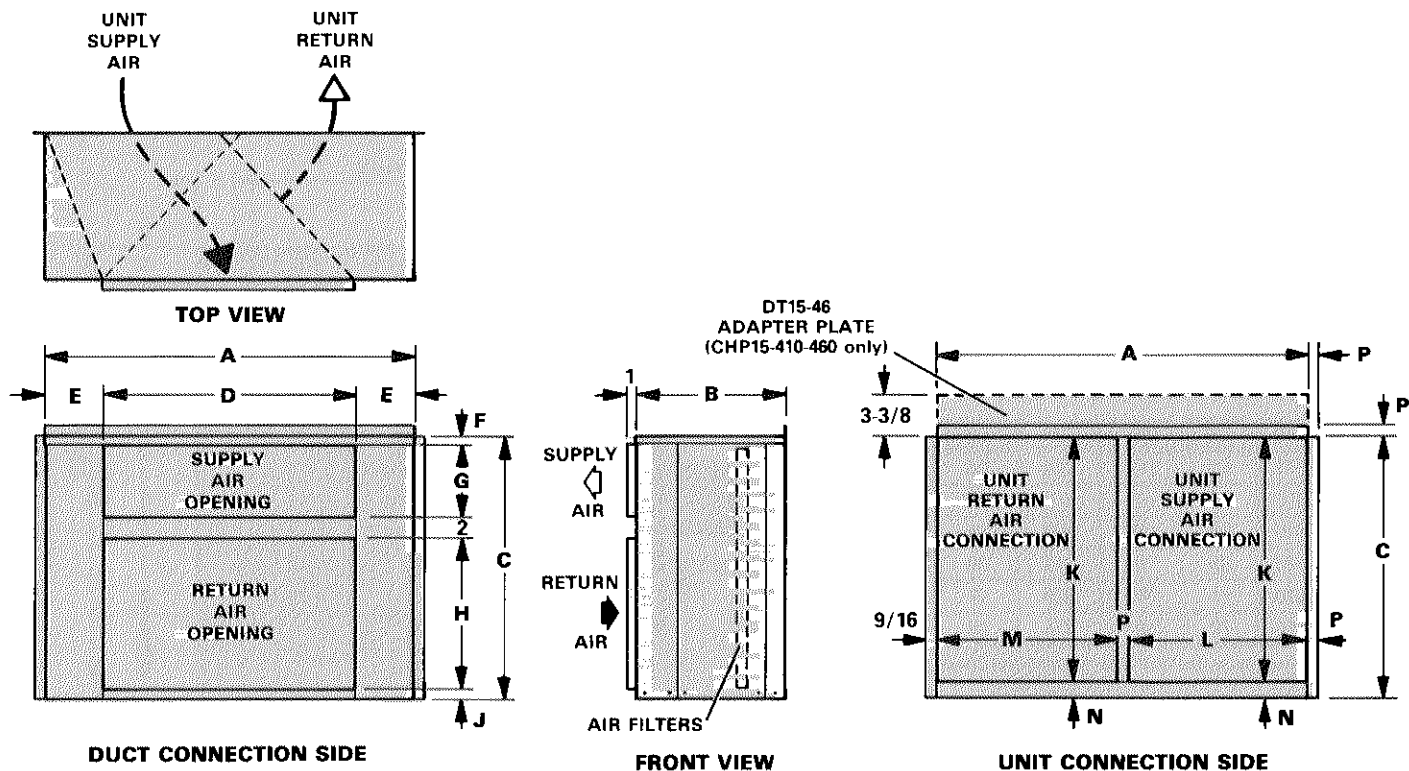


Model No.	A	B	C	D	E	F	G
FS15-46	23	13-3/4	3-5/8	7/8	23	*19-7/8	9/16
FS15-65	29-3/8	17-3/4	1-5/8	4-1/16	29-3/8	21	1

*NOTE -- Side flanges inside on FS15-46 only.

DIMENSIONS (inches)

DT15 OVER/UNDER DUCT TRANSITION

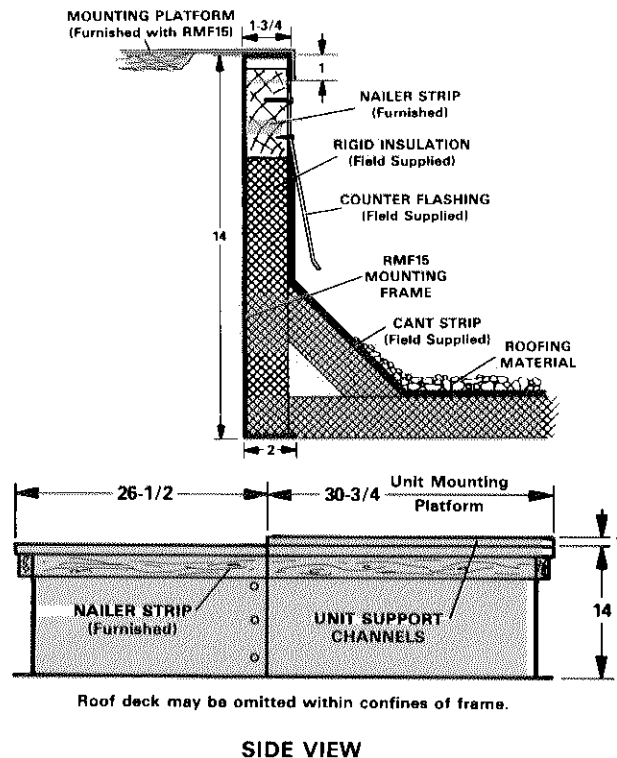
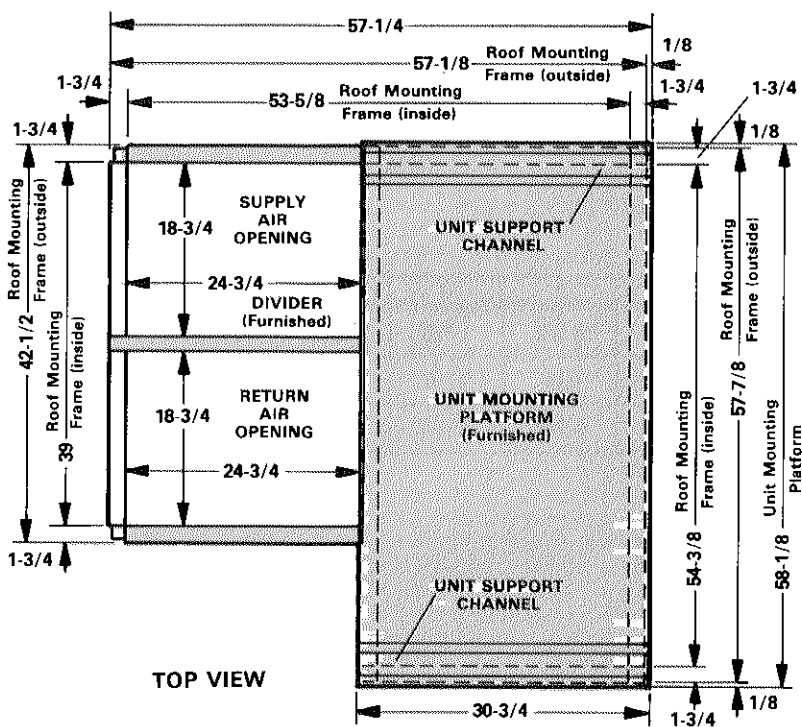


Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P
DT15-46	35-1/8	14-1/4	24-3/4	24	5-9/16	5/8	7	14-1/2	5/8	22-15/16	14-9/16	*19-7/16	1-13/16	9/16
DT15-65	41-1/2	34-3/16	33-1/4	34	3-3/4	5-15/16	8	15	2-5/16	30	20-1/2	20	1-1/4	1

*NOTE - Side return air flange inside on DT15-46 only.

RMF15-65 ROOF MOUNTING FRAME

TYPICAL FLASHING



DIMENSIONS (inches)

CHP15 UNIT WITH RDE15 DUCT ENCLOSURE AND RMF15-65 ROOF MOUNTING FRAME

CENTER OF GRAVITY

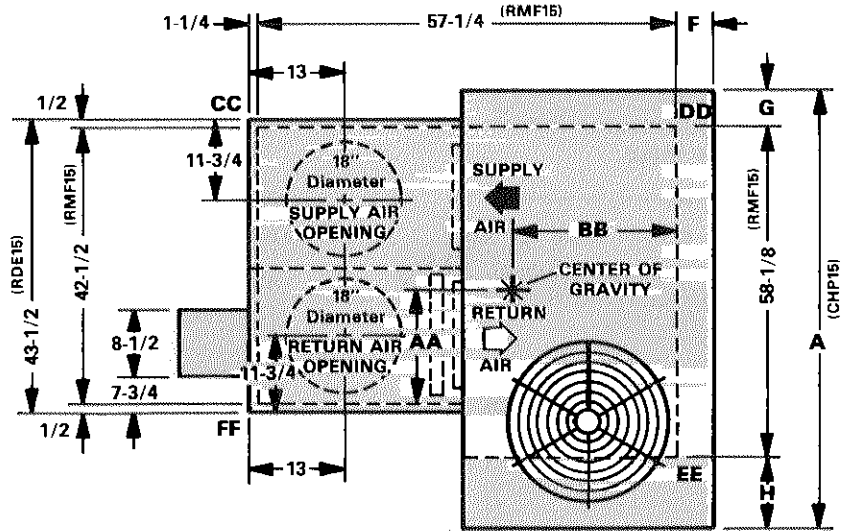
Model No.	AA	BB
CHP15-261-311	20-1/2	18
CHP15-410-460	15-7/8	12-1/2
CHP15-510-650	24-1/2	13

NOTE — Dimensions are for CHP15 Unit with RDE15 Duct Enclosure and RMF15-65 Roof Mounting Frame.

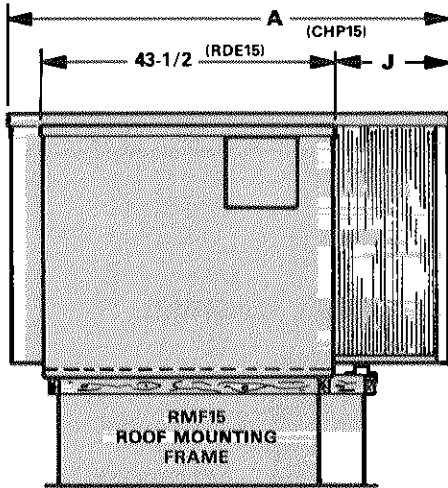
CORNER WEIGHTS — lbs.

Model No.	CC	DD	EE	FF
CHP15-261	51	111	204	94
CHP15-311	54	118	217	100
CHP15-410	38	128	340	96
CHP15-460	38	128	340	96
CHP15-510	71	240	329	97
CHP15-650	72	244	334	98

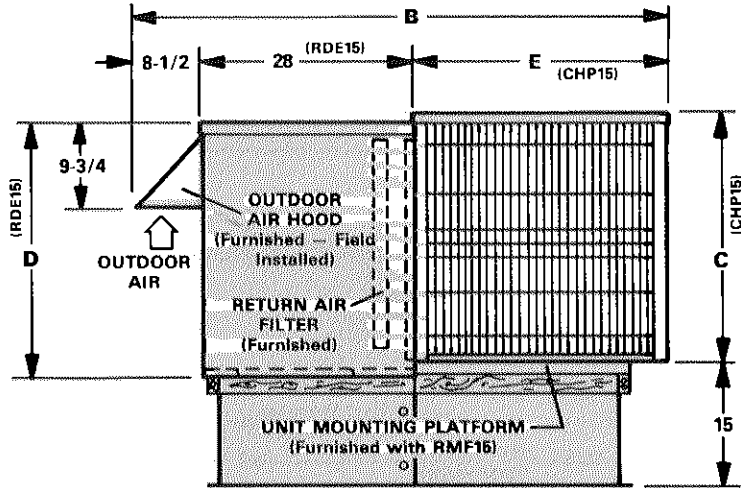
NOTE — Weights are for CHP15 Unit with RDE15 Duct Enclosure and RMF15-65 Roof Mounting Frame.



TOP VIEW



END VIEW



SIDE VIEW

Model No.	A	B	C	D	E	F	G	H	J
CHP15-261-311 RDE15-31	57-1/4	60-1/2	25-1/4	27-1/4	24	*6-1/2	*1-5/8	3/4	15-7/8
CHP15-410-460 RDE15-46	60-1/4	67-1/4	28-1/8	29-1/2	30-3/4	1/4	7/16	1-11/16	16-13/16
CHP15-510-650 RDE15-65	70	73-1/2	34-5/8	36-3/8	37	6-1/2	4-1/4	7-5/8	22-3/4

*Roof Mounting Frame protrudes from underneath the unit.

DIMENSIONS (inches)

CHP15 UNIT WITH REMD15 ECONOMIZER AND RMF15-65 ROOF MOUNTING FRAME

CENTER OF GRAVITY

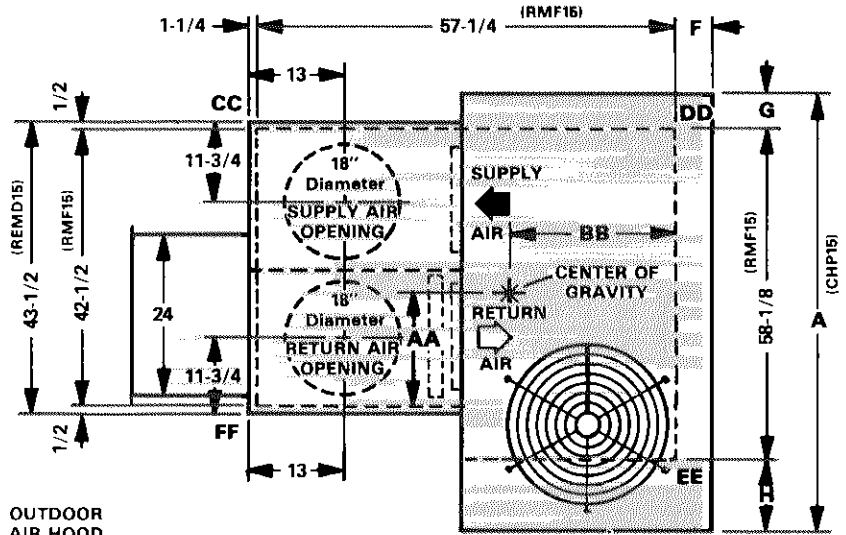
Model No.	AA	BB
CHP15-261-311	20	19
CHP15-410-460	15-3/8	13-1/2
CHP15-510-650	26	14

NOTE — Dimensions are for CHP15 Unit with REMD15 Economizer and RMF15-65 Roof Mounting Frame.

CORNER WEIGHTS — lbs.

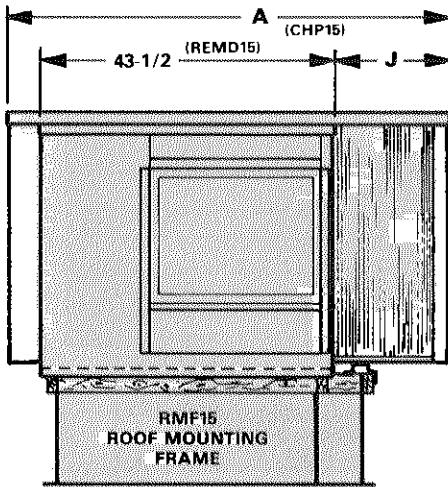
Model No.	CC	DD	EE	FF
CHP15-261	54	109	208	104
CHP15-311	58	116	221	110
CHP15-410	39	127	352	109
CHP15-460	39	127	352	109
CHP15-510	84	260	321	104
CHP15-650	86	263	325	106

NOTE — Weights are for CHP15 Unit with REMD15 Economizer and RMF15-65 Roof Mounting Frame.

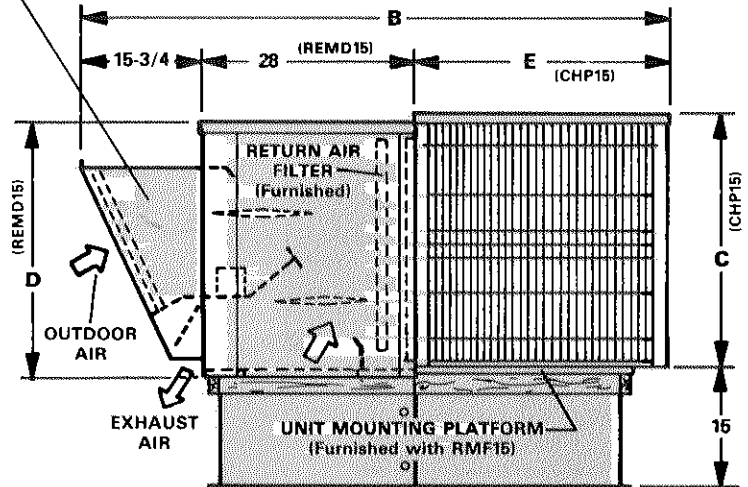


TOP VIEW

OUTDOOR AIR HOOD & EXHAUST AIR DAMPER (Field Installed)



END VIEW



SIDE VIEW

Model No.	A	B	C	D	E	F	G	H	J
CHP15-261-311 REMD15-31	57-1/4	67-3/4	25-1/4	27-1/4	24	*6-1/2	*1-5/8	3/4	15-7/8
CHP15-410-460 REMD15-46	60-1/4	74-1/2	28-1/8	29-1/2	30-3/4	1/4	7/16	1-11/16	16-13/16
CHP15-510-650 REMD15-65	70	80-3/4	34-5/8	36-3/8	37	6-1/2	4-1/4	7-5/8	22-3/4

*Roof Mounting Frame protrudes from underneath the unit.

DIMENSIONS (inches)

CHP15 UNIT WITH RTDE15 TRIANGULAR DUCT ENCLOSURE AND RMF15-65 ROOF MOUNTING FRAME

CENTER OF GRAVITY

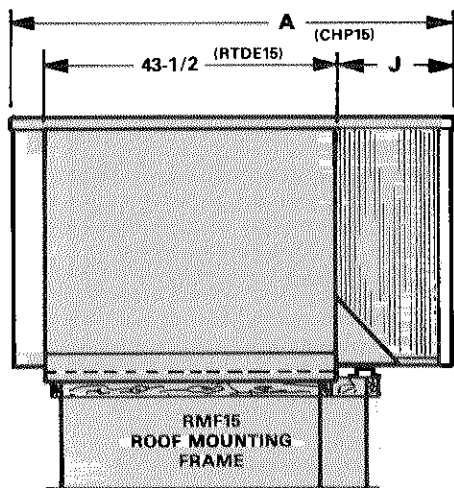
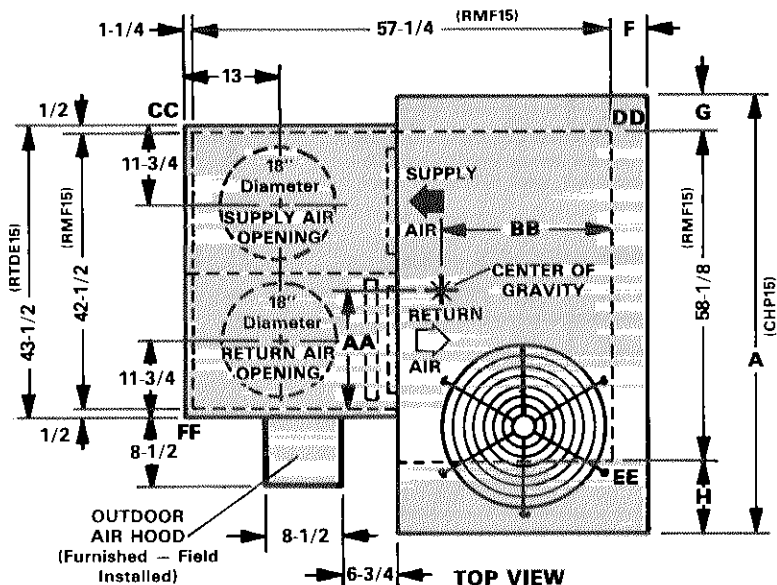
Model No.	AA	BB
CHP15-261-311	20-1/2	18
CHP15-410-460	15-7/8	12-1/2
CHP15-510-650	24-1/2	13

NOTE — Dimensions are for CHP15 Unit with RTDE15 Duct Enclosure and RMF15-65 Roof Mounting Frame.

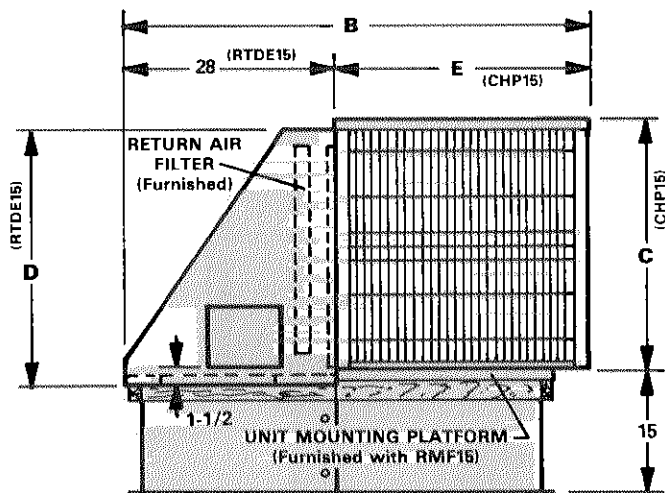
CORNER WEIGHTS — lbs.

Model No.	CC	DD	EE	FF
CHP15-261	50	108	198	91
CHP15-311	53	115	212	97
CHP15-410	35	125	331	93
CHP15-460	35	125	331	93
CHP15-510	67	232	318	96
CHP15-650	69	236	324	95

NOTE - Weights are for CHP15 Unit with RTDE15 Duct Enclosure and RMF15-65 Roof Mounting Frame.



END VIEW



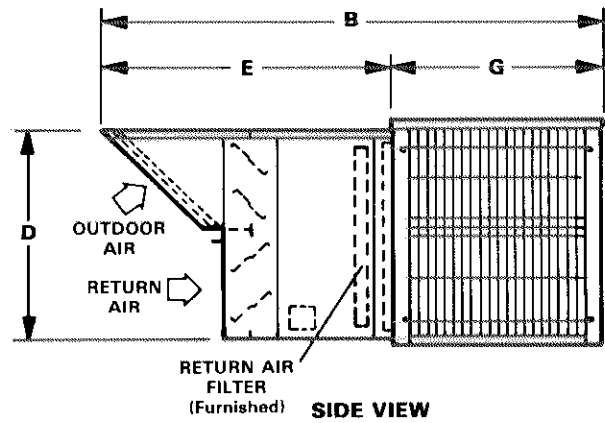
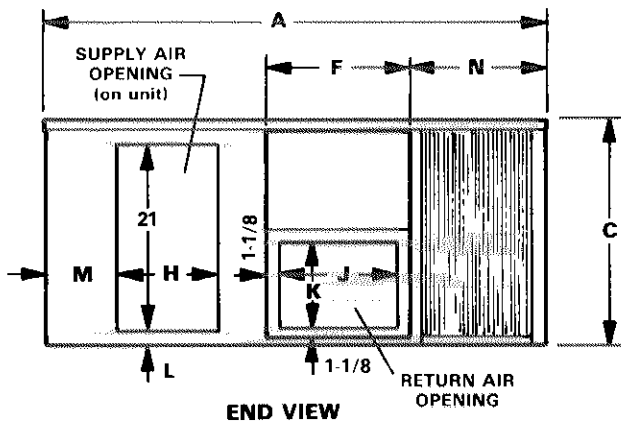
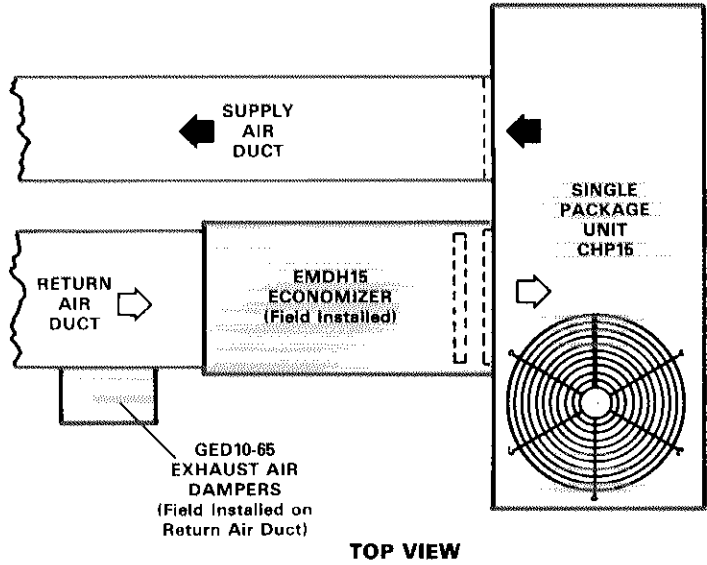
SIDE VIEW

Model No.	A	B	C	D	E	F	G	H	J
CHP15-261-311 RTDE15-31	57-1/4	52	25-1/4	27-1/4	24	*6-1/2	*1-5/8	3/4	15-7/8
CHP15-410-460 RTDE15-46	60-1/4	58-3/4	28-1/8	29-1/2	30-3/4	1/4	7/16	1-11/16	16-13/16
CHP15-510-650 RTDE15-65	70	65	34-5/8	36-3/8	37	6-1/2	4-1/4	7-5/8	22-3/4

*Roof Mounting Frame protrudes from underneath the unit.

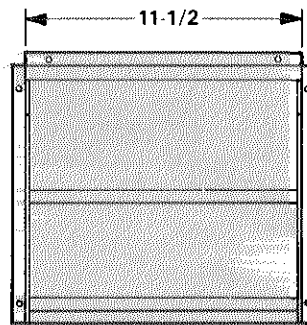
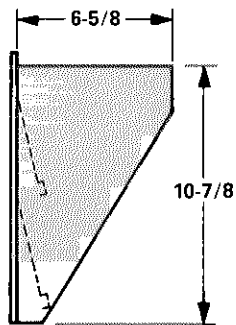
DIMENSIONS (inches)

CHP15 UNIT WITH EMDH15 HORIZONTAL ECONOMIZER AND GED10-65 GRAVITY EXHAUST DAMPERS



Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N
CHP15-261-311 EMDH15-31	57-1/4	56	25-1/4	23-13/16	34-1/2	17-1/2	24	13-11/16	15-1/4	10-3/8	1-5/8	8-1/4	15-3/4
CHP15-410-460 EMDH15-46	60-1/4	64	28-1/8	26-1/2	33-1/4	17-1/2	30-3/4	13-11/16	15-1/4	11-3/4	1-5/8	8-1/4	17-1/4
CHP15-510-650 EMDH15-65	70	74-1/8	34-5/8	33-3/8	37-1/8	23-5/16	37	15-3/8	21-1/16	15-1/16	5-3/8	7-3/4	22-3/4

GED10-65 GRAVITY EXHAUST DAMPERS

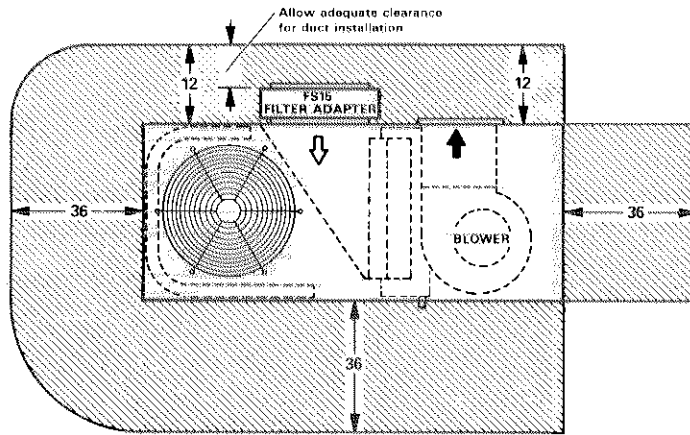


SIDE VIEW

FRONT VIEW

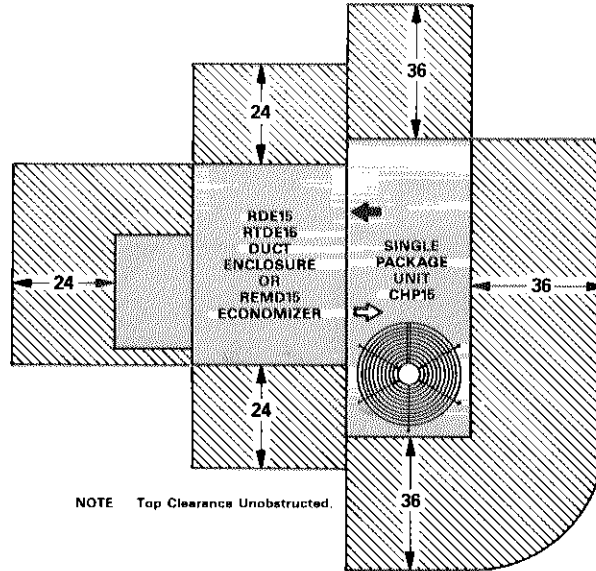
INSTALLATION CLEARANCES (inches)

CHP15 BASIC UNIT



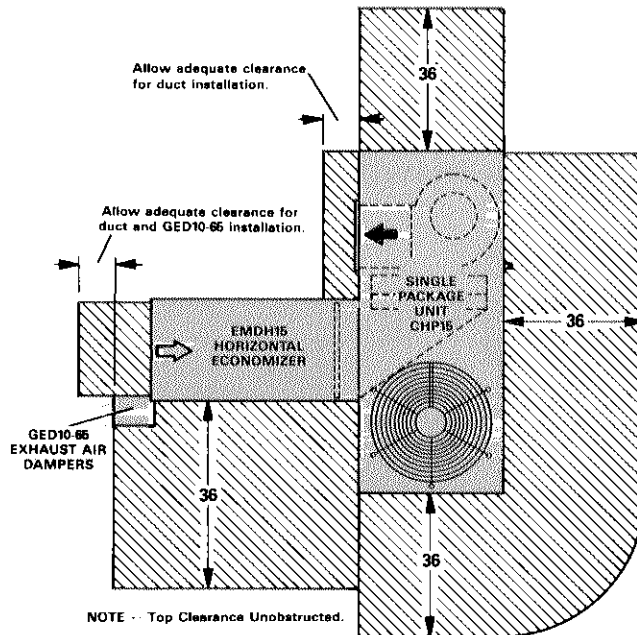
NOTE Top Clearance Unobstructed.

**CHP15 UNIT WITH RDE15 DUCT ENCLOSURE
RTDE15 TRIANGULAR DUCT ENCLOSURE OR REMD15 ECONOMIZER**



NOTE Top Clearance Unobstructed.

**CHP15 UNIT WITH EMDH15 ECONOMIZER AND
GED10-65 EXHAUST AIR DAMPERS**



NOTE - Top Clearance Unobstructed.