ENGINEERING DATA

PACKAGED L SERIES

LCA/LGA/LHA

102, 120 & 150 MODELS
"LCA" PACKAGED COOLING & ELECTRIC HEAT
"LGA" PACKAGED COOLING & GAS HEAT
"LHA" PACKAGED HEAT PUMP

LCA/LGA - 8.5, 10.0 & 12.0 Ton (29.9, 35.2 & 42.2 kW)
LHA - 10.0 Ton (35.2 kW)

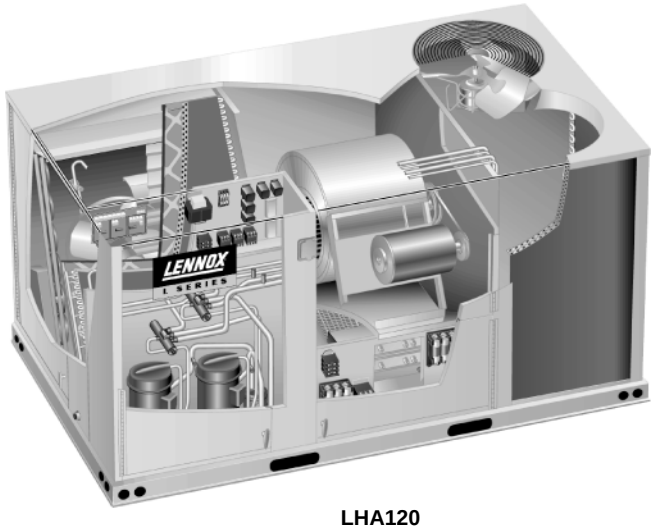
Bulletin #210109
February 1999
Supersedes July 1998

***Net Cooling Capacity - 101,000 to 138,000 Btuh (29.6 to 40.4 kW)**
Gas Input Heating Capacity - 130,000 and 235,000 Btuh (38.1 and 68.9 kW)
***Heat Pump Heating Capacity - 119,000 Btuh (34.9 kW)**
Optional Electric Heat - 25,600 to 204,800 Btuh (7.5 to 60.0 kW)
***ARI Certified Ratings**

VERIFIED ENERGY PERFORMANCE

LCA120
(Cooling & Electric Heat)

LGA120
(Cooling & Gas Heat)



LHA120
(Heat Pump)

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NOTE — Due to Lennox' ongoing committment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incuring liability.

FEATURES - ALL MODELS

Item	LCA/LGA102	LCA/LGA/LHA120	LCA/LGA150
Air Flow Choice — Bottom (down-flow) or [1]horizontal (side) supply and return air	Standard	Standard	Standard
Bottom Power Entry — For electrical and gas lines	Standard	Standard	Standard
Cabinet — Heavy gauge galvanized steel, fully insulated, powdered enamel paint finish, large removeable access panels, electrical inlets in cabinet base and electric heat end panel (LCA/LHA only), easy access control area with factory installed controls, low voltage terminal strip, unit lifting holes in base rail	Standard	Standard	Standard
Cabinet Access Panels (Hinged) — 1 compressor/controls access panel, 1 heating area access panel, 1 blower access panel and 1 air filter/economizer access panel hinged with tool-less access handles, gaskets on all edges for tight seal, blower access panel has steel panel inner liner with insulation sandwiched in-between	Standard	Standard	Standard
Coil Construction — Copper tube construction, ripple-edged enhanced aluminum fins, flared shoulder tubing connections, silver soldered construction, factory tested, evaporator coil face split with separate circuits, indoor coil drain connection extends outside of unit cabinet	Standard	Standard	Standard
Compressor Crankcase Heaters	Standard	Standard	Standard
Filters — Disposable 2 inch (51 mm) pleated commercial grade	Standard	Standard	Standard
Filter Access — Hinged filter door with tool-less access handles	Standard	Standard	Standard
Integrated Modular Control (IMC) — Solid-state board contains all controls and control relays to operate unit Built-in Functions Include: **Blower On/Off Delay** **Built-in Control Parameter Defaults -** ensures proper unit operation when power is restored after power failure **Service Relay Output** **Defrost Control** - heat pump models only **Dehumidification Control -** monitors humidity levels, will allow both heating and cooling to operate at the same time, as needed, requires optional field installed Dehumidistat **Dirty Filter Switch Input** - requires optional field installed Dirty Filter Switch **Economizer Control -** four modes of operation (outdoor enthalpy, differential enthalpy, temperature and global) **Electric Heat Staging -** regulates electric heat during building warm-up **ETM Compatible -** various modules (see factory or field installed accessories) **Extensive Unit Diagnostics -** 80 diagnostic codes **Permanent Diagnostic Code Storage** **Field Changeable Control Parameters -** 65 different parameters **Gas Valve Delay Between First and Second Stage** **Indoor Air Quality Input -** monitors CO_2 levels, adjusts economizer dampers as needed (four modes of operation), requires optional field installed Indoor Air Quality (CO_2) Sensor **Low Ambient Controls** - Allows unit cooling operation down to 0°F (-17.8°C) **Minimum Run Time** **Night Setback Mode -** adjusts setpoint, closes outdoor air dampers and operates blower on demand, may be customized for special requirements **Return Air Temperature Limit Control** **Smoke Alarm Mode -** four modes of operation **"Strike Three" Low Pressure Control -** protects system from low suction pressure while eliminating nuisance faults **Thermostat Bounce Delay** **Three Digit Display -** Displays: outdoor temperature, supply air temperature, return air temperature (temperatures in °F or °C), economizer damper position, Indoor Air Quality, control parameters. **Two Stage Heat/Three Stage Cool Thermostat Compatible** **Warm-up Mode -** four modes of operation	Standard	Standard	Standard
Outdoor Coil Fans — PVC coated fan guards furnished	Standard	Standard	Standard
Outdoor Coil Fan Motors — Overload protected, permanently lubricated, equipped with ball bearings, shaft up, wire basket mount	Standard	Standard	Standard
Supply Air Blower — Belt drive, forward curved blades with double inlet, blower wheel statically and dynamically balanced, ball bearings, grease fittings furnished, adjustable pulley (allows speed change), blower assembly slides out of unit for servicing	Standard	Standard	Standard
Supply Air Motor (Standard Efficiency) — Overload protected, equipped with ball bearings	Standard	Standard	Standard
Transformer — 70VA transformer with built-in circuit breaker.	Standard	Standard	Standard

[1]Requires Optional Horizontal Conversion Kit.

FEATURES - LCA MODELS

Item	LCA102	LCA120	LCA150
Approvals — E.T.L. and C.G.A. listed, efficiency rating verified by C.S.A., components bonded for grounding to meet safety standards for servicing required by U.L., C.S.A. and National and Canadian Electrical Codes	Standard	Standard	Standard
ARI Ratings — Ratings in accordance with ARI Standard 210/240-94 and certified to ARI	Standard	Standard	- - - -
ARI Ratings — Ratings in accordance with ARI Standard 340/360-93 and certified to ARI	- - - -	- - - -	Standard
Compressors — Copeland® Compliant Scroll™ type for high efficiency, resiliently mounted with rubber grommets	"H" Models	"H" Models	"S" Models
Compressors — Reciprocating type, resiliently mounted with rubber grommets	"S" Models	"S" Models	- - - -
Outdoor Coil Construction — Slab type	Standard	Standard	Standard
Refrigeration System — Consists of: compressors, condenser coils and direct drive fans, evaporator coil and belt drive blowers, expansion valves, high capacity driers, high pressure switches, low pressure switches, full refrigerant charge, crankcase heaters, freezestats (prevent coil freeze-up during low ambient operation or loss of air), independent refrigerant circuits (allows staging)	Standard	Standard	Standard
Warranty — Limited five years compressors, limited one year all other components, see limited warranty certificate included with unit for details	Standard	Standard	Standard

FEATURES - LGA MODELS

Item	LGA102	LGA120	LGA150
Approvals — E.T.L./C.G.A. certified as combination heating/cooling unit for outdoor installation, efficiency rating verified by C.S.A. bonded for grounding to meet safety standards for servicing required by E.T.L./C.G.A. and National and Canadian Electrical Codes	Standard	Standard	Standard
ARI Ratings — Ratings in accordance with ARI Standard 210/240-94 and certified to ARI	Standard	Standard	- - - -
ARI Ratings — Ratings in accordance with ARI Standard 340/360-93 and certified to ARI	- - - -	- - - -	Standard
Compressors — Copeland® Compliant Scroll™ type for high efficiency, resiliently mounted with rubber grommets	"H" Models	"H" Models	"S" Models
Compressors — Reciprocating type, resiliently mounted with rubber grommets	"S" Models	"S" Models	- - - -
Outdoor Coil Construction — Slab type	Standard	Standard	Standard
Fan and Limit Controls — Factory installed, 90 second fan "on" time delay, dual limit controls (primary and secondary) with fixed temperature setting	Standard	Standard	Standard
***Heat Exchanger —** Tubular construction, aluminized steel, life cycle tested	Standard	Standard	Standard
Heating System — Aluminized steel inshot burners, direct spark ignition, electronic flame sensor, redundant automatic dual gas valve with manual shut-off, induced draft blower, flame rollout switch	Standard	Standard	Standard
Refrigeration System — Consists of: compressors, condenser coil and direct drive fans, evaporator coil and belt drive blowers, expansion valves, high capacity driers, high pressure switches, low pressure switches, full refrigerant charge, crankcase heaters, freezestats (prevent coil freeze-up during low ambient operation or loss of air) independent refrigerant circuits (allows staging)	Standard	Standard	Standard
Warranty — Limited ten years heat exchanger (fifteen years with optional stainless steel heat exchanger), limited five years compressors, one year all other components, see limited warranty certificate included with unit for details	Standard	Standard	Standard

*Optional stainless steel heat exchanger required if mixed air temperature is below 45°F (7°C).

FEATURES - LHA MODELS

Item	LHA120H
Approvals — E.T.L. and C.G.A. listed, efficiency rating verified by C.S.A., components bonded for grounding to meet safety standards for servicing required by U.L., C.S.A. and National and Canadian Electrical Codes	Standard
ARI Ratings — Ratings in accordance with ARI Standard 210/240-94 and certified to ARI	Standard
Compressors — Copeland® Compliant Scroll™ type for high efficiency, resiliently mounted with rubber grommets	Standard
Defrost Control — Furnished on Integrated Modular Control, defrost control provides a defrost cycle, if needed, every 30 or 60 or 90 minutes (adjustable) of compressor "on" time at outdoor coil temperature below 32°F (0°C). Pressure switch mounted on outdoor coil vapor line terminates defrost cycle.	Standard
Outdoor Coil Construction — Formed	Standard
Refrigeration System — Consists of: compressors, outdoor coils and direct drive fans, indoor coil and belt drive blowers, check and expansion valves (indoor and outdoor), high capacity driers, high pressure switches, low pressure switches, reversing valves, defrost control, full refrigerant charge, crankcase heaters, freezestats (prevent coil freeze-up during low ambient operation or loss of air), independent refrigerant circuits (allows staging)	Standard
Warranty — Limited five years compressors, limited one year all other components, see limited warranty certificate included with unit for details	Standard

REQUIRED OPTIONS - ITEMS MUST BE ORDERED AND FACTORY INSTALLED

Air Flow Configuration — specify horizontal or down-flow when ordering base unit

Supply Air Motor — Order one (See Blower Data Table for specifications):

Standard Efficiency

High Efficiency — Overload protected, equipped with ball bearings

Drive Kit — Order one, see Drive Kit Specifications Table

Gas Input (LGA Models) — Order one:

84,500/130,000 Btuh (24.7/38.1 kW) Standard Heat Gas Input

152,000/235,000 Btuh (44.5/68.9 kW) High Heat Gas Input

Voltage — specify when ordering base unit

OPTIONAL ACCESSORIES

FACTORY INSTALLED ONLY

Item	LCA/LGA 102	LCA/LGA/LHA 120	LCA/LGA 150
Cold Weather Kit — Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below -40°F (-40°C). C.G.A. certified to allow operation of unit down to -60°F (-50°C) - LGA Models only (Canada only)	Factory		
Condensate Traps — PVC or copper condensate trap factory installed in unit	Factory		
Corrosion Protection — Phenolic epoxy coating, applied to indoor coils (with painted base section) and outdoor coils (with painted evaporator base section and painted blower housings), factory applied to either section or both sections	Factory		
[1] **Disconnect Switch—** Accessible from outside of unit, spring loaded weatherproof cover furnished	Factory		
Service Outlets (2) — 115v ground fault circuit interrupter (GFCI) type, field wired	Factory		
[2] **Service Valves** — Fully serviceable brass valves installed in discharge and liquid lines	Factory		
[3] **Stainless Steel Heat Exchanger (LGA Models)**	Factory		

FACTORY OR FIELD INSTALLED

Item		LCA/LGA 102	LCA/LGA/LHA 120	LCA/LGA 150
Blower Proving Switch — Monitors blower operation, shuts down unit if blower fails		**18L89**		
Condensate Drain Trap - field installed only, may be factory enclosed to ship with unit	PVC	**37K70**		
	Copper	**48K14**		
Control Systems — See pages 5-10 for complete listing		See Pages 5-10		
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition		**30K48**		
Down-Flow Gravity Exhaust Dampers — Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle, bird screen furnished - Net Weight		LAGED10/15 - 8 lbs. (4 kg)		
Exhaust Hood (field installed only) **-** for down-flow gravity exhaust dampers		LAGEH09/15		
Economizer — Opposing gear driven recirculated air and outdoor air dampers, plug-in connections to unit, nylon bearings, neoprene seals, 24 volt fully modulating spring return motor, adjustable minimum damper position, damper assembly slides in unit, outdoor air hood must be ordered separately (see below), optional down-flow gravity exhaust dampers available (see below), choice of economizer controls (see below) - Net Weight		LAREMD10/15 - 47 lbs. (21 kg)		
Economizer Control Choice — **Sensible Control —** Furnished on IMC board in unit, uses outdoor air sensor furnished with unit to measure outdoor air temperature and control damper position**.** (Furnished) **Global Control —** Furnished on IMC board in unit, used with Direct Digital Control (DDC) systems, uses global air sensor to control damper position, determines when to use outdoor air for cooling or set damper at minimum position. (Furnished) **Outdoor Enthalpy Control —** Adjustable enthalpy sensor, senses outdoor air enthalpy for economizer control**,** 0 to 100% outdoor air, adjustable minimum positioner **Differential Enthalpy Control —** Two solid-state enthalpy sensors allow selection between outdoor air and return air (whichever has lowest enthalpy)		**(16K96)** Outdoor **(16K97)** Differential		
Electric Heat — Factory or field installed, helix wound nichrome elements, time delay for element staging, individual element limit controls, wiring harness, may be two-stage controlled, requires Fuse Block and Terminal Block - LCA/LHA models only		See Electric Heat Data Tables Pages 17-18		
Electric Heat Fuse Block — Required with electric heat, mounting screws furnished		See Optional Electric Heat Accessories Table (LCA/LHA Models), Page 15		
Electric Heat LTB2 Terminal Block — Required with electric heat				
Outdoor Air Damper Section — Linked mechanical dampers, 0 to 25% outdoor air adjustable, installs in unit for down-flow applications, outdoor air hood must be ordered separately (see below) - Net Weight	**Automatic** — fully modulating spring return damper motor, plug-in connection	LAOADM10/15 - 31 lbs. (14 kg)		
	Manual	LAOAD10/15 - 26 lbs. (12 kg)		
Outdoor Air Hood — Required with LAREMD10/15 Economizer, LAOAD10/15 and LAOADM10/15 Outdoor Air Damper Sections, two cleanable aluminum mesh fresh air filters furnished - Net Weight		LAOAH10/15 - 11 lbs. (5 kg) Filter size: 16 x 25 x 1 in. (406 x 635 x 25 mm)		
Power Exhaust Fans — Install in unit for down-flow applications only with economizer option, provide exhaust air pressure relief, interlocked to run when return air dampers are closed and supply air blower is operating, fan runs when outdoor air dampers are 50% open (adjustable), overload protected, requires optional down-flow gravity exhaust dampers (see above)	Model No. (Net Weight)	LAPEF10/15 - 28 lbs. (13 kg)		
	Diameter - in. (mm) & No. of Blades	(1) 20 (508) - 5		
	Total air volume — cfm (L/s)	4200 (1980) @ 0 in. w.g. (0 Pa)		
	Motor Horsepower (W)	(1) 1/3 (249)		
	Total Watts input	300		
Smoke Detector — Photoelectric type, factory installed in supply air section or return air section or both sections		**70K87** - Supply **70K86** - Return		

[1] Not available for LCA208/230v models with 30 or 45 kW electric heat, LCA models with field installed electric heat, LHA208/230v models with 15, 30 or 45kW electric heat or LHA 460v models with 45 kW electric heat.
[2] Not available for LHA heat pump model.
[3] Required if mixed air temperature is between 30 and 45°F (-1 and 7°C)

OPTIONAL ACCESSORIES - CONTINUED

FIELD INSTALLED ONLY

Item		LCA/LGA 102	LCA/LGA/LHA 120	LCA/LGA 150
Aspiration Box — for duct mounting of Indoor Air Quality Sensor			**47N18**	
Coil Guards — Galvanized steel wire guards to protect outdoor coil. Not used with Hail Guards.	LGA/LCA Models		**88K51**	
	LHA Model		**88K54**	
Dehumidistat - Monitors humidity levels, reports to the IMC board which allows the heating and cooling to run simultaneously as needed.			**65F86**	
Diffusers — Aluminum grilles, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), adapts to T-bar ceiling grids or plaster ceilings - Net Weight	**Step-Down -** double deflection louvers		RTD11-135 - 205 lbs. (93 kg)	RTD11-185 - 392 lbs. (178 kg)
	Flush - Fixed blade louvers		FD11-135 - 174 lbs. (79 kg)	FD11-185 - 289 lbs. (131 kg)
Down-Flow Roof Mounting Frame — Nailer strip furnished, mates to unit, U.S. National Roofing Contractors Approved, shipped knocked down - Net Weight	14 inch (356 mm) height		LARMF10/15-14 - 126 lbs. (57 kg)	
	24 inch (610 m) height		LARMF10/15-24 - 174 lbs. (79 kg)	
Grille Guards — Protects space between outdoor coils and main cabinet			**86K29**	
Hail Guards — Constructed of heavy gauge steel, painted to match cabinet, helps protect outdoor coils from hail damage. Not used with Coil Guards	LGA/LCA Models		**88K24**	
	LHA Model		**88K27**	
Horizontal Conversion Kit — Two piece duct cover in kit blocks off unit down-flow supply air opening, horizontal return air opening panel (on unit) is moved to block off down-flow return air opening for horizontal applications			**56K53**	
Horizontal Gravity Exhaust Dampers — Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle, field installed in return air duct, bird screen furnished - Net Weight			LAGEDH03/15 - 8 lbs. (4 kg)	
IMC Software and PC Interface Kit			**86K84**	
IMC Software and Manual Only			**32K22**	
Indoor Air Quality (CO_2) Sensor — Monitors CO_2 levels, reports to Integrated Modular Control (IMC) board which adjusts economizer dampers as needed			**93J69**	
LPG/Propane Kits - LGA models only			**41L15**	
PC Interface Kit Only			**28K56**	
Transitions (Supply and Return) — Used with diffusers, installs in roof mounting frame, galvanized steel construction, flanges furnished for duct connection, fully insulated - Net Weight			LASRT10/12 - 32 lbs (15 kg)	LASRT15 - 36 lbs. (16 kg)
Vertical Vent Extension Kit - to exhaust flue gases vertically above unit (LGA Models Only)			LB-94710A (**40L80**)	

OPTIONAL DDC TEMPERATURE CONTROL SYSTEMS (FACTORY OR FIELD INSTALLED)

System and Component Description	Field Installed Catalog No.
AMERICAN AUTOMATRIX KIT	—
Control module/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/Wiring Harness — Stand alone control of all heating cooling and economizer functions, various operations modes (including: occupied, unoccupied), 8 universal inputs, momentary override, indoor air quality control, alarm monitoring of: sensors, airflow, economizer, dirty filter, heating/cooling operation, cooling limit.	**59K22**
Sensor — Room temperature	**49K84**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
ANDOVER INFINITY KIT	—
Control Module/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/Wiring Harness — Network communication (RS-485, 2 or 4 wire, 300, 1200 or 9600 baud selectable), 2 stage cool/ 2 stage heat, zone temperature monitoring, discharge temperature monitoring, dirty filter monitoring, LED's for system monitoring, 5 SPDT outputs, battery backup, Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Return Air Sensor provides input to module to determine heating or cooling operation and number of stages required, Discharge Air Sensor monitors leaving air temperature during unit operation	**16K27**
Sensor — Room temperature	**78H42**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
CPC 810-3060 KIT	—
Control Module/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/Wiring Harness — Network communications (RS-485, shielded pair twisted wire), 8 analog/digital inputs, 8 form-C relay outputs, 2 analog outputs, 24 VAC, output connections (2 stage heat/2 stage cool, 2 auxiliary outputs (user defined), economizer, fan), input connections (space temperature, discharge and return air temperature, 2 compressor monitoring, 2 aux. inputs (user defined), local override (1 to 240 minutes), Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Return Air Sensor provides input to module to determine heating or cooling operation and number of stages required, Discharge Air Sensor monitors leaving air temperature during unit operation	**48K88**
Sensor — Room temperature	**48J43**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
CSI MR88R KIT	—
Control Module/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/Wiring Harness — Small point count controller, supports free-form modular DDC programming, intelligent I/STAT for independent local analog or digital control, local override and setpoint adjustment, 4 local or global points, integral start/stop schedule, standalone operation, universal inputs (thermistor, voltage, current, contact), 8 relay or low voltage triac outputs, analog outputs, 7 signal inputs plus power, ISTAT port, MR LAN port (RS-485, shielded pair twisted wire), self test diagnostics with LED readout, input point parameters (normal and narrow range, indoor and outdoor temperature range, individual calibration)	**28K58**
Sensor — Room temperature sensor with microprocessor data communications and power, alphanumeric LCD display for modes selected, mode selection push buttons for (Function, Call, Service, Change and Select), password protection for Service mode, up to 4 global point assignment with red LED's to indicate (Set Temp., Fan Speed, Room and Outside)	**I/STAT (Field Furnished)**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**

[1] Field installs in return air duct. Two dampers furnished per order no.

OPTIONAL DDC TEMPERATURE CONTROL SYSTEMS (FACTORY OR FIELD INSTALLED)

System and Component Description	Field Installed Catalog No.
HONEYWELL EXCEL 10 KIT	—
Control Module (W7750A)/Blower Proving Switch/Return Air Sensor/Wiring Harness — Standalone control (staged or modulating) of all heating, cooling, mixed air, system fan and economizer functions, up to four stages of heating/cooling combinations, for single zone applications, 6 relay outputs, 2 digital inputs, 1 resistive analog input, network communications, LonMark compliant, configuration options include: supply fan type of air handler, occupancy sensor, window sensor, wall module option, dirty filter monitor, indoor air quality override and smoke control. modes of operation include: occupied, standby, unoccupied, bypass occupied, override modes, start-up and wait, cooling, heating, emergency heat, off mode, disabled mode, smoke emergency, freeze protect, manual position, fan only and disabled. Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Return Air Sensor provides input to module to determine heating or cooling operation and number of stages required.	**20L39**
Sensor — Room temperature, with setpoint knob	**19L21**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
HONEYWELL W7620 KIT	—
Control Module/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/Wiring Harness — Local and remote monitoring and alarming (smoke alarms, dirty filter, freezestat, heating and cooling failures, run time accumulation for overrides, zone high/low temperature alarms, fan failure alarm, space humidity), heating and cooling control, economizer control, up to 4 stages with minimum on/off times, auxiliary heat for heat pump control, intelligent recovery, humidity and indoor air quality control, four relay outputs, network communications (RS-485, shielded pair twisted wire), space temperature inputs, room or return air temperature control, precise proportional plus integral (P+I) control, control loops provide accurate unit control without temperature droop, Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Return Air Sensor provides input to module to determine heating or cooling operation and number of stages required, Discharge Air Sensor monitors leaving air temperature during unit operation	**28K59**
Sensor — Room temperature, platinum RTD (Resistive Temperature Device)	**T7660 (Field Furnished)**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
JOHNSON FACILITATOR UNT KIT	—
Control Module/Blower Proving Switch/Wiring Harness —Standalone control of all heating, cooling and economizer functions, various operation modes (including: occupied, unoccupied, warm-up, standby), network communications, 6 analog inputs, 4 binary inputs, momentary override, zone lighting control, advanced unit diagnostics, indoor air quality control, outdoor air temperature and humidity monitoring, alarm monitoring of: sensors, airflow, economizer, dirty filter, heating /cooling operation, cooling limit, Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Control module for use in single zone applications.	**86K65**
Sensor — Room temperature, phone jack style wiring, quick-mount design, latching door mechanism, setpoint adjustment (warmer/cooler), optional override button, nickel sensors, options for choosing setpoint, indication, mounting and wiring type, plug for handheld commissioning tool (**60K36**).	**60K12**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
JOHNSON METASYS UNT KIT	—
Control Module/Blower Proving Switch/Wiring Harness —Standalone control of all heating, cooling and economizer functions, various operation modes (including: occupied, unoccupied, warm-up, standby), network communications, 6 analog inputs, 4 binary inputs, momentary override, zone lighting control, advanced unit diagnostics, indoor air quality control, outdoor air temperature and humidity monitoring, alarm monitoring of: sensors, airflow, economizer, dirty filter, heating /cooling operation, cooling limit, Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Control module may be used in multi-zone applications (i.e. L-Zone).	**34K84**
Commissioning Tool — Hand-held interface tool, monitor and adjust 36 analog and binary points, password protected, carrying case.	**60K37**
Sensor — Room temperature, phone jack style wiring, quick-mount design, latching door mechanism, setpoint adjustment (warmer/cooler), optional override button, nickel sensors, options for choosing setpoint, indication, mounting and wiring type, plug for handheld commissioning tool (**60K36**).	**60K12**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
NOVAR ETM-2050 KIT	—
Electronic Thermostat Module (ETM)/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/ Wiring Harness — Module monitors unit operation from different sensors installed in unit, has outputs for 2 stage heat/2 stage cool, automatic or continuous blower operation, economizer damper operation and night setback, features: day/occupied mode with low enthalpy (outdoor air damper open), high enthalpy (outdoor air damper closed) or night/unoccupied mode (outdoor air damper closed), network communication (RS-485, shielded pair twisted wire), local override (1 to 255 minutes), watchdog function, fail-safe operation, ETM allows units to be "daisy chained" together (up to 31 units) to be operated from one central location with an "executive" type control processor (onsite or offsite), built-in time delays, built-in unit operating defaults, diagnostic LED's indicate various operating functions, surge suppression protects ETM against lightning or voltage spikes, Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Return Air Sensor provides input to ETM module to determine heating or cooling operation and number of stages required, Discharge Air Sensor monitors leaving air temperature during unit operation	**48K87**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
Room Temperature Sensor — Provides input to ETM module to determine heating or cooling operation and number of stages required (ordered separately)	**97H53**
Night Setback Override Switch — Allows momentary override of night setback during unoccupied mode	Field Furnished

OPTIONAL DDC TEMPERATURE CONTROL SYSTEMS (FACTORY OR FIELD INSTALLED)

System and Component Description	Field Installed Catalog No.
NOVAR ETM-2051 KIT	—
Electronic Thermostat Module (ETM)/Blower Proving Switch/Return Air Sensor/Discharge Air Sensor/ Wiring Harness — Module monitors unit operation from different sensors installed in unit and monitors unit diagnostic codes of the IMC. The ETM has outputs for 2 stage heat/2 stage cool, 7 relay outputs: fan Cool 1, Cool 2. Heat 1, Heat 2, Economizer, Night Mode, automatic or continuous blower operation, economizer damper operation and night setback, features: day/occupied mode with low enthalpy (outdoor air damper open), high enthalpy (outdoor air damper closed) or night/unoccupied mode (outdoor air damper closed), network communication (RS-485, shielded pair twisted wire), local override (1 to 255 minutes), watchdog function, fail-safe operation, ETM allows units to be "daisy chained" together (up to 31 units) to be operated from one central location with an "executive" type control processor (onsite or offsite), built-in time delays, built-in unit operating defaults, diagnostic LED's indicate various operating functions, surge suppression protects ETM against lightning or voltage spikes, Blower Proving Switch monitors blower operation and locks out unit in case of blower failure, Return Air Sensor provides input to ETM module to determine heating or cooling operation and number of stages required, Discharge Air Sensor monitors leaving air temperature during unit operation	**69K67**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
Room Temperature Sensor with Built-in Night Setback Override Button — Provides input to ETM module to determine heating or cooling operation and number of stages required (ordered separately). Override button allows momentary override of night setback during unoccupied mode.	**67K61**
NOVAR CUSTOM CONTROLLER KIT	—
Control Module/Blower Proving Switch/Discharge Air Sensor/Room Air Sensor/Wiring Harness — User definable comfort setpoint, on/off and time of day control, cycle II ventilation control	**48K89**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS (FIELD INSTALLED)

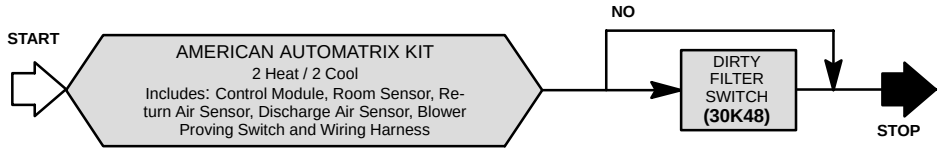
System and Component Description	Catalog No.
ELECTRO-MECHANICAL THERMOSTAT	—
Thermostat — Two stage heat & two stage cool with dual temperature levers, subbase choice	**13F06**
Subbase — Manual system switch (Off-Heat-Auto-Cool), fan switch (Auto-On)	**13F17**
Subbase — Non-switching	**13F16**
Night Setback Operation — Order components below	—
Heating Thermostat — Single stage heat	**13F12**
Subbase — Non-switching	**13F16**
Time Clock — 7 day operation, indicates day and night periods, 2 hour increments, battery back-up	**See Price Book for Selection**
Time Clock — 24 hour night setback operation, 15 minute increments, battery back-up	**See Price Book for Selection**
Blower Proving Switch — Monitors blower operation, locks out unit in case of blower failure	**30K49**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
ELECTRONIC THERMOSTAT	—
Electronic Thermostat — Any two stage heat/ two stage cool electronic thermostat may be used.	**See Price Book for Selection**
Time Clock — 7 day operation, indicates day and night periods, 2 hour increments, battery back-up	**See Price Book for Selection**
Time Clock — 24 hour night setback operation, 15 minute increments, battery back-up	**See Price Book for Selection**
Blower Proving Switch — Monitors blower operation, locks out unit in case of blower failure	**30K49**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**
HONEYWELL T7300 THERMOSTAT	—
Thermostat — Programmable, internal or optional remote temperature sensing (sensor required), touch sensitive keyboard, automatic switching, °F or °C readout, no anticipator, droop/no droop selection, indicator LED's, hour/day programming, override capabilities, time and operational mode readout, stage status indicators, battery back-up, subbase choice	**37L54**
Subbase — Selectable staging up to two stage heat & two stage cool, manual system switch (Heat-Off-Auto-Cool), fan switch (Auto-On), indicator LED's, auxiliary relay output for economizer operation	**37L53**
Sensor — Room temperature	**58C92**
Sensor — Room temperature with 3 hour override and setpoint adjustment	**86G67**
Sensor — Return air temperature	**27C40**
Blower Proving Switch — Monitors blower operation, locks out unit in case of blower failure	**30K49**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS (FACTORY OR FIELD INSTALLED)

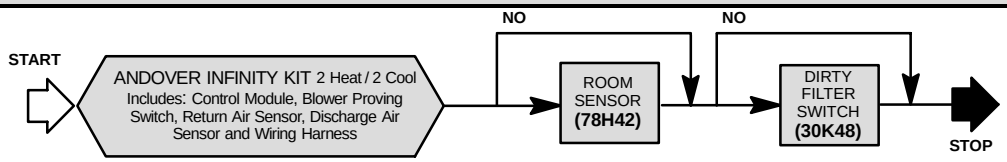
System and Component Description	Field Installed Catalog No.
HONEYWELL W973 KIT	—
Logic Panel/Discharge Air Sensor/Wiring Harness — Panel controls operation of economizer and stages of heating and cooling in response to signals from thermostat, balances conditioned space thermostat demand against system output, system output measured by discharge air sensor (furnished), combined demand and output signals determine economizer damper position and number of cooling or heating stages required, logic panel may be installed in unit or remotely located	**28K60**
Thermostat — Dual setpoint, separate heating-cooling levers, locking setpoints, integral sensor	**25C52**
Subbase — Switching with system selector switch (Heat-Auto-Off-Cool), fan switch (Auto-On)	**58C93** (for LCA/LGA)
Subbase — Switching with system selector switch (Cool-Auto-Heat-Emergency Heat), fan switch (Auto-On)	**58C94** (for LHA)
Transmitter — Dual setpoint, separate heating-cooling levers, locking setpoints, requires subbase with room temperature sensor or return air temperature sensor	**25C51**
Subbase — Switching with system selector switch (Heat-Auto-Off-Cool), fan switch (Auto-On)	**58C93**
Sensor — Room temperature	**58C92**
Sensor — Return air temperature	**27C40**
Time Clock — 7 day operation, indicates day and night periods, 2 hour increments, battery back-up	**See Price Book for Selection**
Time Clock — 24 hour night setback operation, 15 minute increments, battery back-up	**See Price Book for Selection**
Blower Proving Switch — Monitors blower operation, locks out unit in case of blower failure	**30K49**
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	**30K48**

DDC COMMERCIAL TEMPERATURE CONTROL SELECTION FLOWCHARTS

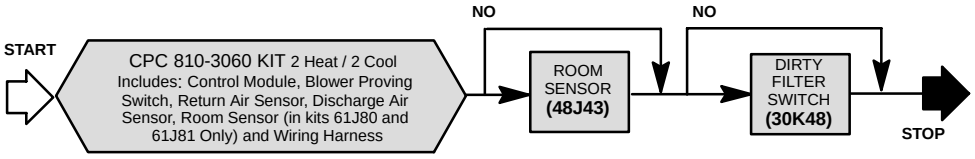
AMERICAN AUTOMATRIX



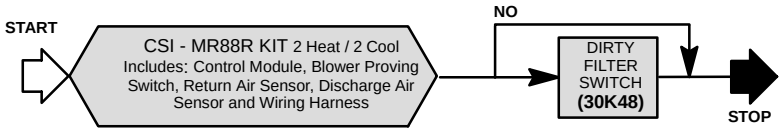
ANDOVER INFINITY



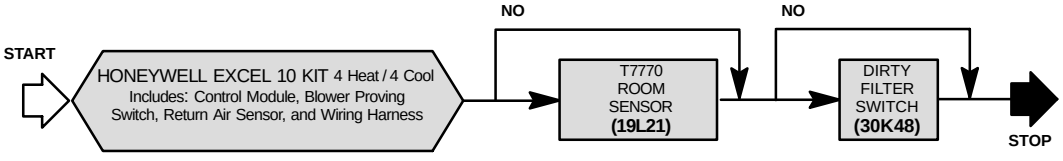
CPC 810-3060



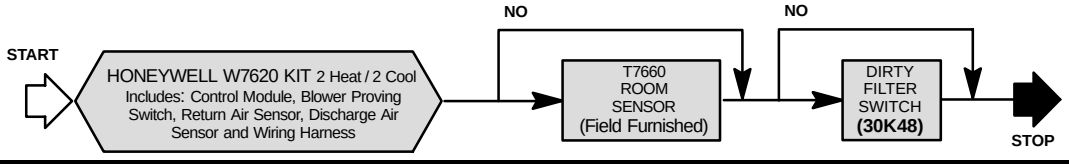
CSI - MR88R



HONEYWELL EXCEL 10

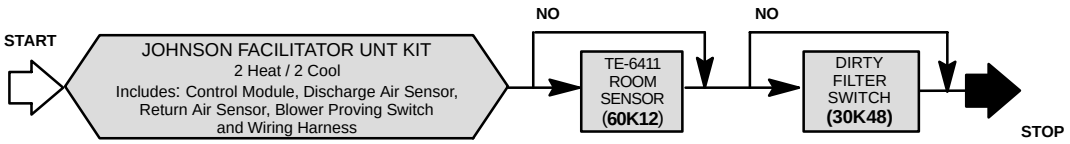


HONEYWELL W7620

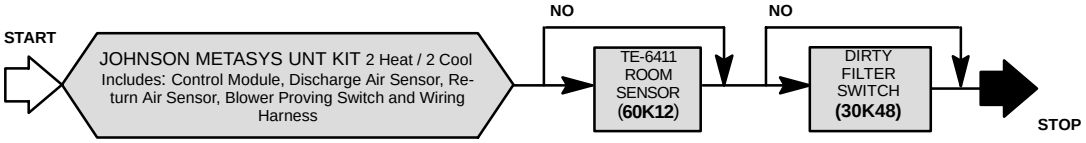


DDC COMMERCIAL TEMPERATURE CONTROL SELECTION FLOWCHARTS

JOHNSON FACILITATOR FA-UNT



JOHNSON METASYS UNT



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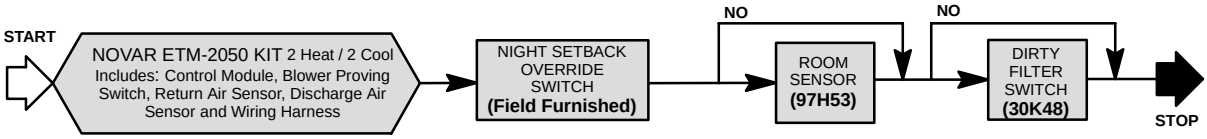

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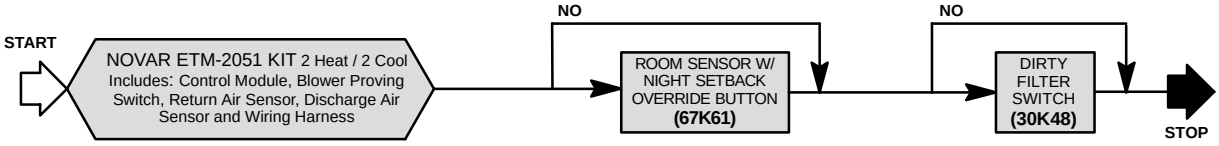
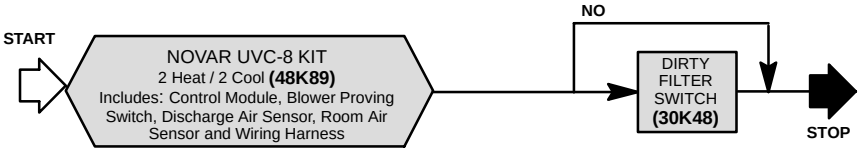
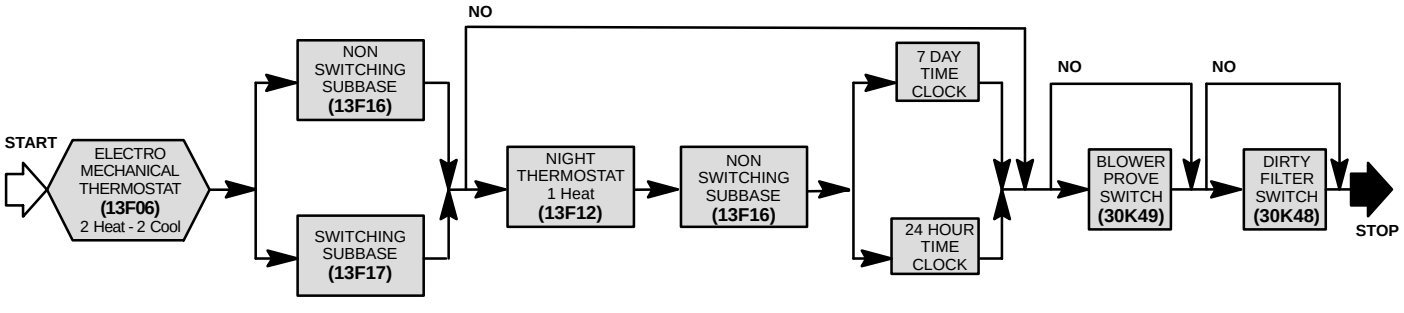


NOVAR CUSTOM CONTROLLER

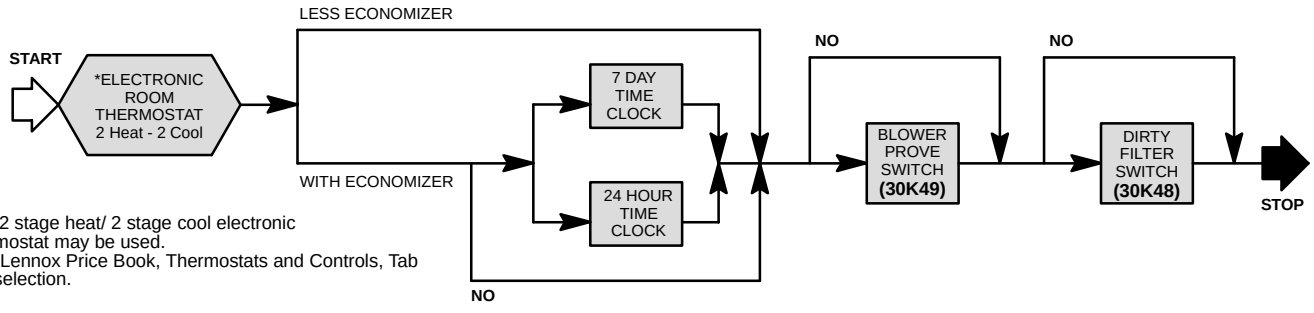


CONVENTIONAL COMMERCIAL TEMPERATURE CONTROL SELECTION FLOWCHARTS

ELECTRO-MECHANICAL THERMOSTAT



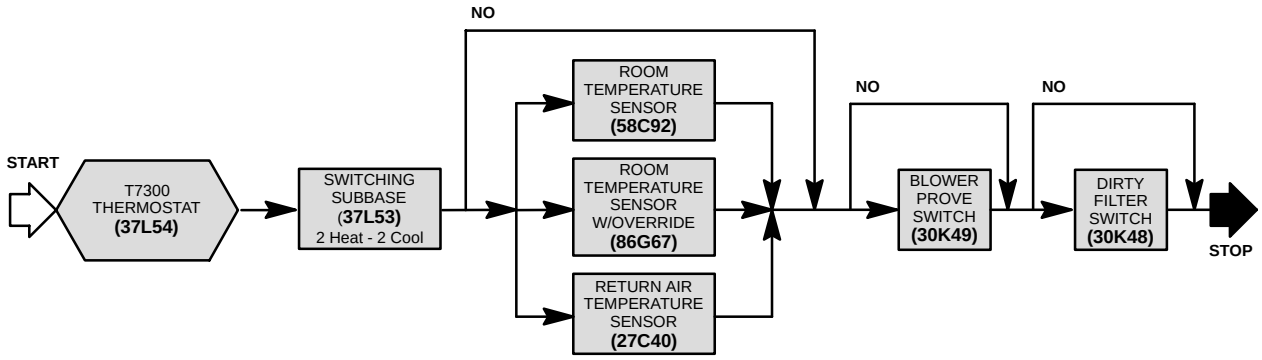
ELECTRONIC THERMOSTAT



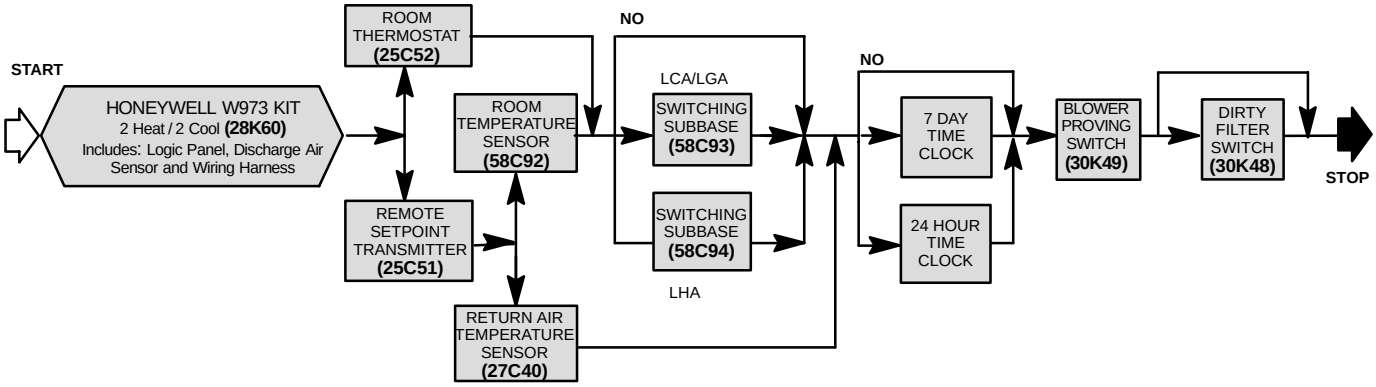
* Any 2 stage heat/ 2 stage cool electronic thermostat may be used.
See Lennox Price Book, Thermostats and Controls, Tab for selection.

CONVENTIONAL COMMERCIAL TEMPERATURE CONTROL SELECTION FLOWCHARTS

HONEYWELL T7300 THERMOSTAT



HONEYWELL W973 THERMOSTAT



MODEL NUMBER IDENTIFICATION

L G A 102 S _ 1 Y

Unit Type
L = Commercial Package Unit

Unit Type
G = Cooling w/ Gas Heat
C = Cooling Only (w/ opt. Electric Heat)
H = Heat Pump

Major Design Sequence
A = First Generation

Cooling Capacity Tons (kW)
102 = 8.5 (29.9)
120= 10.0 (35.2)
150 = 12.0 (42.2)

Cooling Efficiency
S = Standard Efficiency
H = High Efficiency

Heat Type
NOTE — This space is intentionally left blank, it will be filled in on unit nameplate depending on type of heat ordered.

Minor Revision Number

Voltage
Y = 208/230v-3 phase-60hz
G = 460v-3 phase-60hz
J = 575v-3 phase-60hz

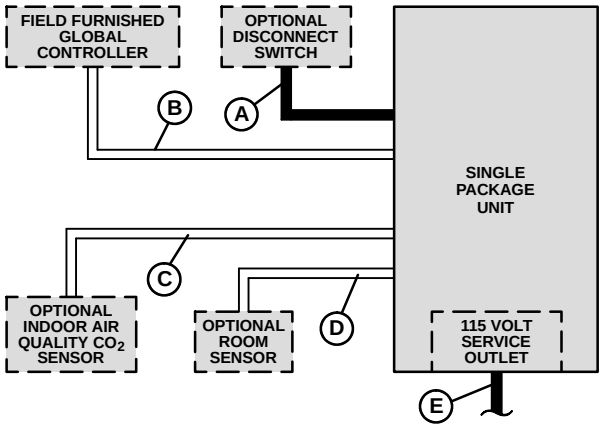
FIELD WIRING

ALL DDC CONTROL SYSTEMS

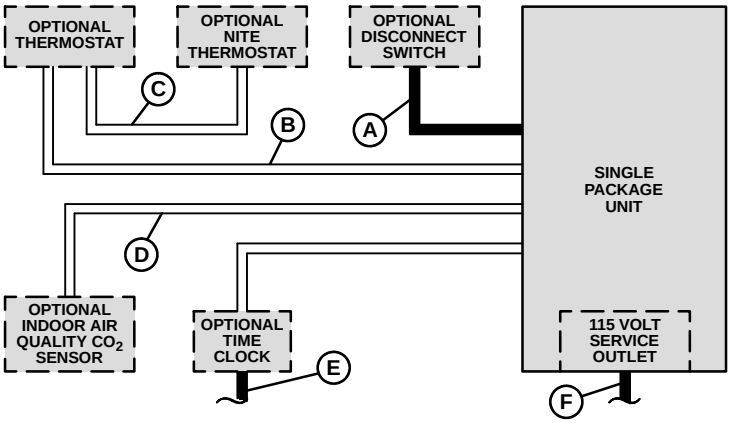
A — Three wire power (See Electrical Data Table)
B — RS-485 shielded pair twisted wire
C — Four wire low voltage
D — Two wire low voltage (Andover Infinity, CPC 810-3060 and Novar ETM-2050)
Three wire low voltage (CSI MR88R)
Four wire low voltage (Johnson Metasys, Honeywell W7620)
Four wire low voltage (Novar Custom Controller) + 2 wire low voltage (Novar UVC-8 Sensor)
Seven wire low voltage (Honeywell Excel 10)
E — Two wire power (115 volt)

— Field wiring not furnished —

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



ELECTRO-MECHANICAL, ELECTRONIC OR HONEYWELL T7300 THERMOSTAT CONTROL SYSTEM



A — Three wire power (See Electrical Data Table)
B — Six wire low voltage (Electro-Mechanical)
Seven wire low voltage (Electronic)
Nine wire low voltage (Honeywell T7300)
Ten wire low voltage (Honeywell T7300 with Service LED)
C — Two wire low voltage (Electro-Mechanical Only)
D — Four wire low voltage (All Systems)
E — Two wire power
F — Two wire power (115 volt)

— Field wiring not furnished —

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

HONEYWELL W973 CONTROL SYSTEM

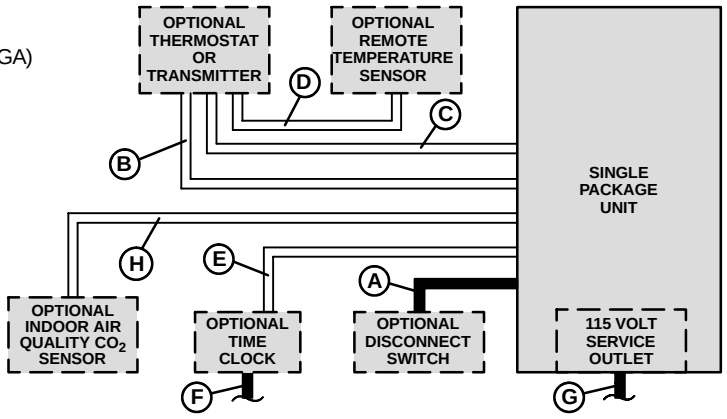
A — Three wire power (See Electrical Data Table)
B — Seven wire low voltage — DC only
Seven wire low voltage — DC only — with switching subbase (LCA/LGA)
Eight wire low voltage — DC only — with switching subbase (LHA)
C — Two wire low voltage — AC only — with switching subbase
D — Two wire low voltage — DC only
E — Two wire low voltage — AC only
F — Two wire power
G — Two wire power (115 volt)
H — Four wire low voltage — DC only

AC — Alternating current
DC — Direct current

NOTE — Run separate harness for AC and DC. AC voltage interferes with DC signals.

— Field wiring not furnished —

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



SPECIFICATIONS – LCA/LGA MODELS

Model No.				LCA/LGA102		LCA/LGA120		LCA/LGA150	
Cooling Ratings	Cooling Efficiency Type			Standard (S)	High (H)	Standard (S)	High (H)	Standard (S)	
	Gross Cooling Capacity — Btuh (kW)			106,000 (31.1)	105,000 (30.8)	126,000 (36.9)	125,000 (36.6)	145,000 (42.5)	
	[1] Net Cooling Capacity — Btuh (kW)			102,000 (29.9)	101,000 (29.6)	120,000 (35.2)	120,000 (35.2)	138,000 (40.4)	
	Total Unit Power (kW)			11.3	9.0	13.3	10.9	15.3	
	[1] EER (Btuh/Watt)			9.0	11.0	9.0	11.0	9.0	
	[2] Integrated Part Load Value (Btuh/Watt)			9.5	12.0	9.5	11.8	9.5	
[3] Sound Rating Number (db)				88					
Refrigerant Charge Furnished (HCFC-22)	Circuit 1			7 lbs. 4 oz. (3.28 kg)	9 lbs. 4 oz. (4.20 kg)	9 lbs. 8 oz. (4.31 kg)	11 lbs. 8 oz. (5.22 kg)	12 lbs. 0 oz. (5.44 kg)	
	Circuit 2			7 lbs. 4 oz. (3.28 kg)	9 lbs. 4 oz. (4.20 kg)	9 lbs. 8 oz. (4.31 kg)	11 lbs. 8 oz. (5.22 kg)	12 lbs. 0 oz. (5.44 kg)	
LGA Models Only Two Stage Heating Capacity (Natural or LPG/Propane Gas (at Sea Level)	Model No.			LGA102		LGA120		LGA150	
	Heat Input Type - LGA Models Only			Standard (S)	High (H)	Standard (S)	High (H)	Standard (S)	High (H)
	Input (low) — Btuh (kW)			84,500 (24.8)	152,500 (44.7)	84,500 (24.8)	152,500 (44.7)	84,500 (24.8)	152,500 (44.7)
	Output (low) — Btuh (kW)			67,500 (19.8)	122,000 (35.8)	67,500 (19.8)	122,000 (35.8)	67,500 (19.8)	122,000 (35.8)
	Input (High) — Btuh (kW)			130,000 (38.1)	235,000 (68.9)	130,000 (38.1)	235,000 (68.9)	130,000 (38.1)	235,000 (68.9)
	Output (High) — Btuh (kW)			104,000 (30.5)	188,000 (55.1)	104,000 (30.5)	188,000 (55.1)	104,000 (30.5)	188,000 (55.1)
	A.G.A./C.G.A. Thermal Efficiency			80.0%					
Gas Supply Connections npt — in. Natural or LPG/Propane				3/4					
Recommended Gas Supply Pressure wc. in. (kPa) - LGA Models Only			Natural	7 (1.7)					
			LPG/Propane	11 (2.7)					
Evaporator Blower and Drive Selection	Blower wheel nominal dia. x width — in. (mm)			(1) 15 x 15 (381 x 381)					
	2 hp (1.5 kW) [4] Motor & Drives	Motor output — hp (kW)	Nominal	2 (1.5)					
			Max. usable	2.30 (1.7)					
		Voltage & phase		208/230v, 460v or 575v-3ph					
		(Drive kit #) RPM range		(1) 680-940 (3) 850-1130					
	3 hp (2.2 kW) [4] Motor & Drives	Motor output — hp (kW)	Nominal	3 (2.2)					
			Max. usable	3.45 (2.6)					
		Voltage & phase		208/230v, 460v or 575v-3ph					
		(Drive kit #) RPM range		(1) 680-940, (2) 680-895, (3) 850-1130, (4) 895-1120, (5)1105-1410, (6) 1110-1395					
	5 hp (3.7 kW) [4] Motor & Drives	Motor output — hp (kW)	Nominal	5 (3.7)					
			Max. usable	5.75 (4.3)					
		Voltage & phase		208/230v, 460v or 575v-3ph					
		(Drive kit #) RPM range		(4) 895-1120 (6) 1110-1395					
Evaporator Coil	Net face area — sq. ft. (m^2)			10.5 (0.98) total					
	Tube diameter — in. (mm) & No. of rows			3/8 (9.5) — 3			3/8 (9.5) — 4	3/8 (9.5) — 3	
	Fins per inch (m)			14 (551)					
	Drain connection no. & size — in. (mm) fpt			(1) 1 (25.4)					
	Expansion device type			Balanced Port Thermostatic Expansion Valve, removeable power head					
Condenser Coil	Net face area — sq. ft. (m^2)			29.3 (2.72) total					
	Tube diameter — in. (mm) & No. of rows			3/8 (9.5) — 1		3/8 (9.5) — 2			
	Fins per inch (m)			20 (787)		15 (591)	20 (787)	20 (787)	
Condenser Fans	Diameter — in. (mm) & No. of blades			(2) 24 (610) — 3					
	Total Air volume — cfm (L/s)			8,000 (3775)					
	Motor horsepower (W)			(2) 1/3 (249)					
	Motor rpm			1075					
	Total Motor watts			700					
Filters (furnished)	Type of filter			Disposable, commercial grade, pleated					
	no. and size — in. (mm)			(4) 18 x 24 x 2 (457 x 610 x 51)					
Electrical characteristics				208/230v, 460v or 575v — 60 hertz — 3 phase					

[1] Rated in accordance with ARI Standard 210/240 and certified to ARI; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure.
NOTE — Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.
[2] Integrated Part Load Value rated at 80°F (27°C) outdoor air temperature.
[3] Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.
[4] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished by Lennox are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

SPECIFICATIONS – LHA MODEL

Model No.			LHA120
Efficiency Type			High (H)
Cooling Ratings	Gross Cooling Capacity — Btuh (kW)		124,000 (36.3)
	[1] Net Cooling Capacity — Btuh (kW)		118,000 (34.6)
	Total Unit Power (kW)		11.5
	[1] EER (Btuh/Watt)		10.3
	[2] Integrated Part Load Value (Btuh/Watt)		11.3
High Temperature Heating Ratings	[1] Total Heating Capacity — Btuh (kW)		119,000 (34.9)
	Total Unit Power (kW)		10.7
	[1] C.O.P.		3.3
Low Temperature Heating Ratings	[1] Total Heating Capacity — Btuh (kW)		72,000 (21.1)
	Total Unit Power (kW)		10.1
	[1] C.O.P.		2.1
[3] Sound Rating Number (db)			88
Refrigerant Charge Furnished (HCFC-22)		Circuit 1	12 lbs. 8 oz. (5.7 kg)
		Circuit 2	12 lbs. 8 oz. (5.7 kg)
Evaporator Blower and Drive Selection	Blower wheel nominal dia. x width — in. (mm)		(1) 15 x 15 (381 x 381)
	2 hp (1.5 kW) [4] Motor & Drives	Nominal motor output — hp (kW)	2 (1.5)
		Max. usable motor output - hp (kW)	2.30 (1.7)
		Voltage & phase	208/230v, 460v or 575v-3ph
		RPM range (Drive 1 or 3 options)	(1) 680-940, (3) 850-1130
	3 hp (2.2 kW) [4] Motor & Drives	Nominal motor horsepower (kW)	3 (2.2)
		Max. usable motor output - hp (kW)	3.45 (2.6)
		Voltage & phase	208/230v, 460v or 575v-3ph
		RPM range (Drive 1 thru 6 options)	(1) 680-940, (2) 680-895, (3) 850-1130, (4) 895-1120, (5) 1105-1410, (6) 1110-1395
	5 hp (3.7 kW) [4] Motor & Drives	Nominal motor output — hp (kW)	5 (3.7)
		Max. usable motor output - hp (kW)	5.75 (4.3)
		Voltage & phase	208/230v, 460v or 575v-3ph
		RPM range (Drive 4 & 6 options)	(4) 895-1120, (6) 1110-1395
Indoor Coil	Net face area — sq. ft. (m^2)		10.5 (0.98) total
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 4
	Fins per inch (m)		14 (551)
	Drain connection no. & size — in. (mm) fpt		(1) 1 (25.4)
	Expansion device type		Balanced Port Thermostatic Expansion Valve, removeable power head
Outdoor Coil	Net face area — sq. ft. (m^2)		28.6 (2.66) total
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 2
	Fins per inch (m)		20 (787)
	Expansion device type		Balanced Port Thermostatic Expansion Valve, removeable power head
Outdoor Fans	Diameter — in. (mm) & No. of blades		(2) 24 (610) — 3
	Total Air volume — cfm (L/s)		8000 (3775)
	Motor horsepower (W)		(2) 1/3 (249)
	Motor rpm		1075
	Total Motor watts		700
Filters (furnished)	Type of filter		Disposable, commercial grade, pleated
	no. and size — in. (mm)		(4) 18 x 24 x 2 (457 x 610 x 51)
Electrical characteristics			208/230v, 460v or 575v — 60 hertz — 3 phase

[1] Rated in accordance with ARI Standard 210/240 and certified to ARI.
Cooling Ratings— 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering indoor coil air.
High Temperature Heating Ratings— 47°F (8°C) db/43°F (6°C) wb outdoor air temperature and 70°F (21°C) entering indoor coil air.
Low Temperature Heating Ratings— 17°F (-8°C) db/15°F (-9°C) wb outdoor air temperature and 70°F (21°C) entering indoor coil air.
NOTE — ARI capacity is net and includes indoor blower motor heat deduction. Gross capacity does not include indoor blower motor heat deduction.
[2] Integrated Part Load Value tested at 80°F (27°C) outdoor air temperature.
[3] Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.
[4] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished by Lennox are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

HIGH ALTITUDE DERATE (LGA MODELS)

Units may be installed at altitudes up to 2000 feet (610 m) above sea level without any modification. At altitudes above 2000 feet (610 m), units must be derated to match gas manifold pressures shown in table below.

NOTE — This is the only permissible derate for these units.

Altitude - ft. (m)	Gas Manifold Pressure - in. w.g. (kPa)
2001 - 3000 (610 - 915)	3.6 (0.90)
3001 - 4000 (915 - 1220)	3.5 (0.87)
4001 - 5000 (1220 - 1525)	3.4 (0.85)
5001 - 6000 (1525 - 1830)	3.3 (0.82)
6001 - 7000 (1830 - 2135)	3.2 (0.80)
7001 - 8000 (2135 - 2440)	3.1 (0.77)

WEIGHT DATA – ALL MODELS

Model No.	Description	Weight	
		lbs.	kg
Net Weights			
LCA102S	Net weight (Base unit)	1120	508
LCA120S	Net weight (Base unit)	1130	513
LCA150S	Net weight (Base unit)	1170	531
LCA102H	Net weight (Base unit)	1140	517
LCA120H	Net weight (Base unit)	1180	535
LGA102S	Net weight (Base unit with low fire heat exchanger)	1200	544
LGA120S	Net weight (Base unit with low fire heat exchanger)	1210	549
LGA150S	Net weight (Base unit with low fire heat exchanger)	1250	567
LGA102H	Net weight (Base unit with low fire heat exchanger)	1220	553
LGA120H	Net weight (Base unit with low fire heat exchanger)	1260	572
LHA120H	Net weight (Base unit)	1230	558
Shipping Weights (Add Factory Installed Options Weights To Base Unit Weights For Total Shipping Weight)			
LCA102S	Base unit	1205	547
LCA120S	Base unit	1215	551
LCA150S	Base unit	1255	569
LCA102H	Base unit	1225	556
LCA120H	Base unit	1265	574
LHA120H	Base unit	1315	596
LCA/LHA Models Only	Electric Heat (add to Base unit)	See Electric Heat Rating Tables	
LGA102S	Base unit with low fire heat exchanger	1285	583
LGA120S	Base unit with low fire heat exchanger	1295	587
LGA150S	Base unit with low fire heat exchanger	1335	606
LGA102H	Base unit with low fire heat exchanger	1305	592
LGA120H	Base unit with low fire heat exchanger	1345	610
LGA Models Only	High Fire Heat Exchanger (add to Base unit)	40	18
All Models	Economizer (add to Base unit)	66	30
	Outdoor Air Damper (add to Base unit)	40	18
	Power Exhaust (add to Base unit)	28	13
	LTL Packaging (less than truck load) (add to Base unit)	105	48

OPTIONAL ELECTRIC HEAT ACCESSORIES - LCA/LHA MODELS

UNIT FUSE BLOCKS WITH ELECTRIC HEAT

Unit Model No.			LCA102S	LCA102H	LCA120S	LCA120H	LCA150S	LHA120H
Electric Heat		Model No.	EHA (see Electric Heat Data tables for additional information)					
		kW Input Range	7.5-15-22.5-30-45-60					
Unit Fuse Block (3 phase)	**With** Power Exhaust Fans	208/230v - 2 hp (1.5 kW)	**56K94**	**56K93**	**56K94**	**56K95**		
		460v - 2 hp (1.5 kW)	**25K08**		**25K09**			
		575v - 2 hp (1.5 kW)	**56K52**	**56K51**	**56K52**		**25K08**	**56K52**
		208/230v - 3 hp (2.2 kW)	**56K94**		**56K95**			
		460v - 3 hp (2.2 kW)	**25K08**		**25K09**			
		575v - 3 hp (2.2 kW)	**56K52**			**25K08**		
		208/230v - 5 hp (3.7 kW)	**56K95**			**56K96**		
		460v - 5 hp (3.7 kW)	**25K09**			**25K10**		
		575v - 5 hp (3.7 kW)	**56K52**			**25K08**		
	Without Power Exhaust Fans	208/230v - 2 hp (1.5 kW)	**56K93**		**56K94**		**56K95**	**56K94**
		460v - 2 hp (1.5 kW)	**25K08**			**25K09**		
		575v - 2 hp (1.5 kW)	**56K51**			**56K52**		
		208/230v - 3 hp (2.2 kW)	**56K94**	**56K93**	**56K95**			
		460v - 3 hp (2.2 kW)	**25K08**		**25K09**			
		575v - 3 hp (2.2 kW)	**56K52**				**25K08**	**56K52**
		208/230v - 5 hp (3.7 kW)	**56K95**	**56K94**	**56K95**		**56K96**	**56K95**
		460v - 5 hp (3.7 kW)	**25K09**	**25K08**	**25K09**		**25K10**	**25K09**
		575v - 5 hp (3.7 kW)	**56K52**			**25K08**		

LTB2 ELECTRIC HEAT TERMINAL BLOCK — LTB2-175 (30K75) 175 amps, LTB2-335 (30K76) 335 amps
(Required For Units Without Disconnect/Circuit Breaker But With Single Point Power Source)

	Unit Model No.		LCA102S	LCA102H	LCA120S	LCA120H	LCA150S	LHA120H
LTB2 Terminal Block (3 phase)	7.5 kW *208/230v-3ph	2 hp (1.5 kW)	**30K75**		**- - - -**			
		3 hp (2.2 kW)						
		5 hp (3.7 kW)						
	15 kW *208/230v-3ph	2 hp (1.5 kW)	**30K75**					
		3 hp (2.2 kW)						
		5 hp (3.7 kW)						
	22.5 kW *208/230v-3ph	2 hp (1.5 kW)	**30K75**					
		3 hp (2.2 kW)						
		5 hp (3.7 kW)						
	30 kW *208/230v-3ph	2 hp (1.5 kW)	**30K75**					
		3 hp (2.2 kW)						
		5 hp (3.7 kW)						
	45 kW *208/230v-3ph	2 hp (1.5 kW)	**- - - -**	**30K75**				**30K76**
		3 hp (2.2 kW)						
		5 hp (3.7 kW)						
	60 kW *208/230v-3ph	2 hp (1.5 kW)	**- - - -**		**30K75**			**30K76**
		3 hp (2.2 kW)						
		5 hp (3.7 kW)						

NOTE — Terminal Block is factory installed in units with factory installed electric heat without disconnect/circuit breaker but with single point power source.

***NOTE — ALL 460V AND 575V UNIT VOLTAGES USE LTB2-175 (30K75) TERMINAL BLOCK.**

ELECTRICAL DATA – LCA/LGA102

Model No.			LCA/LGA102S									LCA/LGA102H								
Line voltage data — 60 Hz — 3 phase			208/230v			460v			575v			208/230v			460v			575v		
Compressors (2)	Rated load amps each (total)		14.1 (28.2)			7.7 (15.4)			6.0 (12.0)			13.5 (27.0)			7.4 (14.8)			5.8 (11.6)		
	Locked rotor amps each (total)		105 (210)			53 (106)			42 (84)			120 (240)			50 (100)			40 (80)		
Condenser Fan Motors (2)	Full load amps - each (total)		2.4 (4.8)			1.3 (2.6)			1.0 (2.0)			2.4 (4.8)			1.3 (2.6)			1.0 (2.0)		
	Locked rotor amps - each (total)		4.7 (9.4)			2.4 (4.8)			1.9 (3.8)			4.7 (9.4)			2.4 (4.8)			1.9 (3.8)		
Evaporator Blower Motor	Motor Output	hp	2	3	5	2	3	5	2	3	5	2	3	5	2	3	5	2	3	5
		kW	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7
	Full load amps		7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
	Locked rotor amps		46.9	66	105	20.4	26.8	45.6	16.2	23.4	36.6	46.9	66	105	20.4	26.8	45.6	16.2	23.4	36.6
Rec. max. fuse size (amps)	With Exhaust Fan		60	60	70	30	30	35	25	25	25	50	60	70	30	30	35	20	25	25
	Less Exhaust Fan		50	60	70	30	30	35	20	25	25	50	50	60	30	30	30	20	25	25
*Minimum Circuit Ampacity	With Exhaust Fan		46	50	56	25	26	29	19	20	23	45	48	55	24	25	28	19	20	22
	Less Exhaust Fan		44	47	54	23	25	28	18	19	22	43	46	53	23	24	27	18	19	21
Optional Power Exhaust Fan	(No.) Horsepower (W)		(1) 1/3 (249)									(1) 1/3 (249)								
	Full load amps		2.4			1.3			1.0			2.4			1.3			1.0		
	Locked rotor amps		4.7			2.4			1.9			4.7			2.4			1.9		
Service Outlet (2) 115 volt GFCI (amp rating)			15			15			15			15			15			15		

ELECTRICAL DATA – LCA/LGA120 MODELS

Model No.			LCA/LGA120S									LCA/LGA120H								
Line voltage data — 60 Hz — 3 phase			208/230v			460v			575v			208/230v			460v			575v		
Compressors (2)	Rated load amps each (total)		16.7 (33.4)			8.6 (17.2)			6.0 (12.0)			17.3 (34.6)			9.0 (18.0)			7.1 (14.2)		
	Locked rotor amps each (total)		110 (220)			55 (110)			44 (88)			123 (246)			62 (124)			50 (100)		
Condenser Fan Motors (2)	Full load amps - each (total)		2.4 (4.8)			1.3 (2.6)			1.0 (2.0)			2.4 (4.8)			1.3 (2.6)			1.0 (2.0)		
	Locked rotor amps - each (total)		4.7 (9.4)			2.4 (4.8)			1.9 (3.8)			4.9 (9.4)			2.4 (4.8)			1.9 (3.8)		
Evaporator Blower Motor	Motor Output	hp	2	3	5	2	3	5	2	3	5	2	3	5	2	3	5	2	3	5
		kW	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7
	Full load amps		7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
	Locked rotor amps		46.9	66	105	20.4	26.8	45.6	16.2	23.4	36.6	46.9	66	105	20.4	26.8	45.6	16.2	23.4	36.6
Rec. max. fuse size (amps)	With Exhaust Fan		60	70	70	35	35	35	25	25	25	70	70	80	35	35	40	25	30	30
	Less Exhaust Fan		60	70	70	30	35	35	20	25	25	60	70	70	35	35	35	25	25	30
*Minimum Circuit Ampacity	With Exhaust Fan		52	55	61	27	28	31	19	20	23	54	57	63	27	29	32	22	23	25
	Less Exhaust Fan		50	53	59	25	27	30	18	19	22	51	54	60	26	28	30	21	22	24
Optional Power Exhaust Fan	(No.) Horsepower (W)		(1) 1/3 (249)																	
	Full load amps		2.4			1.3			1.0			2.4			1.3			1.0		
	Locked rotor amps		4.7			2.4			1.9			4.7			2.4			1.9		
Service Outlet (2) 115 volt GFCI (amp rating)			15			15			15			15			15			15		

ELECTRICAL DATA – LHA120H - LCA/LGA150 MODELS

Model No.			LHA120H									LCA/LGA150S								
Line voltage data — 60 Hz — 3 phase			208/230v			460v			575v			208/230v			460v			575v		
Compressors (2)	Rated load amps each (total)		17.3 (34.6)			9.0 (18.0)			7.1 (14.2)			18.6 (37.2)			9 (18)			7.4 (14.8)		
	Locked rotor amps each (total)		123 (246)			62 (124)			50 (100)			156 (312)			70 (140)			54 (108)		
Condenser Fan Motors (2)	Full load amps - each (total)		2.4 (4.8)			1.3 (2.6)			1.0 (2.0)			2.4 (4.8)			1.3 (2.6)			1.0 (2.0)		
	Locked rotor amps - each (total)		4.7 (9.4)			2.4 (4.8)			1.9 (3.8)			4.7 (9.4)			2.4 (4.8)			1.9 (3.8)		
Evaporator Blower Motor	Motor Output	hp	2	3	5	2	3	5	2	3	5	2	3	5	2	3	5	2	3	5
		kW	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7	1.5	2.2	3.7
	Full load amps		7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
	Locked rotor amps		46.9	66	105	20.4	26.8	45.6	16.2	23.4	36.6	46.9	66	105	20.4	26.8	45.6	16.2	23.4	36.6
Rec. max. fuse size (amps)	With Exhaust Fan		70	70	80	35	35	40	25	30	30	70	70	80	35	35	40	30	30	30
	Less Exhaust Fan		60	70	70	35	35	35	25	25	30	70	70	80	35	35	40	25	30	30
*Minimum Circuit Ampacity	With Exhaust Fan		54	57	63	27	29	32	22	23	25	57	60	66	28	29	32	23	24	26
	Less Exhaust Fan		51	54	60	26	28	30	21	22	24	55	58	64	27	28	31	22	23	25
Optional Power Exhaust Fan	(No.) Horsepower (W)		(1) 1/3 (249)									(1) 1/3 (249)								
	Full load amps		2.4			1.3			1.0			2.4			1.3			1.0		
	Locked rotor amps		4.7			2.4			1.9			4.7			2.4			1.9		
Service Outlet (2) 115 volt GFCI (amp rating)			15			15			15			15			15			15		

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.
NOTE — Extremes of operating range are plus and minus 10 % of line voltage.
NOTE — Where current does not exceed 100 amps, HACR type circuit breaker may be used in place of fuse (U.S. only).

OPTIONAL ELECTRIC HEAT DATA (REQUIRES UNIT FUSE BLOCK AND TERMINAL BLOCK)

LCA102

kW Size Required	Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kW Input	KBtuh Output	*Total Unit (with Power Exhaust Fan) & Electric Heat Minimum Circuit Ampacity		
						2 hp (1.5 kW)	3 hp (2.2 kW)	5 hp (3.7 kW)
7.5 kW	EHA102-7.5 208/230v **(99J01)** 460v **(99J02)** 575v **(99J03)** 31 lbs. (14 kg)	1	208	5.6	19.1	**H**-45 **S**-46	**H**-48 **S**-50	**H**-55 **S**-56
		1	220	6.3	21.5			
		1	230	6.9	23.6			
		1	240	7.5	25.6			
		1	440	6.9	21.5	**H**-24 **S**-25	**H**-25 **S**-26	**H**-28 **S**-29
		1	460	6.9	23.6			
		1	480	7.5	25.6			
		1	550	6.3	21.5	19	20	**H**-22 **S**-23
		1	575	6.9	23.6			
		1	600	7.5	25.6			
15 kW	EHA150-15 208/230v **(99J04)** 460v **(99J05)** 575v **(99J06)** 31 lbs. (14 kg)	1	208	11.3	38.6	51	55	63
		1	220	12.6	43.0	57	61	69
		1	230	13.8	47.1			
		1	240	15.0	51.2			
		1	440	12.6	43.0	28	30	34
		1	460	13.8	47.1			
		1	480	15.0	51.2			
		1	550	12.6	43.0	23	24	27
		1	575	13.8	47.1			
		1	600	15.0	51.2			
22.5 kW	EHA360-22.5 208/230v (**99J28**) 460v **(99J29)** 575v **(99J30)** 38 lbs. (17 kg)	**2	208	16.9	57.7	73	77	85
		**2	220	18.9	64.5	82	86	94
		**2	230	20.7	70.7			
		**2	240	22.5	76.8			
		**2	440	18.9	64.5	41	43	46
		**2	460	20.7	70.7			
		**2	480	22.5	76.8			
		**2	550	18.9	64.5	33	34	37
		**2	575	20.7	70.7			
		**2	600	22.5	76.8			
30 kW	EHA150-30 208/230v **(99J07)** 460v **(99J08)** 575v **(99J09)** 38 lbs. (17 kg)	**2	208	22.5	76.8	91	94	102
		**2	220	25.2	86.0	103	106	114
		**2	230	27.5	93.9			
		**2	240	30.0	102.4			
		**2	440	25.2	86.0	51	53	56
		**2	460	27.5	93.9			
		**2	480	30.0	102.4			
		**2	550	25.2	86.0	41	42	45
		**2	575	27.5	93.9			
		**2	600	30.0	102.4	41	42	45
45 kW	EHA150-45 208/230v **(99J10)** 460v **(99J11)** 575v **(99J12)** 42 lbs. (19 kg)	**2	208	33.8	115.3	130	134	141
		**2	220	37.8	129.0	148	151	159
		**2	230	41.3	141.0			
		**2	240	45.0	153.6			
		**2	440	37.8	129.0	74	75	79
		**2	460	41.3	141.0			
		**2	480	45.0	153.6			
		**2	550	37.8	129.0	59	60	63
		**2	575	41.3	141.0			
		**2	600	45.0	153.6			

NOTE - H indicates high efficiency units**. S-** indicates standard efficiency units.
*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).
**May be used with two stage control.
NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in unit with field installed heaters. Also requires LTB2 Terminal Block.

LCA120

kW Size Required	Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kW Input	kBtuh Output	*Total Unit (with Power Exhaust Fan) & Electric Heat Minimum Circuit Ampacity		
						2 hp (1.5 kW)	3 hp (2.2 kW)	5 hp (3.7 kW)
15 kW	EHA150-15 208/230v **(99J04)** 460v **(99J05)** 575v **(99J06)** 31 lbs. (14 kg)	1	208	11.3	38.6	**H**-54 **S**-52	**H**-57 **S**-55	63
		1	220	12.6	43.0	57	61	69
		1	230	13.8	47.1			
		1	240	15.0	51.2			
		1	440	12.6	43.0	28	30	34
		1	460	13.8	47.1			
		1	480	15.0	51.2			
		1	550	12.6	43.0	23	24	27
		1	575	13.8	47.1			
		1	600	15.0	51.2			
22.5 kW	EHA360-22.5 208/230v (**99J28**) 460v **(99J29)** 575v **(99J30)** 38 lbs. (17 kg)	**2	208	16.9	57.7	73	77	85
		**2	220	18.9	64.5	82	86	94
		**2	230	20.7	70.7			
		**2	240	22.5	76.8			
		**2	440	18.9	64.5	41	43	46
		**2	460	20.7	70.7			
		**2	480	22.5	76.8			
		**2	550	18.9	64.5	33	34	37
		**2	575	20.7	70.7			
		**2	600	22.5	76.8			
30 kW	EHA150-30 208/230v **(99J07)** 460v **(99J08)** 575v **(99J09)** 38 lbs. (17 kg)	**2	208	22.5	76.8	91	94	102
		**2	220	25.2	860	103	106	114
		**2	230	27.5	93.9			
		**2	240	30.0	102.4			
		**2	440	25.2	86.0	51	53	56
		**2	460	27.5	93.9			
		**2	480	30.0	102.4			
		**2	550	25.2	86.0	41	42	45
		**2	575	27.5	93.9			
		**2	600	30.0	102.4	41	42	45
45 kW	EHA150-45 208/230v **(99J10)** 460v **(99J11)** 575v **(99J12)** 42 lbs. (19 kg)	**2	208	33.8	115.3	130	134	141
		**2	220	37.8	129.0	148	151	159
		**2	230	41.3	141.0			
		**2	240	45.0	153.6			
		**2	440	37.8	129.0	74	75	79
		**2	460	41.3	141.0			
		**2	480	45.0	153.6			
		**2	550	37.8	129.0	59	60	63
		**2	575	41.3	141.0			
		**2	600	45.0	153.6			
60 kW	EHA150-60 208/230v **(99J13)** 460v **(99J14)** 575v **(99J15)** 49 lbs. (22 kg)	**2	208	45.0	153.6	138	141	149
		**2	220	50.4	172.0	157	160	168
		**2	230	55.1	188.0			
		**2	240	60.0	204.8			
		**2	440	50.4	172.0	78	80	83
		**2	460	55.1	188.0			
		**2	480	60.0	204.8			
		**2	550	50.4	172.0	62	64	67
		**2	575	55.1	188.0			
		**2	600	60.0	204.8			

NOTE - H indicates high efficiency units**. S-** indicates standard efficiency units.
*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).
**May be used with two stage control.
NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in unit with field installed heaters. Also requires LTB2 Terminal Block.

OPTIONAL ELECTRIC HEAT DATA (REQUIRES UNIT FUSE BLOCK AND TERMINAL BLOCK)

LCA150

kW Size Required	Electric Heat Model No. & Net Weight	No. of Steps	Volts Input	kW Input	kBtuh Output	*Total Unit (with Power Exhaust Fan) & Electric Heat Minimum Circuit Ampacity		
						2 hp (1.5 kW)	3 hp (2.2 kW)	5 hp (3.7 kW)
15 kW	EHA150-15 208/230v **(99J04)** 460v **(99J05)** 575v **(99J06)** 31 lbs. (14 kg)	1	208	11.3	38.6	57	60	66
		1	220	12.6	43.0			
		1	230	13.8	47.1			
		1	240	15.0	51.2			
		1	440	12.6	43.0	28	29	32
		1	460	13.8	47.1			
		1	480	15.0	51.2			
		1	550	12.6	43.0	23	24	26
		1	575	13.8	47.1			
		1	600	15.0	51.2			
22.5 kW	EHA360-22.5 208/230v (**99J28**) 460v **(99J29)** 575v **(99J30)** 38 lbs. (17 kg)	**2	208	16.9	57.7	73	77	85
		**2	220	18.9	64.5	82	86	94
		**2	230	20.7	70.7			
		**2	240	22.5	76.8			
		**2	440	18.9	64.5	41	43	46
		**2	460	20.7	70.7			
		**2	480	22.5	76.8			
		**2	550	18.9	64.5	33	34	37
		**2	575	20.7	70.7			
		**2	600	22.5	76.8			
30 kW	EHA150-30 208/230v **(99J07)** 460v **(99J08)** 575v **(99J09)** 38 lbs. (17 kg)	**2	208	22.5	76.8	91	95	102
		**2	220	25.2	86.0	103	106	114
		**2	230	27.5	93.9			
		**2	240	30.0	102.4			
		**2	440	25.2	86.0	51	53	56
		**2	460	27.5	93.9			
		**2	480	30.0	102,4			
		**2	550	25.2	86.0	41	42	45
		**2	575	27.5	93.9			
		**2	600	30.0	102.4			
45 kW	EHA150-45 208/230v **(99J10)** 460v **(99J11)** 575v **(99J12)** 42 lbs. (19 kg)	**2	208	33.8	115.3	130	133	141
		**2	220	37.8	129.0	148	151	159
		**2	230	41.3	141.0			
		**2	240	45.0	153.6			
		**2	440	37.8	129.0	74	75	78
		**2	460	41.3	141.0			
		**2	480	45.0	153.6			
		**2	550	37.8	129.0	59	61	63
		**2	575	41.3	141.0			
		**2	600	45.0	153.6			
60 kW	EHA150-60 208/230v **(99J13)** 460v **(99J14)** 575v **(99J15)** 49 lbs. (22 kg)	**2	208	45.0	153.6	138	141	149
		**2	220	50.4	172.0	157	161	168
		**2	230	55.1	188.0			
		**2	240	60.0	204.8			
		**2	440	50.4	172.0	78	80	83
		**2	460	55.1	188.0			
		**2	480	60.0	204.8			
		**2	550	50.4	172.0	62	64	67
		**2	575	55.1	188.0			
		**2	600	60.0	204.8			

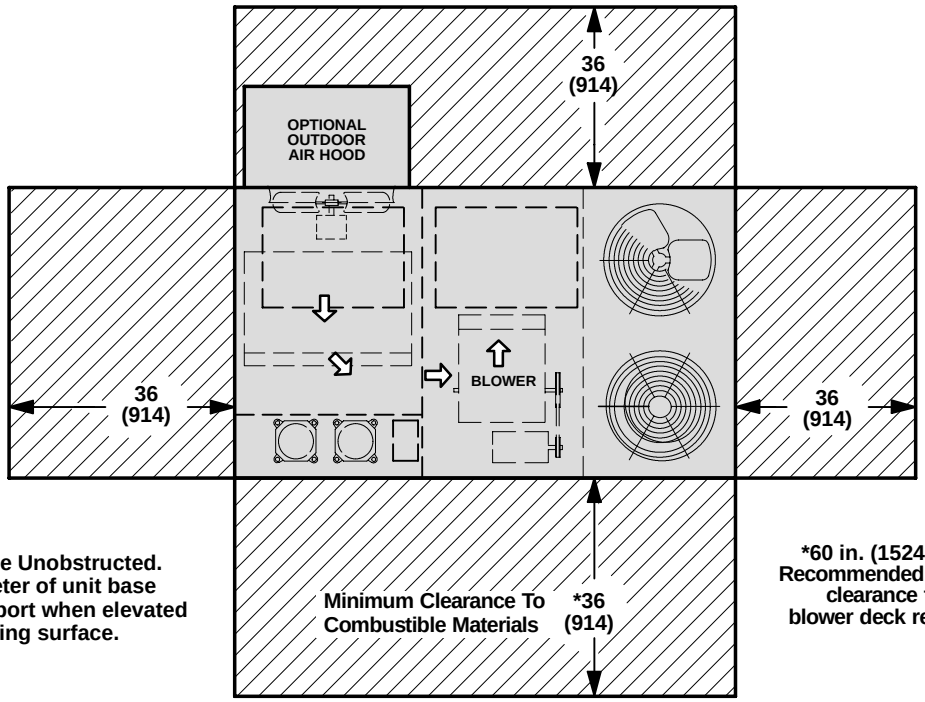
*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).
**May be used with two stage control.
NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in unit with field installed heaters. Also requires LTB2 Terminal Block.

LHA120

kW Size Required	Electric Heat Model No. (see footnote) & Net Weight	No. of Steps	Volts Input	kW Input	Btuh Output	*Total Unit (with Power Exhaust Fan) & Electric Heat Minimum Circuit Ampacity		
						2 hp (1.5 kW)	3 hp (2.2 kW)	5 hp (3.7 kW)
15 kW	EHA150-15 208/230v **(99J04)** 460v **(99J05)** 575v **(99J06)** 31 lbs. (14 kg)	1	208	11.3	38.6	93	96	102
		1	220	12.6	43.0	99	102	108
		1	230	13.8	47.1			
		1	240	15.0	51.2			
		1	440	12.6	43.0	50	51	54
		1	460	13.8	47.1			
		1	480	15.0	51.2			
		1	550	12.6	43.0	40	41	43
		1	575	13.8	47.1			
		1	600	15.0	51.2			
22.5 kW	EHA360-22.5 208/230v (**99J28**) 460v **(99J29)** 575v **(99J30)** 38 lbs. (17 kg)	**2	208	16.9	57.7	113	116	122
		**2	220	18.9	64.5	122	125	131
		**2	230	20.7	70.7			
		**2	240	22.5	76.8			
		**2	440	18.9	64.5	61	63	65
		**2	460	20.7	70.7			
		**2	480	22.5	76.8			
		**2	550	18.9	64.5	50	51	53
		**2	575	20.7	70.7			
		**2	600	22.5	76.8			
30 kW	EHA150-30 208/230v **(99J07)** 460v **(99J08)** 575v **(99J09)** 38 lbs. (17 kg)	**2	208	22.5	76.8	132	135	141
		**2	220	25.2	86.0	144	147	153
		**2	230	27.5	93.9			
		**2	240	30.0	102.4			
		**2	440	25.2	86.0	72	74	77
		**2	460	27.5	93.9			
		**2	480	30.0	102.4			
		**2	550	25.2	86.0	**58**	**59**	**61**
		**2	575	27.5	93.9			
		**2	600	30.0	102.4	58	59	61
45 kW	EHA150-45 208/230v **(99J10)** 460v **(99J11)** 575v **(99J12)** 42 lbs. (19 kg)	**2	208	33.8	115.3	171	174	180
		**2	220	37.8	129.0	189	192	198
		**2	230	41.3	141.0			
		**2	240	45.0	153.6			
		**2	440	37.8	129.0	95	97	99
		**2	460	41.3	141.0			
		**2	480	45.0	153.6			
		**2	550	37.8	129.0	76	77	79
		**2	575	41.3	141.0			
		**2	600	45.0	153.6			
60 kW	EHA150-60 208/230v **(99J13)** 460v **(99J14)** 575v **(99J15)** 49 lbs. (22 kg)	**2	208	45.0	153.6	179	182	188
		**2	220	50.4	172.0	198	201	207
		**2	230	55.1	188.0			
		**2	240	60.0	204.8			
		**2	440	50.4	172.0	100	101	104
		**2	460	55.1	188.0			
		**2	480	60.0	204.8			
		**2	550	50.4	172.0	79	81	83
		**2	575	55.1	188.0			
		**2	600	60.0	204.8			

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).
**May be used with two stage control.
NOTE — Fuse block must be ordered extra. Factory installed heaters will have the fuse block factory installed. Fuse block must be installed in unit with field installed heaters. Also requires LTB2 Terminal Block.

INSTALLATION CLEARANCES – INCHES (MM)



NOTE — Top Clearance Unobstructed.
NOTE — Entire perimeter of unit base requires support when elevated above mounting surface.

***60 in. (1524 mm) Recommended service clearance for blower deck removal**

COOLING RATINGS - LCA/LGA MODELS

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

LCA/LGA102S - STANDARD EFFICIENCY - COOLING CAPACITY - ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																					
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	2720	1285	55.8	16.4	3.37	.63	.78	.93	53.4	15.6	3.65	.64	.80	.95	51.0	14.9	3.93	.65	.82	.98	48.5	14.2	4.21	.66	.85	.99
	3400	1605	58.0	17.0	3.42	.67	.86	1.00	55.5	16.3	3.71	.69	.88	1.00	53.0	15.5	4.00	.71	.91	1.00	50.4	14.8	4.29	.73	.94	1.00
	4080	1925	59.8	17.5	3.47	.73	.93	1.00	57.2	16.8	3.76	.75	.96	1.00	54.7	16.0	4.06	.78	.98	1.00	52.2	15.3	4.36	.81	1.00	1.00
67°F (19°C)	2720	1285	59.5	17.4	3.46	.50	.61	.73	56.9	16.7	3.75	.50	.61	.75	54.3	15.9	4.05	.51	.63	.77	51.6	15.1	4.34	.52	.64	.80
	3400	1605	61.4	18.0	3.51	.52	.65	.82	58.7	17.2	3.81	.53	.66	.84	56.0	16.4	4.11	.53	.68	.87	53.2	15.6	4.40	.54	.71	.90
	4080	1925	62.8	18.4	3.54	.54	.70	.89	60.0	17.6	3.85	.55	.72	.92	57.3	16.8	4.15	.57	.75	.95	54.4	15.9	4.45	.58	.78	.97
71°F (22°C)	2720	1285	63.4	18.6	3.55	.38	.48	.58	60.7	17.8	3.87	.38	.48	.59	58.0	17.0	4.18	.38	.49	.60	55.2	16.2	4.49	.38	.50	.62
	3400	1605	65.4	19.2	3.60	.38	.50	.63	62.5	18.3	3.92	.39	.51	.64	59.6	17.5	4.23	.39	.52	.66	56.7	16.6	4.54	.39	.53	.68
	4080	1925	66.7	19.5	3.63	.39	.53	.68	63.7	18.7	3.95	.40	.54	.70	60.8	17.8	4.27	.40	.55	.72	57.8	16.9	4.59	.41	.57	.75

LCA/LGA102S - STANDARD EFFICIENCY - COOLING CAPACITY - ALL COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																					
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	2720	1285	100.9	29.6	7.85	.67	.82	.97	96.0	28.1	8.40	.68	.85	.99	91.0	26.7	8.94	.70	.88	1.00	85.8	25.1	9.49	.72	.91	1.00
	3400	1605	104.9	30.7	8.00	.72	.90	1.00	99.8	29.2	8.56	.74	.93	1.00	94.8	27.8	9.14	.77	.96	1.00	89.4	26.2	9.71	.80	.99	1.00
	4080	1925	108.2	31.7	8.11	.78	.97	1.00	103.2	30.2	8.70	.81	.99	1.00	98.2	28.8	9.31	.84	1.00	1.00	93.2	27.3	9.92	.87	1.00	1.00
67°F (19°C)	2720	1285	107.5	31.5	8.09	.53	.65	.78	102.2	30.0	8.67	.53	.66	.80	96.9	28.4	9.24	.54	.68	.83	91.2	26.7	9.81	.55	.70	.87
	3400	1605	111.0	32.5	8.22	.55	.70	.87	105.5	30.9	8.80	.56	.71	.90	99.9	29.3	9.39	.58	.74	.93	93.9	27.5	9.96	.59	.77	.96
	4080	1925	113.4	33.2	8.31	.58	.75	.94	107.8	31.6	8.90	.60	.78	.97	101.9	29.9	9.49	.61	.81	.99	95.8	28.1	10.08	.63	.85	1.00
71°F (22°C)	2720	1285	114.9	33.7	8.36	.39	.51	.62	109.4	32.1	8.97	.40	.52	.64	103.6	30.4	9.57	.40	.53	.65	97.6	28.6	10.18	.40	.54	.67
	3400	1605	118.2	34.6	8.47	.40	.54	.67	112.4	32.9	9.09	.41	.55	.69	106.4	31.2	9.71	.41	.56	.71	100.1	29.3	10.33	.42	.58	.74
	4080	1925	120.5	35.3	8.56	.42	.57	.73	114.6	33.6	9.18	.42	.58	.75	108.3	31.7	9.80	.43	.60	.78	101.8	29.8	10.42	.43	.62	.82

COOLING RATINGS - LCA/LGA MODELS

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

LCA/LGA102H - HIGH EFFICIENCY - COOLING CAPACITY - ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	2720	1285	53.4	15.6	2.43	.65	.80	.95	51.8	15.2	2.71	.65	.81	.96	50.2	14.7	3.05	.66	.83	.98	48.4	14.2	3.45	.67	.85	.99
	3400	1605	55.4	16.2	2.43	.69	.88	1.00	53.8	15.8	2.72	.71	.90	1.00	52.1	15.3	3.05	.72	.91	1.00	50.3	14.7	3.46	.74	.93	1.00
	4080	1925	57.1	16.7	2.44	.75	.95	1.00	55.4	16.2	2.72	.77	.97	1.00	53.7	15.7	3.06	.79	.98	1.00	52.0	15.2	3.46	.80	.99	1.00
67°F (19°C)	2720	1285	56.8	16.6	2.43	.51	.62	.75	55.1	16.1	2.72	.51	.63	.77	53.3	15.6	3.06	.52	.64	.79	51.4	15.1	3.47	.52	.65	.80
	3400	1605	58.6	17.2	2.44	.53	.67	.84	56.8	16.6	2.72	.54	.68	.86	54.9	16.1	3.07	.55	.69	.88	53.0	15.5	3.47	.55	.71	.90
	4080	1925	59.9	17.6	2.44	.56	.73	.91	58.1	17.0	2.73	.57	.74	.93	56.1	16.4	3.07	.58	.76	.95	54.1	15.9	3.47	.59	.78	.97
71°F (22°C)	2720	1285	60.6	17.8	2.44	.38	.49	.60	58.8	17.2	2.72	.38	.50	.61	56.9	16.7	3.07	.39	.50	.62	54.9	16.1	3.48	.39	.51	.63
	3400	1605	62.4	18.3	2.44	.39	.52	.65	60.5	17.7	2.73	.39	.53	.66	58.4	17.1	3.07	.40	.53	.67	56.4	16.5	3.48	.40	.54	.68
	4080	1925	63.7	18.7	2.45	.40	.55	.70	61.6	18.1	2.73	.41	.56	.72	59.6	17.5	3.08	.41	.57	.73	57.4	16.8	3.49	.41	.58	.75

LCA/LGA102H - HIGH EFFICIENCY - COOLING CAPACITY - ALL COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	2720	1285	99.4	29.1	6.15	.67	.82	.97	95.9	28.1	6.96	.68	.84	.98	92.3	27.1	7.90	.69	.86	.99	88.8	26.0	8.96	.70	.88	1.00
	3400	1605	103.1	30.2	6.16	.72	.91	1.00	99.6	29.2	6.98	.74	.92	1.00	96.0	28.1	7.91	.75	.94	1.00	92.3	27.1	8.97	.77	.97	1.00
	4080	1925	106.3	31.2	6.18	.78	.97	1.00	102.8	30.1	6.99	.80	.99	1.00	99.2	29.1	7.93	.82	1.00	1.00	95.8	28.1	9.00	.84	1.00	1.00
67°F (19°C)	2720	1285	105.6	30.9	6.17	.53	.65	.78	101.9	29.9	7.00	.53	.66	.80	98.1	28.8	7.93	.54	.67	.82	94.3	27.6	9.00	.54	.68	.84
	3400	1605	108.8	31.9	6.19	.55	.70	.87	105.0	30.8	7.01	.56	.71	.89	101.1	29.6	7.96	.57	.73	.91	97.1	28.5	9.02	.58	.75	.93
	4080	1925	111.2	32.6	6.20	.58	.76	.94	107.3	31.4	7.01	.59	.78	.96	103.2	30.2	7.97	.60	.79	.98	99.1	29.0	9.04	.61	.82	.99
71°F (22°C)	2720	1285	112.7	33.0	6.20	.39	.51	.62	108.7	31.9	7.02	.40	.51	.63	104.7	30.7	7.97	.40	.52	.64	100.7	29.5	9.06	.40	.53	.66
	3400	1605	115.8	33.9	6.21	.40	.54	.68	111.8	32.8	7.04	.41	.55	.69	107.6	31.5	7.99	.41	.56	.70	103.3	30.3	9.07	.41	.57	.72
	4080	1925	118.1	34.6	6.22	.41	.57	.73	113.8	33.4	7.05	.42	.58	.75	109.5	32.1	8.00	.42	.59	.77	105.2	30.8	9.10	.43	.60	.79

LCA/LGA120S - STANDARD EFFICIENCY - COOLING CAPACITY - ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	66.0	19.3	4.12	.62	.77	.91	63.7	18.7	4.38	.63	.78	.93	61.0	17.9	4.71	.64	.80	.95	58.1	17.0	5.09	.66	.83	.98
	4000	1890	68.6	20.1	4.16	.66	.84	.99	66.1	19.4	4.44	.68	.86	1.00	63.3	18.6	4.78	.70	.89	1.00	60.3	17.7	5.17	.72	.91	1.00
	4800	2265	70.6	20.7	4.18	.72	.91	1.00	68.0	19.9	4.48	.74	.93	1.00	65.2	19.1	4.84	.76	.96	1.00	62.2	18.2	5.24	.79	.98	1.00
67°F (19°C)	3200	1510	70.4	20.6	4.18	.49	.60	.72	67.8	19.9	4.47	.50	.61	.74	64.9	19.0	4.83	.50	.62	.76	61.7	18.1	5.23	.51	.63	.79
	4000	1890	72.7	21.3	4.21	.52	.64	.80	69.9	20.5	4.52	.52	.65	.82	66.8	19.6	4.89	.53	.67	.85	63.5	18.6	5.30	.54	.69	.88
	4800	2265	74.3	21.8	4.23	.54	.69	.88	71.5	21.0	4.55	.55	.71	.90	68.3	20.0	4.93	.56	.73	.93	64.8	19.0	5.35	.57	.76	.95
71°F (22°C)	3200	1510	75.0	22.0	4.24	.38	.48	.58	72.2	21.2	4.57	.38	.48	.59	69.1	20.3	4.95	.38	.49	.60	65.8	19.3	5.38	.38	.50	.61
	4000	1890	77.3	22.7	4.27	.38	.50	.62	74.4	21.8	4.61	.39	.51	.63	71.1	20.8	5.01	.39	.52	.64	67.5	19.8	5.44	.39	.53	.66
	4800	2265	78.9	23.1	4.29	.39	.53	.66	75.8	22.2	4.64	.39	.54	.68	72.4	21.2	5.04	.40	.55	.71	68.7	20.1	5.49	.40	.56	.73

LCA/LGA120S - STANDARD EFFICIENCY - COOLING CAPACITY - ALL COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	120.9	35.4	9.44	.66	.80	.95	115.1	33.7	10.18	.67	.83	.97	109.0	31.9	10.97	.68	.85	.99	102.9	30.2	11.77	.70	.88	1.00
	4000	1890	125.5	36.8	9.58	.70	.88	1.00	119.4	35.0	10.36	.72	.91	1.00	113.2	33.2	11.17	.75	.94	1.00	107.0	31.4	12.01	.77	.97	1.00
	4800	2265	129.2	37.9	9.70	.76	.95	1.00	123.1	36.1	10.50	.78	.97	1.00	117.0	34.3	11.35	.81	.99	1.00	110.8	32.5	12.24	.85	1.00	1.00
67°F (19°C)	3200	1510	128.6	37.7	9.68	.52	.63	.76	122.3	35.8	10.47	.52	.64	.79	115.7	33.9	11.31	.53	.66	.81	109.1	32.0	12.15	.54	.68	.85
	4000	1890	132.5	38.8	9.81	.54	.68	.84	126.0	36.9	10.62	.55	.69	.87	119.2	34.9	11.47	.56	.72	.90	112.4	32.9	12.32	.58	.75	.94
	4800	2265	135.5	39.7	9.89	.57	.73	.92	128.6	37.7	10.73	.58	.76	.94	121.6	35.6	11.59	.59	.79	.97	114.6	33.6	12.46	.61	.82	.99
71°F (22°C)	3200	1510	137.0	40.2	9.93	.39	.50	.61	130.4	38.2	10.79	.39	.51	.62	123.5	36.2	11.68	.39	.52	.64	116.5	34.1	12.58	.40	.53	.66
	4000	1890	141.0	41.3	10.06	.40	.53	.66	133.9	39.2	10.92	.40	.54	.67	126.7	37.1	11.84	.41	.55	.69	119.5	35.0	12.75	.41	.56	.72
	4800	2265	143.7	42.1	10.13	.41	.56	.71	136.4	40.0	11.02	.41	.57	.73	129.0	37.8	11.94	.42	.58	.76	121.5	35.6	12.87	.42	.60	.79

COOLING RATINGS - LCA/LGA MODELS

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

LCA/LGA120H - HIGH EFFICIENCY - COOLING CAPACITY - ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	65.6	19.2	3.05	.64	.79	.95	63.7	18.7	3.42	.65	.81	.96	61.6	18.1	3.85	.66	.82	.98	59.5	17.4	4.35	.67	.84	.99
	4000	1890	68.2	20.0	3.07	.69	.88	1.00	66.1	19.4	3.44	.71	.90	1.00	64.0	18.8	3.88	.72	.92	1.00	61.8	18.1	4.38	.74	.94	1.00
	4800	2265	70.3	20.6	3.09	.76	.96	1.00	68.2	20.0	3.46	.77	.97	1.00	66.1	19.4	3.90	.79	.99	1.00	63.9	18.7	4.41	.81	1.00	1.00
67°F (19°C)	3200	1510	69.6	20.4	3.08	.51	.62	.75	67.5	19.8	3.46	.51	.63	.77	65.4	19.2	3.89	.52	.64	.78	63.1	18.5	4.40	.52	.65	.80
	4000	1890	71.9	21.1	3.11	.53	.67	.84	69.7	20.4	3.48	.54	.68	.86	67.4	19.8	3.92	.55	.69	.88	65.0	19.0	4.42	.55	.71	.90
	4800	2265	73.5	21.5	3.12	.56	.73	.92	71.2	20.9	3.50	.57	.75	.94	68.9	20.2	3.94	.58	.76	.96	66.4	19.5	4.44	.59	.78	.98
71°F (22°C)	3200	1510	74.2	21.7	3.13	.38	.49	.60	72.0	21.1	3.50	.38	.49	.61	69.6	20.4	3.94	.39	.50	.61	67.1	19.7	4.45	.39	.51	.62
	4000	1890	76.4	22.4	3.15	.39	.52	.65	74.1	21.7	3.52	.39	.53	.66	71.6	21.0	3.96	.40	.53	.67	69.0	20.2	4.48	.40	.54	.68
	4800	2265	77.9	22.8	3.16	.40	.55	.70	75.4	22.1	3.54	.41	.56	.72	72.9	21.4	3.98	.41	.57	.74	70.2	20.6	4.49	.41	.58	.76

LCA/LGA120H - HIGH EFFICIENCY - COOLING CAPACITY - ALL COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	121.1	35.5	7.75	.67	.82	.97	117.0	34.3	8.77	.68	.84	.98	112.6	33.0	9.93	.69	.86	.99	107.9	31.6	11.25	.71	.88	1.00
	4000	1890	125.9	36.9	7.81	.73	.91	1.00	121.6	35.6	8.82	.74	.93	1.00	116.9	34.3	9.99	.76	.95	1.00	112.2	32.9	11.31	.78	.97	1.00
	4800	2265	129.9	38.1	7.85	.79	.97	1.00	125.5	36.8	8.88	.81	.99	1.00	121.1	35.5	10.04	.83	1.00	1.00	116.4	34.1	11.37	.85	1.00	1.00
67°F (19°C)	3200	1510	128.6	37.7	7.83	.53	.65	.78	124.1	36.4	8.87	.53	.66	.80	119.3	35.0	10.02	.54	.67	.82	114.3	33.5	11.36	.55	.68	.84
	4000	1890	132.7	38.9	7.90	.56	.70	.87	128.0	37.5	8.91	.56	.71	.89	123.0	36.0	10.09	.57	.73	.91	117.6	34.5	11.41	.58	.75	.94
	4800	2265	135.7	39.8	7.93	.59	.76	.95	130.8	38.3	8.95	.60	.78	.97	125.6	36.8	10.14	.61	.80	.98	120.2	35.2	11.46	.62	.83	.99
71°F (22°C)	3200	1510	136.9	40.1	7.94	.40	.51	.63	132.1	38.7	8.97	.40	.52	.64	127.1	37.2	10.14	.40	.52	.65	121.8	35.7	11.46	.40	.53	.66
	4000	1890	141.0	41.3	7.99	.41	.54	.68	135.9	39.8	9.02	.41	.55	.69	130.6	38.3	10.20	.41	.56	.71	124.9	36.6	11.53	.42	.57	.73
	4800	2265	143.6	42.1	8.02	.42	.58	.74	138.4	40.6	9.06	.42	.59	.76	133.0	39.0	10.24	.43	.60	.78	127.0	37.2	11.56	.43	.61	.80

LCA/LGA150S - STANDARD EFFICIENCY - COOLING CAPACITY - ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3800	1795	75.6	22.2	4.37	.64	.79	.93	73.5	21.5	4.89	.64	.80	.94	71.3	20.9	5.48	.65	.81	.96	68.9	20.2	6.15	.66	.83	.97
	4400	2075	77.3	22.7	4.41	.66	.83	.97	75.2	22.0	4.93	.67	.85	.98	72.9	21.4	5.52	.69	.86	.99	70.5	20.7	6.19	.70	.88	1.00
	5000	2360	78.8	23.1	4.45	.70	.88	1.00	76.6	22.4	4.97	.71	.89	1.00	74.3	21.8	5.55	.72	.91	1.00	71.8	21.0	6.23	.74	.93	1.00
67°F (19°C)	3800	1795	80.1	23.5	4.47	.50	.61	.75	77.8	22.8	4.99	.51	.62	.76	75.5	22.1	5.58	.51	.63	.77	72.9	21.4	6.25	.51	.64	.79
	4400	2075	81.6	23.9	4.51	.52	.64	.80	79.3	23.2	5.03	.52	.65	.81	76.8	22.5	5.61	.53	.66	.83	74.2	21.7	6.28	.53	.67	.85
	5000	2360	82.9	24.3	4.54	.53	.67	.84	80.5	23.6	5.05	.54	.68	.86	78.0	22.9	5.64	.54	.70	.88	75.3	22.1	6.31	.55	.71	.90
71°F (22°C)	3800	1795	84.9	24.9	4.59	.38	.49	.59	82.6	24.2	5.11	.38	.49	.60	80.1	23.5	5.70	.38	.49	.61	77.4	22.7	6.37	.38	.50	.62
	4400	2075	86.5	25.4	4.63	.39	.50	.62	84.1	24.6	5.14	.39	.51	.63	81.5	23.9	5.73	.39	.51	.64	78.7	23.1	6.40	.39	.52	.65
	5000	2360	87.8	25.7	4.66	.39	.52	.65	85.2	25.0	5.17	.39	.53	.66	82.6	24.2	5.77	.40	.53	.67	79.8	23.4	6.44	.40	.54	.69

LCA/LGA150S - STANDARD EFFICIENCY - COOLING CAPACITY - ALL COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3800	1795	139.4	40.9	11.02	.66	.81	.95	134.7	39.5	12.36	.67	.83	.96	129.6	38.0	13.90	.68	.85	.98	124.3	36.4	15.62	.70	.87	.99
	4400	2075	142.6	41.8	11.09	.69	.86	.99	137.8	40.4	12.45	.71	.88	1.00	132.7	38.9	13.98	.72	.90	1.00	127.1	37.2	15.71	.74	.92	1.00
	5000	2360	145.3	42.6	11.16	.73	.91	1.00	140.4	41.1	12.52	.74	.92	1.00	135.3	39.7	14.06	.76	.94	1.00	129.8	38.0	15.79	.78	.96	1.00
67°F (19°C)	3800	1795	147.7	43.3	11.22	.52	.64	.78	142.6	41.8	12.57	.53	.65	.79	137.2	40.2	14.10	.53	.66	.81	131.4	38.5	15.83	.54	.67	.83
	4400	2075	150.3	44.0	11.28	.54	.67	.83	145.2	42.6	12.64	.54	.68	.84	139.7	40.9	14.17	.55	.70	.86	133.8	39.2	15.91	.56	.71	.89
	5000	2360	152.6	44.7	11.34	.55	.70	.87	147.3	43.2	12.70	.56	.72	.89	141.7	41.5	14.23	.57	.74	.91	135.6	39.7	15.99	.58	.76	.93
71°F (22°C)	3800	1795	156.6	45.9	11.46	.39	.51	.62	151.4	44.4	12.81	.39	.51	.63	145.7	42.7	14.35	.40	.52	.64	139.6	40.9	16.10	.40	.53	.65
	4400	2075	159.5	46.7	11.53	.40	.52	.65	154.0	45.1	12.88	.40	.53	.66	148.2	43.4	14.43	.40	.54	.67	142.0	41.6	16.18	.41	.55	.69
	5000	2360	161.7	47.4	11.60	.41	.54	.68	156.1	45.7	12.96	.41	.55	.69	150.1	44.0	14.50	.41	.56	.71	143.8	42.1	16.25	.42	.57	.73

COOLING AND HEATING RATINGS - LHA MODELS

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

LHA120H - HIGH EFFICIENCY - COOLING CAPACITY - ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	63.4	18.6	3.10	.66	.81	.96	61.6	18.1	3.48	.67	.83	.97	59.6	17.5	3.93	.68	.84	.99	57.5	16.9	4.44	.69	.86	1.00
	4000	1890	66.0	19.3	3.12	.72	.90	1.00	64.0	18.8	3.50	.73	.91	1.00	61.9	18.1	3.95	.74	.93	1.00	59.8	17.5	4.47	.76	.95	1.00
	4800	2265	68.0	19.9	3.14	.78	.97	1.00	66.1	19.4	3.52	.79	.98	1.00	64.1	18.8	3.97	.81	.99	1.00	62.0	18.2	4.49	.83	1.00	1.00
67°F (19°C)	3200	1510	67.4	19.8	3.13	.52	.64	.77	65.4	19.2	3.52	.53	.65	.79	63.2	18.5	3.97	.53	.66	.80	61.0	17.9	4.48	.54	.67	.82
	4000	1890	69.6	20.4	3.16	.55	.69	.86	67.5	19.8	3.54	.56	.70	.88	65.2	19.1	3.99	.56	.72	.90	62.9	18.4	4.50	.57	.73	.92
	4800	2265	71.2	20.9	3.17	.58	.75	.94	69.0	20.2	3.55	.59	.77	.95	66.7	19.5	4.00	.60	.79	.97	64.2	18.8	4.52	.61	.81	.99
71°F (22°C)	3200	1510	71.9	21.1	3.18	.39	.51	.62	69.7	20.4	3.56	.40	.51	.63	67.4	19.8	4.01	.40	.52	.64	65.0	19.0	4.53	.40	.52	.65
	4000	1890	74.1	21.7	3.20	.40	.54	.67	71.7	21.0	3.58	.41	.54	.68	69.3	20.3	4.03	.41	.55	.69	66.8	19.6	4.55	.41	.56	.71
	4800	2265	75.5	22.1	3.21	.41	.57	.73	73.1	21.4	3.60	.42	.58	.74	70.6	20.7	4.04	.42	.59	.76	68.0	19.9	4.57	.43	.60	.78

LHA120H - HIGH EFFICIENCY - COOLING CAPACITY - BOTH COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	L/s	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	117.4	34.4	7.76	.70	.85	.98	113.2	33.2	8.78	.71	.86	.99	108.9	31.9	9.94	.72	.88	1.00	104.1	30.5	11.26	.74	.91	1.00
	4000	1890	122.0	35.8	7.80	.75	.93	1.00	117.8	34.5	8.83	.77	.95	1.00	113.2	33.2	10.00	.79	.97	1.00	108.4	31.8	11.32	.81	.99	1.00
	4800	2265	126.1	37.0	7.85	.81	.99	1.00	121.9	35.7	8.87	.83	1.00	1.00	117.5	34.4	10.05	.85	1.00	1.00	112.9	33.1	11.38	.88	1.00	1.00
67°F (19°C)	3200	1510	124.6	36.5	7.84	.55	.68	.81	120.2	35.2	8.85	.55	.69	.83	115.4	33.8	10.03	.56	.70	.85	110.3	32.3	11.35	.57	.71	.87
	4000	1890	128.6	37.7	7.88	.58	.73	.89	124.0	36.3	8.90	.59	.74	.91	118.9	34.8	10.08	.60	.76	.94	113.6	33.3	11.41	.61	.78	.96
	4800	2265	131.5	38.5	7.91	.61	.79	.96	126.6	37.1	8.94	.62	.81	.98	121.5	35.6	10.12	.63	.83	.99	116.1	34.0	11.44	.65	.85	1.00
71°F (22°C)	3200	1510	132.9	38.9	7.92	.41	.53	.65	128.1	37.5	8.95	.41	.54	.66	123.1	36.1	10.13	.41	.54	.67	117.8	34.5	11.45	.42	.55	.69
	4000	1890	136.7	40.1	7.97	.42	.57	.71	131.7	38.6	9.00	.42	.57	.72	126.4	37.0	10.18	.43	.58	.74	120.8	35.4	11.51	.43	.59	.76
	4800	2265	139.3	40.8	7.99	.43	.60	.77	134.1	39.3	9.04	.44	.61	.79	128.6	37.7	10.22	.44	.62	.81	122.8	36.0	11.54	.45	.64	.83

LHA120H - HIGH EFFICIENCY - HEATING CAPACITY

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil															
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-28°C)		
		Total Heating Capacity		Comp. Motor Watts Input	Total Heating Capacity		Comp. Motor Watts Input	Total Heating Capacity		Comp. Motor Watts Input	Total Heating Capacity		Comp. Motor Watts Input	Total Heating Capacity		Comp. Motor Watts Input
L/s	cfm	kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh		kW	Btuh	
1510	3200	42.7	145,700	9430	32.9	112,200	8840	22.6	77,200	8225	15.5	53,000	7450	7.8	26,700	5630
1890	4000	43.1	147,200	8650	33.3	113,700	8060	23.1	78,700	7445	16.0	54,500	6670	8.3	28,200	4850
2265	4800	44.2	150,700	8230	34.3	117,200	7640	24.1	82,200	7025	17.0	58,000	6250	9.3	31,700	4430

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

LHA120H - HEATING PERFORMANCE at 4000 cfm (1890 L/s) Indoor Coil Air Volume

*Outdoor Temperature		Compressor Motor Watts Input	Total Output	
°F	°C		Btuh	kW
65	18	8650	147,200	43.1
60	16	8510	139,400	40.9
55	13	8370	131,500	38.5
50	10	8235	123,700	36.3
47	8	8150	119,000	34.9
45	7	8060	113,700	33.3
40	4	7830	100,300	29.4
35	2	7600	87,000	25.5
30	-1	7520	82,800	24.3
25	-4	7445	78,700	23.1
20	-7	7365	74,500	21.8
17	-8	7320	72,000	21.1
15	-9	7265	68,900	20.2
10	-12	7125	61,000	17.9
5	-15	6670	54,500	16.0
0	-18	6215	47,900	14.0
-5	-21	5760	41,300	12.1
-10	-23	5305	34,700	10.2
-15	-26	4850	28,200	8.3
-20	-29	4390	21,600	6.3

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

BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR <u>LCA102 BASE UNIT ONLY</u> WITH DRY INDOOR COIL & AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:

1 - Wet indoor coil air resistance of selected unit.
2 - Any factory installed options air resistance (heat section, economizer, etc.)
3 - Any field installed accessories air resistance (duct resistance, diffuser, etc.)

Then determine from blower table blower motor output and drive required.
See Page 24 for wet coil and option/accessory air resistance data.

MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT

LCA102 requires 3000 cfm (1415 L/s) minimum air with electric heat.
LCA120 & LCA150 models require 4000 cfm (1890 L/s) minimum air with electric heat.

BOLD ITALIC INDICATES FIELD FURNISHED DRIVE

Air Volume cfm (L/s)	Total Static Pressure - in. w.g. (Pa)											
	.20 (50)	.40 (100)	.60 (150)	.80 (200)	1.00 (250)	1.20 (300)	1.40 (350)	1.60 (400)	1.80 (450)	2.00 (495)	2.20 (545)	2.40 (595)	2.60 (645)
	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)
2250 (1060)	***455 0.30 (0.22)***	***555 0.45 (0.34)***	***640 0.60 (0.45)***	720 0.80 (0.60)	790 1.00 (0.75)	855 1.20 (0.90)	915 1.40 (1.04)	975 1.60 (1.19)	1030 1.85 (1.38)	1080 2.05 (1.53)	1130 2.30 (1.72)	1175 2.55 (1.90)	1220 2.80 (2.09)
2500 (1180)	***475 0.40 (0.30)***	***575 0.55 (0.41)***	***660 0.70 (0.52)***	735 0.90 (0.67)	805 1.10 (0.82)	870 1.30 (0.97)	930 1.55 (1.16)	985 1.75 (1.31)	1040 2.00 (1.49)	1090 2.25 (1.68)	1140 2.50 (1.87)	1185 2.75 (2.05)	1230 3.00 (2.24)
2750 (1300)	***495 0.45 (0.34)***	***595 0.65 (0.48)***	***675 0.85 (0.63)***	750 1.05 (0.78)	820 1.25 (0.93)	885 1.45 (1.08)	940 1.70 (1.27)	995 1.90 (1.42)	1050 2.20 (1.64)	1100 2.45 (1.83)	1145 2.65 (1.98)	1195 2.95 (2.20)	1240 3.25 (2.42)
3000 (1415)	***525 0.55 (0.41)***	***615 0.75 (0.56)***	695 0.95 (0.71)	770 1.20 (0.90)	835 1.40 (1.04)	895 1.60 (1.19)	955 1.85 (1.38)	1010 2.10 (1.57)	1060 2.35 (1.75)	1110 2.65 (1.98)	1160 2.90 (2.16)	1205 3.20 (2.39)	1250 3.45 (2.57)
3250 (1535)	***550 0.65 (0.48)***	***640 0.90 (0.67)***	715 1.10 (0.82)	790 1.35 (1.01)	855 1.60 (1.19)	915 1.80 (1.34)	970 2.05 (1.53)	1025 2.35 (1.75)	1075 2.60 (1.94)	1125 2.85 (2.13)	1170 3.15 (2.35)	1215 3.40 (2.54)	1260 3.70 (2.76)
3500 (1650)	***580 0.80 (0.60)***	***665 1.05 (0.78)***	740 1.25 (0.93)	810 1.50 (1.12)	870 1.75 (1.31)	930 2.00 (1.49)	985 2.25 (1.68)	1040 2.55 (1.90)	1090 2.85 (2.13)	1135 3.10 (2.31)	1185 3.40 (2.54)	1230 3.70 (2.76)	1270 4.00 (2.98)
3750 (1770)	***605 0.95 (0.71)***	690 1.20 (0.90)	760 1.45 (1.08)	830 1.70 (1.27)	890 1.95 (1.45)	950 2.25 (1.68)	1005 2.50 (1.87)	1055 2.80 (2.09)	1105 3.10 (2.31)	1150 3.35 (2.50)	1195 3.65 (2.72)	1240 3.95 (2.95)	1285 4.30 (3.21)
4000 (1890)	***635 1.10 (0.82)***	715 1.40 (1.04)	785 1.65 (1.23)	850 1.90 (1.42)	910 2.20 (1.64)	965 2.45 (1.83)	1020 2.75 (2.05)	1070 3.05 (2.28)	1120 3.35 (2.50)	1165 3.65 (2.72)	1210 3.95 (2.95)	1255 4.30 (3.21)	1295 4.60 (3.43)
4250 (2005)	***665 1.30 (0.97)***	740 1.60 (1.19)	810 1.85 (1.38)	870 2.15 (1.60)	930 2.45 (1.83)	985 2.75 (2.05)	1040 3.05 (2.28)	1090 3.35 (2.50)	1135 3.65 (2.72)	1185 4.00 (2.98)	1225 4.30 (3.21)	1270 4.65 (3.47)	1310 4.95 (3.69)
4500 (2125)	695 1.50 (1.12)	770 1.80 (1.34)	835 2.10 (1.57)	895 2.40 (1.79)	955 2.70 (2.01)	1005 3.00 (2.24)	1060 3.35 (2.50)	1105 3.65 (2.72)	1155 4.00 (2.98)	1200 4.30 (3.21)	1245 4.65 (3.47)	1285 5.00 (3.73)	1325 5.30 (3.95)
4750 (2240)	725 1.75 (1.31)	795 2.05 (1.53)	860 2.40 (1.79)	920 2.70 (2.01)	975 3.00 (2.24)	1030 3.35 (2.50)	1080 3.65 (2.72)	1125 3.95 (2.95)	1175 4.35 (3.25)	1215 4.65 (3.47)	1260 5.00 (3.73)	1300 5.35 (3.99)	1340 5.70 (4.25)
5000 (2360)	760 2.05 (1.53)	825 2.35 (1.75)	885 2.65 (1.98)	945 3.00 (2.24)	1000 3.35 (2.50)	1050 3.65 (2.72)	1100 4.00 (2.98)	1145 4.35 (3.25)	1190 4.70 (3.51)	1235 5.05 (3.77)	1280 5.45 (4.07)	- - - -	- - - -
5250 (2475)	790 2.30 (1.72)	855 2.65 (1.98)	910 2.95 (2.20)	970 3.35 (2.50)	1020 3.65 (2.72)	1070 4.00 (2.98)	1120 4.35 (3.25)	1165 4.70 (3.51)	1210 5.10 (3.80)	1255 5.45 (4.07)	- - - -	- - - -	- - - -
5500 (2595)	820 2.60 (1.94)	880 2.95 (2.20)	940 3.30 (2.46)	995 3.70 (2.76)	1045 4.05 (3.02)	1095 4.40 (3.28)	1145 4.80 (3.58)	1190 5.15 (3.84)	1230 5.50 (4.10)	- - - -	- - - -	- - - -	- - - -
5750 (2715)	850 2.95 (2.20)	910 3.30 (2.46)	965 3.70 (2.76)	1020 4.05 (3.02)	1070 4.45 (3.32)	1120 4.80 (3.58)	1165 5.20 (3.88)	1210 5.60 (4.18)	- - - -	- - - -	- - - -	- - - -	- - - -
6000 (2830)	885 3.35 (2.50)	940 3.70 (2.76)	995 4.10 (3.06)	1045 4.45 (3.32)	1095 4.85 (3.62)	1145 5.25 (3.92)	1190 5.65 (4.21)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -

FACTORY INSTALLED DRIVE KIT SPECIFICATIONS

Motor Outputs				RPM Range					
Nominal hp	Maximum hp	Nominal kW	Maximum kW	Drive 1	Drive 2	Drive 3	Drive 4	Drive 5	Drive 6
2	2.3	1.5	1.7	680 - 940	- - - -	850 - 1130	- - - -	- - - -	- - - -
3 Standard	3.45	2.2	2.6	680 - 940	- - - -	850 - 1130	- - - -	1105 - 1410	- - - -
3 High Efficiency	3.45	2.2	2.6	- - - -	680 - 895	- - - -	895 - 1120	- - - -	1110 - 1395
5	5.75	3.7	4.3	- - - -	- - - -	- - - -	895 - 1120	- - - -	1110 - 1395

NOTE — Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished by Lennox are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

BLOWER DATA

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE

Air Volume		Total Resistance — inches water gauge (Pa)					
		Wet Indoor Coil		Gas Heat Exchanger (LGA Models)		Electric Heat (LCA/LHA Models)	Economizer
cfm	L/s	102S, 102H, 120S, 150S	120H	Low Fire	High Fire		
2250	1060	.06 (15)	.10 (25)	.05 (12)	.09 (22)	.01 (2)	.035 (9)
2500	1180	.08 (20)	.12 (30)	.05 (12)	.11 (27)	.01 (2)	.04 (10)
2750	1300	.09 (22)	.14 (35)	.06 (15)	.13 (32)	.01 (2)	.045 (11)
3000	1415	.10 (25)	.16 (40)	.07 (17)	.16 (40)	.02 (5)	.05 (12)
3250	1535	.11 (27)	.19 (47)	.08 (20)	.19 (47)	.02 (5)	.06 (15)
3500	1650	.13 (32)	.21 (52)	.09 (22)	.22 (55)	.03 (7)	.07 (17)
3750	1770	.14 (35)	.23 (57)	.10 (25)	.26 (65)	.03 (7)	.075 (19)
4000	1890	.16 (40)	.26 (65)	.11 (27)	.30 (75)	.04 (10)	.08 (20)
4250	2005	.17 (42)	.28 (70)	.12 (30)	.34 (85)	.04 (10)	.09 (22)
4500	2125	.18 (45)	.31 (77)	.13 (32)	.38 (94)	.05 (12)	.10 (25)
4750	2240	.20 (50)	.33 (82)	.14 (35)	.42 (104)	.05 (12)	.11 (27)
5000	2360	.22 (55)	.36 (90)	.16 (40)	.47 (117)	.06 (15)	.12 (30)
5250	2475	.24 (60)	.39 (97)	.18 (45)	.52 (129)	.06 (15)	.13 (32)
5500	2595	.26 (65)	.42 (104)	.20 (50)	.57 (142)	.07 (17)	.14 (35)
5750	2715	.28 (70)	.45 (112)	.22 (55)	.62 (154)	.07 (17)	.15 (37)
6000	2830	.30 (75)	.48 (119)	.24 (60)	.68 (169)	.08 (20)	.16 (40)

CEILING DIFFUSER AIR RESISTANCE

Unit Size	Air Volume		Total Resistance — inches water gauge (Pa)			
			RTD11 Step-Down Diffuser			FD11 Flush Diffuser
	cfm	L/s	2 Ends Open	1 Side, 2 Ends Open	All Ends & Sides Open	
102 & 120 Models	3600	1700	.36 (90)	.28 (70)	.23 (57)	.15 (37)
	3800	1795	.40 (99)	.32 (80)	.26 (65)	.18 (45)
	4000	1890	.44 (109)	.36 (90)	.29 (72)	.21 (52)
	4200	1980	.49 (122)	.40 (99)	.33 (82)	.24 (60)
	4400	2075	.54 (134)	.44 (109)	.37 (92)	.27 (67)
	4600	2170	.60 (149)	.49 (122)	.42 (104)	.31 (77)
	4800	2265	.65 (162)	.53 (132)	.46 (114)	.35 (87)
	5000	2360	.69 (172)	.58 (144)	.50 (124)	.39 (97)
	5200	2455	.75 (186)	.62 (154)	.54 (134)	.43 (107)
150 Models	4200	1980	.22 (55)	.19 (47)	.16 (40)	.10 (25)
	4400	2075	.28 (70)	.24 (60)	.20 (50)	.12 (30)
	4600	2170	.34 (85)	.29 (72)	.24 (60)	.15 (37)
	4800	2265	.40 (99)	.34 (85)	.29 (72)	.19 (47)
	5000	2360	.46 (114)	.39 (97)	.34 (85)	.23 (57)
	5200	2455	.52 (129)	.44 (109)	.39 (97)	.27 (67)
	5400	2550	.58 (144)	.49 (122)	.43 (107)	.31 (77)
	5600	2645	.64 (159)	.54 (134)	.47 (117)	.35 (87)
	5800	2735	.70 (174)	.59 (147)	.51 (127)	.39 (97)

POWER EXHAUST FANS PERFORMANCE

Return Air System Static Pressure		Air Volume Exhausted	
in. w.g.	Pa	cfm	L/s
0	0	4200	1980
0.05	12	3970	1875
0.10	25	3750	1770
0.15	37	3520	1660
0.20	50	3300	1560
0.25	62	3080	1455
0.30	75	2860	1350
0.35	87	2640	1245

CEILING DIFFUSER AIR THROW DATA

Model No.	Air Volume		*Effective Throw Range			
			RTD11 Step-Down		FD11 Flush	
	cfm	L/s	ft.	m	ft.	m
102 & 120 Models	4400	2075	34 - 42	10 - 13	32 - 40	10 - 12
	4950	2335	38 - 47	12 - 14	36 - 45	11 - 14
	5500	2595	43 - 52	13 - 16	40 - 50	12 - 15
150 Models	4200	1980	39 - 46	12 - 14	40 - 48	12 - 15
	5000	2360	41 - 50	12 - 15	43 - 52	13 - 16
	5800	2735	43 - 52	13 - 16	45 - 54	14 - 16

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

GUIDE SPECIFICATIONS – ALL MODELS

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

General *— Furnish and install a single package air to air DX mechanical cooling system, cooling and gas fired heating system or heat pump system, complete with automatic controls. The single package unit shall be a standard product of a firm regularly engaged in the manufacture of heating-cooling equipment. The manufacturer shall have parts and service available throughout the U.S. and Canada.*

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

Air Distribution *— Equipment shall be capable of bottom (down-flow) or side (horizontal) handling of conditioned air. Horizontal air shall require optional horizontal conversion kit. All air distribution ducts shall be fiberglass or ga. galvanized steel insulated with inch (mm) thick lb./ft.^{3} (kg/m^3) density fiberglass or equivalent.*

Approvals *— All electrical components shall have E.T.L. and C.G.A. Listing. All wiring shall be in compliance with NEC and CEC.*

Equipment Warranty *— Heat Exchangers shall have a limited warranty for a full ten years (LGA Models). Compressors have a limited warranty for a full five years. All other components have a limited warranty for one year. Refer to the Lennox Equipment Limited Warranty certificate included with the unit for details.*

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

The coils shall be non-ferrous construction with aluminum fins mechanically bonded to durable copper tubes. Coils shall be pressure leak tested. Coil face area shall be not less than sq. ft. (m^2) (indoor coil) and sq. ft. (m^2) (outdoor coil). Outdoor coils shall be slab coil construction (LCA/LGA models) and formed coil construction (LHA models).

Compressors shall be resiliently mounted, have overload protection and crankcase heaters. The refrigeration system shall have discharge suction and liquid line gauge ports, high pressure switches, low pressure switches, driers, freezestat, defrost control (LHA), check and expansion valves (LHA), reversing valves (LHA), accumulators (LHA) and full refrigerant charge. Optional service valves shall be available (LCA/LGA only). All models shall have low ambient operation down to 0°F (-17.7°C). All models shall be rated in accordance with ARI Standards 210/240-94 or 340/360-93 (LCA/LGA) and ARI Standard 240-96 (LHA).

Heating System (LGA Models) *— The heating capacity output shall be Btuh (kW) with a gas input of Btuh (kW).*

Tubular heat exchanger and inshot type gas burners shall be constructed of aluminized steel. Controls shall consist of direct spark ignition, electronic flame sensor controls, flame rollout switch, limit controls and automatic redundant dual gas valve with staging control and combustion air proving switch on induced draft blower. Unit shall be available for use with LPG/propane as an option. Heat exchanger shall be removable for servicing. Complete service access shall be provided for controls and wiring. Shall be E.T.L./C.G.A. design certified for outdoor installation. Optional stainless steel heat exchanger shall be available for applications where mixed air temperature is between 30 and 45°F (-1 and 7°C).

Heating System (LHA Models) *— The total certified heating capacity shall not be less than Btuh (kW) with an indoor coil air volume of cfm (L/s), an entering dry bulb temperature of °F (°C) and an outdoor coil entering air temperature of °F (°C). The total compressor power input shall not exceed kW at the above conditions.*

Cabinet *— Shall be galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal. Cabinet panels where conditioned air is handled shall be fully insulated to prevent sweating and minimize sound. Openings shall be provided for power connection entry. Indoor coil condensate drain extended outside cabinet shall be provided. Lifting holes shall be provided for rigging. Bottom power and gas (LGA) entry shall be furnished.*

Service Access *— Cabinet panels shall be hinged with tool-less access for compressor/heating/controls, blower and air filter/economizer compartments.*

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

Integrated Modular Control (IMC) *— Solid state control board shall be provided to operate unit. Built-in functions shall include: blower on/off delay, built-in control parameter defaults, service relay output, dirty filter switch input, dehumidistat input, economizer control, electric heat staging, ETM compatible, unit diagnosis, diagnostics code storage, gas valve delay between stages, indoor air quality input, low ambient controls, minimum run time, night setback mode, smoke alarm mode, low pressure control, thermostat bounce delay, three digit display, °F or °C display, 2 stage heat/3 stage cool thermostat compatible and warm up mode.*

Outdoor Coil Fans *— Direct drive propeller type outdoor coil fans shall discharge vertically and be direct driven by a hp (W) motor. Fan motor shall have ball bearings and be permanently lubricated and inherently protected. Fans shall have a safety guard.*

Air Filters *— Disposable 2 inch (51 mm) thick pleated filters furnished shall have not less than sq. ft. (m^2) of free area.*

OPTIONAL ACCESSORIES

Additive Electric Heaters (LCA/LHA Models) *— The certified total heating capacity output shall be Btuh with kW input at volts power supply.*

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

Blower Proving Switch *— Furnish and factory install air pressure switch to monitor blower operation.*

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

Coil Guards *— Furnish and install galvanized steel coil guards.*

Control Systems *— Shall provide a selection of control systems to automatically operate the mechanical equipment through the heating or cooling and ventilating cycles as required.*

Corrosion Protection *— Furnish and factory apply phenolic epoxy coating to either or both of the following: Outdoor coils with painted outdoor base section. Indoor coil with painted indoor base section and painted blower housings.*

Dehumidistat *— Furnish and install dehumidistat, relays information to Integrated Modular Control.*

Dirty Filter Switch *— Furnish and install pressure switch that indicates dirty filter, relays information to Integrated Modular Control.*

Disconnect *— Furnish and factory install unit disconnect switch.*

Economizer Section *— Furnish and install economizer complete with recirculated air dampers, outside air dampers and controls. Low leakage dampers shall ride in nylon bearings. The economizer section shall provide for the introduction of outdoor air for minimum ventilation and free cooling. Integrated economizer control shall allow compressors to cycle for additional cooling, as needed. Damper actuator shall be opposing gear driven, 24 volt, fully modulating design. Plug-in control board (on unit IMC board) shall consist of adjustable minimum positioner, enthalpy setpoint and DIP switches for setting type of control logic used. Economizer control options shall consist of sensible temperature, global, outdoor enthalpy and differential enthalpy (outdoor and return air). Optional outdoor air hood (required) with filters shall be galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal. Economizer shall be available for factory or field installation.*

Gravity Exhaust Dampers *— Pressure operated dampers shall be available for factory or field installation. Extruded aluminum dampers shall prevent blow-back and outdoor air infiltration during off cycle. Optional hood shall be available.*

Grille Guards *— Furnish and install heavy gauge guards, shall protect the space between the outdoor coils and the main unit.*

Hail Guards *— Furnish and install heavy gauge, painted steel hail guards.*

High Efficiency Blower Motor *— Furnish and factory install high efficiency blower motor.*

Horizontal Conversion Kit *— Shall be available for all models to provide duct covers to block off unit down-flow supply air opening, horizontal return air opening panel (on unit) is moved to block off down-flow return air opening for horizontal applications.*

Horizontal Gravity Exhaust Dampers *— Pressure operated dampers shall be available for field installation in the return air duct. Extruded aluminum dampers shall prevent blow-back and outdoor air infiltration during off cycle.*

Indoor Air Quality Sensor *— Furnish and field install sensor to monitor CO_2 levels, relays information to Integrated Module Control which adjusts economizer dampers proportionately to the pollutant level.*

Outdoor Air Damper Section *— Optional outdoor dampers shall be available to provide outdoor air requirements of up to 25%. Models shall be available for manual or automatic operation. Dampers shall be opposing gear driven design. Motorized damper section shall install internal to the unit. Optional outdoor air hood (required) with filters shall be galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal. Dampers shall be available for factory or field installation.*

Power Exhaust Fan *— Shall be available for all models with economizer (down-flow applications only). Direct drive propeller type fan shall exhaust air through optional gravity exhaust damper (required). Motor shall be overload protected. Fan shall be factory or field installed between economizer and gravity exhaust dampers.*

Roof Mounting Frame *— Furnish and install a steel roof mounting frame for bottom discharge and return air duct connection. It shall mate to the bottom perimeter of the equipment. When flashed into the roof it shall make a unit mounting curb and provide weatherproof duct connection and entry into the conditioned area. Height of frame shall be inches (mm). Flashing shall be the responsibility of the roofing contractor. Frame shall be approved by U.S. National Roofing Contractors Association.*

Service Outlets *— Furnish and factory install dual 115 volt, 15 amp GFCI type service outlets. Wiring shall be field provided.*

Service Valves (LCA/LGA) *— Furnish and factory install fully serviceable brass service valves in discharge and liquid lines. Shall allow refrigerant pump down to high side of system for servicing of low side.*

Smoke Detectors *— Furnish and factory install photoelectric type smoke detector in either or both return air section and supply air section.*

Terminal Block (LCA/LHA Models) *— Shall be required for units without disconnect switch but with single point power supply and electric heat.*

Unit Fuse Block (LCA/LHA Models) *— Shall be required for units with single point power supply and electric heat.*

DIMENSIONS – INCHES (MM) - LCA MODELS

Shown With Optional Economizer Dampers, Power Exhaust Fans, Convenience Outlet, Unit Disconnect

CORNER WEIGHTS - lbs. (kg)

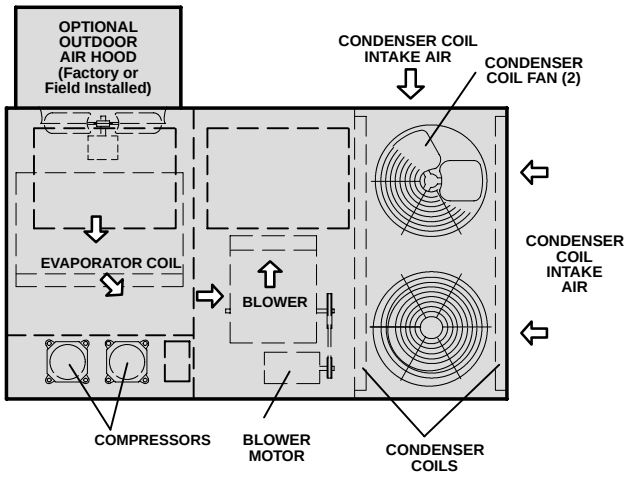
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
LCA102 Base Unit	270	122	250	113	280	127	320	145
LCA102 Max. Unit	340	154	300	136	330	150	380	172
LCA120 Base Unit	270	122	250	113	290	132	320	145
LCA120 Max. Unit	350	159	310	141	340	154	390	177
LCA150 Base Unit	280	127	260	118	290	132	340	154
LCA150 Max. Unit	350	159	300	136	340	154	400	181

Base Unit — The standard unit with NO OPTIONS.
Max. Unit — The standard unit with ALL OPTIONS Installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)

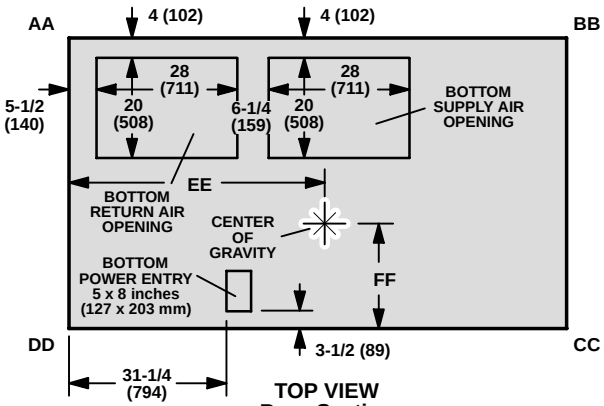
CENTER OF GRAVITY - inches (mm)

Model Number	EE		FF	
	inch	mm	inch	mm
LCA102 Base Unit	47	1194	21-1/2	546
LCA102 Max. Unit	45-1/2	1156	23-1/2	597
LCA120 Base Unit	47	1194	21-1/2	546
LCA120 Max. Unit	45-1/2	1156	23-1/2	597
LCA150 Base Unit	46	1168	21	533
LCA150 Max. Unit	45	1143	23	584

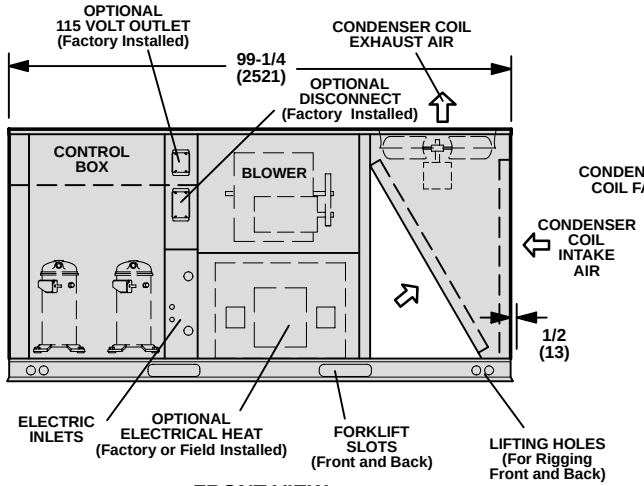
Base Unit — The standard unit with NO OPTIONS.
Max. Unit — The standard unit with ALL OPTIONS Installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)



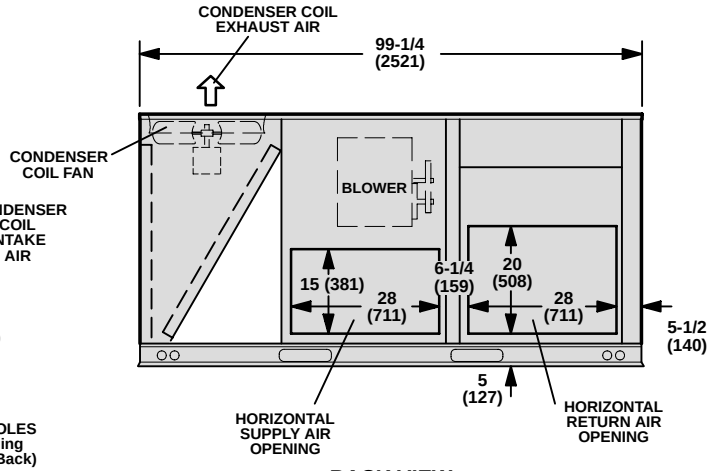
TOP VIEW



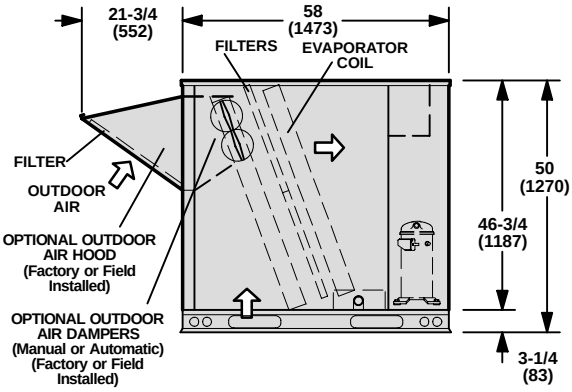
TOP VIEW
Base Section



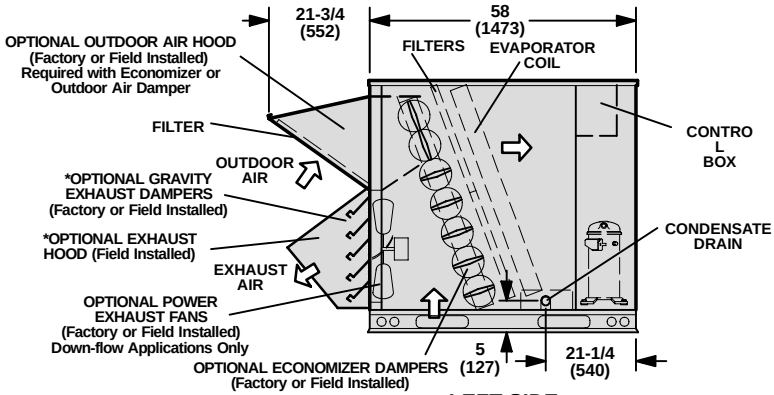
FRONT VIEW



BACK VIEW



LEFT SIDE
(Outdoor Air Dampers)



LEFT SIDE
(Economizer)

***NOTE — Field Installed in Return Air Duct for Horizontal Applications.**

DIMENSIONS – INCHES (MM) - LGA MODELS

Shown With Optional Economizer Dampers, Power Exhaust Fans, Convenience Outlet, Unit Disconnect

CORNER WEIGHTS — lbs. (kg)

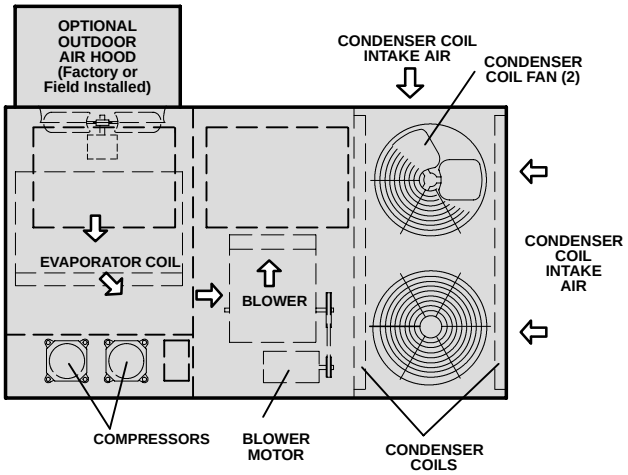
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
LGA102 Base Unit	280	127	260	118	300	136	330	150
LGA102 Max. Unit	350	159	320	145	350	159	400	181
LGA120 Base Unit	290	132	260	118	300	136	330	150
LGA120 Max. Unit	360	163	330	150	360	163	410	186
LGA150 Base Unit	300	136	270	122	300	136	350	159
LGA150 Max. Unit	370	168	320	145	350	159	420	191

Base Unit — The standard unit with NO OPTIONS.
Max. Unit — The standard unit with ALL OPTIONS Installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)

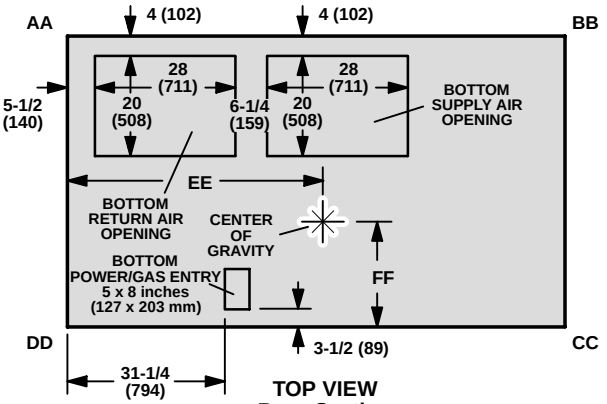
CENTER OF GRAVITY — inches (mm)

Model Number	EE		FF	
	inch	mm	inch	mm
LGA102 Base Unit	47	1194	21-1/2	546
LGA102 Max. Unit	46	1168	23-1/2	597
LGA120 Base Unit	47	1194	21-1/2	546
LGA120 Max. Unit	46	1168	23-1/2	597
LGA150 Base Unit	46	1168	21	533
LGA150 Max. Unit	45	1143	23	584

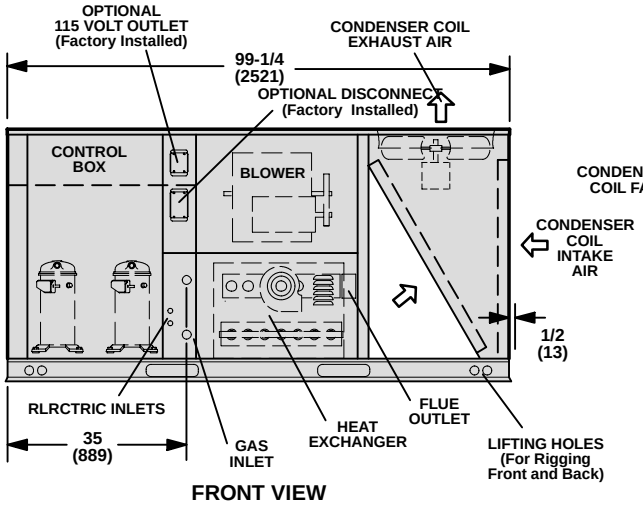
Base Unit — The standard unit with NO OPTIONS.
Max. Unit — The standard unit with ALL OPTIONS Installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)



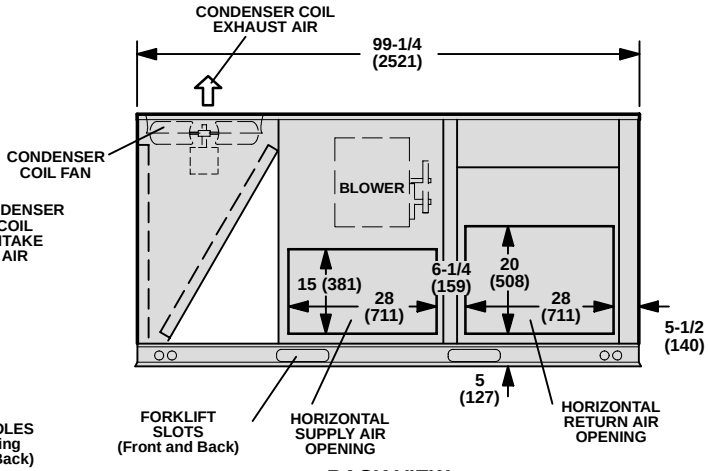
TOP VIEW



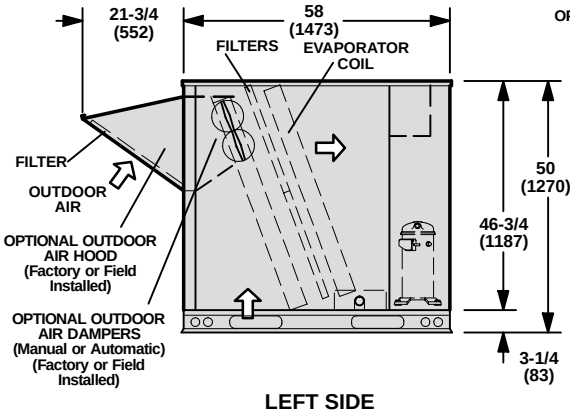
TOP VIEW
Base Section



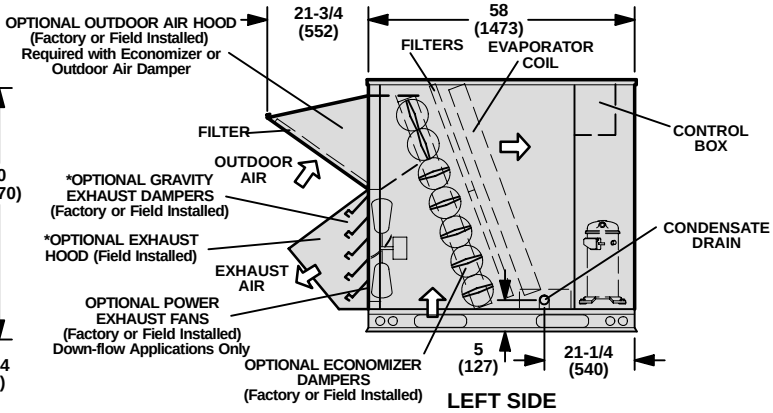
FRONT VIEW



BACK VIEW



LEFT SIDE
(Outdoor Air Dampers)



LEFT SIDE
(Economizer)

*NOTE — Field Installed in Return Air Duct for Horizontal Applications.

DIMENSIONS – INCHES (MM) - LHA MODELS

Shown With Optional Economizer Dampers, Power Exhaust Fans, Convenience Outlet, Unit Disconnect

CORNER WEIGHTS — lbs. (kg)

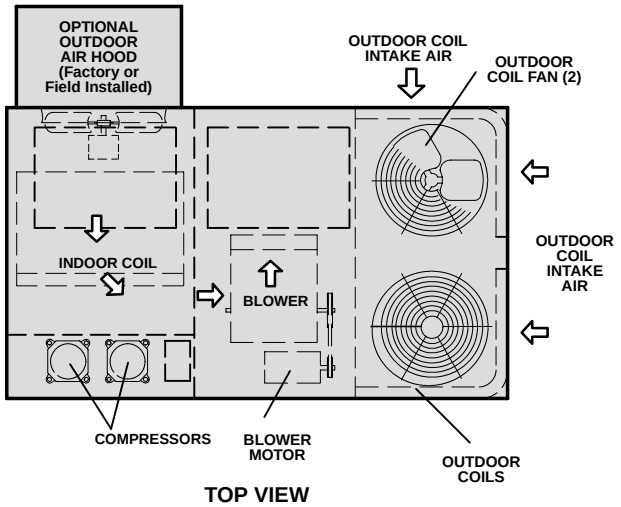
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
LHA120 Base Unit	300	136	270	122	310	141	350	159
LHA120 Max. Unit	360	163	320	145	350	159	410	186

Base Unit — The standard unit with NO OPTIONS.
Max. Unit — The standard unit with ALL OPTIONS Installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)

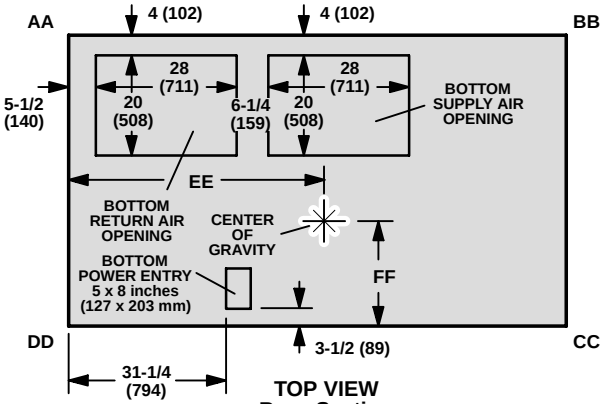
CENTER OF GRAVITY — inches (mm)

Model Number	EE		FF	
	inch	mm	inch	mm
LHA120 Base Unit	46	1168	21-1/2	546
LHA120 Max. Unit	45	1143	24-1/2	622

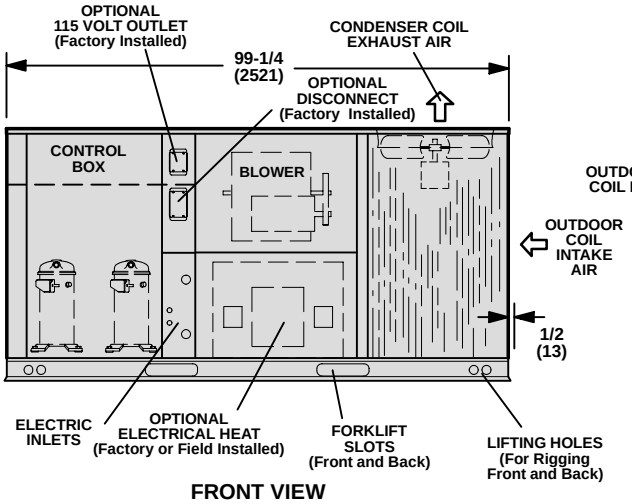
Base Unit — The standard unit with NO OPTIONS.
Max. Unit — The standard unit with ALL OPTIONS Installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)



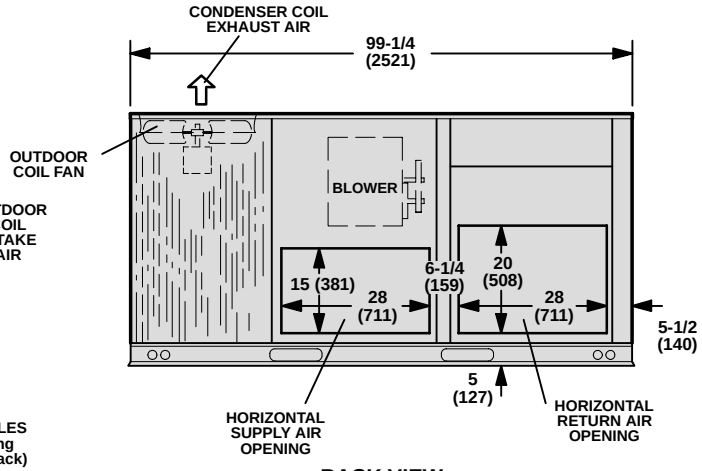
TOP VIEW



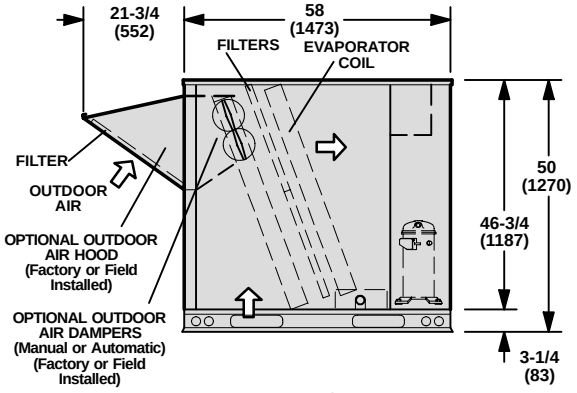
TOP VIEW
Base Section



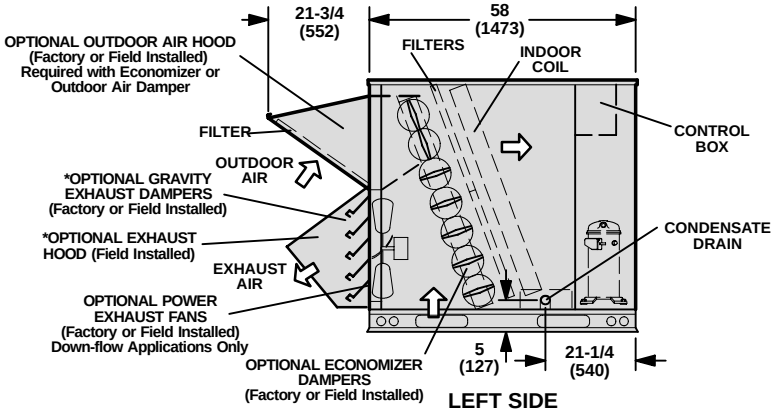
FRONT VIEW



BACK VIEW



LEFT SIDE
(Outdoor Air Dampers)

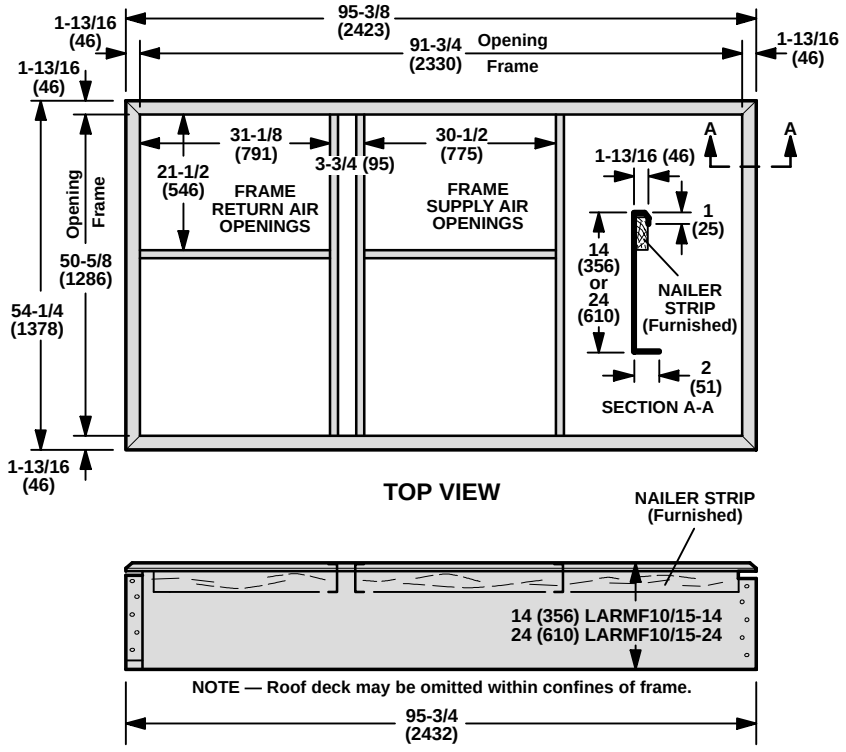


LEFT SIDE
(Economizer)

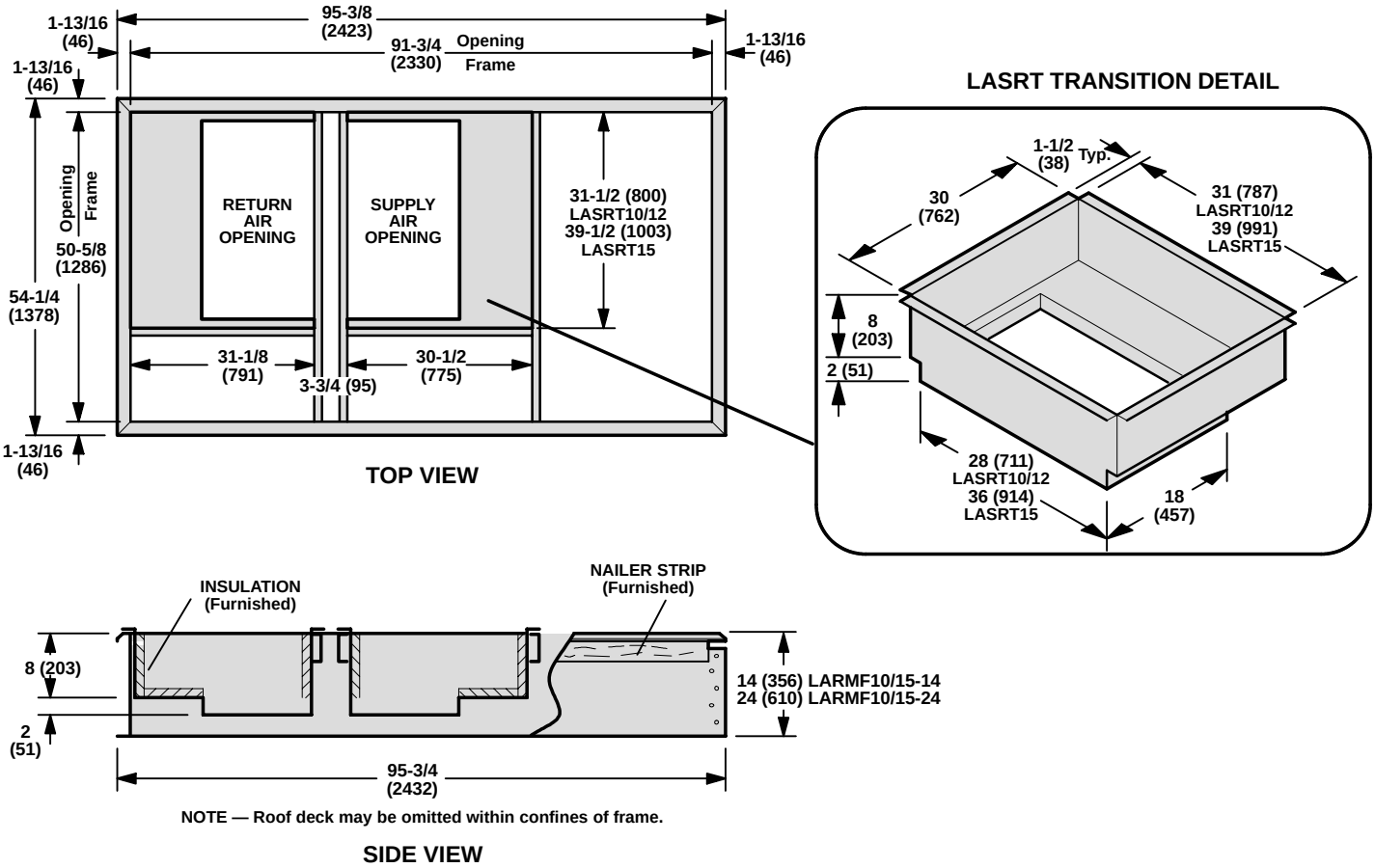
*NOTE — Field Installed in Return Air Duct for Horizontal Applications.

ACCESSORY DIMENSIONS – INCHES (MM)

LARMF10/15-14 and LARMF10/15-24 ROOF MOUNTING FRAMES With Double Duct Opening For 102, 120 & 150 Units



LARMF10/15-14 and LARMF10/15-24 ROOF MOUNTING FRAMES With LASRT Supply & Return Air Transitions For FD11 & RTD11 Ceiling Diffusers



ACCESSORY DIMENSIONS – INCHES (MM)

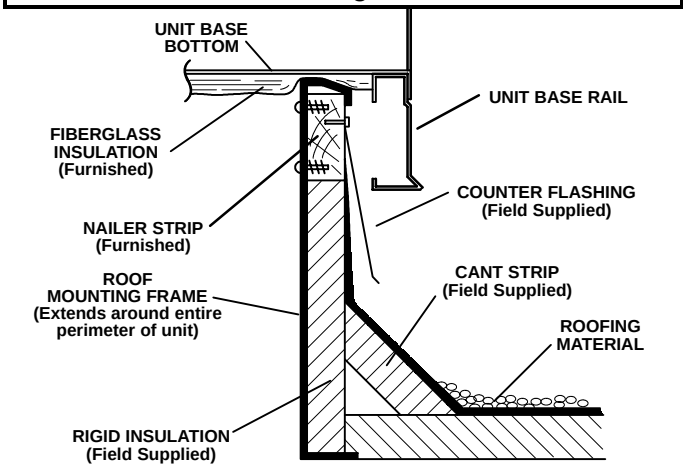
ROOF MOUNTING FRAME SPECIFICATIONS

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

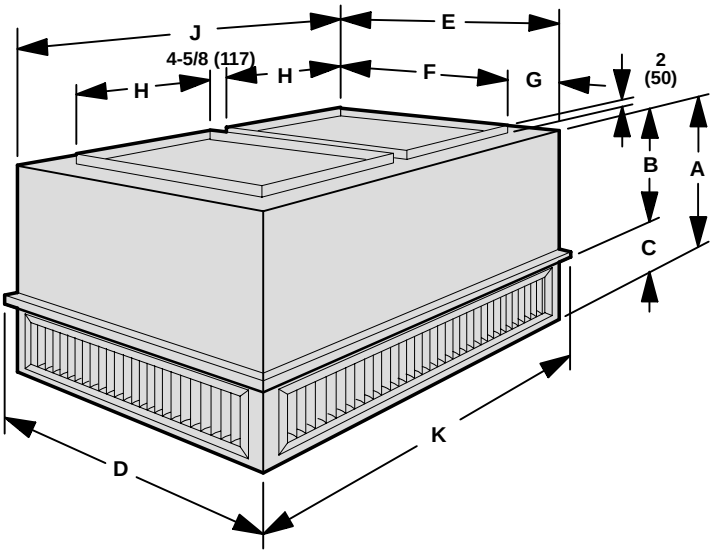
Roof Mounting Frame	LARMF10/15-14	LARMF10/15-24
*Moment of inertia (I) (in.^{4}) (cm^4)	39 (1634)	160 (6639)
*Section modulus $\frac{I}{C}$ (in.^{3}) (cm^3)	5.5 (90)	13.1 (512)
Frame weight. (lb/ft) (kg/m) of length	5.5 (8.2)	8.5 (12.7)
Design strength (psi) (kPa)	20,000 (137,900)	

*Includes both sides of frame.

Typical Flashing Detail for LARMF10/15 Roof Mounting Frames



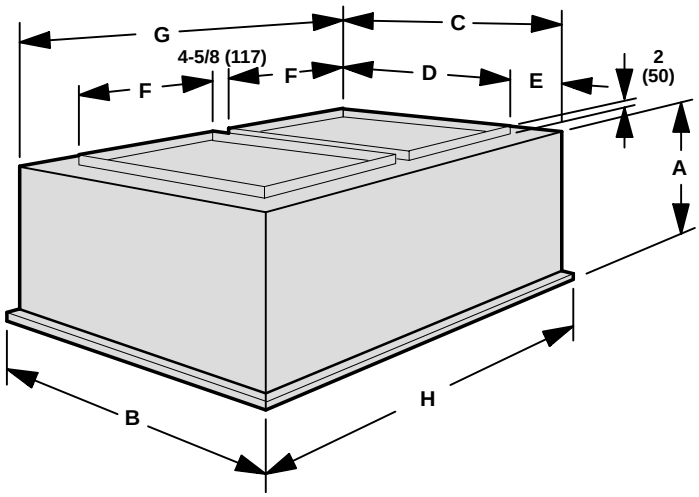
RTD11-135 & RTD11-185 STEP-DOWN CEILING DIFUSER



Model Number	A		B		C		D		E	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RTD11-135	28	711	18-7/8	479	9-1/8	232	35-5/8	905	33-5/8	854
RTD11-185	34	864	23-7/8	606	10-1/8	257	47-5/8	1210	45-5/8	1159

Model Number	F		G		H		J		K	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RTD11-135	28	711	2-13/16	71	18	457	45-5/8	1159	47-5/8	1210
RTD11-185	36	914	4-13/16	122	18	457	45-5/8	1159	47-5/8	1210

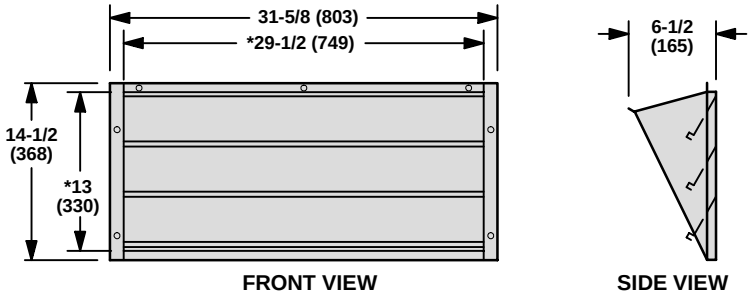
FD11-135 & FD11-185 FLUSH CEILING DIFFUSER



Model Number	A		B		C		D	
	inch	mm	inch	mm	inch	mm	inch	mm
FD11-135	24-1/8	613	35-5/8	905	33-5/8	854	28	711
FD11-185	30-1/8	613	47-5/8	1210	45-5/8	1159	36	914

Model Number	E		F		G		H	
	inch	mm	inch	mm	inch	mm	inch	mm
FD11-135	2-13/16	71	18	457	45-5/8	1159	47-5/8	1210
FD11-185	4-13/16	122	18	457	45-5/8	1159	47-5/8	1210

LAGED03/15 Horizontal Gravity Exhaust Damers - Field Installed in Return Air Duct



FRONT VIEW

SIDE VIEW

*NOTE — Opening size required in return air duct.