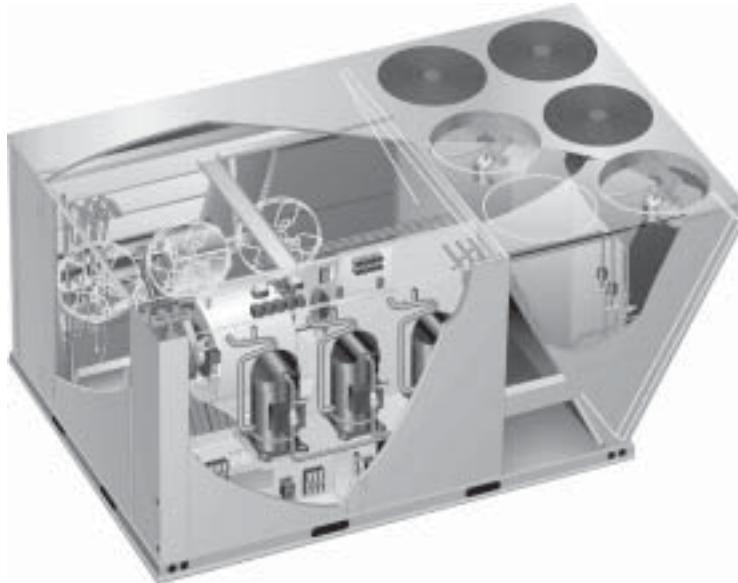


360 Model

30 Ton Cooling Capacity

260,000-470,000 Btuh Gas Input Heating Cap.

76,800-409,500 Btuh Optional Electric Heat



FEATURES

- ◆ Down flow or horizontal supply and return air configuration
- ◆ 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 ETL/CGA (LGA), UL/CSA (LCA), and National and Canadian Electrical Codes, developed in accordance with ISO 9002 quality standards
- ◆ Bottom power entry for electric and gas
- ◆ Heavy gauge galvanized steel cabinet, fully insulated, powdered enamel paint finish, large removable access panels, electrical inlets in cabinet base and electric heat end panel (LCA only), easy access control area with factory installed controls, low voltage terminal strip, unit lifting holes in base rail
- ◆ Access panels hinged with tool-less access handles, gaskets on all edges for tight seal, filter and blower access panels have steel panel inner liner with insulation compressed in-between
- ◆ Coil constructed of ripple-edged enhanced aluminum fins on copper tubing, flared shoulder tubing connections, silver soldered construction, factory tested, indoor coil drain connection extends outside of unit cabinet
- ◆ Copeland® Compliant Scroll® compressor for high efficiency, resiliently mounted
- ◆ Integrated Modular Control (IMC) - solid state board contains all controls and control relays to operate unit
- ◆ Tubular heat exchanger of aluminized steel, life cycle tested

- ◆ Aluminized steel inshot burners, direct spark ignition, electronic flame sensor, redundant automatic single or dual gas valve with manual shut-off, induced draft blower, flame rollout switch
- ◆ Outdoor coil fan - PVC coated fan guard furnished
- ◆ Outdoor coil fan motor-overload protected, permanently lubricated, equipped with ball bearings, shaft up, wire basket mount
- ◆ Supply Air Blower belt drive with ball bearings and adjustable pulley for speed change, forward curved blades, blower wheel statically and dynamically balanced
- ◆ Supply Air Motor - overload protected, equipped with ball bearings
- ◆ 70VA transformer with built-in circuit breaker
- ◆ Disposable 2" pleated filters furnished
- ◆ Refrigeration system consists of compressors, condenser coil and direct drive fan, evaporator and belt drive blower, expansion valve with replaceable thermostatic element, high capacity drier, high pressure switch, low pressure switch, full refrigerant charge, crank-case heater, freezestat (prevent coil freeze-up during low ambient operation or loss of air)
- ◆ 1 Year warranty on parts
- ◆ 5 Year warranty on compressor
- ◆ 10 Year warranty on heat exchanger

Model Number Guide

| | L | G | - | A | - | 360 | - | H | - | 1 | Y | |
|--|---|---|---|---|---|-----|---|---|---|---|---|---------------------------|
| Unit Type | | | | | | | | | | | | Voltage |
| L = Commercial Package Unit | | | | | | | | | | | | Y = 208/230v-3 phase-60hz |
| G = Cooling w/Gas Heat | | | | | | | | | | | | G = 460v-3 phase-60hz |
| C = Cooling Only (w/opt Electric Heat) | | | | | | | | | | | | J = 575v-3 phase-60hz |
| Major Design Sequence | | | | | | | | | | | | Minor Revision Number |
| Cooling Capacity Tons (kW) | | | | | | | | | | | | Heat Type (S or H) |
| 360 - 30 (105.5) | | | | | | | | | | | | Cooling Efficiency |
| | | | | | | | | | | | | H = High Efficiency |

Required Options - Items Must be Ordered and Factory Installed

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

Drive Kit - Order one, see Drive Kit Specifications Table

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

Gas Input (LGA Models) - Order one:

169,000/260,000 Btuh (49.5/76.2 kW) high/low fire - Standard Heat Gas Input

305,000/470,000 Btuh (89.4/137.7 kW) high/low Fire - High Heat Gas Input

Optional Accessories - Items Must be Ordered and Factory Installed

| Item | LCA/LGA360 |
|--|------------|
| Disconnect Switch - Accessible from outside of unit, spring loaded weatherproof cover furnished | Factory |
| Service Outlets (2) - 115v ground fault circuit interrupter (GFCI) type | Factory |

¹Not available for LCA 208/230v models with 90 or 120 kW electric heat.

Optional Accessories Field Installed

| Item | LCA/LGA360 |
|--|--|
| Blower Proving Switch - Monitors blower operation, shuts down unit if blower fails | 18L89 |
| 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 Note - See below for hood | LAGED30/36 - 28 lbs. (13 kg) (33K77) |
| Down-Flow Gravity Exhaust Damper Hood | LAGEH30H/36 (88K81) |
| 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, Note - Outdoor air hood must be ordered separately (see below), optional down-flow gravity exhaust dampers available (see above), choice of economizer controls (see below) | LAREMD30/36 - 98 lbs. (45 kg) (33K72) |
| 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) | 16K96 (Outdoor) 16K97 (Differential) |
| Outdoor Enthalpy Control - Adjustable enthalpy sensor, senses outdoor air enthalpy for economizer control, 0 to 100% outdoor air | |
| Differential Enthalpy Control - Two solid-state enthalpy sensors allow selection between outdoor air and return air (whichever has lowest enthalpy) | |
| 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 | LAGEDH30/36 - 20 lbs. (9 kg) (33K78) |
| Outdoor Air Damper Section - mechanical dampers, 0 to 25% outdoor air, installs in unit cabinet Note - Outdoor air hood must be ordered separately (see below) - Net Weight | Automatic Operation - Gear driven, adjustable outdoor air, fully modulating spring return damper motor, plug-in connection Manual Operation - Linked dampers, adjustable fixed position outdoor air |
| Outdoor Air Hood - Required with LAREMD30/36 Economizer, LAOAD30/36 and LAOADM30/36 Outdoor Air Damper Sections, five cleanable aluminum mesh fresh air filters furnished - Net Weight | LAOAD30/36 - 55 lbs. (25 kg) (33K69) LAOAH30/36 - 55 lbs. (25 kg) filter size: (5)16 x 25 x 1 in. (406 x 635 x 25) (33K71) |
| Power Exhaust Fan - Installs external to unit for down-flow applications only with economizer option, provides 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), motor is overload protected, steel cabinet and hood painted to match unit | Model Number (Net Weight) Dia. - in. (mm) No. Blades Total air volume - cfm (L/s) Motor Horsepower (W) Total Watts Input |
| Smoke Detector - Photoelectric type, installed in supply air section or return air section or both sections | Supply Return |
| | LAPEF30/36 - 99 lbs. (45 kg) 208/230 Volt - (33K73) 460 Volt - (33K74) 575 Volt - (33K75) 16M24 16M23 |

Optional Accessories

| Item | LCA/LGA360 |
|---|--|
| Coil Guards - Galvanized steel wire guards to protect outdoor coil. Not used with Hail Guards. | 88K53 |
| Hail Guards - Constructed of heavy gauge steel, painted to match cabinet, helps protect outdoor coils from hail damage. Not used with Coil Guards | 88K26 |
| Grille Guards - Protects the space between outdoor coils and main unit | 86K30 |
| 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 LARTD30/36 - 437 lbs. (198 kg) (35K25) |
| | Flush - fixed blade louvers LAFD30/36 - 414 lbs. (188 kg) (35K24) |
| Transitions (Supply and Return) - Used with diffusers, installs in roof mounting frame, galvanized steel construction, flanges furnished for duct connection, fully insulated | LASRT30/36 - 85 lbs. (39 kg) (33K80) |
| Indoor Air Quality (CO2) Sensor - Monitors CO2 levels, reports to Integrated Modular Control (IMC) board which adjusts economizer dampers as needed | 87N53 |
| Indoor Air Quality Sensor Aspiration box - for duct mounting of Indoor Air Quality Sensor | 90N43 |
| LPG/Propane Kits - to field change over LGA units from Natural Gas to LPG | 41L15 (2 kits required) |
| 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 LARMF18/36-14 - 160 lbs. (73 kg) (16K87) |
| | 24 inch (610 mm) height LARMF18/36-24 220 lbs. (100 kg) (16K88) |
| Roof Mounting Frame (Horizontal) - Nailer strip furnished, mates to unit, converts unit from down-flow to horizontal (side) air flow, shipped knocked down, return air is on unit, supply air is on frame, see dimension drawings. Requires Horizontal Return Air Panel Kit, see below. Net Weight | 30 inch (762 mm) height (for slab applications) LARMFH30/36-30 445 lbs. (202 kg) (33K79) |
| | 41 inch (1041 mm) height (for rooftop applications) - meets National roofing code requirements LARMFH30/36-41 725 lbs. (329 kg) (38K54) |
| Roof Mounting Frame (Horizontal) Insulation Kit - helps prevent sweating of horizontal roof mounting frames | 30 inch (762 mm) frames 73K33 |
| | 41 inch (1041 mm) frames 73K35 |
| Horizontal Return Air Panel Kit - Required for horizontal applications with horizontal roof mounting frame, contains panel with return air opening for field replacement of existing unit panel and panel to cover bottom return air opening in unit, see dimension drawings - Net Weight | 38K48 - 43 lbs. (20 kg) |
| Vertical Vent Extension Kit - to exhaust flue gases vertically above unit (LGA Models Only) | (40L80) |
| Electric Heat (EHA) - helix wound nichrome elements, time delay for element staging, individual element limit controls (40, 60, 90 and 120 kW), may be two-stage controlled, wiring harness furnished, requires Electric Heat Control Module, Fuse Block and Terminal Block (LCA Models Only) | See Electric Heat Data Tables |
| Electric Heat Control Module - Required with 45,60, 90 and 120 kW electric heaters, provides control of second stage heating | LCA Models Only See Optional Electric Heat Accessories Table |
| Electric Heat Fuse Block - Required with electric heat, mounting screws furnished | |
| Electric Heat LTB2 Terminal Block - Required with electric heat | |

Specifications

| Model No. | | LCA/LGA360H | |
|--|---|---|----------------------------------|
| Cooling Ratings | Gross Cooling Capacity - Btuh (kW) | 355,000 (104.0) | |
| | ¹ Net Cooling Capacity - Btuh (kW) | 336,000 (98.4) | |
| | Total Unit Power (kW) | 33.6 | |
| | EER (Btuh/Watt) | 10.0 | |
| | ¹ Integrated Part Load Value (Btuh/Watt) | 10.4 | |
| Refrigerant Charge Furnished (HCFC-22) | Circuit 1 | 18 lbs. 0 oz. (8.16 kg) | |
| | Circuit 2 | 18 lbs. 0 oz. (8.16 kg) | |
| | Circuit 3 | 18 lbs. 0 oz. (8.16 kg) | |
| Model No. | | LGA360H | |
| Two Stage Heating Capacity (Natural or LPG/Propane Gas (at Sea Level) | Heat Input Type | Standard (S) | High (H) |
| | Input (low) - Btuh (kW) | 169,000 (49.5) | 305,000 (89.4) |
| | Output (low) - Btuh (kW) | 135,000 (39.6) | 244,000 (71.5) |
| | Input (High) - Btuh (kW) | 260,000 (76.2) | 470,000 (137.7) |
| | Output (High) - Btuh (kW) | 208,000 (60.9) | 376,000 (110.2) |
| A.G.A/C.G.A. Thermal Efficiency | | 80.0% | |
| Gas Supply Connections npt - in. Natural or LPG/Propane | | 1 | |
| Recommended Gas Supply Pressure - wc. in. (kPa) | Natural | 7 (1.7) | |
| | LPG/Propane | 11 (2.7) | |
| Evaporator Blower and Drive Selection | Blower wheel nominal dia. x width - in. (mm) | | (2) 18 X 15 (457 X 381) |
| | 5 hp (3.7 kW) ² 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 |
| | | (Drive kit #) RPM range | (1) 660-810 or (2) 770-965 |
| | 7.5 hp (5.6 kW) ² Motor & Drives | Nominal motor horsepower (kW) | 7.5 (5.6) |
| | | Max. usable motor output - hp (kW) | 8.6 (6.4) |
| | | Voltage & phase | 208/230v, 460v or 575v - 3ph |
| | | (Drive kit #) RPM range | (3) 715-880 or (4) 770-965 |
| | 10 hp (7.5 kW) ² Motor & Drives | Nominal motor output - hp (kW) | 10 (7.5) |
| | | Max. usable motor output - hp (kW) | 11.5 (8.6) |
| | | Voltage & phase | 208/230v, 460v or 575v - 3ph |
| | | (Drive kit #) RPM range | (3) 715-880 or (5) 850-1045 |
| Evaporator Coil | Net face area - sq. ft. (m ²) | | 33.3 (3.1) |
| | Tube diameter - in. (mm) & No. of rows | | 3/8 (9.5) - 2 3/8 (9.5) - 3 |
| | Fins per inch (m) | | 14 (551) |
| | Drain connection no. & size - in. (mm) fpt | | (1) 1 (25) |
| | Expansion device type | | Thermostatic Expansion Valve |
| Condenser Coil | Net face area - sq. ft. (m ²) | | 70.6 (6.6) |
| | Tube diameter - in. (mm) & No. of rows | | 3/8 (9.5) - 2 |
| | Fins per inch (m) | | 16 (630) |
| Condenser Fans | Diameter - in. (mm) & No. of blades | | (6) 24 (610) - 3 |
| | Total Air Volume - cfm (L/s) | | 21,500 (10,145) |
| | Motor horsepower (W) | | (6) 1/3 (249) |
| | Motor rpm | | 1075 |
| | Total Motor watts | | 2170 |
| Filters (furnished) | Type of filter | Disposable, commercial grade, pleated | |
| | No. and size - in. (mm) | (12) 20 x 20 x 2 (508 x 508 x 51) | |
| Electrical characteristics | | 208/230v, 460v or 575v - 60 hertz - 3 phase | |

¹Tested at conditions included in ARI Standard 340/360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure. Integrated Part Load Value tested at 80°F (27°C) outdoor air temperature.

²Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished 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.

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

Weight Data

| Model No. | Description | Weight | |
|-------------------------|--|--------|------|
| | | lbs. | kg |
| Net Weights | | | |
| LCA360H | Net weight (Base Unit) | 3220 | 1461 |
| LGA360H | Net weight (Base unit with standard fire heat exchanger) | 3330 | 1510 |
| Shipping Weights | | | |
| LCA360H | Base unit | 3430 | 1556 |
| LCA Models | Electric Heat (add to Base Unit) | 78 | 35 |
| LGA360H | Base unit with standard fire heat exchanger | 3540 | 1606 |
| LGA Only | High Fire Heat Exchanger (add to Base unit) | 28 | 13 |

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), unit 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) |

Electrical Data

| Model No. | | LCA/LGA 360 | | | | | | | | | |
|---|--------------------------------|---------------|---------------|------|---------------|-----|-----|--------------|-----|-----|-----|
| Line voltage data - 60 Hz - 3 phase | | 208/230v | | | 460v | | | 575v | | | |
| Compressors | No. of compressors | 3 | | | | | | | | | |
| | Rated load amps each (total) | 30.1 (90.3) | | | 15.5 (46.5) | | | 12.1 (36.3) | | | |
| | Locked rotor amps each (total) | 225.0 (675.0) | | | 114.0 (342.0) | | | 80.0 (240.0) | | | |
| Condenser Fan Motors | No. of motors | 6 | | | | | | | | | |
| | Full load amps each (total) | 2.4 (14.4) | | | 1.3 (7.8) | | | 1.0 (6.0) | | | |
| | Locked rotor amps each (total) | 4.7 (28.2) | | | 2.4 (14.4) | | | 1.9 (11.4) | | | |
| Evaporator Blower Motor | Motor | hp | 5 | 7.5 | 10 | 5 | 7.5 | 10 | 5 | 7.5 | 10 |
| | Output | kW | 3.7 | 5.6 | 7.5 | 3.7 | 5.6 | 7.5 | 3.7 | 5.6 | 7.5 |
| | Full load amps | | 16.7 | 24.2 | 30.8 | 7.6 | 11 | 14 | 6.1 | 9 | 11 |
| Rec. max. fuse size (amps) | With Exhaust Fans | | 150 | 150 | 175 | 80 | 80 | 90 | 60 | 60 | 70 |
| | Less Exhaust Fans | | 150 | 150 | 150 | 80 | 80 | 80 | 60 | 60 | 60 |
| *Minimum Circuit Ampacity | With Exhaust Fans | | 137 | 144 | 151 | 70 | 74 | 77 | 55 | 58 | 60 |
| | Less Exhaust Fans | | 129 | 137 | 144 | 66 | 70 | 73 | 52 | 55 | 57 |
| Optional Power Exhaust Fans | (No.) Horsepower (W) | | (3) 1/3 (249) | | | | | | | | |
| | Full load amps (total) | | 7.2 | | | 3.9 | | | 3.0 | | |
| | Locked rotor amps (total) | | 14.1 | | | 7.2 | | | 5.7 | | |
| Service Outlet (2) 115 volt GFCI (amp rating) | | 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 Accessories - LCA Models

| Unit Model No. | | LCA360H | |
|--|--|--|--|
| Electric Heat | Model No. | EHA (see Electric Heat Data tables for additional information) | |
| | kW Input Range | 30-45-60-90-120 | |
| | Electric Heat Control Module (45, 60, 90 & 120 kW) | 15K13 (208/230v), 15K92 (460v), 15K93 (575v) | |
| Unit Fuse Block (3 phase) | With Power Exhaust Fans | 208/230v - 5 hp (3.7 kW) 35K01 | |
| | | 460v - 5 hp (3.7 kW) 35K04 | |
| | | 575v - 5 hp (3.7 kW) 25K14 | |
| | | 208/230v - 7.5 hp (5.6 kW) 35K01 | |
| | | 460v - 7.5 hp (5.6 kW) 35K04 | |
| | | 575v - 7.5 hp (5.6 kW) 25K14 | |
| | | 208/230v - 10 hp (7.5 kW) 35K02 | |
| | | 460v - 10 hp (7.5 kW) 48L63 | |
| | | 575v - 10 hp (7.5 kW) 35K03 | |
| | | 208/230v - 5 hp (3.7 kW) 35K01 | |
| Without Power Exhaust Fans | | 460v - 5 hp (3.7 kW) 35K04 | |
| | | 575v - 5 hp (3.7 kW) 25K14 | |
| | | 208/230v - 7.5 hp (5.6 kW) 35K01 | |
| | | 460v - 7.5 hp (5.6 kW) 35K04 | |
| | | 575v - 7.5 hp (5.6 kW) 25K14 | |
| | | 208/230v - 10 hp (7.5 kW) 35K01 | |
| | | 460v - 10 hp (7.5 kW) 35K04 | |
| | | 575v - 10 hp (7.5 kW) 25K14 | |
| 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. | | LCA360H | |
| 30 kW *208/230v-3ph | 5 hp (3.7 kW) | 30K75 | |
| | 7.5 hp (5.6 kW) | 30K75 | |
| | 10 hp (7.5 kW) | 30K75 | |
| 45 kW *208/230v-3ph | 5 hp (3.7 kW) | 30K75 | |
| | 7.5 hp (5.6 kW) | 30K75 | |
| | 10 hp (7.5 kW) | 30K76 | |
| 60 kW *208/230v-3ph | 5 hp (3.7 kW) | 30K75 | |
| | 7.5 hp (5.6 kW) | 30K76 | |
| | 10 hp (7.5 kW) | 30K76 | |
| 90 kW *208/230v-3ph | 5 hp (3.7 kW) | 30K76 | |
| | 7.5 hp (5.6 kW) | 30K76 | |
| | 10 hp (7.5 kW) | 30K76 | |
| 120 kW *208/230v-3ph | 5 hp (3.7 kW) | 30K76 | |
| | 7.5 hp (5.6 kW) | 30K76 | |
| | 10 hp (7.5 kW) | 30K76 | |

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

Optional Electric Heat Data - LCA Model

(Requires unit fuse block, terminal block and sub-fuse box)

| kW Size Required | Electric Heat Model No. (see footnote) & Net Weight | No. of Steps | Volts Input | kW Input | Btuh Output | Total Unit Power Exhaust Fans and Electric Heat *Minimum Circuit Ampacity | | |
|------------------|--|--------------|-------------|----------|-------------|---|-----------------|----------------|
| | | | | | | 5 hp (3.7 kW) | 7.5 hp (5.6 kW) | 10 hp (7.5 kW) |
| 30 kW | (1) EHA360-15 208/230v (99J22) 460v (99J24) 575v (99J26) and (1) EHA360S-15 208/230v (99J23) 460v (99J25) 575v (99J27) 59 lbs. (27 kg) (total weight) | 1 | 208 | 22.5 | 76,800 | 137 | 144 | 151 |
| | | 1 | 220 | 25.2 | 86,000 | | | |
| | | 1 | 230 | 27.5 | 93,900 | | | |
| | | 1 | 240 | 30.0 | 102,400 | | | |
| | | 1 | 440 | 25.2 | 86,000 | 70 | 74 | 77 |
| | | 1 | 460 | 27.5 | 93,900 | | | |
| | | 1 | 480 | 30.0 | 102,400 | | | |
| | | 1 | 550 | 25.2 | 86,000 | | | |
| | | 1 | 575 | 27.5 | 93,900 | 55 | 58 | 60 |
| | | 1 | 600 | 30.0 | 102,400 | | | |
| 45 kW | (2) EHA360-22.5 208/230v (99J28) 460v (99J29) 575v (99J30) 76 lbs. (35 kg) (total weight) | **2 | 208 | 33.8 | 115,300 | 147 | 157 | 165 |
| | | **2 | 220 | 37.8 | 129,000 | 165 | 175 | 183 |
| | | **2 | 230 | 41.3 | 141,000 | | | |
| | | **2 | 240 | 45.0 | 153,600 | | | |
| | | **2 | 440 | 37.8 | 129,000 | 82 | 86 | 90 |
| | | **2 | 460 | 41.3 | 141,000 | | | |
| | | **2 | 480 | 45.0 | 153,600 | | | |
| | | **2 | 550 | 37.8 | 129,000 | | | |
| | | **2 | 575 | 41.3 | 141,000 | 66 | 69 | 72 |
| | | **2 | 600 | 45.0 | 153,600 | | | |
| 60 kW | (2) EHA150-30 208/230v (99J07) 460v (99J08) 575v (99J09) 76 lbs. (35 kg) (total weight) | **2 | 208 | 45.0 | 153,600 | 155 | 164 | 173 |
| | | **2 | 220 | 50.4 | 172,000 | 174 | 184 | 192 |
| | | **2 | 230 | 55.1 | 188,000 | | | |
| | | **2 | 240 | 60.0 | 204,800 | | | |
| | | **2 | 440 | 50.4 | 172,000 | 87 | 91 | 95 |
| | | **2 | 460 | 55.1 | 188,000 | | | |
| | | **2 | 480 | 60.0 | 204,800 | | | |
| | | **2 | 550 | 50.4 | 172,000 | | | |
| | | **2 | 575 | 55.1 | 188,000 | 69 | 73 | 75 |
| | | **2 | 600 | 60.0 | 204,800 | | | |

NOTE - Order (1) of each heater shown to make up heater size required.

NOTE - Order (2) of each heater shown to make up heater size required.

* 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 - Electric Heat Control Module required on 45, 60, 90 & 120 kW sizes only.

NOTE - Fuse block must be ordered extra. Fuse block must be installed in field installed heaters. Also requires LTB2 Terminal Block. See Optional Electric Heat Accessories tables.

Optional Electric Heat Data - LCA Model

(Requires unit fuse block, terminal block and sub-fuse box)

| kW Size Required | Electric Heat Model No. (see footnote) & Net Weight | No. of Steps | Volts Input | kW Input | Btuh Output | Total Unit, Power Exhaust Fans and Electric Heat *Minimum Circuit Ampacity | | |
|------------------|---|--------------|-------------|----------|-------------|--|-----------------|----------------|
| | | | | | | 5 hp (3.7 kW) | 7.5 hp (5.6 kW) | 10 hp (7.5 kW) |
| 90 kW | (2) EHA150-45 208/230v (99J10) (2) EHA150-60 208/230v (99J13) 460v (99J11) 575v (99J12) 84 lbs. (38 kg) (total weight) | **2 | 208 | 67.6 | 230,700 | 218 | 227 | 235 |
| | | **2 | 220 | 75.6 | 258,000 | 246 | 256 | 264 |
| | | **2 | 230 | 82.7 | 282,200 | | | |
| | | **2 | 240 | 90.0 | 307,100 | 123 | 127 | 131 |
| | | **2 | 440 | 75.6 | 258,000 | | | |
| | | **2 | 460 | 82.7 | 282,200 | | | |
| | | **2 | 480 | 90.0 | 307,100 | | | |
| | | **2 | 550 | 75.6 | 258,000 | 98 | 102 | 104 |
| | | **2 | 575 | 82.7 | 282,200 | | | |
| | | **2 | 600 | 90.0 | 307,100 | | | |
| 120 kW | (2) EHA150-60 208/230v (99J13) 460v (99J14) 575v (99J15) 98 lbs. (45 kg) (total weight) | **2 | 208 | 90.2 | 307,800 | 280 | 289 | 298 |
| | | **2 | 220 | 100.8 | 344,000 | 318 | 328 | 335 |
| | | **2 | 230 | 110.2 | 376,100 | | | |
| | | **2 | 240 | 120.0 | 409,500 | | | |
| | | **2 | 440 | 100.8 | 344,000 | 159 | 163 | 167 |
| | | **2 | 460 | 110.2 | 376,100 | | | |
| | | **2 | 480 | 120.0 | 409,500 | | | |
| | | **2 | 550 | 100.8 | 344,000 | | | |
| | | **2 | 575 | 110.2 | 376,100 | 127 | 130 | 133 |
| | | **2 | 600 | 120.0 | 409,500 | | | |

NOTE - Order (1) of each heater shown to make up heater size required.

NOTE - Order (2) of each heater shown to make up heater size required.

* 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 - Electric Heat Control Module required on 45, 60, 90 & 120 kW sizes only.

NOTE - Fuse block must be ordered extra. Fuse block must be installed in field installed heaters. Also requires LTB2 Terminal Block. See Optional Electric Heat Accessories tables.

Cooling Ratings

LCA/LGA360 - High Efficiency - Two Compressors Operating

| Entering Wet Bulb Temp. | 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) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible to Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible to Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible to Total Ratio (S/T) | | | |
| | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | | 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) | 9000 | 4250 | 234.5 | 68.7 | 12.87 | .65 | .79 | .93 | 227.8 | 66.8 | 14.19 | .65 | .80 | .95 | 220.8 | 64.7 | 15.68 | .66 | .82 | .96 | 213.2 | 62.5 | 17.39 | .67 | .83 | .98 |
| | 11200 | 5285 | 243.1 | 71.2 | 13.05 | .69 | .87 | 1.00 | 236.1 | 69.2 | 14.38 | .70 | .88 | 1.00 | 228.7 | 67.0 | 15.85 | .72 | .90 | 1.00 | 220.9 | 64.7 | 17.55 | .73 | .92 | 1.00 |
| | 13400 | 6325 | 249.9 | 73.2 | 13.21 | .75 | .94 | 1.00 | 242.8 | 71.2 | 14.52 | .76 | .95 | 1.00 | 235.2 | 68.9 | 16.01 | .78 | .97 | 1.00 | 227.4 | 66.6 | 17.70 | .79 | .98 | 1.00 |
| 67°F (19°C) | 9000 | 4250 | 248.8 | 72.9 | 13.17 | .51 | .62 | .75 | 241.5 | 70.8 | 14.48 | .51 | .63 | .76 | 233.9 | 68.5 | 15.97 | .52 | .64 | .78 | 225.7 | 66.1 | 17.68 | .52 | .65 | .80 |
| | 11200 | 5285 | 256.5 | 75.2 | 13.35 | .54 | .67 | .83 | 248.7 | 72.9 | 14.66 | .54 | .68 | .85 | 240.6 | 70.5 | 16.15 | .55 | .69 | .86 | 232.2 | 68.1 | 17.85 | .55 | .71 | .88 |
| | 13400 | 6325 | 261.8 | 76.7 | 13.48 | .56 | .72 | .90 | 253.9 | 74.4 | 14.78 | .57 | .74 | .92 | 245.6 | 72.0 | 16.26 | .58 | .75 | .94 | 236.8 | 69.4 | 17.96 | .58 | .77 | .96 |
| 71°F (22°C) | 9000 | 4250 | 264.4 | 77.5 | 13.53 | .39 | .50 | .60 | 256.7 | 75.2 | 14.84 | .39 | .50 | .61 | 248.5 | 72.8 | 16.34 | .39 | .50 | .62 | 239.8 | 70.3 | 18.04 | .39 | .51 | .63 |
| | 11200 | 5285 | 272.0 | 79.7 | 13.70 | .40 | .52 | .65 | 263.8 | 77.3 | 15.02 | .40 | .53 | .66 | 255.1 | 74.8 | 16.52 | .40 | .53 | .67 | 245.9 | 72.1 | 18.22 | .40 | .54 | .68 |
| | 13400 | 6325 | 277.1 | 81.2 | 13.83 | .41 | .55 | .70 | 268.5 | 78.7 | 15.16 | .41 | .56 | .71 | 259.7 | 76.1 | 16.64 | .41 | .57 | .73 | 250.3 | 73.4 | 18.32 | .42 | .58 | .75 |

LCA/LGA360 - High Efficiency - All Compressors Operating

| Entering Wet Bulb Temp. | 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) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible to Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible to Total Ratio (S/T) | | | Total Cooling Capacity | | Comp Motor kW Input | Sensible to Total Ratio (S/T) | | | |
| | | | | | Dry Bulb | | | | | | Dry Bulb | | | | | | | 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) | 9000 | 4250 | 337.6 | 98.9 | 23.59 | .69 | .83 | .97 | 326.0 | 95.5 | 26.17 | .70 | .85 | .98 | 313.7 | 91.9 | 29.07 | .71 | .87 | 1.00 | 300.4 | 88.0 | 32.36 | .72 | .89 | 1.00 |
| | 11200 | 5285 | 349.7 | 102.5 | 23.86 | .74 | .91 | 1.00 | 337.7 | 99.0 | 26.41 | .75 | .93 | 1.00 | 324.9 | 95.2 | 29.33 | .77 | .95 | 1.00 | 311.3 | 91.2 | 32.66 | .79 | .97 | 1.00 |
| | 13400 | 6325 | 359.6 | 105.4 | 24.09 | .79 | .97 | 1.00 | 347.7 | 101.9 | 26.64 | .81 | .99 | 1.00 | 335.0 | 98.2 | 29.59 | .83 | 1.00 | 1.00 | 321.8 | 94.3 | 32.94 | .85 | 1.00 | 1.00 |
| 67°F (19°C) | 9000 | 4250 | 357.6 | 104.8 | 24.04 | .54 | .66 | .80 | 345.1 | 101.1 | 26.61 | .54 | .67 | .81 | 331.7 | 97.2 | 29.54 | .55 | .68 | .83 | 317.4 | 93.0 | 32.83 | .56 | .70 | .85 |
| | 11200 | 5285 | 367.9 | 107.8 | 24.31 | .57 | .71 | .88 | 355.0 | 104.0 | 26.87 | .57 | .73 | .89 | 341.1 | 100.0 | 29.76 | .58 | .74 | .92 | 325.9 | 95.5 | 33.08 | .59 | .76 | .94 |
| | 13400 | 6325 | 375.6 | 110.1 | 24.48 | .60 | .77 | .95 | 362.1 | 106.1 | 27.03 | .61 | .79 | .96 | 347.8 | 101.9 | 29.97 | .62 | .81 | .98 | 332.3 | 97.4 | 33.28 | .63 | .83 | 1.00 |
| 71°F (22°C) | 9000 | 4250 | 380.0 | 111.4 | 24.60 | .40 | .52 | .64 | 366.7 | 107.5 | 27.16 | .41 | .53 | .65 | 352.5 | 103.3 | 30.10 | .41 | .54 | .66 | 337.2 | 98.8 | 33.41 | .41 | .54 | .68 |
| | 11200 | 5285 | 390.1 | 114.3 | 24.86 | .41 | .55 | .69 | 376.0 | 110.2 | 27.43 | .42 | .56 | .71 | 361.4 | 105.9 | 30.31 | .42 | .57 | .72 | 345.4 | 101.2 | 33.61 | .43 | .58 | .74 |
| | 13400 | 6325 | 397.1 | 116.4 | 25.06 | .43 | .59 | .75 | 382.7 | 112.2 | 27.59 | .43 | .60 | .77 | 367.3 | 107.6 | 30.50 | .43 | .61 | .79 | 350.5 | 102.7 | 33.83 | .44 | .62 | .81 |

Blower Data

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY 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 motor output and drive required.

See page 14 for wet coil and option/accessory air resistance data.

MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT - 10,500 cfm (4955 L/S)

BOLD ITALIC INDICATES FIELD FURNISHED DRIVE

Guide Specifications

General - Furnish and install single package air to air DX mechanical cooling system or cooling and gas fired heating 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 equipment shall be shipped completely factory assembled, precharged, piped and wired internally ready for field connections. The manufacturer shall test operate system at the factory before shipment.

Air Distribution - Equipment shall be capable of bottom (down-flow) or side (horizontal) handling of conditioned air. Horizontal air shall require optional horizontal conversion kit.

Approvals - All electrical components shall have ETL and C.G.A. Listing. All wiring shall be in compliance with NEC and CEC.

Equipment Warranty - Aluminized steel 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.

Heating System (LGA Models) - 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 combustiton 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 ETL/C.G.A. design certified for outdoor installation.

Cooling System - The coils shall be nonferrous construction with aluminum fins mechanically bonded to durable copper tubes. Coils shall be pressure leak tested. Compressor shall be resiliently mounted, have overload protection and crankcase heater(s). The refrigeration system shall have discharge, suction and liquid line service gauge ports, high pressure switch(es), low pressure switch(es) driers, freezestats, and full refrigerant charge. All models shall have low ambient operation down to 0°F (-17.7°C). All models shall be rated in accordance with ARI Standard 340-360-93.

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 entry shall be provided.

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

Supply Air Blowers - Centrifugal supply air blower shall be driven by a belt drive motor with ball bearings and adjustable drive. Blower assembly shall be accessible for servicing. Belt drive motor mount base shall permit ease of motor changeover and belt tension adjustment. Blower wheel shall be statically and dynamically balanced.

Outdoor Coil Fan - Direct drive propeller type outdoor coil fan shall discharge vertically and be direct driven. Fan motor shall have ball bearings and be permanently lubricated and inherently protected. Fan shall have a safety guard.

Air Filters - Disposable 2 inch (51 mm) thick pleated filters shall be furnished.

Optional Accessories

Additive Electric Heaters - (LCA Models) Electric heaters shall be available for 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.

Ceiling Diffusers - Furnish and install a (flush or stepdown) optional combination ceiling supply and return air diffuser. Supply and return transitions shall be available, for field installation in the roof mounting frame, to provide duct connections to the diffuser.

Coil Guards - Furnish and install galvanized steel coil guards.

Dirty Filter Switch - Furnish and install pressure switch that indicates dirty filter.

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 (IMC) shall consist of adjustable minimum positioner, enthalpy setpoint and DIP switches for setting type of control log 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 field installation.

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

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

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 CO₂ 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 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 field installed between economizer and gravity exhaust dampers.

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 |
| Standard - 5 | 5.75 | 3.7 | 4.3 | 660 - 810 | 770 - 965 | — | — | — |
| **Standard - 7.5 | 7.5 | 5.6 | 6.4 | — | — | 715 - 880 | **770 - 965 | — |
| Standard - 10 | 11.5 | 7.5 | 8.6 | — | — | 715 - 880 | — | 850 - 1045 |

*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 are shown. If 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.

**Base unit

Field/Factory Installed Accessory Air Resistance

| Air Volume | | Total Resistance - inches water gauge (Pa) | | | | | |
|------------|------|--|---------------------------------|-----------|----------------------------|------------|--------------------------------|
| | | Wet Indoor Coil | Gas Heat Exchanger (LGA Models) | | Electric Heat (LCA Models) | Economizer | Horizontal Roof Mounting Frame |
| cfm | L/s | | Standard Heat | High Heat | | | |
| 7500 | 3540 | .07 (17) | .15 (37) | .25 (62) | .03 (7) | .02 (5) | .11 (27) |
| 8000 | 3775 | .08 (20) | .17 (42) | .28 (70) | .03 (7) | .02 (5) | .13 (32) |
| 8500 | 4010 | .08 (20) | .20 (50) | .31 (77) | .04 (10) | .03 (7) | .15 (37) |
| 9000 | 4245 | .09 (22) | .22 (55) | .34 (85) | .04 (10) | .04 (10) | .17 (42) |
| 9500 | 4485 | .10 (25) | .24 (60) | .38 (94) | .05 (12) | .04 (10) | .19 (47) |
| 10,000 | 4720 | .11 (27) | .27 (67) | .42 (104) | .05 (12) | .05 (12) | .21 (52) |
| 10,500 | 4955 | .12 (30) | .30 (75) | .46 (114) | .06 (15) | .06 (15) | .24 (60) |
| 11,000 | 5190 | .12 (30) | .33 (92) | .50 (137) | .06 (15) | .07 (17) | .27 (67) |
| 11,500 | 5425 | .13 (32) | .37 (92) | .55 (137) | .07 (17) | .08 (20) | .30 (75) |
| 12,000 | 5665 | .14 (35) | .40 (99) | .60 (149) | .07 (17) | .10 (25) | .33 (82) |
| 12,500 | 5900 | .15 (37) | .44 (109) | .65 (162) | .08 (20) | .11 (27) | .37 (92) |
| 13,000 | 6135 | .16 (40) | .48 (119) | .70 (174) | .08 (20) | .13 (32) | .40 (99) |
| 13,500 | 6370 | .17 (42) | .53 (132) | .76 (189) | .09 (22) | .14 (35) | .44 (109) |
| 14,000 | 6605 | .18 (45) | .57 (142) | .82 (204) | .10 (25) | .16 (40) | .49 (122) |
| 14,500 | 6845 | .19 (47) | .62 (154) | .89 (221) | .10 (25) | .18 (45) | .53 (132) |
| 15,000 | 7080 | .20 (50) | .68 (169) | .95 (236) | .11 (27) | .21 (52) | .58 (144) |

Guide Specifications

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 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 air. 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.

Smoke Detectors - Furnish and field install photoelectric type smoke detector in either or both return air section and supply air section.

Terminal Block - Shall be required for units without disconnect switch but with single point power supply and electric heat.

Ceiling Diffuser Air Resistance

| Unit Size | Air Volume | | Total Resistance - inches water gauge (Pa) | | | LAFD30/36 Flush Diffuser |
|------------|------------|------|--|--------------------|-----------------------|--------------------------|
| | | | LARTD30/36 Step-Down Diffuser | | All Ends & Sides Open | |
| | cfm | L/s | 2 Ends Open | 1 Side/2 Ends Open | All Ends & Sides Open | |
| 360 Models | 7500 | 3540 | .37 (92) | .31 (77) | .25 (62) | .29 (72) |
| | 8000 | 3775 | .42 (104) | .36 (90) | .29 (72) | .34 (85) |
| | 8500 | 4010 | .48 (119) | .41 (102) | .34 (85) | .39 (97) |
| | 9000 | 4245 | .55 (137) | .47 (117) | .39 (97) | .44 (109) |
| | 9500 | 4485 | .62 (154) | .53 (132) | .45 (112) | .51 (127) |
| | 10,000 | 4720 | .70 (174) | .60 (149) | .51 (127) | .57 (142) |
| | 10,500 | 4955 | .78 (194) | .68 (169) | .58 (144) | .65 (162) |
| | 11,000 | 5190 | .87 (216) | .76 (190) | .65 (162) | .72 (179) |
| | 11,500 | 5425 | .97 (241) | .85 (211) | .73 (182) | .81 (201) |
| | 12,000 | 5665 | 1.08 (269) | .94 (234) | .82 (204) | .90 (223) |
| | 12,500 | 5900 | 1.19 (296) | 1.04 (259) | .91 (226) | .99 (246) |
| | 13,000 | 6135 | 1.30 (323) | 1.15 (286) | 1.00 (249) | 1.10 (274) |
| | 13,500 | 6370 | 1.43 (356) | 1.26 (313) | 1.10 (374) | 1.20 (298) |
| | 14,000 | 6605 | 1.56 (388) | 1.38 (343) | 1.20 (298) | 1.31 (326) |
| | 14,500 | 6845 | 1.69 (420) | 1.50 (373) | 1.31 (326) | 1.43 (356) |
| | 15,000 | 7080 | 1.84 (457) | 1.63 (405) | 1.43 (356) | 1.56 (388) |

Power Exhaust Fans Performance

| Return Air System Static Pressure | | Air Volume Exhausted | |
|-----------------------------------|-----|----------------------|-------|
| in. w.g. | Pa | cfm | L/s |
| 0 | 0 | 12,800 | 6,040 |
| .05 | 12 | 12,200 | 5,760 |
| .10 | 25 | 11,500 | 5,430 |
| .15 | 37 | 10,800 | 5,100 |
| .20 | 50 | 9,900 | 4,670 |
| .25 | 62 | 9,000 | 4,250 |
| .30 | 75 | 7,900 | 3,730 |
| .35 | 87 | 6,750 | 3,190 |
| .40 | 100 | 5,450 | 2,570 |
| .45 | 112 | 4,150 | 1,960 |
| .50 | 125 | 2,900 | 1,370 |

Ceiling Diffuser Air Throw Data

| Model No. | Air Volume | | *Effective Throw Range | | | |
|------------|------------|------|------------------------|---------|-----------------|---------|
| | | | LARTD30/36 Step-Down | | LAFD30/36 Flush | |
| | cfm | L/s | ft | m | ft | m |
| 360 Models | 9,000 | 4245 | 40 - 47 | 12 - 14 | 29 - 35 | 8 - 11 |
| | 9,500 | 4485 | 43 - 50 | 13 - 15 | 33 - 41 | 10 - 12 |
| | 10,000 | 4720 | 46 - 54 | 14 - 16 | 37 - 46 | 11 - 14 |
| | 10,500 | 4955 | 50 - 58 | 15 - 18 | 42 - 51 | 13 - 15 |
| | 11,000 | 4190 | 53 - 61 | 16 - 19 | 46 - 56 | 14 - 17 |
| | 11,500 | 5425 | 55 - 64 | 17 - 20 | 50 - 61 | 15 - 19 |
| | 12,000 | 5665 | 58 - 67 | 18 - 20 | 54 - 66 | 16 - 20 |
| | 12,500 | 5900 | 61 - 71 | 19 - 22 | 58 - 71 | 18 - 22 |
| | 13,000 | 6135 | 64 - 74 | 20 - 23 | 62 - 75 | 19 - 23 |
| | 13,500 | 6370 | 67 - 77 | 20 - 23 | 66 - 79 | 20 - 24 |

*Throw is 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.

Dimensions - LCA Model - inches (mm)

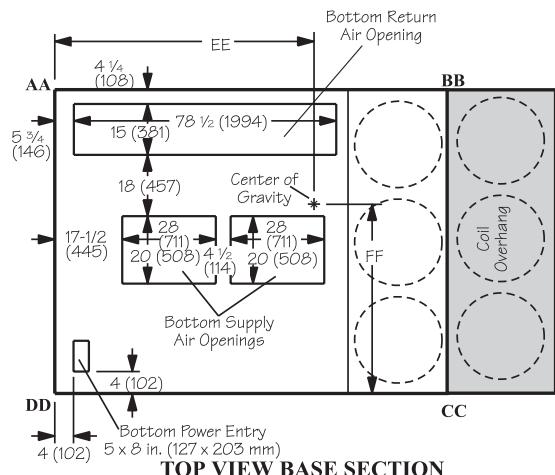
Shown with Electric Heat, Economizer Dampers, Power Exhaust Fan, Convenience Outlet, Disconnect Belt Drive Blower

Corner Weights - lbs. (kg)

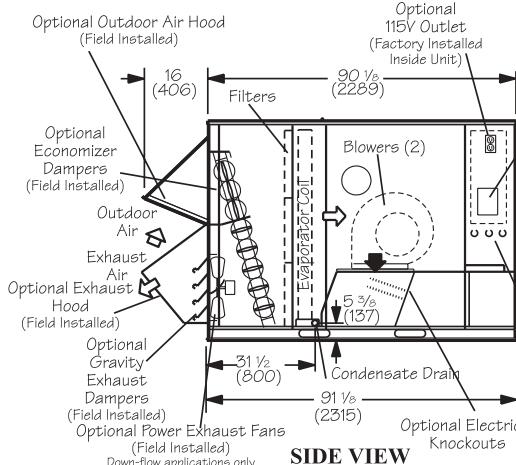
| Model Number | AA | | BB | | CC | | DD | |
|------------------|------|-----|------|-----|------|-----|------|-----|
| | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg |
| LCA360 Base Unit | 637 | 289 | 636 | 288 | 972 | 441 | 975 | 442 |
| LCA360 Max. Unit | 780 | 354 | 738 | 335 | 1001 | 454 | 1061 | 481 |

Base Unit - The standard unit with NO OPTIONS.

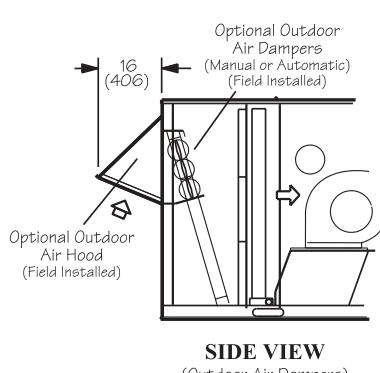
Max. Unit - The standard unit with ALL OPTIONS installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)



TOP VIEW BASE SECTION



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



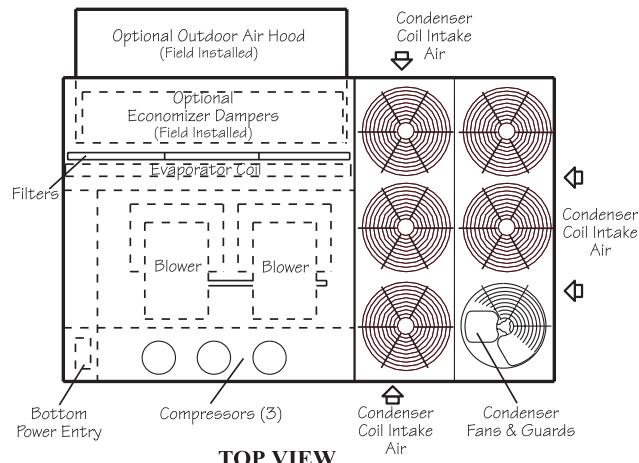
SIDE VIEW
(Outdoor Air Dampers)

Center of Gravity - inches (mm)

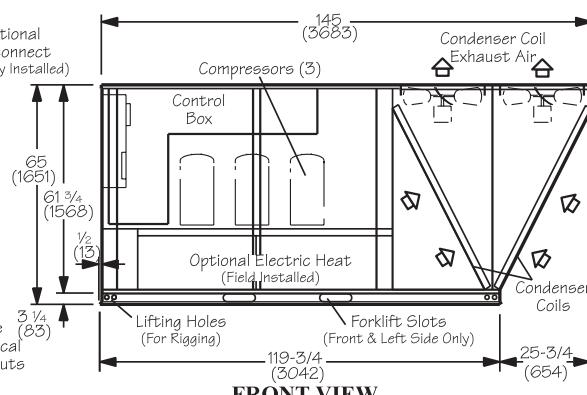
| Model Number | EE | | FF | |
|------------------|--------|------|--------|-----|
| | inch | mm | inch | mm |
| LCA360 Base Unit | 60 3/8 | 1534 | 36 | 914 |
| LCA360 Max. Unit | 58 7/8 | 1495 | 38 5/8 | 981 |

Base Unit - The standard unit with NO OPTIONS.

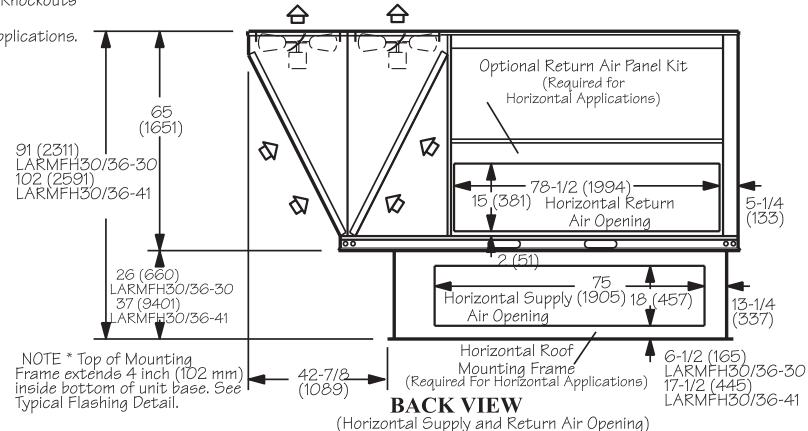
Max. Unit - The standard unit with ALL OPTIONS installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)



TOP VIEW



FRONT VIEW



BACK VIEW
(Horizontal Supply and Return Air Opening)

Dimensions - LGA Model - inches (mm)

Shown with Electric Heat, Economizer Dampers, Power Exhaust Fan, Convenience Outlet, Disconnect Belt Drive Blower

Corner Weights - lbs. (kg)

| Model Number | AA | | BB | | CC | | DD | |
|------------------|------|-----|------|-----|------|-----|------|-----|
| | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg |
| LGA360 Base Unit | 656 | 298 | 639 | 290 | 1004 | 455 | 1031 | 468 |
| LGA360 Max. Unit | 785 | 356 | 740 | 336 | 1025 | 465 | 1090 | 494 |

Base Unit - The standard unit with NO OPTIONS.

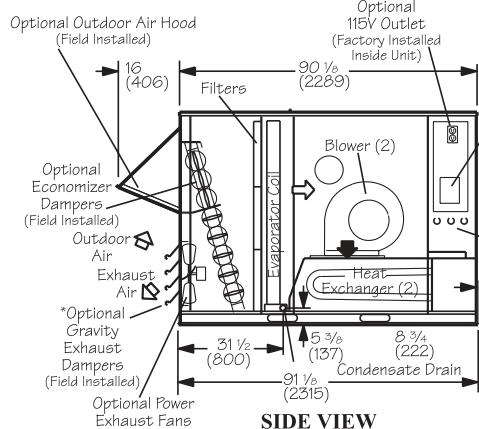
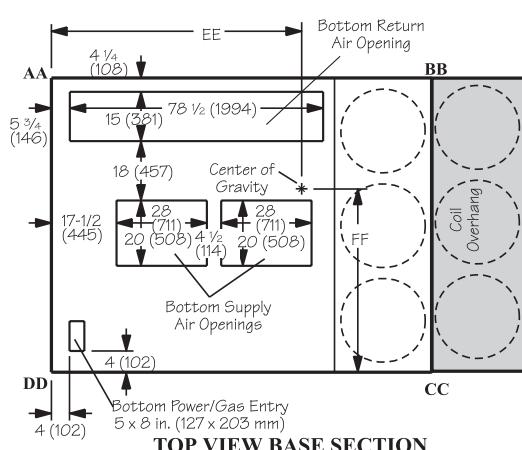
Max. Unit - The standard unit with ALL OPTIONS installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)

Center of Gravity - inches (mm)

| Model Number | EE | | FF | |
|------------------|--------|------|--------|-----|
| | inch | mm | inch | mm |
| LGA360 Base Unit | 59-3/4 | 1518 | 35-3/8 | 899 |
| LGA360 Max. Unit | 58-7/8 | 1495 | 38-1/4 | 972 |

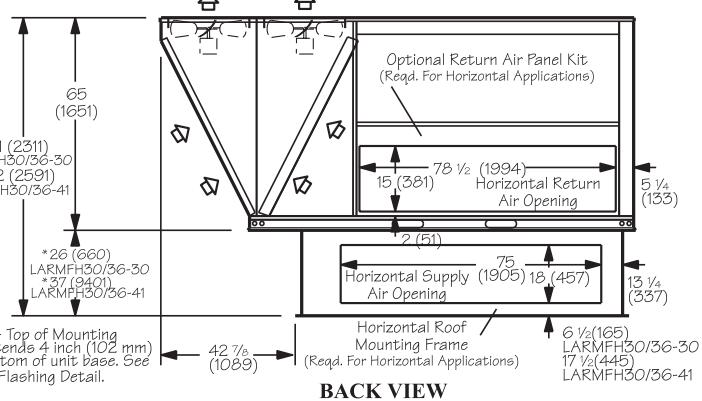
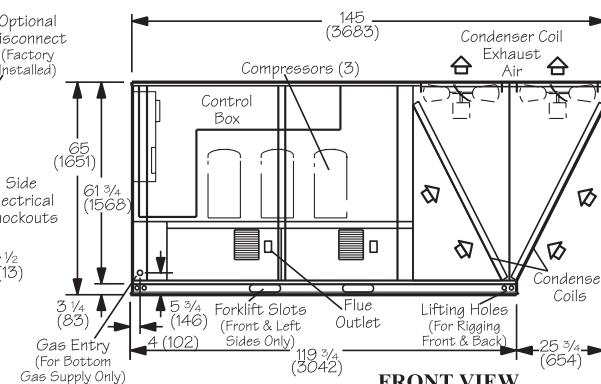
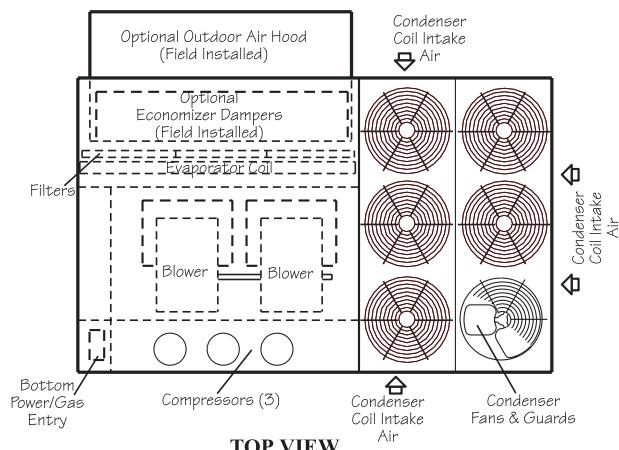
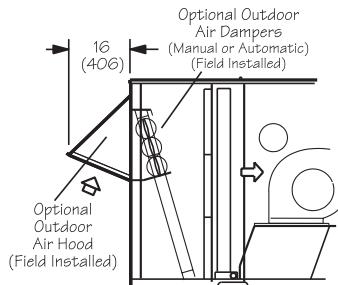
Base Unit - The standard unit with NO OPTIONS.

Max. Unit - The standard unit with ALL OPTIONS installed. (Economizer, Power Exhaust Fans, High Input Heating and Controls)



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

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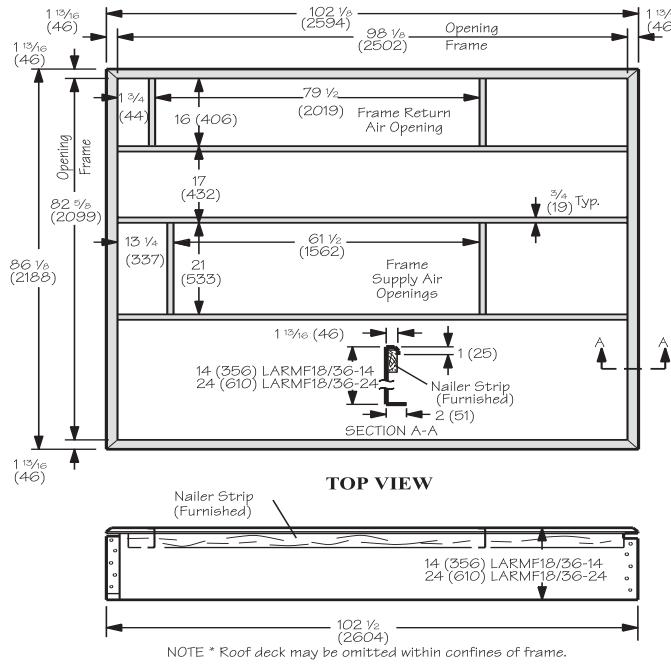


(Horizontal Supply and Return Air Opening)

*NOTE - Top of Mounting Frame extends 4 inch (102 mm) inside bottom of unit base. See Typical Flashing Detail.

Accessory Dimensions - inches (mm)

LARMF18/36-14 & LARMF18/36-24 - Roof Mounting Frame (Double Duct Opening)



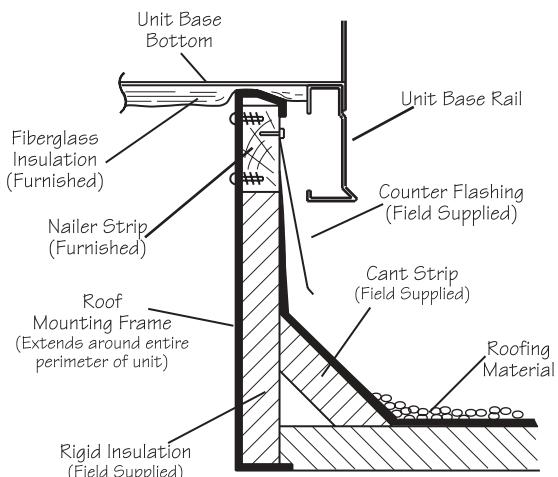
Roof Mounting Frame Specifications

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 | LARMF18/36-14 | LARMF18/36-24 |
|---|------------------|---------------|
| *Moment of inertia (I) (in. ⁴) (cm ⁴) | 39 (1634) | 160 (6639) |
| *Section modulus 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) | |

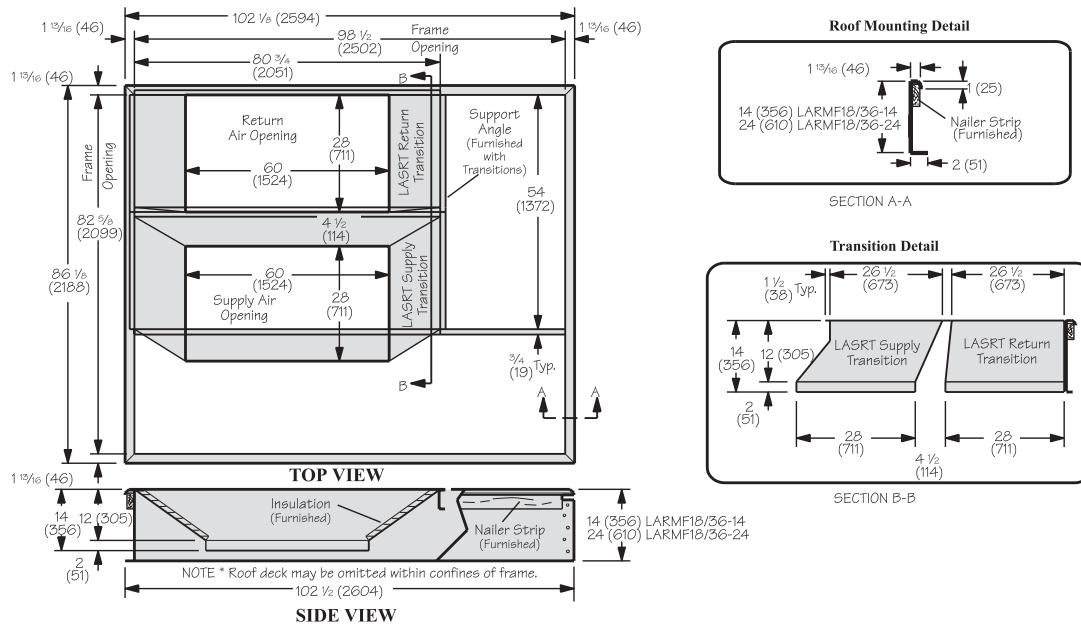
*Includes both sides of frame

Typical Flashing Detail for LARMF18/36 Roof Mounting Frame

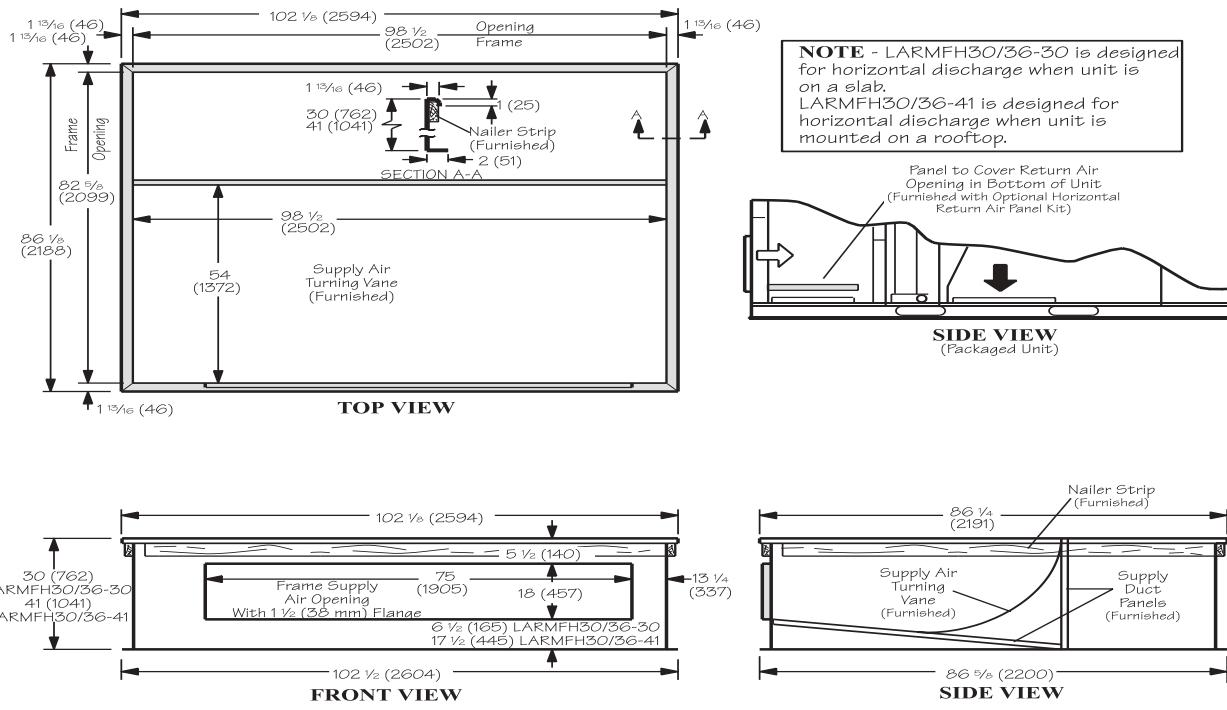


Accessory Dimensions - inches (mm)

LARMF18/36-14 and LARMF18/36-24 Roof Mounting Frames with LASRT36 Supply & Return Air Transitions for LARTD30/36 & LAFD30/36 Ceiling Diffusers



LARMFH30/36-30 & LARMFH30/36-41 Horizontal Roof Mounting Frames (Requires Optional Horizontal Return Air Panel Kit)



NOTE - Roof deck may be omitted within confines of frame.

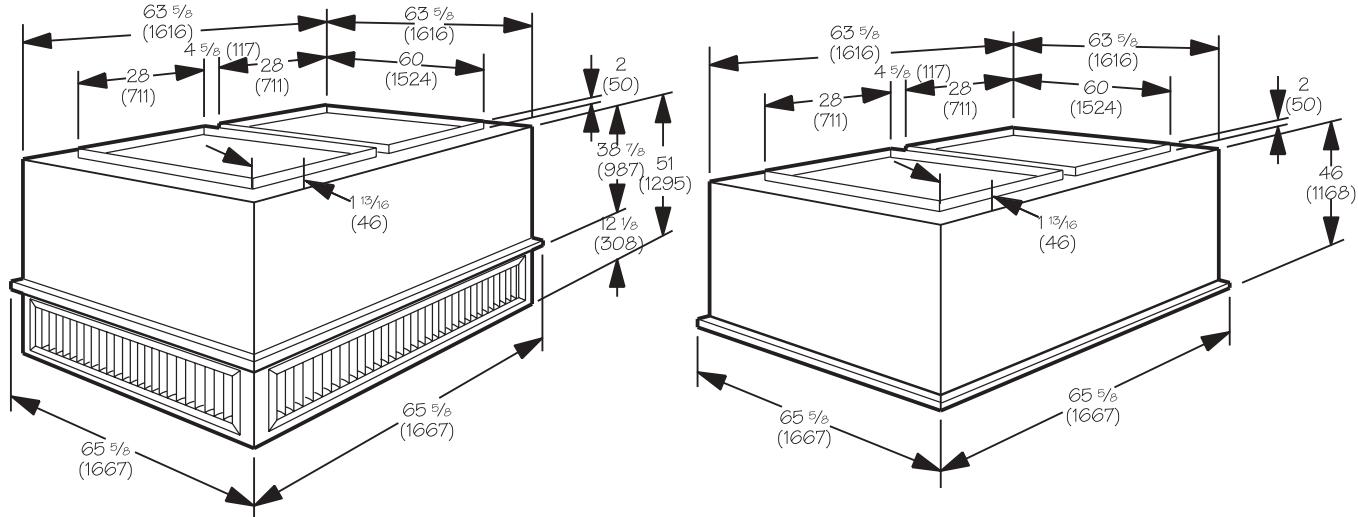
Accessory Dimensions - inches (mm)

LARTD30/36

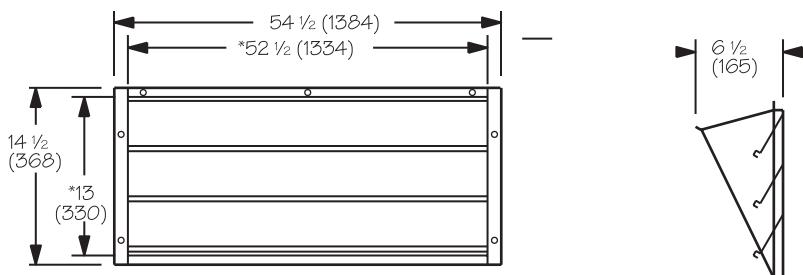
Step-Down Ceiling Diffuser

LAFD30/36

Flush Ceiling Diffuser



LAGEDH30/36 Horizontal Gravity Exhaust Dampers Field Installed in Return Air Duct (two furnished per order no.)



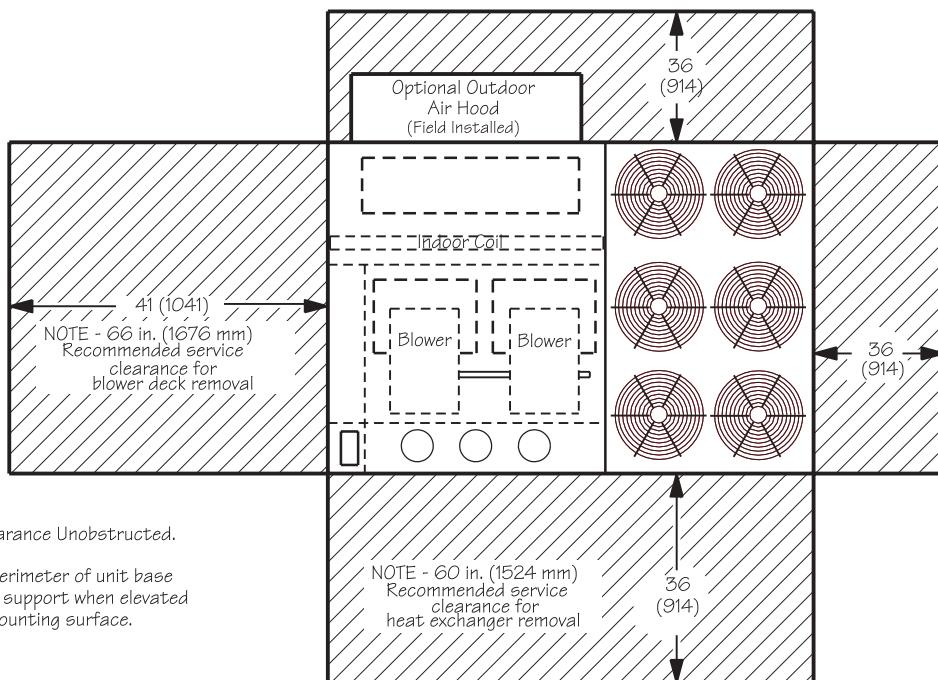
FRONT VIEW

*NOTE - Opening size required in return air duct.

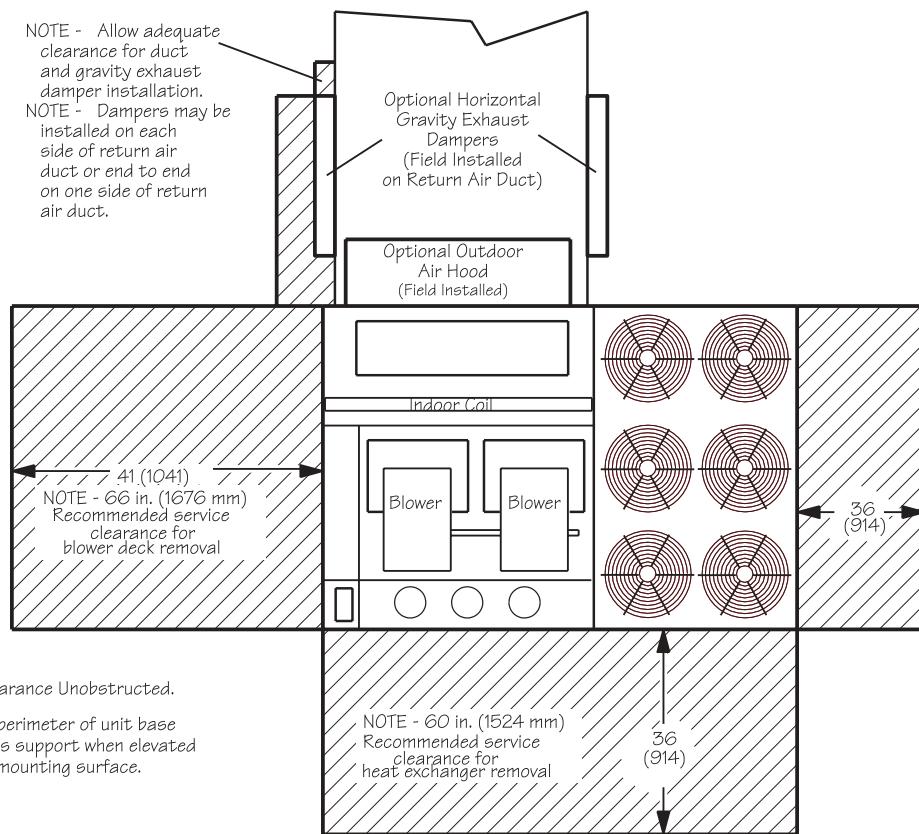
SIDE VIEW

Installation Clearances - inches (mm)

Unit With Economizer



Unit With Horizontal Gravity Exhaust Dampers



All specifications are subject to change
without notice.



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