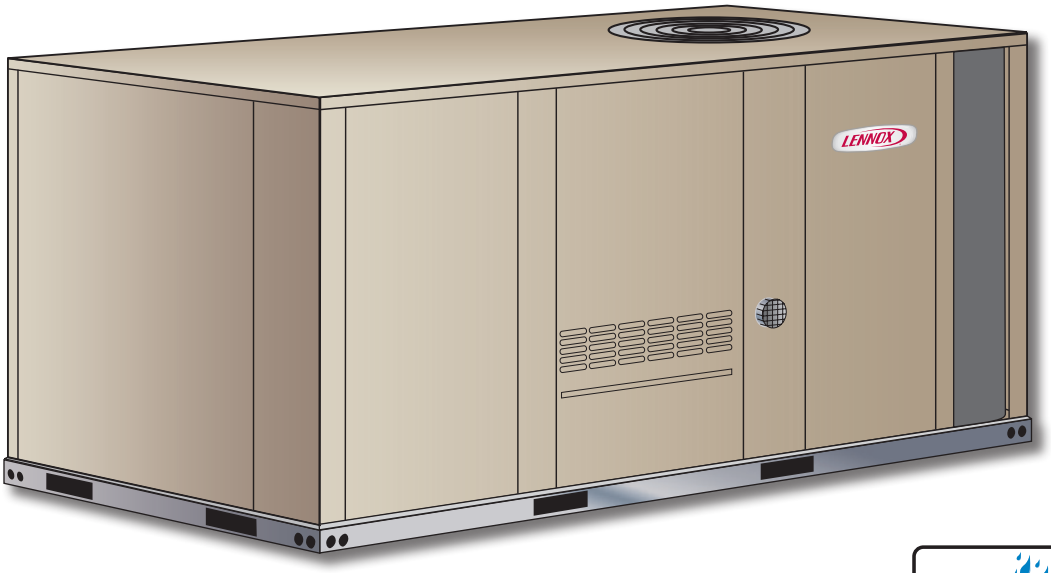
KGB

Xion™ Rooftop Units
Standard Efficiency - 60 Hz

COMMERCIAL
PRODUCT SPECIFICATIONS

Bulletin No. 210992
September 2023
Supersedes May 2023



XION

Humiditrol

ASHRAE 90.1 COMPLIANT

2 to 6 Tons
Net Cooling Capacity – 24,000 to 68,000 Btuh
Gas Input Heat Capacity – 65,000 to 150,000 Btuh

MODEL NUMBER IDENTIFICATION

K G B 060 S 4 B S 1 Y

Brand/Family
K = Xion™ Product Line

Unit Type
G = Packaged Gas Heat w/ Electric Cooling

Major Design Sequence
B = 2nd Generation

Nominal Cooling Capacity - Tons
024 = 2 Tons
030 = 2.5 Tons
036 = 3 Tons
048 = 4 Tons
060 = 5 Tons
074 = 6 Tons

Cooling Efficiency
S = Standard Efficiency

Refrigerant Type
4 = R-410A

Blower Type
D = Direct Drive (PSC)
E = Direct Drive (ECM)
B = Belt Drive
T = Belt Drive (2 Speed)

Heating Type
M = Medium Gas Heat, 1 Stage
H = High Gas Heat, 2 Stage
W = Standard Gas Heat, 1 Stage, Low NOx
Q = Medium Gas Heat, 2 Stage, Low NOx
X = High Gas Heat, 2 Stage, Low NOx

Minor Design Sequence
1 = 1st Revision
2 = 2nd Revision
3 = 3rd Revision

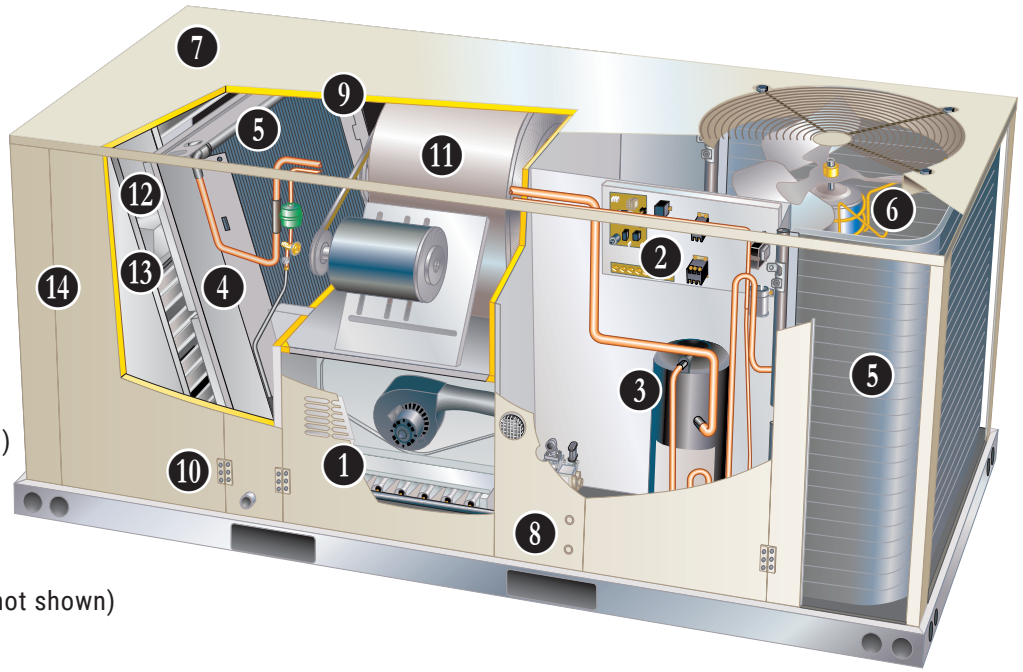
Voltage
P = 208/230V–1 phase-60hz
Y = 208/230V-3 phase-60hz
G = 460V-3 phase-60hz
J = 575V-3 phase-60hz

NOTE - This document applies to all KGB 2-6 Ton Xion™ products built on or after January 1st, 2023.

FEATURE HIGHLIGHTS

Xion™ rooftop units are engineered with the right technologies and options to meet standard efficiency requirements while delivering reliable performance and year-round comfort.

1. Heat Exchanger
2. Electronic Pilot Ignition
3. Scroll Compressor
4. Thermal Expansion Valves
5. Environ™ Coil System
6. Outdoor Coil Fan Motors
7. Heavy Gauge Steel Cabinet
8. Power Entry
9. Fully Insulated Cabnet
10. Hinged Access Panels (option)
11. Supply Air Blower
12. Air Filters
13. Economizer (option)
14. Power Exhaust Fans (option, not shown)



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APPROVALS AND WARRANTY

APPROVALS

- AHRI Certified to AHRI Standard 210/240 (2 thru 5 ton models) and AHRI Standard 340/360 (6 ton models)
- ETL and CSA listed
- CSA certified energy ratings
- Unit and components are ETL, NEC, and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1 compliant
- All models meet DOE 2023 energy efficiency standards
- ISO 9001 Registered Manufacturing Quality System

California Only

- These gas units do not meet the South Coast Air Quality Management District (SCAQMD) Rule 1111 and San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4905 NOx emission limit (14 ng/J) and cannot be installed within the SCAQMD and SJVAPCD areas
- These gas units are approved by the California Energy Commission and meets California Nitrogen Oxides Standard (NOx) limits of 40 ng/J

WARRANTY

- Aluminized steel heat exchanger - Limited ten years
- Stainless steel heat exchanger (optional) - Limited fifteen years
- Compressors - Limited five years
- Environ™ Coil System - Limited three years
- High Performance Economizers (optional) - Limited five years
- All other covered components - Limited one year

FEATURES AND BENEFITS

HEATING SYSTEM

- Aluminized steel inshot burners
- Direct spark ignition
- Electronic flame sensor
- Combustion air inducer
- Redundant automatic single or dual stage gas valve with manual shut-off

1 Heat Exchanger

- Tubular construction
- Aluminized steel
- Life cycle tested

NOTE - Stainless Steel Heat Exchanger is required if mixed air temperature is below 45°F.

2 Electronic Pilot Ignition

- Electronic spark igniter provides positive direct ignition of burners on each operating cycle
- System permits main gas valve to stay open only when the burners are proven to be lit
- Should a loss of flame occur, the gas valve closes, shutting off the gas to the burners
- Ignition module has LED to indicate status and aid in troubleshooting
- Watchguard circuit on module automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance service calls
- Ignition control is factory installed in the controls section

Limit Controls

- Factory installed
- Redundant limit controls with fixed temperature setting
- Protect heat exchanger and other components from overheating

Safety Switches

- Flame roll-out switch
- Flame sensor and combustion air inducer proving switch protect system operation

HEATING SYSTEM (continued)

Required Selections

Conventional or Low NOx Gas Heat
- Specify Conventional Gas Heat or Low NOx (40 ng/J) Gas Heat

Gas Input Choice - Order one:
- Standard Gas Heat (1 Stage) 65,000 Btuh (Low NOx only)
- Medium Gas Heat (1 Stage) 108,000 Btuh (Conventional - three-phase models only)
- Medium Gas Heat (2 Stage) 81,000/108,000 Btuh (Low NOx only)
- High Gas Heat (2 Stage) 113,000/150,000 Btuh (Conventional or Low NOx)

NOTE - All single phase models are furnished with Low NOx (40 ng/J) gas heat.

Options/Accessories

Factory Installed

Stainless Steel Heat Exchanger
- Required if mixed air temperature is below 45°F

Field Installed

Combustion Air Intake Extensions
- Recommended for use with existing flue extension kits in areas where high snow areas can block intake air

Low Temperature Vestibule Heater
- Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below -40°F
- C.S.A.certified to allow operation of unit down to -60°F

LPG/Propane Kits
- Conversion kit to field change over units from Natural Gas to LPG/Propane

Vertical Vent Extension Kit
- Use to exhaust flue gases vertically above unit
- Required when unit vent is too close to fresh air intakes per building codes
- Also prevents ice formation on intake louvers
- Kit contains vent transition, drain cap, and installation hardware

NOTE - Straight vent pipe (3 in. B-Vent), vent tee and vent cap are not furnished and must be field supplied. Refer to kit instructions for additional information.

COOLING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- System can operate from 30°F to 125°F without any additional controls

R-410A Refrigerant
- Non-chlorine based
- Ozone-friendly

3 Single-Stage Scroll Compressor (024 through 060 Models)
- High performance, reliability and quiet operation
- Resiliently mounted on rubber grommets for quiet operation

Two-Stage Scroll Compressor (074 Models)
- Two-stage scroll compressors on all models for high performance, reliability, quiet operation, and increased part-load efficiency
- Resiliently mounted on rubber grommets for quiet operation

Compressor Crankcase Heater
- Protects against refrigerant migration that can occur during low ambient operation or during extended off cycles

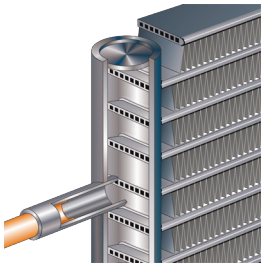
4 Thermal Expansion Valve
- Ensures optimal performance throughout the application range
- Removeable element head

High Pressure Switch
- Protects the compressor from overload conditions such as dirty condenser coils, blocked refrigerant flow or loss of outdoor fan operation

Filter/Drier
- High capacity filter/drier protects the system from dirt and moisture

Indoor Coil Freeze Protection
- Protects the evaporator coil from damaging ice build-up due to conditions such as low/no air flow, or low refrigerant charge

5 Environ™ Coil System
- Condenser and evaporator coil
- Lightweight, all aluminum brazed fin construction
- Constructed of three components:
  - A flat extrusion tube
  - Fins in-between the flat extrusion tube
  - Two refrigerant manifolds



Environ™ Coil System Features:
- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins)
- Smaller internal volume (reduced refrigerant charge)
- High durability
- All aluminum construction
- Fewer brazed joints
- Compact design
- Reduced unit weight
- Easy maintenance/cleaning
- Mounting brackets with rubber inserts secure coil to unit providing vibration dampening and corrosion protection

COOLING SYSTEM (continued)

Antimicrobial Condensate Drain Pan
- Composite pan, sloped to meet drainage requirements of ASHRAE 62.1
- Antimicrobial additive resists growth of mold and mildew on drain pan, which improves indoor air quality and reduces drain line blockage
- Side or bottom drain connections
- Reversible to allow connection at back of unit

6 Outdoor Coil Fan Motor
- Thermal overload protected
- Totally enclosed
- Permanently lubricated sleeve bearings (024, 030, 036 and 048 models)
- Permanently lubricated ball bearings (060 and 074 models)
- Shaft up
- Wire basket mount

Outdoor Coil Fan
- PVC coated fan guard furnished

Required Selections

Cooling Capacity
- Specify nominal cooling capacity

Options/Accessories

Factory Installed

Conventional Fin/Tube Condenser and Evaporator Coil Only (replaces Environ™ Coil System)
- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction

NOTE - Required if Humiditrol® Dehumidification System is ordered.

Field Installed

Condensate Drain Trap
- Field installed only
- Available in copper or PVC

Drain Pan Overflow Switch
- Monitors condensate level in drain pan, shuts down unit if drain becomes clogged

Low Ambient Kit (0°F)
- Cycles the outdoor fan while allowing compressor operation in the cooling cycle
- This intermittent fan operation allows the system to operate without icing the evaporator coil and losing capacity
- Designed for use in ambient temperatures no lower than 0°F

NOTE - A crankcase heater must be installed on the compressor.

CABINET

7 Construction
- Heavy-gauge steel panels
- Full perimeter heavy-gauge galvanized steel base rail
- Base rails have rigging holes
- Three sides of the base rail have forklift slots
- Raised edges around duct and power entry openings in the bottom of the unit for water protection

Airflow Choice
- Units are shipped in downflow (vertical) return air configuration

NOTE - Can be field converted to horizontal airflow configuration without any optional kits.

8 Power/Gas Entry
- Electrical and gas lines can be routed through the unit base or through horizontal access knock-outs

NOTE - Optional Bottom Gas Entry Kit is available.

Exterior Panels
- Constructed of heavy-gauge, galvanized steel
- Textured pre-paint with polyurethane finish
- Cyclic salt fog and UV exposure up to 1,680 hours per ASTM D5894

9 Insulation
- Fully insulated with non-hygroscopic fiberglass insulation (conditioned areas)
- Unit base is fully insulated
- Base insulation serves as an air seal to the roof curb, eliminating the need to add a seal during installation

Access Panels
- Economizer/Filter section
- Heating/Blower section
- Compressor/Controls section

NOTE - Optional Economizers, Power Exhaust, Outdoor Air Dampers and Barometric Relief Dampers include a filler panel for proper cabinet fit.

CABINET (continued)

Options/Accessories

Factory Installed

10 Hinged Access Panels
- Tool-Less Access
- Economizer/Filter section
- Heating/Blower section
- Compressor/Controls section
- Panels seal quarter-turn latching handles provide a tight air and water seal

Field Installed

Combination Coil/Hail Guards
- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

Bottom Gas Entry Kit
- Field installed piping kit to facilitate bottom gas entry

CONTROLS

Unit Control
- All control voltage is provided via a 24V (secondary) transformer with built-in circuit breaker protection
- Up to 2 heat / 2 cool staging with a third party DDC control system or thermostat
- Low voltage terminal block provides screw terminal connections for thermostat or controller wiring
- Night Setback Mode saves energy by closing outdoor air dampers and operating supply fan on thermostat demand only

Options/Accessories

Field Installed

Smoke Detector
- Photoelectric type
- Installed in supply air section, return air section or both sections
- Available with power board and single sensor (supply or return) or power board and two sensors (supply and return)
- Power board located in unit control compartment

Commercial Control Systems

Field Installed

Thermostats
- Control system and thermostat options see page 11

BLOWER

- A wide selection of supply air blower options are available to meet a variety of air flow requirements

Motor
- Overload protected
- Ball bearings (ECM and belt drive)
- Sleeve bearings (PSC direct drive)

ECM Direct Drive Motor
- Multi-tap ECM direct drive motors are offered on 024, 030, 036, 048 and 060 (208/230V-1ph) models
- Motor has nine speed taps to allow adjustment to meet cooling, heating, and ventilation needs at specified external static pressures

PSC Direct Drive Motor
- Multi-tap direct drive PSC motors are offered on 036, 048, 060 (208/230V-3ph) models

Single Speed Belt Drive Motor
- Single speed belt drive motors are offered on 036, 048 and 060 models in several different sizes to maximize air performance

Two-Speed Belt Drive Motor
- Two-speed belt drive motor (low static/high static) furnished on 074 model

11 Supply Air Blower
- Forward curved blades
- Blower wheel statically and dynamically balanced
- Belt drive motors have adjustable pulley for speed change

Required Selections

Supply Air Blower
- Order direct drive or belt drive blower (See Blower Data Table for specifications)
- Belt Drive - Order drive kit, see Drive Kit Specifications Table

FEATURES AND BENEFITS

ELECTRICAL

- All units include terminal block and fuse block in power entry junction box for single power entry application

Marked & Color-Coded Wiring
- All electrical wiring is color-coded and marked to identify which components it is connecting

Electrical Plugs
- Positive connection electrical plugs are used to connect common accessories or maintenance parts for easy removal or installation

Required Selections

Voltage Choice
- Specify when ordering base unit

Options/Accessories

Factory or Field Installed

Disconnect Switch
- Accessible from outside of unit
- Spring loaded weatherproof cover furnished

GFI Service Outlets (2)
- 115V ground fault circuit interrupter (GFCI) type options:
  - Factory installed, non-powered, field wired
  - Field installed, non-powered, field wired

GFI Weatherproof Cover
- Single-gang cover
- Heavy-duty UV-resistant polycarbonate case construction
- Hinged base cover with gasket

INDOOR AIR QUALITY

12 Air Filters
- Disposable 2 inch MERV 4 filters furnished as standard

Options/Accessories

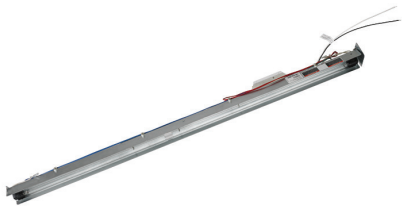
Field Installed

Healthy Climate® High Efficiency Air Filters
- Disposable MERV 8, MERV 13, or MERV 16 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters

Replacement Filter Media Kit With Frame (060-074 Models)
- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

Indoor Air Quality (CO_2) Sensors
- Monitors CO_2 levels
- Reports to the Unit Controller which adjusts economizer dampers as needed

Healthy Climate® UVC Germicidal Lamps



- Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds
- UV-C energy greatly reduces the growth and proliferation of mold and other bioaerosols (bacteria and viruses) on illuminated surfaces (particularly coil and drain pan)
- Destroys the organism or controls its ability to reproduce
- Field installed in the blower/evaporator coil section
- Magnetic safety interlock terminates power when access panels are removed
- All necessary hardware for installation is included
- Lamps operate on 110/230V-1ph power supply

NOTE - Step-down transformer may be ordered separately for 460V and 575V units.

- Approved by ETL

Needlepoint Bipolar Ionization (NPBI) Kit
- NPBI technology has been shown to effectively reduce harmful pathogens, pollutants, and odors

NOTE - Please visit www.sciencedirect.com for additional information.

- Brush-type ionizer introduces a high concentration of both positive and negative ions into the air stream
- These bipolar ions are then dispersed into the occupied space through the duct system proactively reducing the airborne contaminants
- Ions travel within the building air stream and attach to particles, pathogens, and gas molecules, making them larger and easier to capture in the filtration system
- UL 2998 certified for zero ozone emission

OPTIONS/ACCESSORIES

ECONOMIZER

Field Installed

13 Standard Economizer (Not for Title 24)

NOTE - Field Installed Economizer Does Not Include - Barometric Relief Dampers, Combination Outdoor Air/Exhaust Hood and Harness, these must be ordered separately.

- Gear-driven action
- Return air and outdoor air dampers
- Plug-in connections to unit
- Neoprene seals
- 24-volt, fully-modulating spring return motor
- Occupied/Unoccupied mode with field furnished setback thermostat
- Demand Control Ventilation (DCV) ready using optional CO_2 sensors
- Mixed Air Sensor is furnished for field installation in the rooftop unit
- Single sensible sensor is furnished with Economizer and enables economizer operation if the outdoor temperature is less than the setpoint of the control
- Barometric Relief Dampers allow relief of excess air, dampers prevent blow back and outdoor air infiltration during off cycle, bird screen furnished

NOTE - Barometric Relief Dampers are required when Economizer is factory installed with field installed Power Exhaust Fan option. See Power Exhaust Fan section and Options/Accessories table.

NOTE - Horizontal Barometric Dampers are required for horizontal Economizer applications and must be ordered separately.

Standard Economizer Control Module



- Standard Economizer Control Module can be adjusted to operate based on outdoor air temperatures

Economizer Controls:

- Damper Minimum Position Can be set lower than traditional minimum air requirements resulting in cost savings
- IAQ Sensor - Signals dampers to modulate and maintain 55°F when CO_2 is higher than the CO_2 setpoint
- Demand Control Ventilation (DCV) LED - A steady green Demand Control Ventilation LED indicates the IAQ reading is higher than setpoint and requires more fresh air
- Free Cool LED - A steady green LED indicates outdoor air is suitable for free cooling
  - Free Cooling runs when outdoor air temperature is lower than the set temperature on the economizer control

NOTE: The Free Cooling default setting for outdoor air temperature sensor is 55°F.

Factory or Field Installed

High Performance Economizer

- Approved for California Title 24 building standards
- Low leakage dampers are Air Movement and Control Association International (AMCA) Class 1A Certified - Maximum 3 cfm per sq. ft. leakage at 1 in. w.g.
- ASHRAE 90.1 compliant
- Factory installed Economizer can be ordered with two exhaust options:
  - Barometric Relief Dampers
  - No Exhaust
- Linked damper action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit

NOTE - High Performance Economizers are not approved for use with differential enthalpy controls in Title 24 applications.

- Combination Outdoor Air/Exhaust Hood is furnished
- Field installed Economizer includes Barometric Relief Dampers with Combination Outdoor Air/Exhaust Hood
- Occupied/Unoccupied mode with field furnished setback thermostat
- Demand Control Ventilation (DCV) ready using optional CO_2 sensors
- Mixed Air Sensor is furnished for field installation in the rooftop unit

NOTE - Mixed Air Sensor is factory installed when Economizer is factory installed.

- Single sensible sensor is furnished with field installed Economizer and enables economizer operation if the outdoor temperature is less than the setpoint of the control
- Barometric Relief Dampers allow relief of excess air, dampers prevent blow back and outdoor air infiltration during off cycle, bird screen furnished

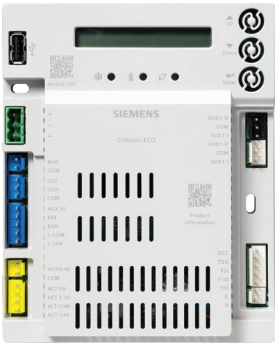
NOTE - Barometric Relief Dampers are required when Economizer is factory installed with field installed Power Exhaust Fan option. See Power Exhaust Fan section and Options/Accessories table.

NOTE - Horizontal Barometric Dampers are required for horizontal Economizer applications and must be ordered separately.

ECONOMIZER (continued)

High Performance Economizer Control Module

- Provides inputs and outputs to control economizer based on parameter settings
- Free cooling based on single dry bulb temperature, or combination temperature + humidity sensors
- Automatic switchover for different control modes
- Parameter settings based on climate zone, using GPS functionality in the Climatix Mobile application
- LED indication for free cooling operation, sensor operation and damper operation
- Quick installation and easy commissioning with the Climatix Mobile App on a mobile device



Download on the App Store

ANDROID APP ON Google play

NOTE - WLAN Stick is required for App connection to module(s).

- Module displays any alarm messages (fault detection and diagnostics) as an aid in troubleshooting
- RS485 port for BACnet MSTP or Modbus RTU communication
- USB port for firmware updates and WLAN connection for setup and commissioning
- QR codes on module for quick access to download Climatix Mobile App and user documentation
- User Interface for normal operation, parameter setup and alarm notifications with an LCD display and three operation buttons:

1. Up Button - Move to the previous value, step or category
2. Down Button - Move to the next value, step or category
3. Enter Button -
   - Press to edit the current value or option
   - Press to confirm a newly selected value or option
   - Press Enter + Up to jump up one category
   - Press Enter + Down to jump down one category

NOTE - The Free Cooling setpoint for Title 24 applications must be set based on the Climate Zone where the system is installed. See Section 140.4 "Prescriptive Requirements for Space Conditioning Systems" of the California Energy Commission's 2013 Building Energy Efficiency Standards.

NOTE - Refer to Installation Instructions for complete setup information and menu parameters available.

Field Installed

Single Enthalpy Temperature Control

- Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control

NOTE - The factory installed economizer option comes preset for Single Enthalpy control but can be field converted to Single Sensible Temperature control by changing a parameter on the economizer control module.

Differential Enthalpy Control (Not for Title 24)

- Order one for factory installed economizer
- Order two for field installed economizer
  - One is field installed in the return air section
  - One in the outdoor air section
- Allows the economizer control board to select between outdoor air or return air, whichever has lower enthalpy

WLAN Stick

- Required for Climatix Mobile App usage
- Plugs into USB port on Module to provide a temporary WLAN connection for setup, commissioning and servicing

NOTE - Only one WLAN Stick is required and can be used on multiple modules.

OPTIONS/ACCESSORIES

EXHAUST

Field Installed

Horizontal Barometric Relief Dampers
- For use when unit is configured for horizontal applications with an economizer
- Allows relief of excess air
- Blade type dampers prevent blow back and outdoor air infiltration during off cycle
- Field installed in return air duct
- Exhaust hood with bird screen furnished

NOTE - Requires Horizontal Economizer Conversion Kit.

Horizontal Economizer Conversion Kit
- Insulated panel covers the bottom return air opening on the unit base to convert downflow Economizer to horizontal airflow

14 Power Exhaust Fan
- Installs internal to unit for downflow applications only with Economizer option
- Provides exhaust air pressure relief
- Interlocked to run when supply air blower is operating, fan runs when outdoor air dampers are 50% open (adjustable)
- Motor is overload protected.
- 16 in. diameter fan
- 4 fan blades
- 1/3 hp motor

NOTE - Not available for 024 and 030 models.

NOTE - If Power Exhaust is field installed with a factory installed Economizer, the Economizer must be ordered with No Exhaust option. Barometric Relief Dampers must also be ordered separately for field installation.

OUTDOOR AIR

Field Installed

Outdoor Air Dampers
- Downflow or Horizontal
- Single blade damper
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Includes outdoor air hood
- Motorized model features fully modulating spring return damper motor with plug-in connection
- Manual model features a slide damper

NOTE - Maximum mixed air temperature in cooling mode is 100°F

ROOF CURBS

Field Installed
- Nailer strip furnished
- Mates to unit
- US National Roofing Contractors Approved
- Shipped knocked down

Hybrid Roof Curbs
- Downflow
- Interlocking tabs fasten corners together
- No tools required for assembly
- Can also be fastened together with furnished hardware
- Available in 8, 14, 18, and 24 inch heights

Adjustable Pitch Curb
- Downflow
- Fully adjustable pitch curbs (3/4 in. per foot in any direction) provide a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles
- Interlocking tabs fasten corners together
- No tools required for assembly
- Hardware is furnished to connect upper curb with lower curb
- Available in 14 inch height

Adaptor Curbs (not shown)
- Curbs are regionally sourced
- Dimensions vary based upon the source

NOTE - Contact your local sales representative for a detailed cut sheet with applicable dimensions.

CEILING DIFFUSERS

Field Installed

Ceiling Diffusers (Flush or Step-Down)
- White powder coat finish on diffuser face and grilles
- Insulated UL listed duct liner
- Diffuser box has collars for duct connection
- Step-down diffusers have double deflection blades
- Flush diffusers have fixed blades
- Provisions for suspending
- Internally sealed to prevent recirculation
- Removable return air grille
- Adapts to T-bar ceiling grids or plaster ceilings

Transitions (Supply and Return)
- Used with diffusers
- Installs in roof curb
- Galvanized steel construction
- Flanges furnished for duct connection to diffusers
- Fully insulated

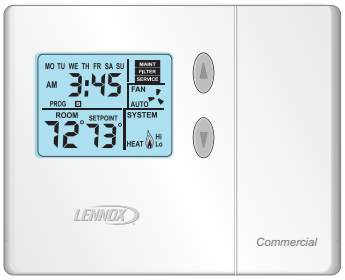
OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

CS7500 Commercial 7-Day Programmable Thermostat



- Premium Universal Thermostat
- Full Color Touchscreen Interface
- Up To 4 Heat / 3 Cool
- Built-In Sensors For Temperature and Humidity
- Remote Sensors Options For Temperature, Discharge Air, Outdoor Air
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- FDD, ASHRAE, IECC Compliant

CS3000 Commercial 5-2 Day Programmable Thermostat



- Conventional Multi-Stage Thermostat
- Intuitive Display
- Push-Button Operation
- Up To 2 Heat / 2 Cool
- Built-In Temperature Sensor
- Remote Temperature Sensing
- Up to 5-2 Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-changeover

Description		Catalog No.
CS7500 Commercial 7-Day Programmable Thermostat		
CS7500 7-Day Thermostat		**24K41**
Sensors/ Accessories	[1] Remote non-adjustable wall-mount 20k	**47W36**
	[1] Remote non-adjustable wall-mount 10k	**47W37**
	Remote non-adjustable discharge air (duct mount)	**19L22**
	Outdoor temperature sensor	**X2658**
CS3000 5-2 Day Programmable Thermostat		
CS3000 5-2 Day Thermostat		**11Y05**
Sensor/ Accessories	Remote non-adjustable wall mount 10k averaging	**47W37**
	Thermostat wall mounting plate	**X2659**
BACnet 7-Day Programmable Thermostat		
BACnet Controls	[2] 7-Day BACnet Thermostat	**24C57**
	[3] BACnet Module	**16X70**
[4] BACnet Room Sensors	With Display	**97W23**
	Without Display	**97W24**
Universal Thermostat Guard with Lock (clear)		
	Inside Dimensions (H x W x D) 5-7/8 x 8-3/8 x 3 in.	**39P21**

[1] Remote wall-mount sensors can be applied in any of the following combinations:
One Sensor - (1) 47W36, Two Sensors - (2) 47W37, Three Sensors - (2) 47W36 and (1) 47W37
Four Sensors - (4) 47W36, Five Sensors - (3) 47W36 and (2) 47W37

[2] BACnet Thermostat (24C57) will control units with and without the Humiditrol® option. If there is a mix of units equipped with and without Humiditrol on the same site, this thermostat can be used for all units if suitable.

[3] Not compatible with units equipped with Humiditrol® option.

[4] Only compatible with BACnet Module (16X72).

BACnet Compatible Thermostat With Reheat



- 7-Day Programmable
- For units with or without Humiditrol®
- BTL listed MS/TP ensures compatibility with any BACnet system
- Built-in control programs for conventional and heat pump applications
- Conventional systems up to 3-stage heat and 3-stage cool
- Heat pumps with 1 or 2 compressors and up to 2-stage auxiliary heat
- On-board temperature and humidity sensor
- Multiple configurable inputs and outputs enable advanced control strategies
- Set-up Wizard enables rapid system configuration
- No special tools required for installation or commissioning
- Seven-day (2, 4 or 6 event) occupancy scheduling per day
- Backlit 5-inch LCD touchscreen

HUMIDITROL® DEHUMIDIFICATION SYSTEM OPTION

OVERVIEW

NOTE - Not available with Environ™Coil System. Conventional Fin/Tube condenser coil must be ordered as a factory option.

- Factory installed option designed to control humidity
- Provides dehumidification on demand using ASHRAE 90.1 recommended method for comfort conditioning humidity controller
- Unit comes equipped with one row reheat coil, solenoid valve and humidity controller
- A dehumidistat or thermostat with a dehumidification output or a DDC controller with an isolated output is required to control humidity and must be located in the occupied space
- Reheat controls are located in the compressor control section of the unit for easy access

BENEFITS

- Improves indoor air quality
- Helps prevents damage due to high humidity levels
- Improves comfort levels by reducing space humidity levels

OPERATION

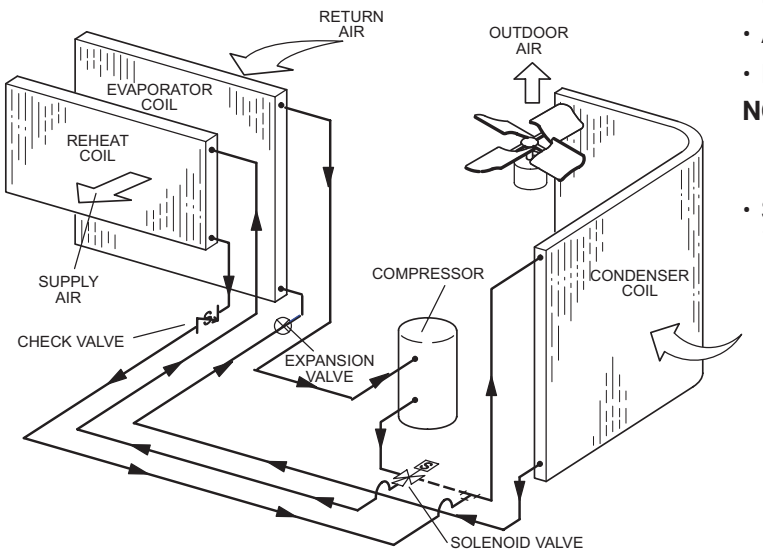
No Dehumidification Demand

- Unit will operate conventionally whenever there is a demand for cooling or heating and no dehumidification demand
- Free cooling is only permitted when there is no demand for dehumidification

Dehumidification Demand Only

- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- Unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- Reheat coil is sized to provide 68°F to 75°F supply air during reheat operation

TYPICAL DEHUMIDIFICATION SCHEMATIC



- This reduces sensible cooling capacity and extends compressor run time to control humidity when the cooling load is low
- A solenoid valve diverts hot gas from the compressor to the reheat coil
- Cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil
- De-superheated and partially condensed refrigerant continues to the outdoor condenser coil where condensing is completed
- Unit will continue to operate in this mode until the dehumidification demand is satisfied

Dehumidification and Cooling Demand (Thermostat/ Room Sensor Application)

Single speed compressor model (024 through 060)

- A two stage thermostat is required for dehumidification to operate with a single speed system
- If both a dehumidification and a Y1 cooling demand occur, the system will ignore the Y1 demand and continue to operate in dehumidification mode until the humidity setpoint is reached
- A Y2 demand will shut off dehumidification mode and normal cooling will resume until demand is satisfied

Two-stage compressor models (074)

- A dehumidification demand sends both the blower (if T type blower is selected) and compressor to high speed
- If both a dehumidification and a Y1 cooling demand occur, the system will ignore the Y1 demand and continue to operate in dehumidification mode
- If a Y2 cooling demand occurs along with a dehumidification demand, the system operates in full cooling mode at full cooling airflow until the Y2 cooling demand is satisfied
- Then the system will revert to the dehumidification mode if a dehumidification mode demand is present

Options/Accessories

Field Installed

CS7500 Thermostat

- Dehumidification control
- Adjustable from 45-60% relative humidity
- Remotely installed in the conditioned space

NOTE - A dehumidistat with a dehumidification output or a DDC controller with an isolated output can be used instead (field furnished).

- See Conventional Thermostat Control Systems on page 11 for additional information

OPTIONS / ACCESSORIES

Item		Catalog No.	Unit Model No. KGB 024	KGB 030	KGB 036	KGB 048	KGB 060	KGB 074
COOLING SYSTEM								
Condensate Drain Trap	PVC	**22H54**	X	X	X	X	X	X
	Copper	**76W27**	X	X	X	X	X	X
[1] Conventional Fin/Tube Condenser/Evaporator Coils (replaces Environ™ Coil System)		Factory	O	O	O	O	O	O
Drain Pan Overflow Switch		**74W42**	X	X	X	X	X	X
Low Ambient Kit		**14D89**	X	X	X	X	X	X
HEATING SYSTEM								
Bottom Gas Piping Kit		**19W50**	X	X	X	X	X	X
Combustion Air Intake Extensions		**19W51**	X	X	X	X	X	X
Gas Heat Input	Standard One-Stage (Low NOx only) - 65 kBtuh input	Factory	O	O	O	O	O	O
	Medium One-Stage (Conventional - 3ph models only) - 108 kBtuh input	Factory			O	O	O	O
	Medium Two Stage (Low NOx only) - 81/108 kBtuh input	Factory			O	O	O	O
	High Two-Stage (Conventional or Low NOx) - 113/150 kBtuh input	Factory				[2] O	O	O
LPG/Propane Conversion Kits	For One-Stage Models	**21Z22**	X	X	X	X	X	X
	For Two-Stage Models	**21Z23**			X	X	X	X
Gas Heat Type	Conventional Gas Heat	Factory			O	O	O	O
	[3] Low NOx (40 ng/J) Gas Heat	Factory	O	O	O	O	O	O
Low Temperature Vestibule Heater	208/230V-1 or 3 ph	**19W53**	X	X	X	X	X	X
	460V-3ph	**19W54**			X	X	X	X
	575V-3ph	**19W62**			X	X	X	X
Stainless Steel Heat Exchanger		Factory	O	O	O	O	O	O
Vertical Vent Extension		**31W62**	X	X	X	X	X	X

[1] Required if Humiditrol® Dehumidification System is ordered.
[2] For 048 three-phase models only.
[3] Low NOx is furnished with all single phase models, optional for all three phase models with Medium or High Gas Heat.

NOTE - The catalog numbers that appear here are for ordering field installed accessories only.
OX - Field Installed or Configure to Order (Factory Installed)
O - Configure to Order (Factory Installed)
X - Field Installed

OPTIONS / ACCESSORIES

Item		Catalog No.	Unit Model No. KGB 024	KGB 030	KGB 036	KGB 048	KGB 060	KGB 074
BLOWER - SUPPLY AIR								
Motors	Direct Drive (ECM) - 0.33 hp (208/230V-1ph)	Factory	O	O				
	Direct Drive (ECM) - 0.50 hp (208/230V-1ph)	Factory			O			
	Direct Drive (ECM) - 0.75 hp (208/230V-1ph)	Factory				O		
	Direct Drive (ECM) - 1.0 hp (208/230V-1ph)	Factory					O	
	Direct Drive (PSC) - 0.5 hp (208/230V-3ph, 460V-3ph, 575V-3ph)	Factory			O	O		
	Direct Drive (PSC) - 0.75 hp (208/230V-3ph, 460V-3ph, 575V-3ph)	Factory					O	
	Belt Drive - 1 hp (208/230V, 460V, 575V-3ph)	Factory			O	O	O	
	Belt Drive - 2 hp (208/230V, 460V, 575V-3ph)	Factory				O	O	
	Belt Drive - 1 hp (208/230V, 460V, 575V-3ph) (2-Speed)	Factory						O
	Belt Drive - 2 hp (208/230V, 460V, 575V-3ph) (2-Speed)	Factory						O
Drive Kits See Blower Data Tables for selection	Kit A01 - 673-1010 rpm	Factory			O			
	Kit A02 - 745-1117 rpm	Factory				O		
	Kit A03 - 833-1250 rpm	Factory					O	
	Kit A04 - 968-1340 rpm	Factory						O
	Kit A05 - 897-1346 rpm	Factory			O			
	Kit A06 - 1071-1429 rpm	Factory				O		
	Kit A07 - 1212-1548 rpm	Factory					O	
	Kit A08 - 1193-1591 rpm	Factory						O
CABINET								
Combination Coil/Hail Guards		**13R98**	X	X	X	X		
		13T03					X	X
Hinged Access Panels		Factory	O	O	O	O	O	O
CONTROLS								
NOTE - Also see Conventional Thermostat Control Systems on page 11 for Additional Options.								
Smoke Detector - Supply or Return (Power board and one sensor)		**21Z11**	X	X	X	X	X	X
Smoke Detector - Supply and Return (Power board and two sensors)		**21Z12**	X	X	X	X	X	X
ELECTRICAL								
Voltage 60 hz	208/230V - 1 phase		O	O	O	O	O	
	208/230V - 3 phase				O	O	O	O
	460V - 3 phase				O	O	O	O
	575V - 3 phase				O	O	O	O
Disconnect	See Electrical Data Tables for selection		OX	OX	OX	OX	OX	OX
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	**74M70**	OX	OX	OX	OX	OX	OX
	[1] 20 amp non-powered, field-wired (208/230V, 460V, 575V)	**67E01**	X	X	X	X	X	X
	[1] 20 amp non-powered, field-wired (575V)	Factory	O	O	O	O	O	O
Weatherproof Cover for GFI		**10C89**	X	X	X	X	X	X

[1] Canada requires a minimum 20 amp circuit. Select 20 amp, non-powered, field wired GFI.

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OPTIONS / ACCESSORIES

Item	Catalog No.	Unit Model No. KGB 024	KGB 030	KGB 036	KGB 048	KGB 060	KGB 074
ECONOMIZER							
Standard Economizer (Sensible Control) (Not for Title 24)							
Standard Economizer Barometric Relief Dampers, Combination Outdoor Air/Exhaust Hood and Harness are not furnished and must be ordered separately (see below)	**23T20**	X	X	X	X	X	X
Barometric Relief Dampers, Combination Hood and Harness for Standard Economizer	**23B17**	X	X	X	X	X	X
Standard Economizer Controls (Not for Title 24)							
Single Enthalpy Control	**21Z09**	X	X	X	X	X	X
Differential Enthalpy Control (order 2)	**21Z09**	X	X	X	X	X	X
High Performance Economizer (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)							
High Performance Economizer (Includes Barometric Relief Dampers and Combination Outdoor Air/Exhaust Hood) Factory Installed Economizer - Enthalpy control is furnished as standard. Field programmable for Sensible Control without additional hardware Field Installed Economizer - Sensible Sensible Sensor is furnished as standard	**23G22**	OX	OX	OX	OX	OX	OX
High Performance Economizer Controls							
Single Enthalpy Control	**23G26**	X	X	X	X	X	X
Differential Enthalpy Control (order 1 for factory. order 2 for field) (Not for Title 24)	**23G26**	X	X	X	X	X	X
Economizer Accessories							
WLAN Stick (For High Performance Economizer only)	**23K58**	X	X	X	X	X	X
Horizontal Economizer Conversion Kit	**17W45**	X	X	X	X	X	X
POWER EXHAUST FAN							
Standard Static — 208/230V-1 or 3ph	**21Z13**			X	X	X	X
NOTE - Field installed Power Exhaust Fan requires "Barometric Relief Dampers for Power Exhaust Kit" for field installation. See below. — 460V-3ph	**21Z14**			X	X	X	X
575V-3ph	**21Z15**			X	X	X	X
[1] BAROMETRIC RELIEF							
[1] Barometric Relief Dampers for Power Exhaust Kit	**21Z21**			X	X	X	X
[2] Horizontal Barometric Relief Dampers With Exhaust Hood	**19F01**	X	X	X	X	X	X
OUTDOOR AIR							
Outdoor Air Dampers With Outdoor Air Hood							
Motorized	**15D17**	X	X	X	X	X	X
Manual	**15D18**	X	X	X	X	X	X
HUMIDITROL® DEHUMIDIFICATION REHEAT OPTION							
Humiditrol Dehumidification Option, includes remote mounted Dehumidistat	Factory	O	O	O	O	O	O

[1] Required when Economizer is factory installed with field installed Power Exhaust Fan option.
[2] Required when Economizer is configured for horizontal airflow.

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OPTIONS / ACCESSORIES

Item		Catalog No.	Unit Model No. KGB 024	KGB 030	KGB 036	KGB 048	KGB 060	KGB 074
INDOOR AIR QUALITY								
Air Filters								
Healthy Climate® High Efficiency Air Filters Order 4 per unit	MERV 8 (16 x 20 x 2)	**54W20**	X	X	X	X		
	MERV 13 (16 x 20 x 2)	**52W37**	X	X	X	X		
	MERV 16 (16 x 20 x 2)	**22H13**	X	X	X	X		
	MERV 8 (20 x 20 x 2)	**54W21**					X	X
	MERV 13 (20 x 20 x 2)	**52W39**					X	X
	MERV 16 (20 x 20 x 2)	**21U40**					X	X
Replaceable Media Filter With Metal Mesh Frame (includes non-pleated filter media) (Order 4 per unit)	20 x 20 x 2 in.	**44N60**					X	X
Indoor Air Quality (CO_2) Sensors								
Sensor - Wall-mount, off-white plastic cover with LCD display		**77N39**	X	X	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		**23V86**	X	X	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting		**87N54**	X	X	X	X	X	X
CO_2 Sensor Duct Mounting Kit - for downflow applications		**85L43**	X	X	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO_2 sensor (**77N39**)		**90N43**	X	X	X	X	X	X
Needlepoint Bipolar Ionization (NPBI)								
Needlepoint Bipolar Ionization Kit		**22U14**	X	X	X	X	X	X
UVC Germicidal Lamps								
[1] Healthy Climate® UVC Light Kit (110/230V-1ph)		**21A92**	X	X	X	X	X	X
Step-Down Transformers	460V primary, 230V secondary	**10H20**	X	X	X	X	X	X
	575V primary, 230V secondary	**10H21**	X	X	X	X	X	X
ROOF CURBS								
Hybrid Roof Curbs, Downflow								
8 in. height		**11F50**	X	X	X	X	X	X
14 in. height		**11F51**	X	X	X	X	X	X
18 in. height		**11F52**	X	X	X	X	X	X
24 in. height		**11F53**	X	X	X	X	X	X
Adjustable Pitch Curb								
14 in. height		**43W27**	X	X	X	X	X	X
CEILING DIFFUSERS								
Step-Down - Order one	RTD9-65S	**13K60**	X	X	X	X	X	
	RTD11-95S	**13K61**						X
Flush - Order one	FD9-65S	**13K55**	X	X	X	X	X	
	FD11-95S	**13K56**						X
Transitions (Supply and Return) - Order one	T1TRAN10AN1	**17W53**	X	X	X	X	X	
	T1TRAN20N-1	**17W54**						X

[1] Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for 460V and 575V units. Alternately, 110V power supply may be used to directly power the UVC ballast(s)

NOTE - The catalog numbers that appear here are for ordering field installed accessories only.

OX - Field Installed or Configure to Order (Factory Installed)

O - Configure to Order (Factory Installed)

X - Field Installed

SPECIFICATIONS - DIRECT DRIVE BLOWER — 2 TON | 2.5 TON

General Data	**Nominal Tonnage**	**2 Ton**	**2.5 Ton**
	Model No.	**KGB024S4E**	**KGB030S4E**
	Efficiency Type	**Standard**	**Standard**
	Blower Type	Multi-Speed Direct Drive ECM	Multi-Speed Direct Drive ECM
Cooling Performance	Gross Coloing Capacity (Btuh)	24,600	31,000
	[1] Net Cooling Capacity (Btuh) 1ph	23,600	29,600
	[1] AHRI Rated Air Flow (cfm) 1ph	900	1050
	[1] SEER2 (Btuh/Watt) 1ph	13.4	13.4
	[1] EER2 (Btuh/Watt) 1ph	10.6	10.6
	Total Unit Power (kW) 1ph	2.2	2.8
[2] Sound Rating Number (dBA)		74	74
Refrigerant Charge	Refrigerant Type	R-410A	R-410A
	Environ™ Condenser and Evaporator	4 lbs. 8 oz.	3 lbs. 14 oz.
	Fin/Tube Condenser and Evaporator (Option)	10 lbs. 0 oz.	10 lbs. 8 oz.
	Fin/Tube Condenser and Evaporator With Reheat (Option)	9 lbs. 15 oz.	10 lbs. 7 oz.
Gas Heating Options		See page 22	
Compressor Type (one per unit)		Scroll	Scroll
Outdoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	11.7 (15.6)	11.7 (15.6)
	Number of rows	1 (2)	1 (2)
	Fins per inch	23 (20)	23 (20)
Outdoor Coil Fan	Motor - (No.) HP	(1) 1/4	(1) 1/4
	Motor rpm	825	825
	Total Motor Input - watts	335	335
	Diameter - (No.) in. / No. of blades	(1) 24 - 4	(1) 24 - 4
	Total air volume - cfm	3700	3700
Indoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	7.0 (7.8)	7.0 (7.8)
	Number of rows	1 (2)	1 (3)
	Fins per inch	20 (14)	20 (14)
	Drain Connection (no.) and size - in.	(1) 1 NPT	(1) 1 NPT
	Expansion device type	Balanced Port Thermostatic Expansion Valve,removable element head	
Indoor Blower	Nominal Motor HP	0.33 hp (ECM)	0.33 hp (ECM)
	Wheel nominal diameter x width - in.	(1) 10 x 10	(1) 10 x 10
Filters	Type	MERV 4, Disposable	
	Number and size - in.	(4) 16 x 20 x 2	
Electrical Characteristics - 60 Hz		208/230V 1 phase	208/230V 1 phase

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

[1] AHRI Certified to AHRI Standard 210/240: 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270-95.

SPECIFICATIONS - DIRECT DRIVE BLOWER — 3 TON | 4 TON

General Data		3 Ton	3 Ton	4 Ton	4 Ton
	Model No.	**KGB036S4E**	**KGB036S4D**	**KGB048S4E**	**KGB048S4D**
	Efficiency Type	**Standard**	**Standard**	**Standard**	**Standard**
	Blower Type	Multi-Speed Direct Drive ECM	Multi-Tap Direct Drive PSC	Multi-Speed Direct Drive ECM	Multi-Tap Direct Drive PSC
Cooling Performance	Gross Cooling Capacity (Btuh)	37,300	37,300	49,700	49,700
	[1] Net Cooling Capacity (Btuh) 3ph	- - -	36,000	- - -	47,500
	[1] AHRI Rated Air Flow (cfm) 3ph	- - -	1150	- - -	1560
	[1] SEER (Btuh/Watt) - 3ph	- - -	14.0	- - -	14.0
	[1] EER (Btuh/Watt) - 3ph	- - -	12.3	- - -	11.0
	Total Unit Power (kW) 3ph	- - -	2.9	- - -	4.1
	[1] Net Cooling Capacity (Btuh) 1ph	35,600	- - -	47,000	- - -
	[1] AHRI Rated Air Flow (cfm) 1ph	1250	- - -	1600	- - -
	[1] SEER2 (Btuh/Watt) 1ph	13.4	- - -	13.4	- - -
	[1] EER2 (Btuh/Watt) 1ph	10.6	- - -	10.6	- - -
	Total Unit Power (kW) 1ph	3.4	- - -	4.4	- - -
[2] Sound Rating Number (SRN) (dBA)		74	74	74	74
Refrigerant Charge	Refrigerant Type	R-410A	R-410A	R-410A	R-410A
	Environ™ Condenser and Evaporator	4 lbs. 10 oz.	4 lbs. 10 oz.	4 lbs. 1 oz.	4 lbs. 1 oz.
	Fin/Tube Condenser and Evaporator	11 lbs. 3 oz.	11 lbs. 3 oz.	9 lbs. 13 oz.	9 lbs. 13 oz.
	Fin/Tube Condenser and Evaporator With Reheat (Option)	12 lbs. 7 oz.	12 lbs. 7 oz.	9 lbs. 13 oz.	9 lbs. 13 oz.
Gas Heating Options		See page 22			
Compressor Type (one per unit)		Scroll	Scroll	Scroll	Scroll
Outdoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	14.5 (15.6)	14.5 (15.6)	14.5 (15.6)	14.5 (15.6)
	Number of rows	1 (2)	1 (2)	1 (2)	1 (2)
	Fins per inch	23 (20)	23 (20)	23 (20)	23 (20)
Outdoor Coil Fan	Motor - (No.) HP	(1) 1/4	(1) 1/4	(1) 1/4	(1) 1/4
	Motor rpm	825	825	825	825
	Total Motor Input - watts	325	325	325	325
	Diameter - (No.) in. / No. of blades	(1) 24 - 4	(1) 24 - 4	(1) 24 - 4	(1) 24 - 4
	Total air volume - cfm	3950	3950	3950	3950
Indoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	7.0 (7.8)	7.0 (7.8)	7.0 (7.8)	7.0 (7.8)
	Number of rows	3	3	3	3
	Fins per inch	20 (14)	20 (14)	20 (14)	20 (14)
	Drain Connection (no.) and size - in.	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT
	Expansion device type	Balanced Port Thermostatic Expansion Valve (removable element head)			
Indoor Blower	Nominal Motor HP	0.50 hp (ECM)	0.50 hp (PSC)	0.75 hp (ECM)	0.50 hp (PSC)
	Wheel nominal diameter x width - in.	(1) 10 x 10	(1) 10 x 10	(1) 10 x 10	(1) 10 x 10
Filters	Type	MERV 4, Disposable			
	Number and size - in.	(4) 16 x 20 x 2			
Electrical Characteristics - 60 Hz		208/230V 1 phase	208/230V, 460V & 575V 3 phase	208/230V 1 phase	208/230V, 460V & 575V 3 phase

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

[1] AHRI Certified to AHRI Standard 210/240: 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270-95.

SPECIFICATIONS - DIRECT DRIVE BLOWER — 5 TON

General Data		Nominal Tonnage	5 Ton	5 Ton
		Model No.	**KGB060S4E**	**KGB060S4D**
		Efficiency Type	**Standard**	**Standard**
		Blower Type	Multi-Speed Direct Drive ECM	Multi-Tap Direct Drive PSC
Cooling Performance		Gross Cooling Capacity (Btuh)	60,900	60,900
		[1] Net Cooling Capacity (Btuh) 3ph	- - -	58,500
		[1] AHRI Rated Air Flow (cfm) 3ph	- - -	1760
		[1] SEER (Btuh/Watt) - 3ph	- - -	14.0
		[1] EER (Btuh/Watt) - 3ph	- - -	11.0
		Total Unit Power (kW) 3ph	- - -	5.3
		[1] Net Cooling Capacity (Btuh) 1ph	58,000	- - -
		[1] AHRI Rated Air Flow (cfm) 1ph	1900	- - -
		[1] SEER2 (Btuh/Watt) - 1ph	13.4	- - -
		[1] EER2 (Btuh/Watt) - 1ph	10.6	- - -
		Total Unit Power (kW) 1ph	5.5	- - -
[2] Sound Rating Number (SRN) (dBA)			83	83
Refrigerant Charge		Refrigerant Type	R-410A	R-410A
		Environ™ Condenser and Evaporator	4 lbs.11 oz.	4 lbs. 11 oz.
		Fin/Tube Condenser and Evaporator	14 lbs. 3 oz.	14 lbs. 3 oz.
		Fin/Tube Condenser and Evaporator With Reheat (Option)	15 lbs. 3 oz.	15 lbs. 3 oz.
Gas Heating Options			See page 22	
Compressor Type (one per unit)			Scroll	Scroll
Outdoor Coil Environ™ (Fin/Tube option)		Net face area - sq. ft.	17.8 (19.3)	17.8 (19.3)
		Number of rows	1 (2)	1 (2)
		Fins per inch	23 (20)	23 (20)
Outdoor Coil Fan		Motor - (No.) HP	(1) 1/3	(1) 1/3
		Motor rpm	1075	1075
		Total Motor Input - watts	375	375
		Diameter - (No.) in. / No. of blades	(1) 24 - 3	(1) 24 - 3
		Total air volume - cfm	4700	4700
Indoor Coil Environ™ (Fin/Tube option)		Net face area - sq. ft.	8.7 (9.7)	8.7 (9.7)
		Number of rows	1 (4)	1 (4)
		Fins per inch	20 (14)	20 (14)
		Drain Connection (no.) and size - in.	(1) 1 NPT	(1) 1 NPT
		Expansion device type	Balanced Port Thermostatic Expansion Valve removable element head	
Indoor Blower		Nominal Motor HP	1 hp (ECM)	0.75 hp (PSC)
		Wheel nominal diameter x width - in.	(1) 11 x 10	(1) 11 x 10
Filters		Type	MERV 4, Disposable	
		Number and size - in.	(4) 20 x 20 x 2	
Electrical Characteristics - 60 Hz			208/230V 1 phase	208/230V, 460V & 575V 3 phase

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

[1] AHRI Certified to AHRI Standard 210/240: 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270-95.

SPECIFICATIONS - BELT DRIVE BLOWER — 3 TON | 4 TON | 5 TON

General Data		3 Ton	4 Ton	5 Ton
	Model No.	**KGB036S4B**	**KGB048S4B**	**KGB060S4B**
	Efficiency Type	**Standard**	**Standard**	**Standard**
	Blower Type	Single Speed Belt Drive	Single Speed Belt Drive	Single Speed Belt Drive
Cooling Performance	Gross Cooling Capacity (Btuh)	37,300	49,700	60,900
	[1] Net Cooling Capacity (Btuh) 3ph	36,000	47,500	58,500
	[1] AHRI Rated Air Flow (cfm) 3ph	1150	1560	1760
	[1] SEER (Btuh/Watt) - 3ph	14.0	14.0	14.0
	[1] EER (Btuh/Watt) - 3ph	12.3	11.5	11.0
	Total Unit Power (kW) 3ph	2.9	4.1	5
[2] Sound Rating Number (SRN) (dBA)		74	74	83
Refrigerant Charge	Refrigerant Type	R-410A	R-410A	R-410A
	Environ™ Condenser and Evaporator	4 lbs. 10 oz.	4 lbs. 1 oz.	4 lbs. 11 oz.
	Fin/Tube Condenser and Evaporator	11 lbs. 3 oz.	9 lbs. 13 oz.	14 lbs. 3 oz.
	Fin/Tube Condenser and Evaporator With Reheat (Option)	12 lbs. 7 oz.	9 lbs. 13 oz.	15 lbs. 3 oz.
Gas Heating Options		See page 22		
Compressor Type (one per unit)		Scroll	Scroll	Scroll
Outdoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	14.5 (15.6)	14.5 (15.6)	17.8 (19.3)
	Number of rows	1 (2)	1 (2)	1 (2)
	Fins / inch	23 (20)	23 (20)	23 (20)
Outdoor Coil Fan	Motor - (No.) HP	(1) 1/4	(1) 1/4	(1) 1/3
	Motor rpm	825	825	1075
	Total Motor Input - watts	325	325	375
	Diameter - (No.) in. / No. of blades	(1) 24 - 4	(1) 24 - 4	(1) 24 - 3
	Total air volume - cfm	3950	3950	4700
Indoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	7.0 (7.8)	7.0 (7.8)	8.7 (9.7)
	Number of rows	1 (3)	1 (3)	1 (4)
	Fins per inch	20 (14)	20 (14)	20 (14)
	Drain Connection (no.) and size - in.	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT
	Expansion device type	Balanced Port Thermostatic Expansion Valve, removable element head		
[3] Indoor Blower & Drive Selection	Nominal Motor HP	1 hp	1 hp, 2 hp	1 hp, 2 hp
	Maximum Usable Motor Output (US)	1.15 hp	1.15 hp, 2.3 hp	1.15 hp, 2.3 hp
	Available Drive Kits	A01 673 - 1010 rpm A05 897 - 1346 rpm	A02 745 - 1117 rpm A06 1071 - 1429 rpm	A03 833 - 1250 rpm A07 1212 - 1548 rpm
	Wheel nominal diameter x width - in.	(1) 10 x 10	(1) 10 x 10	(1) 10 x 10
Filters	Type	MERV 4, Disposable		
	Number and size - in.	(4) 16 x 20 x 2		(4) 20 x 20 x 2
Electrical Characteristics - 60 Hz		208/230V, 460V or 575V − 60 hertz − 3 phase		

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

[1] AHRI Certified to AHRI Standard 210/240: 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270-95.

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

SPECIFICATIONS - BELT DRIVE BLOWER — 6 TON

General Data	**Nominal Tonnage**	**6 Ton**
	Model No.	**KGB074S4T**
	Efficiency Type	**Standard**
	Blower Type	Two Speed Belt Drive
Cooling Performance	Gross Cooling Capacity (Btuh)	71,000
	[1] Net Cooling Capacity (Btuh) 3ph	68,000
	[1] AHRI Rated Air Flow (cfm) 3ph	2100
	[1] IEER	15.0
	[1] EER (Btuh/Watt) - 3ph	11.2
	Total Unit Power (kW) 3ph	6.1
[2] Sound Rating Number (SRN) (dBA)		79
Refrigerant Charge	Refrigerant Type	R-410A
	Environ™ Condenser and Evaporator	5 lbs. 5 oz.
	Fin/Tube Condenser and Evaporator	14 lbs. 8 oz.
	Fin/Tube Condenser and Evaporator With Reheat (Option)	14 lbs. 11 oz.
Gas Heating Options		See page 22
Compressor Type (one per unit)		Two-Stage Scroll
Outdoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	17.8 (19.3)
	Number of rows	1 (2)
	Fins / inch	23 (20)
Outdoor Coil Fan	Motor - (No.) HP	(1) 1/3
	Motor rpm	1075
	Total Motor Input - watts	375
	Diameter - (No.) in. / No. of blades	(1) 24 - 3
	Total air volume - cfm	4700
Indoor Coil Environ™ (Fin/Tube option)	Net face area - sq. ft.	8.7 (9.7)
	Number of rows	1 (4)
	Fins per inch	20 (14)
	Drain Connection (no.) and size - in.	(1) 1 NPT
	Expansion device type	Balanced Port Thermostatic Expansion Valve, removable element head
[3] Indoor Blower & Drive Selection	Nominal Motor Output	1 hp, 2 hp
	Maximum Usable Motor Output (US)	1.15 hp, 2.3 hp
	Motor - Drive Kit Number	A04 968 - 1340 rpm A08 1193-1591 rpm
	Wheel Nominal Diameter x Width - in.	(1) 10 x 10
Filters	Type of Filter	MERV 4, Disposable
	Number and size - in.	(4) 20 x 20 x 2
Electrical Characteristics - 60 Hz		208/230V, 460V or 575V − 60 hertz − 3 phase

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

[1] AHRI Certified to AHRI Standard 340/360: 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270-95.

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

SPECIFICATIONS — CONVENTIONAL GAS HEAT (THREE PHASE)

Model No.		036 , 048, 060, 074	048, 060, 074
Heat Input Type		Medium (1 Stage)	High (2 Stage)
Input Btuh	1st Stage	108,000	113,000
	2nd Stage	- - -	150,000
Output Btuh	1st Stage	86,000	90,000
	2nd Stage	- - -	120,000
Temperature Rise Range - °F	1st stage	30 - 70	30 - 60
	2nd Stage	- - -	45 - 75
Minimum air volume - cfm		1150	1500
[1] Thermal Efficiency	Standard	80%	80%
Gas Supply Connections		1/2 in. NPT	
Recommended Gas Supply Pressure - Nat. / LPG		7 in. w.g. / 11 in. w.g.	
Gas Supply Pressure Range	Min./Max. (Natural)	4.5 - 10.5 in. w.g.	
	Min./Max. (LPG)	10.8 - 13.5 in. w.g.	

[1] Thermal Efficiency at full input.

SPECIFICATIONS — LOW NOX GAS HEAT (SINGLE AND THREE PHASE)

Model No.		024 , 030	036 , 048, 060, 074	036, 048, 060, 074	[1] 048, 060, 074
Heat Input Type		Standard (1 Stage) Low NOx Only		Medium (2 Stage)	High (2 Stage)
Input Btuh	1st Stage	65,000		81,000	113,000
	2nd Stage	- - -		108,000	150,000
Output Btuh	1st Stage	52,000		66,000	92,000
	2nd Stage	- - -		87,000	121,000
Temperature Rise Range - °F	1st stage	35 - 65	15 - 45	25 - 55	30 - 60
	2nd Stage	- - -	- - -	30 - 70	45 - 75
Minimum air volume - cfm		1075		1150	1500
[2] AFUE (single phase)		81%		81%	81%
[3] Thermal Efficiency (three phase)		81%		81%	81%
Gas Supply Connections		1/2 in. NPT			
Recommended Gas Supply Pressure - Nat. / LPG		7 in. w.g. / 11 in. w.g.			
Gas Supply Pressure Range	Min./Max. (Natural)	4.5 - 10.5 in. w.g.			
	Min./Max. (LPG)	10.8 - 13.5 in. w.g.			

[1] For 048 three-phase models only.
[2] Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and FTC labeling regulations - 1 phase models only.
[3] Thermal Efficiency at full input.

HIGH ALTITUDE DERATE

NOTE - Units may be installed at altitudes up to 2000 feet above sea level without any modifications.
At altitudes above 2000 feet units must be derated to match gas manifold pressures shown in table below.
At altitudes above 4500 feet unit must be derated 2% for each 1000 feet above sea level.

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

Refer to the Installation Instructions for more detailed information.

Heat Input Type	Altitude Feet	Gas Manifold Pressure in. w.g.		Input Rate (Btuh)
		Natural Gas	LPG/ Propane	
Standard (1 stage)	2001 - 4500	1.7 / 3.0	5.9 / 9.0	62,000
Medium (2 stage)	2001 - 4500	1.7 / 3.0	5.9 / 9.0	81,000 /104,000
High (2 stage)	2001 - 4500	1.7 / 3.0	5.9 / 9.0	113,000 / 144,000

RATINGS

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

2 TON - KGB024S4

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	640	23.2	1.31	0.69	0.84	0.99	21.7	1.49	0.7	0.86	1	20.1	1.72	0.71	0.89	1	18.4	1.97	0.73	0.92	1
	800	24.6	1.3	0.75	0.93	1	23.1	1.48	0.76	0.95	1	21.4	1.7	0.78	0.98	1	19.7	1.95	0.8	1	1
	960	25.8	1.29	0.8	1	1	24.3	1.47	0.82	1	1	22.7	1.69	0.85	1	1	21	1.94	0.88	1	1
67°F	640	24.5	1.3	0.54	0.67	0.81	23	1.48	0.54	0.68	0.82	21.4	1.71	0.54	0.69	0.85	19.7	1.96	0.54	0.71	0.88
	800	26.1	1.28	0.58	0.72	0.89	24.5	1.47	0.58	0.74	0.91	22.7	1.69	0.58	0.75	0.94	20.8	1.94	0.59	0.78	0.98
	960	27.2	1.27	0.61	0.78	0.96	25.5	1.45	0.61	0.8	0.99	23.7	1.68	0.62	0.82	1	21.6	1.93	0.63	0.86	1
71°F	640	25.7	1.29	0.41	0.53	0.65	24.2	1.47	0.4	0.53	0.66	22.6	1.7	0.39	0.53	0.67	20.8	1.95	0.38	0.54	0.68
	800	27.4	1.27	0.42	0.57	0.7	25.8	1.45	0.42	0.57	0.72	24	1.68	0.41	0.58	0.73	22.1	1.93	0.39	0.58	0.76
	960	28.6	1.25	0.44	0.6	0.76	26.9	1.44	0.43	0.61	0.77	25	1.66	0.43	0.61	0.8	22.9	1.91	0.43	0.63	0.83

2.5 TON - KGB030S4

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	800	29.2	1.66	0.7	0.85	1	28.1	1.9	0.71	0.87	1	26.3	2.21	0.73	0.9	1	24.6	2.69	0.74	0.93	1
	1000	30.7	1.66	0.76	0.95	1	29.5	1.9	0.77	0.97	1	27.7	2.21	0.79	1	1	26.1	2.69	0.81	1	1
	1200	32	1.66	0.82	1	1	30.9	1.91	0.83	1	1	29.2	2.22	0.86	1	1	27.5	2.69	0.9	1	1
67°F	800	30.9	1.66	0.55	0.68	0.82	29.7	1.91	0.55	0.69	0.83	27.9	2.22	0.56	0.7	0.86	26.2	2.69	0.56	0.72	0.89
	1000	32.3	1.67	0.59	0.74	0.92	31.1	1.91	0.59	0.75	0.93	29.2	2.22	0.6	0.77	0.96	27.3	2.68	0.61	0.79	0.99
	1200	33.3	1.67	0.6	0.8	1	32	1.92	0.62	0.81	1	30.1	2.22	0.63	0.84	1	28.2	2.7	0.65	0.87	1
71°F	800	32.5	1.67	0.41	0.54	0.66	31.3	1.91	0.41	0.54	0.67	29.5	2.22	0.41	0.55	0.68	27.7	2.69	0.41	0.56	0.7
	1000	33.9	1.67	0.44	0.58	0.73	32.6	1.92	0.43	0.58	0.73	30.7	2.23	0.43	0.59	0.75	28.8	2.69	0.43	0.59	0.77
	1200	34.8	1.68	0.44	0.61	0.78	33.5	1.92	0.44	0.6	0.8	31.5	2.23	0.44	0.63	0.83	29.7	2.69	0.44	0.64	0.85

3 TON - KGB036S4

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	960	36.5	2.01	0.69	0.85	1	34.3	2.29	0.7	0.87	1	32	2.63	0.71	0.89	1	29.5	3.05	0.72	0.92	1
	1200	38.6	2.02	0.75	0.94	1	36.3	2.3	0.77	0.97	1	33.9	2.63	0.78	1	1	31.5	3.05	0.8	1	1
	1440	40.4	2.03	0.82	1	1	38.2	2.3	0.83	1	1	36	2.63	0.86	1	1	33.6	3.04	0.89	1	1
67°F	960	39	2.02	0.54	0.67	0.81	36.8	2.3	0.54	0.68	0.83	34.4	2.63	0.54	0.69	0.85	31.8	3.04	0.54	0.7	0.88
	1200	41.1	2.03	0.57	0.73	0.9	38.8	2.31	0.58	0.74	0.93	36.3	2.63	0.58	0.76	0.96	33.6	3.04	0.59	0.78	0.99
	1440	42.7	2.04	0.61	0.79	0.99	40.2	2.31	0.62	0.81	1	37.5	2.64	0.62	0.83	1	34.9	3.05	0.63	0.86	1
71°F	960	41.4	2.03	0.4	0.53	0.65	39.1	2.31	0.4	0.53	0.65	36.7	2.63	0.38	0.53	0.67	34.1	3.04	0.38	0.53	0.68
	1200	43.7	2.05	0.42	0.56	0.71	41.3	2.32	0.41	0.57	0.72	38.7	2.64	0.41	0.57	0.74	36.1	3.04	0.4	0.58	0.75
	1440	45.3	2.06	0.43	0.6	0.77	42.8	2.33	0.43	0.61	0.79	40.1	2.65	0.43	0.61	0.81	37.3	3.04	0.42	0.63	0.83

4 TON - KGB048S4

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1280	47.6	2.86	0.68	0.84	1	44.1	3.23	0.69	0.87	1	40.7	3.66	0.7	0.9	1	37.1	4.16	0.72	0.95	1
	1600	50.1	2.88	0.74	0.95	1	46.6	3.25	0.76	0.98	1	43.1	3.68	0.78	1	1	39.7	4.19	0.81	1	1
	1920	52.5	2.89	0.81	1	1	49.1	3.27	0.83	1	1	45.7	3.7	0.87	1	1	42.2	4.21	0.91	1	1
67°F	1280	50.9	2.88	0.53	0.66	0.8	47.3	3.26	0.53	0.67	0.83	43.8	3.69	0.53	0.68	0.86	40.1	4.19	0.53	0.7	0.9
	1600	53.6	2.89	0.56	0.72	0.91	49.7	3.27	0.57	0.73	0.94	46	3.71	0.57	0.76	0.98	42	4.21	0.58	0.79	1
	1920	55.4	2.9	0.6	0.78	1	51.4	3.29	0.6	0.81	1	47.5	3.72	0.61	0.84	1	43.3	4.22	0.63	0.88	1
71°F	1280	54.1	2.9	0.39	0.52	0.64	50.4	3.28	0.38	0.52	0.65	46.8	3.71	0.37	0.52	0.66	42.8	4.21	0.37	0.52	0.68
	1600	56.8	2.91	0.41	0.55	0.7	52.9	3.3	0.4	0.56	0.71	49.1	3.73	0.4	0.57	0.73	45	4.23	0.39	0.58	0.76
	1920	58.9	2.92	0.42	0.59	0.76	54.8	3.31	0.42	0.6	0.79	50.8	3.74	0.42	0.61	0.82	46.5	4.25	0.41	0.62	0.86

RATINGS

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

5 TON - KGB060S4

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1600	60.1	3.41	0.68	0.84	1	56.8	3.86	0.7	0.86	1	53.1	4.39	0.71	0.89	1	48.9	5	0.73	0.93	1
	2000	63.5	3.44	0.75	0.95	1	59.9	3.88	0.76	0.97	1	55.9	4.41	0.78	1	1	51.9	5.02	0.81	1	1
	2400	66.4	3.45	0.8	1	1	63.1	3.91	0.83	1	1	59.5	4.44	0.86	1	1	55.3	5.07	0.9	1	1
67°F	1600	64.3	3.44	0.53	0.66	0.81	60.8	3.89	0.54	0.67	0.82	56.9	4.42	0.54	0.69	0.85	52.5	5.04	0.55	0.7	0.89
	2000	67.8	3.46	0.58	0.72	0.9	64	3.91	0.57	0.74	0.93	59.7	4.44	0.58	0.75	0.96	55.1	5.07	0.59	0.78	1
	2400	70.3	3.47	0.6	0.78	0.99	66.3	3.92	0.61	0.81	1	61.7	4.46	0.62	0.83	1	56.8	5.08	0.63	0.88	1
71°F	1600	68.8	3.46	0.4	0.52	0.64	65.2	3.92	0.4	0.53	0.65	61.1	4.45	0.39	0.53	0.66	56.3	5.08	0.38	0.54	0.68
	2000	72.5	3.48	0.41	0.57	0.7	68.4	3.94	0.41	0.56	0.72	63.8	4.47	0.41	0.57	0.73	58.7	5.1	0.41	0.58	0.75
	2400	74.7	3.49	0.42	0.59	0.76	70.5	3.95	0.43	0.6	0.78	66	4.49	0.43	0.61	0.81	60.7	5.12	0.42	0.63	0.85

6 TON - KGB074S4T (PART LOAD)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1200	53.3	2.3	0.68	0.81	0.92	51	2.62	0.69	0.82	0.94	48.3	2.99	0.7	0.83	0.96	45.6	3.41	0.71	0.85	0.98
	1600	57.8	2.29	0.74	0.88	1	55.2	2.61	0.75	0.9	1	52.5	2.98	0.77	0.92	1	49.3	3.4	0.78	0.95	1
	2000	61.2	2.28	0.8	0.96	1	58.2	2.6	0.81	0.98	1	55.3	2.98	0.83	1	1	52.5	3.4	0.84	1	1
67°F	1200	57.2	2.29	0.55	0.66	0.77	54.7	2.62	0.55	0.67	0.78	51.9	2.98	0.55	0.67	0.79	48.9	3.4	0.55	0.68	0.81
	1600	61.9	2.28	0.58	0.72	0.85	59.2	2.6	0.59	0.73	0.86	56.3	2.97	0.59	0.74	0.88	53	3.4	0.6	0.76	0.91
	2000	65.4	2.27	0.62	0.78	0.93	62.3	2.59	0.62	0.78	0.94	59.1	2.96	0.63	0.8	0.97	55.6	3.39	0.64	0.82	0.99
71°F	1200	61.2	2.28	0.42	0.53	0.63	58.6	2.61	0.42	0.53	0.64	55.8	2.97	0.42	0.53	0.64	52.6	3.4	0.41	0.53	0.65
	1600	66.3	2.26	0.44	0.57	0.69	63.3	2.59	0.44	0.57	0.7	60.2	2.96	0.44	0.58	0.71	56.7	3.39	0.44	0.59	0.73
	2000	69.6	2.25	0.46	0.61	0.75	66.5	2.58	0.46	0.61	0.76	63.1	2.95	0.45	0.61	0.77	59.6	3.38	0.46	0.63	0.8

6 TON - KGB074S4T (FULL LOAD)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1920	68.6	4.18	0.73	0.88	1	64.9	4.71	0.75	0.9	1	60.9	5.32	0.77	0.93	1	56.8	6.02	0.79	0.96	1
	2400	72.2	4.21	0.79	0.96	1	68.1	4.74	0.81	0.99	1	63.8	5.35	0.83	1	1	60	6.05	0.86	1	1
	2880	75.2	4.24	0.85	1	1	71.6	4.78	0.87	1	1	67.6	5.39	0.9	1	1	63.4	6.09	0.94	1	1
67°F	1920	73	4.22	0.58	0.71	0.85	69	4.75	0.58	0.73	0.87	64.8	5.36	0.59	0.74	0.89	60.4	6.05	0.6	0.77	0.93
	2400	76.7	4.25	0.62	0.77	0.93	72.4	4.79	0.62	0.79	0.95	67.9	5.4	0.63	0.81	0.98	63	6.08	0.65	0.84	1
	2880	79.1	4.28	0.64	0.83	0.99	74.8	4.82	0.66	0.85	1	69.9	5.42	0.67	0.88	1	65	6.1	0.69	0.91	1
71°F	1920	77.6	4.26	0.44	0.56	0.69	73.5	4.8	0.43	0.57	0.7	69.1	5.41	0.43	0.58	0.72	64.2	6.1	0.43	0.59	0.74
	2400	81.1	4.3	0.45	0.6	0.75	76.8	4.84	0.45	0.61	0.77	72	5.45	0.45	0.62	0.79	67.1	6.13	0.45	0.64	0.81
	2880	83.7	4.33	0.47	0.64	0.8	79.2	4.87	0.46	0.65	0.83	74.2	5.47	0.48	0.66	0.85	69.2	6.15	0.48	0.68	0.89

HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

2 TON - KGB024S4 WITH HUMIDITROL® DEHUMIDIFICATION OPERATING

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	640	18.4	920	.61	.78	.94	15.2	1050	.55	.76	.95	11.8	1200	.46	.74	.97	8.4	1360	.31	.68	.89
	800	19.7	910	.67	.86	1.00	16.0	1040	.62	.85	1.00	12.2	1180	.53	.85	1.00	8.3	1350	.37	.84	.96
	960	21.0	900	.72	.86	.99	16.5	1030	.68	.95	1.00	12.4	1170	.61	.95	1.00	8.2	1340	.48	.99	1.00
67°F	640	20.5	920	.45	.61	.77	17.2	1050	.36	.56	.74	13.9	1200	.27	.49	.71	10.4	1360	.01	.36	.67
	800	21.8	910	.48	.66	.83	18.1	1040	.40	.63	.82	14.3	1180	.27	.56	.81	10.3	1350	.02	.45	.81
	960	22.7	900	.52	.72	.89	18.6	1030	.42	.70	.90	14.5	1170	.29	.63	.93	10.2	1340	.03	.54	.94
71°F	640	22.9	920	.28	.46	.60	19.2	1050	.21	.39	.56	15.8	1200	.06	.29	.50	12.3	1360	-.18	.13	.41
	800	24.0	910	.32	.50	.65	20.3	1040	.22	.43	.62	16.4	1180	.06	.33	.59	12.4	1350	-.22	.16	.50
	960	25.1	900	.34	.53	.71	21.0	1030	.23	.47	.69	16.7	1170	.06	.37	.66	12.3	1340	-.25	.19	.57

2.5 TON - KGB030S4 WITH HUMIDITROL® DEHUMIDIFICATION OPERATING

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	800	21.0	1170	.56	.73	.88	17.5	1330	.50	.69	.86	13.5	1510	.44	.69	.89	9.8	1710	.21	.59	.87
	1000	22.3	1170	.60	.80	.96	18.5	1330	.56	.77	.96	14.4	1510	.45	.71	.90	10.0	1700	.23	.61	.86
	1200	23.4	1170	.65	.86	.99	19.0	1330	.61	.86	.99	14.9	1500	.46	.73	1.00	10.1	1700	.20	.62	.98
67°F	800	23.3	1180	.41	.57	.71	19.8	1340	.34	.51	.68	16.0	1510	.21	.45	.64	12.1	1710	.03	.31	.59
	1000	24.8	1180	.42	.61	.78	20.8	1330	.35	.57	.76	16.8	1500	.24	.49	.74	12.1	1700	-.01	.36	.62
	1200	25.9	1180	.47	.66	.80	21.6	1330	.39	.61	.83	16.8	1500	.25	.56	.83	11.9	1690	-.03	.46	.65
71°F	800	26.1	1180	.30	.42	.56	22.7	1340	.21	.35	.51	18.8	1510	.05	.26	.45	14.7	1700	-.13	.13	.34
	1000	27.5	1180	.27	.45	.62	23.5	1340	.19	.39	.57	19.3	1510	.05	.29	.52	14.6	1700	-.20	.14	.41
	1200	28.4	1180	.28	.49	.66	24.1	1340	.19	.41	.62	19.5	1500	.04	.32	.58	14.5	1680	-.23	.18	.50

3 TON - KGB036S4 WITH HUMIDITROL® DEHUMIDIFICATION OPERATING

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	960	23.7	1530	.58	.76	.94	20.4	1720	.54	.75	.95	16.7	1940	.48	.74	.98	12.7	2190	.35	.71	1.00
	1200	24.8	1540	.64	.85	.99	21.0	1730	.61	.85	.91	16.9	1930	.56	.87	1.00	12.5	2180	.47	.88	1.00
	1440	25.6	1550	.70	.94	1.00	21.5	1730	.68	.96	.96	17.1	1930	.64	1.00	1.00	12.6	2170	.58	.97	1.00
67°F	960	26.4	1550	.41	.57	.73	23.0	1740	.36	.54	.71	19.4	1950	.27	.49	.70	15.6	2190	.13	.41	.68
	1200	27.7	1560	.44	.63	.81	23.9	1750	.39	.60	.82	19.8	1950	.30	.56	.74	15.4	2190	.16	.50	.83
	1440	28.5	1570	.47	.69	.91	24.4	1750	.42	.67	.91	19.9	1950	.33	.64	.95	15.1	2180	.18	.59	.98
71°F	960	29.0	1570	.27	.41	.56	25.7	1760	.20	.37	.53	22.0	1970	.11	.30	.49	18.2	2200	-.03	.20	.43
	1200	30.6	1590	.28	.44	.61	26.7	1770	.20	.40	.59	22.6	1970	.10	.34	.56	18.3	2200	-.05	.24	.51
	1440	31.5	1600	.29	.49	.67	27.3	1780	.21	.44	.66	22.9	1970	.10	.37	.63	18.2	2200	-.08	.27	.60

4 TON - KGB048S4 WITH HUMIDITROL® DEHUMIDIFICATION OPERATING

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1280	35.7	2160	.58	.77	.93	29.5	2440	.54	.76	.98	23.3	2730	.46	.74	.98	17.3	3060	.32	.71	1.00
	1600	37.4	2160	.65	.85	1.00	30.7	2430	.62	.84	1.00	23.9	2730	.52	.85	1.00	17.3	3040	.42	.84	1.00
	1920	38.7	2160	.70	.91	1.00	31.5	2430	.65	.92	1.00	24.0	2720	.66	.96	.94	17.0	3030	.44	1.00	1.00
67°F	1280	39.4	2180	.41	.58	.73	33.0	2460	.34	.54	.73	26.8	2760	.22	.48	.71	20.7	3090	.02	.37	.68
	1600	41.1	2180	.45	.64	.82	34.2	2460	.37	.61	.82	27.3	2750	.29	.57	.81	20.7	3080	.02	.44	.82
	1920	42.1	2170	.42	.71	.89	34.6	2450	.40	.69	.90	27.6	2750	.25	.61	.93	20.3	3060	.01	.55	.96
71°F	1280	42.8	2200	.26	.43	.57	36.4	2480	.17	.36	.54	30.1	2790	.02	.27	.48	23.8	3120	-.19	.12	.41
	1600	44.6	2200	.28	.45	.63	37.5	2480	.18	.40	.60	30.6	2780	.07	.31	.57	23.7	3110	-.24	.14	.52
	1920	45.7	2190	.26	.49	.69	38.1	2480	.18	.43	.65	30.5	2770	.12	.37	.62	23.6	3100	-.32	.11	.58

HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

5 TON - KGB060S4 WITH HUMIDITROL® DEHUMIDIFICATION OPERATING

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1600	42.3	2750	.50	.73	.93	35.3	3020	.45	.69	.95	27.9	3340	.33	.64	.97	19.7	3730	.12	.55	.99
	2000	44.2	2770	.60	.83	1.00	35.9	3030	.52	.85	1.00	30.1	3360	.43	.57	1.00	18.9	3720	.22	.76	.99
	2400	45.3	2780	.67	.95	.99	37.0	3040	.59	.93	.98	28.4	3340	.51	.93	.98	18.5	3720	.29	.91	1.00
67°F	1600	47.7	2800	.34	.52	.70	40.4	3060	.25	.46	.66	33.2	3380	.11	.36	.62	25.1	3770	-.12	.22	.55
	2000	49.5	2810	.40	.60	.79	41.8	3080	.28	.52	.78	33.5	3380	.16	.44	.77	24.3	3760	-.15	.31	.74
	2400	50.8	2830	.41	.66	.90	42.3	3080	.30	.59	.89	32.9	3370	.15	.56	.88	23.0	3740	-.19	.43	.88
71°F	1600	54.3	2850	.18	.28	.51	45.7	3110	.10	.28	.45	38.2	3430	-.05	.17	.39	29.9	3810	-.30	.01	.27
	2000	55.3	2860	.16	.38	.56	46.6	3110	.09	.32	.51	38.3	3420	-.07	.21	.46	29.1	3800	-.38	.03	.37
	2400	56.1	2870	.21	.42	.64	46.8	3110	.09	.35	.59	37.7	3420	-.10	.23	.55	28.1	3780	-.48	.03	.48

6 TON - KGB074S4 WITH HUMIDITROL® DEHUMIDIFICATION OPERATING

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1920	43.6	3210	.54	.74	.93	36.3	3520	.47	.73	.95	29.1	3890	.37	.69	.96	21.3	4320	.21	.64	1.00
	2400	45.8	3250	.61	.82	1.00	37.9	3550	.54	.80	1.00	29.1	3890	.43	.87	.88	20.7	4310	.25	.87	.99
	2880	46.5	3270	.63	.95	.99	38.2	3550	.63	.95	.98	29.7	3900	.60	.95	.98	20.6	4310	.31	.97	1.00
67°F	1920	48.8	3280	.34	.52	.70	41.4	3590	.27	.48	.69	34.0	3960	.15	.40	.67	25.9	4400	-.19	.29	.64
	2400	50.7	3310	.37	.57	.81	42.7	3610	.28	.52	.79	34.0	3960	.08	.47	.76	25.5	4390	-.10	.36	.79
	2880	51.4	3320	.39	.65	.91	43.1	3620	.24	.60	.88	33.2	3950	.01	.61	.90	24.9	4380	-.15	.38	.91
71°F	1920	53.6	3330	.19	.35	.51	46.3	3650	.09	.28	.47	38.4	4030	-.04	.19	.40	30.2	4470	-.29	.05	.33
	2400	55.0	3360	.22	.38	.57	46.8	3660	.09	.31	.54	38.1	4020	-.07	.22	.47	29.1	4450	-.37	.06	.41
	2880	55.7	3370	.25	.41	.64	46.7	3660	.10	.34	.59	37.4	4020	-.10	.23	.55	26.1	4400	-.46	.25	.50

KGB024S4E | KGB030S4E

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm

DOWNFLOW

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds					
	Blower Only	Low Speed		High Speed		Free Cooling
	Low and High Speed: G (Pin 1)	Cooling: Y1 (Pin 2 and 5)	1st Stage Heating: W1 (Pin 2) 2nd Stage Heating: W2 (Pin 2 and 4)	1st Stage Heating: W1 (Pin 3) 2nd Stage Heating: W2 (Pin 3 and 4)	Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	488	985	1127	1353	1127	1127
0.1	421	913	1082	1311	1082	1082
0.2	333	841	1037	1269	1037	1037
0.3	285	754	988	1224	988	988
0.4	215	668	923	1180	923	923
0.5	- - -	611	858	1135	858	858
0.6	- - -	553	809	1076	809	809
0.7	- - -	481	760	1017	760	760
0.8	- - -	- - -	694	972	694	694
0.9	- - -	- - -	646	928	646	646
1.0	- - -	- - -	580	869	580	580

HORIZONTAL

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds					
	Blower Only	Low Speed		High Speed		Free Cooling
	Low and High Speed: G (Pin 1)	Cooling: Y1 (Pin 2 and 5)	1st Stage Heating: W1 (Pin 2) 2nd Stage Heating: W2 (Pin 2 and 4)	1st Stage Heating: W1 (Pin 3) 2nd Stage Heating: W2 (Pin 3 and 4)	Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	479	965	1104	1326	1104	1104
0.1	412	895	1060	1285	1060	1060
0.2	326	824	1016	1244	1016	1016
0.3	280	739	968	1200	968	968
0.4	211	655	905	1156	905	905
0.5	- - -	599	841	1112	841	841
0.6	- - -	542	793	1054	793	793
0.7	- - -	471	745	997	745	745
0.8	- - -	- - -	680	953	680	680
0.9	- - -	- - -	633	909	633	633
1.0	- - -	- - -	568	852	568	568

KGB036S4E

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm

DOWNFLOW

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds						
	Blower Only	Low Speed		High Speed			Free Cooling
	Low and High Speed: G (Pin 1)	1st Stage Heating: W1 (Pin 2) Cooling: Y1 (Pin 2 and 5)	2nd Stage Heating: W2 (Pin 2 and 4)	1st Stage Heating: W1 (Pin 3)	2nd Stage Heating: W2 (Pin 3 and 4)	Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	862	1375	1567	1706	1840	1567	1567
0.1	809	1330	1539	1682	1780	1539	1539
0.2	741	1277	1511	1658	1748	1511	1511
0.3	680	1253	1477	1624	1712	1477	1477
0.4	622	1200	1443	1598	1677	1443	1443
0.5	555	1150	1409	1564	1638	1409	1409
0.6	- - -	1095	1364	1530	1608	1364	1364
0.7	- - -	1052	1330	1496	1577	1330	1330
0.8	- - -	1004	1296	1444	1528	1296	1296
0.9	- - -	950	1251	1419	1491	1251	1251
1.0	- - -	900	1206	1394	1455	1206	1206

HORIZONTAL

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds						
	Blower Only	Low Speed		High Speed			Free Cooling
	Low and High Speed: G (Pin 1)	1st Stage Heating: W1 (Pin 2) Cooling: Y1 (Pin 2 and 5)	2nd Stage Heating: W2 (Pin 2 and 4)	1st Stage Heating: W1 (Pin 3)	2nd Stage Heating: W2 (Pin 3 and 4)	Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	479	1379	1536	1672	1810	1536	1536
0.1	412	1305	1508	1648	1749	1508	1508
0.2	326	1264	1481	1625	1718	1481	1481
0.3	280	1216	1447	1592	1677	1447	1447
0.4	211	1173	1414	1566	1649	1414	1414
0.5	- - -	1131	1381	1533	1622	1381	1381
0.6	- - -	1078	1337	1499	1577	1337	1337
0.7	- - -	1038	1303	1466	1544	1303	1303
0.8	- - -	986	1270	1415	1509	1270	1270
0.9	- - -	933	1226	1391	1471	1226	1226
1.0	- - -	885	1182	1366	1438	1182	1182

KGB048S4E

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

DOWNFLOW

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds					
	Blower Only	Low Speed		High Speed		Free Cooling
	Low and High Speed: G (Pin 1)	Cooling: Y1 (Pin 2 and 5)	1st Stage Heating: W1 (Pin 2) 2nd Stage Heating: W2 (Pin 2 and 4)	2nd Stage Heating: W2 (Pin 3 and 4)	1st Stage Heating: W1 (Pin 3) Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	963	1561	1869	2156	1869	1958
0.1	897	1530	1842	2132	1842	1920
0.2	831	1499	1815	2108	1815	1882
0.3	752	1466	1788	2084	1788	1844
0.4	673	1432	1750	2057	1750	1814
0.5	620	1398	1723	2031	1723	1784
0.6	567	1353	1695	1991	1695	1754
0.7	501	1319	1658	1952	1658	1724
0.8	- - -	1274	1621	1899	1621	1694
0.9	- - -	1240	1593	1794	1593	1672
1.0	- - -	1184	1556	1689	1556	1650

HORIZONTAL

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds					
	Blower Only	Low Speed		High Speed		Free Cooling
	Low and High Speed: G (Pin 1)	Cooling: Y1 (Pin 2 and 5)	1st Stage Heating: W1 (Pin 2) 2nd Stage Heating: W2 (Pin 2 and 4)	2nd Stage Heating: W2 (Pin 3 and 4)	1st Stage Heating: W1 (Pin 3) Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	944	1530	1832	2113	1832	1919
0.1	879	1499	1805	2089	1805	1882
0.2	814	1469	1779	2066	1779	1844
0.3	737	1437	1752	2042	1752	1807
0.4	660	1403	1715	2016	1715	1778
0.5	608	1370	1689	1990	1689	1748
0.6	556	1326	1661	1951	1661	1719
0.7	491	1293	1625	1913	1625	1690
0.8	- - -	1249	1589	1861	1589	1660
0.9	- - -	1215	1561	1758	1561	1639
1.0	- - -	1160	1525	1655	1525	1617

KGB060S4E

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

DOWNFLOW

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds						
	Blower Only	Low Speed		High Speed			Free Cooling
	Low and High Speed: G (Pin 1)	1st Stage Heating: W1 (Pin 2) Cooling: Y1 (Pin 2 and 5)	2nd Stage Heating: W2 (Pin 2 and 4)	1st Stage Heating: W1 (Pin 3)	2nd Stage Heating: W2 (Pin 3 and 4)	Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	1088	1801	1982	1801	2339	2287	2287
0.1	1042	1769	1956	1769	2310	2251	2251
0.2	996	1736	1928	1736	2281	2215	2215
0.3	948	1703	1900	1703	2253	2178	2178
0.4	883	1669	1870	1669	2224	2142	2142
0.5	835	1634	1838	1634	2195	2106	2106
0.6	787	1598	1806	1598	2166	2058	2058
0.7	723	1561	1772	1561	2137	2010	2010
0.8	658	1524	1736	1524	2108	1937	1937
0.9	594	1486	1700	1486	2080	1841	1841
1.0	546	1446	1662	1446	2051	1696	1696

HORIZONTAL

External Static Press. in. w.g.	Air Volume (cfm) at Various Blower Speeds						
	Blower Only	Low Speed		High Speed			Free Cooling
	Low and High Speed: G (Pin 1)	1st Stage Heating: W1 (Pin 2) Cooling: Y1 (Pin 2 and 5)	2nd Stage Heating: W2 (Pin 2 and 4)	1st Stage Heating: W1 (Pin 3)	2nd Stage Heating: W2 (Pin 3 and 4)	Cooling: Y1 (Pin 3 and 5)	Low and High Speed: Y1 (Pin 1 and 5)
0	1066	1728	1886	1728	2206	2241	2241
0.1	1021	1708	1872	1708	2189	2206	2206
0.2	976	1685	1859	1685	2174	2171	2171
0.3	929	1661	1832	1661	2157	2134	2134
0.4	865	1636	1814	1636	2135	2099	2099
0.5	818	1608	1796	1608	2118	2064	2064
0.6	771	1579	1770	1579	2102	2017	2017
0.7	709	1548	1743	1548	2080	1970	1970
0.8	645	1516	1716	1516	2058	1898	1898
0.9	582	1481	1689	1481	2036	1804	1804
1.0	535	1445	1654	1445	2020	1662	1662

KGB036S4D | KGB048S4D

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

External Static Pressure (in. w.g.)	Air Volume (cfm) at Various Blower Speeds								
	208 VOLTS			230 VOLTS			460/575 VOLTS		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
3 and 4 Ton Standard Efficiency (Downflow)									**KGB036S and KGB048S**
0.0	1873	1561	1123	2094	1783	1321	2064	1727	1216
0.1	1993	1601	1148	2168	1797	1338	2105	1744	1229
0.2	1913	1601	1137	2098	1803	1308	2050	1694	1198
0.3	1858	1527	1078	2036	1725	1261	1987	1638	1167
0.4	1801	1496	1046	1973	1679	1219	1905	1598	1148
0.5	1763	1467	987	1910	1647	1177	1862	1559	1108
0.6	1709	1414	897	1830	1560	1080	1781	1509	1057
0.7	1617	1368	806	1727	1519	986	1698	1449	982
0.8	1472	1269	730	1604	1419	918	1614	1389	920
0.9	1359	1162	487	1478	1363	706	1488	1346	792
1.0	961	922	370	1093	1083	590	1167	1099	703
3 and 4 Ton Standard Efficiency (Horizontal)									**KGB036S and KGB048S**
0.0	1799	1530	1073	2012	1747	1263	2015	1756	1251
0.1	1868	1544	1088	2032	1733	1268	2071	1760	1279
0.2	1802	1494	1068	1976	1682	1228	2014	1700	1226
0.3	1735	1432	1014	1900	1618	1185	1937	1634	1187
0.4	1666	1397	980	1825	1568	1142	1878	1597	1174
0.5	1615	1350	904	1750	1516	1078	1801	1558	1124
0.6	1564	1305	842	1675	1440	1014	1743	1479	1060
0.7	1462	1228	758	1562	1364	928	1664	1415	982
0.8	1330	1151	670	1449	1287	842	1512	1335	865
0.9	1194	1011	464	1298	1185	671	1393	1297	733
1.0	878	878	355	998	1032	565	1060	1063	618

KGB060S4D

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

External Static Pressure (in. w.g.)	Air Volume (cfm) at Various Blower Speeds					
	208 VOLTS		230 VOLTS		460/575 VOLTS	
	High	Low	High	Low	High	Low
5 Ton Standard Efficiency (Downflow)						**KGB060S**
0.0	1940	1581	2131	1788	2131	1788
0.1	1929	1566	2107	1784	2107	1784
0.2	1906	1552	2074	1774	2074	1774
0.3	1872	1546	2036	1752	2036	1752
0.4	1836	1526	1998	1708	1998	1708
0.5	1802	1486	1960	1679	1960	1679
0.6	1749	1447	1904	1635	1904	1635
0.7	1714	1407	1847	1576	1847	1576
0.8	1644	1347	1771	1518	1771	1518
0.9	1574	1245	1658	1430	1658	1430
1.0	1338	- - -	1506	- - -	1506	- - -
5 Ton Standard Efficiency (Horizontal)						**KGB060S**
0.0	1930	1575	2143	1764	2143	1764
0.1	1920	1573	2115	1761	2115	1761
0.2	1910	1576	2088	1751	2088	1751
0.3	1870	1552	2055	1746	2055	1746
0.4	1840	1524	2023	1704	2023	1704
0.5	1790	1495	1979	1675	1979	1675
0.6	1739	1466	1925	1633	1925	1633
0.7	1679	1428	1860	1590	1860	1590
0.8	1639	1371	1775	1534	1775	1534
0.9	1559	1270	1670	1421	1670	1421
1.0	1438	- - -	1539	1285	1539	1285

KGB036S4B

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

See page 38 for blower motors and drives.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm

DOWNFLOW

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	493	0.11	564	0.15	637	0.19	711	0.22	783	0.24	851	0.26	910	0.29	961	0.32
1000	517	0.14	588	0.18	660	0.22	733	0.24	804	0.26	868	0.29	924	0.32	974	0.35
1100	544	0.17	614	0.21	685	0.25	757	0.27	826	0.29	887	0.32	940	0.36	987	0.38
1200	574	0.2	643	0.24	712	0.28	782	0.31	849	0.33	906	0.36	956	0.39	1001	0.42
1300	613	0.23	679	0.28	745	0.31	811	0.34	873	0.36	926	0.40	973	0.43	1016	0.46
1400	662	0.26	722	0.30	781	0.34	841	0.37	897	0.41	944	0.44	989	0.48	1032	0.51
1500	710	0.29	763	0.33	816	0.38	869	0.41	919	0.45	963	0.49	1006	0.53	1049	0.56

Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1008	0.34	1056	0.36	1104	0.39	1149	0.41	1190	0.44	1229	0.46	1267	0.49	1305	0.52
1000	1020	0.37	1067	0.40	1115	0.42	1159	0.45	1200	0.48	1239	0.51	1277	0.54	1314	0.57
1100	1032	0.41	1078	0.43	1124	0.46	1168	0.49	1210	0.52	1249	0.55	1286	0.58	1323	0.62
1200	1045	0.45	1090	0.47	1135	0.50	1178	0.53	1220	0.57	1259	0.60	1296	0.64	1332	0.67
1300	1060	0.49	1104	0.51	1148	0.55	1190	0.58	1230	0.62	1269	0.65	1306	0.69	1342	0.72
1400	1075	0.53	1119	0.56	1162	0.60	1203	0.63	1242	0.67	1280	0.71	1317	0.75	1352	0.78
1500	1093	0.58	1136	0.61	1177	0.65	1217	0.69	1255	0.73	1292	0.77	1328	0.80	1364	0.84

HORIZONTAL

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	465	0.09	531	0.14	600	0.17	670	0.20	740	0.22	808	0.24	869	0.27	925	0.30
1000	483	0.12	549	0.16	617	0.20	687	0.22	756	0.24	822	0.26	881	0.29	935	0.33
1100	504	0.14	570	0.19	637	0.22	706	0.25	773	0.27	837	0.29	894	0.32	946	0.36
1200	527	0.17	592	0.22	658	0.25	726	0.28	792	0.30	854	0.32	908	0.36	957	0.39
1300	552	0.20	617	0.25	682	0.29	748	0.31	812	0.33	871	0.36	923	0.40	970	0.43
1400	580	0.24	644	0.28	708	0.32	773	0.35	834	0.37	890	0.40	938	0.44	984	0.48
1500	611	0.28	674	0.32	736	0.35	799	0.38	857	0.41	908	0.44	954	0.49	998	0.52

Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	977	0.33	1028	0.36	1079	0.39	1127	0.42	1169	0.45	1208	0.48	1246	0.51	1282	0.54
1000	985	0.36	1036	0.39	1087	0.42	1135	0.45	1177	0.48	1216	0.52	1253	0.55	1290	0.58
1100	995	0.39	1044	0.42	1093	0.45	1140	0.49	1183	0.52	1223	0.56	1261	0.59	1297	0.62
1200	1005	0.43	1053	0.46	1100	0.49	1146	0.53	1190	0.56	1230	0.60	1268	0.63	1304	0.67
1300	1016	0.47	1063	0.50	1109	0.53	1154	0.57	1197	0.61	1237	0.64	1275	0.68	1311	0.72
1400	1029	0.51	1074	0.54	1120	0.58	1164	0.61	1205	0.65	1245	0.69	1282	0.73	1318	0.77
1500	1042	0.56	1087	0.59	1132	0.62	1174	0.66	1215	0.71	1253	0.75	1290	0.78	1326	0.82

KGB048S4B

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

See page 38 for blower motors and drives.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

DOWNFLOW

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	574	0.20	644	0.24	713	0.28	784	0.31	850	0.33	906	0.36	953	0.39	998	0.42
1300	608	0.24	677	0.28	744	0.31	813	0.34	874	0.37	925	0.40	969	0.43	1014	0.46
1400	645	0.28	712	0.31	778	0.35	842	0.38	898	0.41	944	0.44	986	0.48	1030	0.51
1500	684	0.31	749	0.35	811	0.38	871	0.42	921	0.45	963	0.49	1004	0.53	1048	0.56
1600	723	0.35	785	0.39	844	0.43	898	0.46	943	0.50	983	0.54	1024	0.58	1067	0.61
1700	761	0.40	819	0.44	875	0.48	924	0.52	965	0.56	1004	0.60	1045	0.63	1089	0.66
1800	798	0.45	853	0.49	905	0.54	950	0.58	990	0.62	1028	0.66	1069	0.69	1112	0.72
1900	834	0.51	885	0.55	934	0.60	977	0.64	1015	0.68	1054	0.72	1095	0.75	1137	0.79
2000	869	0.57	917	0.62	962	0.67	1004	0.71	1042	0.75	1081	0.78	1121	0.82	1162	0.86

Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1043	0.44	1090	0.47	1135	0.50	1179	0.53	1220	0.57	1259	0.60	1297	0.64	1333	0.67
1300	1058	0.49	1104	0.51	1148	0.55	1190	0.58	1231	0.62	1269	0.65	1306	0.69	1342	0.72
1400	1074	0.53	1119	0.56	1162	0.59	1203	0.63	1242	0.67	1280	0.71	1317	0.74	1352	0.78
1500	1092	0.58	1136	0.61	1177	0.65	1217	0.69	1255	0.73	1292	0.76	1328	0.80	1364	0.84
1600	1112	0.63	1154	0.67	1193	0.71	1232	0.75	1269	0.79	1306	0.83	1341	0.87	1377	0.91
1700	1132	0.69	1173	0.73	1211	0.77	1248	0.81	1285	0.86	1321	0.90	1356	0.94	1391	0.98
1800	1154	0.76	1194	0.80	1230	0.85	1266	0.89	1302	0.93	1338	0.98	1373	1.02	1408	1.06
1900	1178	0.83	1215	0.88	1250	0.93	1286	0.98	1321	1.02	1356	1.06	1391	1.10	1426	1.14
2000	1201	0.91	1237	0.97	1271	1.02	1307	1.07	1342	1.11	1376	1.15	1411	1.19	1446	1.23

HORIZONTAL

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	540	0.18	606	0.22	673	0.26	748	0.29	816	0.30	870	0.33	914	0.37	961	0.40
1300	568	0.21	634	0.26	699	0.29	771	0.32	835	0.34	886	0.37	929	0.41	975	0.44
1400	599	0.25	664	0.29	728	0.33	795	0.35	855	0.38	903	0.41	946	0.45	991	0.49
1500	632	0.29	696	0.33	758	0.36	821	0.39	877	0.42	922	0.46	963	0.50	1008	0.54
1600	667	0.33	729	0.36	789	0.40	848	0.43	898	0.46	941	0.51	982	0.55	1026	0.59
1700	702	0.36	761	0.40	819	0.44	873	0.48	920	0.52	960	0.56	1001	0.61	1044	0.64
1800	737	0.41	794	0.45	848	0.49	898	0.53	941	0.58	981	0.62	1021	0.66	1064	0.70
1900	771	0.46	825	0.50	877	0.54	923	0.59	964	0.64	1002	0.68	1043	0.72	1085	0.76
2000	805	0.51	857	0.56	905	0.61	948	0.66	987	0.71	1025	0.75	1065	0.79	1107	0.82

Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1010	0.43	1061	0.46	1110	0.50	1156	0.53	1199	0.57	1239	0.61	1276	0.64	1312	0.68
1300	1024	0.47	1073	0.50	1120	0.54	1165	0.58	1207	0.62	1246	0.65	1284	0.69	1320	0.73
1400	1038	0.52	1086	0.55	1131	0.59	1175	0.62	1216	0.66	1255	0.70	1292	0.74	1328	0.78
1500	1054	0.57	1100	0.60	1144	0.64	1186	0.68	1226	0.72	1264	0.75	1301	0.79	1336	0.83
1600	1071	0.62	1116	0.65	1158	0.69	1198	0.73	1237	0.77	1274	0.81	1310	0.85	1345	0.89
1700	1089	0.67	1132	0.71	1172	0.75	1211	0.79	1249	0.83	1285	0.87	1321	0.91	1355	0.95
1800	1108	0.73	1149	0.77	1188	0.81	1225	0.85	1262	0.90	1298	0.94	1332	0.98	1366	1.01
1900	1128	0.79	1167	0.84	1204	0.88	1241	0.92	1276	0.97	1311	1.01	1345	1.05	1379	1.09
2000	1148	0.86	1186	0.91	1221	0.96	1257	1.00	1292	1.05	1326	1.09	1359	1.13	1393	1.17

KGB060S4B

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

See page 38 for blower motors and drives.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

DOWNFLOW

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1600	720	0.28	769	0.33	819	0.37	871	0.41	926	0.44	975	0.47	1016	0.51	1054	0.55
1700	779	0.30	822	0.35	864	0.39	908	0.44	953	0.48	995	0.52	1034	0.57	1072	0.61
1800	828	0.34	864	0.39	901	0.43	938	0.48	977	0.53	1015	0.58	1053	0.63	1091	0.67
1900	858	0.41	892	0.45	927	0.50	962	0.55	999	0.60	1036	0.65	1074	0.69	1112	0.73
2000	879	0.47	913	0.52	948	0.56	984	0.61	1020	0.67	1058	0.72	1096	0.76	1134	0.80
2100	900	0.53	935	0.58	970	0.63	1007	0.69	1044	0.74	1081	0.79	1119	0.84	1157	0.88
2200	922	0.60	958	0.65	994	0.71	1031	0.76	1068	0.82	1106	0.87	1143	0.91	1180	0.95
2300	947	0.67	983	0.73	1020	0.79	1057	0.85	1094	0.90	1131	0.95	1168	1.00	1205	1.03
2400	974	0.76	1010	0.82	1047	0.88	1084	0.94	1120	0.99	1157	1.04	1193	1.08	1230	1.12
Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1600	1093	0.60	1133	0.63	1173	0.67	1214	0.70	1253	0.73	1288	0.77	1318	0.81	1351	0.85
1700	1111	0.65	1150	0.69	1190	0.72	1230	0.76	1268	0.79	1301	0.83	1331	0.87	1363	0.92
1800	1130	0.71	1169	0.75	1208	0.78	1247	0.82	1285	0.86	1317	0.90	1345	0.94	1377	0.98
1900	1150	0.77	1188	0.81	1227	0.85	1267	0.88	1303	0.92	1333	0.97	1361	1.02	1392	1.06
2000	1172	0.84	1210	0.88	1248	0.92	1286	0.96	1321	1.00	1350	1.05	1377	1.10	1409	1.14
2100	1195	0.91	1233	0.95	1269	1.00	1306	1.04	1339	1.09	1367	1.14	1395	1.19	1426	1.23
2200	1218	0.99	1255	1.03	1290	1.09	1324	1.14	1356	1.19	1385	1.24	1413	1.28	1444	1.32
2300	1242	1.07	1277	1.13	1310	1.20	1343	1.26	1374	1.30	1403	1.34	1432	1.38	1464	1.42
2400	1267	1.16	1300	1.23	1332	1.31	1364	1.37	1394	1.41	1423	1.45	1453	1.48	1484	1.53

HORIZONTAL

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1600	654	0.28	712	0.32	769	0.36	825	0.39	879	0.43	933	0.47	982	0.50	1024	0.54
1700	703	0.31	756	0.35	807	0.39	858	0.43	906	0.47	955	0.51	999	0.55	1039	0.59
1800	752	0.34	798	0.38	844	0.43	889	0.48	933	0.52	977	0.57	1017	0.61	1056	0.65
1900	796	0.38	837	0.43	878	0.48	918	0.53	958	0.58	997	0.62	1036	0.67	1074	0.71
2000	833	0.43	870	0.48	907	0.54	943	0.59	980	0.64	1018	0.69	1055	0.73	1093	0.77
2100	864	0.50	897	0.55	931	0.60	966	0.65	1002	0.71	1038	0.76	1075	0.80	1113	0.83
2200	887	0.57	920	0.62	953	0.67	988	0.73	1024	0.78	1060	0.83	1097	0.87	1135	0.90
2300	909	0.64	942	0.70	976	0.75	1011	0.81	1046	0.86	1083	0.91	1120	0.95	1157	0.98
2400	931	0.72	965	0.78	999	0.83	1035	0.89	1071	0.94	1108	0.99	1144	1.03	1181	1.07
Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1600	1063	0.58	1101	0.61	1141	0.64	1181	0.67	1222	0.70	1261	0.73	1298	0.77	1333	0.81
1700	1078	0.63	1117	0.66	1156	0.69	1196	0.72	1235	0.75	1273	0.79	1309	0.83	1344	0.87
1800	1094	0.68	1133	0.72	1172	0.75	1211	0.78	1250	0.81	1287	0.85	1322	0.90	1355	0.94
1900	1112	0.74	1151	0.77	1190	0.81	1228	0.84	1265	0.88	1301	0.92	1335	0.97	1367	1.01
2000	1131	0.80	1170	0.83	1208	0.87	1245	0.91	1281	0.96	1316	1.00	1349	1.04	1380	1.09
2100	1151	0.87	1189	0.90	1227	0.94	1263	0.99	1298	1.04	1331	1.08	1363	1.13	1394	1.17
2200	1173	0.94	1210	0.98	1246	1.02	1281	1.07	1315	1.12	1347	1.17	1379	1.22	1409	1.26
2300	1195	1.02	1231	1.06	1266	1.11	1300	1.16	1333	1.22	1364	1.27	1395	1.32	1424	1.36
2400	1217	1.10	1252	1.15	1286	1.20	1319	1.26	1351	1.32	1382	1.38	1411	1.43	1440	1.48

KGB074S4T

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

See page 38 for blower motors and drives.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	857	0.41	892	0.45	927	0.50	962	0.55	999	0.60	1036	0.65	1074	0.69	1112	0.73
2000	879	0.47	913	0.52	948	0.56	984	0.61	1020	0.67	1058	0.72	1096	0.76	1134	0.80
2100	900	0.53	935	0.58	970	0.63	1007	0.69	1044	0.74	1081	0.79	1119	0.84	1157	0.88
2200	922	0.60	958	0.65	994	0.71	1031	0.76	1068	0.82	1106	0.87	1143	0.91	1180	0.95
2300	947	0.67	983	0.73	1020	0.79	1057	0.85	1094	0.90	1131	0.95	1168	1.00	1205	1.03
2400	974	0.76	1010	0.82	1047	0.88	1084	0.94	1120	0.99	1157	1.04	1193	1.08	1230	1.12
2500	1002	0.85	1039	0.91	1075	0.97	1112	1.03	1148	1.08	1184	1.13	1220	1.17	1257	1.21
2600	1032	0.95	1068	1.01	1105	1.07	1141	1.13	1177	1.17	1213	1.22	1248	1.26	1284	1.31
2700	1062	1.05	1099	1.11	1136	1.17	1172	1.22	1207	1.27	1242	1.32	1277	1.37	1312	1.43
2800	1094	1.16	1131	1.22	1167	1.27	1202	1.32	1237	1.38	1271	1.43	1305	1.49	1339	1.56
2900	1127	1.26	1163	1.32	1198	1.38	1233	1.44	1267	1.50	1300	1.56	1334	1.64	1367	1.71

Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	1150	0.77	1188	0.81	1227	0.85	1267	0.88	1303	0.92	1333	0.97	1360	1.02	1392	1.06
2000	1172	0.84	1210	0.88	1248	0.92	1286	0.96	1321	1.00	1350	1.05	1377	1.10	1409	1.14
2100	1195	0.91	1233	0.95	1269	1.00	1306	1.04	1339	1.09	1367	1.14	1395	1.19	1426	1.23
2200	1218	0.99	1255	1.03	1290	1.09	1324	1.14	1356	1.19	1385	1.24	1413	1.28	1444	1.32
2300	1242	1.07	1277	1.13	1310	1.20	1343	1.26	1374	1.30	1403	1.34	1432	1.38	1464	1.42
2400	1267	1.16	1300	1.23	1332	1.31	1364	1.37	1394	1.41	1423	1.45	1453	1.48	1484	1.53
2500	1292	1.26	1324	1.34	1355	1.42	1387	1.48	1417	1.52	1445	1.56	1475	1.59	1506	1.64
2600	1318	1.38	1350	1.46	1380	1.55	1411	1.60	1440	1.64	1469	1.68	1498	1.71	1529	1.76
2700	1345	1.51	1376	1.60	1406	1.68	1436	1.73	1465	1.77	1493	1.80	1523	1.84	1553	1.88
2800	1372	1.65	1403	1.74	1433	1.82	1462	1.86	1490	1.90	1519	1.93	1548	1.97	1578	2.01
2900	1399	1.80	1430	1.89	1460	1.96	1489	2.00	1516	2.03	1544	2.06	1573	2.10	1603	2.14

KGB074S4T

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (larger gas heat section, economizer, wet coil, etc.) See page 38.
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 38.

See page 38 for blower motors and drives.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

Air Volume cfm	External Static - in. w.g.															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	796	0.38	837	0.43	878	0.48	918	0.53	958	0.58	997	0.62	1036	0.67	1074	0.71
2000	833	0.43	870	0.48	907	0.54	943	0.59	980	0.64	1018	0.69	1055	0.73	1093	0.77
2100	864	0.50	897	0.55	931	0.60	966	0.65	1002	0.71	1038	0.76	1075	0.80	1113	0.83
2200	887	0.57	920	0.62	953	0.67	988	0.73	1024	0.78	1060	0.83	1097	0.87	1135	0.90
2300	909	0.64	942	0.70	976	0.75	1011	0.81	1046	0.86	1083	0.91	1120	0.95	1157	0.98
2400	931	0.72	965	0.78	999	0.83	1035	0.89	1071	0.94	1108	0.99	1144	1.03	1181	1.07
2500	955	0.80	989	0.86	1024	0.92	1061	0.98	1097	1.03	1133	1.08	1170	1.11	1205	1.15
2600	981	0.90	1016	0.96	1052	1.01	1088	1.07	1124	1.12	1160	1.16	1195	1.20	1230	1.25
2700	1009	0.99	1044	1.05	1080	1.11	1116	1.16	1152	1.21	1187	1.26	1221	1.30	1254	1.35
2800	1038	1.10	1073	1.16	1109	1.21	1145	1.26	1180	1.31	1214	1.36	1247	1.40	1279	1.46
2900	1068	1.20	1104	1.26	1139	1.31	1174	1.36	1208	1.41	1240	1.47	1273	1.52	1304	1.58

Air Volume cfm	External Static - in. w.g.															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1900	1112	0.74	1151	0.77	1190	0.81	1228	0.84	1265	0.88	1301	0.92	1335	0.97	1367	1.01
2000	1131	0.80	1170	0.83	1208	0.87	1245	0.91	1281	0.96	1316	1.00	1349	1.04	1380	1.09
2100	1151	0.87	1189	0.90	1227	0.94	1263	0.99	1298	1.04	1331	1.08	1363	1.13	1394	1.17
2200	1173	0.94	1210	0.98	1246	1.02	1281	1.07	1315	1.12	1347	1.17	1379	1.22	1409	1.26
2300	1195	1.02	1231	1.06	1266	1.11	1300	1.16	1333	1.22	1364	1.27	1395	1.32	1424	1.36
2400	1217	1.10	1252	1.15	1286	1.20	1319	1.26	1351	1.32	1382	1.38	1411	1.43	1440	1.48
2500	1240	1.20	1274	1.25	1307	1.31	1339	1.37	1370	1.43	1400	1.49	1428	1.55	1457	1.59
2600	1264	1.30	1297	1.35	1329	1.42	1360	1.49	1389	1.55	1418	1.61	1446	1.67	1475	1.72
2700	1287	1.40	1319	1.47	1350	1.54	1380	1.61	1409	1.68	1437	1.74	1465	1.79	1493	1.84
2800	1311	1.52	1342	1.59	1373	1.66	1402	1.74	1430	1.8	1457	1.87	1485	1.92	1513	1.97
2900	1335	1.65	1366	1.72	1395	1.79	1424	1.87	1451	1.94	1478	2.00	1505	2.05	1533	2.09

BLOWER DATA

BELT DRIVE KIT SPECIFICATIONS - 036-074S

Model No.	Motor HP		No. of Speeds	Drive Kits and RPM Range							
	Nominal	Maximum		A01	A02	A03	A04	A05	A06	A07	A08
036	1	1.15	1	673-1010	- - -	- - -	- - -	897-1346	- - -	- - -	- - -
048	1	1.15	1	- - -	745-1117	- - -	- - -	- - -	1071-1429	- - -	- - -
	2	2.3	1	- - -	745-1117	- - -	- - -	- - -	1071-1429	- - -	- - -
060	1	1.15	1	- - -	- - -	833-1250	- - -	- - -	- - -	1212-1548	- - -
	2	2.3	1	- - -	- - -	833-1250	- - -	- - -	- - -	1212-1548	- - -
074	1	1.5	2	- - -	- - -	- - -	968-1340	- - -	- - -	- - -	1193-1591
	2	2.3	2	- - -	- - -	- - -	968-1340	- - -	- - -	- - -	1193-1591

OPTIONS / ACCESSORIES AIR RESISTANCE - in. w.g.

Air Volume cfm	Wet Indoor Coil			Humiditrol® Reheat Coil		Gas Heat		Economizer	Filters		
	024-048	060	074	024, 048	060, 074	Medium Input	High Input		MERV 8	MERV 13	MERV 16
800	0.01	0.01	0.01	0.00	0.00	0.02	0.02	0.04	0.04	0.05	0.04
1000	0.02	0.02	0.01	0.00	0.00	0.02	0.02	0.04	0.04	0.07	0.05
1200	0.03	0.04	0.02	0.01	0.00	0.02	0.02	0.04	0.04	0.07	0.05
1400	0.04	0.05	0.03	0.02	0.01	0.02	0.03	0.04	0.04	0.07	0.06
1600	0.05	0.06	0.04	0.03	0.02	0.03	0.04	0.04	0.04	0.07	0.08
1800	0.06	0.07	0.05	0.04	0.02	0.03	0.05	0.05	0.05	0.07	0.09
2000	0.08	0.09	0.06	0.04	0.03	0.04	0.06	0.05	0.05	0.08	0.10
2200	0.09	0.10	0.07	- - -	0.04	0.04	0.07	0.05	0.05	0.08	0.11
2400	0.10	0.12	0.08	- - -	0.04	0.05	0.08	0.05	0.05	0.08	0.12

BLOWER DATA

CEILING DIFFUSERS AIR RESISTANCE (in. w.g.)

Air Volume cfm	RTD9-65S Step–Down Diffuser			FD9-65S Flush Diffuser	RTD11-95S Step–Down Diffuser			FD11-95S Flush Diffuser
	2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open		2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open	
800	0.15	0.13	0.11	0.11	- - -	- - -	- - -	- - -
1000	0.19	0.16	0.14	0.14	- - -	- - -	- - -	- - -
1200	0.25	0.20	0.17	0.17	- - -	- - -	- - -	- - -
1400	0.33	0.26	0.20	0.20	- - -	- - -	- - -	- - -
1600	0.43	0.32	0.20	0.24	- - -	- - -	- - -	- - -
1800	0.56	0.40	0.30	0.30	0.13	0.11	0.09	0.09
2000	0.73	0.50	0.36	0.36	0.15	0.13	0.11	0.10
2200	0.95	0.63	0.44	0.44	0.18	0.15	0.12	0.12
2400	- - -	- - - -	- - -	- - -	0.21	0.18	0.15	0.14
2600	- - -	- - - -	- - -	- - -	0.24	0.21	0.18	0.17
2800	- - -	- - - -	- - -	- - -	0.27	0.24	0.21	0.20
3000	- - -	- - - -	- - -	- - -	0.32	0.29	0.25	0.25

CEILING DIFFUSER AIR THROW DATA

Air Volume - cfm	[1] Effective Throw - ft.	
Model No.	**RTD9-65S**	**FD9-65S**
800	10 - 17	14 - 18
1000	10 - 17	15 - 20
1200	11 - 18	16 - 22
1400	12 - 19	17 - 24
1600	12 - 20	18 - 25
1800	13 - 21	20 - 28
2000	14 - 23	21 - 29
2200	16 - 25	22 - 30
Model No.	**RTD11-95S**	**FD11-95S**
2600	24 - 29	19 - 24
2800	25 - 30	20 - 28
3000	27 - 33	21 - 29

[1] Effective throw based on terminal velocities of 75 ft. per minute.

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure - in. w.g.	Air Volume Exhausted cfm
0.00	2000
0.05	1990
0.10	1924
0.15	1810
0.20	1664
0.25	1507
0.30	1350
0.35	1210

ELECTRICAL DATA — DIRECT DRIVE ECM - 2 TON | 2.5 TON ECM

		Model No.	KGB024S4E	KGB030S4E
[1] Voltage - 60hz			**208/230V - 1 Ph**	**208/230V - 1 Ph**
Compressor 1 (Non-Inverter)		Rated Load Amps	10.9	13.5
		Locked Rotor Amps	60	73
Outdoor Fan Motor		Full Load Amps (1 Non-ECM)	1.7	1.7
Service Outlet 115V GFI (amps)			15	15
Indoor Blower Motor		Horsepower	0.33	0.33
		Type	Direct (ECM)	Direct (ECM)
		Full Load Amps	2.9	2.9
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	25	30
[3] Minimum Circuit Ampacity (MCA)		Unit Only	19	22
ELECTRICAL ACCESSORIES				
Disconnect		Standard Access	**20W17**	**20W17**
		Hinged Access	**20W23**	**20W23**

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — DIRECT DRIVE ECM - 3 TON | 4 TON | 5 TON

		Model No.	KGB036S4E	KGB048S4E	KGB060S4E
[1] Voltage - 60hz			**208/230V - 1 Ph**	**208/230V - 1 Ph**	**208/230V - 1 Ph**
Compressor 1 (Non-Inverter)		Rated Load Amps	15.3	20	24.4
		Locked Rotor Amps	70	99	144
Outdoor Fan Motor		Full Load Amps (1 Non-ECM)	1.7	1.7	1.65
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4	2.4	2.4
Service Outlet 115V GFI (amps)			15	15	15
Indoor Blower Motor		Horsepower	0.50	0.75	1.0
		Type	Direct (ECM)	Direct (ECM)	Direct (ECM)
		Full Load Amps	4.6	6.3	8.4
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	40	50	60
		with (1) 0.33 HP Power Exhaust	40	50	60
[3] Minimum Circuit Ampacity (MCA)		Unit Only	26	33	41
		with (1) 0.33 HP Power Exhaust	28	36	43
ELECTRICAL ACCESSORIES					
Disconnect		Standard Access	**20W17**	**20W17**	**22A22**
		Hinged Access	**20W23**	**20W23**	**22A25**

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — DIRECT DRIVE PSC - 3 TON

		Model No.	KGB036S4D		
[1] Voltage - 60hz			208/230V - 3 Ph	460V - 3 Ph	575V - 3 Ph
Compressor 1 (Non-Inverter)		Rated Load Amps	8.7	4	3.6
		Locked Rotor Amps	70	31	27
Outdoor Fan Motor		Full Load Amps (1 Non-ECM)	1.7	1.1	0.7
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)			15	15	20
Indoor Blower Motor		Horsepower	0.5	0.5	0.5
		Type	Direct (PSC)	Direct (PSC)	Direct (PSC)
		Full Load Amps	3.9	2	2
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	25	15	15
		with (1) 0.33 HP Power Exhaust	25	15	15
[3] Minimum Circuit Ampacity (MCA)		Unit Only	17	9	8
		with (1) 0.33 HP Power Exhaust	19	10	9
ELECTRICAL ACCESSORIES					
Disconnect		Standard Access	**20W17**	**20W17**	**20W17**
		Hinged Access	**20W23**	**20W23**	**20W23**

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — DIRECT DRIVE PSC - 4 TON

KGB048S4D - STANDARD EFFICIENCY - DIRECT DRIVE PSC BLOWER

			208/230V - 3 Ph	460V - 3 Ph	575V - 3 Ph
[1] Voltage - 60hz					
Compressor 1 (Non-Inverter)		Rated Load Amps	11	5.5	4.7
		Locked Rotor Amps	86	37	34
Outdoor Fan Motor		Full Load Amps (1 Non-ECM)	1.7	1.1	0.7
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)			15	1.3	1
Indoor Blower Motor		Horsepower	0.5	0.5	0.5
		Type	Direct (PSC)	Direct (PSC)	Direct (PSC)
		Full Load Amps	3.9	2	2
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	30	15	15
		with (1) 0.33 HP Power Exhaust	30	15	15
[3] Minimum Circuit Ampacity (MCA)		Unit Only	20	10	9
		with (1) 0.33 HP Power Exhaust	22	12	10
ELECTRICAL ACCESSORIES					
Disconnect		Standard Access	**20W17**	**20W17**	**20W17**
		Hinged Access	**20W23**	**20W23**	**20W23**

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — DIRECT DRIVE PSC - 5 TON

		Model No.	KGB060S4D		
[1] Voltage - 60hz			**208/230V - 3 Ph**	**460V - 3 Ph**	**575V - 3 Ph**
Compressor 1 (Non-Inverter)		Rated Load Amps	16	7.8	5.7
		Locked Rotor Amps	110	52	38.9
Outdoor Fan Motor		Full Load Amps (1 Non-ECM)	1.65	0.8	1
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)			15	15	20
Indoor Blower Motor		Horsepower	0.75	0.75	0.75
		Type	Direct (PSC)	Direct (PSC)	Direct (PSC)
		Full Load Amps	4.9	2.5	2.5
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	40	20	15
		with (1) 0.33 HP Power Exhaust	40	20	15
[3] Minimum Circuit Ampacity (MCA)		Unit Only	27	14	10
		with (1) 0.33 HP Power Exhaust	29	15	12
ELECTRICAL ACCESSORIES					
Disconnect		Standard Access	**22A22**	**22A22**	**22A22**
		Hinged Access	**22A25**	**22A25**	**22A25**

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — BELT DRIVE (SINGLE SPEED) - 3 TON

	Model No.	KGB036S4B		
[1] Voltage - 60hz		208/230V - 3 Ph	460V - 3 Ph	575V - 3 Ph
Compressor 1 (Non-Inverter)	Rated Load Amps	8.7	4	3.6
	Locked Rotor Amps	70	31	27
Outdoor Fan Motor	Full Load Amps (1 Non-ECM)	1.7	1.1	0.7
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)		15	15	20
Indoor Blower Motor	Horsepower	1	1	1
	Type	Belt	Belt	Belt
	Full Load Amps	4.6	2.1	1.7
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	25	15	15
	with (1) 0.33 HP Power Exhaust	25	15	15
[3] Minimum Circuit Ampacity (MCA)	Unit Only	18	9	7
	with (1) 0.33 HP Power Exhaust	20	10	8

ELECTRICAL ACCESSORIES

Disconnect	Standard Access	**20W17**	**20W17**	**20W17**
	Hinged Access	**20W23**	**20W23**	**20W23**

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — BELT DRIVE (SINGLE SPEED) - 4 TON

	Model No.	KGB048S4B					
[1] Voltage - 60hz		208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor 1 (Non-Inverter)	Rated Load Amps	11		5.5		4.7	
	Locked Rotor Amps	86		37		34	
Outdoor Fan Motor	Full Load Amps (1 Non-ECM)	1.7		1.1		0.7	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4		1.3		1	
Service Outlet 115V GFI (amps)		15		15		20	
Indoor Blower Motor	Horsepower	1	2	1	2	1	2
	Type	Belt	Belt	Belt	Belt	Belt	Belt
	Full Load Amps	4.6	7.5	2.1	3.4	1.7	2.7
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	30	30	15	15	15	15
	with (1) 0.33 HP Power Exhaust	30	35	15	15	15	15
[3] Minimum Circuit Ampacity (MCA)	Unit Only	21	23	11	12	9	10
	with (1) 0.33 HP Power Exhaust	23	26	12	13	10	11

ELECTRICAL ACCESSORIES

Disconnect	Standard Access	**20W17**	**20W17**	**20W17**
	Hinged Access	**20W23**	**20W23**	**20W23**

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — BELT DRIVE (SINGLE SPEED) - 5 TON

		Model No.	KGB060S4B					
[1] Voltage - 60hz			208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor 1 (Non-Inverter)		Rated Load Amps	16		7.8		5.7	
		Locked Rotor Amps	110		52		38.9	
Outdoor Fan Motor		Full Load Amps (1 Non-ECM)	1.65		0.8		1	
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4		1.3		1	
Service Outlet 115V GFI (amps)			15		15		20	
Indoor Blower Motor		Horsepower	1	2	1	2	1	2
		Type	Belt	Belt	Belt	Belt	Belt	Belt
		Full Load Amps	4.6	7.5	2.1	3.4	1.7	2.7
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	40	45	20	20	15	15
		with (1) 0.33 HP Power Exhaust	40	45	20	20	15	15
[3] Minimum Circuit Ampacity (MCA)		Unit Only	27	30	13	14	10	11
		with (1) 0.33 HP Power Exhaust	29	32	14	16	10	12
ELECTRICAL ACCESSORIES								
Disconnect		Standard Access	**22A22**		**22A22**		**22A22**	
		Hinged Access	**22A25**		**22A25**		**22A25**	

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — BELT DRIVE (TWO-SPEED) - 6 TON

		Model No.	KGB074S4T					
[1] Voltage - 60hz			208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor		Rated Load Amps	17.6		8.5		6.3	
		Locked Rotor Amps	136		66.1		55.3	
Outdoor Fan Motor		Full Load Amps (1 Non-ECM)	2.4		1.3		1	
Power Exhaust (1) 0.33 HP		Full Load Amps	2.4		1.3		1	
Service Outlet 115V GFI (amps)			15		15		20	
Indoor Blower Motor		Horsepower	1	2	1	2	1	2
		Type	Belt	Belt	Belt	Belt	Belt	Belt
		Full Load Amps	4.6	7.5	2.1	3.4	1.7	2.7
[2] Maximum Overcurrent Protection (MOCP)		Unit Only	45	45	20	20	15	15
		with (1) 0.33 HP Power Exhaust	45	50	20	25	15	15
[3] Minimum Circuit Ampacity (MCA)		Unit Only	29	32	15	16	11	12
		with (1) 0.33 HP Power Exhaust	32	35	16	17	12	13
ELECTRICAL ACCESSORIES								
Disconnect		Standard Access	**22A22**		**22A22**		**22A22**	
		Hinged Access	**22A25**		**22A25**		**22A25**	

Disconnects - 20W17 - 80A
20W23 - 150A

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

FIELD WIRING NOTES

- For use with copper wiring only
- Field wiring not furnished
- All wiring must conform to NEC or CEC and local electrical codes
- For specific wiring information, please refer to the installation instructions

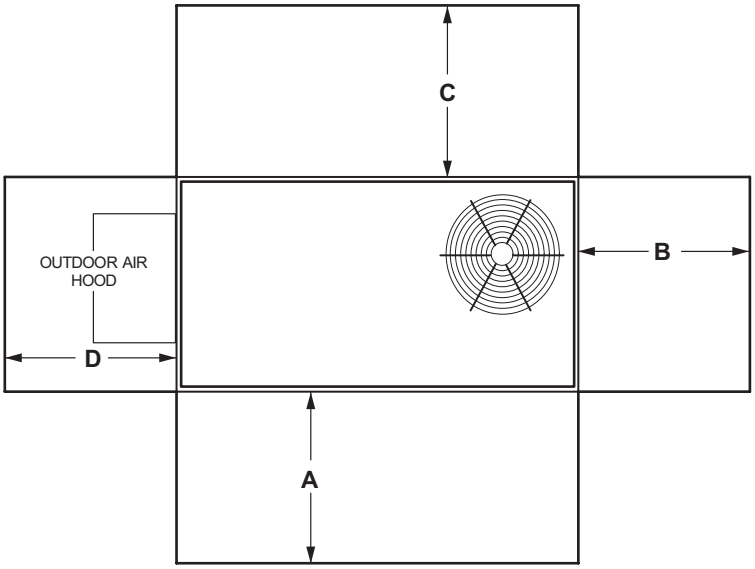
OUTDOOR SOUND DATA

Unit Model No.	Octave Band Sound Power Levels dBA, re 10^{-12} Watts - Center Frequency - Hz							[1] Sound Rating Number (dBA)
	125	250	500	1000	2000	4000	8000	
KGB024, 030, 036, 048	62	66	70	69	66	60	50	74
KGB060	72	75	78	77	73	68	58	83
KGB074	66	71	74	73	70	65	57	79

Note - The octave sound power data does not include tonal corrections.

[1] Sound Rating Number according to AHRI Standard 270-95 (includes pure tone penalty). Sound Rating Number is the overall A-Weighted Sound Power Level, (LWA), dBA (100 Hz to 10,000 Hz).

UNIT CLEARANCES



[1] Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	48	1219	36	914	36	914	36	914	**Unobstructed**
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	36	914	36	914	36	914	36	914	

NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

[1] **Service Clearance** - Required for removal of serviceable parts.
Clearance to Combustibles - Required clearance to combustible material.
Minimum Operation Clearance - Required clearance for proper unit operation.

WEIGHT DATA

Model Number	Outdoor / Indoor Coil	Net		Shipping		Outdoor / Indoor Coil Options	Net		Shipping	
		lbs.	kg	lbs.	kg		lbs.	kg	lbs.	kg
024S Base Unit	Environ™ / Fin-Tube	530	240	571	259	[1] Fin-Tube / Fin-Tube	566	257	607	275
024S Max. Unit	Environ™ / Fin-Tube	640	290	681	309	[1] Fin-Tube / Fin-Tube	700	318	741	336
030S Base Unit	Environ™ / Fin-Tube	533	242	574	260	[1] Fin-Tube / Fin-Tube	569	258	610	277
030S Max. Unit	Environ™ / Fin-Tube	643	292	684	310	[1] Fin-Tube / Fin-Tube	703	319	744	337
036 Base Unit	Environ™ / Fin-Tube	555	252	596	270	[1] Fin-Tube / Fin-Tube	588	267	629	285
036 Max. Unit	Environ™ / Fin-Tube	701	318	742	337	[1] Fin-Tube / Fin-Tube	761	345	802	364
048 Base Unit	Environ™ / Fin-Tube	555	252	596	270	[1] Fin-Tube / Fin-Tube	588	267	629	285
048 Max. Unit	Environ™ / Fin-Tube	716	325	757	343	[1] Fin-Tube / Fin-Tube	776	352	817	371
060 Base Unit	Environ™ / Environ™	604	274	645	293	[1] Fin-Tube / [1] Fin-Tube	666	300	703	319
060 Max. Unit	Environ™ / Environ™	734	333	775	352	[1] Fin-Tube / [1] Fin-Tube	819	371	680	390
074 Base Unit	Environ™ / Environ™	604	274	645	293	[1] Fin-Tube / [1] Fin-Tube	662	300	703	319
074 Max. Unit	Environ™ / Environ™	705	320	746	338	[1] Fin-Tube / [1] Fin-Tube	790	358	831	377
060 Base Unit	Environ™ / Fin-Tube	649	294	690	313	- - -	- - -	- - -	- - -	- - -
060 Max. Unit	Environ™ / Fin-Tube	813	369	854	387	- - -	- - -	- - -	- - -	- - -
074 Base Unit	Environ™ / Fin-Tube	649	294	690	313	- - -	- - -	- - -	- - -	- - -
074 Max. Unit	Environ™ / Fin-Tube	813	369	854	387	- - -	- - -	- - -	- - -	- - -

[1] Factory option.

OPTIONS / ACCESSORIES

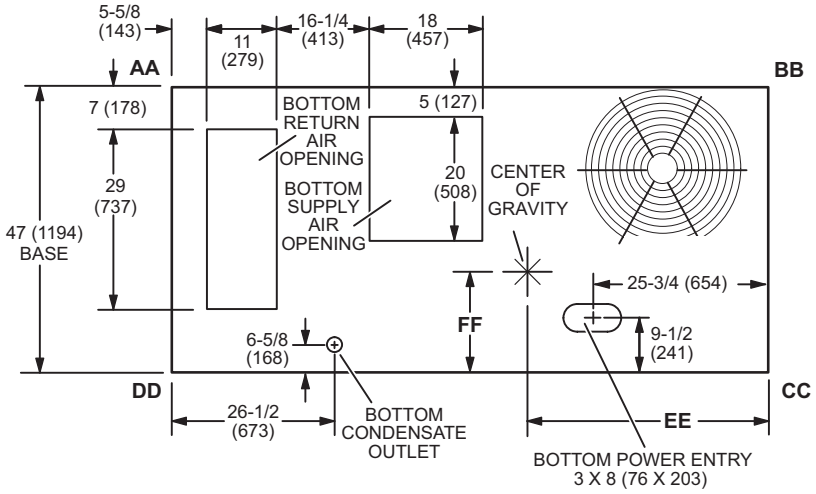
		Shipping Weights	
		lbs.	kg
ECONOMIZER / OUTDOOR AIR / POWER EXHAUST			
Economizer			
Standard Economizer only		125	57
Standard Economizer with Barometric Relief Dampers and Combination Hood		148	67
Barometric Relief Dampers, Combination Hood and Harness for Standard Economizer		23	10
High Performance Economizer - Includes Barometric Relief Dampers and Combination Hood		131	59
Outdoor Air Dampers			
Motorized		40	18
Manual		30	14
Power Exhaust		35	16
GAS HEAT			
Medium Heat (adder over standard heat)		8	4
High Heat (adder over standard heat)		19	9
COIL/HAIL GUARDS			
All models		30	14
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
8 in. height		86	39
14 in. height		108	49
18 in. height		125	57
24 in. height		147	67
Adjustable Pitch Curb, Downflow			
14 in. height		147	67
CEILING DIFFUSERS			
Step-Down	RTD9-65S	80	36
	RTD11-95S	118	54
Flush	FD9-65S	80	36
	FD11-95S	118	54
Transitions (Supply and Return)	T1TRAN10AN1	22	10
	T1TRAN20N-1	21	10
HUMIDITROL® DEHUMIDIFICATION SYSTEM			
Humiditrol Dehumidification Option (Net Weight)		27	12

DIMENSIONS - UNIT

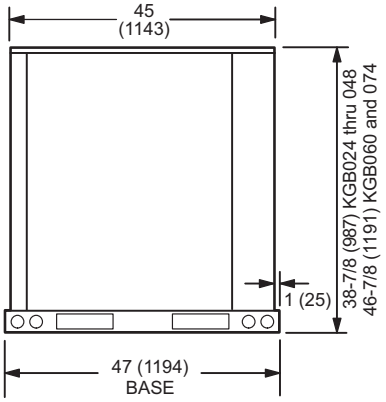
Model No.	CORNER WEIGHTS																CENTER OF GRAVITY							
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm	in.	mm	in.	mm
024	107	49	129	59	124	56	132	60	160	73	170	77	138	63	208	95	39-1/2	1003	45	1143	20-1/2	521	20-1/2	521
030	108	49	130	59	125	57	132	60	161	73	171	78	139	63	209	95	39-1/2	1003	45	1143	20-1/2	521	20-1/2	521
036	112	51	142	64	130	59	141	64	168	76	190	86	145	66	228	104	39-1/2	1003	45	1143	20-1/2	521	20	508
048	112	51	145	66	130	59	144	65	168	76	194	88	145	66	233	106	39-1/2	1003	45	1143	20-1/2	521	20	508
060	130	59	162	74	147	67	167	76	198	90	226	103	175	79	257	117	40	1016	44	1118	20	508	20	508
074	130	59	162	74	147	67	167	76	198	90	226	103	175	79	257	117	40	1016	44	1118	20	508	20	508

Base Unit - The unit with NO INTERNAL OPTIONS.

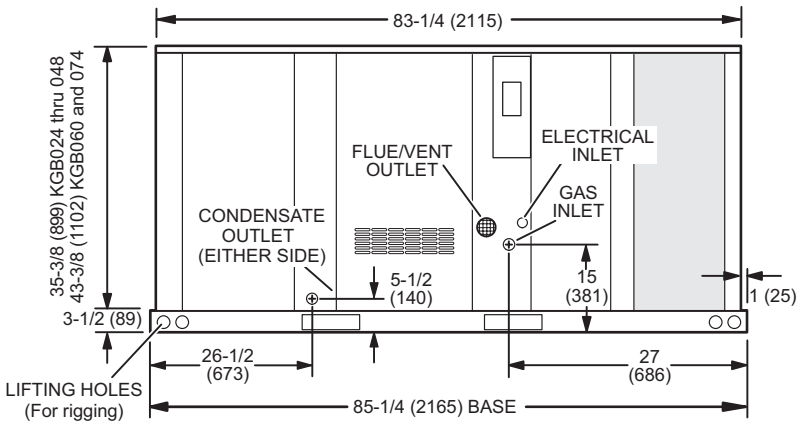
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



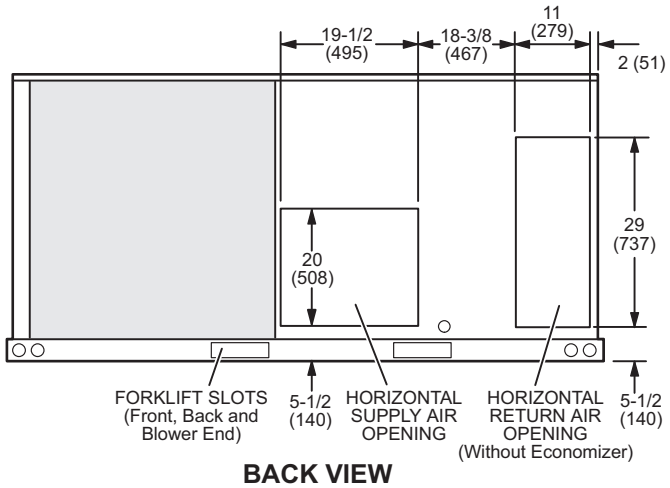
TOP VIEW (Base)



END VIEW



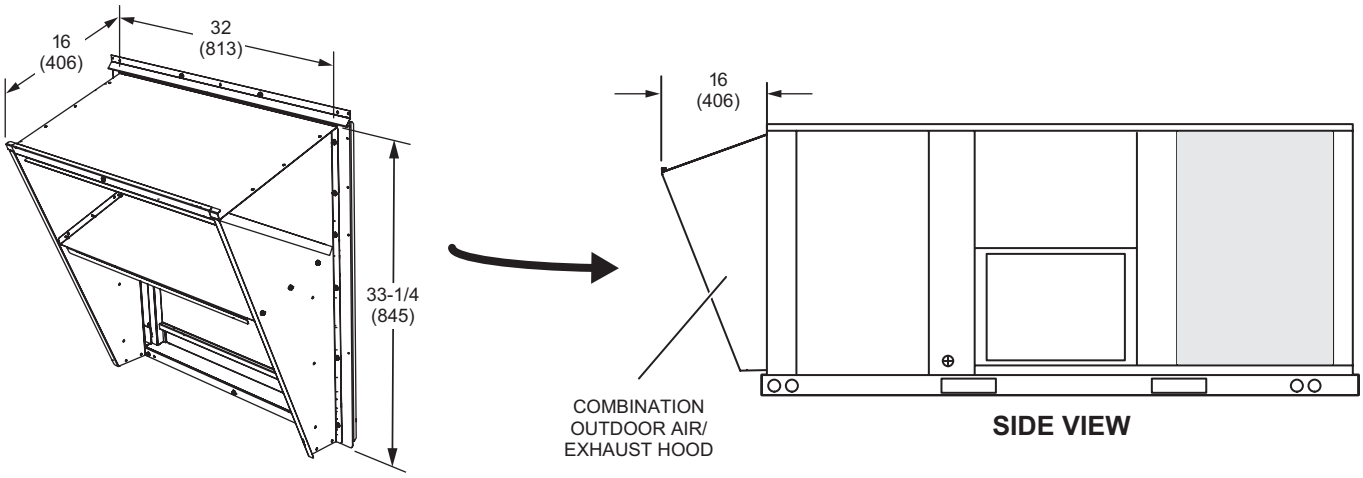
SIDE VIEW



BACK VIEW

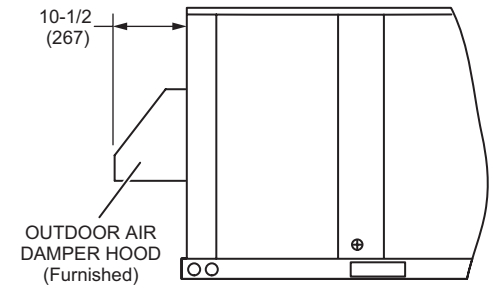
COMBINATION OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS - DOWNFLOW APPLICATIONS

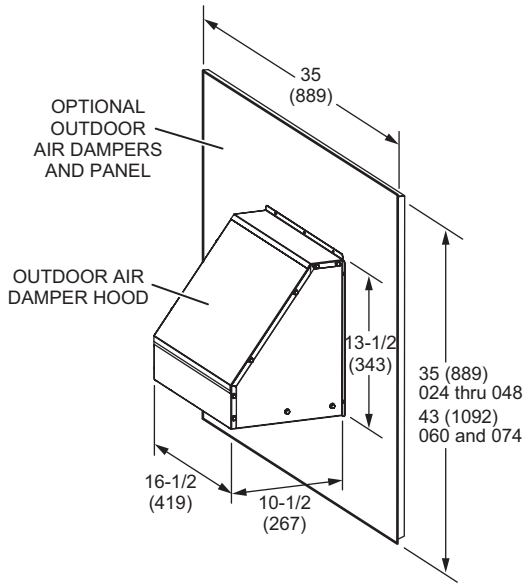
- Optional for Field Installed Standard Economizer - Order Separately
- Furnished with Factory and Field Installed High Performance Economizer



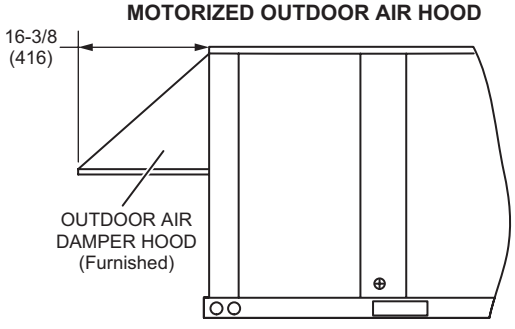
OUTDOOR AIR DAMPER HOOD DETAIL (Downflow or Horizontal Applications)

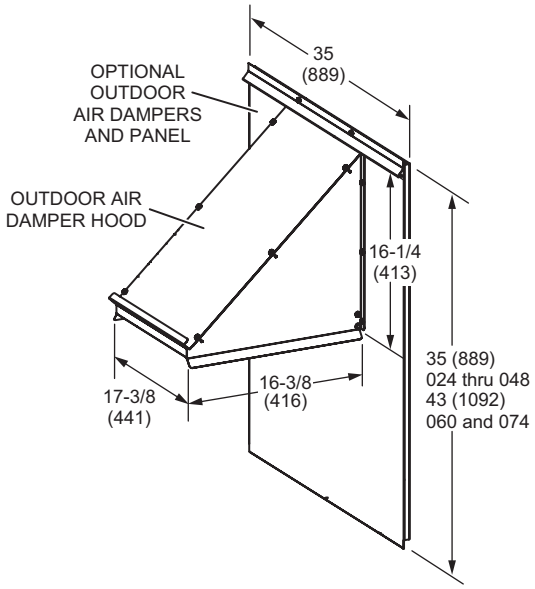
MANUAL OUTDOOR AIR HOOD



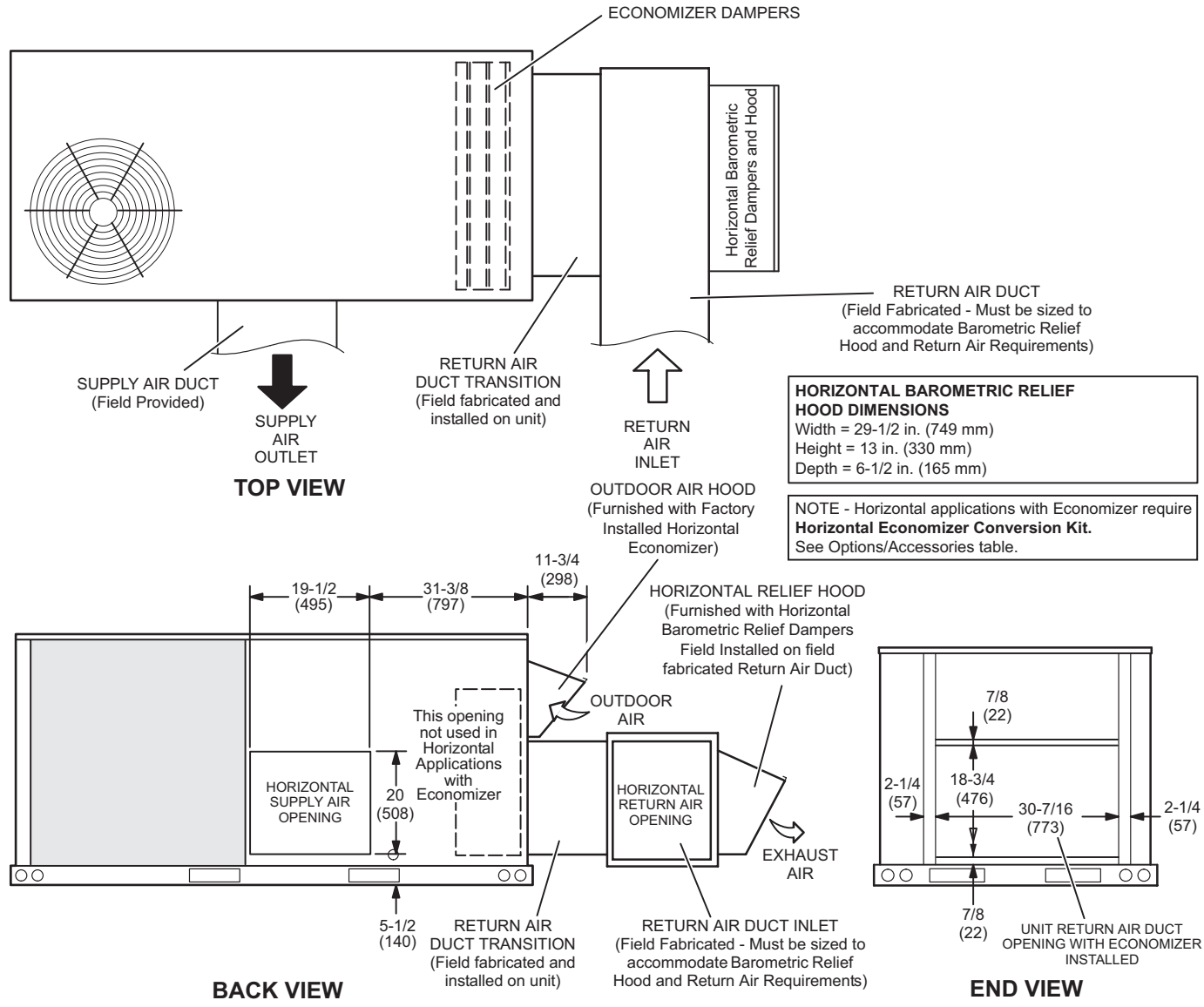


MOTORIZED OUTDOOR AIR HOOD



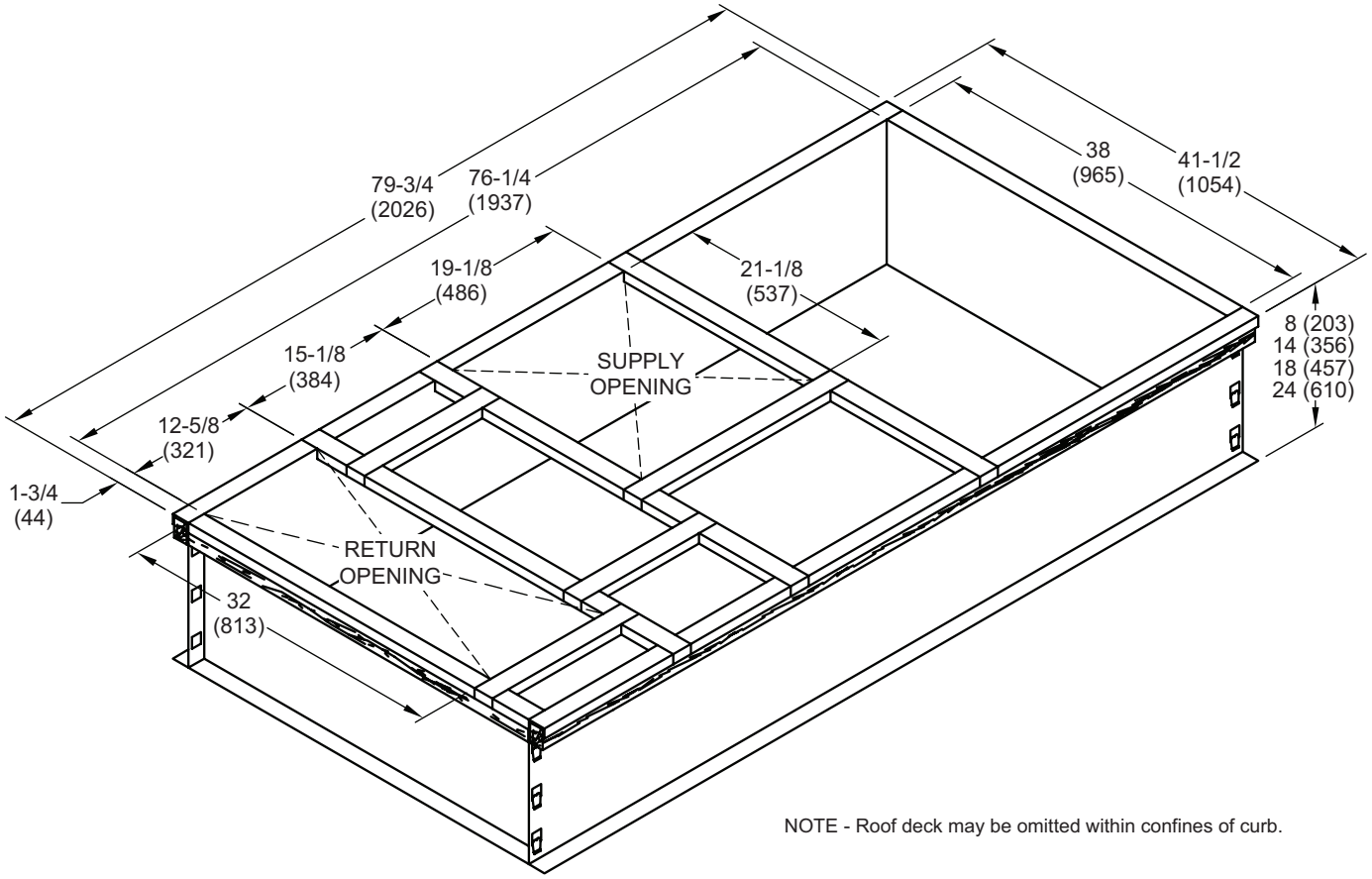


HORIZONTAL ECONOMIZER APPLICATIONS - OUTDOOR AIR HOOD DETAIL WITH OPTIONAL ECONOMIZER DAMPERS AND OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS AND HOOD



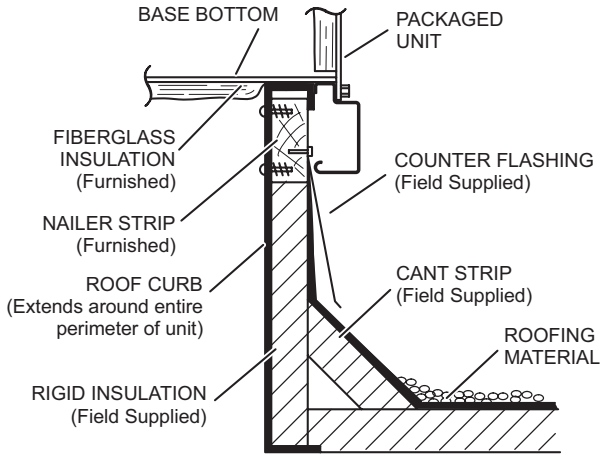
NOTE - Return Air Duct and Transition must be supported.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

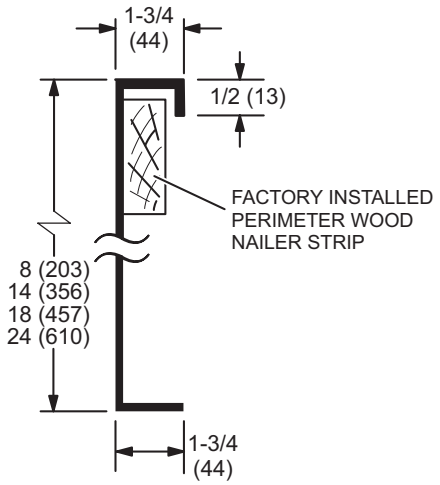


NOTE - Roof deck may be omitted within confines of curb.

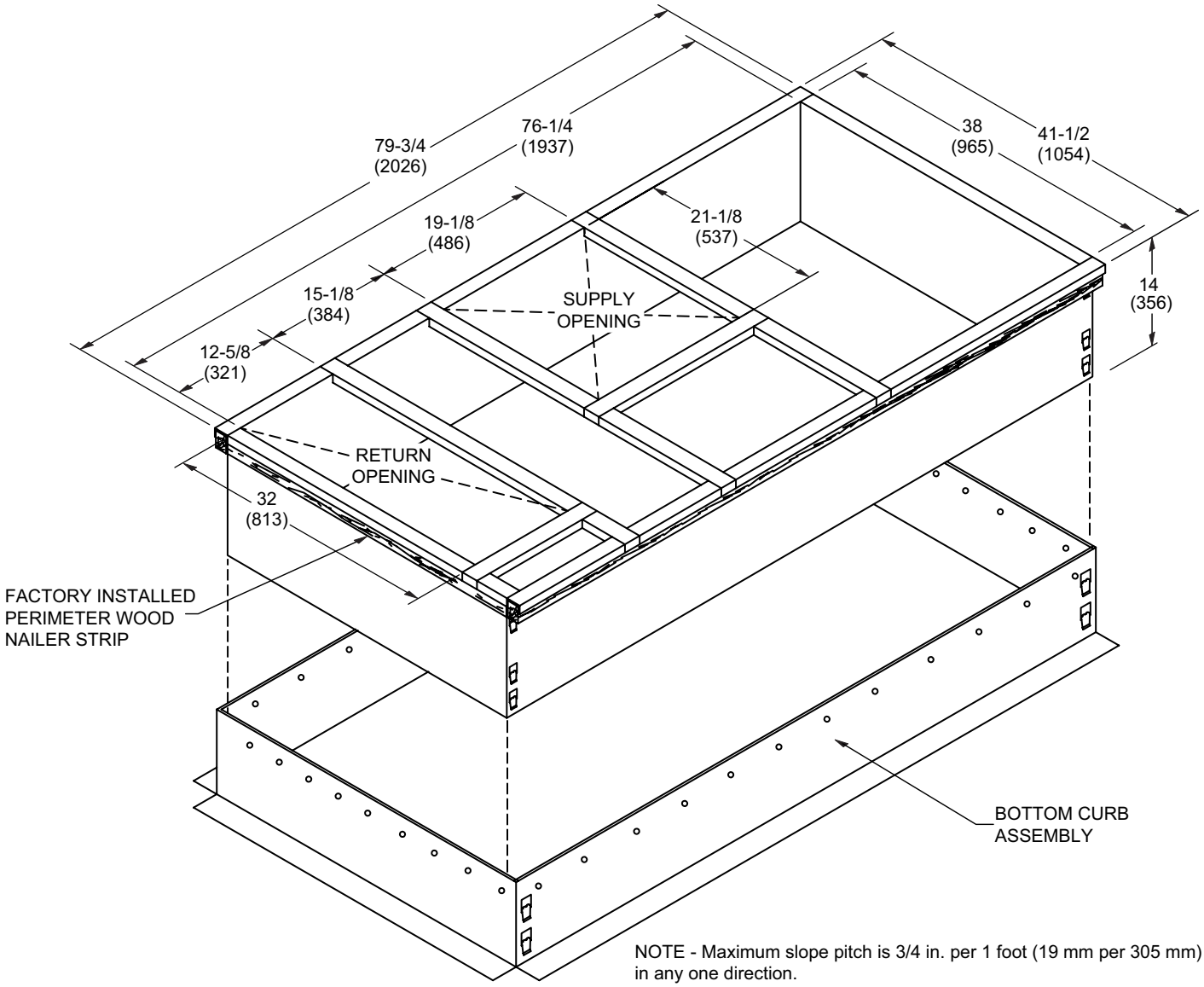
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

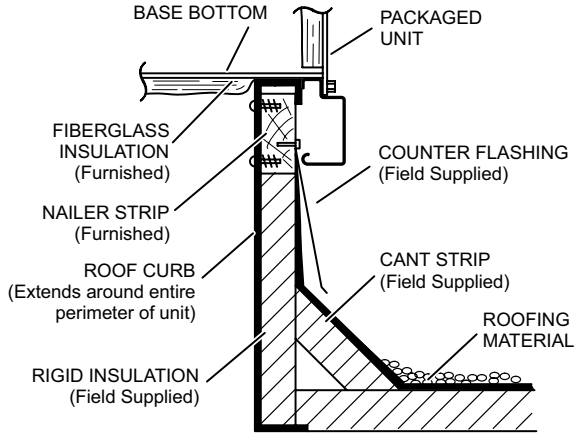


ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING

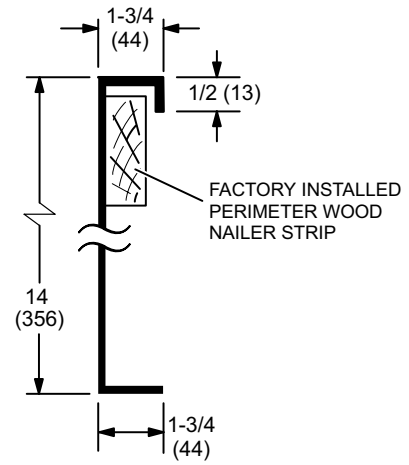


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

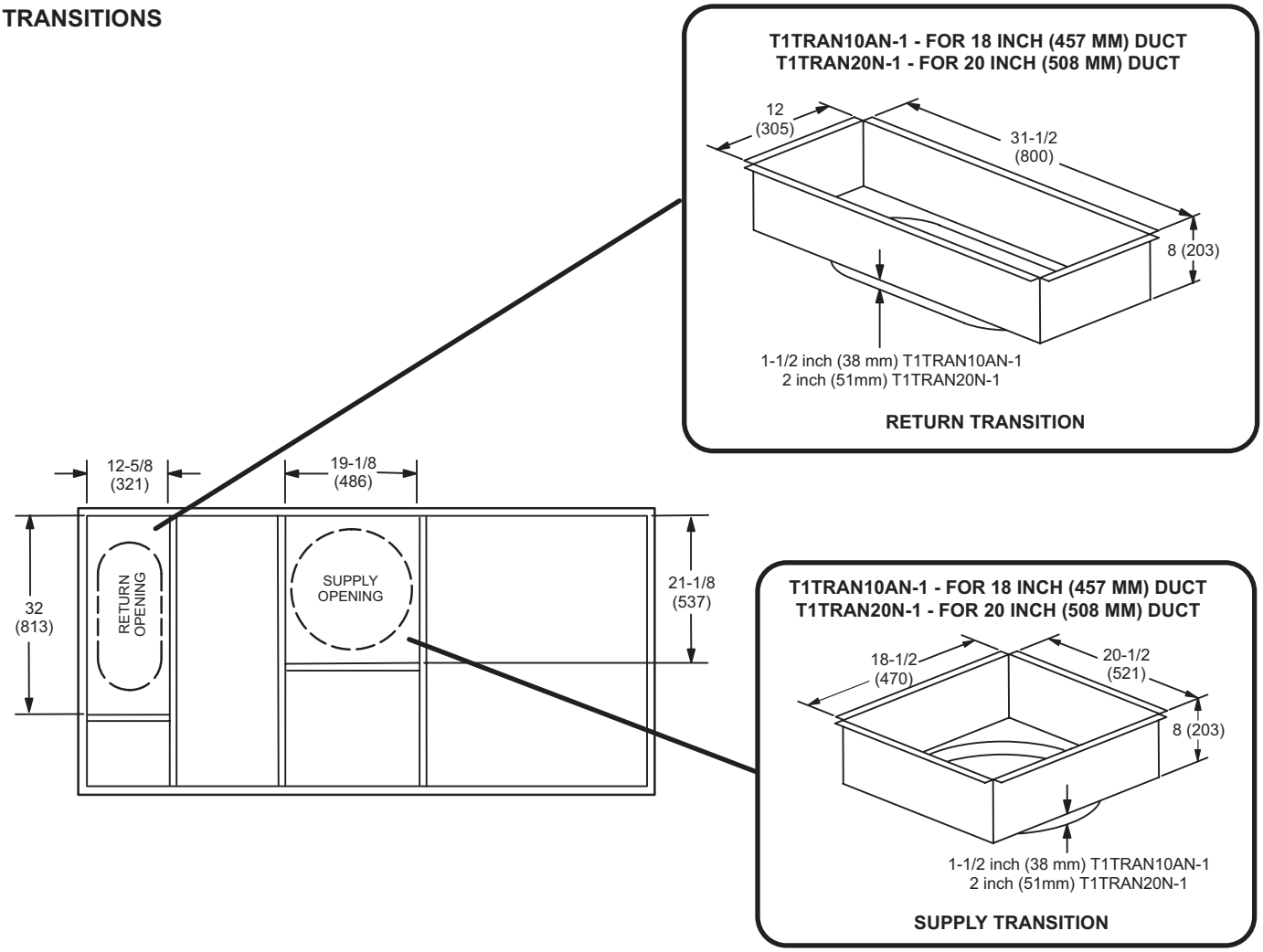


DETAIL ROOF CURB



DIMENSIONS - ACCESSORIES

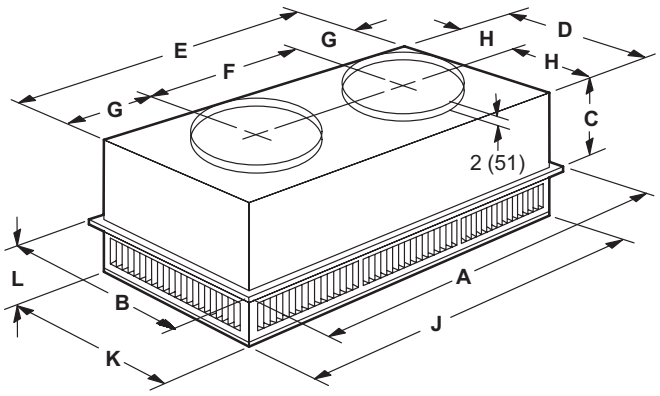
TRANSITIONS



DIMENSIONS - ACCESSORIES

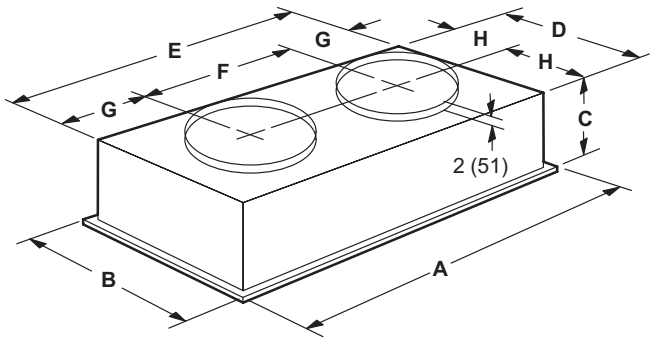
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



Model Number		RTD9-65S	RTD11-95S
A	in.	47-5/8	47-5/8
	mm	1159	1159
B	in.	23-5/8	29-5/8
	mm	600	752
C	in.	11-3/8	14-3/8
	mm	289	365
D	in.	21-1/2	27-1/2
	mm	546	699
E	in.	45-1/2	45-1/2
	mm	1156	1158
F	in.	22-1/2	22-1/2
	mm	572	572
G	in.	11-1/2	11-1/2
	mm	292	292
H	in.	10-3/4	13-3/4
	mm	273	349
J	in.	45-1/2	45-1/2
	mm	1156	1156
K	in.	21-1/2	27-1/2
	mm	546	699
L	in.	7-1/8	8-1/8
	mm	181	206
Duct Size	in.	18 round	20 round
	mm	457 round	508 round

FLUSH CEILING DIFFUSER



Model Number		FD9-65S	FD11-95S
A	in.	47-5/8	47-5/8
	mm	1159	1159
B	in.	23-5/8	29-5/8
	mm	600	752
C	in.	13-1/2	16-5/8
	mm	343	422
D	in.	21	27
	mm	533	686
E	in.	45	45
	mm	1143	1143
F	in.	22-1/2	22-1/2
	mm	572	572
G	in.	11-1/4	11-1/4
	mm	286	286
H	in.	10-1/2	13-1/2
	mm	267	343
Duct Size	in.	18 round	20 round
	mm	457 round	508 round

REVISIONS

Sections	Description of Change
Options Accessories	Added conventional fin/tube condenser/evaporator coil factory option for 060-074 models.
Specifications	Changed from fin/tube evaporator coil to Environ™ System for 060-074 models as standard.
Specifications - Gas Heat	Gas Heat Updated usage for 048 models.
Weight Data	Updated to reflect different coil options.

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Contact us at 1-800-4-LENNOX

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Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
Installation and service must be performed by a qualified installer and servicing agency.

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