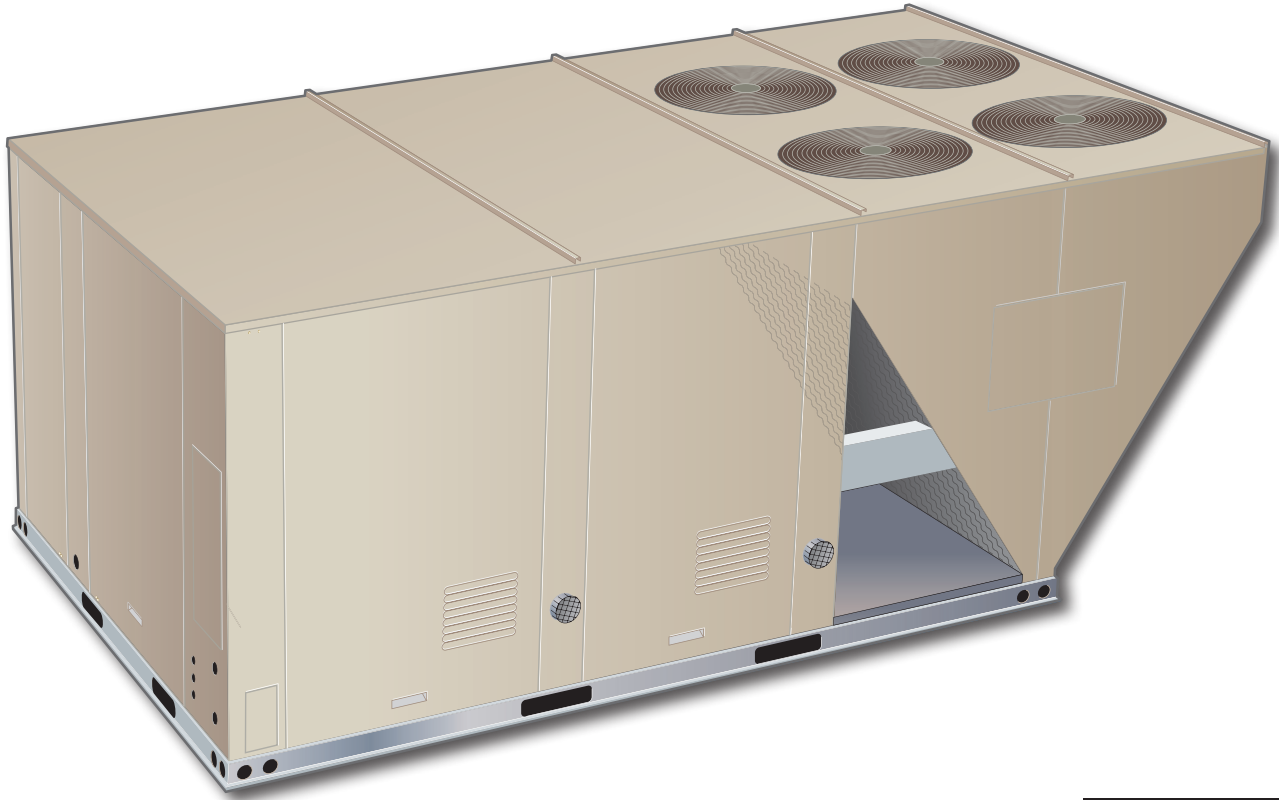


PRODUCT SPECIFICATIONS

Bulletin No. KGA/KGB-156-300 (6/2018)

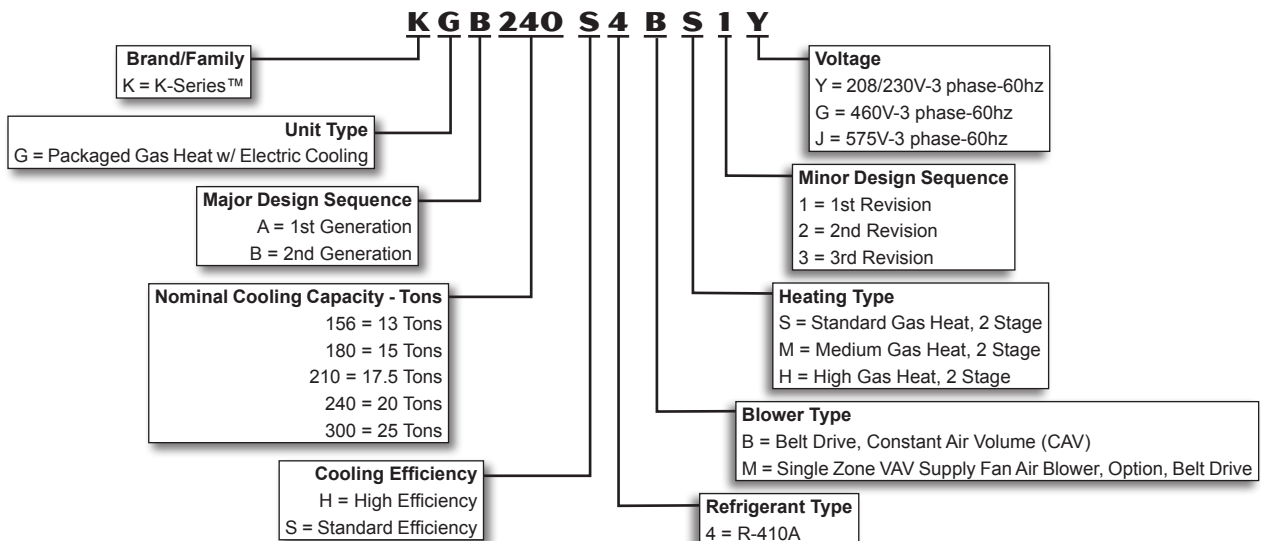


**ASHRAE 90.1
COMPLIANT**

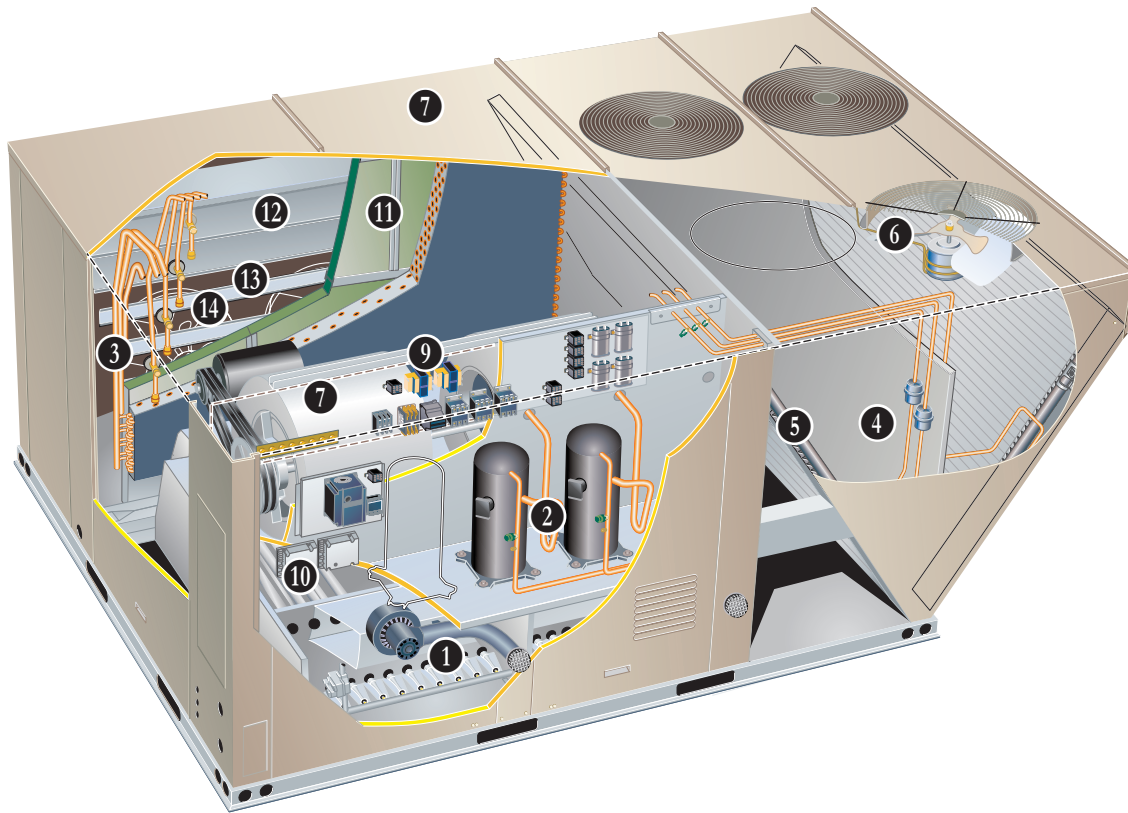
13 to 25 Tons

Net Cooling Capacity – 152,000 to 270,000 Btuh
Gas Input Heat Capacity – 260,000 to 480,000 Btuh

MODEL NUMBER IDENTIFICATION



FEATURES AND BENEFITS



K-Series™ rooftop units from Allied are the new standard for reliable, efficient rooftop units built for long-lasting performance that can significantly improve indoor and outdoor environments. K-Series™ rooftop units feature:

- **Aluminized Steel Heat Exchanger With Inshot Burners** - Life cycle tested.
- **R-410A Refrigerant** - Environmentally friendly.
- **Scroll Compressors** - Single speed scroll compressors are furnished on all models.
- **Eco-Last™ Coil System** - Smaller, lighter condenser coil.
- **Crankcase Heaters** - Protect compressors from refrigerant liquid migration in the off cycle improving product reliability.
- **High Pressure Switches** - Protects compressor.
- **Isolated Compressor Compartment** - Allows performance check during normal compressor operation without disrupting airflow.
- **Independent Outdoor Fan Motor Mounts** - Allows for easy and efficient service access without removing the top panel.
- **Constant Air Volume (CAV) or Single Zone VAV Supply Fan Blower Option** - Allows constant or multi-staged air delivery.
- **Downflow Airflow** - Horizontal airflow with optional horizontal curb.
- **Two Fork Lift Slots on Three Sides** - Easy to pick up and transport units from almost any angle.
- **Corrosion-Resistant Removable, Drain Pan** - Provides application flexibility, durability and improved serviceability.
- **Thermostatic Expansion Valves (All High Efficiency Models and 300S Model)** - Provide peak cooling performance across the entire application range.
- **MERV 8 or MERV 13 Filters** - Available as field installed option, provide an enhanced level of indoor air quality, and can help the building qualify for additional LEED credits.
- **Common Components** - Many maintenance items are standard throughout the entire product line, reducing the need to carry different parts to the job or maintain in inventory.

FEATURES AND BENEFITS

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APPROVALS

Efficiency rating CSA.

Components bonded for grounding to meet safety standards for servicing required by UL, ULC and National and Canadian Electrical Codes.

All models are certified in accordance with the ULE certification program, which is based on AHRI Standard 340/360-2007.

All models are ASHRAE 90.1-2010 energy efficiency compliant and meet or exceed requirements of Section 6.8.

All models meet DOE 2018 energy efficiency standards.

Single Zone VAV Supply Fan models meet California Code of Regulations, Title 24 and ASHRAE 90.1-2010 Section 6.4.3.10 requirements for staged airflow.

ISO 9001 Registered Manufacturing Quality System.

WARRANTY

Limited ten years aluminized heat exchanger, limited fifteen years optional stainless steel heat exchanger.

Limited five years on compressors.

Limited three years on the Eco-Last™ Coil System.

Limited five years Optional High Performance Economizers.

Limited one year all other covered components.

HEATING SYSTEM

- Aluminized steel inshot burners, direct spark ignition, electronic flame sensor, combustion air inducer, redundant automatic dual stage gas valve with manual shut-off.

Heat Exchanger

Tubular construction, aluminized steel, life cycle tested.

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

Electronic Pilot Ignition

Electronic spark igniter provides positive direct ignition of burners on each operating cycle. The 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.

Ignition control is factory installed in the controls section.

Limit Controls

Factory installed, redundant limit controls with fixed temperature setting. Heat limit controls 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.

Required Selections

Gas Input Choice - Order one:

Standard Gas Heat, 2 Stage
(169,000/260,000 Btuh)

Medium Gas Heat, 2 Stage
(234,000/360,000 Btuh)

High Gas Heat, 2 Stage
(312,000/480,000 Btuh)

Options / Accessories

Factory Installed

Stainless Steel Heat Exchanger

Required if mixed air temperature is below 45°F.

Field Installed

Bottom Gas Piping Kit

Allows bottom gas entry.

Low Temperature Vestibule Heater

Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below -40°F. CSA certified to allow operation of unit down to -60°F.

FEATURES AND BENEFITS

HEATING SYSTEM (continued)

Combustion Air Intake Extensions

Recommended for use with existing flue extension kits in areas where high snow areas can block intake air. Order two kits.

LPG/Propane Kits

Conversion kit to field change over units from Natural Gas to LPG/Propane. Order two kits.

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. The vent kit also prevents ice formation on intake louvers. Order two kits.

Kit contains vent transition, vent tee, drain cap and installation hardware.

NOTE - Straight vent pipes (4 in. B-Vent) and caps 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, R-410A.

2 Scroll Compressors

Scroll compressors on all models for high performance, reliability and quiet operation.

Resiliently mounted on rubber grommets for quiet operation.

Compressor Crankcase Heaters

Protect against refrigerant migration that can occur during low ambient operation.

3 Thermal Expansion Valves (All High Efficiency Models and 300S Model)

Assures optimal performance throughout the application range. Removable element head.

Refrigerant Metering Orifice (All Standard Efficiency Models except 300S Model)

Accurately meters refrigerant in system.

Refrigerant control is accomplished by exact sizing of refrigerant metering orifice.

4 Filter/Driers

High capacity filter/drier protects the system from dirt and moisture.

High Pressure Switches

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

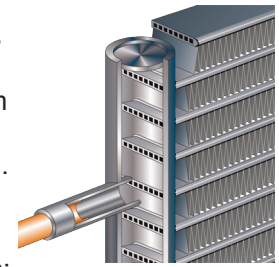
Freezestats

Protects the evaporator coil from damaging ice build-up due to conditions such as low/no airflow, or low refrigerant charge.

5 Eco-Last™ Coil System

Condenser coil features lightweight, all aluminum brazed fin construction.

Constructed of three



components: a flat extrusion tubes, fins in-between the flat extrusion tube and two refrigerant manifolds.

Eco-Last™ 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 (reduces unit weight).
- Easy maintenance/cleaning.
- Face split design.

Mounting brackets with rubber inserts secure coil to unit providing vibration dampening and corrosion protection.

Angled design in cabinet helps protect coil from possible contact or hail damage.

Evaporator Coil

Copper tube construction, enhanced rippled-edge aluminum fins, flared shoulder tubing connections, silver soldered construction for improved heat transfer. Factory leak tested. Cross row circuiting with rifled tubing optimizes both sensible and latent cooling capacity.

Condensate Drain Pan

Plastic pan, sloped to meet drainage requirements of ASHRAE 62.1.

Side or bottom drain connections.

FEATURES AND BENEFITS

COOLING SYSTEM (continued)

- 6 Outdoor Coil Fan Motors**
Thermal overload protected, totally enclosed, permanently lubricated ball bearings, shaft up, wire basket mount.

Outdoor Coil Fans
PVC coated fan guard furnished.

Required Selections

Cooling Capacity
Specify nominal cooling capacity of the unit.

Options / Accessories

Field Installed

Condensate Drain Trap
Available in copper or PVC.

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

Low Ambient Control
Cycles the outdoor fans 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.

CABINET

- 7 Construction**
Heavy-gauge steel panels and full perimeter heavy-gauge galvanized steel base rail provides structural integrity for transportation, handling, and installation.
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 provide additional protection against water entering the building.

Airflow Choice
Units are available in downflow (vertical) or horizontal return air flow configuration.
Horizontal air flow requires Horizontal Roof Curb.
Horizontal Return Air Panel Kit is also required if converting a downflow configured unit to horizontal air flow.

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

Exterior Panels
Constructed of heavy-gauge, galvanized steel with a two-layer enamel paint finish.

Insulation
All panels adjacent to conditioned air are fully insulated with non-hygroscopic fiberglass insulation.
Unit base is fully insulated. The insulation also serves as an air seal to the roof curb, eliminating the need to add a seal during installation.

Access Panels
Access panels are provided for the economizer/filter section, heating/blower section, and the compressor/controls section.

Options / Accessories

Factory Installed

Corrosion Protection
A completely flexible immersed coating with an electrodeposited dry film process. (AST ElectroFin E-Coat) Meets Mil Spec MIL-P-53084, ASTM B117 Standard Method Salt Spray Testing.

Indoor Corrosion Protection:

- Coated coil
- Painted blower housing
- Painted indoor base

Outdoor Corrosion Protection:

- Coated coil
- Painted outdoor base

Hinged Access Panels

Hinged access panels for the filter section, the blower section and compressor/controls section.

All hinged panels have seals and quarter-turn latching handles to provide a tight air and water seal.

Field Installed

Combination Coil/Hail Guards
Heavy gauge steel frame painted to match cabinet with expanded metal mesh to protect the outdoor coil from damage.

Horizontal Return Air Panel Kit
Required for horizontal applications with Horizontal Roof Curb, contains panel with return air opening for field replacement of existing unit panel and panel to cover bottom return air opening in unit, see dimension drawings.

FEATURES AND BENEFITS

8 BLOWER

A wide selection of supply air blower options are available to meet a variety of airflow requirements.

Motor

Overload protected, equipped with ball bearings. Belt drive motors are offered on all models and are available in several different sizes to maximize air performance.

Supply Air Blower

Forward curved blades, double inlet, blower wheel is statically and dynamically balanced. Equipped with ball bearings and adjustable pulley (allows speed change).

Blower assembly slides out of unit for servicing.

Required Selections

Select Constant Air Volume (CAV) or Single Zone VAV Supply Fan Blower Option

On Constant Air volume (CAV) models, the supply air blower will provide a constant volume of air.

Single Zone VAV Supply Fan option models utilize a Variable Frequency Drive (VFD) to stage the supply air blower airflow. The VFD alters the frequency and voltage of the power supply to the blower to control blower speed.

The supply air blower has two speeds:

- Low speed for part-load cooling operation. NOTE - Low speed is 66% of high speed.
- High speed for full load cooling and all heat modes.

Full speed blower operation is set by adjusting the motor pulley to deliver the desired air volume.

The ventilation speed is selectable between high and low speed.

NOTE - Part load airflow in cooling mode on Single Zone VAV Supply Fan models should not be set below 220 cfm/nominal full load ton to reduce the risk of evaporator coil freeze-up.

The VFD has an operational range of -40 to 125° F outdoor air ambient temperature.

Lower operating costs are obtained when the blower is operated on lower speeds.

Single Zone VAV Supply Fan Sequence of Operation

Ventilation speed is determined by the VENT SPEED switch setting on VFD control board (LO or HI).

Blower operates in low speed for mechanical cooling (Y1).

Blower operates in high speed for any other mode (free cooling, mechanical cooling Y1+Y2, and heating).

Economizer damper minimum position is fully closed in unoccupied mode.

In occupied mode, the economizer damper minimum position is determined by the setting of the two potentiometers on VFD control board.

- LO SPD MIN POS potentiometer sets the minimum position when blower is operating at low speed.
- HI SPD MIN POS potentiometer sets the minimum position when blower is operating at high speed.

Ordering Information

Specify standard or high efficiency blower motor, motor horsepower and drive kit number when base unit is ordered, see Drive Kit Specifications Table.

Options / Accessories

Field Installed

VFD Manual Bypass Kit

VFD Manual Bypass Control is available as a kit for Single Zone VAV Supply Fan option.

The VFD Manual Bypass Control is a manual bypass and is enabled by re-configuring the wiring on the unit.

CONTROLS

9 Unit Control

All control voltage is provided via a 24V (secondary) transformer with built-in circuit breaker protection.

Heat/Cool Staging - Capable of 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.

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

⑩ Disconnect Switch

Accessible from outside of unit, spring loaded weatherproof cover furnished.

GFI Service Outlets (2)

115V ground fault circuit interrupter (GFCI) type, non-powered, field-wired.

Field Installed

GFI Weatherproof Cover

Single-gang cover.

Heavy-duty UV-resistant polycarbonate case construction.

Hinged base cover with gasket.

Phase Monitor

Phase monitor detects the phasing of incoming power. If the incoming power is out of phase or if any of the three phases are lost, an indicator LED on the phase monitor will turn red and the unit will not start. In normal operation with correct incoming power phasing, the LED will be green.

NOTE - Phase Monitor is factory Installed in the control compartment on all units equipped with the Single Zone VAV Supply Fan option.

INDOOR AIR QUALITY

⑩ Air Filters

Disposable 2 inch filters furnished as standard.

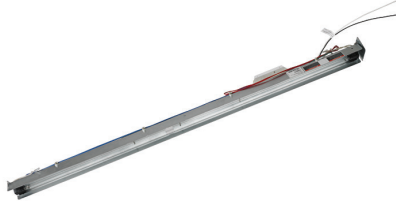
Options / Accessories

Field Installed

High Efficiency Air Filters

Disposable MERV 8 or MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters.

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. This process either destroys the organism or controls its ability to reproduce.

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).

Lamps are field installed in the blower/evaporator coil section.

All necessary hardware for installation is included.

Lamps operate on 208/230V power supply. Step-down transformer must be field supplied when used with 460V and 575V rooftop units.

Magnetic safety interlock terminates power when access panels are removed.

Approved by ETL.

Indoor Air Quality (CO₂) Sensors

Monitors CO₂ levels, reports to the Unit Controller which adjusts economizer dampers as needed.

12 ECONOMIZER OPTIONS

Factory or Field Installed

**Economizer Features
(Standard and High Performance
Common Features)**

Outdoor Air Hood with mist elimination filter is furnished.

Mixed Air Sensor is furnished for field installation in the rooftop unit. Sensor is factory installed when Economizers are factory installed.

**Standard Economizer Features
(Not for Title 24)**

Gear-driven action, return air and outdoor air dampers, plug-in connections to unit, nylon bearings, neoprene seals, 24-volt, fully-modulating spring return motor.

**Standard Economizer
Control Module**

The 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 CO₂ is higher than the CO₂ 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.

**High Performance
Economizer Features**

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 90.1-2010 compliant.

Gear-driven action, high torque 24-volt fully-modulating spring return damper motor, return air and outdoor air dampers, plug-in connections to unit, stainless steel bearings, enhanced neoprene blade edge seals and flexible stainless steel jamb seals to minimize air leakage.

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

**High Performance
Economizer Control Module**

Module provides inputs and outputs to control economizer based on parameter settings. Module automatically detects sensors by polling to determine which sensors are installed in system.



Module displays any alarm messages (fault detection and diagnostics) as an aid in troubleshooting.

Non-volatile memory retains parameter settings in case of power failure.

Keypad with four navigation buttons and LCD screen is furnished for setting economizer parameters.

- Menu Up/Exit (↑) button returns to the main menu.
- Arrow Up (▲) button moves to the previous or next parameter within the selected menu.

- Arrow Down (▼) button moves to the next parameter within the selected menu.
- Select (enter) (↵) button confirms parameter selection.

Main Menu Structure:

- STATUS (economizer and system operation status)
- SETPOINTS (settings for various setpoint parameters)
- SYSTEM SETUP (settings/information about the system)
- ADVANCED SETUP (freeze protection, CO₂ settings, stage 3 delay and additional calibration settings)
- CHECKOUT (damper positions)
- ALARMS (output signal that can be configured for remote alarm monitoring)

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.

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

Factory or Field Installed

**Single Enthalpy Temperature Control
(Not for Title 24)**

Outdoor air enthalpy sensor enables economizer if the outdoor enthalpy is less than the setpoint of the control. Single enthalpy control is furnished with economizer.

Field Installed

**Differential Enthalpy Control
(Not for Title 24)**

Order two Single Enthalpy Control Kits. One is field installed in the return air section, the other in the outdoor air section. Allows the economizer control board to select between outdoor air or return air, whichever has lower enthalpy.

EXHAUST OPTIONS

Factory or Field Installed

13 Downflow Barometric Relief Dampers With Exhaust Hood

Allow relief of excess air.

Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle.

Exhaust hood with bird screen is furnished.

Field Installed

Horizontal Barometric Relief Dampers With Exhaust Hood

For use when unit is configured for horizontal applications requiring an economizer.

Allows relief of excess air.

Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle.

Field installed in return air duct.

Exhaust hood with bird screen is furnished.

14 Power Exhaust Fans

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, fans run when outdoor air dampers are 50% open (adjustable), motor is overload protected. Requires Economizer with Outdoor Air Hood and Downflow Barometric Relief Dampers. Dual fans are 20 in. diameter with 5 blades with (2) 1/3 hp motors.

OUTDOOR AIR OPTIONS

Factory or Field Installed

Outdoor Air Damper - Downflow or Horizontal With Air Hood

Linked mechanical dampers, 0 to 25% (fixed) outdoor air adjustable, installs in unit. Includes outdoor air hood.

Automatic model features fully modulating spring return damper motor with plug-in connection.

Manual model features parallel blade, gear-driven dampers with adjustable fixed position.

Outdoor Air Hood is included when damper is factory installed and is furnished with damper when ordered for field installation.

ROOF CURBS

Nailer strip furnished (downflow only), mates to unit, US National Roofing Contractors Approved, shipped knocked down.

Hybrid Roof Curbs, Downflow

Roof curb can be assembled using interlocking tabs to fasten corners together. No tools required.

Curb 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.

Uses interlocking tabs to fasten corners together. No tools required.

Hardware is furnished to connect upper curb with lower curb.

Available in 14 inch height.

Horizontal

Converts unit from downflow to horizontal (side) air flow, return air is on unit, supply air is on curb, see dimension drawings. Curbs for rooftop applications meet National Roofing Code requirements.

Requires Horizontal Return Air Panel Kit. Available in 26, 30, 37 and 41 inch heights. Optional Insulation Kit is available to help prevent sweating.

Adaptor Curbs (not shown)

Curbs are regionally sourced. Dimensions will vary based upon the source. Contact your local sales representative for a detailed cut sheet with applicable dimensions.

CEILING DIFFUSERS

Ceiling Diffusers (Flush or Step-Down)

Diffuser face and grilles with white powder coat finish, insulated (UL listed duct liner), diffuser box with collars for duct connection, fixed blades (flush diffusers) and double deflection blades (step-down diffusers), provisions for suspending, internally sealed (prevents 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.

OPTIONS / ACCESSORIES - STANDARD AND HIGH EFFICIENCY MODELS

Item Description	Model Number	Catalog Number	Unit Model No.				
			KGA	KGA	KGA	KGA	KGA
			156	180	210	240	300
COOLING SYSTEM							
Condensate Drain Trap	PVC - C1TRAP20AD2	76W26	X	X	X	X	X
	Copper - C1TRAP10AD2	76W27	X	X	X	X	X
Corrosion Protection		Factory	O	O	O	O	O
Drain Pan Overflow Switch	C1SNSR71FF1-	10C24	X	X	X	X	X
Efficiency	Standard or High	Factory	O	O	O	O	O
Refrigerant Type		R-410A	O	O	O	O	O
HEATING SYSTEM							
Bottom Gas Piping Kit	C1GPKT01C-1	85M31	X	X	X	X	X
Combustion Air Intake Extensions (order two)	LTACA1K10/15	89L97	X	X	X	X	X
Gas Heat Input	Standard - 260,000 Btuh	Factory	O	O	O	O	O
	Medium - 360,000 Btuh	Factory	O	O	O	O	O
	High - 480,000 Btuh	Factory		O	O	O	O
Low Temperature Vestibule Heater	208/230V-3ph - C1LTVH10C-2Y	13X66	X	X	X	X	X
	460V - C1LTVH10C-2G	13X67	X	X	X	X	X
	575V - C1LTVH10C-2J	13X68	X	X	X	X	X
LPG/Propane Conversion Kits (Order 2 kits)	Standard heat - C1PROP25C11	14N28	X	X	X	X	X
	Medium heat - C1PROP26C11	14N29	X	X	X	X	X
	High heat - C1PROP27C11	14N30		X	X	X	X
Stainless Steel Heat Exchanger		Factory	O	O	O	O	O
Vertical Vent Extension Kit (Order two kits)	C1EXTN20FF1	42W16	X	X	X	X	X
BLOWER - SUPPLY AIR							
Blower Option	CAV (Constant Air Volume)	Factory	O	O	O	O	O
	Single Zone VAV Supply	Factory	O	O	O	O	O
Motors - Constant Air Volume (CAV)	Belt Drive (standard efficiency) - 2 hp	Factory	O				
	Belt Drive (standard efficiency) - 3 hp	Factory	O	O	O		
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O	O
	Belt Drive (standard efficiency) - 7.5 hp	Factory		O	O	O	O
	Belt Drive (standard efficiency) - 10 hp	Factory				O	O
Motors -Single Zone VAV Supply	Belt Drive (standard efficiency) - 2 hp	Factory	O				
	Belt Drive (standard efficiency) - 3 hp	Factory	O	O	O		
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O	O
	Belt Drive (standard efficiency) - 7.5 hp	Factory		O	O	O	O
	Belt Drive (standard efficiency) - 10 hp	Factory				O	O
VFD Manual Bypass Kit (for Single Zone VAV Supply equipped units)	2, 3, 5 hp (208/230V)	KVFDB11C-1	90W52	X	X	X	X
	2, 3, 5, 7.5, 10 hp (460V and 575V)						
	7.5, 10 hp (208/230V)	KVFDB10C-1	90W51		X	X	X
Drive Kits See Blower Data Tables for usage and selection	Kit #1 535-725 rpm	Factory	O	O	O		
	Kit #2 710-965 rpm	Factory	O	O	O		
	Kit #3 685-856 rpm	Factory	O	O	O	O	O
	Kit #4 850-1045 rpm	Factory	O	O	O	O	O
	Kit #5 945-1185 rpm	Factory	O	O	O	O	O
	Kit #6 850-1045 rpm	Factory		O	O	O	O
	Kit #7 945-1185 rpm	Factory		O	O	O	O
	Kit #8 1045-1285 rpm	Factory		O	O	O	O
	Kit #10 1045-1285 rpm	Factory				O	O
	Kit #11 1135-1365 rpm	Factory				O	O

NOTE - Catalog and model numbers shown are for ordering field installed accessories.

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

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES - STANDARD AND HIGH EFFICIENCY MODELS

Item Description	Model Number	Catalog Number	Unit Model No.					
			KGA 156	KGA 180	KGA 210	KGA 240	KGA 300	
CABINET								
Hinged Access Panels		Factory	O	O	O	O	O	
CONTROLS								
Commercial Controls								
BACnet®	K0CTRL31C-2	16X72	OX	OX	OX	OX	OX	
BACnet® Sensor with Display	K0SNSR01FF1	97W23	X	X	X	X	X	
BACnet® Sensor without Display	K0SNSR00FF1	97W24	X	X	X	X	X	
Novar® 2051	K0CTRL30C-1	96W13	OX	OX	OX	OX	OX	
Plenum Cable (75 ft.)	K0MISC00FF1	97W25	X	X	X	X	X	
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44C-1	83W40	X	X	X	X	X	
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43C-1	83W41	X	X	X	X	X	
ELECTRICAL								
Voltage 60 hz	208/230V - 3 phase	Factory	O	O	O	O	O	
	460V - 3 phase	Factory	O	O	O	O	O	
	575V - 3 phase	Factory	O	O	O	O	O	
Disconnect Switch (see Disconnect Table for usage, page 35)	80 amp - K1DISC080C-1	54W91	OX	OX	OX	OX	OX	
	150 amp - K1DISC150C-1	54W92	OX	OX	OX	OX	OX	
	250 amp - K1DISC250C-1	54W93					OX	
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	LTAGFIK10/15	74M70	X	OX	OX	OX	OX
	20 amp non-powered, field-wired (575V only)	C1GFCI20FF1	67E01	X	X	X	X	X
Weatherproof Cover for GFI	C1GFCI99FF1	10C89	X	X	X	X	X	
¹ Phase Monitor	C1PHZM01FF1	10C25	X	X	X	X	X	
INDOOR AIR QUALITY								
Air Filters								
High Efficiency Air Filters 24 x 24 x 2 in. (Order 6 per unit)	MERV 8 - C1FLTR15C-1-	54W67	X	X	X	X	X	
	MERV 13 - C1FLTR40C-1-	52W40	X	X	X	X	X	
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)	C1FLTR30C-1-	44N61	X	X	X	X	X	
Indoor Air Quality (CO₂) Sensors								
Sensor - Wall-mount, off-white plastic cover with LCD display	C0SNSR50AE1L	77N39	X	X	X	X	X	
Sensor - Wall-mount, off-white plastic cover, no display	C0SNSR52AE1L	87N53	X	X	X	X	X	
Sensor - Black plastic case with LCD display, rated for plenum mounting	C0SNSR51AE1L	87N52	X	X	X	X	X	
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0MISC19AE1	87N54	X	X	X	X	X	
CO ₂ Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1	85L43	X	X	X	X	X	
Aspiration Box - for duct mounting non-plenum rated CO ₂ sensors (87N53 or 77N39)	C0MISC16AE1-	90N43	X	X	X	X	X	
UVC Germicidal Light Kit								
UVC Light Kit (110/230V-1ph)	C1UVCL10C-1	54W65	X	X	X	X	X	

¹ Factory installed on all MSAV® equipped units.

² Lamps operate on 110-230V single-phase power supply. Step-down transformer must be field supplied for field installation in 460V and 575V rooftop units (transformer is furnished for factory installed light kits). Alternately, a separate 110V power supply may be used to directly power the UVC ballast(s).

NOTE - Catalog and model numbers shown are for ordering field installed accessories.

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

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES - STANDARD AND HIGH EFFICIENCY MODELS

Item Description	Model Number	Catalog Number	Unit Model No.				
			KGA 156	KGA 180	KGA 210	KGA 240	KGA 300
ECONOMIZER							
Standard Economizer With Outdoor Air Hood (Not for Title 24)							
Standard Economizer	K1ECON20C-3	13U48	OX	OX	OX	OX	OX
Downflow or Horizontal Applications - Includes Outdoor Air Hood, order Downflow or Horizontal Barometric Relief Dampers separately							
Standard Economizer Controls (Not for Title 24)							
Single Enthalpy Control	C1SNSR64FF1	53W64	OX	OX	OX	OX	OX
Differential Enthalpy Control (order 2)	C1SNSR64FF1	53W64	X	X	X	X	X
High Performance Economizer With Outdoor Air Hood (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)							
High Performance Economizer	K1ECON22C-2	16X77	OX	OX	OX	OX	OX
Downflow or Horizontal Applications - Includes Outdoor Air Hood, order Downflow or Horizontal Barometric Relief Dampers separately							
High Performance Economizer Controls (Not for Title 24)							
Single Enthalpy Control	C1SNSR60FF1	10Z75	OX	OX	OX	OX	OX
Differential Enthalpy Control (order 2)	C1SNSR60FF1	10Z75	X	X	X	X	X
Barometric Relief Dampers With Exhaust Hood							
Downflow Barometric Relief Dampers	C1DAMP50C	54W78	OX	OX	OX	OX	OX
Horizontal Barometric Relief Dampers	LAGEDH18/24	16K99	X	X	X	X	X
OUTDOOR AIR							
Outdoor Air Dampers With Outdoor Air Hood							
Motorized	C1DAMP20C-1	13U04	OX	OX	OX	OX	OX
Manual	C1DAMP10C-2	13U05	OX	OX	OX	OX	OX
POWER EXHAUST (DOWNFLOW APPLICATIONS ONLY)							
Standard Static	208/230V - C1PWRE11C-1Y	75W90	X	X	X	X	X
	460V - C1PWRE11C-1G	75W91	X	X	X	X	X
	575V - C1PWRE11C-1J	75W92	X	X	X	X	X
ROOF CURBS							
Hybrid Roof Curbs, Downflow							
8 in. height	C1CURB70C-1	11F58	X	X	X	X	X
14 in. height	C1CURB71C-1	11F59	X	X	X	X	X
18 in. height	C1CURB72C-1	11F60	X	X	X	X	X
24 in. height	C1CURB73C-1	11F61	X	X	X	X	X
Adjustable Pitch Curb							
14 in. height	L1CURB55C	43W26	X	X	X	X	X
Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit							
26 in. height - slab applications	C1CURB14C-1	11T89	X	X	X	X	
30 in. height - slab applications	C1CURB15C-1	11T90					X
37 in. height - rooftop applications	C1CURB16C-1	11T96	X	X	X	X	
41 in. height - rooftop applications	C1CURB17C-1	11T97					X
Insulation Kit For Standard Horizontal Curbs							
for C1CURB14C-1	C1INSU11C-1	73K32	X	X	X	X	
for C1CURB15C-1	C1INSU12C-1	73K33					X
for C1CURB16C-1	C1INSU13C-1	73K34	X	X	X	X	
for C1CURB17C-1	C1INSU14C-1	73K35					X
Horizontal Return Air Panel Kit							
Required for Horizontal Applications with Roof Curb	C1HRAP10C-1	87M00	X	X	X	X	X
CEILING DIFFUSERS							
Step-Down - Order one	RTD11-185S	13K63	X	X			
	RTD11-275S	13K64			X	X	X
Flush - Order one	FD11-185S	13K58	X	X			
	FD11-275S	13K59			X	X	X
Transitions (Supply and Return) - Order one	C1DIFF33C-1	12X68	X	X			
	C1DIFF34C-1	12X70			X	X	X

NOTE - Catalog and model numbers shown are for ordering field installed accessories.

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

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES - STANDARD EFFICIENCY MODELS ONLY

Item Description	Model Number	Catalog Number	Unit Model No.				
			KGA 180S	KGB 180S	KGB 210S	KGB 240S	KGB 300S
COOLING SYSTEM							
Low Ambient Control	K1LOAM52C11	10T62	X				
	K1LOAM53C11	10T63		X	X		
	K1LOAM53C21	10T64				X	
	K1LOAM54C21	10T65					X
CABINET							
Combination Coil/Hail Guards	C1GARD52C12	15T92	X	X	X		
	C1GARD52C22	15T93				X	X

OPTIONS / ACCESSORIES - HIGH EFFICIENCY MODELS ONLY

Item Description	Model Number	Catalog Number	Unit Model No.			
			KGA 156H	KGA 180H	KGA 210H	KGA 240H
COOLING SYSTEM						
Low Ambient Control	K1LOAM53C11	10T63	X			
	K1LOAM53C21	10T64		X	X	
	K1LOAM54C21	10T65				X
CABINET						
Combination Coil/Hail Guards	C1GARD52C12	15T92	X			
	C1GARD52C22	15T93		X	X	X

SPECIFICATIONS - STANDARD EFFICIENCY

General Data		Nominal Tonnage	15 Ton	15 Ton	17.5 Ton	17.5 Ton
		Model Number	KGB180S4B	KGA180S4M	KGB210S4B	KGA210S4M
		Efficiency Type	Standard	Standard	Standard	Standard
		Blower Type	Constant Air Volume (CAV)	Single Zone VAV Supply Fan	Constant Air Volume (CAV)	Single Zone VAV Supply Fan
Cooling Performance	Gross Cooling Capacity - Btuh		182,000	182,000	206,000	204,000
	¹ Net Cooling Capacity - Btuh		176,000	176,000	200,000	198,000
	AHRI Rated Air Flow - cfm		6000	5750	5700	6125
	Total Unit Power - kW		16.3	16.3	18.5	18.4
	¹ EER (Btuh/Watt)		10.8	10.8	10.8	10.8
	² IEER (Btuh/Watt)		12.2	12.6	12.2	13.1
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Refrigerant Charge Furnished	Circuit 1	5 lbs. 14 oz.	7 lbs. 8 oz.	6 lbs. 8 oz.	5 lbs. 12 oz.
	Circuit 2	5 lbs. 12 oz.	7 lbs. 8 oz.	6 lbs. 4 oz.	5 lbs. 8 oz.	
	Circuit 3	5 lbs. 13 oz.	- - -	6 lbs. 2 oz.	5 lbs. 8 oz.	
Gas Heat Available			See page 18			
Compressor Type (number)			Scroll (3)	Scroll (2)	Scroll (3)	Scroll (3)
Outdoor Coils	Net face area (total) - sq. ft.		41.4	41.4	41.4	41.4
	Number of rows		1	1	1	1
	Fins per inch		23	23	23	23
Outdoor Coil Fans	Motor - (No.) horsepower		(3) 1/3	(3) 1/3	(3) 1/3	(3) 1/3
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		1100	1100	1100	1100
	Diameter - (No.) in.		(3) 24	(3) 24	(3) 24	(3) 24
	Number of blades		3	3	3	3
	Total Air volume - cfm		12,000	12,000	12,000	12,000
Indoor Coils	Net face area (total) - sq. ft.		21.4	18.6	21.4	21.4
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		3	3	3	3
	Fins per inch		14	14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
Expansion device type			Refrigerant Metering Orifice (RFC)			
³ Indoor Blower and Drive Selection	Nominal motor output		3 hp, 5 hp, 7.5 hp			
	Maximum usable motor output (US Only)		3.45 hp, 5.75 hp, 8.63 hp			
	Motor - Drive kit number		3 hp Kit 1 535-725 rpm Kit 2 710-965 rpm 5 hp Kit 3 685-856 rpm Kit 4 850-1045 rpm Kit 5 945-1185 rpm 7.5 hp Kit 6 850-1045 rpm Kit 7 945-1185 rpm Kit 8 1045-1285 rpm			
	Blower wheel nominal diameter x width - in.		(2) 15 x 15	(2) 15 x 15	(2) 15 x 15	(2) 15 x 15
Filters	Type of filter		Fiberglass, disposable			
	Number and size - in.		(6) 24 x 24 x 2			
Electrical characteristics			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 Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

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

NOTE - Units equipped with Single Zone VAV Supply Fan option are limited to a motor service factor of 1.0.

SPECIFICATIONS - STANDARD EFFICIENCY

General Data		Nominal Tonnage	20 Ton	20 Ton	25 Ton	25 Ton
		Model Number	KGB240S4B	KGA240S4M	KGB300S4B	KGB300S4M
		Efficiency Type	Standard	Standard	Standard	Standard
		Blower Type	Constant Air Volume (CAV)	Single Zone VAV Supply Fan	Constant Air Volume (CAV)	Single Zone VAV Supply Fan
Cooling Performance	Gross Cooling Capacity - Btuh		236,000	238,000	282,000	282,000
	¹ Net Cooling Capacity - Btuh		230,000	228,000	270,000	270,000
	AHRI Rated Air Flow - cfm		6000	7700	8400	8400
	Total Unit Power - kW		21.3	21.1	25.7	25.7
	¹ EER (Btuh/Watt)		10.8	10.8	10.5	10.5
	² IEER (Btuh/Watt)		12.2	13.0	11.4	13.8
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Refrigerant Charge Furnished	Circuit 1	7 lbs. 0 oz.	7 lbs. 4 oz.	6 lbs. 4 oz.	6 lbs. 4 oz.
	Circuit 2	7 lbs. 4 oz.	7 lbs. 4 oz.	5 lbs. 10 oz.	5 lbs. 10 oz.	
	Circuit 3	7 lbs. 0 oz.	6 lbs. 14 oz.	6 lbs. 6 oz.	6 lbs. 6 oz.	
	Circuit 4	---	---	6 lbs. 0 oz.	6 lbs. 0 oz.	
Gas Heat Available			See page 18			
Compressor Type (number)			Scroll (3)	Scroll (3)	Scroll (4)	Scroll (4)
Outdoor Coils	Net face area (total) - sq. ft.		55.2	55.2	55.2	55.2
	Number of rows		1	1	1	1
	Fins per inch		23	23	20	20
Outdoor Coil Fans	Motor - (No.) horsepower		(4) 1/3	(4) 1/3	(6) 1/3	(6) 1/3
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		1665	1500	1950	1950
	Diameter - (No.) in.		(4) 24	(4) 24	(6) 24	(6) 24
	Number of blades		3	3	3	3
	Total Air volume - cfm		16,000	16,000	20,000	20,000
Indoor Coils	Net face area (total) - sq. ft.		21.4	21.4	21.4	21.4
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		4	4	4	4
	Fins per inch		14	14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
Expansion device type			Refrigerant Metering Orifice (RFC)		Balanced port TXV, removable head	
³ Indoor Blower and Drive Selection	Nominal motor output		5 hp, 7.5 hp, 10 hp			
	Maximum usable motor output (US Only)		5.75 hp, 8.62 hp, 11.5 hp			
	Motor - Drive kit number		5 hp Kit 3 685-856 rpm Kit 4 850-1045 rpm Kit 5 945-1185 rpm 7.5 hp Kit 6 850-1045 rpm Kit 7 945-1185 rpm Kit 8 1045-1285 rpm 10 hp Kit 7 945-1185 rpm Kit 10 1045-1285 rpm Kit 11 1135-1365 rpm			
	Blower wheel nominal diameter x width - in.		(2) 15 x 15	(2) 15 x 15	(2) 15 x 15	(2) 15 x 15
Filters	Type of filter		Fiberglass, disposable			
	Number and size - in.		(6) 24 x 24 x 2			
Electrical characteristics			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 Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

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

NOTE – Units equipped with Single Zone VAV Supply Fan option are limited to a motor service factor of 1.0.

SPECIFICATIONS - HIGH EFFICIENCY

General Data		Nominal Tonnage	13 Ton	13 Ton	15 Ton	15 Ton
		Model Number	KGA156H4B	KGA156H4M	KGA180H4B	KGA180H4M
		Efficiency Type	High	High	High	High
		Blower Type	Constant Air Volume (CAV)	Single Zone VAV Supply Fan	Constant Air Volume (CAV)	Single Zone VAV Supply Fan
Cooling Performance	Gross Cooling Capacity - Btuh		156,000	156,000	176,000	176,000
	¹ Net Cooling Capacity - Btuh		152,000	152,000	172,000	172,000
	AHRI Rated Air Flow - cfm		5000	5000	5250	5250
	Total Unit Power - kW		12.7	12.7	14.3	14.3
	¹ EER (Btuh/Watt)		12.0	12.0	12.0	12.0
	² IEER (Btuh/Watt)		13.6	14.1	13.5	13.7
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Refrigerant Charge Furnished	Circuit 1	5 lbs. 14 oz.	5 lbs. 14 oz.	6 lbs. 0 oz.	6 lbs. 0 oz.
	Circuit 2	5 lbs. 8 oz.	5 lbs. 8 oz.	5 lbs. 10 oz.	5 lbs. 10 oz.	
	Circuit 3	5 lbs. 12 oz.	5 lbs. 12 oz.	5 lbs. 14 oz.	5 lbs. 14 oz.	
Gas Heat Available		See page 18				
Compressor Type (number)			Scroll (3)	Scroll (3)	Scroll (3)	Scroll (3)
Outdoor Coils	Net face area (total) - sq. ft.		41.4	41.4	55.2	55.2
	Number of rows		1	1	1	1
	Fins per inch		23	23	23	23
Outdoor Coil Fans	Motor - (No.) horsepower		(3) 1/3	(3) 1/3	(4) 1/3	(4) 1/3
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		1100	1100	1500	1500
	Diameter - (No.) in.		(3) 24	(3) 24	(4) 24	(4) 24
	Number of blades		3	3	3	3
	Total Air volume - cfm		12,000	12,000	16,000	16,000
Indoor Coils	Net face area (total) - sq. ft.		21.4	21.4	21.4	21.4
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		3	3	3	3
	Fins per inch		14	14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
Expansion device type		Balanced port TXV, removable head				
³ Indoor Blower and Drive Selection	Nominal motor output		2 hp, 3 hp, 5 hp		3 hp, 5 hp, 7.5 hp	
	Maximum usable motor output (US Only)		2.3 hp, 3.45 hp, 5.75 hp		3.45 hp, 5.75 hp, 8.62 hp	
	Motor - Drive kit number		2 hp Kit 1 535-725 rpm Kit 2 710-965 rpm 3 hp Kit 1 535-725 rpm Kit 2 710-965 rpm 5 hp Kit 3 685-856 rpm Kit 4 850-1045 rpm Kit 5 945-1185 rpm		3 hp Kit 1 535-725 rpm Kit 2 710-965 rpm 5 hp Kit 3 685-856 rpm Kit 4 850-1045 rpm Kit 5 945-1185 rpm 7.5 hp Kit 6 850-1045 rpm Kit 7 945-1185 rpm Kit 8 1045-1285 rpm	
	Blower wheel nominal diameter x width - in.		(2) 15 x 15	(2) 15 x 15	(2) 15 x 15	(2) 15 x 15
Filters	Type of filter	Fiberglass, disposable				
	Number and size - in.	(6) 24 x 24 x 2				
Electrical characteristics		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 Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

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

NOTE - Units equipped with Single Zone VAV Supply Fan option are limited to a motor service factor of 1.0.

SPECIFICATIONS - HIGH EFFICIENCY

General Data		Nominal Tonnage	17.5 Ton	17.5 Ton	20 Ton	20 Ton
		Model Number	KGA210H4B	KGA210H4M	KGA240H4B	KGA240H4M
		Efficiency Type	High	High	High	High
		Blower Type	Constant Air Volume (CAV)	Single Zone VAV Supply Fan	Constant Air Volume (CAV)	Single Zone VAV Supply Fan
Cooling Performance	Gross Cooling Capacity - Btuh		204,000	204,000	238,000	238,000
	¹ Net Cooling Capacity - Btuh		194,000	194,000	230,000	230,000
	AHRI Rated Air Flow - cfm		6125	6125	6400	6400
	Total Unit Power - kW		16.5	16.5	19.2	19.2
	¹ EER (Btuh/Watt)		12.0	12.0	12.0	12.0
	² IEER (Btuh/Watt)		13.0	14.0	13.2	14.5
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Refrigerant Charge Furnished	Circuit 1	6 lbs. 12 oz.	6 lbs. 12 oz.	6 lbs. 4 oz.	6 lbs. 4 oz.
	Circuit 2	6 lbs. 14 oz.	6 lbs. 14 oz.	6 lbs. 2 oz.	6 lbs. 2 oz.	
	Circuit 3	6 lbs. 14 oz.	6 lbs. 14 oz.	5 lbs. 14 oz.	5 lbs. 14 oz.	
	Circuit 4	---	---	5 lbs. 6 oz.	5 lbs. 6 oz.	
Gas Heat Available		See page 18				
Compressor Type (number)		Scroll (3)	Scroll (3)	Scroll (4)	Scroll (4)	
Outdoor Coils	Net face area (total) - sq. ft.		55.2	55.2	55.2	55.2
	Number of rows		1	1	1	1
	Fins per inch		23	23	23	23
Outdoor Coil Fans	Motor - (No.) horsepower		(6) 1/3	(6) 1/3	(6) 1/3	(6) 1/3
	Motor rpm		1075	1075	1075	1075
	Total Motor watts		1950	1950	1950	1950
	Diameter - (No.) in.		(6) 24	(6) 24	(6) 24	(6) 24
	Number of blades		3	3	3	3
	Total Air volume - cfm		20,000	20,000	20,000	20,000
Indoor Coils	Net face area (total) - sq. ft.		21.4	21.4	21.4	21.4
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		4	4	4	4
	Fins per inch		14	14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
Expansion device type		Balanced port TXV, removable head				
³ Indoor Blower and Drive Selection	Nominal motor output		3 hp, 5 hp, 7.5 hp		5 hp, 7.5 hp, 10hp	
	Maximum usable motor output (US Only)		3.45 hp, 5.75 hp, 8.62 hp		5.75 hp, 8.62 hp, 11.5 hp	
	Motor - Drive kit number		3 hp Kit 1 535-725 rpm Kit 2 710-965 rpm 5 hp Kit 3 685-856 rpm Kit 4 850-1045 rpm Kit 5 945-1185 rpm 7.5 hp Kit 6 850-1045 rpm Kit 7 945-1185 rpm Kit 8 1045-1285 rpm		5 hp Kit 3 685-856 rpm Kit 4 850-1045 rpm Kit 5 945-1185 rpm 7.5 hp Kit 6 850-1045 rpm Kit 7 945-1185 rpm Kit 8 1045-1285 rpm 10 hp Kit 7 945-1185 rpm Kit 10 1045-1285 rpm Kit 11 1135-1365 rpm	
	Blower wheel nominal diameter x width - in.		(2) 15 x 15	(2) 15 x 15	(2) 15 x 15	(2) 15 x 15
Filters	Type of filter	Fiberglass, disposable				
	Number and size - in.	(6) 24 x 24 x 2				
Electrical characteristics		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 Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

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

NOTE – Units equipped with Single Zone VAV Supply Fan option are limited to a motor service factor of 1.0.

SPECIFICATIONS - GAS HEAT

Usage Data		Model Number	KGA156 KGA/KGB180 KGA/KGB210 KGA/KGB240 KGB300		KGA/KGB180 KGA/KGB210 KGA/KGB240 KGB300
		Heat Input Type	Standard (S)	Medium (M)	High (H)
		Number of Gas Heat Stages	2	2	2
Gas Heating Performance	Input - Btuh	First Stage	169,000	234,000	312,000
		Second Stage	260,000	360,000	480,000
	Output - Btuh	First Stage	---	---	---
		Second Stage	208,000	288,000	384,000
	Temperature Rise Range - °F		15 - 45	30 - 60	40 - 70
	Thermal Efficiency		80.0%	80.0%	80.0%
Gas Supply Connections		1 in. npt	1 in. npt	1 in. npt	
Recommended Gas Supply Pressure - in. w.g.	Natural	7	7	7	
	LPG/Propane	11	11	11	

HIGH ALTITUDE DERATE

Units may be installed at altitudes up to 2000 feet above sea level without any modification.

At altitudes above 2000 feet, units must be derated to match gas manifold pressures shown in table below.

At altitudes above 2000 feet unit must be derated to match gas manifold pressures shown in the table below.

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

Gas Heat Type	Altitude - ft.	Gas Manifold Pressure - in. w.g.		Input Rate Natural Gas or LPG/Propane - Btuh	
		Natural Gas	LPG/Propane Gas	First Stage	Second Stage
Standard	2001 - 4500	3.4	9.6	169,000	249,000
Medium	2001 - 4500	3.4	9.6	234,000	345,000
High	2001 - 4500	3.4	9.6	312,000	460,000

RATINGS - HIGH EFFICIENCY

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

20 TON HIGH EFFICIENCY KGA240H4M (1ST STAGE) - SINGLE ZONE VAV SUPPLY FAN BLOWER

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)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)						
				Dry Bulb					Dry Bulb					Dry Bulb					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	4500	117.1	5.20	0.66	0.75	0.85	111.5	5.97	0.66	0.76	0.86	105.5	6.80	0.66	0.77	0.87	99.20	7.72	0.66	0.78	0.89				
	5500	125.0	5.22	0.68	0.80	0.90	118.9	5.99	0.69	0.80	0.92	112.4	6.83	0.69	0.81	0.93	105.6	7.76	0.69	0.83	0.95				
	6500	131.1	5.23	0.71	0.83	0.95	124.5	6.01	0.71	0.84	0.97	117.7	6.86	0.72	0.86	0.98	110.6	7.79	0.73	0.88	0.99				
67°F	4500	125.7	5.22	0.53	0.63	0.72	119.8	5.99	0.53	0.63	0.73	113.5	6.83	0.52	0.63	0.73	106.9	7.77	0.52	0.63	0.74				
	5500	133.9	5.24	0.55	0.66	0.76	127.5	6.02	0.55	0.66	0.77	120.8	6.87	0.54	0.67	0.78	113.7	7.81	0.55	0.67	0.79				
	6500	140.2	5.25	0.57	0.69	0.80	133.4	6.04	0.57	0.69	0.81	126.3	6.90	0.56	0.70	0.83	118.6	7.84	0.56	0.71	0.84				
71°F	4500	134.2	5.24	0.42	0.51	0.60	128.2	6.02	0.41	0.51	0.61	121.6	6.87	0.41	0.51	0.61	114.6	7.81	0.40	0.50	0.61				
	5500	142.9	5.26	0.43	0.53	0.63	136.1	6.05	0.42	0.53	0.64	129.2	6.91	0.41	0.53	0.64	121.7	7.86	0.41	0.53	0.65				
	6500	149.4	5.27	0.43	0.55	0.66	142.4	6.07	0.43	0.55	0.67	134.8	6.94	0.43	0.55	0.67	126.8	7.89	0.42	0.55	0.68				

20 TON HIGH EFFICIENCY KGA240H4M (2ND STAGE) - SINGLE ZONE VAV SUPPLY FAN BLOWER

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)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T)		
				Dry Bulb					Dry Bulb					Dry Bulb					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	6400	236.6	13.31	0.73	0.88	1.00	221.6	15.06	0.74	0.91	1.00	205.8	17.06	0.76	0.94	1.00	189.2	19.35	0.78	0.97	1.00
	8000	249.2	13.43	0.79	0.97	1.00	233.7	15.17	0.80	0.98	1.00	217.5	17.17	0.83	0.99	1.00	201.1	19.47	0.86	1.00	1.00
	9600	260.1	13.53	0.85	1.00	1.00	244.7	15.28	0.87	1.00	1.00	228.9	17.29	0.90	1.00	1.00	212.1	19.59	0.94	1.00	1.00
67°F	6400	252.7	13.46	0.56	0.71	0.85	236.8	15.20	0.57	0.72	0.87	220.0	17.20	0.57	0.73	0.90	202.2	19.48	0.58	0.76	0.93
	8000	264.4	13.57	0.60	0.77	0.93	247.3	15.31	0.61	0.78	0.96	229.6	17.30	0.62	0.81	0.98	210.9	19.57	0.63	0.84	0.99
	9600	272.8	13.66	0.64	0.83	0.99	255.3	15.39	0.64	0.85	1.00	236.8	17.38	0.65	0.88	1.00	217.9	19.65	0.67	0.92	1.00
71°F	6400	269.2	13.62	0.41	0.55	0.68	252.6	15.37	0.41	0.56	0.70	235.2	17.36	0.41	0.56	0.71	216.6	19.64	0.40	0.57	0.73
	8000	281.5	13.75	0.43	0.59	0.74	263.7	15.49	0.43	0.60	0.76	245.0	17.48	0.43	0.61	0.78	225.2	19.74	0.42	0.62	0.81
	9600	289.9	13.83	0.45	0.63	0.81	271.3	15.57	0.45	0.64	0.83	252.0	17.55	0.45	0.65	0.86	231.3	19.81	0.44	0.67	0.89

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Maximum hp	Drive Kit Number	RPM Range
Standard or High	2	2.30	1	535 - 725
Standard or High	2	2.30	2	710 - 965
Standard	3	3.45	1	535 - 725
Standard	3	3.45	2	710 - 965
Standard	5	5.75	3	685 - 856
Standard	5	5.75	4	850 - 1045
Standard	5	5.75	5	945 - 1185
Standard	7.5	8.63	6	850 - 1045
Standard	7.5	8.63	7	945 - 1185
Standard	7.5	8.63	8	1045 - 1285
Standard	10	11.50	7	945 - 1185
Standard	10	11.50	10	1045 - 1285
Standard	10	11.50	11	1135 - 1365

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

NOTE - Units equipped with Single Zone VAV Supply Fan option are limited to a motor service factor of 1.0.

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE - in. w.g.

Air Volume cfm	Wet Indoor Coil			Gas Heat Exchanger			Economizer	Filters		Horizontal Roof Curb	
	180S4M	156H 180S4B 180H 210S4M	210S4B 210H 240H 240S 300S	Standard Heat	Medium Heat	High Heat		MERV 8	MERV 13	156H 180H 180S 210H 210S 240H 240S	300S
2750	0.01	0.01	0.02	0.02	0.04	0.05	---	0.01	0.03	0.03	---
3000	0.01	0.01	0.02	0.03	0.04	0.05	---	0.01	0.03	0.04	---
3250	0.02	0.01	0.03	0.03	0.05	0.06	---	0.01	0.04	0.04	0.01
3500	0.02	0.01	0.03	0.03	0.05	0.06	---	0.01	0.04	0.05	0.01
3750	0.02	0.01	0.03	0.04	0.06	0.07	---	0.01	0.04	0.05	0.01
4000	0.02	0.02	0.04	0.04	0.06	0.07	---	0.01	0.04	0.06	0.02
4250	0.02	0.02	0.04	0.04	0.06	0.08	---	0.01	0.05	0.07	0.02
4500	0.02	0.02	0.05	0.05	0.07	0.09	---	0.01	0.05	0.07	0.02
4750	0.02	0.02	0.05	0.05	0.08	0.10	---	0.02	0.05	0.08	0.03
5000	0.03	0.02	0.05	0.05	0.09	0.11	---	0.02	0.06	0.08	0.03
5250	0.03	0.02	0.06	0.06	0.10	0.12	---	0.02	0.06	0.09	0.04
5500	0.03	0.02	0.07	0.06	0.10	0.13	---	0.02	0.06	0.10	0.04
5750	0.03	0.03	0.07	0.06	0.11	0.14	---	0.02	0.07	0.11	0.05
6000	0.04	0.03	0.08	0.07	0.12	0.15	---	0.03	0.07	0.11	0.06
6250	0.04	0.03	0.08	0.07	0.12	0.16	0.01	0.03	0.07	0.12	0.07
6500	0.04	0.03	0.09	0.08	0.13	0.17	0.02	0.03	0.08	0.13	0.08
6750	0.05	0.04	0.10	0.08	0.14	0.18	0.03	0.03	0.08	0.14	0.08
7000	0.05	0.04	0.10	0.09	0.15	0.19	0.04	0.04	0.08	0.15	0.09
7250	0.06	0.04	0.11	0.09	0.16	0.20	0.05	0.04	0.09	0.16	0.10
7500	0.06	0.05	0.12	0.10	0.17	0.21	0.06	0.04	0.09	0.17	0.11
8000	0.07	0.05	0.13	0.11	0.19	0.24	0.09	0.05	0.10	0.19	0.13
8500	0.08	0.06	0.15	0.12	0.20	0.26	0.11	0.05	0.10	0.21	0.15
9000	0.09	0.07	0.16	0.13	0.23	0.29	0.14	0.06	0.11	0.24	0.17
9500	0.10	0.08	0.18	0.14	0.25	0.32	0.16	0.07	0.12	0.26	0.19
10000	0.11	0.08	0.20	0.16	0.27	0.35	0.19	0.07	0.12	0.29	0.21
10500	0.12	0.09	0.22	0.17	0.30	0.38	0.22	0.08	0.13	0.31	0.24
11000	0.14	0.11	0.24	0.18	0.31	0.40	0.25	0.09	0.14	0.34	0.27

BLOWER DATA

CEILING DIFFUSER AIR RESISTANCE - in. w.g.

Air Volume cfm	Step-Down Diffuser						Flush Diffuser	
	RTD11-185S			RTD11-275			FD11-185S	FD11-275
	2 Ends Open	1 Side/2 Ends Open	All Ends & Sides Open	2 Ends Open	1 Side/2 Ends Open	All Ends & Sides Open		
5000	.51	.44	.39	---	---	---	.27	---
5200	.56	.48	.42	---	---	---	.30	---
5400	.61	.52	.45	---	---	---	.33	---
5600	.66	.56	.48	---	---	---	.36	---
5800	.71	.59	.51	---	---	---	.39	---
6000	.76	.63	.55	.36	.31	.27	.42	.29
6200	.80	.68	.59	---	---	---	.46	---
6400	.86	.72	.63	---	---	---	.50	---
6500	---	---	---	.42	.36	.31	---	.34
6600	.92	.77	.67	---	---	---	.54	---
6800	.99	.83	.72	---	---	---	.58	---
7000	1.03	.87	.76	.49	.41	.36	.62	.40
7200	1.09	.92	.80	---	---	---	.66	---
7400	1.15	.97	.84	---	---	---	.70	---
7500	---	---	---	.51	.46	.41	---	.45
7600	1.20	1.02	.88	---	---	---	.74	---
8000	---	---	---	.59	.49	.43	---	.50
8500	---	---	---	.69	.58	.50	---	.57
9000	---	---	---	.79	.67	.58	---	.66
9500	---	---	---	.89	.75	.65	---	.74
10,000	---	---	---	1.00	.84	.73	---	.81
10,500	---	---	---	1.10	.92	.80	---	.89
11,000	---	---	---	1.21	1.01	.88	---	.96

CEILING DIFFUSER AIR THROW DATA

Model No.	Air Volume cfm	¹ Effective Throw Range - ft.		Model No.	Air Volume cfm	¹ Effective Throw Range - ft.	
		RTD11-185S Step-Down	FD11-185S Flush			RTD11-275 Step-Down	FD11-275 Flush
156 180	5600	39 - 49	28 - 37	210 240 300	7200	33 - 38	26 - 35
	5800	42 - 51	29 - 38		7400	35 - 40	28 - 37
	6000	44 - 54	40 - 50		7600	36 - 41	29 - 38
	6200	45 - 55	42 - 51		7800	38 - 43	40 - 50
	6400	46 - 55	43 - 52		8000	39 - 44	42 - 51
	6600	47 - 56	45 - 56		8200	41 - 46	43 - 52
					8400	43 - 49	44 - 54
					8600	44 - 50	46 - 57
					8800	47 - 55	48 - 59

¹ Throw is the horizontal or vertical distance an airstream travels on leaving the outletor diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure	Air Volume Exhausted
in. w.g.	cfm
0.00	8630
0.05	8210
0.10	7725
0.15	7110
0.20	6470
0.25	5790
0.30	5060
0.35	4300
0.40	3510
0.45	2690
0.50	1840

ELECTRICAL DATA

15 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME

KGB180S4B

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	11.6			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 2	Rated Load Amps	11.6			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 3	Rated Load Amps	11.6			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Outdoor Fan Motors (3)	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11	3.9	6.1	9
² Maximum Overcurrent Protection	Unit Only	60	70	90	35	35	45	25	30	35
	With (2) 0.33 HP Power Exhaust	70	80	100	35	40	50	25	30	35
³ Minimum Circuit Ampacity	Unit Only	56	63	73	30	33	37	23	26	29
	With (2) 0.33 HP Power Exhaust	61	68	78	32	35	40	25	28	31

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.

15 TON STANDARD EFFICIENCY - SINGLE ZONE VAV SUPPLY FAN

KGA180S4M

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Compressor 2	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Outdoor Fan Motors (3)	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11	3.9	6.1	9
² Maximum Overcurrent Protection	Unit Only	90	100	110	45	50	50	35	35	40
	With (2) 0.33 HP Power Exhaust	100	100	110	50	50	50	35	40	40
³ Minimum Circuit Ampacity	Unit Only	75	81	88	37	39	43	28	30	33
	With (2) 0.33 HP Power Exhaust	79	85	93	39	42	45	30	32	35

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

17.5 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME AND SINGLE ZONE VAV KGA/KGB210S4

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 2	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 3	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Outdoor Fan Motors (3)	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11	3.9	6.1	9
² Maximum Overcurrent Protection	Unit Only	100	100	110	40	45	50	30	35	40
	With (2) 0.33 HP Power Exhaust	100	110	125	45	45	50	35	35	45
³ Minimum Circuit Ampacity	Unit Only	82	88	97	36	39	43	29	31	35
	With (2) 0.33 HP Power Exhaust	87	93	102	38	41	45	31	33	37

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.

20 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME KGB240S4B

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 2	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 3	Rated Load Amps	25			12.2			9		
	Locked Rotor Amps	164			100			78		
Outdoor Fan Motors (4)	Full Load Amps (total)	2.4 (9.6)			1.3 (5.2)			1 (4)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
² Maximum Overcurrent Protection	Unit Only	125	125	125	60	60	70	45	45	50
	With (2) 0.33 HP Power Exhaust	125	125	150	60	60	70	45	50	50
³ Minimum Circuit Ampacity	Unit Only	103	110	118	50	53	57	37	40	43
	With (2) 0.33 HP Power Exhaust	108	115	123	52	56	59	39	42	45

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

20 TON STANDARD EFFICIENCY - SINGLE ZONE VAV SUPPLY FAN

KGA240S4M

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph				
Compressor 1	Rated Load Amps	22.4			10.6			7.7				
	Locked Rotor Amps	149			75			54				
Compressor 2	Rated Load Amps	22.4			10.6			7.7				
	Locked Rotor Amps	149			75			54				
Compressor 3	Rated Load Amps	22.4			10.6			7.7				
	Locked Rotor Amps	149			75			54				
Outdoor Fan	Full Load Amps	2.4			1.3			1				
Motors (4)	(total)	(9.6)			(5.2)			(4)				
Power Exhaust	Full Load Amps	2.4			1.3			1				
(2) 0.33 HP	(total)	(4.8)			(2.6)			(2)				
Service Outlet 115V GFI (amps)		15			15			20				
Indoor Blower	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10		
	Motor	Full Load Amps			16.7	24.2	30.8	7.6	11	14	6.1	9
² Maximum	Unit Only	110	125	125	50	60	60	40	45	50		
Overcurrent	With (2) 0.33 HP	125	125	150	60	60	70	40	45	50		
Protection	Power Exhaust											
³ Minimum	Unit Only	100	108	116	48	51	55	36	39	41		
Circuit	With (2) 0.33 HP	104	112	121	50	54	58	38	41	43		
Ampacity	Power Exhaust											

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.

25 TON STANDARD EFFICIENCY - CONSTANT AIR VOLUME AND SINGLE ZONE VAV

KGB300S4

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph				
Compressor 1	Rated Load Amps	19.6			8.2			6.6				
	Locked Rotor Amps	136			66.1			55.3				
Compressor 2	Rated Load Amps	19.6			8.2			6.6				
	Locked Rotor Amps	136			66.1			55.3				
Compressor 3	Rated Load Amps	22.4			10.6			7.7				
	Locked Rotor Amps	149			75			54				
Compressor 4	Rated Load Amps	22.4			10.6			7.7				
	Locked Rotor Amps	149			75			54				
Outdoor Fan	Full Load Amps	2.4			1.3			1				
Motors (6)	(total)	(14.4)			(7.8)			(6)				
Power Exhaust	Full Load Amps	2.4			1.3			1				
(2) 0.33 HP	(total)	(4.8)			(2.6)			(2)				
Service Outlet 115V GFI (amps)		15			15			20				
Indoor Blower	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10		
	Motor	Full Load Amps			16.7	24.2	30.8	7.6	11	14	6.1	9
² Maximum	Unit Only	125	150	150	60	70	70	50	50	50		
Overcurrent	With (2) 0.33 HP	150	150	150	60	70	70	50	50	60		
Protection	Power Exhaust											
³ Minimum	Unit Only	121	129	137	56	60	63	43	46	49		
Circuit	With (2) 0.33 HP	126	134	142	59	62	66	45	48	51		
Ampacity	Power Exhaust											

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

13 TON HIGH EFFICIENCY - CONSTANT AIR VOLUME AND SINGLE ZONE VAV

KGA156H4

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	11.9			6.7			5.4		
	Locked Rotor Amps	109			59			40		
Compressor 2	Rated Load Amps	11.9			6.7			5.4		
	Locked Rotor Amps	109			59			40		
Compressor 3	Rated Load Amps	11.9			6.7			5.4		
	Locked Rotor Amps	109			59			40		
Outdoor Fan Motors (3)	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
² Maximum Overcurrent Protection	Unit Only	60	60	80	35	35	40	25	25	30
	With (2) 0.33 HP Power Exhaust	70	70	80	35	35	40	30	30	30
³ Minimum Circuit Ampacity	Unit Only	54	57	64	30	31	34	24	25	27
	With (2) 0.33 HP Power Exhaust	59	62	69	32	34	37	26	27	29

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.

17.5 TON HIGH EFFICIENCY - CONSTANT AIR VOLUME AND SINGLE ZONE VAV

KGA210H4

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	15.6			7.8			5.8		
	Locked Rotor Amps	110			52			38.9		
Compressor 2	Rated Load Amps	15.6			7.8			5.8		
	Locked Rotor Amps	110			52			38.9		
Compressor 3	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11	3.9	6.1	9
² Maximum Overcurrent Protection	Unit Only	100	100	110	45	45	50	35	35	40
	With (2) 0.33 HP Power Exhaust	100	110	110	45	50	50	35	40	45
³ Minimum Circuit Ampacity	Unit Only	81	87	96	39	42	46	30	32	36
	With (2) 0.33 HP Power Exhaust	86	92	101	42	44	48	32	34	38

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

15 TON HIGH EFFICIENCY - CONSTANT AIR VOLUME AND SINGLE ZONE VAV

KGA180H4

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Compressor 2	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Compressor 3	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Outdoor Fan Motors (4)	Full Load Amps (total)	2.4 (9.6)			1.3 (5.2)			1 (4)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11	3.9	6.1	9
² Maximum Overcurrent Protection	Unit Only	70	80	100	40	45	50	25	30	35
	With (2) 0.33 HP Power Exhaust	80	90	100	45	45	50	30	30	40
³ Minimum Circuit Ampacity	Unit Only	65	71	81	36	39	43	25	27	31
	With (2) 0.33 HP Power Exhaust	69	76	86	39	42	46	27	29	33

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.

20 TON HIGH EFFICIENCY - CONSTANT AIR VOLUME AND SINGLE ZONE VAV

KGA240H4

¹ Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Compressor 2	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Compressor 3	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Compressor 4	Rated Load Amps	13.5			8			5		
	Locked Rotor Amps	109			59			40		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
² Maximum Overcurrent Protection	Unit Only	100	110	125	50	60	70	35	45	50
	With (2) 0.33 HP Power Exhaust	110	125	125	60	60	70	40	45	50
³ Minimum Circuit Ampacity	Unit Only	90	99	107	50	54	58	34	38	40
	With (2) 0.33 HP Power Exhaust	95	104	112	53	57	60	36	40	42

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 ACCESSORIES

DISCONNECTS - STANDARD EFFICIENCY

Voltage	208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
Model No.	KGA180S											
Blower Motor HP	3		5		7.5		3	5	7.5	3	5	7.5
Unit Only	54W91	54W91	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Model No.	KGB180S											
Blower Motor HP	3		5		7.5		3	5	7.5	3	5	7.5
Unit Only	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W91	54W91	54W91	54W91	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Model No.	KGA/KGB210S											
Blower Motor HP	3		5		7.5		3	5	7.5	3	5	7.5
Unit Only	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Model No.	KGA/KGB240S											
Blower Motor HP	5		7.5		10		5	7.5	10	5	7.5	10
Unit Only	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Model No.	KGB300S											
Blower Motor HP	5		7.5		10		5	7.5	10	5	7.5	10
Unit Only	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W92	54W92	54W92	54W92	54W93	54W93	54W91	54W91	54W91	54W91	54W91	54W91

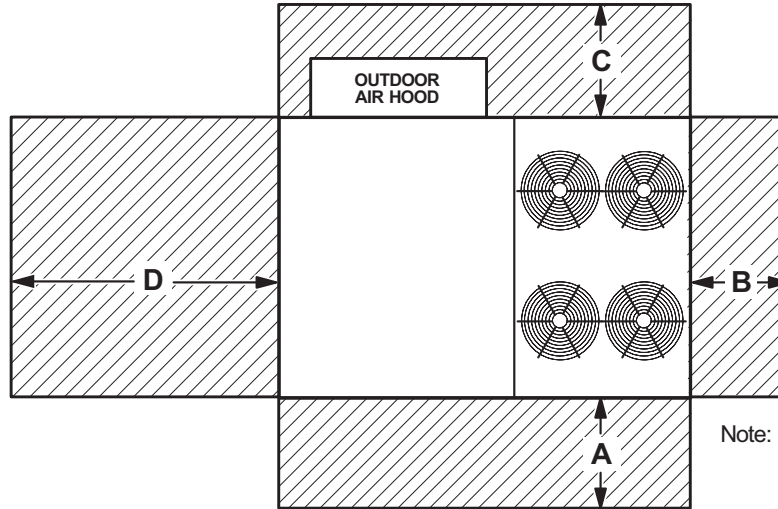
ELECTRICAL ACCESSORIES

DISCONNECTS - HIGH EFFICIENCY

Voltage	208V	240V	208V	240V	208V	240V	480V	480V	480V	600V	600V	600V
Model No.	KGA156H											
Blower Motor HP	2		3		5		2	3	5	2	3	5
Unit Only	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W91	54W91	54W91	54W91	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Model No.	KGA180H											
Blower Motor HP	3		5		7.5		3	5	7.5	3	5	7.5
Unit Only	54W91	54W91	54W91	54W91	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W91	54W91	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Model No.	KGA210H											
Blower Motor HP	3		5		7.5		3	5	7.5	3	5	7.5
Unit Only	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Model No.	KGA240H											
Blower Motor HP	5		7.5		10		5	7.5	10	5	7.5	10
Unit Only	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91

UNIT CLEARANCES - INCHES (MM)

Unit With Economizer



Note: 180H, 240S, 300S sizes shown

¹ Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	60	1524	36	914	36	914	66	1676	Unobstructed
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	45	1143	36	914	36	914	41	1041	

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.

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WEIGHT DATA

Model Number	Net		Shipping		Model Number	Net		Shipping	
	lbs.	kg	lbs.	kg		lbs.	kg	lbs.	kg
KGA156H Base Unit	1935	878	2135	968	KGA210S Max. Unit	2260	1025	2460	1116
KGA156H Max. Unit	2205	1000	2405	1091	KGA240S Base Unit	2180	989	2380	1080
KGA180H Base Unit	2115	959	2315	1050	KGA240S Max. Unit	2505	1136	2705	1227
KGA180H Max. Unit	2400	1089	2600	1179	KGB180S Base Unit	1855	841	2055	932
KGA210H Base Unit	2240	1016	2440	1107	KGB180S Max. Unit	2175	987	2375	1077
KGA210H Max. Unit	2525	1145	2725	1236	KGB210S Base Unit	1965	891	2165	982
KGA240H Base Unit	2325	1055	2525	1145	KGB210S Max. Unit	2295	1041	2495	1132
KGA240H Max. Unit	2610	1184	2810	1275	KGB240S Base Unit	2180	989	2380	1080
KGA180S Base Unit	1790	812	1990	903	KGB240S Max. Unit	2510	1139	2710	1229
KGA180S Max. Unit	2115	959	2315	1050	KGB300S Base Unit	2450	1111	2650	1202
KGA210S Base Unit	1935	878	2135	968	KGB300S Max. Unit	2740	1243	2940	1334

NOTE - Max. Unit is the unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories EXTERNAL to unit.

OPTIONS / ACCESSORIES

Description	Shipping Weight		
	lbs.	kg	
ECONOMIZER / OUTDOOR AIR / EXHAUST			
Economizer			
Economizer Dampers	102	46	
Barometric Relief Dampers (downflow)	30	14	
Barometric Relief Dampers (horizontal)	20	9	
Outdoor Air Dampers			
Outdoor Air Damper Section (downflow) - Automatic	52	24	
Outdoor Air Damper Section (downflow) - Manual	49	22	
Outdoor Air Damper Hood (downflow)	65	29	
Power Exhaust	62	28	
GAS HEAT EXCHANGER (NET WEIGHT)			
Medium Heat (adder over standard heat)	18	8	
High Heat (adder over standard heat)	64	29	
SINGLE ZONE VAV SUPPLY FAN BLOWER OPTION			
Variable Frequency Drive (VFD) and associated components	10	5	
ROOF CURBS			
Hybrid Roof Curb, Downflow			
8 in. height	75	34	
14 in. height	105	48	
18 in. height	125	57	
24 in. height	155	70	
Adjustable Pitch Curb, Downflow			
14 in. height	262	119	
Horizontal Roof Curbs, Standard			
26 in. height	470	213	
37 in. height	505	229	
30 in. height	575	261	
41 in. height	610	277	
CEILING DIFFUSERS			
Step-Down			
	RTD11-185S	168	76
	RTD11-275S	238	108
Flush			
	FD11-185S	168	76
	FD11-275S	238	108
Transitions			
	C1DIFF33C-1	80	36
	C1DIFF34C-1	75	34
PACKAGING			
LTL Packaging (less than truck load)	310	141	

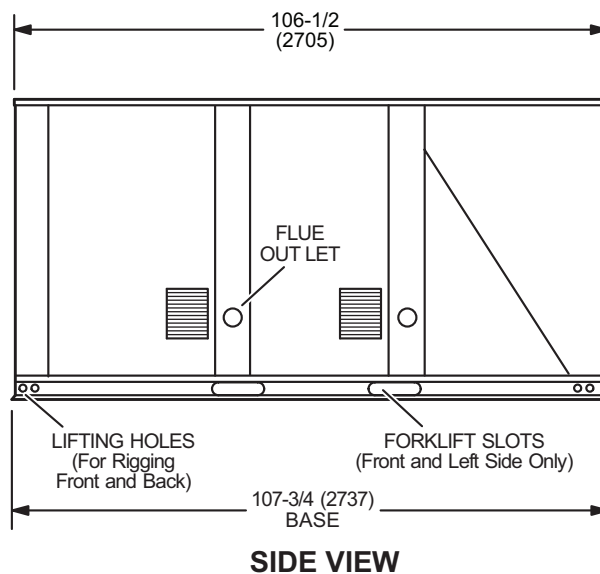
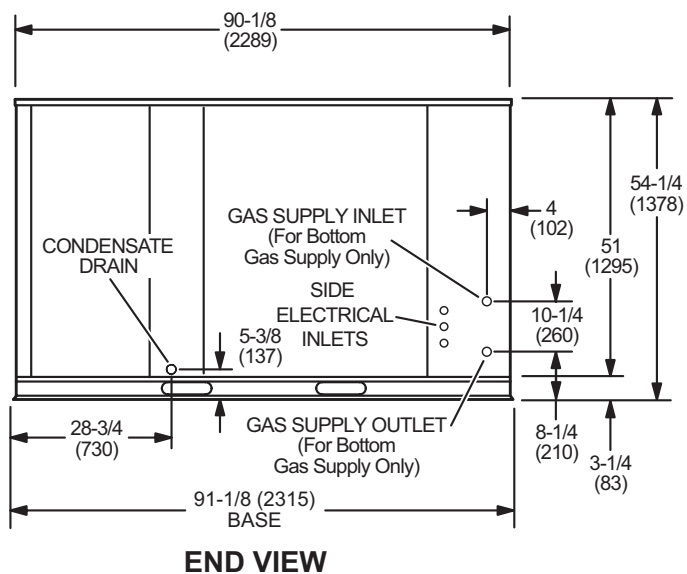
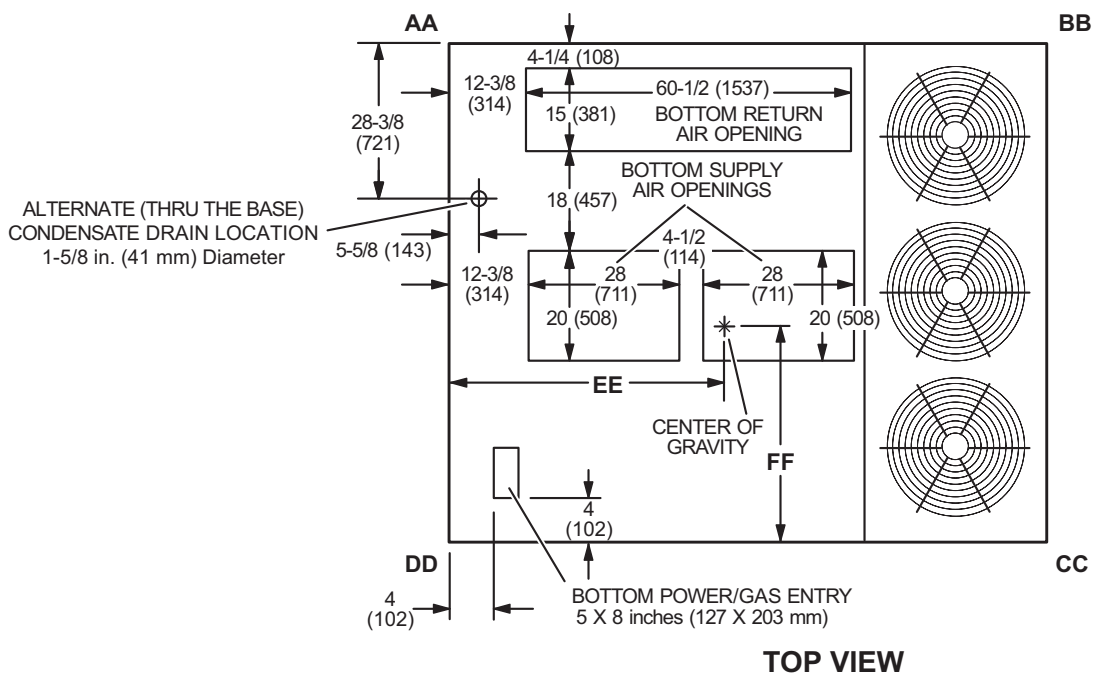
DIMENSIONS - UNIT - INCHES (MM)

KGA156H, KGA/KGB180S, KGA/KGB210S

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	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
KGA156H	473	215	586	266	367	167	447	203	483	219	510	232	612	278	663	301	47.25	1200	46.75	1187	39.5	1003	42.75	1086
KGA180S	425	193	547	249	361	164	439	200	461	210	503	229	543	247	626	284	49.5	1257	48	1219	40	1016	42.5	1080
KGB180S	423	192	542	246	365	166	441	200	495	225	536	243	574	260	657	298	50	1270	48.5	1232	38.75	984	41	1041
KGA210S	450	204	573	261	379	172	456	207	506	230	545	248	601	273	685	312	49.25	1251	47.75	1213	39	991	41.5	1054
KGB210S	462	210	587	266	387	176	465	211	509	231	550	249	608	276	694	315	49.25	1251	47.75	1213	39.25	997	41.75	1060

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.



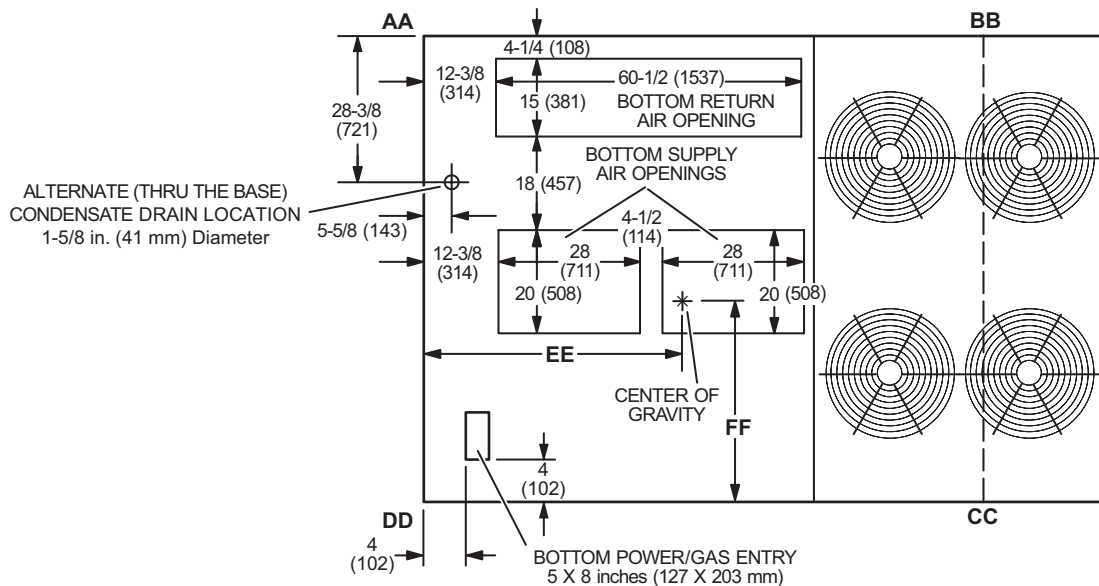
DIMENSIONS - UNIT - INCHES (MM)

KGA180H, KGA/KGB240S

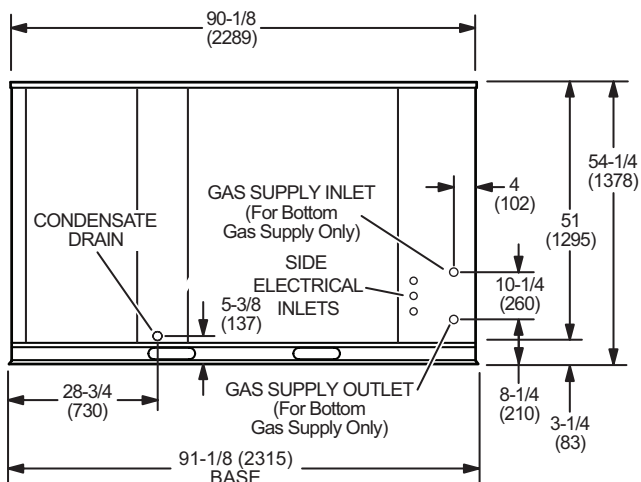
Model No.	CORNER WEIGHTS												CENTER OF GRAVITY											
	AA		BB				CC				DD				EE				FF					
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
KGA180H	487	221	597	272	423	192	505	229	569	259	599	272	636	289	699	318	50.75	1289	49.75	1264	39.25	997	42	1067
KGA240S	456	207	573	261	429	195	506	230	628	285	668	304	667	303	758	344	51.25	1327	50.5	1283	37	940	39.25	997
KGB240S	464	210	574	260	421	191	506	230	616	279	669	303	679	308	759	344	51.25	1302	50.5	1283	37	940	39.25	997

Base Unit - The unit with NO INTERNAL OPTIONS.

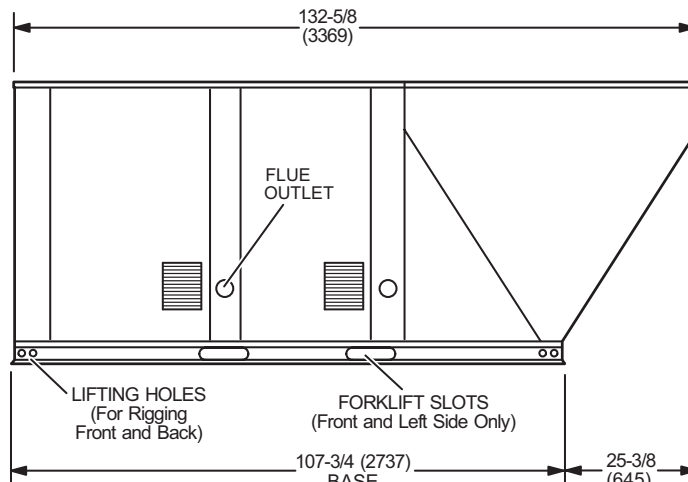
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW



END VIEW



SIDE VIEW

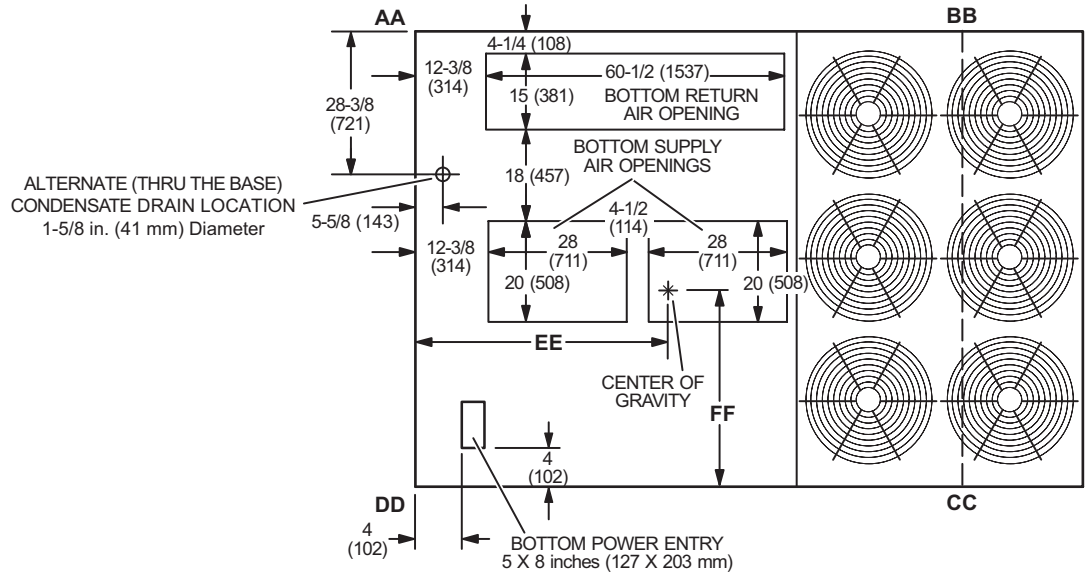
DIMENSIONS - UNIT - INCHES (MM)

KGA210H, KGA240H, KGB300S

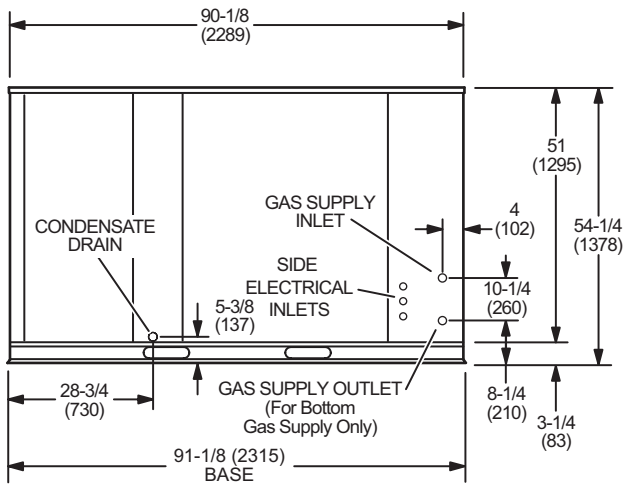
Model No.	CORNER WEIGHTS												CENTER OF GRAVITY											
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
KGA210H	497	226	607	276	468	213	553	252	626	284	655	298	649	295	710	323	52.75	1340	51.5	1308	39.25	997	42	1067
KGA240H	507	230	617	280	481	219	567	258	660	300	688	313	677	308	738	335	53	1346	52	1321	38.75	984	41.5	1054
KGB300S	511	232	624	283	505	229	594	269	714	324	743	337	722	327	780	354	53.5	1359	52.5	1334	37.75	959	40.5	1029

Base Unit - The unit with NO INTERNAL OPTIONS.

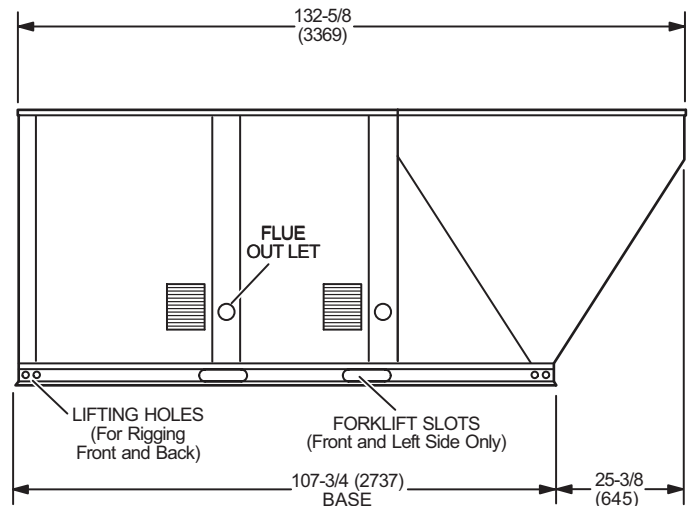
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW

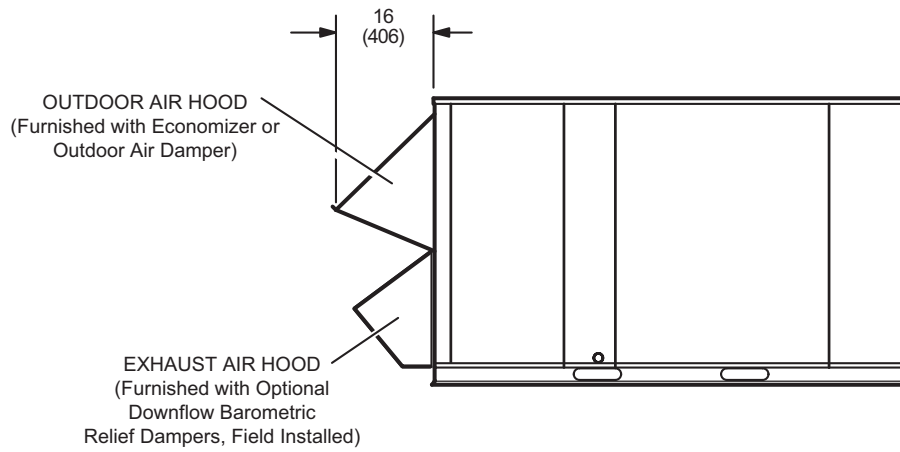


END VIEW



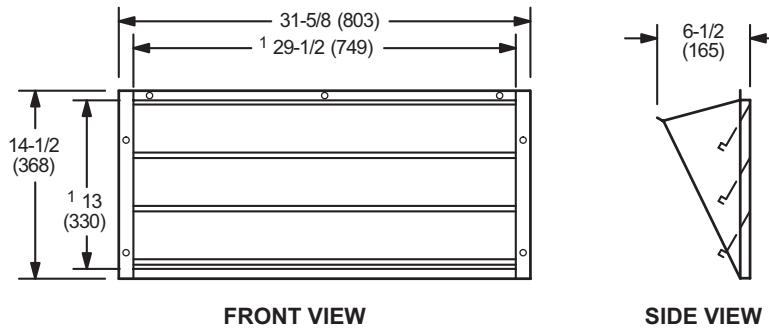
SIDE VIEW

OUTDOOR AIR HOOD DETAIL



OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD

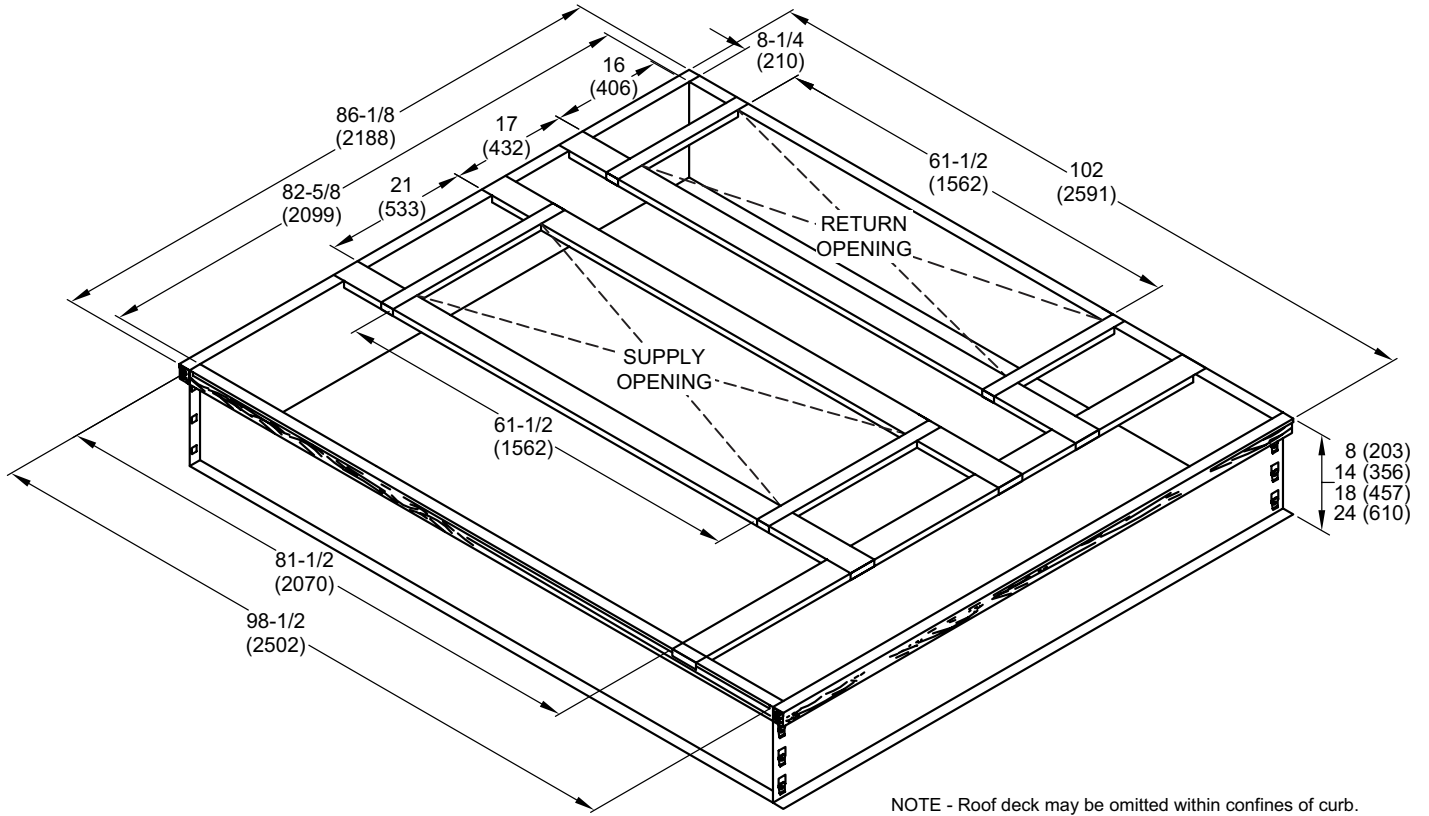
(Field installed in horizontal return air duct adjacent to unit)



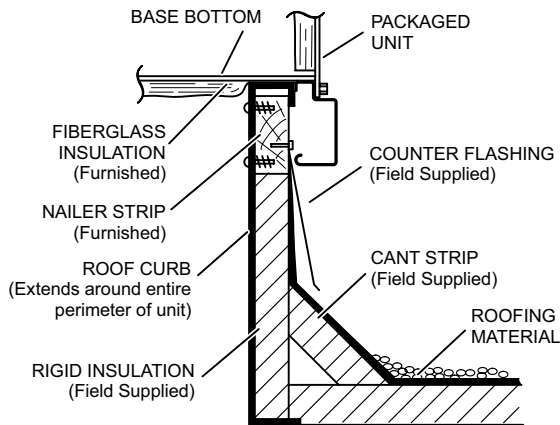
NOTE - Two furnished per order no.
¹ NOTE - Opening size required in return air duct.

DIMENSIONS - ACCESSORIES - INCHES (MM)

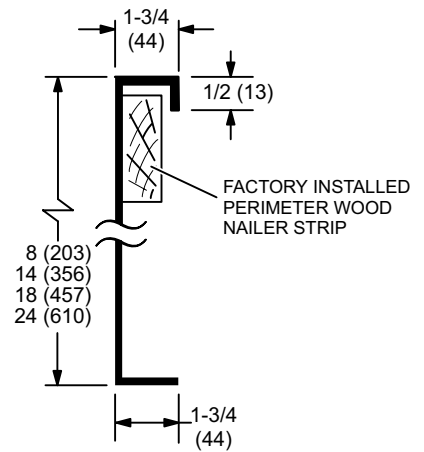
HYBRID ROOF CURBS - DOUBLE DUCT OPENING



TYPICAL FLASHING DETAIL FOR ROOF CURB

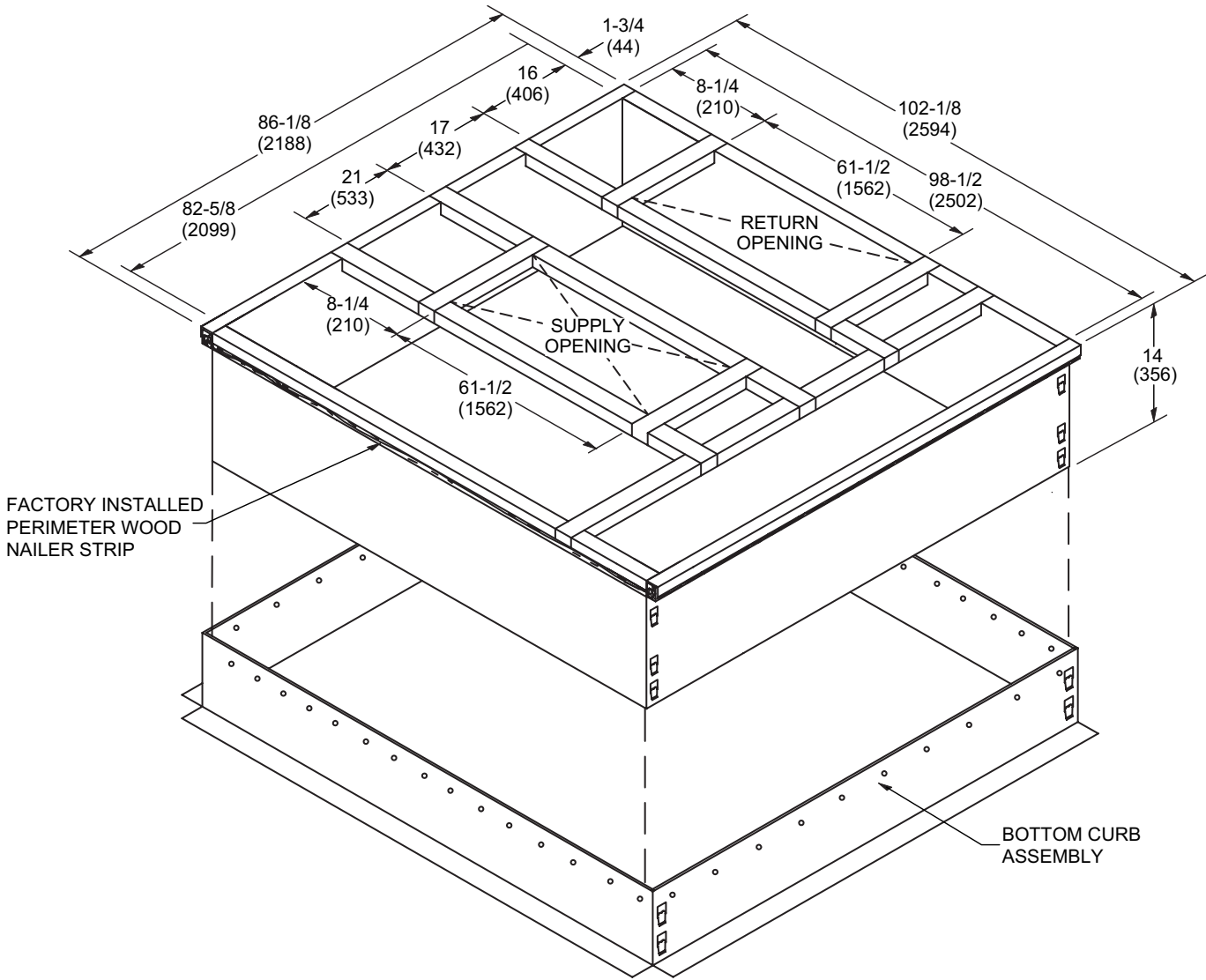


DETAIL ROOF CURB



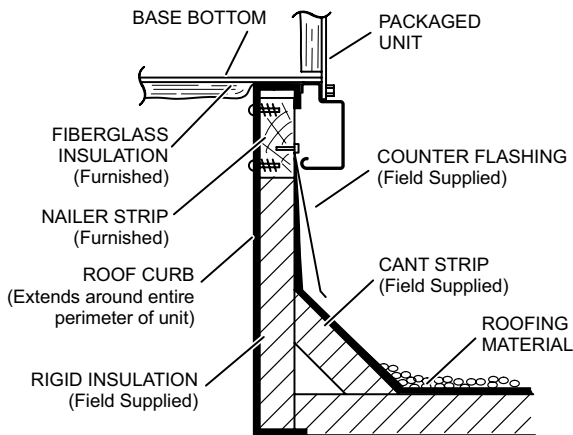
DIMENSIONS - ACCESSORIES - INCHES (MM)

ADJUSTABLE PITCH CURB - DOUBLE DUCT OPENING

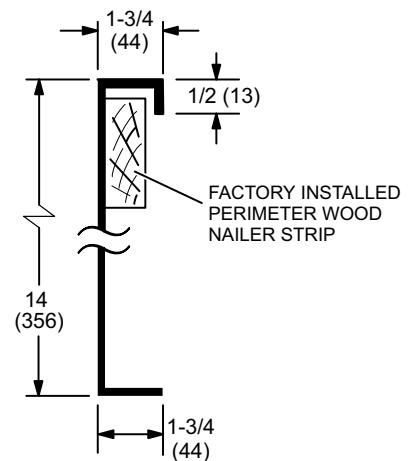


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

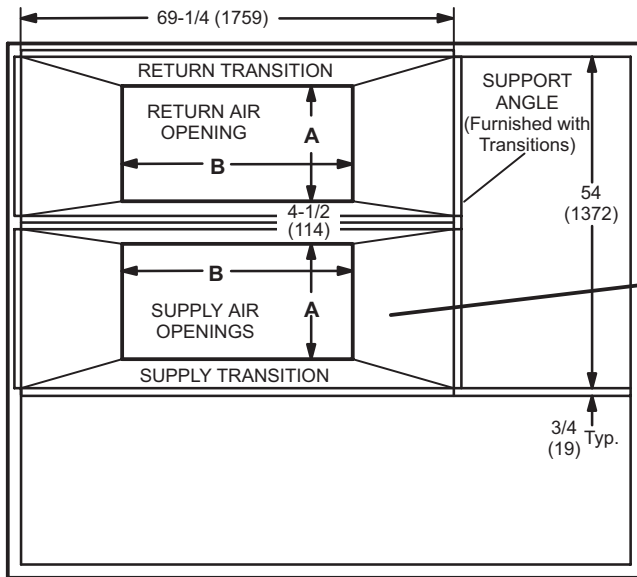


DETAIL ROOF CURB

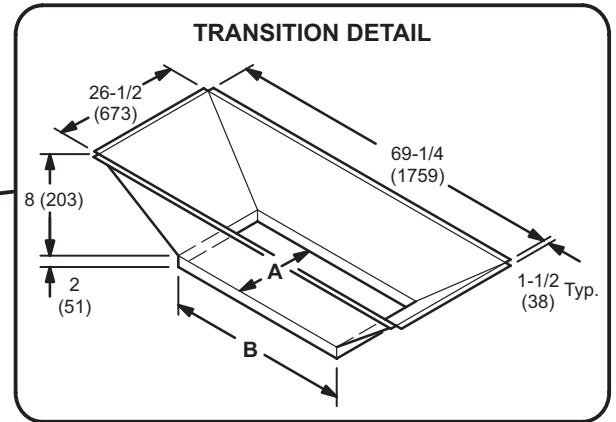


DIMENSIONS - ACCESSORIES - INCHES (MM)

ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS



TOP VIEW

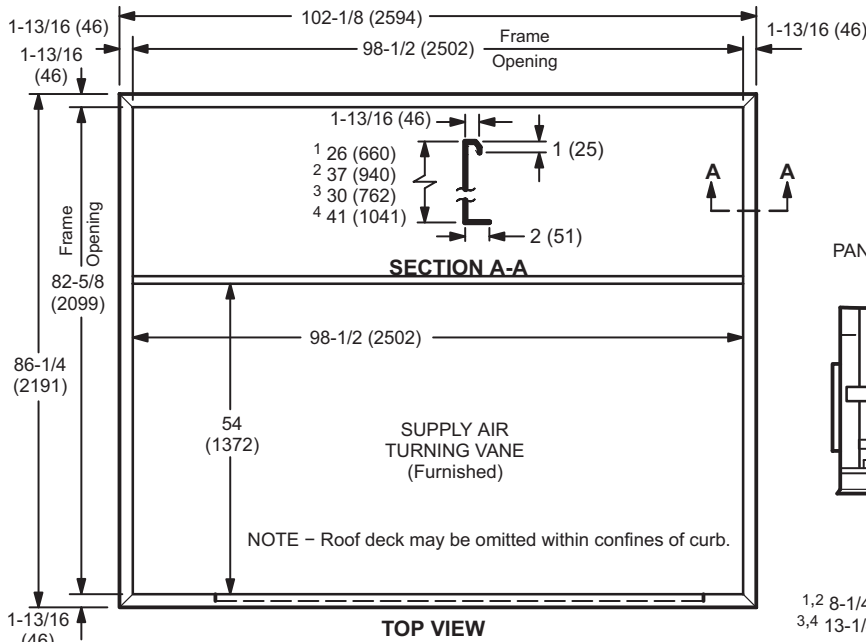


TRANSITION OPENING SIZES

Model Number	A		B	
	inch	mm	inch	mm
C1DIFF33C-1	18	457	36	914
C1DIFF34C-1	24	610	48	1219

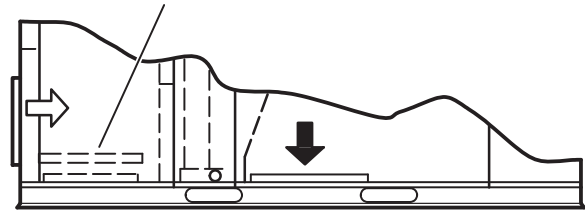
DIMENSIONS - ACCESSORIES - INCHES (MM)

HORIZONTAL ROOF CURBS – Requires Optional Horizontal Return Air Panel Kit

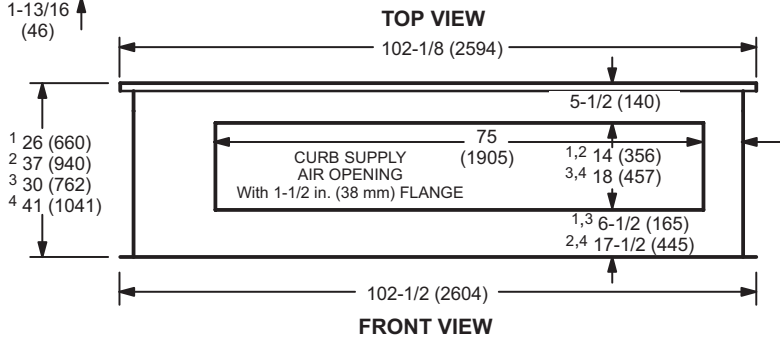


NOTE C1CURB14C-1 and C1CURB15C-1 are designed for horizontal discharge when unit is mounted on a slab. C1CURB16C-1 and C1CURB17C-1 are designed for horizontal discharge when unit is mounted on a rooftop.

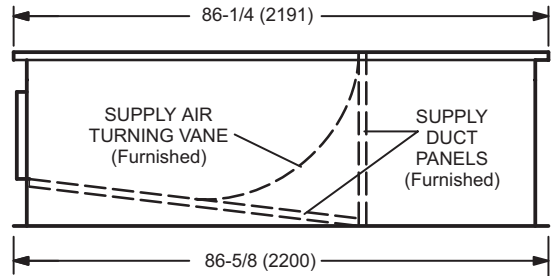
PANEL TO COVER RETURN AIR OPENING IN BOTTOM OF UNIT (Furnished With Optional Horizontal Return Air Panel Kit)



SIDE VIEW
(Packaged Unit)



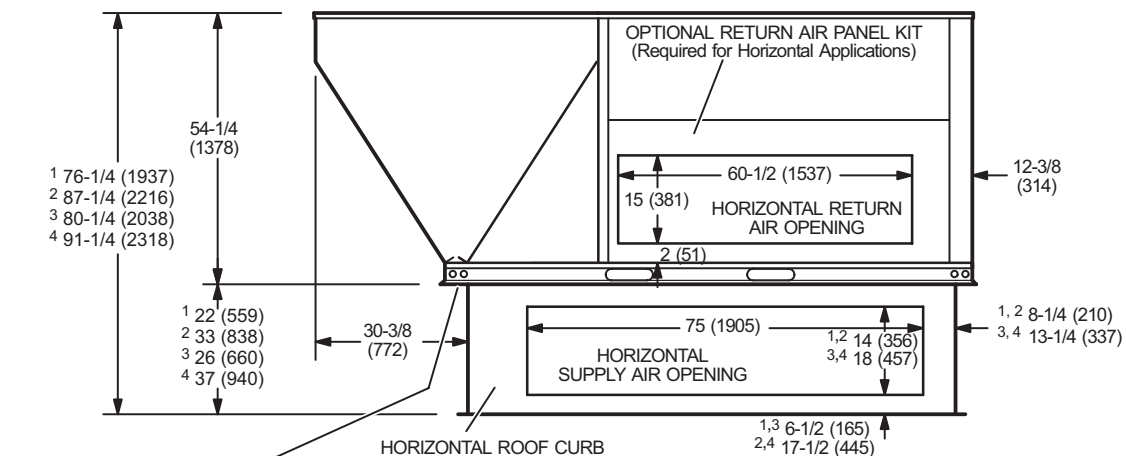
1,2 8-1/4 (210)
3,4 13-1/4 (337)



SIDE VIEW

- | | | | |
|---------------|---------------|-------------------------------|-------------------------------|
| 1 C1CURB14C-1 | 2 C1CURB16C-1 | 3 C1CURB15C-1 (used with 300) | 4 C1CURB17C-1 (used with 300) |
|---------------|---------------|-------------------------------|-------------------------------|

HORIZONTAL SUPPLY AND RETURN AIR OPENINGS WITH HORIZONTAL ROOF CURB



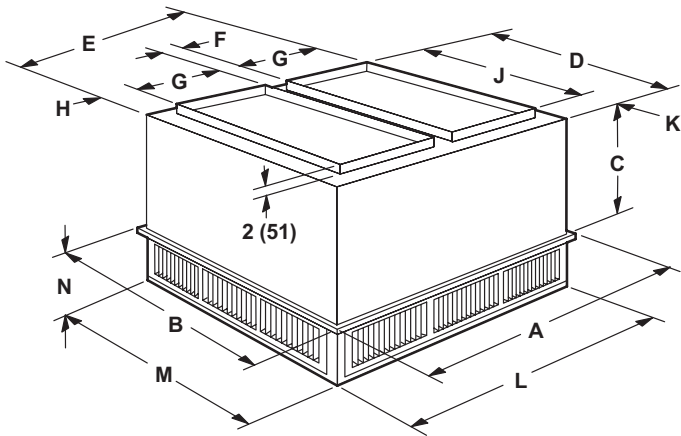
NOTE - Top of Roof Curb extends 4 inch (102 mm) inside bottom of unit base. See Typical flashing detail.

- | |
|---|
| 1 C1CURB14C-1 |
| 2 C1CURB16C-1 |
| 3 C1CURB15C-1 (used with 300 Models Only) |
| 4 C1CURB17C-1 (used with 300 Models Only) |

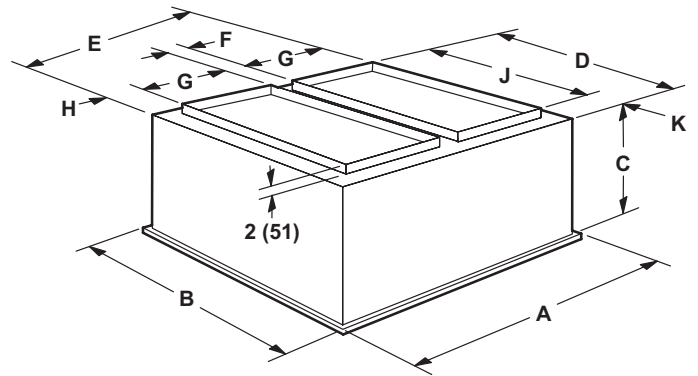
DIMENSIONS - ACCESSORIES - INCHES (MM)

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



FLUSH CEILING DIFFUSER



Model Number		RTD11-185S	RTD11-275
A	in.	47-5/8	59-5/8
	mm	1210	1514
B	in.	47-5/8	59-5/8
	mm	1210	1514
C	in.	24-5/8	30-5/8
	mm	625	778
D	in.	45-1/2	57-1/2
	mm	1156	1461
E	in.	45-1/2	57-1/2
	mm	1156	1461
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	24
	mm	457	610
H	in.	2-1/2	2-1/2
	mm	64	64
J	in.	36	48
	mm	914	1219
K	in.	4-3/4	4-3/4
	mm	121	121
L	in.	45-1/2	57-1/2
	mm	1156	1461
M	in.	45-1/2	57-1/2
	mm	1156	1461
N	in.	10-1/8	11-1/8
	mm	257	283
Duct Size	in.	18 x 36	24 x 48
	mm	457 x 914	610 x 1219

Model Number		FD11-185S	FD11-275
A	in.	47-5/8	59-5/8
	mm	1210	1514
B	in.	47-5/8	59-5/8
	mm	1210	1514
C	in.	29-1/4	35-1/4
	mm	743	895
D	in.	45	57
	mm	1143	1148
E	in.	45	57
	mm	1143	1448
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	24
	mm	457	610
H	in.	2-1/4	2-1/4
	mm	57	57
J	in.	36	48
	mm	914	1219
K	in.	4-1/2	4-1/2
	mm	114	114
Duct Size	in.	18 x 36	24 x 48
	mm	457 x 914	610 x 1219

REVISIONS

Section	Description
Options/Accessories	Updated High Performance Economizer and BACnet catalog and model numbers.



Intertek

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