



KGC

K-Series™ Rooftop Units
Standard Efficiency - 60 Hz

COMMERCIAL
PRODUCT SPECIFICATIONS

Bulletin No. 310994
October 2022

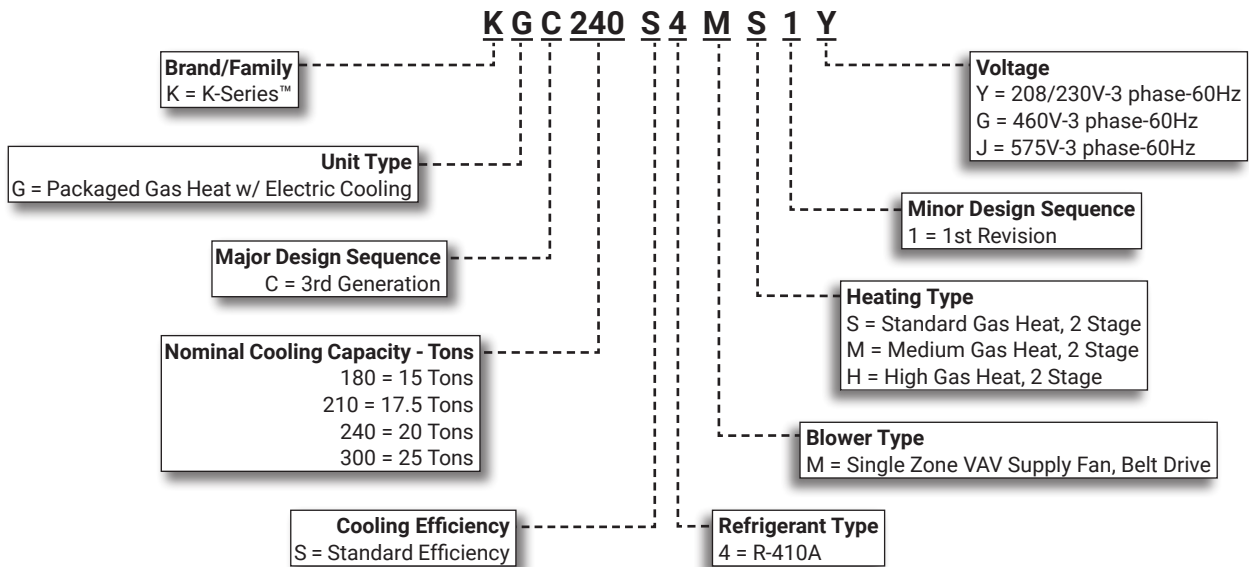


ASHRAE 90.1
COMPLIANT

15 to 25 Tons

Net Cooling Capacity – 172,000 to 270,000 Btuh
Gas Input Heat Capacity – 260,000 to 480,000 Btuh

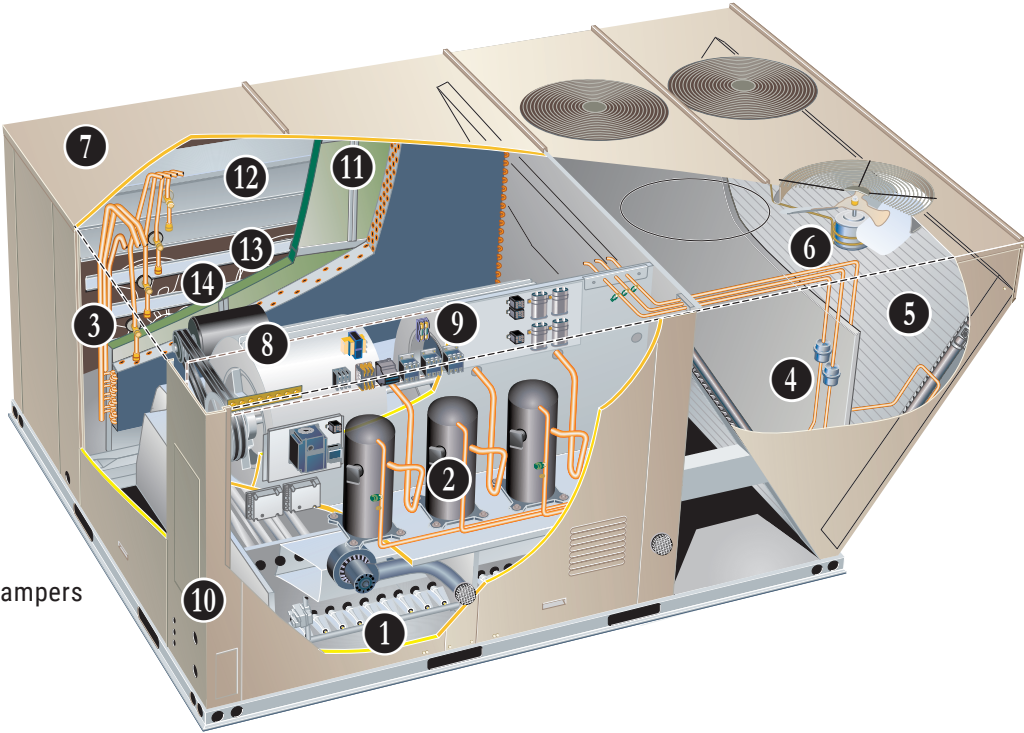
MODEL NUMBER IDENTIFICATION



FEATURE HIGHLIGHTS

K-Series 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. Scroll Compressors
- 3. Thermal Expansion Valves
- 4. Filter/Driers
- 5. Eco-Last™ Coil System
- 6. Outdoor Coil Fan Motors
- 7. Cabinet Construction
- 8. Single Zone VAV
Air Volume Blower
- 9. Unit Control
- 10. Disconnect Switch (option)
- 11. Air Filters
- 12. Economizer (option)
- 13. Downflow Barometric Relief Dampers
(option)
- 14. Power Exhaust Fans (option)



CONTENTS

Approvals And Warranty	3
Blower Data	25
Dimensions	36
- Accessories	36
Dimensions - Unit	33
- KGC180 KGC210.	33
- KGC240.	34
- KGC300.	35
Electrical Accessories - Disconnects	30
Electrical Data	28
- 15 Ton 17.5 Ton	28
- 20 Ton 25 Ton.	29
Features And Benefits	3
High Altitude Derate	20
Dehumidification System Option	13
Dehumidification System Ratings	23
Model Number Identification.	1
Options / Accessories	15
Outdoor Sound Data	31
Ratings	21
Specifications	19
Specifications - Gas Heat	20
Unit Clearances	31
Weight Data	32

APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 340/360 certified
- 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 energy efficiency compliant and meet or exceed requirements of Section 6.8
- All models meet DOE 2023 energy efficiency standards
- All models meet California Code of Regulations, Title 24 and ASHRAE 90.1 Section 6.4.3.10 requirements for staged airflow
- ISO 9001 Registered Manufacturing Quality System

WARRANTY

- Aluminized steel heat exchanger - Limited ten years
- Stainless steel heat exchanger (optional) - Limited fifteen years
- Compressors - Limited five years
- Eco-Last™ Coil System - Limited three years
- Variable-Frequency Drive (VFD) - Limited five years
- High Performance Economizers (optional) - Limited five years

FEATURES AND BENEFITS

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

1 Heat Exchanger

- Tubular construction
- Aluminized steel
- Life cycle tested

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

Electronic Pilot Ignition

- 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
- LED indicates status and aid in troubleshooting
- Factory installed in the controls section

Limit Controls

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

Safety Switches

- Protects system operation
- Flame roll-out switch
- Flame sensor
- Combustion air inducer proving switch

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)

Options / Accessories

Field Installed

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
- Also prevents ice formation on intake louvers
- 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 45°F to 125°F without any additional controls

R-410A Refrigerant

- Non-chlorine based
- Ozone-friendly

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

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

3 Thermal Expansion Valves

Ensures optimal performance throughout the application range

- Removable element head

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

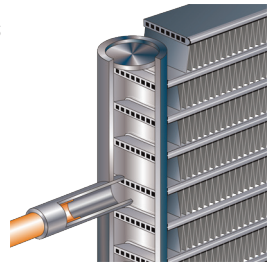
Indoor Coil Freeze Protection

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

5 Condenser Coil - Eco-Last™ Coil System

Lightweight, all aluminum brazed fin construction

- Constructed of three components
 - A flat extrusion tube
 - Fins in-between the flat extrusion tube
 - 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
- Reduced unit weight
- Easy maintenance/cleaning
- Mounting brackets with rubber inserts secure coil to unit providing vibration dampening and corrosion protection
- Angled cabinet design protects coil from damage

Evaporator Coil

- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction
- Factory leak tested
- Cross-row circuiting with rifled tubing

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

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

Options/Accessories

Factory Installed

Conventional Fin/Tube Condenser Coil (replaces Eco-Last™ Coil System)

- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction

NOTE - Required if Dehumidification System is ordered (180, 210, and 240 models only).

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 Controls (0°F)

- Units operate satisfactorily down to 45°F outdoor air temperature without any additional controls
- Allows unit operation down to 0°F without evaporator coil icing
- Head pressure speed control reduces outdoor fan operation during low ambient conditions until head pressure rises to the setpoint
- Pressure transducers are mounted on the liquid lines
- Liquid line pressure switches and temperature switches are provided for field installation
- Wiring harnesses are furnished for simple plug-in wiring to fans and controller

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 flow configuration

NOTE - Units can be field converted to horizontal air flow with optional Horizontal Return Air Panel Kit and Horizontal Roof Curb.

Power/Gas Entry

- Electrical and gas lines can be routed through the unit base or through horizontal access knock-outs

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

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

FEATURES AND BENEFITS

CABINET (continued)

Options/Accessories

Factory Installed

Hinged Access Panels

- Tool-less access
- Filter section
- Heating/Blower section
- Compressor/Controls section
- Panel seals and 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

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

BLOWER

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

8 Blower Motor

- Overload protected
- Ball bearings

Supply Air Blower

- Forward curved blades
- Double inlet
- Blower wheel statically and dynamically balanced
- Ball bearings
- Adjustable pulley (allows speed change)
- Blower assembly slides out of unit for servicing

Single Zone VAV Supply Fan Operation

- Single Zone VAV stages the amount of airflow according to compressor stages, heating demand and ventilation demand
 - Units utilize a Variable Frequency Drive (VFD) to stage the supply air blower airflow
 - VFD alters the frequency and voltage of the power supply to the blower to control blower speed
 - The supply air blower has two speeds:
 1. Low speed for part-load cooling operation.
Note - Low speed is 60% of high speed.
 2. 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
 - Ventilation speed is selectable between high and low speed
- NOTE** - Part load airflow in cooling mode should not be set below 220 cfm/nominal full load ton to reduce the risk of evaporator coil freeze-up.
- VFD has an operational range of -40 to 125° F outdoor air ambient temperature

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

FEATURES AND BENEFITS

BLOWER (continued) 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

NOTE - Units equipped a Variable Frequency Drive (VFD) are designed to operate on balanced, three-phase power. Operating units on unbalanced three-phase power will reduce the reliability of all electrical components in the unit. Unbalanced power is a result of the power delivery system supplied by the local utility company. Factory-installed inverters are sized to drive blower motors with an equivalent current rating using balanced three-phase power. If unbalanced three-phase power is supplied; the installer must replace the existing factory-installed inverter with an inverter that has a higher current rating to allow for the imbalance. Refer to the installation instructions for additional information and replacement information.

Ordering Information

- Specify blower motor, motor horsepower and drive kit number when base unit is ordered

Options/Accessories

Field Installed

Blower Belt Auto-Tensioner

- Provides proper tension to belt drive blower belt without the need for regular adjustments
- Maintains airflow and proper performance

VFD Manual Bypass Kit

- Bypass Kit can be used to operate the unit in single speed (CAV) blower mode if the inverter needs to be serviced or replaced
- 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
- 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

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

Thermostats

- Control system and thermostat options see page 12

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

Phase Monitor

- Located in the control compartment
- 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, indicator LED will be green

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 options:
 - Field installed, non-powered, field wired

Field Installed

GFI Weatherproof Cover

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

INDOOR AIR QUALITY

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

Options/Accessories

Field Installed

High Efficiency Air Filters

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

Replacement Filter Media Kit With Frame

- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

Indoor Air Quality (CO₂) Sensors

- Monitors CO₂ levels
- Reports to the Unit Controller which adjusts economizer dampers as needed
-

OPTIONS / ACCESSORIES

ECONOMIZER

- 12** Economizer Features
(Standard and High Performance Common Features)
- Outdoor Air Hood with mist elimination filter furnished
 - Mixed Air Sensor furnished for field installation in the rooftop unit

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

Field Installed

Standard Economizer Features (Not for Title 24)

- Gear-driven action
- 24-volt, fully-modulating spring return motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- Nylon bearings
- Neoprene seals

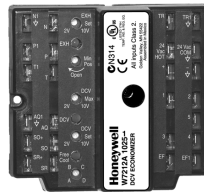
Standard Economizer Control Module (Not for Title 24)

- Standard Economizer Control Module operation is 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.



Factory or Field Installed

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 thermoplastic vulcanizate (TPV) seals
- Flexible stainless steel jamb seals

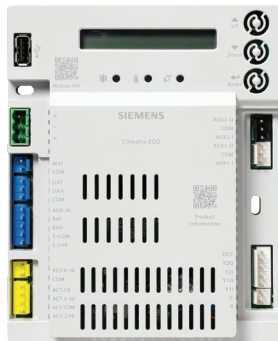
NOTE - High Performance Economizers are not approved for use with differential enthalpy controls in Title 24 applications.

OPTIONS / ACCESSORIES

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



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.

Factory or 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.

Field Installed

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.

EXHAUST

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
- Dual fans
- 20 in. diameter
- 5 blades
- Two 1/3 hp motors

NOTE - Requires Economizer with Outdoor Air Hood and Downflow Barometric Relief Dampers

OPTIONS / ACCESSORIES

OUTDOOR AIR

Field Installed

Outdoor Air Damper

- Downflow or Horizontal
- Linked mechanical dampers
- 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 parallel blade, gear-driven dampers with adjustable fixed position

ROOF CURBS

- Nailer strip furnished (downflow only)
- Mates to unit
- US National Roofing Contractors Approved
- Shipped knocked down

Downflow

Hybrid Roof Curbs

- 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

- 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

Horizontal

- Meet National Roofing Code requirements
- Converts unit from downflow to horizontal (side) air flow
- Return air is on unit
- Supply air is on curb
- See dimension drawings
- Available in 26, 30, 37, and 41 inch heights

NOTE - Requires Horizontal Return Air Panel Kit.

NOTE - Optional Insulation Kit is available to help prevent sweating.

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

BACnet Compatible Thermostat With Reheat



- 7-Day Programmable
- For units with or without Dehumidification
- 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

Description		Catalog No.
BACnet 7-Day Programmable Thermostat		
BACnet Controls	¹ 7-Day BACnet Thermostat	24C57
	² BACnet Module (factory or field)	16X70
³ 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 BACnet Thermostat (24C57) will control units with and without Dehumidification option. If there is a mix of units equipped with and without Dehumidification on the same site, this thermostat can be used for all units if suitable.

² Not compatible with units equipped with Dehumidification option.

³ Only compatible with BACnet Module (16X71).

DEHUMIDIFICATION SYSTEM OPTION

OVERVIEW

NOTE - Not available with Eco-Last™ Coil System (180, 210 and 240 models only).

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 control
- Unit comes equipped with one row reheat coil, solenoid valve and humidity controller
- A thermostat with a dehumidification output, a dehumidistat, or a DDC controller with an isolated output is required to control humidity and must be located in the occupied space

BENEFITS

- Improves indoor air quality
- Helps prevent 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

- Dehumidification is initiated by an output from a dehumidistat (furnished), an optional thermostat with a dehumidification output or an optional DDC controller with an isolated output to control humidity
- 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
- 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

Options/Accessories

Field Installed

Dehumidistat

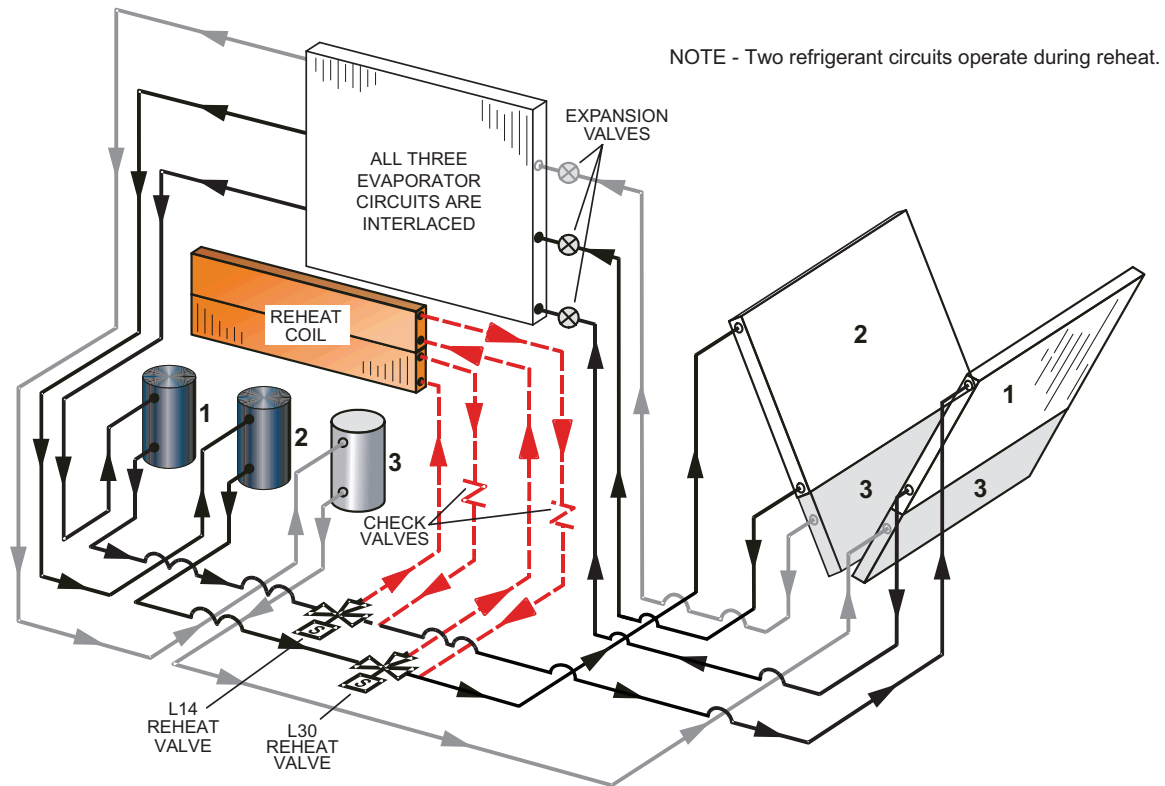
- Remote mounted dehumidistat for factory installed Dehumidification option
- Adjustable 20-80%

NOTE - A thermostat with a dehumidification output or a DDC controller with an isolated output can be used instead.

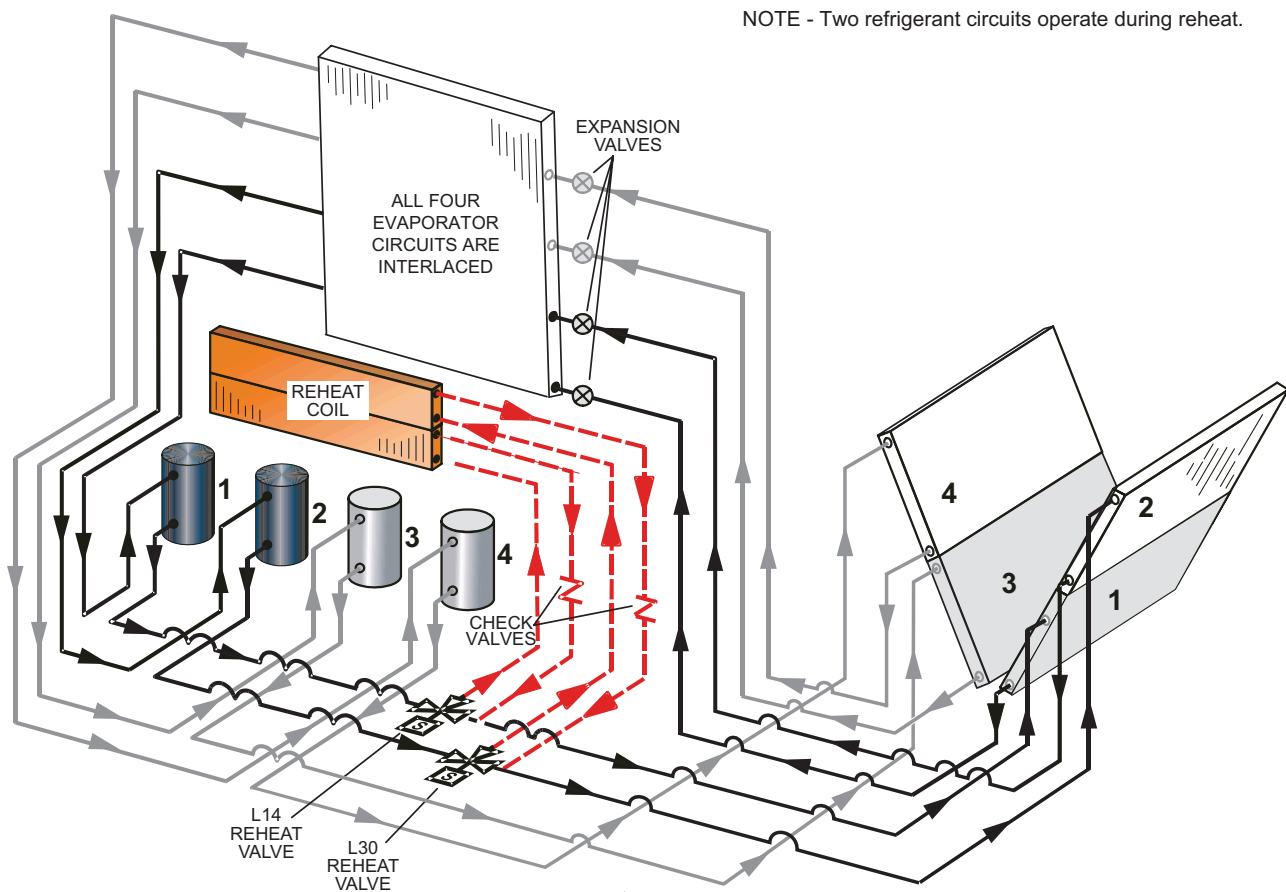
NOTE - See Conventional Thermostat Control Systems on page 12 for additional dehumidification control options.

DEHUMIDIFICATION SYSTEM OPTION

REFRIGERANT SCHEMATIC (180, 210 AND 240 MODELS ONLY)



REFRIGERANT SCHEMATIC (240S and 300S MODELS ONLY)



OPTIONS / ACCESSORIES

Item Description	Catalog Number	180	210	240	300
COOLING SYSTEM					
Condensate Drain Trap	PVC 22H54	X	X	X	X
	Copper 76W27	X	X	X	X
Conventional Fin/Tube Condenser Coil (replaces Eco-Last™ Coil System) (Required for Dehumidification option on 180, 210 and 240 models)	Factory	O	O	O	O
Drain Pan Overflow Switch	10C24	X	X	X	X
Low Ambient Kits (0°F)	18B95	X	X		
	18B96			X	
	18B98				X
HEATING SYSTEM					
Bottom Gas Piping Kit	85M31	X	X	X	X
Combustion Air Intake Extensions (order two)	89L97	X	X	X	X
Gas Heat Input	Standard - 260,000 Btuh Factory	O	O	O	O
	Medium - 360,000 Btuh Factory	O	O	O	O
	High - 480,000 Btuh Factory	O	O	O	O
Low Temperature Vestibule Heater	208/230V-3ph 22H58	X	X	X	X
	460V 22H59	X	X	X	X
	575V 22V43	X	X	X	X
LPG/Propane Conversion Kits (Order 2 kits)	Standard heat 14N28	X	X	X	X
	Medium heat 14N29	X	X	X	X
	High heat 14N30	X	X	X	X
Stainless Steel Heat Exchanger	Factory	O	O	O	O
Vertical Vent Extension Kit	42W16	X	X	X	X
BLOWER - SUPPLY AIR					
Blower Motors	Belt Drive - 3 hp Factory	O	O		
	Belt Drive - 5 hp Factory	O	O	O	O
	Belt Drive - 7.5 hp Factory	O	O	O	O
	Belt Drive - 10 hp Factory			O	O
VFD Manual Bypass Kit	3, 5 hp (208/230V) 90W52	X	X	X	X
	3, 5, 7.5, 10 hp (460V and 575V)				
	7.5, 10 hp (208/230V) 90W51	X	X	X	X
Drive Kits	Kit #1 535-725 rpm Factory	O	O		
See Blower Data Tables for usage and selection	Kit #2 710-965 rpm Factory	O	O		
	Kit #3 685-856 rpm Factory	O	O	O	O
	Kit #4 850-1045 rpm Factory	O	O	O	O
	Kit #5 945-1185 rpm Factory	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
	Blower Belt Auto-Tensioner 24B80	X	X	X	X
DEHUMIDIFICATION REHEAT OPTION					
Dehumidification Option	Factory	O	O	O	O
¹ Dehumidistat, Remote Mounted	99N41	X	X	X	X

¹ A thermostat with a dehumidification output or a DDC controller with an isolated output can be used instead.

NOTE - Catalog 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

Item Description			Catalog Number	180	210	240	300
CABINET							
Combination Coil/Hail Guards			23U69	X	X		
			23U71			X	X
Hinged Access Panels			Factory	O	O	O	O
CONTROLS							
NOTE - Also see Conventional Thermostat Control Systems page 12 for Additional Options.							
Smoke Detector - Supply or Return (Power board and one sensor)			22H56	X	X	X	X
Smoke Detector - Supply and Return (Power board and two sensors)			22H57	X	X	X	X
ELECTRICAL							
Voltage 60 Hz	208/230V - 3 phase	Factory		O	O	O	O
	460V - 3 phase	Factory		O	O	O	O
	575V - 3 phase	Factory		O	O	O	O
Disconnect Switch (see Disconnect Table for usage, page 40)	80 amp	54W91		OX	OX	OX	OX
	150 amp	54W92		OX	OX	OX	OX
	250 amp	54W93					OX
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	74M70		X	X	X	X
	¹ 20 amp non-powered, field-wired (208/230V, 460V, 575V)	67E01		X	X	X	X
Weatherproof Cover for GFI		10C89		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	54W67		X	X	X	X
	MERV 13	52W40		X	X	X	X
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)		44N61		X	X	X	X
Indoor Air Quality (CO₂) Sensors							
Sensor - Wall-mount, off-white plastic cover with LCD display		77N39		X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		87N53		X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting		87N52		X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting		87N54		X	X	X	X
CO ₂ Sensor Duct Mounting Kit - for downflow applications		85L43		X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO ₂ sensors (87N53 or 77N39)		90N43		X	X	X	X

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

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

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

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X = Field Installed

OPTIONS / ACCESSORIES

Item Description	Catalog Number	180	210	240	300
ECONOMIZER					
Standard Economizer With Outdoor Air Hood (Not for Title 24)					
Standard Economizer Downflow or Horizontal Applications - Includes Outdoor Air Hood, order Downflow or Horizontal Barometric Relief Dampers separately	13U48	X	X	X	X
Standard Economizer Controls (Not for Title 24)					
Single Enthalpy Control	21Z09	X	X	X	X
Differential Enthalpy Control (order 2)	21Z09	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 Downflow or Horizontal Applications - Includes Outdoor Air Hood, order Downflow or Horizontal Barometric Relief Dampers separately Factory Installed Economizer - Enthalpy control is furnished as standard. Field programmable for Sensible Control without additional hardware Field Installed Economizer - Sensible Sensor is furnished as standard	23G24	OX	OX	OX	OX
High Performance Economizer Controls					
Single Enthalpy Control	23G26	X	X	X	X
Differential Enthalpy Control (order 1 for factory, order 2 for field) (Not for Title 24)	23G26	X	X	X	X
Economizer Accessories					
WLAN Stick (For High Performance Economizer only)	23K58	X	X	X	X
Barometric Relief Dampers With Exhaust Hood					
Downflow Barometric Relief Dampers	54W78	OX	OX	OX	OX
Horizontal Barometric Relief Dampers	16K99	X	X	X	X
OUTDOOR AIR					
Outdoor Air Dampers With Outdoor Air Hood					
Motorized	22J27	X	X	X	X
Manual	13U05	X	X	X	X
1 POWER EXHAUST (DOWNFLOW APPLICATIONS ONLY)					
Standard Static	208/230V	22H90	X	X	X
	460V	22H91	X	X	X
	575V	75W92	X	X	X

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

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

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OPTIONS / ACCESSORIES

Item Description		Catalog Number	180	210	240	300
ROOF CURBS						
Hybrid Roof Curbs, Downflow						
8 in. height		11F58	X	X	X	X
14 in. height		11F59	X	X	X	X
18 in. height		11F60	X	X	X	X
24 in. height		11F61	X	X	X	X
Adjustable Pitch Curb						
14 in. height		43W26	X	X	X	X
Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit						
26 in. height - slab applications		11T89	X	X	X	
30 in. height - slab applications		11T90				X
37 in. height - rooftop applications		11T96	X	X	X	
41 in. height - rooftop applications		11T97				X
Insulation Kit For Standard Horizontal Curbs						
For 26 in. Curb		73K32	X	X	X	
For 30 in. Curb		73K33				X
For 37 in. Curb		73K34	X	X	X	
For 41 in. Curb		73K35				X
Horizontal Return Air Panel Kit						
Required for Horizontal Applications with Roof Curb		87M00	X	X	X	X
CEILING DIFFUSERS						
Step-Down - Order one	RTD11-185S	13K63	X			
	RTD11-275S	13K64		X	X	X
Flush - Order one	FD11-185S	13K58	X			
	FD11-275S	13K59		X	X	X
Transitions (Supply and Return) - Order one	C1DIFF33C-1	12X68	X			
	C1DIFF34C-1	12X70		X	X	X

¹ Field installed Power Exhaust requires Economizer with Outdoor Air Hood and Downflow Barometric Relief Dampers with Exhaust Hood. Must be ordered separately.

NOTE - Catalog 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

SPECIFICATIONS

General Data				Nominal Tonnage	15 Ton	17.5 Ton	20 Ton	25 Ton
				Model Number	KGC180S4M	KGC210S4M	KGC240S4M	KGC300S4M
				Efficiency Type	Standard	Standard	Standard	Standard
				Blower Type	Single Zone VAV Supply Fan	Single Zone VAV Supply Fan	Single Zone VAV Supply Fan	Single Zone VAV Supply Fan
Cooling Performance	Gross Cooling Capacity - Btuh				178,000	206,000	236,000	282,000
	¹ Net Cooling Capacity - Btuh				172,000	200,000	228,000	270,000
	¹ AHRI Rated Air Flow - cfm				7200	6125	7000	7500
	Total Unit Power - kW				15.9	18.5	21.1	27.6
	² IEER (Btuh/Watt)				14.0	14.0	14.0	13.0
	¹ EER (Btuh/Watt)				10.8	10.8	10.8	9.8
Refrigerant Charge	Refrigerant Type				R-410A	R-410A	R-410A	R-410A
	Eco-Last™ Coil System	Circuit 1		7 lbs. 3 oz.	8 lbs. 0 oz.	8 lbs. 12 oz.	7 lbs. 13 oz.	
		Circuit 2		6 lbs. 10 oz.	7 lbs. 2 oz.	8 lbs. 7 oz.	6 lbs. 8 oz.	
		Circuit 3		6 lbs. 3 oz.	7 lbs. 6 oz.	8 lbs. 10 oz.	5 lbs. 13 oz.	
		Circuit 4		- - -	- - -	- - -	5 lbs. 13 oz.	
	Conventional Fin/Tube Coil Option	Circuit 1		11 lbs. 8 oz.	12 lbs. 12 oz.	13 lbs. 10 oz.	10 lbs. 8 oz.	
		Circuit 2		9 lbs. 14 oz.	12 lbs. 0 oz.	14 lbs. 8 oz.	10 lbs. 0 oz.	
		Circuit 3		8 lbs. 15 oz.	11 lbs. 2 oz.	13 lbs. 4 oz.	9 lbs. 12 oz.	
		Circuit 4		- - -	- - -	- - -	9 lbs. 12 oz.	
	Conventional Fin/Tube with Reheat Option	Circuit 1		15 lbs. 4 oz.	14 lbs. 8 oz.	14 lbs. 12 oz.	- - -	
		Circuit 2		13 lbs. 0 oz.	13 lbs. 9 oz.	15 lbs. 4 oz.	- - -	
		Circuit 3		8 lbs. 15 oz.	11 lbs. 2 oz.	13 lbs. 4 oz.	- - -	
		Circuit 4		- - -	- - -	- - -	- - -	
	Coil System with Reheat Option	Circuit 1		- - -	- - -	- - -	7 lbs. 7 oz.	
		Circuit 2		- - -	- - -	- - -	7 lbs. 2 oz.	
		Circuit 3		- - -	- - -	- - -	5 lbs. 15 oz.	
		Circuit 4		- - -	- - -	- - -	6 lbs. 1 oz.	
	Gas Heat Available				See page 20			
	Compressor Type (number)				Scroll (3)	Scroll (3)	Scroll (3)	Scroll (4)
	Outdoor Coils	Net face area (total) - sq. ft.			41.1	41.1	55.0	55.0
Dehumidification (Fin/Tube)	Number of rows			1 (2)	1 (2)	1 (2)	1 (2)	
	Fins per inch			23 (20)	23 (20)	23 (20)	23 (20)	
Outdoor Coil Fans	No. and type			(3) PSC	(3) PSC	(4) PSC	(6) PSC	
	Motor - (No.) horsepower			(3) 1/3	(3) 1/3	(4) 1/3	(6) 1/3	
	Motor rpm			1075	1075	1075	1075	
	Total Motor watts			1100	1100	1665	1950	
	Diameter - (No.) in. / No. of blades			(3) 24 / 3	(3) 24 / 3	(4) 24 / 3	(6) 24 / 3	
	Total Air volume - cfm			12,000	12,000	16,000	20,000	
Indoor Coils	Net face area (total) - sq. ft.			21.4	21.4	21.4	21.4	
	Tube diameter - in. / No. of rows			3/8 / 3	3/8 / 4	3/8 / 4	3/8 / 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 Thermostatic Expansion Valve, removable element head				
³ Indoor Blower and Drive Selection	Nominal motor output			3 hp, 5 hp, 7.5 hp		5 hp, 7.5 hp, 10 hp		
	Maximum usable motor output (US)			3.45 hp, 5.75 hp, 8.62 hp		5.75 hp, 8.62 hp, 11.5 hp		
	Motor - Drive kit number			3 hp		5 hp		
				Kit 1 535-725 rpm		Kit 3 685-856 rpm		
				Kit 2 710-965 rpm		Kit 4 850-1045 rpm		
				5 hp		Kit 5 945-1185 rpm		
				Kit 3 685-856 rpm		7.5 hp		
				Kit 4 850-1045 rpm		Kit 6 850-1045 rpm		
				Kit 5 945-1185 rpm		Kit 7 945-1185 rpm		
				7.5 hp		Kit 8 1045-1285 rpm		
				Kit 6 850-1045 rpm		10 hp		
				Kit 7 945-1185 rpm		Kit 7 945-1185 rpm		
			Kit 8 1045-1285 rpm		Kit 10 1045-1285 rpm			
					Kit 11 1135-1365 rpm			
Blower wheel nominal diameter x width - in.				(2) 15 x 15				
Filters	Type of filter / Number and size (in.)			MERV 4, Disposable / (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 - Motor service factor limit - 1.0.

SPECIFICATIONS - GAS HEAT

Usage Data			Model Number	KGC180 KGC210 KGC240 KGC300		
			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	210,000	291,000	388,000	
	Temperature Rise Range - °F		15 - 45	30 - 60	40 - 70	
	Thermal Efficiency		81.0%	81.0%	81.0%	
Gas Supply Connections			1 in. NPT	1 in. NPT	1 in. NPT	
Recommended Gas Supply Pressure - Nat. / LPG				7 in. w.g. / 11 in. w.g.		
Gas Supply Pressure Range		Min./Max. (Natural)	4.7 - 10.5 in. w.g.			
		Min./Max. (LPG)	10.8 - 13.5 in. w.g.			

HIGH ALTITUDE DERATE

NOTE - 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 4500 feet units must be derated 4% 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 Gas	
Standard (2 stage)	2001 - 4500	1.6 / 3.1	4.4 / 8.9	169,000 / 239,000
Medium (2 stage)	2001 - 4500	1.6 / 3.1	4.4 / 8.9	234,000 / 331,000
High (2 stage)	2001 - 4500	1.6 / 3.1	4.4 / 8.9	312,000 / 442,000

RATINGS

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

15 TON - KGC180S4M (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)			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	3500	125.9	5.32	0.73	0.84	0.94	119.3	6.01	0.73	0.85	0.95	112.4	6.75	0.74	0.86	0.97	105.1	7.57	0.74	0.88	0.98
	4000	130.8	5.35	0.75	0.86	0.97	123.9	6.04	0.75	0.88	0.98	116.7	6.79	0.76	0.89	0.98	109	7.6	0.77	0.92	1
	4500	134.9	5.38	0.77	0.89	0.98	127.7	6.07	0.78	0.91	0.99	120.1	6.81	0.79	0.93	1	112.3	7.63	0.8	0.95	1
67°F	3500	132.1	5.36	0.6	0.71	0.81	125.5	6.06	0.6	0.71	0.82	118.3	6.8	0.6	0.72	0.83	110.8	7.62	0.6	0.73	0.85
	4000	137.4	5.39	0.62	0.73	0.84	130.3	6.1	0.62	0.73	0.85	122.9	6.84	0.62	0.74	0.87	115	7.65	0.62	0.75	0.88
	4500	141.7	5.42	0.63	0.75	0.87	134.4	6.13	0.63	0.76	0.88	126.5	6.87	0.63	0.77	0.9	118.5	7.68	0.64	0.78	0.92
71°F	3500	137.9	5.4	0.49	0.59	0.69	131.2	6.1	0.48	0.59	0.69	123.8	6.85	0.48	0.59	0.7	116.2	7.66	0.47	0.59	0.71
	4000	143.4	5.43	0.49	0.61	0.71	136.2	6.15	0.49	0.61	0.71	128.7	6.88	0.49	0.61	0.72	120.5	7.7	0.48	0.61	0.73
	4500	148	5.46	0.5	0.62	0.73	140.3	6.18	0.5	0.62	0.74	132.4	6.92	0.5	0.63	0.75	124.2	7.73	0.49	0.63	0.76

15 TON - KGC180S4M (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)			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	4800	168.4	10.37	0.67	0.84	0.99	152	11.61	0.67	0.86	1	134.9	12.99	0.67	0.88	1	117.4	14.54	0.68	0.92	1
	6000	179.9	10.45	0.73	0.93	1	162.7	11.69	0.75	0.96	1	145.3	13.07	0.76	0.99	1	127.7	14.62	0.78	1	1
	7200	188.7	10.52	0.8	1	1	172	11.76	0.82	1	1	155.6	13.15	0.84	1	1	138.4	14.71	0.88	1	1
67°F	4800	183	10.47	0.5	0.65	0.8	166	11.71	0.49	0.65	0.82	148.8	13.1	0.47	0.65	0.84	130.5	14.64	0.45	0.66	0.88
	6000	194.9	10.56	0.54	0.71	0.89	176.8	11.8	0.53	0.73	0.92	158.4	13.18	0.53	0.74	0.95	139.3	14.72	0.52	0.76	0.99
	7200	203.3	10.63	0.58	0.78	0.97	184.7	11.86	0.58	0.8	0.99	165.5	13.24	0.58	0.82	1	145.7	14.78	0.58	0.85	1
71°F	4800	197.3	10.57	0.36	0.49	0.63	179.7	11.81	0.33	0.48	0.63	162	13.2	0.31	0.47	0.64	143.4	14.75	0.27	0.46	0.64
	6000	209.3	10.67	0.38	0.54	0.69	191.1	11.9	0.36	0.53	0.7	172.2	13.29	0.34	0.53	0.72	152.7	14.83	0.31	0.52	0.74
	7200	218.1	10.74	0.4	0.58	0.76	199.1	11.97	0.38	0.58	0.77	179.4	13.35	0.36	0.58	0.8	159.1	14.89	0.34	0.58	0.83

17.5 TON - KGC210S4M (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)			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							
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	4000	154.1	6.87	0.71	0.82	0.93	146.7	7.73	0.71	0.83	0.95	138.8	8.64	0.72	0.84	0.97	130.5	9.69	0.72	0.86	0.98
	4750	161.8	6.94	0.73	0.86	0.98	153.9	7.81	0.74	0.87	0.98	145.5	8.74	0.75	0.89	0.99	136.1	9.78	0.76	0.92	1
	5500	167.8	7.01	0.76	0.9	0.99	159.6	7.88	0.77	0.92	1	150.1	8.81	0.78	0.95	1	141.5	9.86	0.8	0.96	1
67°F	4000	162.3	6.95	0.58	0.68	0.79	154.6	7.82	0.58	0.69	0.8	146.4	8.76	0.58	0.7	0.81	137.6	9.81	0.58	0.7	0.83
	4750	170.2	7.04	0.6	0.71	0.83	162	7.91	0.6	0.72	0.84	153.3	8.86	0.6	0.73	0.86	144.1	9.91	0.6	0.74	0.88
	5500	176.4	7.1	0.61	0.74	0.87	167.8	7.98	0.62	0.75	0.89	158.8	8.94	0.62	0.76	0.91	149.1	9.99	0.62	0.78	0.93
71°F	4000	169.9	7.03	0.46	0.57	0.66	162.1	7.92	0.46	0.57	0.67	153.7	8.86	0.46	0.57	0.68	144.7	9.92	0.45	0.57	0.68
	4750	178.4	7.13	0.47	0.59	0.69	170	8.01	0.47	0.59	0.7	160.9	8.98	0.47	0.59	0.71	151.5	10.03	0.46	0.6	0.72
	5500	184.7	7.2	0.48	0.6	0.72	176.2	8.09	0.48	0.61	0.73	166.7	9.07	0.48	0.61	0.74	156.8	10.12	0.48	0.62	0.76

17.5 TON - KGC210S4M (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)			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	5600	206.6	13.51	0.69	0.85	0.99	188.5	15.13	0.7	0.86	1	169.7	16.97	0.7	0.89	1	149.7	19.06	0.71	0.92	1
	7000	220.4	13.69	0.75	0.93	1	201.5	15.31	0.77	0.95	1	181.9	17.16	0.78	0.98	1	162	19.26	0.8	1	1
	8400	231.3	13.84	0.81	0.99	1	212.8	15.47	0.83	1	1	194.3	17.35	0.86	1	1	174.9	19.47	0.89	1	1
67°F	5600	224.8	13.75	0.53	0.67	0.81	205.8	15.37	0.52	0.67	0.83	186.1	17.21	0.51	0.68	0.85	165.3	19.31	0.5	0.69	0.88
	7000	238.3	13.93	0.57	0.73	0.89	218.1	15.55	0.56	0.74	0.92	197.5	17.4	0.56	0.76	0.95	175.7	19.48	0.56	0.78	0.99
	8400	247.8	14.08	0.61	0.79	0.97	227.2	15.69	0.61	0.81	0.99	205.5	17.53	0.61	0.83	1	182.7	19.62	0.61	0.87	1
71°F	5600	242.9	13.99	0.39	0.52	0.65	223.3	15.62	0.36	0.51	0.65	203.2	17.48	0.35	0.5	0.66	181.5	19.59	0.32	0.5	0.67
	7000	256.8	14.19	0.4	0.56	0.71	236.1	15.82	0.39	0.56	0.72	214.7	17.67	0.37	0.56	0.74	192	19.77	0.35	0.56	0.76
	8400	266.8	14.33	0.42	0.6	0.77	245.1	15.97	0.41	0.6	0.79	222.5	17.8	0.4	0.61	0.81	198.9	19.9	0.38	0.62	0.85

RATINGS

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 - KGC240S4M (PART LOAD)

Entering Wet Bulb Tem- perature	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	179.6	7.37	0.71	0.83	0.95	171.3	8.41	0.71	0.84	0.96	162.3	9.53	0.72	0.86	0.97	152.6	10.78	0.73	0.88	0.98
	5500	189.3	7.42	0.74	0.88	0.98	180.4	8.47	0.75	0.9	0.99	169.6	9.6	0.76	0.93	1	160	10.85	0.78	0.95	1
	6500	195.2	7.46	0.78	0.95	1	186.6	8.51	0.79	0.96	1	177	9.65	0.81	0.96	1	166.9	10.91	0.82	0.97	1
67°F	4500	189	7.43	0.57	0.68	0.79	180.7	8.48	0.58	0.69	0.81	171.3	9.62	0.58	0.7	0.82	161.3	10.87	0.58	0.71	0.84
	5500	199.2	7.48	0.6	0.72	0.85	189.8	8.54	0.6	0.73	0.87	180	9.68	0.6	0.74	0.9	169.5	10.95	0.61	0.76	0.92
	6500	206.6	7.53	0.62	0.76	0.92	196.9	8.59	0.62	0.77	0.94	186.7	9.74	0.63	0.78	0.95	175.4	10.99	0.64	0.8	0.97
71°F	4500	198	7.48	0.45	0.56	0.66	189.3	8.54	0.45	0.56	0.67	179.8	9.69	0.45	0.57	0.68	169.6	10.94	0.44	0.57	0.69
	5500	208.5	7.54	0.46	0.58	0.7	199.1	8.61	0.46	0.59	0.71	189	9.76	0.46	0.59	0.72	178.2	11.02	0.46	0.6	0.74
	6500	216.5	7.59	0.48	0.61	0.74	206.7	8.67	0.48	0.61	0.75	195.9	9.81	0.48	0.62	0.76	184.8	11.09	0.48	0.63	0.78

20 TON - KGC240S4M (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)			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	238.4	15.16	0.67	0.84	0.99	218.9	17.01	0.68	0.86	1	198.1	19.1	0.69	0.89	1	176.7	21.46	0.7	0.93	1
	8000	252.9	15.3	0.74	0.93	1	232.6	17.16	0.75	0.96	1	211.9	19.27	0.77	0.99	1	190.6	21.65	0.8	1	1
	9600	264.9	15.43	0.8	1	1	245.3	17.3	0.83	1	1	225	19.43	0.85	1	1	204.1	21.84	0.89	1	1
67°F	6400	257.9	15.35	0.5	0.65	0.8	237.7	17.22	0.49	0.65	0.82	216	19.32	0.49	0.67	0.85	193.5	21.69	0.48	0.68	0.88
	8000	271.7	15.5	0.54	0.72	0.9	250.6	17.37	0.54	0.73	0.92	228.2	19.47	0.54	0.75	0.96	204.1	21.85	0.54	0.78	0.99
	9600	282.1	15.61	0.58	0.78	0.98	260	17.49	0.58	0.8	1	236.5	19.57	0.59	0.83	1	211.7	21.92	0.6	0.87	1
71°F	6400	277.4	15.56	0.36	0.49	0.63	256.4	17.43	0.34	0.49	0.63	234.4	19.55	0.32	0.48	0.64	210.8	21.92	0.3	0.48	0.66
	8000	291.9	15.71	0.37	0.53	0.69	269.8	17.6	0.36	0.53	0.71	246.6	19.7	0.35	0.54	0.73	221.7	22.08	0.33	0.54	0.75
	9600	302.1	15.83	0.39	0.57	0.76	279.2	17.71	0.38	0.58	0.78	254.7	19.81	0.37	0.59	0.81	229.1	22.18	0.36	0.6	0.84

25 TON - KGC300S4M (PART LOAD)

Entering Wet Bulb Tem- perature	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	5750	159.2	6.52	0.79	0.93	1	152.7	7.37	0.8	0.95	1	146.1	8.33	0.81	0.96	1	139.4	9.43	0.83	0.98	1
	6750	164.1	6.57	0.82	0.97	1	157.8	7.43	0.83	0.99	1	151.2	8.4	0.85	0.99	1	144.3	9.49	0.87	1	1
	7750	168.8	6.61	0.85	0.99	1	162.4	7.48	0.87	1	1	155.6	8.45	0.89	1	1	148.7	9.55	0.91	1	1
67°F	5750	168	6.61	0.62	0.76	0.9	161.1	7.47	0.63	0.78	0.92	153.9	8.43	0.64	0.79	0.94	146.3	9.52	0.65	0.81	0.96
	6750	172.6	6.66	0.64	0.8	0.95	165.5	7.52	0.65	0.82	0.97	157.9	8.48	0.66	0.83	0.98	149.7	9.56	0.67	0.85	0.99
	7750	176.2	6.69	0.66	0.84	0.99	168.7	7.56	0.66	0.85	0.99	160.8	8.52	0.68	0.87	1	152.4	9.6	0.7	0.89	1
71°F	5750	175.5	6.68	0.46	0.61	0.74	168.6	7.56	0.47	0.62	0.76	161.2	8.52	0.47	0.63	0.77	153.3	9.61	0.47	0.64	0.79
	6750	180.7	6.74	0.47	0.63	0.78	173.3	7.61	0.48	0.64	0.8	165.6	8.58	0.48	0.65	0.81	152.2	9.76	0.48	0.65	0.83
	7750	184.6	6.78	0.49	0.65	0.82	176.9	7.66	0.49	0.67	0.83	168.9	8.63	0.49	0.68	0.85	160.2	9.71	0.47	0.69	0.88

25 TON - KGC300S4M (FULL LOAD)

Entering Wet Bulb Tem- perature	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		
				75°F	80°F	85°F			kBtuh	kW	75°F			80°F	85°F	kBtuh			kW	75°F	80°F
63°F	8000	286.5	17.99	0.73	0.85	0.95	273	20.2	0.75	0.86	0.97	258.7	22.75	0.76	0.88	0.99	242.7	25.67	0.78	0.9	1
	9500	297.5	18.17	0.76	0.89	0.99	283.3	20.39	0.79	0.91	1	267.9	22.93	0.8	0.93	1	250.9	25.84	0.81	0.95	1
	11,000	306	18.32	0.8	0.93	1	291.1	20.53	0.82	0.95	1	274.9	23.06	0.84	0.97	1	258.1	25.99	0.86	0.99	1
67°F	8000	299.3	18.21	0.56	0.7	0.83	284.3	20.42	0.58	0.71	0.84	268.1	22.95	0.58	0.73	0.86	251.1	25.88	0.58	0.76	0.88
	9500	308.1	18.38	0.59	0.75	0.87	292.7	20.59	0.59	0.76	0.88	276.4	23.12	0.6	0.78	0.9	258.8	26.05	0.62	0.81	0.93
	11,000	315.6	18.51	0.61	0.79	0.91	299.8	20.71	0.61	0.81	0.92	283	23.26	0.63	0.83	0.95	265.1	26.19	0.64	0.83	0.97
71°F	8000	316.1	18.5	0.42	0.56	0.69	300.6	20.73	0.42	0.56	0.69	283.5	23.26	0.42	0.57	0.71	265	26.17	0.42	0.57	0.73
	9500	325.4	18.68	0.44	0.58	0.72	308.7	20.9	0.42	0.59	0.73	291.2	23.42	0.43	0.6	0.76	272.3	26.35	0.43	0.6	0.78
	11,000	332.3	18.81	0.44	0.61	0.76	315.3	21.03	0.42	0.6	0.78	296.6	23.55	0.43	0.62	0.8	277.1	26.45	0.44	0.63	0.83

DEHUMIDIFICATION SYSTEM RATINGS

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

15 TON - KGC180S4 WITH DEHUMIDIFICATION OPERATING (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)			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
63°F	4800	83.32	5.14	0.62	0.84	0.85	57.45	5.67	0.59	0.83	0.83	35.21	6.26	0.54	0.81	0.82	17.78	6.91	0.44	0.78	0.79
	6000	89.21	5.17	0.70	0.84	0.85	60.13	5.73	0.68	0.83	0.84	36.50	6.32	0.66	0.81	0.82	17.69	6.95	0.60	0.78	0.80
	7200	92.48	5.22	0.76	0.85	0.85	61.87	5.78	0.75	0.83	0.84	36.94	6.36	0.74	0.82	0.82	17.03	6.99	0.71	0.79	0.80
67°F	4800	92.30	5.18	0.26	0.61	0.83	63.68	5.72	0.16	0.58	0.83	39.74	6.30	-0.01	0.55	0.82	20.47	6.92	-0.36	0.50	0.79
	6000	94.19	5.21	0.30	0.68	0.85	63.75	5.76	0.20	0.67	0.84	39.04	6.33	0.01	0.66	0.82	18.62	6.97	-0.43	0.63	0.80
	7200	95.97	5.23	0.34	0.74	0.85	63.70	5.79	0.24	0.74	0.84	37.87	6.37	0.04	0.74	0.82	17.18	7.01	-0.53	0.72	0.80
71°F	4800	107.68	5.24	-0.07	0.29	0.59	76.17	5.79	-0.22	0.21	0.58	49.87	6.37	-0.46	0.10	0.55	27.89	7.01	-0.90	-0.09	0.52
	6000	108.19	5.27	-0.08	0.34	0.67	75.11	5.82	-0.26	0.26	0.66	47.92	6.40	-0.55	0.15	0.65	25.44	7.03	-1.16	-0.07	0.64
	7200	108.40	5.30	-0.10	0.39	0.73	74.22	5.84	-0.30	0.31	0.73	46.15	6.41	-0.64	0.21	0.73	22.82	7.06	-1.45	-0.04	0.72

15 TON - KGC180S4 WITH DEHUMIDIFICATION OPERATING (FULL 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)			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
63°F	4800	131.28	7.83	0.57	0.72	0.93	107.13	8.74	0.53	0.63	0.74	79.86	9.69	0.40	0.58	0.81	59.04	10.80	0.33	0.45	0.56	
	6000	141.60	7.93	0.65	0.74	0.83	109.67	8.81	0.54	0.72	0.95	86.82	9.78	0.49	0.59	0.69	58.49	10.87	0.34	0.55	0.83	
	7200	144.70	7.97	0.65	0.82	1.06	118.75	8.90	0.62	0.70	0.78	86.74	9.85	0.49	0.68	0.97	64.57	10.97	0.46	0.51	0.62	
67°F	4800	149.51	7.93	0.50	0.59	0.72	119.50	8.80	0.39	0.55	0.80	95.65	9.78	0.33	0.44	0.60	68.78	10.86	0.19	0.38	0.67	
	6000	153.90	7.99	0.49	0.67	0.94	126.37	8.91	0.45	0.57	0.73	95.26	9.85	0.31	0.53	0.85	71.09	10.96	0.24	0.39	0.58	
	7200	161.13	8.08	0.56	0.67	0.83	126.28	8.96	0.43	0.64	0.98	99.19	9.94	0.38	0.53	0.70	67.50	10.99	0.21	0.50	0.89	
71°F	4800	161.74	7.99	0.39	0.53	0.49	136.67	8.91	0.32	0.42	0.57	106.56	9.86	0.22	0.38	0.34	83.44	10.96	0.13	0.25	0.42	
	6000	173.26	8.10	0.42	0.52	0.68	138.53	8.97	0.31	0.49	0.45	112.57	9.97	0.24	0.37	0.55	81.35	11.03	0.10	0.31	0.26	
	7200	174.83	8.13	0.41	0.59	0.60	144.67	9.08	0.35	0.47	0.67	110.34	10.01	0.20	0.43	0.45	83.74	11.11	0.11	0.29	0.53	

17.5 TON - KGC210S4 WITH DEHUMIDIFICATION OPERATING (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)			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
63°F	5600	81.20	6.68	0.67	0.88	1.00	49.89	7.26	0.49	0.75	0.94	26.26	7.84	0.24	0.54	0.76	9.75	8.45	-0.01	0.10	0.35
	7000	86.94	6.79	0.71	0.97	1.00	53.07	7.38	0.52	0.85	1.00	27.99	7.97	0.26	0.67	0.84	10.27	8.59	-0.07	0.28	0.52
	8400	91.65	6.88	0.72	1.00	1.00	55.86	7.47	0.54	0.94	1.00	29.26	8.07	0.27	0.77	0.88	10.71	8.70	-0.19	0.42	0.61
67°F	5600	95.25	6.80	0.47	0.71	0.89	60.62	7.39	0.29	0.57	0.78	34.55	7.98	0.05	0.38	0.62	14.99	8.61	-0.16	0.08	0.31
	7000	100.81	6.90	0.47	0.75	0.97	64.16	7.50	0.27	0.62	0.88	36.33	8.11	-0.03	0.40	0.74	15.42	8.73	-0.38	0.11	0.45
	8400	106.11	6.99	0.45	0.77	1.00	67.06	7.59	0.21	0.63	0.96	37.22	8.20	-0.15	0.44	0.83	15.37	8.82	-0.67	0.13	0.57
71°F	5600	109.42	6.91	0.25	0.54	0.74	72.28	7.51	0.09	0.39	0.63	43.13	8.12	-0.18	0.20	0.46	20.86	8.75	-0.40	-0.03	0.21
	7000	115.10	7.01	0.24	0.55	0.78	75.95	7.61	-0.01	0.39	0.65	44.17	8.21	-0.32	0.18	0.49	21.08	8.85	-0.75	-0.10	0.26
	8400	118.81	7.06	0.14	0.55	0.79	78.18	7.68	-0.17	0.37	0.69	45.05	8.30	-0.49	0.14	0.53	20.59	8.92	-1.16	-0.26	0.30

17.5 TON - KGC210S4 WITH DEHUMIDIFICATION OPERATING (FULL 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)			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
63°F	5600	137.35	10.22	0.54	0.74	0.92	103.75	11.21	0.51	0.74	0.96	74.55	12.25	0.46	0.75	1.00	49.22	13.37	0.37	0.76	1.00
	7000	149.10	10.41	0.60	0.82	1.00	112.20	11.42	0.57	0.84	1.00	80.75	12.47	0.53	0.87	1.00	53.17	13.60	0.45	0.91	1.00
	8400	157.91	10.55	0.64	0.89	1.00	118.74	11.57	0.62	0.92	1.00	84.96	12.63	0.58	0.97	1.00	55.80	13.77	0.51	1.00	1.00
67°F	5600	159.35	10.44	0.36	0.53	0.70	122.79	11.46	0.30	0.51	0.70	91.16	12.52	0.22	0.47	0.71	62.74	13.65	0.06	0.41	0.72
	7000	171.41	10.62	0.39	0.59	0.78	131.58	11.65	0.32	0.57	0.79	97.02	12.72	0.24	0.54	0.82	66.64	13.86	0.08	0.49	0.85
	8400	180.09	10.75	0.41	0.64	0.85	137.46	11.78	0.35	0.62	0.88	101.02	12.85	0.25	0.60	0.91	69.29	14.02	0.03	0.56	0.97
71°F	5600	181.64	10.65	0.20	0.37	0.52	142.08	11.68	0.11	0.32	0.50	107.01	12.75	0.03	0.26	0.47	76.06	13.90	-0.15	0.16	0.43
	7000	192.77	10.82	0.21	0.40	0.58	149.42	11.84	0.14	0.36	0.57	113.10	12.93	-0.07	0.28	0.54	79.68	14.09	-0.29	0.19	0.51
	8400	201.05	10.92	0.13	0.42	0.63	157.25	11.99	0.04	0.37	0.61	115.67	13.03	-0.08	0.31	0.60	80.81	14.17	-0.29	0.20	0.58

DEHUMIDIFICATION SYSTEM RATINGS

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 - KGC240S4 WITH DEHUMIDIFICATION OPERATING (PART LOAD)

Entering Wet Bulb Temp- erature	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
63°F	6400	101.73	7.17	0.62	0.81	0.94	68.26	7.91	0.48	0.70	0.85	40.64	8.66	0.27	0.54	0.70	19.30	9.40	0.03	0.28	0.46
	8000	108.45	7.26	0.65	0.88	0.98	72.52	8.01	0.51	0.79	0.89	42.78	8.77	0.32	0.65	0.76	20.35	9.53	0.02	0.41	0.56
	9600	113.77	7.32	0.68	0.94	1.00	76.37	8.09	0.54	0.85	0.91	45.96	8.86	0.34	0.73	0.79	21.09	9.63	-0.01	0.50	0.61
67°F	6400	115.36	7.26	0.46	0.65	0.82	79.97	8.03	0.31	0.54	0.72	49.34	8.77	0.12	0.38	0.59	26.53	9.55	-0.12	0.16	0.39
	8000	122.44	7.35	0.47	0.70	0.89	84.96	8.12	0.30	0.57	0.80	52.49	8.88	0.08	0.41	0.70	27.03	9.67	-0.24	0.20	0.51
	9600	128.54	7.42	0.44	0.72	0.95	88.08	8.19	0.27	0.61	0.88	54.15	8.97	-0.01	0.46	0.77	27.17	9.74	-0.40	0.24	0.59
71°F	6400	129.89	7.36	0.29	0.51	0.68	92.25	8.13	0.12	0.39	0.58	59.75	8.91	-0.08	0.23	0.45	33.17	9.68	-0.30	0.04	0.27
	8000	136.23	7.44	0.26	0.52	0.73	95.54	8.21	0.09	0.40	0.61	60.97	8.98	-0.21	0.22	0.49	32.94	9.76	-0.58	0.00	0.32
	9600	140.58	7.48	0.19	0.52	0.74	98.41	8.27	-0.05	0.38	0.65	62.05	9.05	-0.27	0.21	0.53	32.94	9.85	-0.70	-0.09	0.36

20 TON - KGC240S4 WITH DEHUMIDIFICATION OPERATING (FULL 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)			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
63°F	6400	172.37	11.59	0.51	0.68	0.83	139.02	12.77	0.47	0.65	0.83	108.13	14.03	0.42	0.63	0.82	80.01	15.41	0.34	0.60	0.81
	8000	184.56	11.78	0.57	0.76	0.89	148.80	12.98	0.54	0.75	0.87	115.40	14.26	0.49	0.74	0.85	84.84	15.64	0.42	0.72	0.82
	9600	194.36	11.93	0.63	0.83	0.90	156.68	13.14	0.59	0.82	0.88	121.78	14.44	0.55	0.81	0.86	89.75	15.84	0.50	0.79	0.83
67°F	6400	195.24	11.83	0.36	0.51	0.65	160.43	13.03	0.30	0.47	0.63	127.02	14.31	0.23	0.43	0.61	96.16	15.70	0.14	0.37	0.59
	8000	207.09	12.00	0.39	0.57	0.74	169.35	13.22	0.34	0.54	0.72	134.05	14.52	0.26	0.50	0.71	101.17	15.92	0.17	0.45	0.70
	9600	216.37	12.13	0.42	0.62	0.81	176.71	13.37	0.37	0.60	0.80	138.63	14.66	0.29	0.56	0.79	103.69	16.07	0.20	0.52	0.78
71°F	6400	217.93	12.06	0.22	0.37	0.50	180.68	13.27	0.16	0.32	0.47	146.30	14.58	0.08	0.26	0.43	113.10	15.98	-0.03	0.19	0.39
	8000	230.10	12.23	0.24	0.41	0.56	190.18	13.45	0.18	0.36	0.53	152.25	14.76	0.08	0.30	0.50	116.87	16.17	-0.04	0.23	0.46
	9600	237.96	12.34	0.25	0.44	0.61	195.80	13.57	0.18	0.40	0.59	156.91	14.89	0.06	0.33	0.57	119.51	16.31	-0.09	0.26	0.53

25 TON - KGC300S4 WITH DEHUMIDIFICATION OPERATING (PART LOAD)

Entering Wet Bulb Tem- perature	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
63°F	8000	90.50	7.63	0.78	1.00	1.00	50.46	8.23	0.73	1.00	1.00	21.46	8.84	0.65	1.00	1.00	3.87	9.42	0.33	1.00	1.00
	9500	98.23	7.77	0.87	1.00	1.00	55.06	8.40	0.85	1.00	1.00	24.00	9.01	0.84	1.00	1.00	5.20	9.61	0.66	1.00	1.00
	11000	103.49	7.90	0.95	1.00	1.00	58.09	8.52	0.97	1.00	1.00	25.45	9.14	0.99	1.00	1.00	5.71	9.75	0.94	1.00	1.00
67°F	8000	105.42	7.79	0.45	0.78	1.00	60.17	8.38	0.32	0.75	1.00	26.80	8.97	0.06	0.70	1.00	5.93	9.54	-0.69	0.60	1.00
	9500	107.51	7.88	0.48	0.86	1.00	60.65	8.48	0.36	0.85	1.00	26.68	9.07	0.07	0.85	1.00	5.94	9.65	-0.84	0.83	1.00
	11000	108.36	7.95	0.52	0.94	1.00	60.56	8.55	0.38	0.96	1.00	26.22	9.16	0.08	0.98	1.00	5.82	9.76	-1.26	1.00	1.00
71°F	8000	126.35	7.99	0.20	0.49	0.77	76.34	8.61	0.02	0.40	0.75	38.12	9.22	-0.37	0.24	0.72	11.82	9.82	-1.09	-0.07	0.67
	9500	128.22	8.08	0.14	0.54	0.85	76.97	8.70	-0.07	0.44	0.85	37.83	9.32	-0.70	0.28	0.85	11.67	9.92	-1.43	-0.07	0.86
	11000	128.73	8.15	0.04	0.58	0.92	76.38	8.78	-0.10	0.48	0.94	36.75	9.40	-0.55	0.33	0.97	11.11	10.01	-1.83	-0.06	1.00

25 TON - KGC300S4 WITH DEHUMIDIFICATION OPERATING (FULL 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)			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
63°F	8000	220.06	15.16	0.59	0.92	1.00	180.82	16.61	0.60	1.00	1.00	143.42	18.15	0.52	1.00	1.00	107.89	19.81	0.42	1.00	1.00	
	9500	225.34	15.42	0.63	1.00	1.00	183.65	16.87	0.66	1.00	1.00	143.69	18.42	0.60	1.00	1.00	106.05	20.09	0.50	1.00	1.00	
	11000	227.41	15.61	0.67	1.00	1.00	183.97	17.08	0.71	1.00	1.00	142.26	18.63	0.65	1.00	1.00	103.53	20.32	0.59	1.00	1.00	
67°F	8000	244.80	15.49	0.30	0.57	0.81	203.48	16.94	0.22	0.57	0.93	164.10	18.50	0.03	0.58	1.00	127.22	20.21	-0.26	0.50	1.00	
	9500	249.78	15.73	0.27	0.60	0.89	206.07	17.20	0.19	0.64	1.00	164.79	18.78	0.03	0.62	1.00	125.53	20.48	-0.29	0.58	1.00	
	11000	251.47	15.93	0.28	0.64	0.95	206.16	17.40	0.19	0.70	1.00	162.92	18.98	-0.01	0.67	1.00	121.30	20.67	-0.37	0.66	1.00	
71°F	8000	272.42	15.85	0.06	0.30	0.53	229.64	17.34	-0.10	0.25	0.55	188.77	18.93	-0.28	0.17	0.54	149.82	20.66	-0.67	-0.07	0.54	
	9500	277.43	16.10	0.01	0.29	0.57	232.35	17.60	-0.15	0.26	0.59	188.63	19.18	-0.41	0.13	0.62	147.14	20.90	-0.80	-0.07	0.55	
	11000	278.75	16.29	-0.05	0.32	0.59	232.08	17.79	-0.17	0.24	0.65	186.53	19.37	-0.45	0.13	0.70	144.03	21.11	-0.99	-0.08	0.66	

BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL & AIR FILTERS IN PLACE
FOR ALL UNITS ADD:

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

Then determine from blower table blower motor output and drive required.

See page 26 for wet coil, option/accessory air resistance data, and factory installed drive kit specifications.

Minimum Air Volume Required For Different Gas Heat Sizes:

Standard and Medium Heat - 4500 cfm minimum; High Heat - 5125 cfm minimum

Air Volume cfm	TOTAL STATIC PRESSURE - Inches Water Gauge (Pa)																	
	0.20		0.40		0.60		0.80		1.00		1.20		1.40		1.60		1.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2750	385	0.30	505	0.50	600	0.70	680	0.90	755	1.10	820	1.30	885	1.50	950	1.70	1015	1.90
3000	395	0.35	515	0.55	610	0.75	685	1.00	760	1.20	825	1.45	890	1.65	955	1.85	1020	2.05
3250	405	0.40	520	0.60	615	0.85	695	1.10	765	1.30	830	1.60	895	1.80	960	2.00	1025	2.20
3500	415	0.45	530	0.70	620	0.95	700	1.20	775	1.45	840	1.70	900	1.90	965	2.10	1030	2.30
3750	425	0.50	540	0.75	630	1.05	710	1.30	780	1.60	845	1.85	905	2.05	970	2.25	1035	2.45
4000	435	0.55	545	0.85	635	1.10	715	1.40	785	1.70	850	2.00	910	2.20	975	2.40	1040	2.60
4250	445	0.60	555	0.90	645	1.25	725	1.55	795	1.85	855	2.15	915	2.35	980	2.55	1045	2.75
4500	455	0.70	565	1.00	655	1.35	730	1.65	800	2.00	865	2.35	925	2.55	990	2.75	1050	2.95
4750	470	0.75	575	1.10	660	1.45	740	1.80	810	2.15	870	2.50	930	2.70	995	2.90	1055	3.10
5000	480	0.85	585	1.25	670	1.60	750	1.95	815	2.30	880	2.70	940	2.90	1005	3.10	1060	3.30
5250	495	0.95	595	1.35	680	1.70	755	2.10	825	2.50	890	2.90	945	3.10	1005	3.30	1065	3.50
5500	505	1.05	605	1.45	690	1.85	765	2.25	835	2.65	895	3.05	955	3.25	1015	3.45	1070	3.60
5750	520	1.15	615	1.60	700	2.00	775	2.45	840	2.85	905	3.25	960	3.45	1020	3.65	1075	3.80
6000	530	1.30	630	1.75	710	2.15	785	2.60	850	3.05	910	3.45	970	3.65	1025	3.85	1080	4.00
6250	545	1.40	640	1.90	720	2.35	795	2.80	860	3.25	920	3.70	980	3.85	1030	4.05	1085	4.15
6500	560	1.55	650	2.05	730	2.50	805	3.00	870	3.45	930	3.95	985	4.10	1035	4.25	1090	4.30
6750	570	1.70	665	2.20	745	2.70	815	3.20	880	3.70	940	4.20	995	4.35	1040	4.40	1095	4.40
7000	585	1.85	675	2.35	755	2.90	825	3.40	890	3.95	950	4.45	1005	4.55	1045	4.50	1100	4.50
7250	600	2.00	690	2.60	765	3.10	835	3.65	900	4.15	955	4.65	1015	4.75	1055	4.65	1105	4.60
7500	615	2.20	700	2.75	775	3.30	845	3.85	910	4.45	965	4.95	1020	4.90	1060	4.80	1110	4.70
7750	630	2.40	715	3.00	790	3.55	855	4.10	920	4.70	975	5.25	1030	5.10	1070	5.00	1115	4.80
8000	640	2.55	725	3.20	800	3.80	865	4.35	930	4.95	985	5.50	1040	5.30	1080	5.20	1120	4.90
8250	655	2.80	740	3.40	810	4.00	880	4.65	940	5.25	995	5.85	1050	5.55	1090	5.45	1125	5.00
8500	670	3.00	750	3.65	825	4.30	890	4.90	950	5.55	1005	6.15	1060	5.85	1100	5.75	1130	5.20
8750	685	3.25	765	3.90	835	4.55	900	5.20	960	5.85	1015	6.45	1070	6.15	1110	6.05	1135	5.40
9000	700	3.50	780	4.20	850	4.85	910	5.50	970	6.15	1025	6.80	1080	6.45	1120	6.35	1140	5.60
9250	715	3.75	790	4.45	860	5.15	925	5.85	985	6.55	1040	7.20	1090	6.75	1130	6.65	1145	5.80
9500	730	4.00	805	4.75	875	5.45	935	6.15	995	6.90	1050	7.60	1100	7.05	1140	6.95	1150	6.00
9750	745	4.30	820	5.05	885	5.75	950	6.55	1005	7.20	1060	7.95	1110	7.35	1150	7.25	1155	6.20
10,000	760	4.60	835	5.40	900	6.15	960	6.85	1015	7.60	1070	8.35	1120	7.65	1160	7.55	1160	6.40
10,250	775	4.90	845	5.65	910	6.45	970	7.20	1030	8.00	1080	8.75	1135	7.95	1170	7.85	1165	6.60
10,500	790	5.20	860	6.00	925	6.85	985	7.65	1040	8.40	1095	9.20	1145	8.30	1180	8.15	1170	6.80
10,750	805	5.55	875	6.40	940	7.25	1000	8.05	1055	8.85	1105	9.65	1155	8.70	1190	8.55	1175	7.00
11,000	820	5.90	890	6.80	950	7.60	1010	8.45	1065	9.30	1115	10.05	1165	9.10	1200	8.95	1180	7.20

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Nominal hp	Maximum hp	Drive Kit Number	RPM Range
3	3.45	1	535 - 725
3	3.45	2	710 - 965
5	5.75	3	685 - 856
5	5.75	4	850 - 1045
5	5.75	5	945 - 1185
7.5	8.63	6	850 - 1045
7.5	8.63	7	945 - 1185
7.5	8.63	8	1045 - 1285
10	11.50	7	945 - 1185
10	11.50	10	1045 - 1285
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 - Motor service factor limit - 1.0.

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

Air Volume cfm	Wet Indoor Coil		Reheat Coil	Gas Heat Exchanger			Economizer	Filters			Horizontal Roof Curb	
	180	210 240 300		Standard Heat	Medium Heat	High Heat		MERV 8	MERV 13		180 thru 240	300
2750	.01	.02	.01	.02	.04	.05	---	.01	.03		.03	---
3000	.01	.02	.01	.03	.04	.05	---	.01	.03		.04	---
3250	.01	.03	.01	.03	.05	.06	---	.01	.04		.04	.01
3500	.01	.03	.02	.03	.05	.06	---	.01	.04		.05	.01
3750	.01	.03	.02	.04	.06	.07	---	.01	.04		.05	.01
4000	.02	.04	.02	.04	.06	.07	---	.01	.04		.06	.02
4250	.02	.04	.02	.04	.06	.08	---	.01	.05		.07	.02
4500	.02	.05	.02	.05	.07	.09	---	.01	.05		.07	.02
4750	.02	.05	.02	.05	.08	.10	---	.02	.05		.08	.03
5000	.02	.05	.02	.05	.09	.11	---	.02	.06		.08	.03
5250	.02	.06	.03	.06	.10	.12	---	.02	.06		.09	.04
5500	.02	.07	.03	.06	.10	.13	---	.02	.06		.10	.04
5750	.03	.07	.03	.06	.11	.14	---	.02	.07		.11	.05
6000	.03	.08	.03	.07	.12	.15	---	.03	.07		.11	.06
6250	.03	.08	.03	.07	.12	.16	.01	.03	.07		.12	.07
6500	.03	.09	.04	.08	.13	.17	.02	.03	.08		.13	.08
6750	.04	.10	.04	.08	.14	.18	.03	.03	.08		.14	.08
7000	.04	.10	.04	.09	.15	.19	.04	.04	.08		.15	.09
7250	.04	.11	.04	.09	.16	.20	.05	.04	.09		.16	.10
7500	.05	.12	.05	.10	.17	.21	.06	.04	.09		.17	.11
8000	.05	.13	.05	.11	.19	.24	.09	.05	.10		.19	.13
8500	.06	.15	.05	.12	.20	.26	.11	.05	.10		.21	.15
9000	.07	.16	.06	.13	.23	.29	.14	.06	.11		.24	.17
9500	.08	.18	.07	.14	.25	.32	.16	.07	.12		.26	.19
10,000	.08	.20	.07	.16	.27	.35	.19	.07	.12		.29	.21
10,500	.09	.22	.08	.17	.30	.38	.22	.08	.13		.31	.24
11,000	.11	.24	.08	.18	.31	.40	.25	.09	.14		.34	.27

BLOWER DATA

CEILING DIFFUSER AIR RESISTANCE - in. w.g.

Air Volume cfm	Step-Down Diffuser						Flush Diffuser	
	RTD11-185S			RTD11-275S			FD11-185S	FD11-275S
	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			RTD11-275S Step-Down	FD11-275S Flush	
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 outlet or diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

¹ Throw is the horizontal or vertical distance an airstream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. 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 | 17.5 TON

Model No.		KGC180S4								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 2 (Non-Inverter)	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 3 (Non-Inverter)	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Outdoor Fan Motors (3)	Full Load Amps (3 Non-ECM)	2.4			1.3			1		
	Total	7.2			3.9			3		
Power Exhaust (2) 0.33 HP	Full Load Amps	2.4			1.3			1		
	Total	4.8			2.6			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 (MOCP)	Unit Only	70	80	100	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 (MCA)	Unit Only	61	68	78	30	33	37	23	26	29
	With (2) 0.33 HP Power Exhaust	66	73	82	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.

Model No.		KGC210S4								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 2 (Non-Inverter)	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 3 (Non-Inverter)	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Outdoor Fan Motors (3)	Full Load Amps (3 Non-ECM)	2.4			1.3			1		
	Total	7.2			3.9			3		
Power Exhaust (2) 0.33 HP	Full Load Amps	2.4			1.3			1		
	Total	4.8			2.6			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 (MOCP)	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 (MCA)	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.

ELECTRICAL DATA

20 TON | 25 TON

Model No.		KGC240S4								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	22.6			10			7.5		
	Locked Rotor Amps	166.2			74.6			54		
Compressor 2 (Non-Inverter)	Rated Load Amps	22.6			10			7.5		
	Locked Rotor Amps	166.2			74.6			54		
Compressor 3 (Non-Inverter)	Rated Load Amps	25			12.8			9.6		
	Locked Rotor Amps	164			100			78		
Outdoor Fan Motors (4)	Full Load Amps (4 Non-ECM)	2.4			1.3			1		
	Total	9.6			5.2			4		
Power Exhaust (2) 0.33 HP	Full Load Amps	2.4			1.3			1		
	Total	4.8			2.6			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 (MOCP)	Unit Only	125	125	125	60	60	60	45	45	50
	With (2) 0.33 HP Power Exhaust	125	125	150	60	60	70	45	50	50
³ Minimum Circuit Ampacity (MCA)	Unit Only	103	111	119	49	53	56	38	40	43
	With (2) 0.33 HP Power Exhaust	108	116	124	52	55	59	40	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.

Model No.		KGC300S4								
¹ Voltage - 60Hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1 (Non-Inverter)	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 2 (Non-Inverter)	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 3 (Non-Inverter)	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 4 (Non-Inverter)	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Outdoor Fan Motors (6)	Full Load Amps (6 Non-ECM)	2.4			1.3			1		
	Total	14.4			7.8			6		
Power Exhaust (2) 0.33 HP	Full Load Amps	2.4			1.3			1		
	Total	4.8			2.6			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 (MOCP)	Unit Only	125	150	150	60	70	70	50	50	50
	With (2) 0.33 HP Power Exhaust	150	150	150	60	70	70	50	50	60
³ Minimum Circuit Ampacity (MCA)	Unit Only	121	129	137	56	60	63	43	46	49
	With (2) 0.33 HP Power Exhaust	126	134	142	59	62	66	45	48	51

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

15 TON | KGC180S4

Motor Horsepower	3		5		7.5		3	5	7.5	3	5	7.5
	208V	230V	208V	230V	208V	230V	460V	460V	460V	575V	575V	575V
Unit Only	54W91	54W91	54W91	54W91	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W91	54W91	54W91	54W91	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91

17.5 TON | KGC210S4

Motor Horsepower	3		5		7.5		3	5	7.5	3	5	7.5
	208V	230V	208V	230V	208V	230V	460V	460V	460V	575V	575V	575V
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

20 TON | KGC240S4

Motor Horsepower	5		7.5		10		5	7.5	10	5	7.5	10
	208V	230V	208V	230V	208V	230V	460V	460V	460V	575V	575V	575V
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

25 TON | KGC300S4

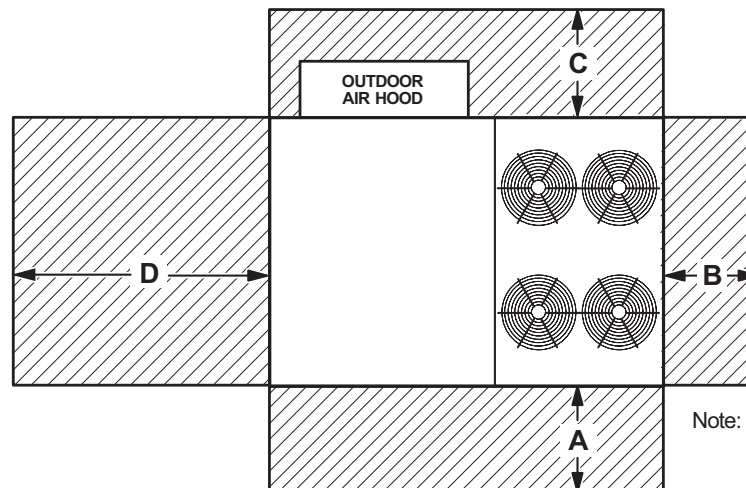
Motor Horsepower	5		7.5		10		5	7.5	10	5	7.5	10
	208V	230V	208V	230V	208V	230V	460V	460V	460V	575V	575V	575V
Unit Only	54W92	54W92	54W92	54W92	54W92	54W92	54W91	54W91	54W91	54W91	54W91	54W91
Unit w/ Power Exhaust	54W92	54W92	54W92	54W92	54W93	54W93	54W91	54W91	54W91	54W91	54W91	54W91

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

UNIT CLEARANCES

Unit With Economizer



Note: Models with four outdoor fans shown.
Dimension clearances are for all sizes.

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.

OUTDOOR SOUND DATA

Unit Model Number	Octave Band Sound Power Levels dBA, re 10 ⁻¹² Watts - Center Frequency - Hz							¹ Sound Rating Number (SRN) (dBA)
	125	250	500	1000	2000	4000	8000	
180, 210	71	78	81	81	76	71	63	86
240	80	83	87	88	84	80	71	93
300	79	84	88	89	85	82	73	94

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).

WEIGHT DATA

Model Number	Outdoor Coil	Net		Shipping		Outdoor Coil	Net		Shipping	
		lbs.	kg	lbs.	kg		lbs.	kg	lbs.	kg
180S Base Unit	Eco-Last™	1884	855	2084	945	Fin/Tube	1930	875	2130	966
180S Max. Unit	Eco-Last™	2204	1000	2404	1090	Fin/Tube	2250	1021	2450	1111
210S Base Unit	Eco-Last™	2044	927	2244	1018	Fin/Tube	2090	948	2290	1039
210S Max. Unit	Eco-Last™	2374	1077	2574	1167	Fin/Tube	2420	1098	2620	1188
240S Base Unit	Eco-Last™	2216	1005	2416	1096	Fin/Tube	2296	1041	2496	1132
240S Max. Unit	Eco-Last™	2546	1155	2746	1246	Fin/Tube	2626	1191	2826	1282
300S Base Unit	Eco-Last™	2460	1116	2660	1207	Fin/Tube	2525	1145	2725	1236
300S Max. Unit	Eco-Last™	2750	1247	2950	1338	Fin/Tube	2815	1277	3015	1368

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

	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

Motorized	52	24
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)	54	25
High Heat (adder over standard heat)	90	41

COIL/HAIL GUARDS

Eco-Last™ Coil System	180/210	30	13
	240/300	36	16
Fin/Tube Condenser Coil	180/210	30	14
	240/300	36	17

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
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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

DEHUMIDIFICATION SYSTEM

Dehumidification Option (Net Weight)	50	23
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DIMENSIONS - UNIT

KGC180 | KGC210

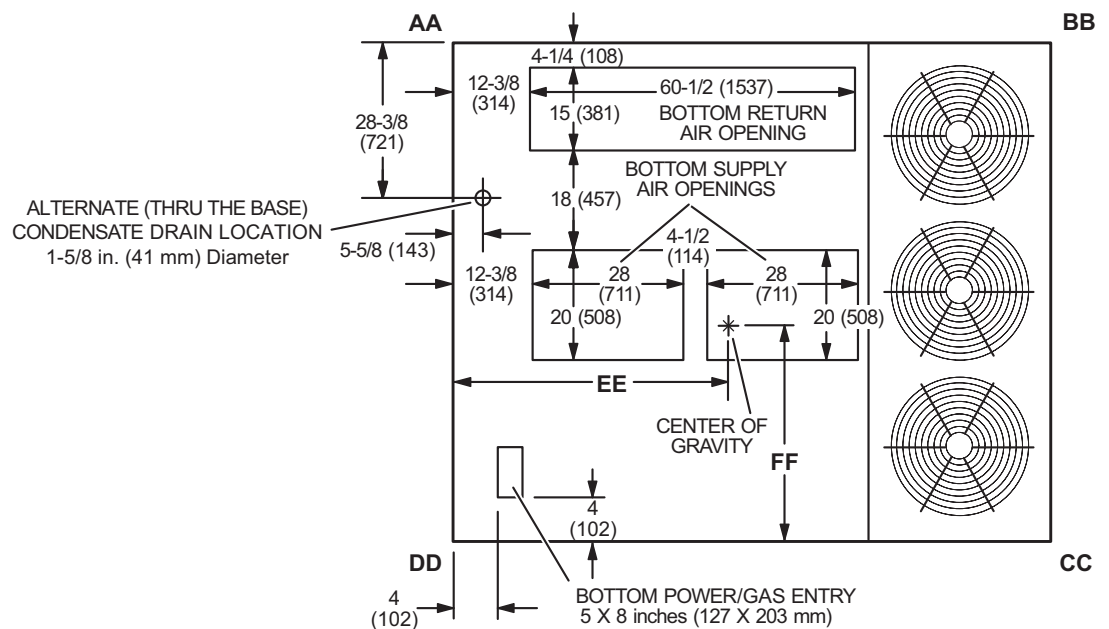
CORNER WEIGHTS

CENTER OF GRAVITY

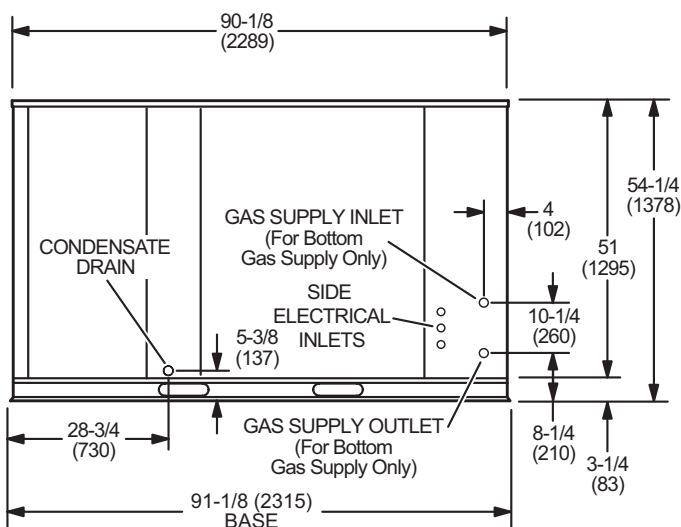
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
KGC180S Base Unit (Eco-Last™ Coil)	426	194	378	172	508	231	572	260	50-5/8	1286	38-7/8	987
KGC180S Max. Unit (Eco-Last™ Coil)	541	246	452	206	551	251	659	300	49	1247	41	1043
KGC180S Base Unit (Fin/Tube Coil)	458	208	385	175	497	226	591	268	49-1/4	1250	39-3/4	1011
KGC180S Max. Unit (Fin/Tube Coil)	581	264	475	216	537	244	657	299	48-1/2	1231	42-3/4	1086
KGC210S Base Unit (Eco-Last™ Coil)	468	213	419	190	546	248	611	278	50-7/8	1292	39-1/2	1004
KGC210S Max. Unit (Eco-Last™ Coil)	593	270	499	227	585	266	696	317	49-1/4	1250	42	1065
KGC210S Base Unit (Fin/Tube Coil)	489	222	427	194	547	249	627	285	50-1/4	1276	40	1015
KGC210S Max. Unit (Fin/Tube Coil)	617	280	521	237	587	267	695	316	49-3/8	1253	42-7/8	1088

Base Unit - The unit with NO INTERNAL OPTIONS.

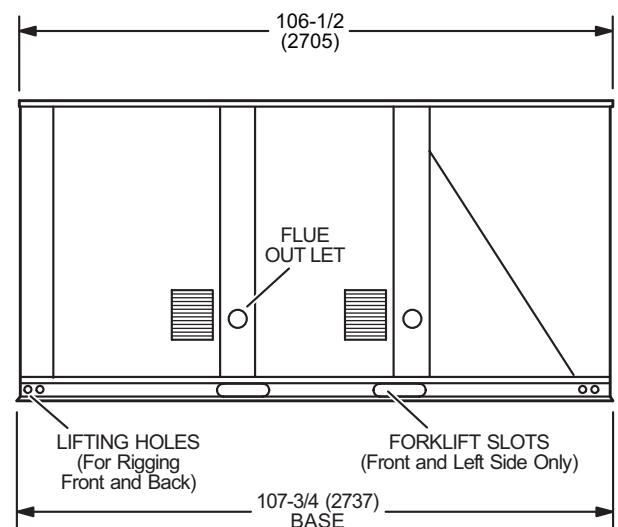
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW



END VIEW



SIDE VIEW

DIMENSIONS - UNIT

KGC240

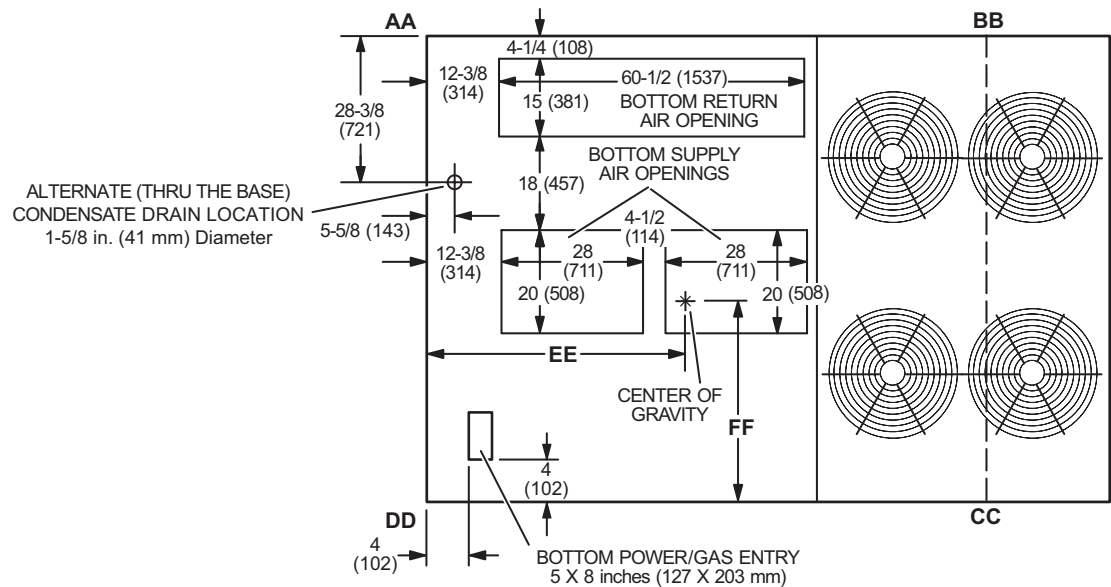
CORNER WEIGHTS

CENTER OF GRAVITY

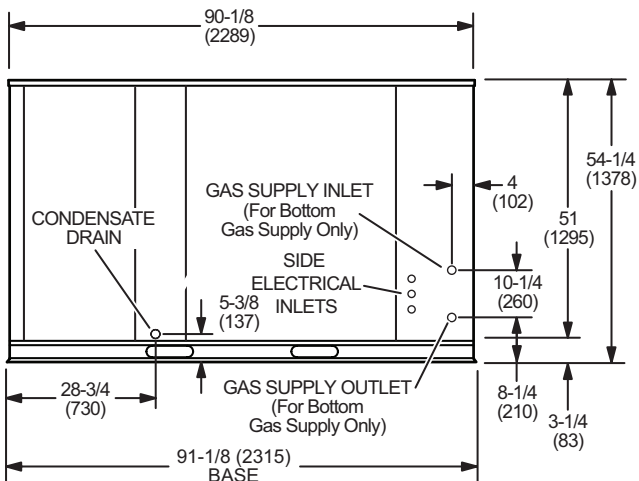
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
KGC240S Base Unit (Eco-Last™ Coil)	466	212	437	199	635	289	677	308	52-1/8	1325	37-1/8	944
KGC240S Max. Unit (Eco-Last™ Coil)	576	262	524	238	689	313	758	344	51-1/4	1303	39-3/8	1000
KGC240S Base Unit (Fin/Tube Coil)	501	228	495	225	646	293	654	297	53-1/2	1359	39-1/2	1004
KGC240S Max. Unit (Fin/Tube Coil)	624	284	587	267	686	312	729	331	52-1/4	1327	42	1067

Base Unit - The unit with NO INTERNAL OPTIONS.

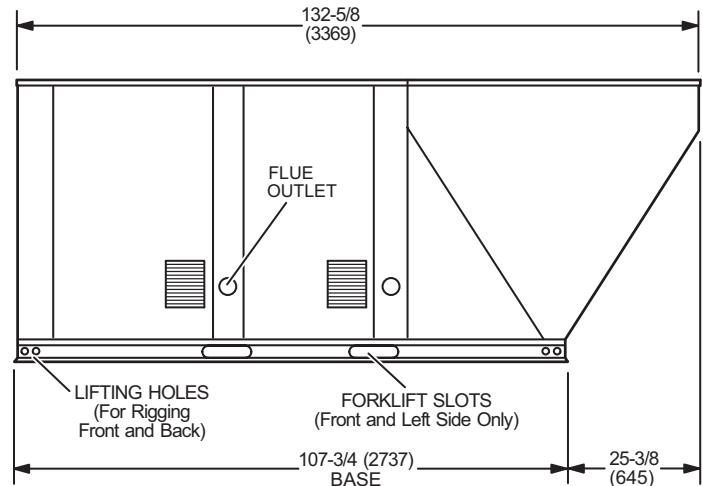
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW



END VIEW



SIDE VIEW

DIMENSIONS - UNIT

KGC300

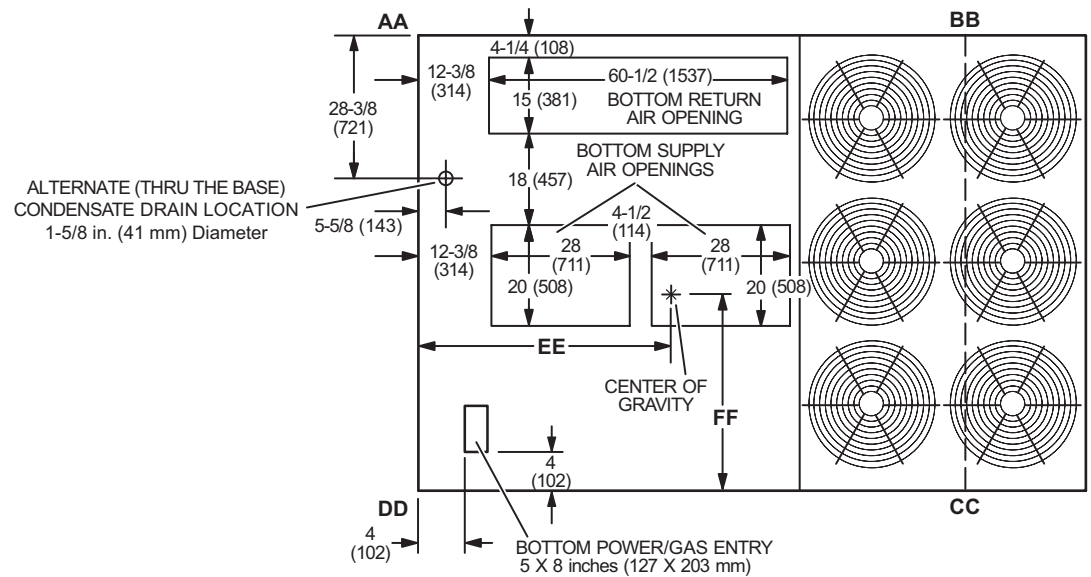
CORNER WEIGHTS

CENTER OF GRAVITY

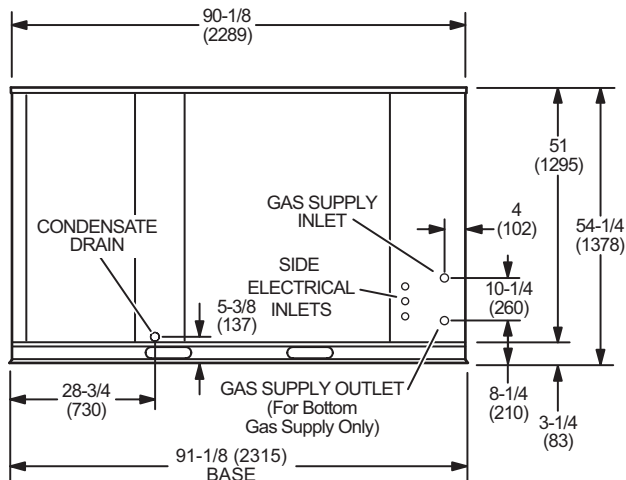
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
KGC300S Base Unit (Eco-Last™ Coil)	512	233	509	231	718	326	722	328	53-3/4	1364	37-3/4	960
KGC300S Max. Unit (Eco-Last™ Coil)	625	284	598	272	747	339	780	355	52-3/4	1339	40-1/2	1029
KGC300S Base Unit (Fin/Tube Coil)	525	239	522	237	737	335	741	337	53-3/4	1364	37-3/4	960
KGC300S Max. Unit (Fin/Tube Coil)	640	291	612	278	764	347	799	363	52-5/8	1338	40-1/2	1029

Base Unit - The unit with NO INTERNAL OPTIONS.

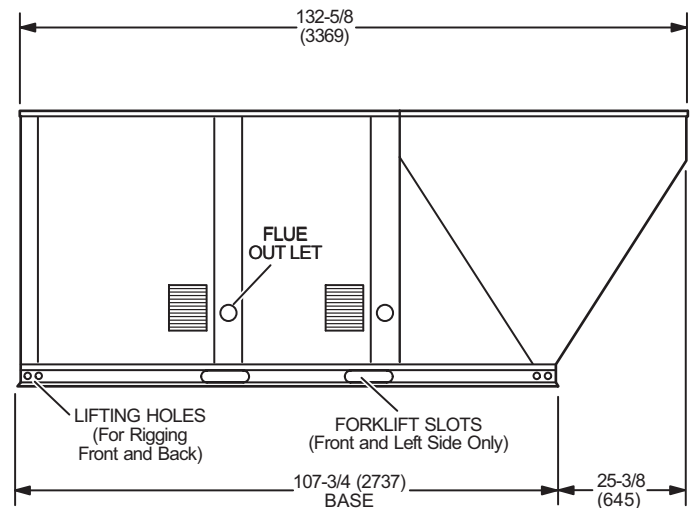
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW

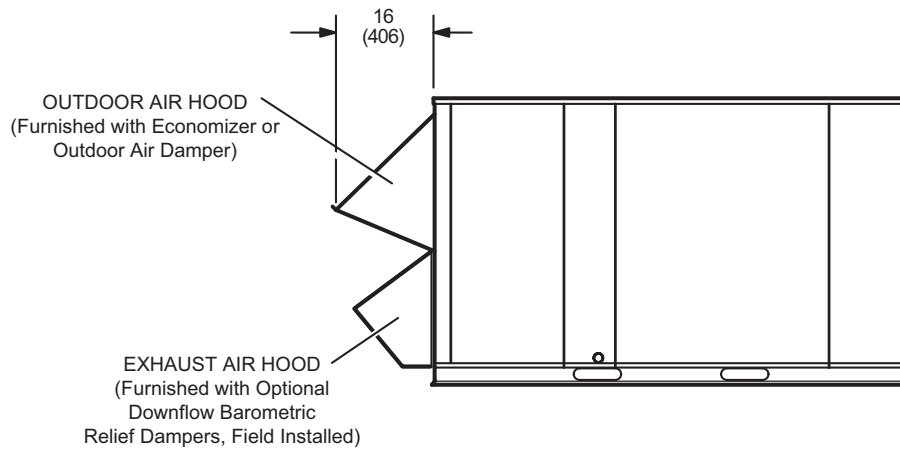


END VIEW



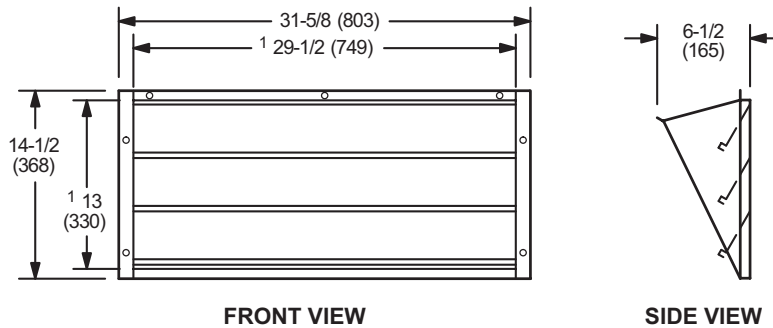
SIDE VIEW

OUTDOOR AIR HOOD DETAIL



OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD

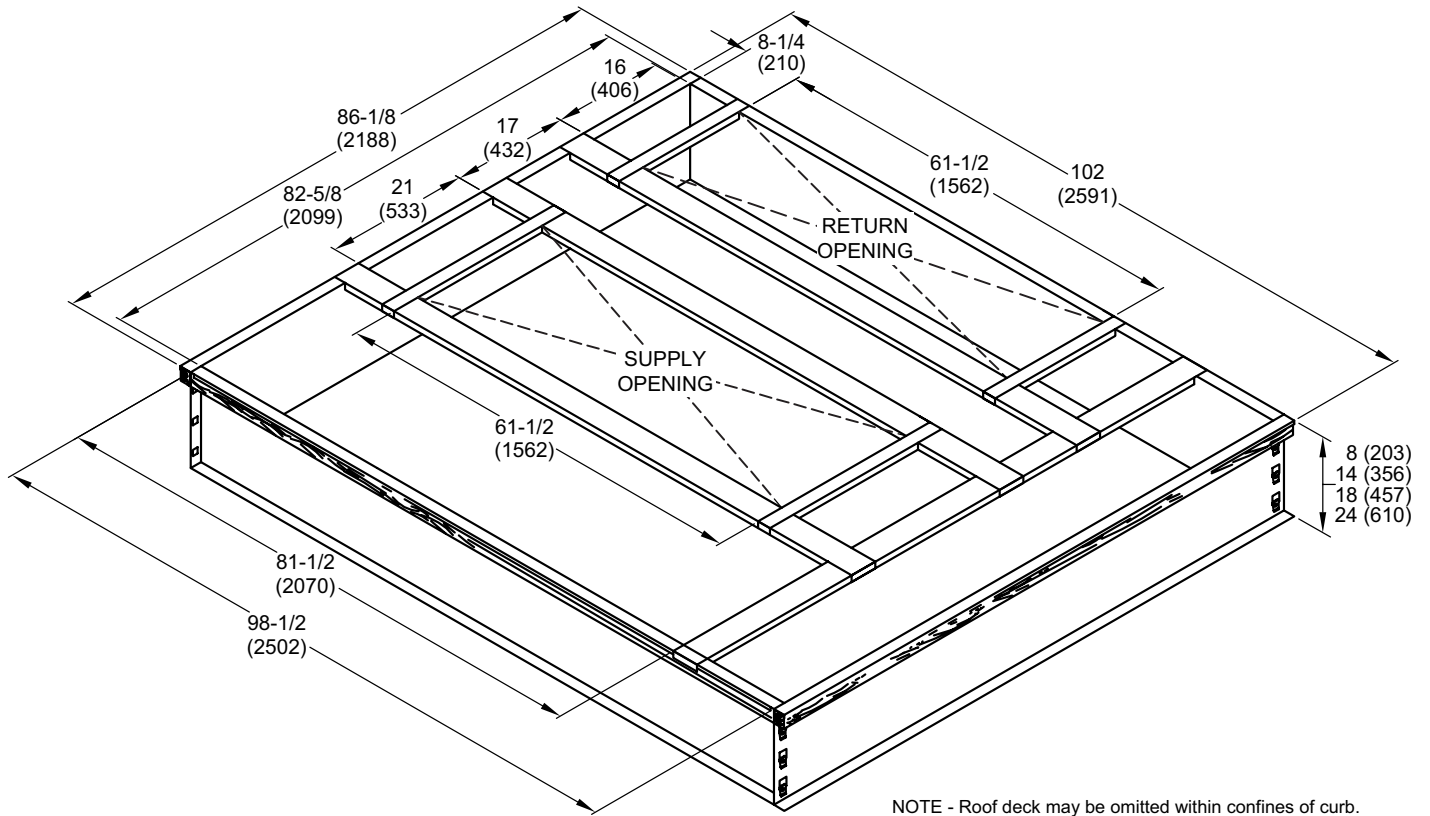
(Field installed in horizontal return air duct adjacent to unit)



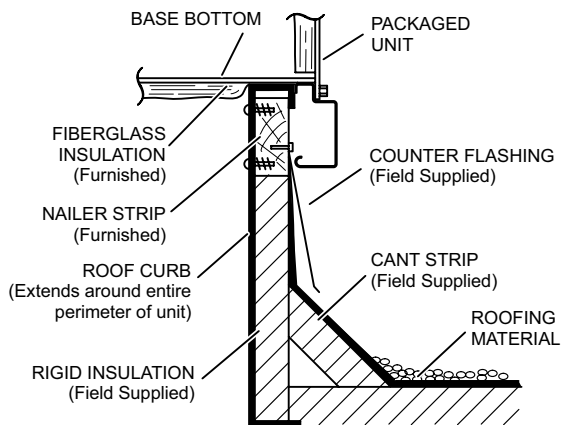
NOTE - Two furnished per order no.

¹ NOTE - Opening size required in return air duct.

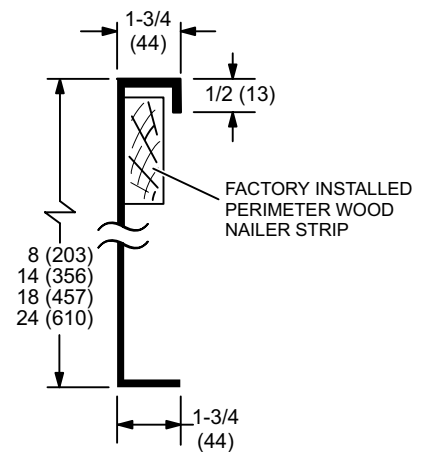
HYBRID ROOF CURBS - DOUBLE DUCT OPENING



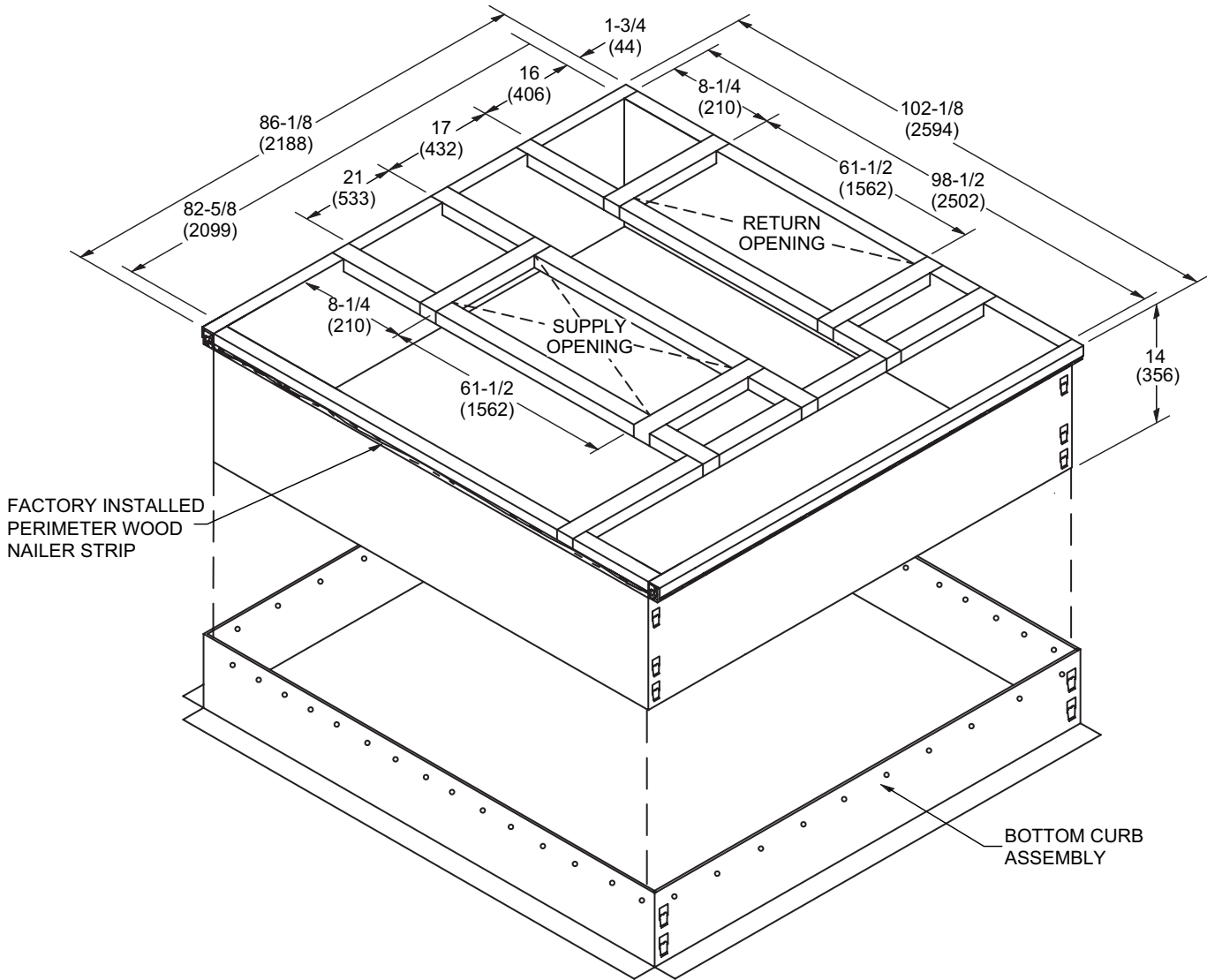
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

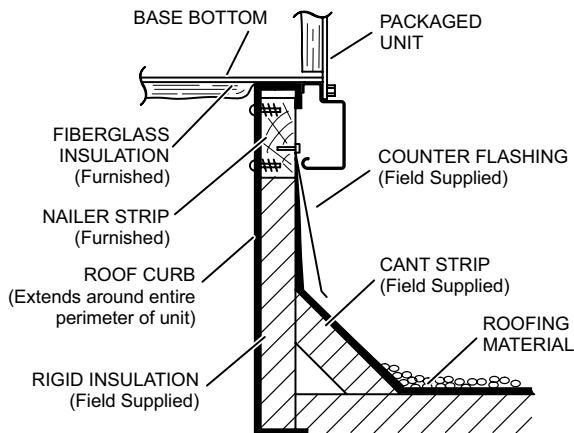


ADJUSTABLE PITCH CURB - DOUBLE DUCT OPENING

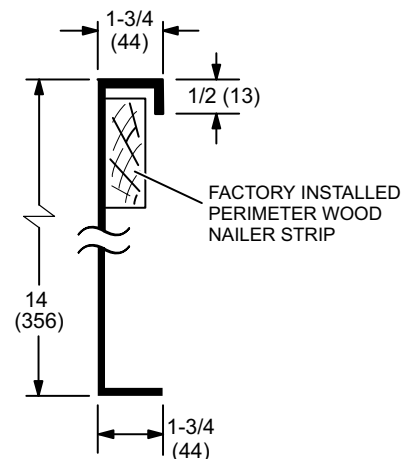


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

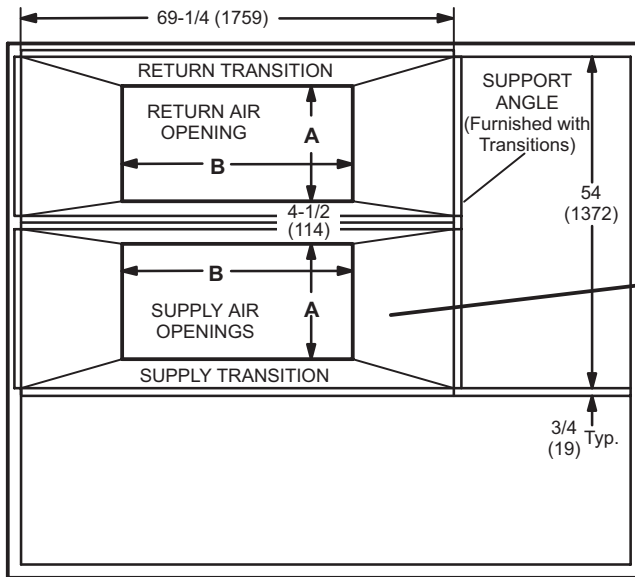
TYPICAL FLASHING DETAIL FOR ROOF CURB



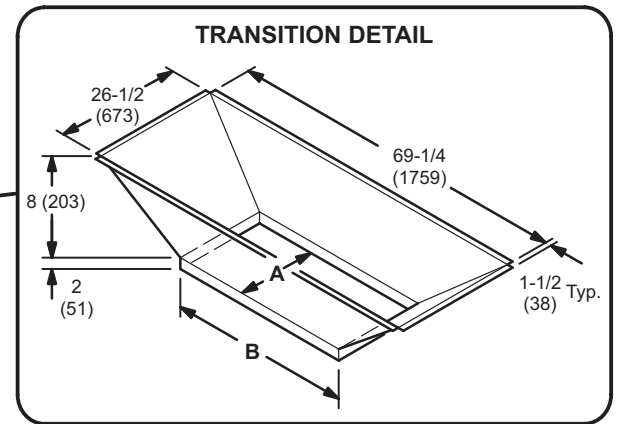
DETAIL ROOF CURB



ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS



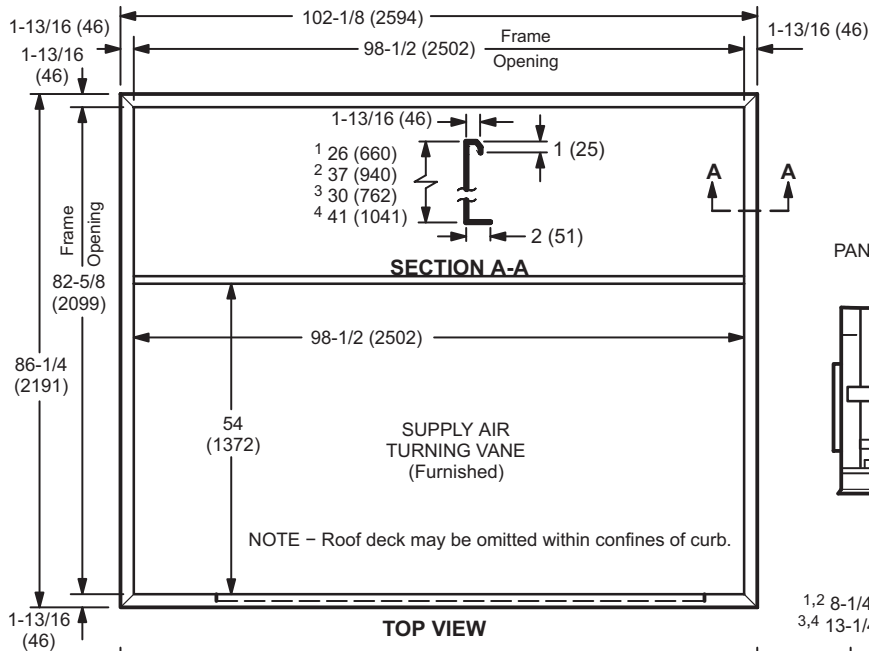
TOP VIEW



TRANSITION OPENING SIZES

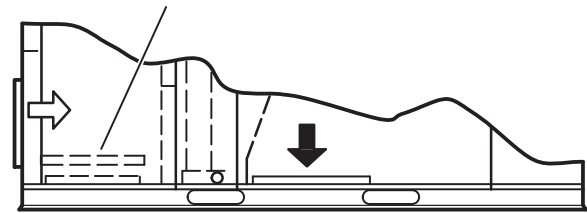
Model Number	A		B	
	inch	mm	inch	mm
C1DIFF33C-1	18	457	36	914
C1DIFF34C-1	24	610	48	1219

HORIZONTAL ROOF CURBS – Requires Optional Horizontal Return Air Panel Kit

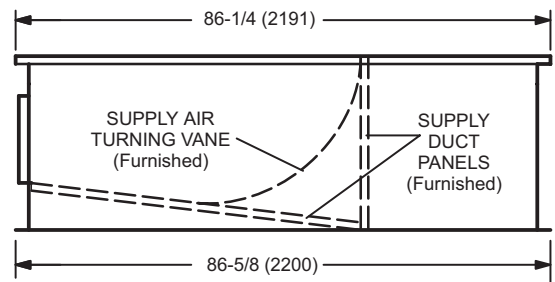


NOTE 26 in. (660 mm) and 30 in. (762 mm) height Curbs are designed for horizontal discharge when unit is mounted on a slab. 37 in. (940 mm) and 41 in. (1041 mm) height Curbs are designed for horizontal discharge when unit is mounted on a rooftop.

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

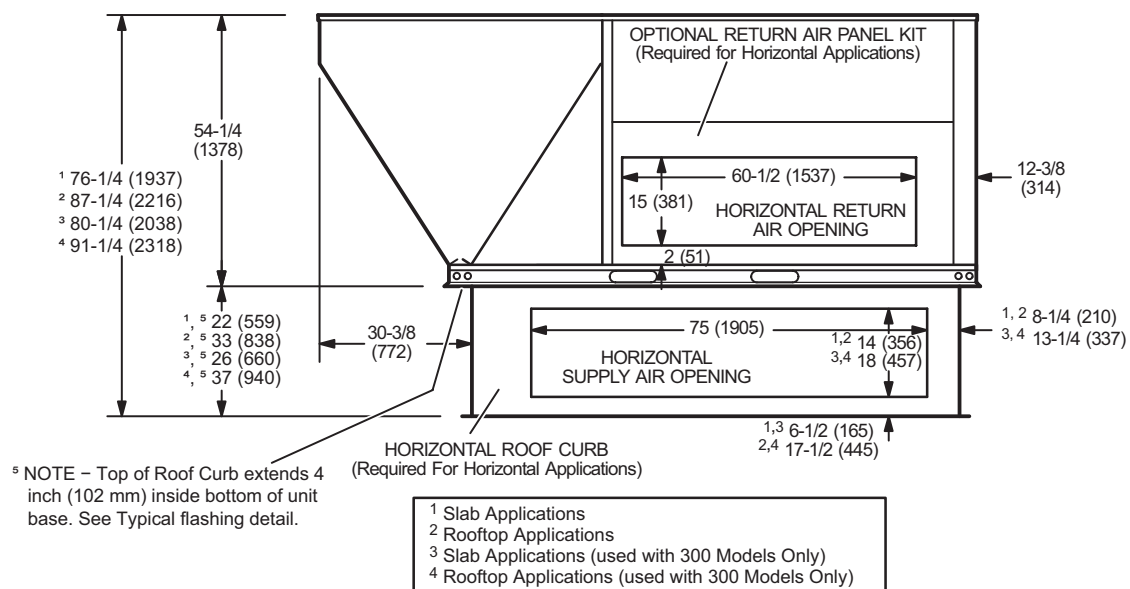


1,2 8-1/4 (210) 3,4 13-1/4 (337)



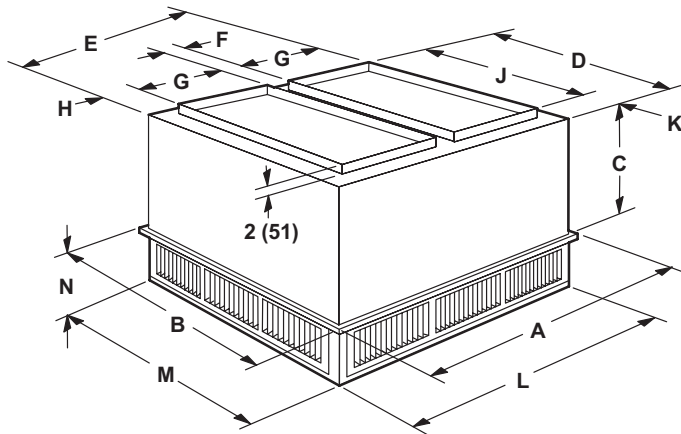
1 Slab Applications 2 Rooftop Applications 3 Slab Applications (used with 300) 4 Rooftop Applications (used with 300)

HORIZONTAL SUPPLY AND RETURN AIR OPENINGS WITH HORIZONTAL ROOF CURB

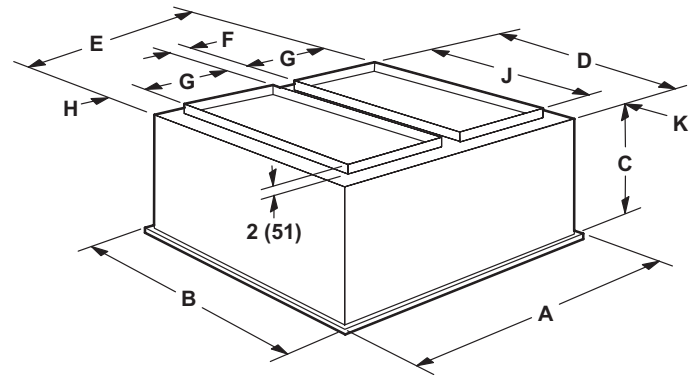


COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

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



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