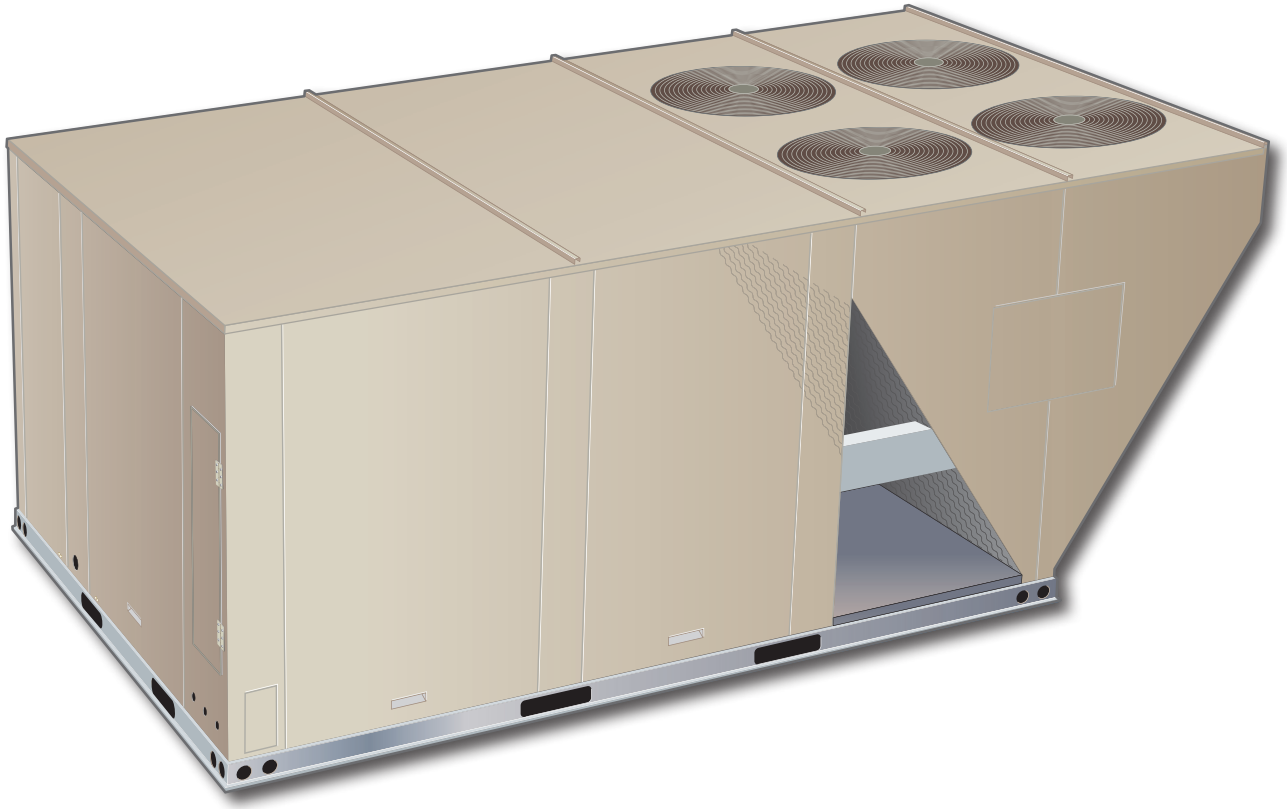
ALLIED Commercial™

PACKAGED ELECTRIC / ELECTRIC
KC
K-Series™ Rooftop Units
50 HZ

Bulletin No. KCA-156-300-50HZ (10/2016)

PRODUCT SPECIFICATIONS



45.7 to 88 kW (13 to 25 Tons)
Net Cooling Capacity - 38.1 to 68 kW (130 000 to 232 000 Btuh)
Optional Electric Heat - 11.5 to 68.9 kW

MODEL NUMBER IDENTIFICATION

K C A 240 S 4 B N 1 M

Brand/Family
K = K-Series™

Unit Type
C = Packaged Electric Cooling w/ optional Electric Heat

Major Design Sequence
A = 1st Generation

Nominal Cooling Capacity
156 = 45.7 kW
180 = 52.8 kW
210 = 61.5 kW
240 = 70.3 kW
300 = 88 kW

Cooling Efficiency
S = Standard Efficiency
H = High Efficiency

Refrigerant Type
4 = R-410A

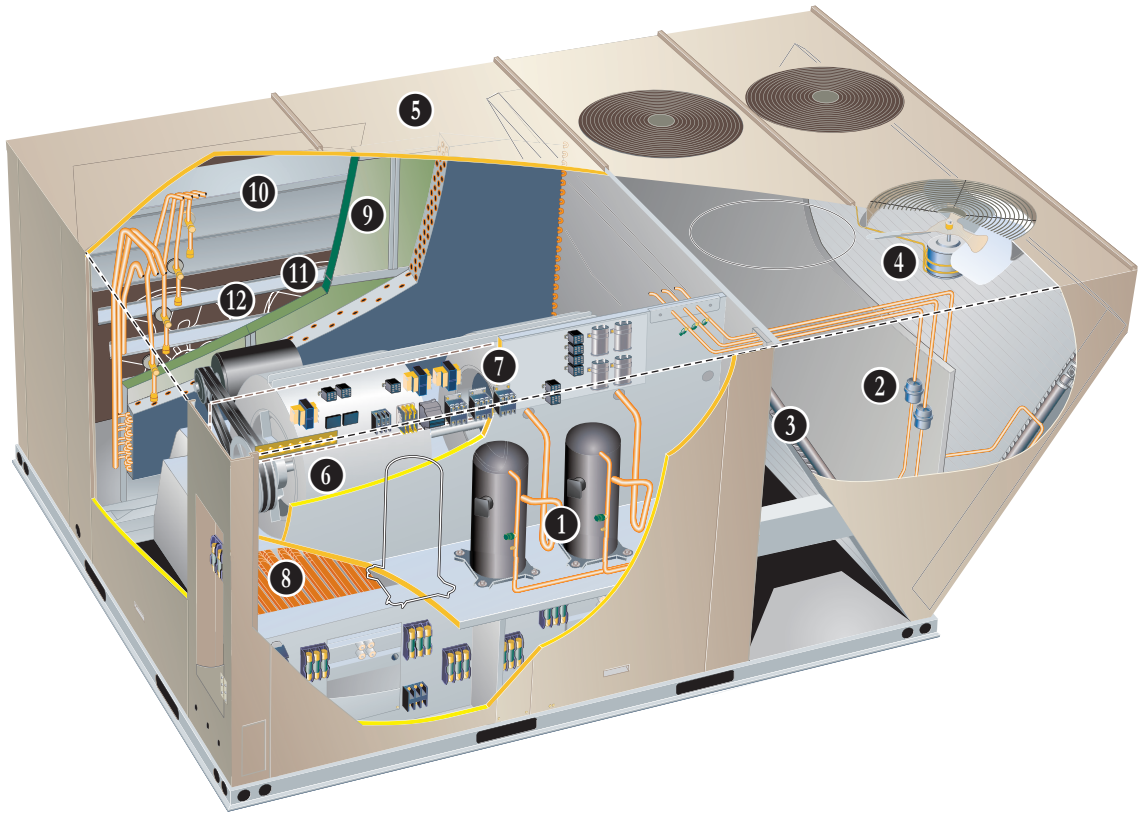
Blower Type
B = Belt Drive

Factory Installed Electric Heat
N = No Heat

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

Voltage
M = 380/420V-3 phase-50hz

FEATURES AND BENEFITS



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

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

CONTENTS

PERFORMANCE/QUALITY

Components bonded for grounding to meet safety standards for servicing required by Underwriters Laboratories (UL) and the International Electrotechnical Commission (IEC).

Cooling performance is rated at test conditions included in Air-Conditioning, Heating and Refrigeration (AHRI) Standard 340/360-2007 while operating at rated voltage and air volumes.

International Organization for Standardization (ISO) 9001 Registered Manufacturing Quality System.

COOLING SYSTEM

Designed to maximize sensible and latent cooling performance at design conditions.

System can operate from –1°C to 52°C without any additional controls.

R-410A Refrigerant
Non-chlorine, ozone friendly, R-410A.

Unit pre-charged with refrigerant. See Specification table.

1 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.

Thermal Expansion Valves (High Efficiency Models)
Assures optimal performance throughout the application range.

Removable element head.

Refrigerant Metering Orifice (Standard Efficiency Models)
Accurately meters refrigerant in system.

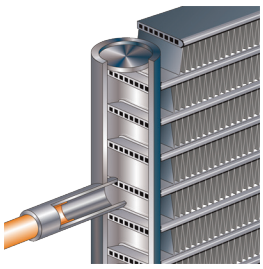
Refrigerant control is accomplished by exact sizing of refrigerant metering orifice.

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

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

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

Eco-Last™ Coil System



Condenser coil features lightweight, all aluminum brazed fin construction.

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

Eco-Last™ Coil System Features:

- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins).
- Smaller internal volume (reduced refrigerant charge).
- High durability (all aluminum construction).
- Fewer brazed joints.
- Compact design (reduces unit weight).
- Easy maintenance/cleaning.

Face split design.

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

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

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

Condensate Drain Pan
Plastic, sloped drain pan.

Side or bottom drain connections.

COOLING SYSTEM continued

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

Outdoor Coil Fans
Polyvinyl chloride (PVC) coated fan guard furnished.

Required Selections

Cooling Capacity
Specify nominal cooling capacity of the unit.

Options/Accessories

Field Installed

Condensate Drain Trap
Available in copper or polyvinyl chloride (PVC).

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

Low Ambient Kit
Cycles the outdoor fan while allowing compressor operation in the cooling cycle. This intermittent fan operation allows the system to operate without icing the evaporator coil and losing capacity. Designed for use in ambient temperatures no lower than –17°C.

CABINET

5 Construction
Heavy-gauge steel panels and full perimeter heavy-gauge galvanized steel base rail provides structural integrity for transportation, handling, and installation.

Base rails have rigging holes.

Three sides of the base rail have forklift slots.

Raised edges around duct and power entry openings in the bottom of the unit provide additional protection against water entering the building.

Airflow Choice
Units are available in downflow (vertical) or horizontal return air flow configuration.

Horizontal air flow requires Horizontal Roof Curb.

Horizontal Return Air Panel Kit is also required if converting a downflow configured unit to horizontal air flow.

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

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

Insulation
All panels adjacent to conditioned air are fully insulated with non-hygroscopic fiberglass insulation.

Unit base is fully insulated. The insulation also serves as an air seal to the roof curb, eliminating the need to add a seal during installation.

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

Options/Accessories

Factory Installed

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

Indoor Corrosion Protection:

- Coated coil
- Painted blower housing
- Painted indoor base

Outdoor Corrosion Protection:

- Coated coil
- Painted outdoor base

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

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

Field Installed

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

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

6 BLOWER

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

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

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

Blower assembly slides out of unit for servicing.

Required Selections

Order blower motor output and drive kit number required when base unit is ordered, see Drive Kit Specifications Table.

FEATURES AND BENEFITS

CONTROLS

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

Heat/Cool Staging - Capable of up to 2 heat / 2 cool staging with a third party DDC control system or thermostat.

Low Voltage Terminal Block - Provides screw terminal connections for thermostat or controller wiring.

Night Setback Mode - Saves energy by closing outdoor air dampers and operating supply fan on thermostat demand only.

Options/Accessories

Field Installed

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

Commercial Control Systems
Aftermarket unit controller options, see Options/Accessories table.

ELECTRICAL

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

Required Selections

Voltage Choice
Specify when ordering base unit.

Options/Accessories

Field Installed

8 Electric Heat
Helix wound nichrome elements, individual element limit controls, wiring harness. Unit fuse block is furnished as standard. See Options / Accessories tables for ordering information.

INDOOR AIR QUALITY

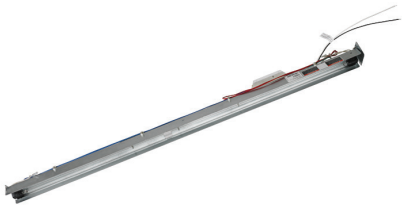
9 Air Filters
Disposable 51 mm filters furnished as standard.

Options/Accessories

Field Installed

High Efficiency Air Filters
Disposable MERV 8 or MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 51 mm pleated filters.

UVC Germicidal Lamps



Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds. This process either destroys the organism or controls its ability to reproduce.

UV-C energy greatly reduces the growth and proliferation of mold and other bioaerosols (bacteria and viruses) on illuminated surfaces (particularly coil and drain pan).

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

All necessary hardware for installation is included.

Lamps operate on 220V single-phase power supply. Step-down transformer may be ordered separately for 380/420V primary to 220V secondary units. Alternately, 220V power supply may be used to directly power the UVC ballast(s).

Indoor Air Quality (CO_2) Sensors
Monitors CO_2 levels, reports to the Unit Controller which adjusts economizer dampers as needed.

⑩ ECONOMIZER OPTIONS

Factory or Field Installed

Economizer
(Standard and High Performance Common Features)
Outdoor Air Hood with mist elimination filter is furnished. Mixed Air Sensor is furnished for field installation in the rooftop unit. Sensor is factory installed when Economizers are factory installed.

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

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

Economizer Controls:

- Damper Minimum Position - Can be set lower than traditional minimum air requirements resulting in cost savings.
- IAQ Sensor - Signals dampers to modulate and maintain 13°C when CO_2 is higher than the CO_2 setpoint.
- Demand Control Ventilation (DCV) LED - A steady green Demand Control Ventilation LED indicates the IAQ reading is higher than setpoint and requires more fresh air.
- Free Cool LED - A steady green LED indicates outdoor air is suitable for free cooling.

Free Cooling runs when outdoor air temperature is lower than the set temperature on the economizer control.

NOTE: The Free Cooling default setting for outdoor air temperature sensor is 13°C.

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

High Performance Economizer Control Module
Module provides inputs and outputs to control economizer based on parameter settings.

Module automatically detects sensors by polling to determine which sensors are installed in system.

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

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

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

- Menu Up/Exit ⓘ button returns to the main menu.
- Arrow Up ▲ button moves to the previous or next parameter within the selected menu.
- Arrow Down ▼ button moves to the next parameter within the selected menu.
- Select (enter) ↵ button confirms parameter selection.

Main Menu Structure:

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

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.

Field Installed

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

OPTIONS / ACCESSORIES

EXHAUST OPTIONS

⓫ **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.

⓬ **Power Exhaust Fan**
Installs internal to unit for downflow applications only with economizer option. Provides exhaust air pressure relief. Interlocked to run when supply air blower is operating, fan runs when outdoor air dampers are 50% open (adjustable), motor is overload protected. Requires Economizer with Outdoor Air Hood and Downflow Barometric Relief Dampers. Dual fans are 508 mm diameter with 5 blades with (2) 0.25 kW motors.

OUTDOOR AIR OPTIONS

Factory or Field Installed

Outdoor Air Damper - Downflow or Horizontal With Air Hood
Linked mechanical dampers, 0 to 25% (fixed) outdoor air adjustable, installs in unit. Includes outdoor air hood.

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

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

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

ROOF CURBS

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

Downflow

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

Curb can also be fastened together with furnished hardware.

Available in 203, 356, 457, and 610 mm heights.

Adjustable Pitch Curb
Fully adjustable pitch curb provides a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles.

Maximum slope is 19 mm per 300 mm in any direction.

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

Hardware is furnished to connect upper curb with lower curb.

Available in 356 mm height.

Adaptor Curbs (not shown)
Curbs are regionally sourced. Dimensions will vary based upon the source. Contact your local sales representative for a detailed cut sheet with applicable dimensions.

Horizontal
Converts unit from downflow to horizontal (side) air flow, return air is on unit, supply air is on curb, see dimension drawings. Curbs for rooftop applications meet National Roofing Code requirements. Requires Horizontal Return Air Panel Kit. Available in 660, 762, 940 and 1041 mm heights. Optional Insulation Kit is available to help prevent sweating.

CEILING DIFFUSERS

Ceiling Diffusers (Flush or Step-Down)
Aluminum grilles, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), adapts to T-bar ceiling grids or plaster ceilings.

Transitions (Supply and Return)
Used with diffusers, installs in roof curb, galvanized steel construction, flanges furnished for duct connection to diffusers, fully insulated.

OPTIONS / ACCESSORIES - STANDARD AND HIGH EFFICIENCY MODELS

Item Description	Model Number	Catalog Number	Unit Size 156	180	210	240	300
COOLING SYSTEM							
Condensate Drain Trap	Polyvinyl Chloride (PVC) - C1TRAP20AD2	**76W26**	X	X	X	X	X
	Copper - C1TRAP10AD2	**76W27**	X	X	X	X	X
Corrosion Protection		Factory	O	O	O	O	O
Drain Pan Overflow Switch	C1SNSR71FF1-	**10C24**	X	X	X	X	X
Efficiency	Standard or High	Factory	O	O	O	O	O
Refrigerant Type		R-410A	O	O	O	O	O
BLOWER - SUPPLY AIR							
Blower Option	CAV (Constant Air Volume)	Factory	O	O	O	O	O
Motors - Constant Air Volume (CAV)	Belt Drive - 1.5 kW	Factory	O				
	Belt Drive - 2.2 kW	Factory	O	O	O		
	Belt Drive - 3.7 kW	Factory	O	O	O	O	O
	Belt Drive - 5.6 kW	Factory		O	O	O	O
	Belt Drive - 7.5 kW	Factory				O	O
Drive Kits	Kit #1 (standard) 446-604 rev/min	Factory	O	O	O		
See Blower Data Tables for usage and selection	Kit #2 (standard) 571-721 rev/min	Factory	O	O	O		
	Kit #3 (standard) 571-721 rev/min	Factory	O	O	O	O	O
	Kit #4 (standard) 708-871 rev/min	Factory	O	O	O	O	O
	Kit #5 (standard) 788-988 rev/min	Factory	O	O	O	O	O
	Kit #6 (standard) 708-871 rev/min	Factory		O	O	O	O
	Kit #7 (standard) 788-988 rev/min	Factory		O	O	O	O
	Kit #8 (standard) 871-1071 rev/min	Factory		O	O	O	O
	Kit #10 (standard) 871-1071 rev/min	Factory				O	O
	Kit #11 (standard) 945-1138 rev/min	Factory				O	O
CABINET							
Hinged Access Panels		Factory	O	O	O	O	O
CONTROLS							
BACnet®	KOCTRL31C-1	**96W16**	OX	OX	OX	OX	OX
BACnet® Thermostat with Display	KOSNSR01FF1	**97W23**	X	X	X	X	X
BACnet® Thermostat without Display	KOSNSR00FF1	**97W24**	X	X	X	X	X
Novar® 2051	KOCTRL30C-1	**96W13**	OX	OX	OX	OX	OX
Plenum Cable (23 m)	KOMISC00FF1	**97W25**	X	X	X	X	X
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44C-1	**83W40**	X	X	X	X	X
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43C-1	**83W41**	X	X	X	X	X
ELECTRICAL							
Voltage 50 hz	380/420V - 3 phase	Factory	O	O	O	O	O
[1, 2] ELECTRIC HEAT							
11.5 kW	380/420V-3ph - C1EH0115C-1M	**67W96**	X	X	X	X	X
23 kW	380/420V-3ph - C1EH0230C21M	**67W98**	X	X	X	X	X
34.5 kW	380/420V-3ph - C1EH0345C21M	**68W00**		X	X	X	X
45.9 kW	380/420V-3ph - C1EH0459C21M	**68W02**		X	X	X	X
68.9 kW	380/420V-3ph - C1EH0689C-1M	**68W03**			X	X	X

[1] Nominal kW at 420V-3ph-50hz.

[2] NOTE - Factory installed electric heat is only available with high efficiency models.

NOTE - Catalog and model numbers shown are for ordering field installed accessories.
OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
X = Field Installed

OPTIONS / ACCESSORIES - STANDARD AND HIGH EFFICIENCY MODELS

Item Description	Model Number	Catalog Number	Unit Size 156	180	210	240	300
INDOOR AIR QUALITY							
Air Filters							
High Efficiency Air Filters 610 x 610 x 51 (Order 6 per unit)	MERV 8 - C1FLTR15C-1-	**54W67**	X	X	X	X	X
	MERV 13 - C1FLTR40C-1-	**52W40**	X	X	X	X	X
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)	C1FLTR30C-1-	**44N61**	X	X	X	X	X
Indoor Air Quality (CO_2) Sensors							
Sensor - Wall-mount, off-white plastic cover with LCD display	C0SNSR50AE1L	**77N39**	X	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display	C0SNSR52AE1L	**87N53**	X	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting	C0SNSR51AE1L	**87N52**	X	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0MISC19AE1	**87N54**	X	X	X	X	X
CO_2 Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1-	**85L43**	X	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO_2 sensors (**87N53** or **77N39**)	C0MISC16AE1-	**90N43**	X	X	X	X	X
UVC Germicidal Light Kit							
[1] UVC Light Kit (220V-1ph)	C1UVCL10C-1	**54W65**	X	X	X	X	X
ECONOMIZER							
Standard Economizer With Outdoor Air Hood							
Standard Economizer Downflow or Horizontal Applications - Includes Outdoor Air Hood, order Downflow or Horizontal Barometric Relief Dampers separately	K1ECON20C-3	**13U48**	OX	OX	OX	OX	OX
Standard Economizer Controls							
Single Enthalpy	C1SNSR64FF1	**53W64**	OX	OX	OX	OX	OX
Differential Enthalpy	Order 2 - C1SNSR64FF1	**53W64**	X	X	X	X	X
High Performance Economizer With Outdoor Air Hood							
High Performance Economizer Downflow or Horizontal Applications - Includes Outdoor Air Hood, order Downflow or Horizontal Barometric Relief Dampers separately	K1ECON22C-1	**10U61**	OX	OX	OX	OX	OX
High Performance Economizer Controls							
Single Enthalpy Control	C1SNSR60FF1	**10Z75**	OX	OX	OX	OX	OX
Differential Enthalpy Control (order 2)	C1SNSR60FF1	**10Z75**	X	X	X	X	X
Barometric Relief Dampers With Exhaust Hood							
Downflow Barometric Relief Dampers	C1DAMP50C	**54W78**	OX	OX	OX	OX	OX
Horizontal Barometric Relief Dampers	LAGEDH18/24	**16K99**	X	X	X	X	X

[1] Lamps operate on 220V single-phase power supply. Step-down transformer may be ordered separately for 380/420V primary to 220V secondary units. Alternately, 220V power supply may be used to directly power the UVC ballast(s).

NOTE - Catalog and model numbers shown are for ordering field installed accessories.
OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
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OPTIONS / ACCESSORIES - STANDARD AND HIGH EFFICIENCY MODELS

Item Description	Model Number	Catalog Number	Unit Size 156	180	210	240	300
OUTDOOR AIR							
Outdoor Air Dampers With Outdoor Air Hood							
Motorized	K1DAMP20C-1	**58W62**	OX	OX	OX	OX	OX
Manual	C1DAMP10C-1	**54W76**	OX	OX	OX	OX	OX
POWER EXHAUST (DOWNFLOW APPLICATIONS ONLY)							
Standard Static	380/420V - C1PWRE11C-1M	**75W93**	OX	OX	OX	OX	OX
ROOF CURBS							
Hybrid Roof Curbs, Downflow							
203 mm height	C1CURB70C-1	**11F58**	X	X	X	X	X
356 mm height	C1CURB71C-1	**11F59**	X	X	X	X	X
457 mm height	C1CURB72C-1	**11F60**	X	X	X	X	X
610 mm height	C1CURB73C-1	**11F61**	X	X	X	X	X
Adjustable Pitched Curb							
356 mm height	L1CURB55C	**43W26**	X	X	X	X	X
Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit							
660 mm height - slab applications	C1CURB14C-1	**11T89**	X	X	X	X	
940 mm height - rooftop applications	C1CURB15C-1	**11T96**	X	X	X	X	
762 mm height - slab applications	C1CURB16C-1	**11T90**					X
1041 mm height - rooftop applications	C1CURB17C-1	**11T97**					X
Insulation Kit For Standard Horizontal Curbs							
for C1CURB14C-1	C1INSU11C-1-	**73K32**	X	X	X	X	
for C1CURB15C-1	C1INSU13C-1-	**73K34**	X	X	X	X	
for C1CURB16C-1	C1INSU12C-1-	**73K33**					X
for C1CURB17C-1	C1INSU14C-1-	**73K35**					X
Horizontal Return Air Panel Kit							
Required for Horizontal Applications with Roof Curb	C1HRAP10C-1-	**87M00**	X	X	X	X	X
CEILING DIFFUSERS							
Step-Down - Order one	RTD11-185S	**13K63**	X	X			
	RTD11-275S	**13K64**			X	X	X
Flush - Order one	FD11-185S	**13K58**	X	X			
	FD11-275S	**13K59**			X	X	X
Transitions (Supply and Return) - Order one	C1DIFF33C-1	**12X68**	X	X			
	C1DIFF34C-1	**12X70**			X	X	X

[1] Lamps operate on 220V single-phase power supply. Step-down transformer may be ordered separately for 380/420V primary to 220V secondary units. Alternately, 220V power supply may be used to directly power the UVC ballast(s).

NOTE - Catalog and model numbers shown are for ordering field installed accessories.
OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
X = Field Installed

OPTIONS / ACCESSORIES - STANDARD EFFICIENCY MODELS ONLY

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

OPTIONS / ACCESSORIES - HIGH EFFICIENCY MODELS ONLY

Item Description	Model Number	Catalog Number	Unit Model No. 156H	180H	210H	240H	300H
CABINET							
Combination Coil/Hail Guards	C1GARD52C12	**15T92**	X				
	C1GARD52C22	**15T93**		X	X	X	X
COOLING SYSTEM							
Low Ambient Control	K1LOAM53C11	**10T63**	X				
	K1LOAM53C21	**10T64**		X	X		
	K1LOAM54C21	**10T65**				X	X

SPECIFICATIONS - STANDARD EFFICIENCY

General Data		**Nominal kW (Tons)**	**52.8 (15)**	**61.5 (17.5)**	**70.3 (20)**	**88 (25)**
		Model Number	**KCA180S4B**	**KCA210S4B**	**KCA240S4B**	**KCA300S4B**
		Efficiency Type	**Standard**	**Standard**	**Standard**	**Standard**
		Blower Type	Constant Air Volume CAV	Constant Air Volume CAV	Constant Air Volume CAV	Constant Air Volume CAV
Cooling Performance	Gross Cooling Capacity - kW (Btuh)		46.3 (158 000)	51.9 (177 000)	60.4 (206 000)	71.2 (243 000)
	[1] Net Cooling Capacity - kW (Btuh)		44.5 (152 000)	49.8 (170 000)	57.1 (195 000)	67.1 (229 000)
	AHRI Rated Air Flow - L/s (cfm)		2715 (5753)	2890 (6125)	3635 (7700)	4130 (8750)
	Total Unit Power - kW		13.8	15.5	17.7	22.9
	[1] EER (Btuh/Watt) at 35°C (95°F)		11.0	11.0	11.0	10.0
	[2] EER (Btuh/Watt) at 46°C (115°F)		8.3	- - -	8.6	7.7
	[1] IEER (Btuh/Watt)		11.2	11.8	11.2	10.1
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Refrigerant Charge Furnished	Circuit 1	3.40 kg (7 lbs. 8 oz.)	2.61 kg (5 lbs. 12 oz.)	3.29 kg (7 lbs. 4 oz.)	3.29 kg (7 lbs. 4 oz.)
		Circuit 2	3.40 kg (7 lbs. 8 oz.)	2.49 kg (5 lbs. 8 oz.)	3.29 kg (7 lbs. 4 oz.)	3.29 kg (7 lbs. 4 oz.)
		Circuit 3	- - -	2.49 kg (5 lbs. 8 oz.)	3.12 kg (6 lbs. 14 oz.)	3.12 kg (6 lbs. 14 oz.)
Electric Heat Available, see page 13			11.5, 23, 34.5, 45.9 kW	11.5, 23, 34.5, 45.9, 68.9 kW		
Compressor Type (number)			Scroll (2)	Scroll (3)	Scroll (3)	Scroll (3)
Outdoor Coils	Net face area (total) - m^2 (sq. ft.)		3.85 (41.4)	3.85 (41.4)	5.13 (55.2)	5.13 (55.2)
	Number of rows		1	1	1	1
	Fins per m (Fins per inch)		787 (20)	787 (20)	787 (20)	787 (20)
Outdoor Coil Fans	Motor - (No.) W (HP)		(3) 250 (1/3)	(3) 250 (1/3)	(4) 250 (1/3)	(4) 250 (1/3)
	Motor rev/min		896	896	896	896
	Total Motor watts		840	840	1146	1146
	Diameter - (No.) mm (in.)		(3) 610 (24)	(3) 610 (24)	(4) 610 (24)	(4) 610 (24)
	Number of blades		3	3	3	3
	Total Air volume - L/s (cfm)		4720 (10 000)	4720 (10 000)	6275 (13 300)	6275 (13 300)
Indoor Coils	Net face area (total) - m^2 (sq. ft.)		1.73 (18.60)	1.99 (21.4)	1.99 (21.4)	1.99 (21.4)
	Tube diameter - mm (in.)		9.5 (3/8)	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)
	Number of rows		3	3	4	4
	Fins per m (Fins per inch)		551 (14)	551 (14)	551 (14)	551 (14)
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
	Expansion device type		Refrigerant Metering Orifice (RFC)			
[3] **Indoor Blower and Drive Selection**	Nominal Motor kW (HP)		2.2 (3)	2.2 (3)	3.7 (5)	3.7 (5)
	Maximum usable motor kW (HP)		2.6 (3.45)	2.6 (3.45)	4.3 (5.75)	4.3 (5.75)
	Kit # (rev/min range)		#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871) #5 (788-988)	#3 (571-721) #4 (708-871) #5 (788-988)
	Nominal Motor kW (HP)		3.7 (5)	3.7 (5)	5.6 (7.5)	5.6 (7.5)
	Maximum usable motor kW (HP)		4.3 (5.75)	4.3 (5.75)	6.4 (8.6)	6.4 (8.6)
	Kit # (rev/min range)		#3 (571-721) #4 (708-871) #5 (788-988)	#3 (571-721) #4 (708-871) #5 (788-988)	#6 (708-871) #7 (788-988) #8 (871-1071)	#6 (708-871) #7 (788-988) #8 (871-1071)
	Nominal Motor kW (HP)		5.6 (7.5)	5.6 (7.5)	7.5 (10)	7.5 (10)
	Maximum usable motor kW (HP)		6.4 (8.6)	6.4 (8.6)	8.6 (11.5)	8.6 (11.5)
	Kit # (rev/min range)		#6 (708-871) #7 (788-988) #8 (871-1071)	#6 (708-871) #7 (788-988) #8 (871-1071)	#7 (788-988) #10 (871-1071) #11 (945-1138)	#7 (788-988) #10 (871-1071) #11 (945-1138)
Blower wheel nominal diameter x width - mm (in.)			(2) 381 x 381 (15 x 15)			
Filters	Type of filter		Fiberglass, disposable			
	Number and size - mm (in.)		(6) 610 x 610 x 51 (24 x 24 x 2)			
Electrical characteristics			380/420V - 50 hertz - 3 phase			

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

[1] Rating test conditions are those included in Air-Conditioning, Heating and Refrigeration Institute (AHRI) Standard 340/360; 35°C (95°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air; minimum external duct static pressure while operating at rated voltage and air volumes.

[2] Rated at 46°C (115°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air (T3 Conditions).

[3] Using total air volume and system static pressure requirements determine from blower performance tables rev/min and motor output required. Maximum usable output of motors furnished are shown. See Belt Drive Specification Table for maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

SPECIFICATIONS - HIGH EFFICIENCY

General Data			45.7 (13)	52.8 kW (15)	61.5 (17.5)	70.3 (20)	88 (25)
		Nominal kW (Tons)					
		Model Number	KCA156H4B	KCA180H4B	KCA210H4B	KCA240H4B	KCA300H4B
		Efficiency Type	High	High	High	High	High
		Blower Type	Constant Air Volume (CAV)	Constant Air Volume (CAV)	Constant Air Volume (CAV)	Constant Air Volume (CAV)	Constant Air Volume (CAV)
Cooling Performance	Gross Cooling Capacity - kW (Btuh)		39.6 (135 000)	44.8 (153 000)	51.3 (175 000)	60.1 (205 000)	71.8 (245 000)
	[1] Net Cooling Capacity - kW (Btuh)		38.1 (130 000)	43.4 (148 000)	49.5 (169 000)	58.0 (198 000)	68.0 (232 000)
	Rated Air Flow - L/s (cfm)		2360 (5000)	2482 (5259)	2890 (6125)	3020 (6400)	3965 (8400)
	Total Unit Power - kW		10.7	12.1	13.9	16.2	21.7
	[1] EER (Btuh/Watt)		12.2	12.2	12.2	12.2	10.7
	[1] IEER (Btuh/Watt)		13.6	13.5	13.0	13.2	10.9
	Refrigerant Type		R-410A	R-410A	R-410A	R-410A	R-410A
	Refrigerant Charge Furnished	Circuit 1	2.66 kg (5 lbs. 14 oz.)	2.72 kg (6 lbs. 0 oz.)	3.06 kg (6 lbs. 12 oz.)	2.83 kg (6 lbs. 4 oz.)	2.95 kg (6 lbs. 8 oz.)
		Circuit 2	2.50 kg (5 lbs. 8 oz.)	2.55 kg (5 lbs. 10 oz.)	3.12 kg (6 lbs. 14 oz.)	2.78 kg (6 lbs. 2 oz.)	2.89 kg (6 lbs. 6 oz.)
		Circuit 3	2.61 kg (5 lbs. 12 oz.)	2.66 kg (5 lbs. 14 oz.)	3.12 kg (6 lbs. 14 oz.)	2.66 kg (5 lbs. 14 oz.)	2.89 kg (6 lbs. 6 oz.)
		Circuit 4	- - -	- - -	- - -	2.44 kg (5 lbs. 6 oz.)	2.66 kg (5 lbs. 14 oz.)
Electric Heat Available, see page 14			11.5, 23, 34.5, 45.9 kW		11.5, 23, 34.5, 45.9, 68.9 kW		
Compressor Type (number)			Scroll (3)	Scroll (3)	Scroll (3)	Scroll (4)	Scroll (4)
Outdoor Coils	Net face area (total) - m^2 (sq. ft.)		3.85 (41.4)	5.13 (55.2)	5.13 (55.2)	5.13 (55.2)	5.13 (55.2)
	Number of rows		1	1	1	1	1
	Fins per meter (Fins per inch)		906 (23)	906 (23)	906 (23)	906 (23	906 (23)
Outdoor Coil Fans	Motor - (No.) W (HP)		(3) 1/3	(4) 1/3	(6) 1/3	(6) 1/3	(6) 1/3
	Motor rev/min		896	896	896	896	896
	Total Motor watts		840	1146	1490	1490	1490
	Diameter - (No.) mm (in.)		(3) 610 (24)	(4) 610 (24)	(6) 610 (24)	(6) 610 (24)	(6) 610 (24)
	Number of blades		3	3	3	3	3
	Total Air volume - L/s (cfm)		4720 (10 000)	6300 (13 300)	7880 (16 700)	7880 (16 700)	7880 (16 700
Indoor Coils	Net face area (total) - m^2 (sq. ft.)		1.99 (21.4)	1.99 (21.4)	1.99 (21.4)	1.99 (21.4)	1.99 (21.4)
	Tube diameter - in.		9.5 (3/8)	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)
	Number of rows		3	3	4	4	4
	Fins per meter (Fins per inch)		551 (14)	551 (14)	551 (14)	551 (14)	511 (14)
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
	Expansion device type		Balance port TXV, removable head				
[2] Indoor Blower and Drive Selection	Nominal Motor kW (HP)		1.5 (2)	2.2 (3)	2.2 (3)	3.7 (5)	3.7 (5)
	Maximum usable motor kW (HP)		1.7 (2.3)	2.6 (3.45)	2.6 (3.45)	4.3 (5.75)	4.3 (5.75)
	Kit # (rev/min range)		#1 (446-604) #2 (571-721)	#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871) #5 (788-988)	#3 (571-721) #4 (708-871) #5 (788-988)
	Nominal Motor kW (HP)		2.2 (3)	3.7 (5)	3.7 (5)	5.6 (7.5)	5.6 (7.5)
	Maximum usable motor kW (HP)		2.6 (3.45)	4.3 (5.75)	4.3 (5.75)	6.4 (8.6)	6.4 (8.6)
	Kit # (rev/min range)		#3 (571-721) #4 (708-871)	#3 (571-721) #4 (708-871) #5 (788-988)	#3 (571-721) #4 (708-871) #5 (788-988)	#6 (708-871) #7 (788-988) #8 (871-1071)	#6 (708-871) #7 (788-988) #8 (871-1071)
	Nominal Motor kW (HP)		3.7 (5)	5.6 (7.5)	5.6 (7.5)	7.5 (10)	7.5 (10)
	Maximum usable motor kW (HP)		4.3 (5.75)	6.4 (8.6)	6.4 (8.6)	8.6 (11.5)	8.6 (11.5)
	Kit # (rev/min range)		#3 (571-721) #4 (708-871) #5 (788-988)	#6 (708-871) #7 (788-988) #8 (871-1071)	#6 (708-871) #7 (788-988) #8 (871-1071)	#7 (788-988) #10 (871-1071) #11 (945-1138)	#7 (788-988) #10 (871-1071) #11 (945-1138)
Blower wheel nominal diameter x width - mm (in.)			(2) 381 x 381 (15 x 15)				
Filters	Type of filter		Fiberglass, disposable				
	Number and size - mm (in.)		(6) 610 x 610 x 51 (24 x 24 x 2)				
Electrical characteristics			380/420V - 50 hertz - 3 phase				

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

[1] Rating test conditions are those included in Air-Conditioning, Heating and Refrigeration Institute (AHRI) Standard 340/360; 35°C (95°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air; minimum external duct static pressure while operating at rated voltage and air volumes.

[2] Using total air volume and system static pressure requirements determine from blower performance tables rev/min and motor output required. Maximum usable output of motors furnished are shown. See Belt Drive Specification Table for 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.

RATINGS

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

52.8 kW - STANDARD EFFICIENCY KCA180S4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2265	24.7	4.11	0.71	0.83	0.94	23.4	4.52	0.71	0.84	0.96	22.1	4.99	0.72	0.85	0.97	20.6	5.49	0.72	0.86	0.99
	2832	26.1	4.15	0.76	0.88	1.00	24.7	4.58	0.76	0.90	1.00	23.3	5.04	0.76	0.91	1.00	21.8	5.56	0.77	0.93	1.00
	3398	27.1	4.19	0.78	0.93	1.00	25.7	4.61	0.79	0.95	1.00	24.2	5.07	0.8	0.97	1.00	22.6	5.60	0.81	0.98	1.00
19.4°C	2265	26.0	4.15	0.57	0.69	0.80	24.6	4.56	0.55	0.69	0.81	23.3	5.03	0.56	0.70	0.82	21.8	5.55	0.56	0.70	0.84
	2832	27.5	4.21	0.60	0.73	0.85	26.0	4.62	0.59	0.74	0.86	24.5	5.08	0.59	0.74	0.88	23.0	5.62	0.60	0.75	0.90
	3398	28.4	4.24	0.62	0.76	0.91	27.0	4.66	0.62	0.78	0.92	25.4	5.13	0.62	0.78	0.94	23.8	5.64	0.62	0.79	0.96
21.7°C	2265	27.2	4.19	0.43	0.56	0.67	25.8	4.61	0.44	0.55	0.67	24.5	5.08	0.42	0.55	0.68	22.9	5.59	0.42	0.55	0.68
	2832	28.6	4.25	0.46	0.58	0.71	27.2	4.66	0.45	0.58	0.72	25.7	5.14	0.45	0.58	0.72	24.0	5.66	0.44	0.59	0.73
	3398	29.6	4.29	0.48	0.6	0.75	28.1	4.71	0.47	0.61	0.76	26.4	5.17	0.43	0.62	0.77	24.6	5.68	0.43	0.62	0.78

52.8 kW - STANDARD EFFICIENCY KCA180S4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2265	46.4	9.56	0.76	0.9	1.00	41.8	11.08	0.78	0.92	1.00	36.9	12.98	0.80	0.95	1.00	31.4	15.43	0.83	0.99	1.00
	2832	48.7	9.66	0.82	0.96	1.00	44.0	11.18	0.84	0.98	1.00	39.0	13.08	0.87	1.00	1.00	33.8	15.61	0.91	1.00	1.00
	3398	50.6	9.75	0.87	1.00	1.00	46.0	11.29	0.89	1.00	1.00	41.1	13.22	0.92	1.00	1.00	35.5	15.69	0.97	1.00	1.00
19.4°C	2265	49.4	9.70	0.59	0.74	0.87	44.7	11.24	0.59	0.76	0.89	39.5	13.13	0.60	0.78	0.93	33.7	15.58	0.6	0.81	0.97
	2832	51.8	9.81	0.63	0.8	0.94	46.7	11.33	0.64	0.82	0.96	41.2	13.22	0.65	0.85	0.99	35.2	15.69	0.66	0.89	1.00
	3398	53.4	9.90	0.67	0.85	0.99	48.2	11.40	0.68	0.88	1.00	42.6	13.32	0.69	0.91	1.00	36.3	15.76	0.72	0.96	1.00
21.7°C	2265	52.2	9.82	0.44	0.58	0.72	47.4	11.35	0.43	0.58	0.73	42.1	13.27	0.41	0.59	0.76	36.0	15.76	0.4	0.6	0.79
	2832	54.8	9.96	0.45	0.62	0.78	49.6	11.48	0.45	0.63	0.8	43.9	13.40	0.45	0.64	0.83	37.5	15.89	0.43	0.67	0.88
	3398	56.5	10.06	0.47	0.66	0.84	51.0	11.58	0.47	0.67	0.86	45.1	13.48	0.47	0.69	0.89	38.5	15.94	0.46	0.71	0.94

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2265	33.9	14.27	0.82	0.98	1.00	32.6	14.84	0.83	0.99	1.00
	2832	36.2	14.39	0.89	1.00	1.00	34.8	15.01	0.90	1.00	1.00
	3398	38.1	14.53	0.95	1.00	1.00	36.8	15.13	0.96	1.00	1.00
19.4°C	2265	36.4	14.40	0.60	0.80	0.95	35.0	15.03	0.60	0.81	0.96
	2832	37.9	14.49	0.66	0.87	1.00	36.5	15.12	0.66	0.88	1.00
	3398	39.2	14.60	0.71	0.93	1.00	37.7	15.21	0.71	0.94	1.00
21.7°C	2265	38.8	14.57	0.40	0.59	0.78	37.3	15.19	0.40	0.60	0.78
	2832	40.4	14.66	0.43	0.65	0.85	38.9	15.29	0.43	0.66	0.86
	3398	41.5	14.75	0.47	0.71	0.92	39.9	15.39	0.46	0.71	0.93

RATINGS

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

61.5 kW - STANDARD EFFICIENCY KCA210S4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2643	39.2	5.75	0.75	0.88	0.98	36.9	6.43	0.75	0.88	0.99	34.5	7.18	0.76	0.9	1.00	32.0	8.04	0.77	0.92	1.00
	3304	41.3	5.80	0.80	0.93	1.00	39.0	6.49	0.80	0.94	1.00	36.5	7.25	0.82	0.96	1.00	33.8	8.11	0.83	0.98	1.00
	3964	43.0	5.84	0.84	0.98	1.00	40.6	6.54	0.85	0.99	1.00	37.8	7.30	0.86	1.00	1.00	35.2	8.15	0.87	1.00	1.00
19.4°C	2643	41.6	5.80	0.59	0.72	0.85	39.3	6.50	0.59	0.73	0.86	36.8	7.25	0.59	0.74	0.87	34.1	8.12	0.59	0.75	0.89
	3304	43.8	5.86	0.62	0.77	0.90	41.3	6.56	0.62	0.78	0.92	38.7	7.33	0.62	0.79	0.93	35.9	8.18	0.63	0.81	0.95
	3964	45.4	5.91	0.65	0.82	0.95	42.8	6.61	0.65	0.83	0.97	40.0	7.38	0.66	0.84	0.99	37.1	8.24	0.66	0.86	1.00
21.7°C	2643	44.0	5.86	0.46	0.58	0.70	41.4	6.56	0.44	0.58	0.71	38.8	7.32	0.43	0.58	0.71	36.1	8.19	0.42	0.58	0.72
	3304	46.1	5.93	0.46	0.61	0.75	43.4	6.63	0.45	0.62	0.76	40.7	7.4	0.45	0.62	0.77	37.9	8.27	0.44	0.62	0.79
	3964	47.7	5.98	0.48	0.64	0.80	45.0	6.69	0.47	0.65	0.81	42.1	7.45	0.47	0.65	0.83	39.0	8.31	0.47	0.66	0.84

61.5 kW - STANDARD EFFICIENCY KCA210S4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2643	54.0	10.55	0.78	0.92	1.00	48.2	12.47	0.80	0.95	1.00	42.1	14.89	0.83	0.98	1.00	36.0	18.46	0.86	1.00	1.00
	3304	56.7	10.65	0.84	0.98	1.00	50.8	12.58	0.87	1.00	1.00	44.9	15.04	0.90	1.00	1.00	38.8	18.6	0.94	1.00	1.00
	3964	59.2	10.75	0.89	1.00	1.00	53.4	12.71	0.92	1.00	1.00	47.3	15.17	0.95	1.00	1.00	40.9	18.69	0.99	1.00	1.00
19.4°C	2643	57.6	10.68	0.60	0.76	0.90	51.5	12.62	0.60	0.78	0.92	45.0	15.05	0.61	0.80	0.96	38.3	18.56	0.61	0.84	0.99
	3304	60.3	10.79	0.64	0.82	0.96	53.8	12.73	0.65	0.85	0.99	47.1	15.15	0.66	0.88	1.00	40.0	18.67	0.68	0.92	1.00
	3964	62.2	10.87	0.68	0.87	1.00	55.4	12.80	0.69	0.90	1.00	48.5	15.23	0.71	0.94	1.00	41.3	18.76	0.74	0.98	1.00
21.7°C	2643	61.1	10.82	0.44	0.59	0.74	54.7	12.76	0.43	0.60	0.76	48.1	15.19	0.41	0.60	0.78	41.1	18.71	0.39	0.61	0.82
	3304	63.9	10.94	0.46	0.64	0.80	57.1	12.89	0.45	0.64	0.83	50.1	15.31	0.44	0.66	0.86	42.8	18.83	0.43	0.68	0.91
	3964	65.8	11.03	0.48	0.67	0.86	58.7	12.98	0.48	0.69	0.89	51.6	15.39	0.47	0.71	0.93	44.0	18.93	0.46	0.74	0.97

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2643	38.7	16.63	0.84	0.99	1.00	37.3	17.56	0.85	1.00	1.00
	3304	41.6	16.78	0.92	1.00	1.00	40.2	17.71	0.93	1.00	1.00
	3964	43.9	16.91	0.98	1.00	1.00	42.3	17.79	0.98	1.00	1.00
19.4°C	2643	41.4	16.77	0.61	0.82	0.98	39.7	17.66	0.61	0.83	0.99
	3304	43.2	16.86	0.67	0.90	1.00	41.6	17.77	0.67	0.91	1.00
	3964	44.7	16.94	0.72	0.96	1.00	43.0	17.84	0.73	0.97	1.00
21.7°C	2643	44.3	16.92	0.40	0.61	0.80	42.6	17.81	0.40	0.61	0.81
	3304	46.1	17.02	0.44	0.67	0.88	44.4	17.92	0.43	0.67	0.90
	3964	47.4	17.11	0.46	0.72	0.95	45.7	17.99	0.46	0.73	0.96

RATINGS

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

70.3 kW - STANDARD EFFICIENCY KCA240S4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3020	43.2	6.45	0.72	0.86	0.99	40.7	7.13	0.73	0.88	1.00	38.0	7.87	0.74	0.89	1.00	35.3	8.72	0.75	0.92	1.00
	3776	45.6	6.47	0.78	0.94	1.00	42.9	7.15	0.79	0.96	1.00	40.1	7.91	0.8	0.97	1.00	37.2	8.75	0.81	0.99	1.00
	4531	47.3	6.48	0.82	0.99	1.00	44.6	7.17	0.84	1.00	1.00	42.0	7.94	0.85	1.00	1.00	39.2	8.80	0.87	1.00	1.00
19.4°C	3020	46.0	6.47	0.57	0.70	0.83	43.4	7.16	0.57	0.71	0.84	40.7	7.92	0.57	0.72	0.86	37.8	8.77	0.57	0.73	0.88
	3776	48.4	6.50	0.60	0.76	0.91	45.7	7.20	0.61	0.77	0.92	42.7	7.96	0.61	0.78	0.94	39.5	8.79	0.6	0.79	0.96
	4531	50.0	6.51	0.63	0.81	0.96	47.0	7.21	0.63	0.81	0.98	44.0	7.98	0.63	0.83	1.00	40.8	8.83	0.64	0.86	1.00
21.7°C	3020	48.9	6.50	0.44	0.57	0.68	46.0	7.19	0.42	0.55	0.68	43.1	7.96	0.41	0.56	0.7	40.1	8.81	0.41	0.56	0.71
	3776	51.0	6.52	0.45	0.59	0.74	48.2	7.23	0.44	0.6	0.75	45.0	8.00	0.44	0.6	0.76	41.8	8.85	0.42	0.60	0.77
	4531	52.5	6.55	0.47	0.63	0.79	49.4	7.26	0.45	0.62	0.79	46.2	8.03	0.44	0.63	0.82	42.8	8.87	0.43	0.64	0.83

70.3 kW - STANDARD EFFICIENCY KCA240S4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3020	60.6	11.30	0.76	0.92	1.00	54.2	13.18	0.78	0.96	1.00	47.3	15.40	0.81	1.00	1.00	40.9	18.2	0.85	1.00	1.00
	3776	63.8	11.36	0.83	1.00	1.00	57.6	13.25	0.86	1.00	1.00	51.0	15.50	0.89	1.00	1.00	44.0	18.26	0.95	1.00	1.00
	4531	67.3	11.43	0.89	1.00	1.00	60.8	13.33	0.93	1.00	1.00	53.7	15.57	0.97	1.00	1.00	46.6	18.32	1.00	1.00	1.00
19.4°C	3020	64.9	11.38	0.59	0.74	0.89	58.0	13.26	0.59	0.76	0.93	50.8	15.49	0.58	0.79	0.97	43.2	18.24	0.6	0.83	1.00
	3776	67.9	11.44	0.63	0.81	0.97	60.5	13.32	0.63	0.84	1.00	52.9	15.54	0.65	0.87	1.00	45.2	18.3	0.67	0.94	1.00
	4531	70.0	11.49	0.66	0.87	1.00	62.3	13.36	0.68	0.90	1.00	54.7	15.59	0.70	0.96	1.00	46.7	18.33	0.73	1.00	1.00
21.7°C	3020	69.2	11.47	0.43	0.58	0.72	62.1	13.36	0.42	0.58	0.74	54.5	15.59	0.40	0.58	0.76	46.6	18.32	0.38	0.6	0.81
	3776	72.1	11.54	0.45	0.62	0.79	64.5	13.43	0.44	0.63	0.81	56.6	15.64	0.43	0.64	0.86	48.5	18.36	0.41	0.67	0.91
	4531	74.1	11.58	0.47	0.65	0.85	66.2	13.46	0.46	0.67	0.89	58.3	15.69	0.46	0.70	0.94	49.8	18.4	0.45	0.74	0.99

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3020	43.7	16.86	0.83	1.00	1.00	42.1	17.56	0.84	1.00	1.00
	3776	47.1	16.94	0.93	1.00	1.00	45.5	17.63	0.94	1.00	1.00
	4531	49.8	17.02	1.00	1.00	1.00	47.9	17.70	1.00	1.00	1.00
19.4°C	3020	46.6	16.95	0.59	0.80	0.99	44.9	17.63	0.60	0.82	1.00
	3776	48.6	16.98	0.66	0.90	1.00	46.8	17.67	0.66	0.92	1.00
	4531	50.3	17.04	0.72	0.99	1.00	48.3	17.70	0.72	1.00	1.00
21.7°C	3020	50.0	17.02	0.40	0.59	0.78	48.1	17.70	0.39	0.59	0.79
	3776	52.1	17.07	0.42	0.66	0.88	50.1	17.75	0.42	0.66	0.90
	4531	53.4	17.11	0.45	0.72	0.97	51.5	17.79	0.45	0.73	0.98

RATINGS

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

88 kW - STANDARD EFFICIENCY KCA300S4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3776	54.1	8.72	0.76	0.9	0.99	50.9	9.6	0.77	0.91	1.00	47.5	10.57	0.78	0.92	1.00	43.9	11.67	0.79	0.94	1.00
	4484	56.3	8.82	0.81	0.94	1.00	53.1	9.71	0.82	0.96	1.00	49.4	10.67	0.83	0.97	1.00	45.7	11.78	0.84	0.99	1.00
	5191	58.1	8.91	0.85	0.98	1.00	54.7	9.79	0.86	0.99	1.00	51.1	10.77	0.87	1.00	1.00	47.6	11.88	0.89	1.00	1.00
19.4°C	3776	57.8	8.90	0.6	0.75	0.87	54.4	9.77	0.6	0.75	0.88	50.8	10.75	0.6	0.76	0.9	47.0	11.84	0.6	0.77	0.91
	4484	59.9	9.00	0.63	0.79	0.92	56.3	9.87	0.63	0.8	0.93	52.6	10.84	0.63	0.81	0.95	48.7	11.95	0.64	0.83	0.97
	5191	61.5	9.07	0.66	0.83	0.96	57.9	9.96	0.66	0.84	0.98	54.1	10.93	0.66	0.86	0.99	50.0	12.02	0.67	0.87	1.00
21.7°C	3776	61.5	9.08	0.46	0.59	0.72	58.0	9.96	0.45	0.59	0.73	54.2	10.93	0.43	0.59	0.73	50.3	12.04	0.42	0.59	0.75
	4484	63.5	9.18	0.46	0.61	0.77	59.9	10.07	0.45	0.62	0.77	56.0	11.04	0.45	0.63	0.79	51.9	12.14	0.44	0.63	0.81
	5191	65.1	9.27	0.49	0.66	0.81	61.4	10.15	0.48	0.66	0.82	57.5	11.12	0.47	0.66	0.84	53.2	12.22	0.46	0.66	0.86

88 kW - STANDARD EFFICIENCY KCA300S4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3776	74.5	15.14	0.79	0.93	1.00	66.0	17.54	0.81	0.96	1.00	57.4	20.5	0.84	1.00	1.00	49.1	24.51	0.88	1.00	1.00
	4484	77.5	15.30	0.84	0.98	1.00	69.0	17.7	0.87	1.00	1.00	60.7	20.72	0.9	1.00	1.00	52.2	24.77	0.94	1.00	1.00
	5191	80.2	15.44	0.89	1.00	1.00	72.2	17.88	0.91	1.00	1.00	63.5	20.91	0.95	1.00	1.00	54.7	24.94	0.99	1.00	1.00
19.4°C	3776	79.7	15.42	0.61	0.77	0.91	70.9	17.82	0.61	0.79	0.94	61.6	20.78	0.61	0.82	0.98	52.0	24.73	0.62	0.86	1.00
	4484	82.5	15.57	0.64	0.82	0.96	73.2	17.96	0.65	0.85	0.99	63.4	20.9	0.66	0.89	1.00	53.7	24.86	0.68	0.93	1.00
	5191	84.6	15.70	0.67	0.87	1.00	75.0	18.08	0.69	0.90	1.00	65.1	21.02	0.71	0.94	1.00	55.2	24.98	0.73	0.98	1.00
21.7°C	3776	85.1	15.71	0.45	0.6	0.75	75.8	18.12	0.43	0.6	0.77	66.4	21.09	0.41	0.61	0.8	56.4	25.09	0.39	0.62	0.85
	4484	87.9	15.87	0.46	0.63	0.8	78.4	18.29	0.45	0.64	0.83	68.4	21.25	0.44	0.66	0.87	58.1	25.23	0.42	0.68	0.91
	5191	90.1	16.02	0.48	0.67	0.86	80.2	18.41	0.47	0.68	0.89	69.8	21.36	0.46	0.71	0.92	59.5	25.34	0.45	0.74	0.97

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3776	52.7	22.54	0.86	1.00	1.00	50.8	23.56	0.87	1.00	1.00
	4484	56.1	22.79	0.92	1.00	1.00	54.1	23.80	0.93	1.00	1.00
	5191	58.7	22.97	0.98	1.00	1.00	56.5	23.97	0.99	1.00	1.00
19.4°C	3776	56.3	22.80	0.62	0.85	1.00	54.1	23.80	0.62	0.86	1.00
	4484	58.1	22.93	0.67	0.91	1.00	55.9	23.93	0.67	0.92	1.00
	5191	59.7	23.06	0.72	0.96	1.00	57.3	24.03	0.73	0.97	1.00
21.7°C	3776	60.8	23.14	0.40	0.62	0.82	58.4	24.13	0.39	0.62	0.84
	4484	62.7	23.28	0.43	0.67	0.89	60.2	24.28	0.43	0.68	0.90
	5191	64.0	23.38	0.45	0.72	0.95	61.6	24.38	0.45	0.73	0.96

RATINGS

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

45.7 kW - HIGH EFFICIENCY KCA156H4 (1ST STAGE) CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	1965	28.6	3.87	0.71	0.85	0.99	26.6	4.38	0.71	0.86	1.00	24.6	4.94	0.72	0.88	1.00	22.5	5.57	0.72	0.91	1.00
	2455	30.3	3.9	0.76	0.93	1.00	28.2	4.41	0.77	0.95	1.00	26.1	4.97	0.78	0.97	1.00	24.0	5.60	0.79	0.99	1.00
	2945	31.6	3.93	0.81	0.99	1.00	29.6	4.44	0.83	1.00	1.00	27.6	5.00	0.85	1.00	1.00	25.6	5.64	0.87	1.00	1.00
19.4°C	1965	30.7	3.91	0.56	0.68	0.81	28.7	4.42	0.55	0.69	0.83	26.6	4.98	0.54	0.69	0.84	24.4	5.61	0.54	0.70	0.87
	2455	32.4	3.95	0.59	0.74	0.90	30.3	4.45	0.59	0.75	0.92	28.1	5.01	0.59	0.76	0.94	25.9	5.64	0.59	0.77	0.96
	2945	33.8	3.98	0.62	0.79	0.97	31.5	4.48	0.62	0.81	0.99	29.2	5.04	0.63	0.82	0.99	26.9	5.67	0.63	0.85	1.00
21.7°C	1965	32.7	3.95	0.42	0.55	0.66	30.6	4.46	0.41	0.54	0.67	28.5	5.02	0.39	0.54	0.67	26.3	5.65	0.37	0.53	0.68
	2455	34.6	3.99	0.44	0.58	0.72	32.4	4.50	0.42	0.58	0.73	30.1	5.06	0.41	0.58	0.74	27.9	5.69	0.40	0.58	0.75
	2945	35.9	4.03	0.45	0.62	0.77	33.7	4.53	0.44	0.62	0.78	31.3	5.09	0.43	0.62	0.80	28.9	5.72	0.42	0.63	0.82

45.7 kW - HIGH EFFICIENCY KCA156H4 (2ND STAGE) CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	1965	39.3	7.04	0.74	0.91	1.00	34.6	8.43	0.76	0.95	1.00	29.7	10.11	0.78	0.99	1.00	25.0	12.20	0.81	1.00	1.00
	2455	41.6	7.09	0.81	0.99	1.00	37.1	8.48	0.83	1.00	1.00	32.4	10.18	0.87	1.00	1.00	27.5	12.27	0.93	1.00	1.00
	2945	44.0	7.15	0.87	1.00	1.00	39.4	8.54	0.91	1.00	1.00	34.6	10.24	0.96	1.00	1.00	29.5	12.32	1.00	1.00	1.00
19.4°C	1965	42.3	7.11	0.57	0.72	0.87	37.5	8.49	0.56	0.74	0.91	32.3	10.18	0.56	0.75	0.95	27.0	12.25	0.55	0.79	0.99
	2455	44.6	7.16	0.61	0.79	0.96	39.5	8.54	0.61	0.81	0.99	34.1	10.23	0.61	0.85	1.00	28.5	12.30	0.62	0.90	1.00
	2945	46.2	7.2	0.65	0.85	1.00	40.9	8.58	0.66	0.89	1.00	35.4	10.26	0.67	0.93	1.00	29.7	12.33	0.69	0.99	1.00
21.7°C	1965	45.3	7.17	0.41	0.56	0.70	40.3	8.56	0.39	0.56	0.71	35.1	10.25	0.37	0.55	0.73	29.6	12.32	0.32	0.55	0.76
	2455	47.7	7.23	0.43	0.60	0.77	42.5	8.62	0.41	0.61	0.79	37.0	10.30	0.39	0.61	0.82	31.2	12.37	0.36	0.62	0.87
	2945	49.5	7.28	0.45	0.64	0.83	44.0	8.66	0.43	0.65	0.86	38.3	10.34	0.42	0.67	0.91	32.4	12.41	0.40	0.69	0.96

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	1965	27.0	11.23	0.79	1.00	1.00	25.9	11.74	0.81	1.00	1.00
	2455	29.7	11.30	0.90	1.00	1.00	28.5	11.81	0.92	1.00	1.00
	2945	31.8	11.35	0.98	1.00	1.00	30.5	11.87	0.99	1.00	1.00
19.4°C	1965	29.4	11.29	0.55	0.77	0.98	28.1	11.80	0.55	0.78	0.99
	2455	31.0	11.33	0.62	0.87	1.00	29.7	11.84	0.62	0.89	1.00
	2945	32.2	11.37	0.68	0.96	1.00	30.9	11.88	0.68	0.98	1.00
21.7°C	1965	32.0	11.36	0.34	0.55	0.75	30.7	11.87	0.33	0.55	0.76
	2455	33.8	11.41	0.38	0.62	0.85	32.4	11.92	0.37	0.62	0.86
	2945	35.0	11.45	0.41	0.68	0.94	33.6	11.96	0.40	0.69	0.95

RATINGS

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

52.8 kW - HIGH EFFICIENCY KCA180H4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2265	33.1	4.13	0.73	0.86	0.98	31.1	4.77	0.73	0.87	0.99	28.9	5.46	0.74	0.89	1.00	26.7	6.22	0.75	0.90	1.00
	2830	35.1	4.14	0.78	0.93	1.00	32.9	4.78	0.79	0.94	1.00	30.6	5.48	0.80	0.96	1.00	28.3	6.25	0.81	0.98	1.00
	3400	36.5	4.14	0.83	0.98	1.00	34.3	4.79	0.84	1.00	1.00	32.1	5.49	0.85	1.00	1.00	29.9	6.26	0.87	1.00	1.00
19.4°C	2265	35.5	4.14	0.58	0.71	0.83	33.3	4.78	0.57	0.71	0.84	31.1	5.48	0.57	0.71	0.85	28.8	6.25	0.56	0.72	0.87
	2830	37.5	4.14	0.61	0.76	0.90	35.3	4.79	0.61	0.77	0.91	32.9	5.50	0.61	0.78	0.93	30.5	6.27	0.61	0.79	0.95
	3400	39.0	4.14	0.64	0.81	0.95	36.7	4.80	0.65	0.82	0.97	34.2	5.51	0.65	0.83	0.99	31.7	6.29	0.65	0.85	1.00
21.7°C	2265	37.7	4.14	0.44	0.57	0.69	35.5	4.79	0.43	0.56	0.69	33.3	5.50	0.41	0.56	0.69	30.9	6.28	0.40	0.55	0.70
	2830	39.9	4.15	0.45	0.60	0.74	37.6	4.81	0.44	0.60	0.75	35.1	5.52	0.43	0.60	0.76	32.6	6.30	0.42	0.60	0.77
	3400	41.4	4.15	0.46	0.63	0.79	39.0	4.81	0.45	0.64	0.80	36.5	5.53	0.45	0.64	0.81	33.9	6.31	0.44	0.64	0.83

52.8 kW - HIGH EFFICIENCY KCA180H4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2265	45.7	7.68	0.75	0.91	1.00	40.6	9.36	0.76	0.94	1.00	35.2	11.30	0.78	0.98	1.00	29.6	13.58	0.82	1.00	1.00
	2830	48.3	7.7	0.81	0.99	1.00	43.2	9.39	0.83	1.00	1.00	38.1	11.36	0.87	1.00	1.00	32.3	13.65	0.93	1.00	1.00
	3400	50.8	7.72	0.87	1.00	1.00	45.8	9.43	0.90	1.00	1.00	40.4	11.41	0.95	1.00	1.00	34.4	13.70	1.00	1.00	1.00
19.4°C	2265	49.1	7.71	0.57	0.73	0.87	43.9	9.40	0.57	0.74	0.91	38.1	11.36	0.57	0.76	0.95	31.9	13.64	0.57	0.80	1.00
	2830	51.7	7.73	0.62	0.79	0.96	46.1	9.43	0.62	0.81	0.99	40.1	11.40	0.62	0.85	1.00	33.4	13.68	0.64	0.90	1.00
	3400	53.5	7.74	0.65	0.85	1.00	47.7	9.45	0.66	0.88	1.00	41.4	11.43	0.67	0.93	1.00	34.7	13.72	0.70	0.99	1.00
21.7°C	2265	52.4	7.73	0.42	0.56	0.70	47.0	9.44	0.40	0.56	0.72	41.1	11.42	0.38	0.56	0.74	34.6	13.71	0.34	0.57	0.78
	2830	55.1	7.75	0.43	0.61	0.77	49.4	9.48	0.42	0.61	0.79	43.2	11.46	0.40	0.62	0.82	36.3	13.76	0.38	0.64	0.88
	3400	57.0	7.77	0.45	0.65	0.83	51.0	9.50	0.44	0.66	0.86	44.6	11.49	0.43	0.68	0.91	37.5	13.79	0.42	0.71	0.97

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2265	32.1	12.53	0.80	1.00	1.00	30.7	13.09	0.81	1.00	1.00
	2830	35.0	12.60	0.90	1.00	1.00	33.6	13.17	0.91	1.00	1.00
	3400	37.1	12.65	0.98	1.00	1.00	35.7	13.21	0.99	1.00	1.00
19.4°C	2265	34.7	12.60	0.57	0.78	0.98	33.1	13.15	0.57	0.79	0.99
	2830	36.4	12.64	0.63	0.88	1.00	34.8	13.19	0.63	0.89	1.00
	3400	37.7	12.67	0.69	0.96	1.00	36.1	13.23	0.69	0.98	1.00
21.7°C	2265	37.6	12.66	0.36	0.57	0.76	35.9	13.22	0.35	0.57	0.77
	2830	39.5	12.71	0.39	0.63	0.85	37.7	13.27	0.39	0.63	0.87
	3400	40.7	12.74	0.42	0.69	0.94	38.9	13.30	0.42	0.70	0.95

RATINGS

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

61.5 kW - HIGH EFFICIENCY KCA210H4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2645	36.8	4.54	0.75	0.90	1.00	34.5	5.17	0.76	0.92	1.00	32.0	5.85	0.77	0.94	1.00	29.5	6.61	0.79	0.97	1.00
	3305	38.9	4.58	0.81	0.98	1.00	36.4	5.21	0.83	1.00	1.00	34.1	5.90	0.84	1.00	1.00	31.8	6.66	0.86	1.00	1.00
	3965	40.9	4.63	0.87	1.00	1.00	38.6	5.26	0.89	1.00	1.00	36.1	5.95	0.91	1.00	1.00	33.6	6.72	0.94	1.00	1.00
19.4°C	2645	39.4	4.6	0.59	0.73	0.87	37.0	5.23	0.59	0.74	0.89	34.5	5.91	0.59	0.75	0.91	31.9	6.67	0.59	0.76	0.93
	3305	41.4	4.64	0.63	0.79	0.95	38.8	5.27	0.63	0.81	0.97	36.1	5.95	0.62	0.82	0.99	33.3	6.71	0.64	0.84	1.00
	3965	42.8	4.67	0.66	0.85	1.00	40.1	5.30	0.67	0.87	1.00	37.3	5.98	0.67	0.89	1.00	34.5	6.74	0.68	0.92	1.00
21.7°C	2645	42.3	4.66	0.44	0.58	0.71	39.7	5.29	0.43	0.58	0.72	37.0	5.98	0.42	0.58	0.73	34.3	6.74	0.41	0.58	0.74
	3305	44.2	4.71	0.46	0.62	0.77	41.5	5.34	0.45	0.62	0.79	38.7	6.02	0.44	0.62	0.80	35.8	6.78	0.43	0.63	0.82
	3965	45.6	4.74	0.47	0.65	0.83	42.8	5.37	0.44	0.66	0.85	39.8	6.06	0.47	0.67	0.87	36.8	6.81	0.45	0.68	0.89

61.5 kW - HIGH EFFICIENCY KCA210H4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2645	52.3	8.76	0.76	0.92	1.00	46.7	10.53	0.77	0.95	1.00	40.8	12.65	0.80	0.99	1.00	34.8	15.21	0.84	1.00	1.00
	3305	55.5	8.83	0.82	0.99	1.00	49.9	10.61	0.85	1.00	1.00	44.2	12.74	0.89	1.00	1.00	38.0	15.29	0.95	1.00	1.00
	3965	58.6	8.91	0.88	1.00	1.00	52.9	10.69	0.92	1.00	1.00	46.9	12.81	0.97	1.00	1.00	40.2	15.35	0.99	1.00	1.00
19.4°C	2645	56.3	8.85	0.58	0.73	0.88	50.3	10.62	0.58	0.75	0.92	43.9	12.73	0.58	0.77	0.96	37.0	15.26	0.58	0.82	0.99
	3305	59.1	8.92	0.62	0.80	0.97	52.7	10.68	0.63	0.82	0.99	46.1	12.79	0.64	0.86	1.00	39.0	15.32	0.65	0.93	1.00
	3965	61.1	8.97	0.65	0.87	1.00	54.5	10.73	0.67	0.90	1.00	47.8	12.84	0.69	0.95	1.00	40.5	15.36	0.73	0.99	1.00
21.7°C	2645	60.4	8.95	0.42	0.57	0.71	54.2	10.72	0.41	0.57	0.73	47.5	12.83	0.39	0.57	0.75	40.3	15.34	0.37	0.58	0.79
	3305	63.2	9.02	0.44	0.61	0.78	56.6	10.79	0.43	0.62	0.81	49.6	12.89	0.41	0.63	0.84	42.2	15.40	0.40	0.66	0.90
	3965	65.1	9.07	0.46	0.65	0.85	58.4	10.84	0.44	0.67	0.88	51.3	12.94	0.45	0.69	0.93	43.5	15.45	0.44	0.73	0.98

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	2645	37.5	14.03	0.82	1.00	1.00	36.0	14.66	0.83	1.00	1.00
	3305	40.7	14.11	0.92	1.00	1.00	39.2	14.73	0.94	1.00	1.00
	3965	43.2	14.18	0.99	1.00	1.00	41.6	14.80	0.99	1.00	1.00
19.4°C	2645	40.2	14.10	0.58	0.79	0.98	38.4	14.72	0.58	0.81	0.99
	3305	42.1	14.15	0.64	0.90	1.00	40.4	14.77	0.65	0.91	1.00
	3965	43.7	14.19	0.71	0.98	1.00	42.0	14.81	0.72	0.98	1.00
21.7°C	2645	43.6	14.19	0.38	0.58	0.77	41.9	14.81	0.37	0.58	0.78
	3305	45.5	14.25	0.41	0.64	0.87	43.7	14.86	0.41	0.65	0.89
	3965	47.0	14.28	0.45	0.71	0.96	45.1	14.90	0.44	0.72	0.97

RATINGS

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

70.3 kW - HIGH EFFICIENCY KCA240H4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3020	33.6	4.26	0.72	0.86	0.99	31.7	4.85	0.73	0.88	1.00	29.9	5.50	0.74	0.90	1.00	27.9	6.23	0.75	0.93	1.00
	3775	35.4	4.3	0.77	0.94	1.00	33.5	4.90	0.79	0.97	1.00	31.6	5.55	0.80	0.98	1.00	29.6	6.27	0.82	0.99	1.00
	4530	37.0	4.34	0.83	0.99	1.00	35.0	4.94	0.85	1.00	1.00	33.1	5.59	0.86	1.00	1.00	31.2	6.32	0.90	1.00	1.00
19.4°C	3020	35.9	4.31	0.57	0.70	0.83	34.0	4.91	0.57	0.70	0.84	32.0	5.56	0.57	0.72	0.86	29.9	6.28	0.57	0.73	0.89
	3775	37.6	4.35	0.60	0.75	0.91	35.5	4.95	0.61	0.77	0.93	33.4	5.60	0.61	0.78	0.96	31.2	6.32	0.61	0.80	0.98
	4530	38.9	4.39	0.64	0.81	0.98	36.7	4.98	0.63	0.82	0.99	34.5	5.63	0.65	0.84	1.00	32.2	6.36	0.66	0.87	1.00
21.7°C	3020	38.2	4.37	0.43	0.55	0.67	36.3	4.97	0.42	0.56	0.68	34.1	5.62	0.42	0.56	0.70	31.9	6.35	0.41	0.56	0.71
	3775	40.0	4.42	0.44	0.59	0.73	37.9	5.02	0.44	0.60	0.75	35.7	5.67	0.44	0.61	0.76	33.3	6.39	0.43	0.61	0.78
	4530	41.3	4.45	0.46	0.63	0.79	39.0	5.05	0.46	0.63	0.80	36.7	5.70	0.45	0.64	0.82	34.2	6.42	0.46	0.65	0.85

70.3 kW - HIGH EFFICIENCY KCA240H4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3020	62.5	10.37	0.77	0.94	1.00	56.6	12.48	0.79	0.97	1.00	50.5	15.05	0.82	0.99	1.00	44.0	18.21	0.88	1.00	1.00
	3775	66.0	10.47	0.83	1.00	1.00	60.1	12.59	0.87	1.00	1.00	53.9	15.17	0.92	1.00	1.00	47.1	18.31	0.97	1.00	1.00
	4530	69.3	10.57	0.90	1.00	1.00	63.2	12.69	0.94	1.00	1.00	56.5	15.26	0.98	1.00	1.00	49.4	18.39	1.00	1.00	1.00
19.4°C	3020	66.6	10.48	0.59	0.74	0.90	60.2	12.59	0.60	0.77	0.94	53.3	15.15	0.61	0.80	0.98	45.9	18.27	0.62	0.85	1.00
	3775	69.4	10.57	0.63	0.81	0.98	62.7	12.67	0.64	0.84	1.00	55.5	15.23	0.66	0.89	1.00	47.7	18.34	0.69	0.96	1.00
	4530	71.5	10.64	0.67	0.88	1.00	64.5	12.74	0.69	0.92	1.00	57.3	15.29	0.71	0.97	1.00	49.5	18.41	0.76	1.00	1.00
21.7°C	3020	71.0	10.62	0.43	0.58	0.72	64.4	12.73	0.42	0.59	0.75	57.1	15.28	0.41	0.60	0.78	49.2	18.39	0.41	0.62	0.83
	3775	73.8	10.71	0.45	0.63	0.79	66.7	12.81	0.45	0.64	0.82	59.1	15.36	0.44	0.66	0.87	50.9	18.45	0.44	0.69	0.94
	4530	75.7	10.77	0.47	0.66	0.86	68.4	12.87	0.47	0.69	0.90	60.6	15.41	0.47	0.71	0.96	52.2	18.50	0.47	0.76	0.99

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3020	46.9	16.74	0.84	1.00	1.00	45.3	17.52	0.86	1.00	1.00
	3775	50.2	16.85	0.95	1.00	1.00	48.5	17.62	0.96	1.00	1.00
	4530	52.7	16.94	1.00	1.00	1.00	50.9	17.72	1.00	1.00	1.00
19.4°C	3020	49.1	16.82	0.61	0.82	0.99	47.4	17.59	0.62	0.84	1.00
	3775	51.3	16.90	0.67	0.93	1.00	49.4	17.66	0.68	0.94	1.00
	4530	53.0	16.95	0.74	0.99	1.00	51.1	17.72	0.75	0.99	1.00
21.7°C	3020	52.8	16.94	0.41	0.61	0.80	50.8	17.71	0.41	0.61	0.81
	3775	54.6	17.01	0.44	0.67	0.90	52.6	17.77	0.44	0.68	0.92
	4530	56.0	17.07	0.47	0.74	0.98	53.9	17.83	0.47	0.75	0.99

RATINGS

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

88 kW - HIGH EFFICIENCY KCA300H4 (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		18.3°C					23.9°C					29.4°C					35°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3775	39.2	5.65	0.72	0.86	0.98	37.2	6.36	0.73	0.87	0.99	35.1	7.15	0.74	0.89	1.00	33.1	8.05	0.75	0.91	1.00
	4485	40.7	5.7	0.76	0.91	1.00	38.7	6.42	0.77	0.93	1.00	36.6	7.21	0.79	0.95	1.00	34.5	8.11	0.80	0.97	1.00
	5190	42.1	5.74	0.80	0.96	1.00	40.0	6.46	0.81	0.97	1.00	37.9	7.26	0.83	0.99	1.00	35.7	8.16	0.85	1.00	1.00
19.4°C	3775	41.7	5.73	0.57	0.70	0.82	39.7	6.45	0.57	0.71	0.84	37.5	7.24	0.57	0.71	0.86	35.3	8.14	0.58	0.73	0.88
	4485	43.3	5.78	0.59	0.73	0.88	41.2	6.50	0.60	0.75	0.90	38.8	7.30	0.60	0.76	0.92	36.4	8.19	0.61	0.78	0.94
	5190	44.5	5.82	0.62	0.77	0.93	42.2	6.54	0.62	0.79	0.95	39.9	7.34	0.63	0.81	0.97	37.4	8.24	0.64	0.83	0.98
21.7°C	3775	44.4	5.82	0.43	0.56	0.68	42.2	6.54	0.43	0.56	0.68	40.0	7.34	0.43	0.56	0.69	37.6	8.24	0.42	0.57	0.71
	4485	46.0	5.88	0.44	0.58	0.71	43.7	6.60	0.44	0.59	0.72	41.4	7.40	0.44	0.59	0.74	38.8	8.30	0.43	0.60	0.76
	5190	47.3	5.92	0.45	0.61	0.75	44.9	6.65	0.45	0.61	0.77	42.5	7.45	0.45	0.63	0.79	39.8	8.35	0.45	0.64	0.81

88 kW - HIGH EFFICIENCY KCA300H4 (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		26.7°C					35°C					43.3°C					51.7°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3775	73.4	13.67	0.77	0.94	1.00	67.0	16.31	0.80	0.97	1.00	60.1	19.55	0.83	0.99	1.00	53.1	23.66	0.88	1.00	1.00
	4485	76.1	13.78	0.82	0.99	1.00	69.8	16.43	0.85	1.00	1.00	63.1	19.71	0.89	1.00	1.00	55.8	23.79	0.95	1.00	1.00
	5190	78.9	13.89	0.87	1.00	1.00	72.6	16.56	0.91	1.00	1.00	65.6	19.83	0.95	1.00	1.00	57.9	23.89	0.99	1.00	1.00
19.4°C	3775	78.0	13.85	0.60	0.75	0.90	71.0	16.49	0.61	0.78	0.94	63.6	19.73	0.62	0.81	0.98	55.2	23.75	0.64	0.85	1.00
	4485	80.5	13.96	0.63	0.80	0.97	73.2	16.59	0.64	0.83	0.99	65.5	19.81	0.66	0.87	1.00	56.9	23.83	0.69	0.93	1.00
	5190	82.4	14.04	0.66	0.85	1.00	75.0	16.67	0.67	0.89	1.00	67.0	19.89	0.70	0.93	1.00	58.2	23.92	0.73	0.99	1.00
21.7°C	3775	82.9	14.06	0.44	0.59	0.73	75.6	16.70	0.43	0.60	0.75	67.9	19.94	0.43	0.61	0.79	59.1	23.96	0.43	0.63	0.83
	4485	85.5	14.17	0.45	0.62	0.78	77.9	16.81	0.45	0.64	0.81	69.7	20.03	0.45	0.65	0.85	60.6	24.03	0.45	0.69	0.91
	5190	87.5	14.26	0.46	0.65	0.83	79.5	16.89	0.46	0.67	0.86	71.0	20.10	0.47	0.69	0.91	61.7	24.10	0.47	0.73	0.97

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil									
		48°C					50°C				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	kW	kW	24°C	27°C	29°C	kW	kW	24°C	27°C	29°C
17.2°C	3775	56.2	21.71	0.85	1.00	1.00	54.5	22.74	0.87	1.00	1.00
	4485	59.1	21.87	0.93	1.00	1.00	57.4	22.89	0.94	1.00	1.00
	5190	61.3	21.96	0.98	1.00	1.00	59.6	23.00	0.99	1.00	1.00
19.4°C	3775	59.0	21.86	0.63	0.83	0.99	57.0	22.85	0.63	0.84	1.00
	4485	60.8	21.96	0.67	0.90	1.00	58.7	22.96	0.68	0.92	1.00
	5190	62.2	22.01	0.71	0.97	1.00	60.1	23.03	0.72	0.98	1.00
21.7°C	3775	63.0	22.06	0.43	0.62	0.81	61.0	23.06	0.43	0.63	0.82
	4485	64.7	22.16	0.45	0.67	0.88	62.5	23.16	0.45	0.68	0.90
	5190	65.8	22.21	0.47	0.71	0.95	63.7	23.22	0.47	0.72	0.96

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 (electric heat, economizer, etc.)
3 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.)

Then determine from blower table blower motor output and drive required.
See page 25 for wet coil and option/accessory air resistance data.
See page 25 for factory installed drive kit specifications.

MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT

All units require 2830 L/s (6000 cfm) minimum air with electric heat.

Air Volume		TOTAL STATIC PRESSURE - Pa (Inches Water Gauge)																	
		100 (0.40)			150 (0.60)			200 (0.80)			250 (1.00)			300 (1.20)			350 (1.40)		
L/s	cfm	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP
2240	4750	575	0.82	1.10	660	1.08	1.45	740	1.34	1.80	810	1.60	2.15	870	1.86	2.50	930	2.13	2.85
2360	5000	585	0.93	1.25	670	1.19	1.60	750	1.45	1.95	815	1.72	2.30	880	2.01	2.70	940	2.27	3.05
2480	5250	595	1.01	1.35	680	1.27	1.70	755	1.57	2.10	825	1.86	2.50	890	2.16	2.90	945	2.42	3.25
2595	5500	605	1.08	1.45	690	1.38	1.85	765	1.68	2.25	835	1.98	2.65	895	2.27	3.05	955	2.57	3.45
2715	5750	615	1.19	1.60	700	1.49	2.00	775	1.83	2.45	840	2.13	2.85	905	2.42	3.25	960	2.72	3.65
2830	6000	630	1.30	1.75	710	1.60	2.15	785	1.94	2.60	850	2.27	3.05	910	2.57	3.45	970	2.91	3.90
2950	6250	640	1.42	1.90	720	1.75	2.35	795	2.09	2.80	860	2.42	3.25	920	2.76	3.70	975	3.09	4.15
3070	6500	650	1.53	2.05	730	1.86	2.50	805	2.24	3.00	870	2.57	3.45	930	2.95	3.95	985	3.28	4.40
3185	6750	665	1.64	2.20	745	2.01	2.70	815	2.39	3.20	880	2.76	3.70	940	3.13	4.20	995	3.47	4.65
3305	7000	675	1.75	2.35	755	2.16	2.90	825	2.54	3.40	890	2.95	3.95	950	3.32	4.45	1005	3.69	4.95
3420	7250	690	1.94	2.60	765	2.31	3.10	835	2.72	3.65	900	3.09	4.15	955	3.47	4.65	1015	3.91	5.25
3540	7500	700	2.05	2.75	775	2.46	3.30	845	2.87	3.85	910	3.32	4.45	965	3.69	4.95	1020	4.10	5.50
3660	7750	715	2.24	3.00	790	2.65	3.55	855	3.06	4.10	920	3.50	4.70	975	3.91	5.25	1030	4.33	5.80
3775	8000	725	2.39	3.20	800	2.83	3.80	865	3.24	4.35	930	3.69	4.95	985	4.10	5.50	1040	4.55	6.10
3895	8250	740	2.54	3.40	810	2.98	4.00	880	3.47	4.65	940	3.91	5.25	995	4.36	5.85	1050	4.81	6.45
4010	8500	750	2.72	3.65	825	3.21	4.30	890	3.65	4.90	950	4.14	5.55	1005	4.59	6.15	1060	5.07	6.80
4130	8750	765	2.91	3.90	835	3.39	4.55	900	3.88	5.20	960	4.36	5.85	1015	4.81	6.45	1070	5.33	7.15
4250	9000	780	3.13	4.20	850	3.62	4.85	910	4.10	5.50	970	4.59	6.15	1025	5.07	6.80	1080	5.59	7.50
4365	9250	790	3.32	4.45	860	3.84	5.15	925	4.36	5.85	985	4.88	6.55	1040	5.37	7.20	1090	5.85	7.85
4485	9500	805	3.54	4.75	875	4.06	5.45	935	4.59	6.15	995	5.15	6.90	1050	5.67	7.60	1100	6.15	8.25
4600	9750	820	3.77	5.05	885	4.29	5.75	950	4.88	6.55	1005	5.37	7.20	1060	5.93	7.95	1110	6.45	8.65
4720	10 000	835	4.03	5.40	900	4.59	6.15	960	5.11	6.85	1015	5.67	7.60	1070	6.23	8.35	1120	6.75	9.05
4835	10 250	845	4.21	5.65	910	4.81	6.45	970	5.37	7.20	1030	5.97	8.00	1080	6.52	8.75	1135	7.12	9.55
4955	10 500	860	4.47	6.00	925	5.11	6.85	985	5.70	7.65	1040	6.26	8.40	1095	6.86	9.20	1145	7.46	10.00
5075	10 750	875	4.77	6.40	940	5.41	7.25	1000	6.00	8.05	1055	6.60	8.85	1105	7.20	9.65	1155	7.79	10.45
5190	11 000	890	5.07	6.80	950	5.67	7.60	1010	6.30	8.45	1065	6.94	9.30	1115	7.49	10.05	1165	8.13	10.90

CONTINUED ON NEXT PAGE

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 (electric heat, economizer, etc.)
3 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.)

Then determine from blower table blower motor output and drive required.
See page 25 for wet coil and option/accessory air resistance data.
See page 25 for factory installed drive kit specifications.

MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC wHEAT

All units require 2830 L/s (6000 cfm) minimum air with electric heat.

Air Volume		TOTAL STATIC PRESSURE - Pa (Inches Water Gauge)																	
		400 (1.60)			450 (1.80)			500 (2.00)			550 (2.20)			600 (2.40)			650 (2.60)		
L/s	cfm	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP	rev/ min	kW	BHP
2240	4750	985	2.39	3.20	1040	2.65	3.55	1085	2.91	3.90	1135	3.17	4.25	1180	3.47	4.65	1225	3.73	5.00
2360	5000	995	2.54	3.40	1045	2.83	3.80	1095	3.09	4.15	1140	3.36	4.50	1185	3.65	4.90	1230	3.95	5.30
2480	5250	1000	2.72	3.65	1050	2.98	4.00	1100	3.28	4.40	1150	3.58	4.80	1195	3.88	5.20	1235	4.18	5.60
2595	5500	1010	2.87	3.85	1060	3.17	4.25	1110	3.50	4.70	1155	3.80	5.10	1200	4.10	5.50	1240	4.40	5.90
2715	5750	1015	3.06	4.10	1065	3.36	4.50	1115	3.69	4.95	1160	3.99	5.35	1205	4.33	5.80	1250	4.66	6.25
2830	6000	1025	3.24	4.35	1075	3.58	4.80	1120	3.88	5.20	1170	4.21	5.65	1215	4.55	6.10	1255	4.88	6.55
2950	6250	1030	3.43	4.60	1080	3.77	5.05	1130	4.10	5.50	1175	4.44	5.95	1220	4.81	6.45	1265	5.15	6.90
3070	6500	1040	3.62	4.85	1090	3.99	5.35	1140	4.36	5.85	1185	4.70	6.30	1225	5.03	6.75	1270	5.41	7.25
3185	6750	1045	3.80	5.10	1095	4.18	5.60	1145	4.55	6.10	1190	4.92	6.60	1235	5.29	7.10	1275	5.67	7.60
3305	7000	1055	4.03	5.40	1105	4.44	5.95	1155	4.81	6.45	1200	5.18	6.95	1240	5.56	7.45	1285	5.97	8.00
3420	7250	1065	4.29	5.75	1115	4.66	6.25	1160	5.03	6.75	1205	5.44	7.30	1250	5.85	7.85	1290	6.23	8.35
3540	7500	1075	4.51	6.05	1125	4.92	6.60	1170	5.33	7.15	1215	5.70	7.65	1260	6.15	8.25	1300	6.52	8.75
3660	7750	1080	4.74	6.35	1130	5.15	6.90	1180	5.59	7.50	1225	6.00	8.05	1265	6.41	8.60	1305	6.82	9.15
3775	8000	1090	5.00	6.70	1140	5.41	7.25	1185	5.85	7.85	1230	6.26	8.40	1275	6.71	9.00	1315	7.16	9.60
3895	8250	1100	5.26	7.05	1150	5.70	7.65	1195	6.15	8.25	1240	6.60	8.85	1280	7.01	9.40	1325	7.49	10.05
4010	8500	1110	5.52	7.40	1160	6.00	8.05	1205	6.45	8.65	1250	6.90	9.25	1290	7.35	9.85	1330	7.79	10.45
4130	8750	1120	5.78	7.75	1165	6.23	8.35	1215	6.75	9.05	1255	7.20	9.65	1300	7.68	10.30	1340	8.13	10.90
4250	9000	1130	6.08	8.15	1175	6.52	8.75	1220	7.01	9.40	1265	7.53	10.10	1310	8.05	10.80	1350	8.50	11.40
4365	9250	1140	6.38	8.55	1185	6.86	9.20	1230	7.35	9.85	1275	7.87	10.55	1315	8.35	11.20	- - -	- - -	- - -
4485	9500	1150	6.67	8.95	1195	7.16	9.60	1240	7.68	10.30	1285	8.24	11.05	- - -	- - -	- - -	- - -	- - -	- - -
4600	9750	1160	7.01	9.40	1205	7.49	10.05	1250	8.05	10.80	1295	8.58	11.50	- - -	- - -	- - -	- - -	- - -	- - -
4720	10 000	1170	7.31	9.80	1215	7.83	10.50	1260	8.39	11.25	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
4835	10 250	1180	7.64	10.25	1225	8.20	11.00	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
4955	10 500	1190	7.98	10.70	1235	8.54	11.45	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
5075	10 750	1200	8.35	11.20	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
5190	11 000	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal kW	Nominal hp	Maximum kW	Maximum hp	Drive Kit Number	Rev/Min Range
Standard	1.5	2	1.7	2.3	1	446 - 604
Standard	1.5	2	1.7	2.3	2	571 - 721
Standard	2.2	3	2.6	3.5	3	571 - 721
Standard	2.2	3	2.6	3.5	4	708 - 871
Standard	3.7	5	4.3	5.8	3	571 - 721
Standard	3.7	5	4.3	5.8	4	708 - 871
Standard	3.7	5	4.3	5.8	5	788 - 988
Standard	5.6	8	6.4	8.6	6	708 - 871
Standard	5.6	8	6.4	8.6	7	788 - 988
Standard	5.6	8	6.4	8.6	8	871 - 1071
Standard	7.5	10	8.6	11.5	7	788 - 988
Standard	7.5	10	8.6	11.5	10	871 - 1071
Standard	7.5	10	8.6	11.5	11	945 - 1138

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

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE

Air Volume		Wet Indoor Coil						Electric Heat		Economizer		Filters				Horizontal Roof Curb			
		180S		156H 180H 210S		210H 240H 240S 300H 300S						MERV 8		MERV 13		156H 180S 240H 240S		300H 300S	
L/s	cfm	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.
1888	4000	5	0.02	5	0.02	10	0.04	- - -	- - -	- - -	- - -	3	0.01	11	0.04	15	0.06	5	0.02
2006	4250	5	0.02	5	0.02	10	0.04	- - -	- - -	- - -	- - -	3	0.01	12	0.05	17	0.07	5	0.02
2124	4500	5	0.02	5	0.02	12	0.05	- - -	- - -	- - -	- - -	4	0.01	12	0.05	17	0.07	5	0.02
2242	4750	5	0.02	5	0.02	12	0.05	- - -	- - -	- - -	- - -	4	0.02	13	0.05	20	0.08	7	0.03
2360	5000	7	0.03	5	0.02	12	0.05	- - -	- - -	- - -	- - -	5	0.02	14	0.06	20	0.08	7	0.03
2477	5250	7	0.03	5	0.02	15	0.06	- - -	- - -	- - -	- - -	5	0.02	15	0.06	22	0.09	10	0.04
2595	5500	7	0.03	5	0.02	17	0.07	- - -	- - -	- - -	- - -	6	0.02	15	0.06	25	0.10	10	0.04
2713	5750	7	0.03	7	0.03	17	0.07	- - -	- - -	- - -	- - -	6	0.02	16	0.07	27	0.11	12	0.05
2831	6000	10	0.04	7	0.03	20	0.08	2	0.01	- - -	- - -	7	0.03	17	0.07	27	0.11	15	0.06
2949	6250	10	0.04	7	0.03	20	0.08	2	0.01	2	0.01	7	0.03	18	0.07	30	0.12	17	0.07
3067	6500	10	0.04	7	0.03	22	0.09	2	0.01	5	0.02	8	0.03	19	0.08	32	0.13	20	0.08
3185	6750	12	0.05	10	0.04	25	0.10	2	0.01	7	0.03	8	0.03	20	0.08	35	0.14	20	0.08
3303	7000	12	0.05	10	0.04	25	0.10	2	0.01	10	0.04	9	0.04	20	0.08	37	0.15	22	0.09
3421	7250	15	0.06	10	0.04	27	0.11	2	0.01	12	0.05	10	0.04	21	0.09	40	0.16	25	0.10
3539	7500	15	0.06	12	0.05	30	0.12	2	0.01	15	0.06	10	0.04	22	0.09	42	0.17	27	0.11
3775	8000	17	0.07	12	0.05	32	0.13	5	0.02	22	0.09	12	0.05	24	0.10	47	0.19	32	0.13
4011	8500	20	0.08	15	0.06	37	0.15	5	0.02	27	0.11	13	0.05	25	0.10	52	0.21	37	0.15
4247	9000	22	0.09	17	0.07	40	0.16	10	0.04	35	0.14	15	0.06	27	0.11	60	0.24	42	0.17
4483	9500	25	0.10	20	0.08	45	0.18	12	0.05	40	0.16	17	0.07	29	0.12	65	0.26	47	0.19
4719	10 000	27	0.11	20	0.08	50	0.20	15	0.06	47	0.19	19	0.07	31	0.12	72	0.29	52	0.21
4955	10 500	30	0.12	22	0.09	55	0.22	22	0.09	55	0.22	20	0.08	33	0.13	77	0.31	60	0.24
5191	11 000	35	0.14	27	0.11	60	0.24	27	0.11	62	0.25	22	0.09	35	0.14	85	0.34	67	0.27

BLOWER DATA

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure		Air Volume Exhausted	
Pa	in. w.g.	L/s	cfm
0	0.00	3395	7195
12	0.05	3230	6845
25	0.10	3040	6440
37	0.15	2795	5925
50	0.20	2545	5395
62	0.25	2275	4820
75	0.30	1990	4215
87	0.35	1690	3580
100	0.40	1380	2925
112	0.45	1055	2235
125	0.50	725	1535

CEILING DIFFUSER AIR RESISTANCE

Air Volume		Step-Down Diffuser												Flush Diffuser			
		RTD11-185S						RTD11-275						FD11-185S		FD11-275	
		2 Ends Open		1 Side/2 Ends Open		All Ends & Sides Open		2 Ends Open		1 Side/2 Ends Open		All Ends & Sides Open					
L/s	cfm	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.
2360	5000	127	0.51	109	0.44	97	0.39	- - -	- - -	- - -	- - -	- - -	- - -	67	0.27	- - -	- - -
2455	5200	139	0.56	119	0.48	104	0.42	- - -	- - -	- - -	- - -	- - -	- - -	75	0.30	- - -	- - -
2550	5400	152	0.61	129	0.52	112	0.45	- - -	- - -	- - -	- - -	- - -	- - -	82	0.33	- - -	- - -
2645	5600	164	0.66	139	0.56	119	0.48	- - -	- - -	- - -	- - -	- - -	- - -	90	0.36	- - -	- - -
2735	5800	177	0.71	147	0.59	127	0.51	- - -	- - -	- - -	- - -	- - -	- - -	97	0.39	- - -	- - -
2830	6000	189	0.76	157	0.63	137	0.55	90	0.36	77	0.31	67	0.27	104	0.42	72	0.29
2925	6200	199	0.80	169	0.68	147	0.59	- - -	- - -	- - -	- - -	- - -	- - -	114	0.46	- - -	- - -
3020	6400	214	0.86	179	0.72	157	0.63	- - -	- - -	- - -	- - -	- - -	- - -	124	0.50	- - -	- - -
3065	6500	- - -	- - -	- - -	- - -	- - -	- - -	104	0.42	90	0.36	77	0.31	- - -	- - -	85	0.34
3115	6600	229	0.92	191	0.77	167	0.67	- - -	- - -	- - -	- - -	- - -	- - -	134	0.54	- - -	- - -
3210	6800	246	0.99	206	0.83	179	0.72	- - -	- - -	- - -	- - -	- - -	- - -	144	0.58	- - -	- - -
3305	7000	256	1.03	216	0.87	189	0.76	122	0.49	102	0.41	90	0.36	154	0.62	99	0.40
3400	7200	271	1.09	229	0.92	199	0.80	- - -	- - -	- - -	- - -	- - -	- - -	164	0.66	- - -	- - -
3490	7400	286	1.15	241	0.97	209	0.84	- - -	- - -	- - -	- - -	- - -	- - -	174	0.70	- - -	- - -
3540	7500	- - -	- - -	- - -	- - -	- - -	- - -	127	0.51	114	0.46	102	0.41	- - -	- - -	112	0.45
3585	7600	298	1.20	254	1.02	219	0.88	- - -	- - -	- - -	- - -	- - -	- - -	184	0.74	- - -	- - -
3775	8000	- - -	- - -	- - -	- - -	- - -	- - -	147	0.59	122	0.49	107	0.43	- - -	- - -	124	0.50
4010	8500	- - -	- - -	- - -	- - -	- - -	- - -	172	0.69	144	0.58	124	0.50	- - -	- - -	142	0.57
4245	9000	- - -	- - -	- - -	- - -	- - -	- - -	196	0.79	167	0.67	144	0.58	- - -	- - -	164	0.66
4485	9500	- - -	- - -	- - -	- - -	- - -	- - -	221	0.89	186	0.75	162	0.65	- - -	- - -	184	0.74
4720	10 000	- - -	- - -	- - -	- - -	- - -	- - -	249	1.00	209	0.84	182	0.73	- - -	- - -	201	0.81
4955	10 500	- - -	- - -	- - -	- - -	- - -	- - -	274	1.10	229	0.92	199	0.80	- - -	- - -	221	0.89
5190	11 000	- - -	- - -	- - -	- - -	- - -	- - -	301	1.21	251	1.01	219	0.88	- - -	- - -	239	0.96

CEILING DIFFUSER AIR THROW DATA

Model No.	Air Volume		[1] Effective Throw Range				Model No.	Air Volume		[1] Effective Throw Range			
	L/s	cfm	RTD11-185S Step-Down		FD11-185S Flush			L/s	cfm	RTD11-185S Step-Down		FD11-185S Flush	
			m	ft.	m	ft.				m	ft.	m	ft.
180	2645	5600	12 - 15	39 - 49	9 - 11	28 - 37	210 240 300	3400	7200	10 - 12	33 - 38	8 - 11	26 - 35
	2735	5800	13 - 16	42 - 51	9 - 12	29 - 38		3490	7400	11 - 12	35 - 40	9 - 11	28 - 37
	2830	6000	13 - 16	44 - 54	12 - 15	40 - 50		3585	7600	11 - 12	36 - 41	9 - 11	29 - 38
	2925	6200	14 - 17	45 - 55	13 - 16	42 - 51		3680	7800	12 - 13	38 - 43	12 - 15	40 - 50
	3020	6400	14 - 17	46 - 55	13 - 16	43 - 52		3775	8000	12 - 13	39 - 44	13 - 16	42 - 51
	3115	6600	14 - 17	47 - 56	14 - 17	45 - 56		3870	8200	12 - 14	41 - 46	13 - 16	43 - 52
								3965	8400	13 - 15	43 - 49	13 - 16	44 - 54
								4060	8600	13 - 15	44 - 50	14 - 17	46 - 57
								4155	8800	14 - 17	47 - 55	15 - 18	48 - 59

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

ELECTRICAL/ELECTRIC HEAT DATA - STANDARD EFFICIENCY

		KCA180S4			KCA210S4			KCA240S4			KCA300S4		
[1] Voltage - 50hz 3 Phase		**380/420V**			**380/420V**			**380/420V**			**380/420V**		
Compressor 1	Rated Load Amps	12.2			8			10.6			12.2		
	Locked Rotor Amps	101			67.1			74			101		
Compressor 2	Rated Load Amps	12.2			8			10.6			12.2		
	Locked Rotor Amps	101			67.1			74			101		
Compressor 3	Rated Load Amps	- - -			8			10.6			12.2		
	Locked Rotor Amps	- - -			67.1			74			101		
Outdoor Fan Motors	Number of motors	3			3			4			4		
	Full Load Amps	1.3			1.3			1.3			1.3		
	(total)	(3.9)			(3.9)			(5.2)			(5.2)		
Power Exhaust With (2) 0.25 kW	Full Load Amps	1.3			1.3			1.3			1.3		
	(total)	(2.6)			(2.6)			(2.6)			(2.6)		
Indoor Blower Motor	kW	2.2	3.7	5.6	2.2	3.7	5.6	3.7	5.6	7.5	3.7	5.6	7.5
	Full Load Amps	5.3	8.2	11.7	5.3	8.2	11.7	8.2	11.7	16.3	8.2	11.7	16.3
[1] Maximum Overcurrent Protection	Unit Only	45	50	50	40	45	50	50	60	70	60	60	70
	With (2) 0.25 kW Power Exhaust	50	50	50	45	45	50	60	60	70	60	70	80
[2] Minimum Circuit Ampacity	Unit Only	37	40	44	36	39	43	48	52	58	54	57	63
	With (2) 0.25 kW Power Exhaust	40	43	46	38	41	46	51	55	60	56	60	65

ELECTRIC HEAT DATA

	Electric Heat Voltage		**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**
[1] Maximum Overcurrent Protection	Unit+ [3] Electric Heat	**11.5 kW**	45	50	50	40	45	50	50	60	70	60	60	70
		23 kW	50	50	60	50	50	60	50	60	70	60	60	70
		34.5 kW	70	70	80	70	70	80	70	80	80	70	80	80
		45.9 kW	70	80	80	70	80	80	80	80	90	80	80	90
		68.9 kW	- - -	- - -	- - -	110	110	110	110	110	125	110	110	125
[2] Minimum Circuit Ampacity	Unit+ [3] Electric Heat	**11.5 kW**	37	40	44	36	39	43	48	52	58	54	57	63
		23 kW	47	50	55	47	50	55	50	55	60	54	57	63
		34.5 kW	66	70	74	66	70	74	70	74	80	70	74	80
		45.9 kW	70	74	78	70	74	78	74	78	84	74	78	84
		68.9 kW	- - -	- - -	- - -	102	105	110	105	110	116	105	110	116
[1] Maximum Overcurrent Protection	Unit+ [3] Electric Heat and (2) 0.25 kW Power Exhaust	**11.5 kW**	50	50	50	45	45	50	60	60	70	60	70	80
		23 kW	50	60	60	50	60	60	60	60	70	60	70	80
		34.5 kW	70	80	80	70	80	80	80	80	90	80	80	90
		45.9 kW	80	80	90	80	80	90	80	90	90	80	90	90
		68.9 kW	- - -	- - -	- - -	110	110	125	110	125	125	110	125	125
[2] Minimum Circuit Ampacity	Unit+ [3] Electric Heat and (2) 0.25 kW Power Exhaust	**11.5 kW**	40	43	46	38	41	46	51	55	60	56	60	65
		23 kW	50	53	58	50	53	58	53	58	64	56	60	65
		34.5 kW	70	73	78	70	73	78	73	78	83	73	78	83
		45.9 kW	74	77	82	74	77	82	77	82	87	77	82	87
		68.9 kW	- - -	- - -	- - -	105	109	113	109	113	119	109	113	119

NOTE - Extremes of operating range are plus and minus 10% of line voltage.
[1] Heating / Air Conditioning / Refrigeration (HACR) type breaker or fuse.
[2] Refer to local codes to determine wire, fuse and disconnect size requirements.
[3] Nominal kW based on 420V-3ph-50hz.

ELECTRICAL/ELECTRIC HEAT DATA - HIGH EFFICIENCY

		KCA156H4			KCA180H4			KCA210H4			KCA240H4			KCA300H4		
[1] Voltage - 50hz 3 Phase		380/420V			380/420V			380/420V			380/420V			380/420V		
Compressor 1	Rated Load Amps	6			8			7.8			8			8		
	Locked Rotor Amps	51			59			51.5			59			67.1		
Compressor 2	Rated Load Amps	6			8			7.8			8			8		
	Locked Rotor Amps	51			59			51.5			59			67.1		
Compressor 3	Rated Load Amps	6			8			8			8			8		
	Locked Rotor Amps	51			59			67.1			59			67.1		
Compressor 4	Rated Load Amps	- - -			- - -			- - -			8			8		
	Locked Rotor Amps	- - -			- - -			- - -			59			67.1		
Outdoor Fan Motors	Number of motors	3			4			6			6			6		
	Full Load Amps	1.3			1.3			1.3			1.3			1.3		
	(total)	(3.9)			(5.2)			(7.8)			(7.8)			(7.8)		
Power Exhaust With (2) 0.25 kW	Full Load Amps	1.3			1.3			1.3			1.3			1.3		
	(total)	(2.6)			(2.6)			(2.6)			(2.6)			(2.6)		
Indoor Blower Motor	kW	**1.5**	**2.2**	**3.7**	**2.2**	**3.7**	**5.6**	**2.2**	**3.7**	**5.6**	**3.7**	**5.6**	**7.5**	**3.7**	**5.6**	**7.5**
	Full Load Amps	3.6	5.3	8.2	5.3	8.2	11.7	5.3	8.2	11.7	8.2	11.7	16.3	8.2	11.7	16.3
[2] **Maximum Overcurrent Protection**	Unit Only	30	30	40	40	45	50	45	45	50	60	60	70	60	60	70
	With (2) 0.25 kW Power Exhaust	35	35	40	45	50	50	45	50	60	60	60	70	60	60	70
[3] **Minimum Circuit Ampacity**	Unit Only	27	29	33	37	40	44	39	42	47	51	55	61	51	55	61
	With (2) 0.25 kW Power Exhaust	30	32	35	40	43	47	42	45	49	53	58	63	53	58	63

ELECTRIC HEAT DATA

Electric Heat Voltage			**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**	**420**
[2] **Maximum Overcurrent Protection**	Unit+ [4] Electric Heat	**11.5 kW**	30	30	40	40	45	50	45	45	50	60	60	70	60	60	70
		23 kW	45	50	50	50	50	60	50	50	60	60	60	70	60	60	70
		34.5 kW	70	70	70	70	70	80	70	70	80	70	80	80	70	80	80
		45.9 kW	70	70	80	70	80	80	70	80	80	80	80	90	80	80	90
		68.9 kW	- - -	- - -	- - -	- - -	- - -	- - -	110	110	110	110	110	125	110	110	125
[3] **Minimum Circuit Ampacity**	Unit+ [4] Electric Heat	**11.5 kW**	27	29	33	37	40	44	39	42	47	51	55	61	51	55	61
		23 kW	44	47	50	47	50	55	47	50	55	51	55	61	51	55	61
		34.5 kW	64	66	70	66	70	74	66	70	74	70	74	80	70	74	80
		45.9 kW	68	70	74	70	74	78	70	74	78	74	78	84	74	78	84
		68.9 kW	- - -	- - -	- - -	- - -	- - -	- - -	102	105	110	105	110	116	105	110	116
[2] **Maximum Overcurrent Protection**	Unit+ [4] Electric Heat and (2) 0.25 kW Power Exhaust	**11.5 kW**	35	35	40	45	50	50	45	50	60	60	60	70	60	60	70
		23 kW	50	50	60	50	60	60	50	60	60	60	60	70	60	60	70
		34.5 kW	70	70	80	70	80	80	70	80	80	80	80	90	80	80	90
		45.9 kW	80	80	80	80	80	90	80	80	90	80	90	90	80	90	90
		68.9 kW	- - -	- - -	- - -	- - -	- - -	- - -	110	110	125	110	125	125	110	125	125
[3] **Minimum Circuit Ampacity**	Unit+ [4] Electric Heat and (2) 0.25 kW Power Exhaust	**11.5 kW**	30	32	35	40	43	47	42	45	49	53	58	63	53	58	63
		23 kW	48	50	53	50	53	58	50	53	58	53	58	64	53	58	64
		34.5 kW	67	70	73	70	73	78	70	73	78	73	78	83	73	78	83
		45.9 kW	71	74	77	74	77	82	74	77	82	77	82	87	77	82	87
		68.9 kW	- - -	- - -	- - -	- - -	- - -	- - -	105	109	113	109	113	119	109	113	119

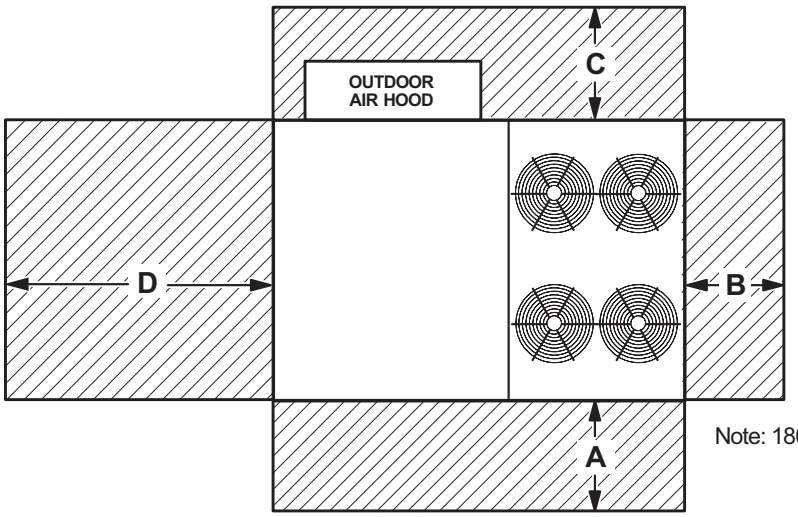
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] Heating / Air Conditioning / Refrigeration (HACR) type breaker or fuse.
[3] Refer to local codes to determine wire, fuse and disconnect size requirements.
[4] Nominal kW based on 420V-3ph-50hz.

ELECTRIC HEAT CAPACITIES

Volts Input	11.5 kW			23 kW			34.5 kW			45.9 kW			68.9 kW		
	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages
380	9.4	32 100	1	18.8	64 200	1	28.2	96 300	2	37.6	128 400	2	56.4	192 500	2
400	10.4	35 600	1	20.8	71 100	1	31.2	106 700	2	41.6	142 200	2	62.5	213 200	2
420	11.5	39 200	1	23.0	78 400	1	34.4	117 600	2	45.9	156 800	2	68.9	235 100	2

UNIT CLEARANCES - MM (INCHES)

Unit With Economizer



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

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

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

[1] **Service Clearance** - Required for removal of serviceable parts.

Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

Unit Model Number	Octave Band Linear Sound Power Levels dB, re 10^{-12} Watts - Center Frequency - Hz								[1] Sound Rating Number (SRN) (dBA)
	63	125	250	500	1000	2000	4000	8000	
156H, 180S, 210S	70	71	78	81	81	76	71	63	86
180H, 240S, 300S	69	80	83	87	88	84	80	71	93
210H, 240H, 300H	72	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 ARI Standard 370-2001 (includes pure tone penalty). “SRN” is the overall A-Weighted Sound Power Level, (LWA), dB (100 Hz to 10,000 Hz).

WEIGHT DATA

Model Number	Net		Shipping		Model Number	Net		Shipping	
	kg	lbs.	kg	lbs.		kg	lbs.	kg	lbs.
156H Base Unit	810	1785	900	1985	180S Base Unit	744	1640	835	1840
156H Max. Unit	937	2065	1027	2265	180S Max. Unit	889	1960	980	2160
180H Base Unit	891	1965	982	2165	210S Base Unit	810	1785	900	1985
180H Max. Unit	1018	2245	1109	2445	210S Max. Unit	959	2115	1050	2315
210H Base Unit	948	2090	1039	2290	240S Base Unit	921	2030	1012	2230
210H Max. Unit	1080	2380	1170	2580	240S Max. Unit	1070	2360	1161	2560
240H Base Unit	987	2175	1077	2375	300S Base Unit	921	2030	1012	2230
240H Max. Unit	1118	2465	1209	2665	300S Max. Unit	1070	2360	1161	2560
300H Base Unit	1034	2280	1125	2480					
300H Max. Unit	1116	2570	1256	2770					

OPTIONS / ACCESSORIES

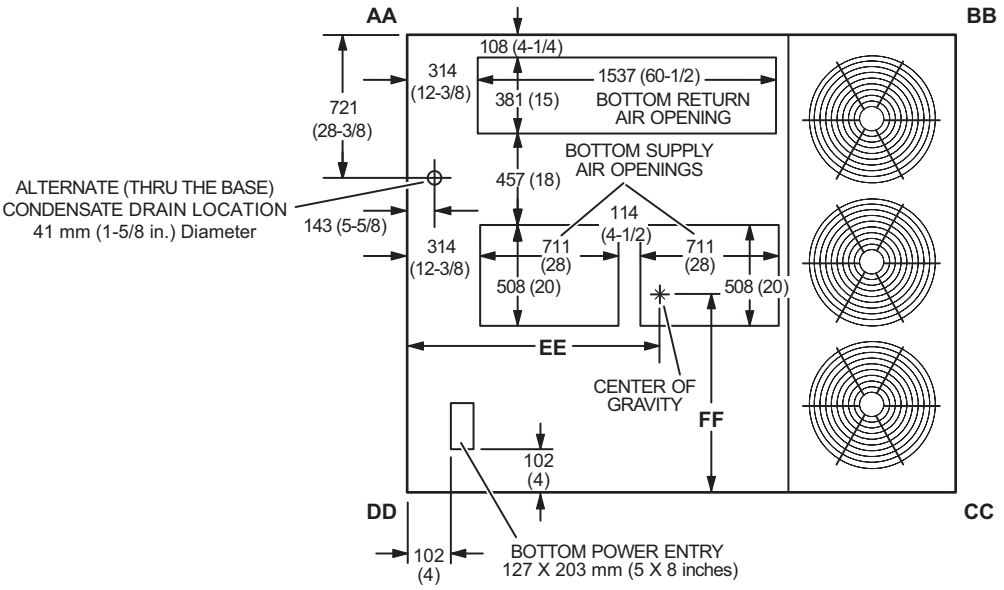
Description		Shipping Weight	
		kg	lbs.
ECONOMIZER / OUTDOOR AIR / EXHAUST			
Economizer			
Economizer Dampers		46	102
Barometric Relief Dampers (downflow)		14	30
Barometric Relief Dampers (horizontal)		9	20
Outdoor Air Damper Hood (downflow)		29	65
Outdoor Air Dampers			
Outdoor Air Damper Section (downflow) - Automatic (including Hood)		39	18
Outdoor Air Damper Section (downflow) - Manual (including Hood)		22	10
Power Exhaust		28	62
ELECTRIC HEAT			
11.3 kW		27	59
23 kW		27	59
34.5 kW		34	76
45.9 kW		34	76
68.9 kW		38	84
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
203 mm height		34	75
356 mm height		48	105
457 mm height		57	125
610 mm height		70	155
Horizontal Roof Curbs, Standard			
660 mm height		231	470
940 mm height		229	505
762 mm height		261	575
1041 mm height		277	610
Adjustable Pitch Curb, Downflow			
356 mm height		32	191
CEILING DIFFUSERS			
Step-Down	RTD11-185S	168	76
	RTD11-275S	238	108
Flush	FD11-185S	168	76
	FD11-275S	238	108
Transitions	C1DIFF33C-1	36	80
	C1DIFF34C-1	34	75
PACKAGING			
LTL Packaging (less than truck load)		141	310

DIMENSIONS - UNIT - MM (INCHES) KCA156H, KCA180S, KCA210S

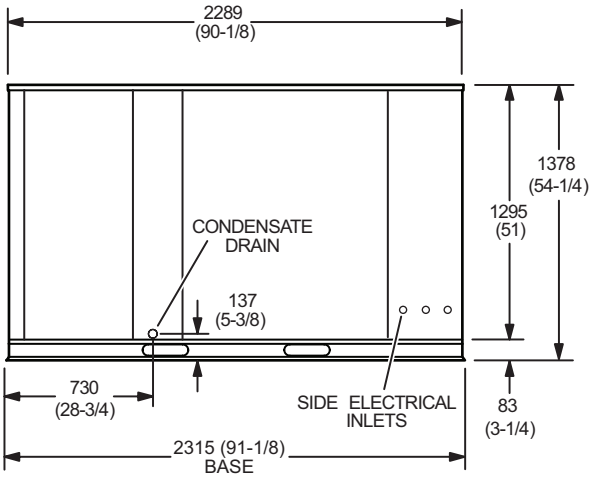
Model No.	CORNER WEIGHTS																CENTER OF GRAVITY							
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.	mm	in.	mm	in.
156H	195	428	244	538	157	346	195	429	207	456	222	489	252	554	277	609	1232	48 1/2	1219	48	1003	39 1/2	1086	42 3/4
180S	193	425	249	547	164	361	200	439	210	461	229	503	247	543	284	626	1257	49 1/2	1219	48	1016	40	1080	42 1/2
210S	204	450	261	573	172	379	207	456	230	506	248	545	273	601	312	685	1251	49 1/4	1213	47 3/4	991	39	1054	41 1/2

Base Unit - The unit with NO INTERNAL OPTIONS.

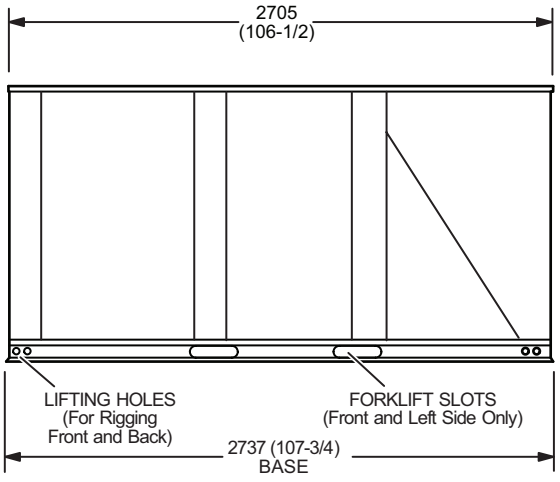
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



TOP VIEW



END VIEW



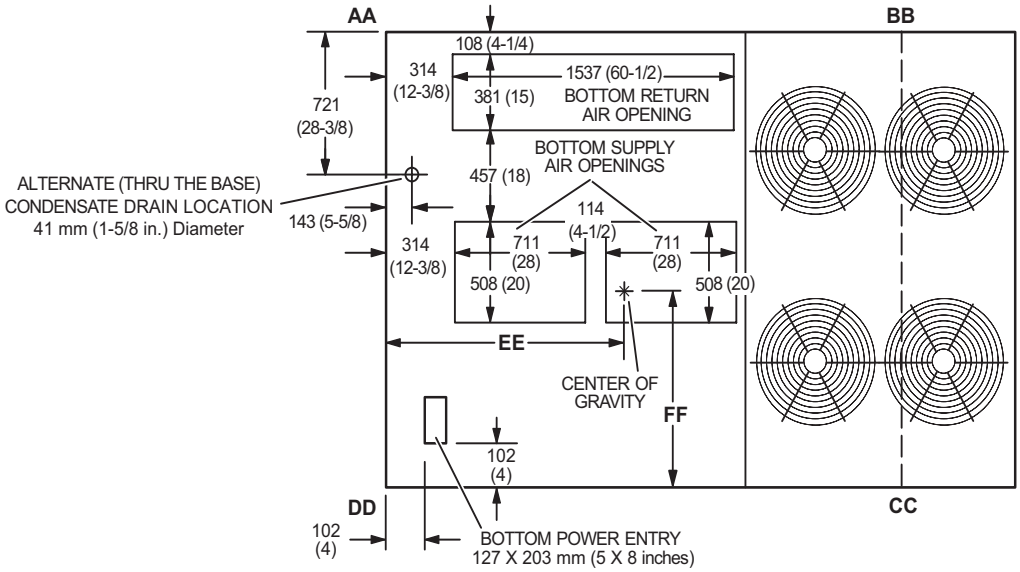
SIDE VIEW

DIMENSIONS - UNIT - MM (INCHES) KCA180H, KCA240S, KCA300S

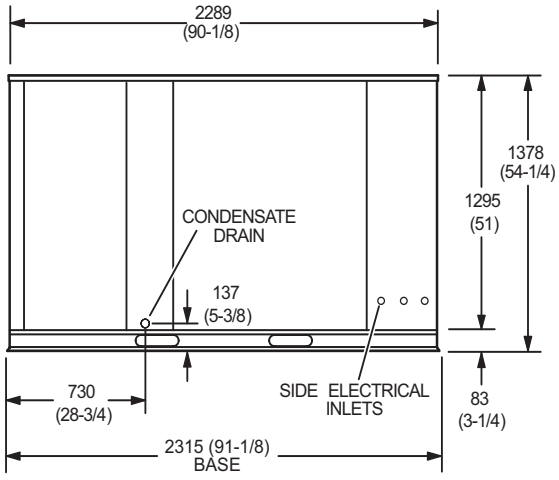
Model No.	CORNER WEIGHTS																CENTER OF GRAVITY							
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.	mm	in.	mm	in.
180H	201	441	248	545	183	403	221	485	247	543	262	577	262	577	290	638	1321	52	1295	51	997	39 1/4	1067	42
240S	188	413	239	526	187	411	223	491	273	601	295	648	275	604	316	695	1365	53 3/4	1321	52	940	37	997	39 1/4
300S	188	413	239	526	187	411	223	491	273	601	295	648	275	604	316	695	1365	53 3/4	1321	52	940	37	997	39 1/4

Base Unit - The unit with NO INTERNAL OPTIONS.

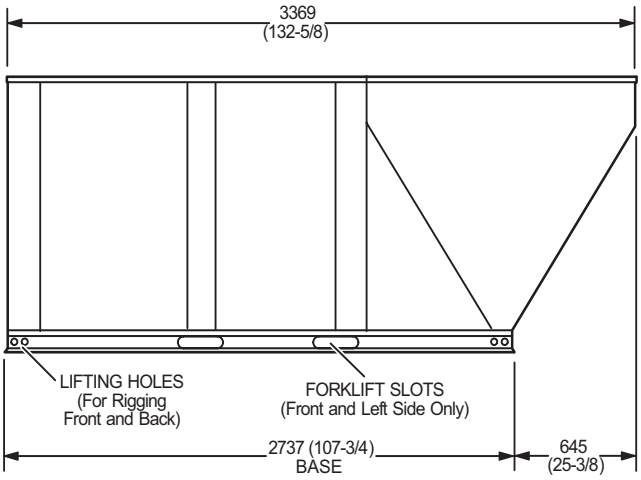
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



TOP VIEW



END VIEW



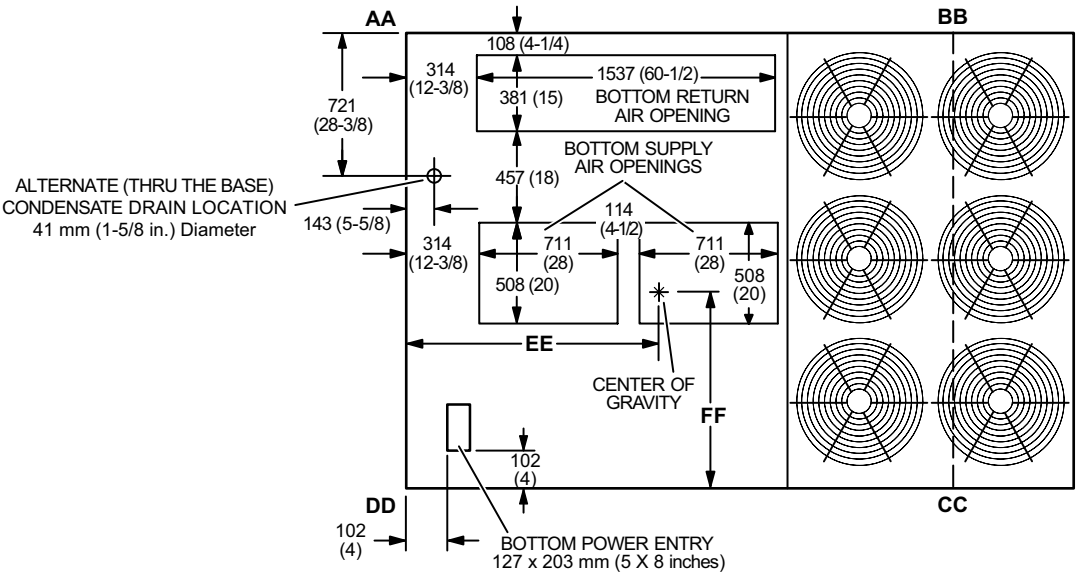
SIDE VIEW

DIMENSIONS - UNIT - MM (INCHES) KCA210H, KCA240H, KCA300H

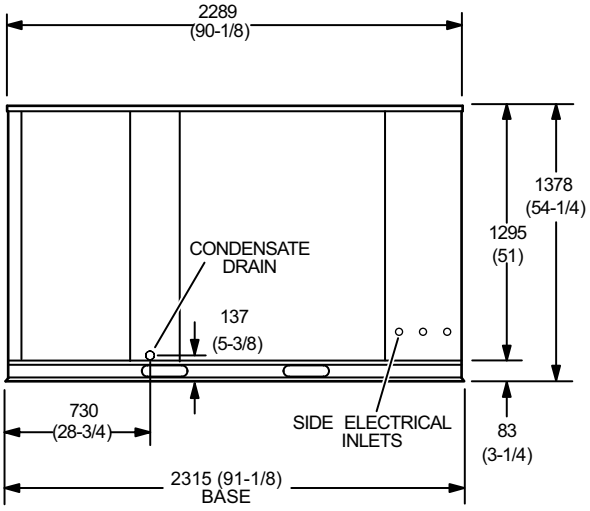
Model No.	CORNER WEIGHTS																CENTER OF GRAVITY							
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.	mm	in.	mm	in.
210H	205	452	253	557	204	448	244	536	273	600	288	635	268	590	296	652	1372	54	1346	53	997	39-1/4	1067	42
240H	210	462	258	568	210	461	250	550	288	634	304	668	281	617	308	679	1384	54-1/2	1359	53-1/2	984	38-3/4	1054	41-1/2
300H	213	468	261	574	220	484	260	572	310	681	325	714	294	647	323	710	1397	55	1372	54	965	38	1035	40-3/4

Base Unit - The unit with NO INTERNAL OPTIONS.

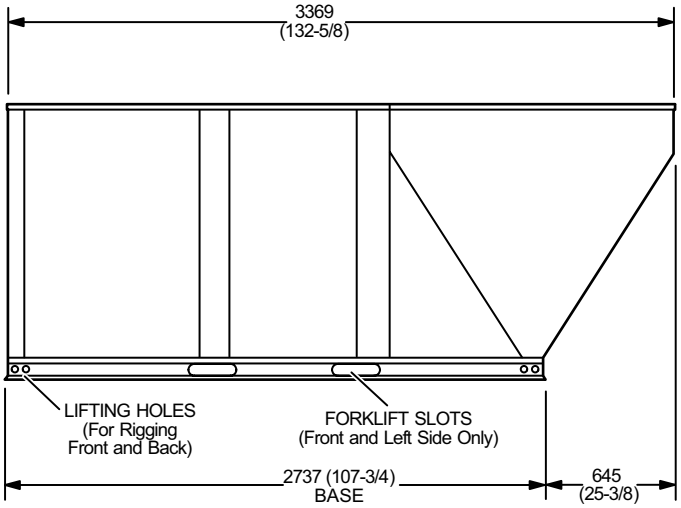
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



TOP VIEW

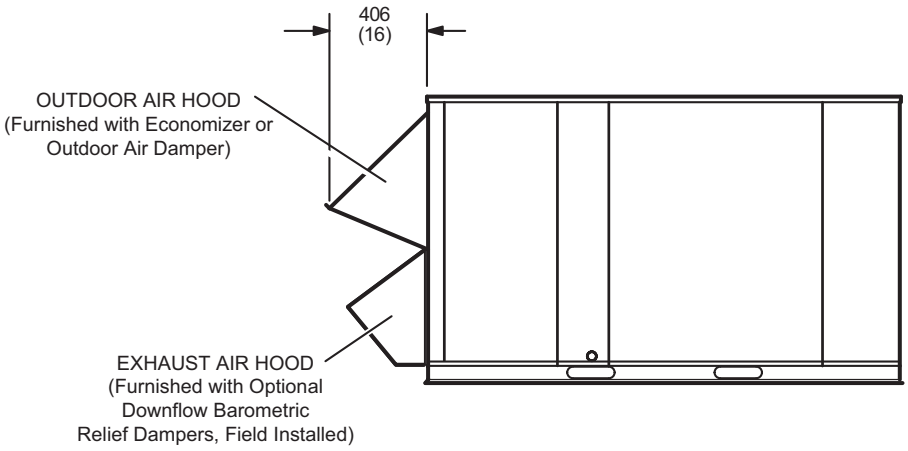


END VIEW



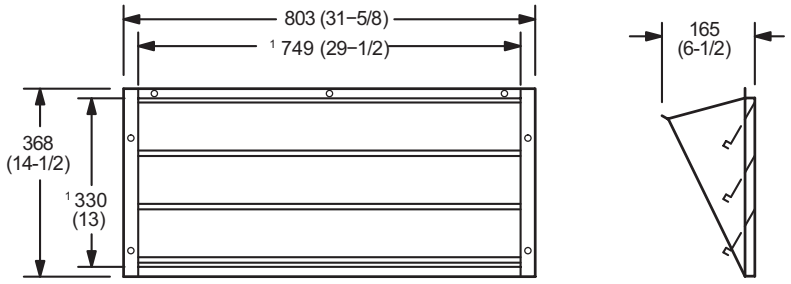
SIDE VIEW

OUTDOOR AIR HOOD DETAIL



OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD

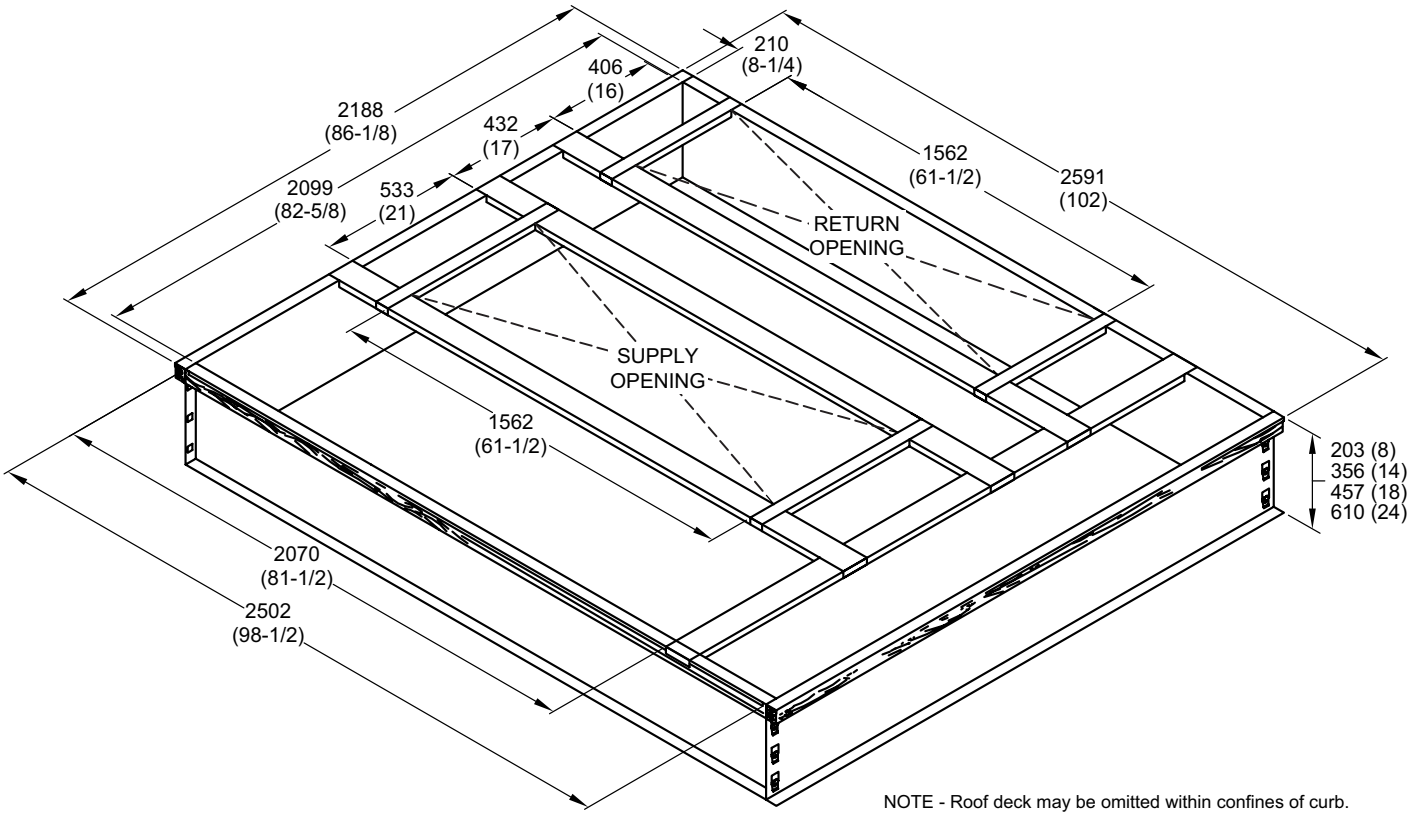
(Field installed in horizontal return air duct adjacent to unit)



FRONT VIEW **SIDE VIEW**

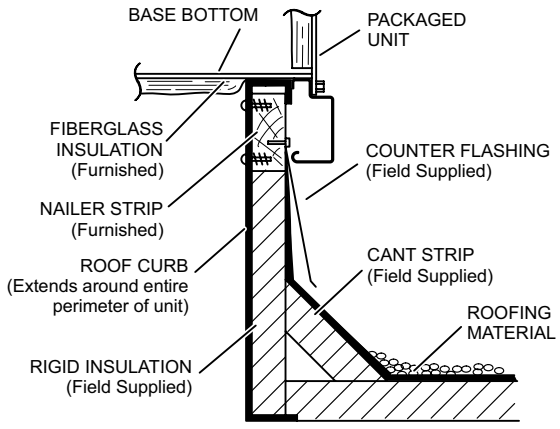
NOTE − Two furnished per order number.
[1] NOTE − Opening size required in return air duct.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

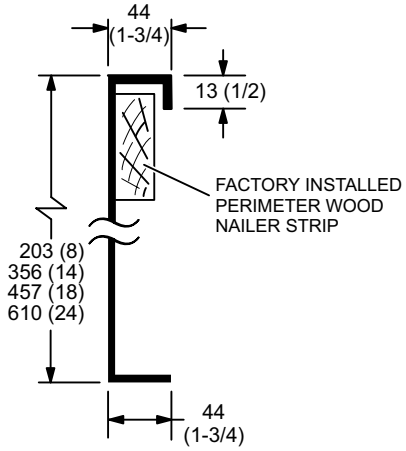


NOTE - Roof deck may be omitted within confines of curb.

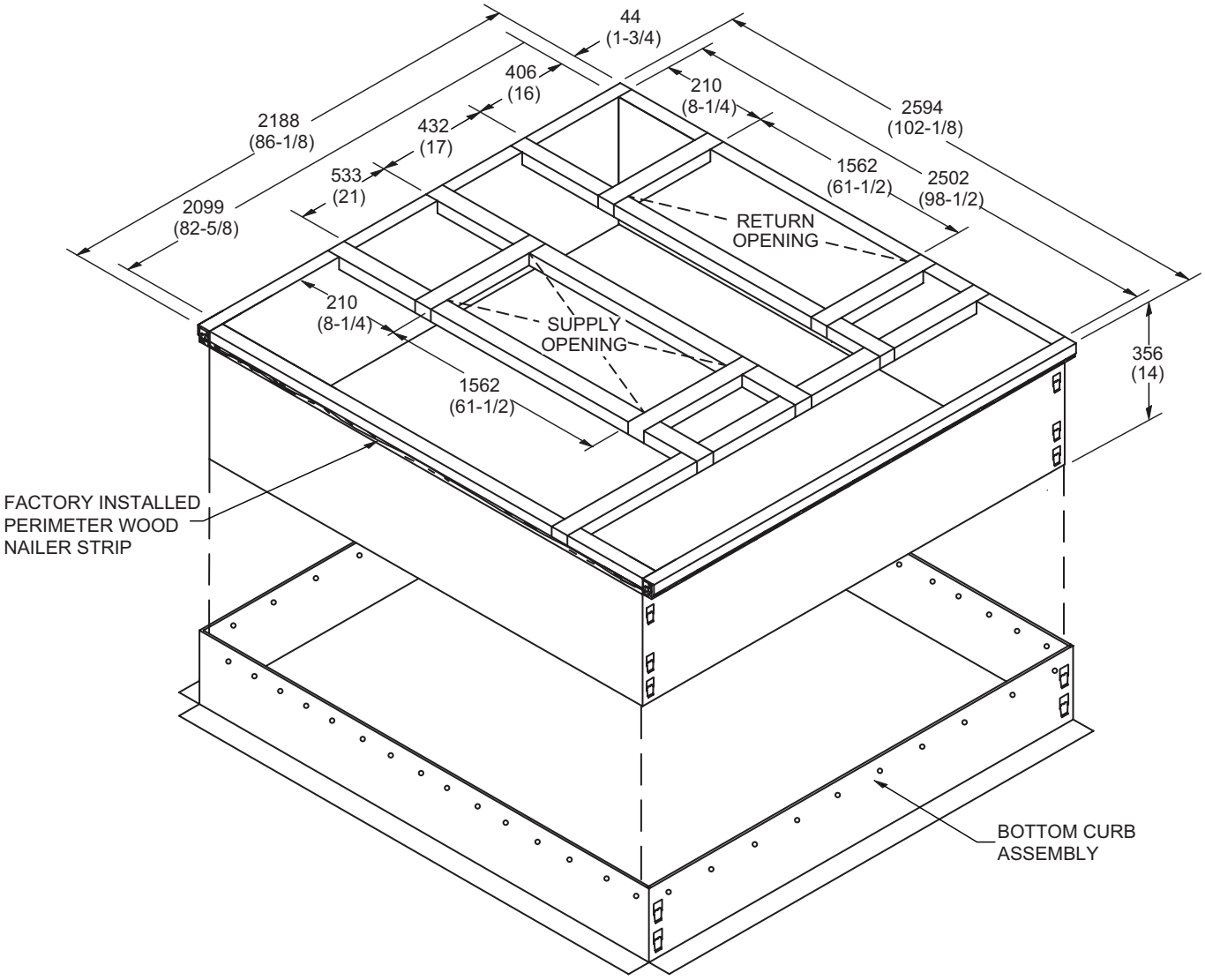
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

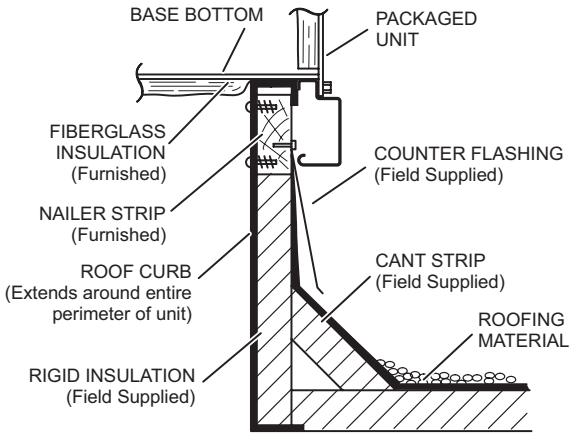


ADJUSTABLE PITCH CURB - DOUBLE DUCT OPENING

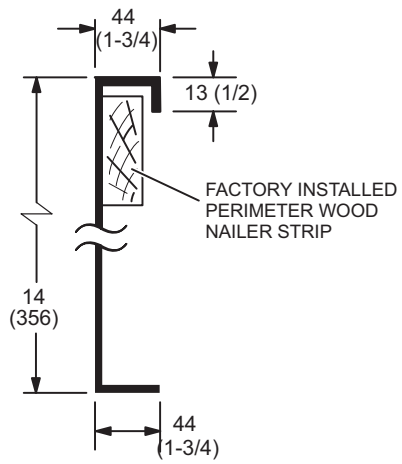


NOTE - Maximum slope pitch is 19 mm per 305 mm (3/4 inch per foot) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

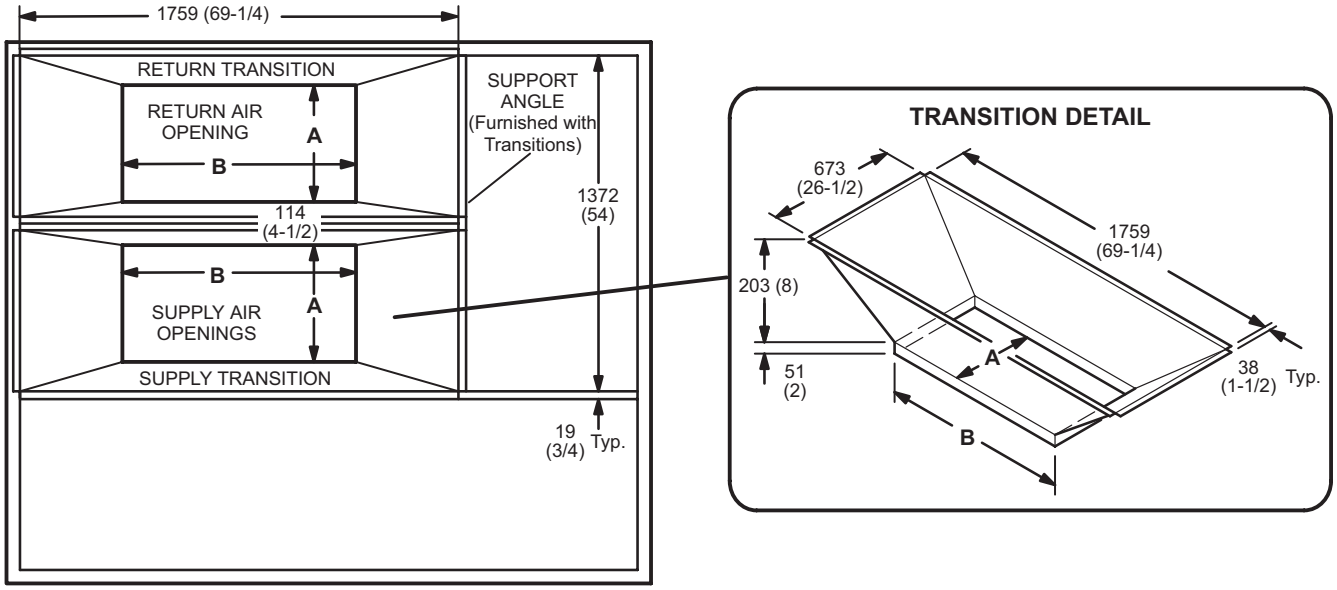


DETAIL ROOF CURB



DIMENSIONS - ACCESSORIES - MM (INCHES)

ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

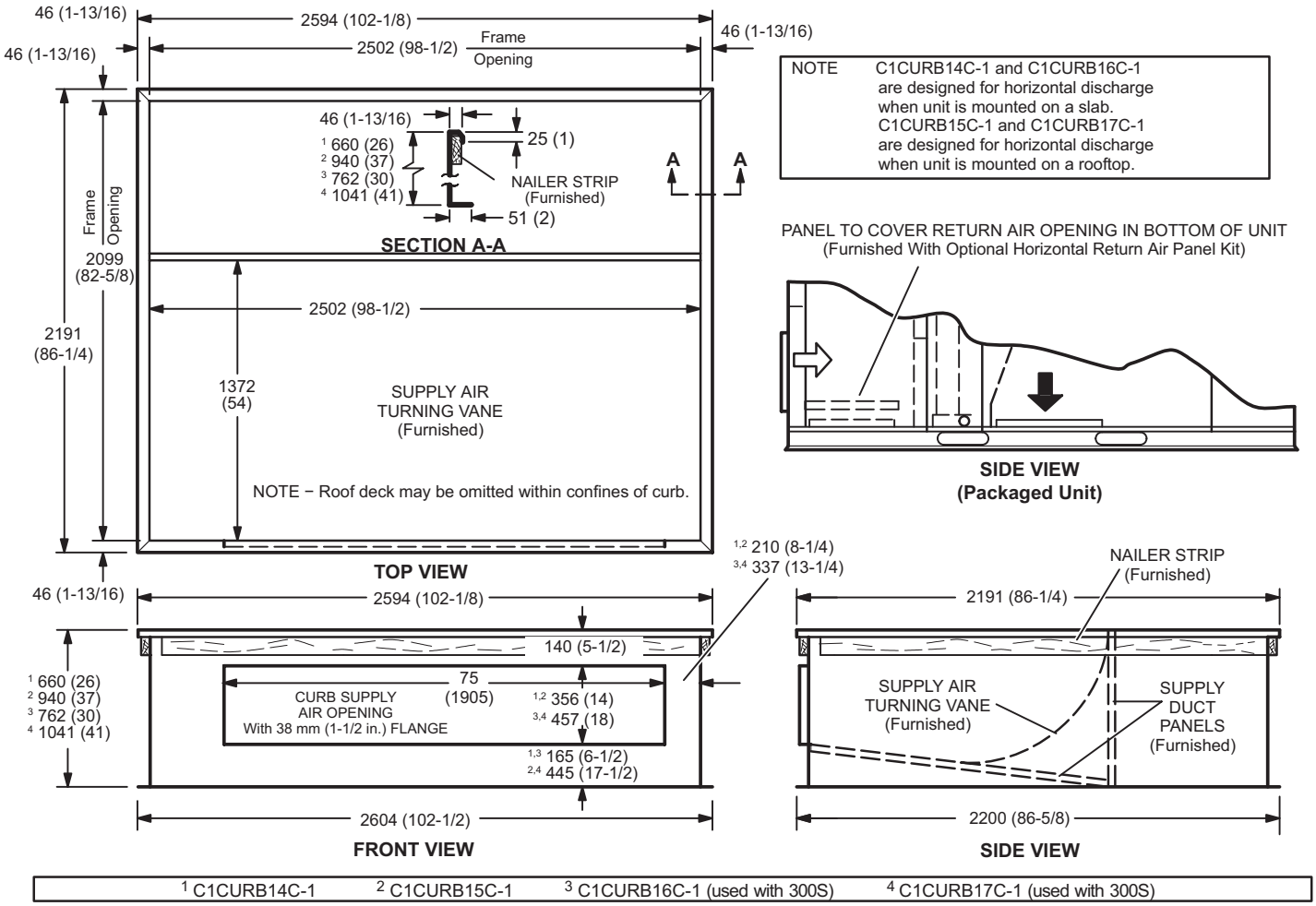


TOP VIEW

TRANSITION OPENING SIZES

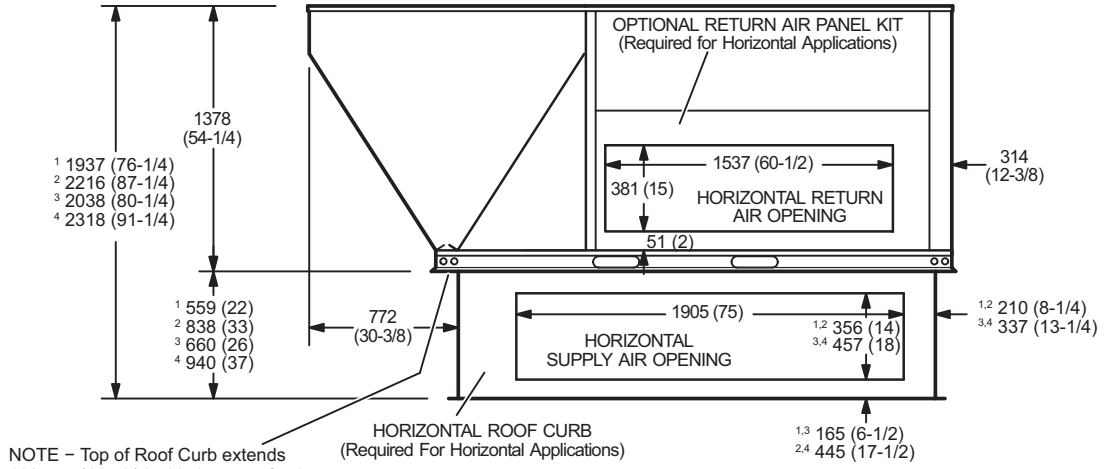
Model Number	A		B	
	mm	inch	mm	inch
C1DIFF33C-1	457	18	914	36
C1DIFF34C-1	610	24	1219	48

HORIZONTAL ROOF CURBS − Requires Optional Horizontal Return Air Panel Kit



[1] C1CURB14C-1 [2] C1CURB15C-1 [3] C1CURB16C-1 (used with 300S) [4] C1CURB17C-1 (used with 300S)

HORIZONTAL SUPPLY AND RETURN AIR OPENINGS WITH HORIZONTAL ROOF CURB

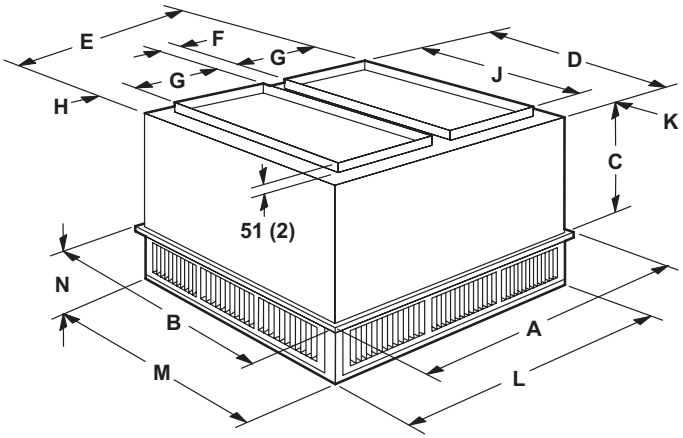


[1] C1CURB14C-1
[2] C1CURB15C-1
[3] C1CURB16C-1 (used with 300S Models Only)
[4] C1CURB17C-1 (used with 300S Models Only)

DIMENSIONS - ACCESSORIES - MM (INCHES)

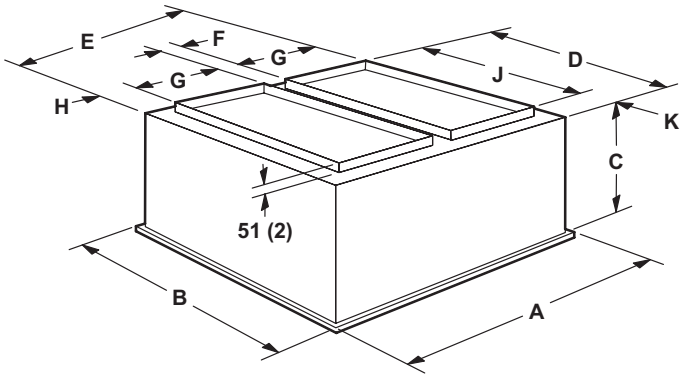
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



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

FLUSH CEILING DIFFUSER



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

REVISIONS

Section	Description
Options / Accessories	Updated Combination Coil/Hail Guards.

ALLIED™ Commercial

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Contact us at 1-800-448-5872

NOTE - Due to Allied Commercial ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.
Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
Installation and service must be performed by a qualified installer and servicing agency.