PACKAGED HEAT PUMP

KH

Landmark® Rooftop Units

50 HZ

PRODUCT SPECIFICATIONS

Bulletin No. 490122
June 2012
Supersedes September 2011



10.5 to 21 kW (3 to 6 Tons)
Net Cooling Capacity - 9.3 to 18.2 (31 900 to 61 900 Btuh)
Net Heating Capacity - 9.6 to 18.4 (32 700 to 63 000 Btuh)
Optional Electric Heat - 5.7 to 23 kW

MODEL NUMBER IDENTIFICATION

K H A 060 S 4 B N 1 M

Brand/Family
K = Landmark® Product Line

Unit Type
H = Packaged Heat Pump w/ optional Electric Heat

Major Design Sequence
A = 1st Generation
B = 2nd Generation

Nominal Cooling Capacity - Tons
036 = 10.5 kW (3 Ton)
048 = 14 kW (4 Ton)
060 = 17.5 kW (5 Ton)
072 = 21 kW (6 Ton)
090 = 26.4 kW (7.5 Ton

Cooling Efficiency
S = Standard Efficiency

Refrigerant Type
4 = R-410A

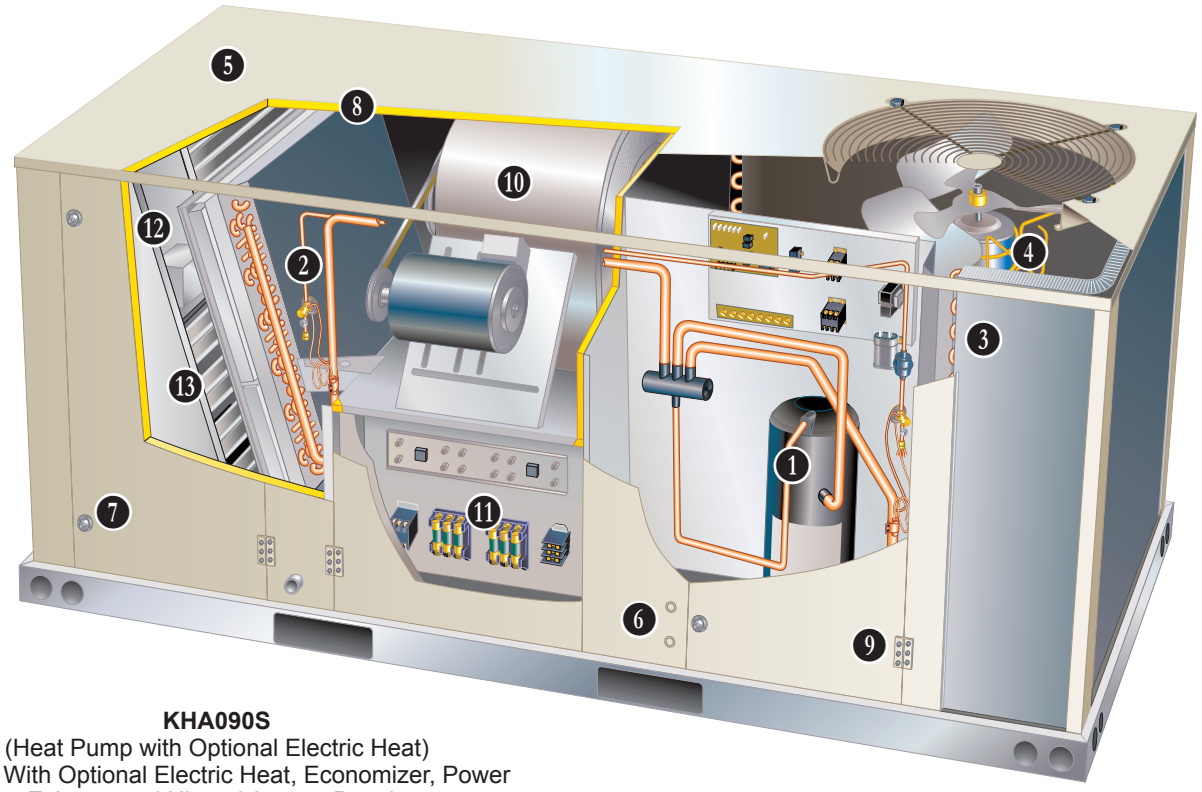
Blower Type
B = Belt Drive

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



KHA090S
(Heat Pump with Optional Electric Heat)
Shown With Optional Electric Heat, Economizer, Power Exhaust and Hinged Access Panels

Landmark® rooftop units from Lennox are the new standard for reliable, efficient rooftop units built for long-lasting performance that can significantly improve indoor and outdoor environments. Landmark rooftop units feature:

- **R-410A Refrigerant** - Environmentally friendly
- **Scroll Compressors** - Single speed scroll compressors are furnished on all models.
- **High Pressure Switches** - Protect compressor.
- **Isolated Compressor Compartment** - Allows performance check during normal compressor operation without disrupting airflow.
- **Belt Drive Blower Motors -** Belt drive motors to maximize air performance.
- **Independent Motor Mounts** - Allows for easy and efficient service access without removing the top panel.
- **Downflow or Horizontal Airflow** - Easy field conversion.
- **Two Fork Lift Slots on Three Sides** - Easy to pick up and transport units from almost any angle.
- **Corrosion-Resistant Removable, Reversible Drain Pan** - Provides application flexibility, durability and improved serviceability.
- **Thermostatic Expansion Valves** - Provide peak cooling performance across the entire application range.

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TESTING

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

10.5 through 17.5 kW models cooling performance is rated at test conditions included in Air-Conditioning, Heating and Refrigeration Institute (AHRI) Standard 210/240-2008 while operating at rated voltage and air volumes.

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

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

CE MARK OPTION

The CE mark has been added to our rooftop product line as a configure to order (CTO) option. This optional construction allows units to be sold into countries requiring CE marking for rooftop products.

CE marked units meet the requirements of the Machinery Directive 2006/42/EC, Low Voltage Directive 73/23/EEC, EMC Directive 89/336/EEC, and Gas Directive 90/396/EEC. Declaration of conformity certificates will be provided for each CE marked unit on demand.

Key features of this option over and above standard product features are:

- Touch-proof electrical components meeting the requirements of EN 60529.
- Branch circuits over 0.5 kW load have overcurrent protection.
- Rotary style/finger safe disconnect switch with locking handle prevents disconnect door from being opened with the power on. Padlock can be applied to lock the disconnect switch in the OFF position.
- The factory wiring has been redesigned for separation of high and low voltage circuits.

COOLING SYSTEM

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

System can operate from in the cooling mode from -1°C to 52°C without any additional controls.

R-410A Refrigerant

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



Unit is factory pre-charged with refrigerant. See Specifications Tables.

1 Compressor

Resiliently mounted on rubber grommets for quiet operation.

Scroll compressors for high performance, reliability and quiet operation.

Compressor Crankcase Heater

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

2 Check/Thermal Expansion Valve

Assures optimal performance throughout the application range.

Removable element head.

High Pressure Switch

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

Reversing Valves

4-way interchange reversing valve effects a rapid change in direction of refrigerant flow resulting in quick

changeover from cooling to heating and vice versa.

Defrost Control

Provides a defrost cycle, if needed, every 30 or 60 or 90 minutes (adjustable) of compressor on" time at outdoor coil temperature below 2°C. Temperature switch mounted on outdoor coil liquid line terminates defrost cycle.

Filter/Drier

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

COOLING SYSTEM (CONTINUED)

Freezestat

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

3 Coil Construction

Copper tube construction, enhanced rippled-edge aluminum fins, flared shoulder tubing connections, silver soldered construction for improved heat transfer. Factory leak tested.

Indoor Coil

Cross row circuiting with rifled copper tubing optimizes both sensible and latent cooling capacity.

Outdoor Coil

Two independent formed coils allow separation for cleaning.

Condensate Drain Pan

Plastic pan, sloped to meet drainage requirements of American Society of Heating Refrigeration and Air Conditioning Engineers 62.1.

Side or bottom drain connections.

Reversible to allow connection at back of unit.

4 Outdoor Coil Fan Motor

Thermal overload protected, totally enclosed, permanently lubricated sleeve (036 and 048 models) or ball bearings (060 and 072 models), shaft up, wire basket mount.

Outdoor Coil Fan

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

Field installed only.

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 -18°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 fork slots.

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

Air-Flow Choice

Units are shipped in downflow (vertical) configuration, can be field converted to horizontal air flow configuration without the need of a kit.

6 Power Entry

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

7 Exterior Panels

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

8 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 base

Outdoor Corrosion Protection:
- Coated coil
- Painted base

9 Hinged Access Panels

Large access panels are hinged and have quarter-turn latches for quick and easy access to maintenance areas (economizer / filter, compressor / controls, heating / blower).

Field Installed

Coil Guards

Painted, galvanized steel wire guards to protect outdoor coil. Not used with Hail Guards.

Hail Guards

Constructed of heavy gauge steel, painted to match cabinet, helps protect outdoor coils from hail damage. Not used with Coil Guards.

CONTROLS

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.

Thermostats

Control system and thermostat options. Aftermarket unit controller options. See See page 25.

⑩ BLOWER

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

Motor

Overload protected, equipped with ball bearings (belt drive) or sleeve bearings (direct drive).

Belt drive motors are offered on all models.

Supply Air Blower

Forward curved blades, blower wheel is statically and dynamically balanced.

Motors have adjustable pulley for speed change.

Ordering Information

Specify drive kit number when base unit is ordered.

REQUIRED SELECTIONS

Supply Air Blower

Order one drive kit, see Drive Kit Specifications Table.

INDOOR AIR QUALITY

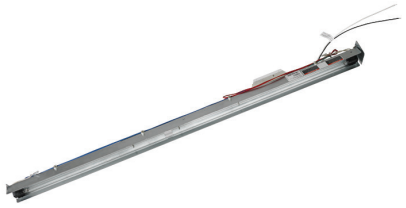
Air Filters

Disposable 51 mm filters furnished as standard.

OPTIONS/ACCESSORIES

Field Installed

Healthy Climate® UVC Germicidal Lamps



Helps eliminate mold and bacterial growth on the evaporator and drain pans. Improves indoor air quality and maintains efficiency of system by reducing fouling of evaporator coil.

Indoor Air Quality (CO_2) Sensor

Monitors CO_2 levels adjusts economizer dampers as needed for Demand Control Ventilation.

ELECTRICAL

Unit Sub-Fuse Blocks

Furnished as standard with all units without electric heat. Unit fuse block is also furnished with electric heat.

REQUIRED SELECTIONS

Voltage Choice

Specify when ordering base unit.

OPTIONS/ACCESSORIES

Field Installed

⑪ Electric Heat

Electric Heat is CE marked.

Helix wound nichrome elements, individual element limit controls, wiring harness. Unit fuse block is furnished as standard.

SERVICEABILITY

Designed to streamline general maintenance and decrease troubleshooting time.

Marked & Color-Coded Wiring

All electrical wiring is color-coded and marked to identify which components it is connecting.

Electrical Plugs

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

Blower Access

Supply air blower parts are located near the access door for easy servicing and adjustment.

Thermal Expansion Valves

Thermal expansion valves are located near the perimeter of the unit for easier access.

Removable element head allows change out of element and bulb without removing the TXV.

Coil Cleaning

Independently formed condenser coils allow separation for easier cleaning.

Standard Components

A large number of common maintenance parts are standard throughout the entire range of sizes, reducing the need to carry a lot of different parts to the job or maintain in inventory.

Compressor Compartment

Compressor is located near the perimeter of the unit for easier access.

Compressor is isolated from the condenser air flow allowing system operation checks to be done without changing the air flow across the outdoor coils.

OPTIONS / ACCESSORIES

ECONOMIZER/OUTDOOR AIR/EXHAUST OPTIONS

Factory or Field Installed

⓬ Economizer

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, adjustable minimum damper position.

Outdood Air Hood is furnished (factory or field installation).

Factory installed Economizer can be ordered with two exhaust options:

1. Barometric Relief Dampers and Exhaust Hood.
2. No Exhaust.

Field installed Economizer includes Barometric Relief Dampers with Exhaust Hood.

Barometric Relief Dampers allow relief of excess air, aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle, bird screen furnished.

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

Horizontal Economizer Conversion kit is available for field installation.

Outdoor Air Dampers - Downflow or Horizontal

Linked mechanical dampers, 0 to 35% (fixed) outdoor air adjustable, installs in unit.

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

Manual model features a slide damper. Maximum mixed air temperature in cooling mode: 37.7°C.

Outdood Air Hood is furnished (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.

Horizontal Economizer Conversion Kit

Insulated panel covers the bottom return air opening on the unit base to convert downflow Economizer to horizontal airflow.

⓭ 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.

Fan is 406 mm diameter with 4 fan blades (C1PWRE10A) or 508 mm diameter with 5 blades (C1PWRE10AT). Both include a 0.25 kW motor.

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

CEILING DIFFUSERS

Ceiling Diffusers (Flush and 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.

ROOF CURB

Roof Curb, Downflow

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

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

Clip curbs use interlocking tabs to fasten together. No tools required.

Hinged curb corners fasten together with furnished hinge pins.

Standard roof curb corners fasten together with furnished hardware.

NOTE - 072 models can be used on smaller 2026 mm roof curbs (not full perimeter) with 400 mm overhang at condenser end of unit. See dimension drawing on page 33.

OPTIONS / ACCESSORIES

Item	Model No.	Catalog No.	Unit Model Number 036	048	060	072
CE MARK						
CE Marked Unit			O	O	O	O
COOLING SYSTEM						
Condensate Drain Trap	Polyvinyl Chloride (PVC) - C1TRAP20AD2	**76W26**	X	X	X	X
	Copper - C1TRAP10AD2	**76W27**	X	X	X	X
Corrosion Protection			O	O	O	O
Drain Pan Overflow Switch	K1SNSR71AB1-	**74W42**	X	X	X	X
Low Ambient Kit	K1SNSR13A-1	**41W34**	X	X	X	X
Efficiency	Standard		O	O	O	O
Refrigerant Type	R-410A		O	O	O	O
BLOWER - SUPPLY AIR						
Motor	Belt Drive - 1.5 kW Standard Efficiency		O	O	O	O
Drive Kits See Blower Data Tables for selection	Kit A01 - T1DRKT001-1 - 561 - 842 rev/min		O			
	Kit A02 - T1DRKT002-1 - 621 - 931 rev/min			O		
	Kit A03 - T1DRKT003-1 - 694 - 1042 rev/min				O	
	Kit A08 - T1DRKT008-1 - 994 - 1326 rev/min					O
	Kit A05 - T1DRKT005-1 - 748 - 1142 rev/min		O			
	Kit A06 - T1DRKT006-1 - 893 - 1191 rev/min			O		
	Kit A07 - T1DRKT007-1 - 1010 - 1290 rev/min				O	
	Kit A09 - T1DRKT009-1 - 1193 - 1594 rev/min					O
CABINET						
Coil Guards	T1GARD20A-1	**17W87**	X	X	X	
	T1GARD20N-1	**17W88**				
	K1GARD20AP1	**53W21**				X
Hail Guards	T1GARD10A-1	**17W89**	X	X	X	
	T1GARD10N-1	**17W90**				
	K1GARD10AP1	**53W22**				X
Hinged Access Panels			O	O	O	O
CONTROLS						
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44AP1	**53W78**	X	X	X	X
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43AP1	**53W79**	X	X	X	X

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

OPTIONS / ACCESSORIES

Item	Model No.	Catalog No.	Unit Model Number 036	048	060	072
ECONOMIZER						
Economizer With Outdoor Air Hood (Sensible Control)						
Economizer - With Barometric Relief Dampers and Exhaust Hood	K1ECON30A-2-	**90W61**	OX	OX		
	K1ECON30AT2-	**90W62**			OX	OX
Economizer - No Exhaust		Factory	O	O	O	O
Horizontal Economizer Conversion Kit	T1HECK00AN1	**17W45**	X	X	X	X
Economizer Controls						
Single Enthalpy Control	C1SNSR64FF1	**53W64**	OX	OX	OX	OX
Differential Enthalpy Control (order 2)	C1SNSR64FF1	**53W64**	X	X	X	X
OUTDOOR AIR						
Outdoor Air Dampers - Includes Outdoor Air Hood						
Manual	C1DAMP11A-1	**53W34**	OX	OX		
	C1DAMP11AT1	**53W37**			OX	OX
Motorized	K1DAMP21A-1	**79W95**	OX	OX		
	K1DAMP21AT1	**79W96**			OX	OX
POWER EXHAUST FAN						
Standard Static *NOTE - Order Barometric Relief Dampers with Exhaust Hood below if unit is ordered with factory installed Economizer with "No Exhaust" option*	380/420V-3ph - C1PWRE10A-1M	**79W93**	X	X	X	
	380/420V-3ph - C1PWRE10AT1M	**79W94**				X
[1] BAROMETRIC RELIEF						
Barometric Relief Dampers with Exhaust Hood	C1DAMP50A-1-	**74W38**	X	X		
	C1DAMP50AT1-	**74W39**			X	X
ELECTRICAL						
Voltage 50 hz with neutral (No neutral on CE marked models)	380/420V - 3 phase		O	O	O	O
[2] ELECTRIC HEAT						
5.7 kW	E1EH0057AN1M	**67W88**	X	X	X	X
11.5 kW	E1EH0115AN1M	**67W89**	X	X	X	X
17.2 kW	E1EH0172N-1M	**67W90**			X	X
23 kW	E1EH0230N-1M	**67W91**				X

[1] Required when Economizer is factory installed (no exhaust option) with field installed Power Exhaust Fan option.

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

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OPTIONS / ACCESSORIES

Item	Model No.	Catalog No.	Unit Model Number 036	048	060	072
INDOOR AIR QUALITY						
Air Filters						
Healthy Climate® High Efficiency Air Filters Order 4 per unit	MERV 8 (16 x 20 x 2) - C1FLTR15A-1-	**54W20**	X	X		
	MERV 13 (16 x 20 x 2) - T1FLTR40A-1-	**52W37**	X	X		
	MERV 8 (20 x 20 x 2) - C1FLTR15D-1-	**54W21**			X	X
	MERV 13 (20 x 20 x 2) - C1FLTR40D-1-	**52W39**			X	X
Indoor Air Quality (Co_2) Sensors						
Sensor - Wall-mount, off-white plastic cover with LCD display	C0SNSR50AE1L	**77N39**	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0SNSR53AE1L	**87N54**	X	X	X	X
CO_2 Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1-	**85L43**	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO_2 sensor (**77N39**)	C0MISC16AE1-	**90N43**	X	X	X	X
UVC Germicidal Lamps						
[1] Healthy Climate® UVC Light Kit (220v-1ph)	E1UVCL10AN1-	**50W90**	X	X	X	X
CEILING DIFFUSERS						
Step-Down - Order one	RTD9-65-R	**27G87**	X	X	X	
	RTD11-95	**29G04**				X
Flush - Order one	FD9-65-R	**27G86**	X	X	X	
	FD11-95	**29G08**				X
Transitions (Supply and Return) - Order one	T1TRAN10AN1	**17W53**	X	X	X	
	T1TRAN20N-1	**17W54**				X
ROOF CURBS - DOWNFLOW						
Clip Curb						
203 mm (8 in.) height	T1CURB23AN1	**16W93**	X	X	X	[2] X
	K1CURB23AP1	**52W20**				X
356 mm (14 in.) height	T1CURB20AN1	**16W94**	X	X	X	[2] X
	K1CURB20AP1	**52W21**				X
457 mm (18 in.) height	T1CURB21AN1	**16W95**	X	X	X	[2] X
	K1CURB21AP1	**52W22**				X
610 mm (24 in.) height	T1CURB22AN1	**16W96**	X	X	X	[2] X
	K1CURB22AP1	**52W23**				X
Hinged						
203 mm (8 in.) height	T1CURB30AN1	**17W46**	X	X	X	[2] X
	K1CURB30AP1	**52W17**				X
457 mm (18 in.) height	T1CURB32AN1	**17W47**	X	X	X	[2] X
	K1CURB32AP1	**52W18**				X
610 mm (24 in.) height	T1CURB33AN1	**17W48**	X	X	X	[2] X
	K1CURB33AP1	**52W19**				X
Standard						
356 mm (14 in.) height	T1CURB10AN1	**13W27**	X	X	X	[2] X
	K1CURB10AP1	**52W24**				X
Adjustable Pitched Curb						
356 mm (14 in.) height	C1CURB55AT1	**43W27**	X	X	X	[2] X

[1] Lamps operate on 110-230V 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).

[2] 072 models will fit smaller roof curbs with overhang. See dimension drawing.

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OX - Field Installed or Configure to Order (Factory installed)
O - Configure to Order (Factory Installed)
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SPECIFICATIONS

General Data		Nominal Tonnage	10.5 kW (3 Ton)	14 kW (4 Ton)	17.5 kW (5 Ton)	21.1 kW (6 Ton)
		Model No.	KHA036S4B	KHA048S4B	KHA060S4B	KHA072S4B
		Efficiency Type	Standard	Standard	Standard	Standard
Cooling Performance		Gross Cooling Capacity - kW (Btuh)	9.8 (33 400)	13.0 (44 300)	16.3 (55 500)	18.8 (64 200)
		[1] Net Cooling Capacity - kW (Btuh)	9.3 (31 900)	12.4 (42 300)	15.5 (53 000)	18.1 (61 900)
		ARI Rated Air Flow - L/s (cfm)	545 (1160)	755 (1600)	935 (1985)	972 (2060)
		[2] Sound Rating Number (dB)	75	75	82	83
		Total Unit Power - kW	2.9	3.9	4.8	5.6
		[1] EER (Btuh/Watt)	10.9	10.7	11	11.0
Refrigerant		Type	R-410A	R-410A	R-410A	R-410A
		Charge Furnished	5.67 (12 lbs. 8 oz.)	5.95 kg (13 lbs. 2 oz.)	7.26 kg (16 lbs 0 oz.)	9.30 kg (20 lbs. 8 oz.)
Heating Performance		Total High Heating Capacity - kW (Btuh)	9.6 (32 700)	12.6 (43 000)	16.0 (54 500)	18.4 (63 000)
		Total Unit Power - kW	2.6	3.5	4.2	5.8
		[1] COP	3.7	3.7	3.8	3.3
		Total Low Heating Capacity - kW (Btuh)	5.8 (19 700)	7.7 (26 400)	9.5 (32 400)	10.5 (36 000)
		Total Unit Power - kW	2.4	3.1	3.6	4.7
		COP	2.4	2.5	1 2.7	2.25
Electric Heating Options			See Electric Heat Table, page 23			
Compressor Type (no.)			Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)
Outdoor Coil		Net face area - m2 (sq. ft.)	1.45 (15.6)	1.45 (15.6)	1.79 (19.27)	2.6 (28.00)
		Tube diameter - mm (in.)	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)
		Number of rows	2	2	2	2
		Fine per meter (Fins / inch)	788 (20)	788 (20)	788 (20)	788 (20)
Outdoor Coil Fan		Motor W (HP)	186 (1/4)	186 (1/4)	248 (1/3)	373 (1/2)
		Motor rev/min	690	690	900	900
		Total motor watts	190	190	310	520
		Diameter - mm (in.) / No. of blades	610 (24) - 3	610 (24) - 3	610 (24) - 3	610 (24) - 4
		Total air volume - L/s (cfm)	1300 (2750)	1300 (2750)	1890 (4000)	2260 (4780)
Indoor Coil		Net face area - m2 (sq. ft.)	0.72 (7.78)	0.72 (7.78)	0.90 (9.7)	0.90 (9.7)
		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 meter (Fins / inch)	552 (14)	552 (14)	552 (14)	552 (14)
		Drain Connection (no. and size) - in.	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT
Expansion device type			Balanced Port Thermostatic Expansion Valve, removeable power head			
[3] Indoor Blower & Drive Selection		Nominal Motor kW (HP)	1.5 (2)	1.5 (2)	1.5 (2)	1.5 (2)
		Maximum Usable Motor kW (HP)	1.7 (2.3)	1.7 (2.3)	1.7 (2.3)	1.7 (2.3)
		Wheel nom. diameter x width - in. (mm)	254 x 254 (10 x 10)			
		Drive Kit (rev/min range)	A01 (561 - 842) A05 (748 - 1122)	A02 (621 - 931) A06 (893 - 1191)	A03 (694 - 1042) A07 (1010 - 1290)	A08 (994-1326) A09 (1193 - 1594)
Filters		Type	Disposable			
		Number and size - mm (in.)	(4) 406 x 508 x 51 (16 x 20 x 2)		(4) 508 x 508 x 51 (20 x 20 x 2)	
Electrical Characteristics - 50 hz			380/420V - 50 hertz - 3 phase with neutral (No neutral on CE marked models)			

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 210/240 while operating at rated voltage and air volumes
Cooling Ratings - 35°C (95°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering indoor coil air.
High Temperature Heating Ratings - 8°C (47°F) db/6°C (43°F) wb outdoor air temperature and 21°C (70°F) entering indoor coil air.
Low Temperature Heating Ratings - –8°C (17°F) db/–9°C (15°F) wb outdoor air temperature and 21°C (70°F) entering indoor coil air.

2 Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270.

3 Using total air volume and system static pressure requirements determine from blower performance tables rev/min and motor size required. Maximum usable size of motors furnished is shown. If motors of comparable size 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.

10.5 KW - KHA036S4 - COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		27°C					35°C					43°C					52°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°C	453	9.6	1.88	0.74	0.88	1.00	8.9	2.27	0.76	0.92	1.00	8.2	2.76	0.79	0.96	1.00	7.4	3.37	0.84	1.00	1.00
	566	10.0	1.88	0.80	0.97	1.00	9.3	2.28	0.83	1.00	1.00	8.6	2.77	0.87	1.00	1.00	7.8	3.37	0.93	1.00	1.00
	680	10.4	1.89	0.86	1.00	1.00	9.7	2.29	0.90	1.00	1.00	9.0	2.78	0.94	1.00	1.00	8.1	3.38	1.00	1.00	1.00
19°C	453	10.2	1.89	0.57	0.71	0.85	9.5	2.29	0.58	0.73	0.88	8.7	2.77	0.60	0.76	0.93	7.8	3.37	0.63	0.81	0.98
	566	10.6	1.90	0.61	0.77	0.94	9.8	2.30	0.63	0.80	0.97	8.9	2.78	0.65	0.85	1.00	8.0	3.38	0.68	0.90	1.00
	680	10.8	1.91	0.65	0.84	1.00	10.0	2.31	0.67	0.87	1.00	9.2	2.79	0.70	0.92	1.00	8.2	3.38	0.74	0.98	1.00
22°C	453	10.9	1.91	0.42	0.55	0.68	10.2	2.31	0.43	0.57	0.71	9.3	2.79	0.44	0.59	0.74	8.3	3.39	0.45	0.62	0.79
	566	11.2	1.92	0.44	0.60	0.75	10.4	2.32	0.44	0.61	0.78	9.5	2.8	0.46	0.64	0.82	8.5	3.4	0.47	0.68	0.88
	680	11.5	1.93	0.45	0.64	0.82	10.6	2.33	0.46	0.66	0.85	9.7	2.81	0.47	0.69	0.90	8.6	3.41	0.49	0.74	0.96

10.5 KW KHA036S4 - HEATING CAPACITY

Indoor Coil Air Volume 21°C Dry Bulb	Air Temperature Entering Outdoor Coil									
	18°C		7°C		-4°C		-15°C		-28°C	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
L/s	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
453	11.6	2.20	8.8	2.05	5.8	1.88	4.1	1.71	2.0	1.28
566	11.8	2.07	9.1	1.92	6.1	1.76	4.4	1.58	2.3	1.15
680	12.0	1.99	9.3	1.84	6.3	1.68	4.6	1.5	2.5	1.07

14 KW - KHA048S4 - COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		27°C					35°C					43°C					52°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°C	604	12.8	2.55	0.72	0.88	1.00	11.9	3.11	0.75	0.92	1.00	10.9	3.77	0.78	0.97	1.00	9.90	4.57	0.83	1.00	1.00
	755	13.3	2.55	0.78	0.97	1.00	12.4	3.13	0.82	1.00	1.00	11.5	3.78	0.86	1.00	1.00	10.4	4.59	0.92	1.00	1.00
	906	13.9	2.55	0.85	1.00	1.00	12.9	3.14	0.89	1.00	1.00	12.0	3.8	0.94	1.00	1.00	10.8	4.61	0.99	1.00	1.00
19°C	604	13.6	2.55	0.56	0.70	0.84	12.6	3.14	0.57	0.72	0.88	11.5	3.79	0.59	0.75	0.93	10.3	4.59	0.62	0.80	0.99
	755	14.1	2.56	0.60	0.76	0.93	13.0	3.15	0.62	0.79	0.98	11.8	3.81	0.64	0.84	1.00	10.6	4.61	0.68	0.90	1.00
	906	14.3	2.56	0.63	0.83	1.00	13.2	3.16	0.66	0.87	1.00	12.1	3.82	0.69	0.92	1.00	10.8	4.62	0.73	0.98	1.00
22°C	604	14.5	2.56	0.41	0.54	0.67	13.5	3.16	0.42	0.56	0.70	12.3	3.83	0.43	0.58	0.73	11.0	4.63	0.44	0.61	0.78
	755	14.9	2.56	0.43	0.58	0.74	13.8	3.17	0.44	0.60	0.77	12.6	3.84	0.45	0.63	0.81	11.2	4.64	0.46	0.67	0.88
	906	15.2	2.56	0.44	0.62	0.80	14	3.18	0.45	0.65	0.85	12.7	3.85	0.47	0.68	0.90	11.4	4.65	0.48	0.73	0.97

14 KW KHA048S4 - HEATING CAPACITY

Indoor Coil Air Volume 21°C Dry Bulb	Air Temperature Entering Outdoor Coil									
	18°C		7°C		-4°C		-15°C		-28°C	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
L/s	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
604	15.2	3.01	11.6	2.77	7.7	2.52	5.6	2.26	2.8	1.69
755	15.5	2.84	11.9	2.60	8.0	2.35	5.9	2.09	3.0	1.53
906	15.8	2.75	12.1	2.51	8.2	2.26	6.2	2.00	3.3	1.43

RATINGS

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

17.5 KW - KHA060S4 - COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		27°C					35°C					43°C					52°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°C	755	16	3.11	0.73	0.87	1.00	14.8	3.74	0.75	0.92	1.00	13.5	4.52	0.78	0.97	1.00	12.1	5.49	0.84	1.00	1.00
	944	16.7	3.13	0.79	0.97	1.00	15.5	3.77	0.82	1.00	1.00	14.2	4.55	0.87	1.00	1.00	12.8	5.51	0.94	1.00	1.00
	1133	17.4	3.15	0.85	1.00	1.00	16.2	3.79	0.90	1.00	1.00	14.9	4.57	0.95	1.00	1.00	13.3	5.53	1.00	1.00	1.00
19°C	755	17.1	3.15	0.56	0.70	0.84	15.8	3.78	0.58	0.73	0.88	14.3	4.55	0.60	0.76	0.93	12.6	5.51	0.63	0.82	1.00
	944	17.6	3.17	0.60	0.76	0.93	16.3	3.8	0.62	0.80	0.98	14.7	4.58	0.65	0.85	1.00	13.0	5.53	0.69	0.92	1.00
	1133	18	3.19	0.64	0.83	1.00	16.6	3.82	0.66	0.88	1.00	15.1	4.59	0.70	0.93	1.00	13.3	5.55	0.75	1.00	1.00
22°C	755	18.2	3.19	0.42	0.55	0.68	16.8	3.83	0.42	0.56	0.70	15.3	4.6	0.43	0.59	0.74	13.5	5.55	0.44	0.62	0.79
	944	18.8	3.22	0.43	0.59	0.74	17.3	3.85	0.44	0.61	0.77	15.6	4.62	0.45	0.64	0.82	13.8	5.57	0.47	0.68	0.89
	1133	19.1	3.23	0.45	0.63	0.81	17.6	3.87	0.46	0.66	0.85	15.9	4.64	0.47	0.69	0.91	14.0	5.59	0.50	0.74	0.98

17.5 KW KHA060S4 - HEATING CAPACITY

Indoor Coil Air Volume 21°C Dry Bulb	Air Temperature Entering Outdoor Coil									
	18°C		7°C		-4°C		-15°C		-28°C	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
L/s	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
755	19.5	3.53	14.8	3.28	9.90	3.03	6.8	2.68	3.4	2.01
944	19.8	3.33	15.2	3.08	10.2	2.83	7.2	2.48	3.7	1.81
1133	20.3	3.21	15.6	2.96	10.6	2.71	7.6	2.36	4.2	1.69

21 KW - KHA072S4 - COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		27°C					35°C					43°C					52°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°C	906	19.0	3.8	0.73	0.89	1.00	17.7	4.4	0.75	0.93	1.00	16.3	5.2	0.78	0.99	1.00	14.7	6.1	0.84	1.00	1.00
	1133	20.0	3.8	0.78	0.98	1.00	18.7	4.4	0.82	1.00	1.00	17.3	5.2	0.87	1.00	1.00	15.7	6.1	0.95	1.00	1.00
	1359	20.9	3.8	0.85	1.00	1.00	19.6	4.5	0.89	1.00	1.00	18.2	5.2	0.95	1.00	1.00	16.4	6.2	1.00	1.00	1.00
19°C	906	20.1	3.8	0.57	0.70	0.85	18.8	4.4	0.58	0.73	0.89	17.2	5.2	0.60	0.76	0.95	15.4	6.1	0.63	0.81	1.00
	1133	21.0	3.8	0.61	0.76	0.95	19.5	4.5	0.62	0.79	0.99	17.9	5.2	0.65	0.84	1.00	15.9	6.1	0.68	0.92	1.00
	1359	21.7	3.8	0.64	0.82	1.00	20.1	4.5	0.66	0.87	1.00	18.5	5.2	0.69	0.92	1.00	16.4	6.1	0.73	1.00	1.00
22°C	906	21.3	3.8	0.43	0.56	0.68	19.9	4.5	0.43	0.57	0.70	18.3	5.2	0.44	0.59	0.74	16.3	6.1	0.45	0.62	0.78
	1133	22.2	3.8	0.44	0.59	0.74	20.7	4.5	0.45	0.61	0.77	19.0	5.2	0.46	0.64	0.81	16.9	6.2	0.47	0.67	0.88
	1359	22.9	3.8	0.46	0.63	0.79	21.3	4.5	0.47	0.65	0.84	19.5	5.2	0.48	0.68	0.89	17.3	6.2	0.50	0.73	0.98

21 KW KHA072S4 - HEATING CAPACITY

Indoor Coil Air Volume 21°C Dry Bulb	Air Temperature Entering Outdoor Coil									
	18°C		7°C		-4°C		-15°C		-28°C	
	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input	Total Heating Capacity	Comp. Motor Input
L/s	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
906	22.9	4.65	17.4	4.14	11.9	3.59	7.3	3.22	3.5	2.43
1133	23.5	4.42	18.1	3.91	12.5	3.37	7.9	3.00	4.1	2.21
1359	24.0	4.28	18.5	3.78	13.0	3.23	8.4	2.86	4.6	2.07

BLOWER DATA - BELT DRIVE - KHA036 - DOWNFLOW

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

Air Volume		External Static - Pa (in.w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Field Furnished						Kit A01												Kit A05					
425	900	486	0.09	0.12	554	0.12	0.16	623	0.15	0.20	695	0.16	0.22	767	0.17	0.23	836	0.19	0.25	897	0.21	0.28	953	0.22	0.30
472	1000	508	0.11	0.15	576	0.14	0.19	643	0.16	0.22	713	0.18	0.24	783	0.19	0.26	848	0.21	0.28	907	0.22	0.30	961	0.25	0.33
519	1100	533	0.13	0.18	599	0.16	0.22	665	0.19	0.25	733	0.20	0.27	800	0.21	0.28	863	0.23	0.31	919	0.25	0.34	971	0.27	0.36
566	1200	560	0.16	0.21	625	0.19	0.25	689	0.21	0.28	755	0.22	0.30	820	0.24	0.32	879	0.25	0.34	932	0.28	0.37	983	0.30	0.40
613	1300	591	0.18	0.24	654	0.21	0.28	716	0.23	0.31	779	0.25	0.33	841	0.26	0.35	897	0.28	0.38	948	0.31	0.41	996	0.33	0.44
661	1400	631	0.19	0.26	690	0.22	0.30	748	0.25	0.34	807	0.27	0.36	864	0.29	0.39	916	0.31	0.42	964	0.34	0.46	1011	0.37	0.49
708	1500	676	0.21	0.28	729	0.25	0.33	782	0.27	0.36	835	0.30	0.40	887	0.32	0.43	935	0.35	0.47	981	0.37	0.50	1028	0.40	0.54

Air Volume		External Static - Pa (in.w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A05									Field Furnished														
425	900	1004	0.25	0.33	1055	0.26	0.35	1106	0.28	0.37	1152	0.30	0.40	1193	0.32	0.43	1232	0.34	0.46	1269	0.37	0.49	1305	0.39	0.52
472	1000	1011	0.27	0.36	1062	0.28	0.38	1111	0.31	0.41	1157	0.32	0.43	1199	0.35	0.47	1238	0.37	0.50	1276	0.40	0.53	1311	0.42	0.56
519	1100	1020	0.29	0.39	1070	0.31	0.41	1118	0.33	0.44	1163	0.35	0.47	1206	0.38	0.51	1245	0.40	0.54	1282	0.43	0.58	1318	0.46	0.61
566	1200	1031	0.32	0.43	1079	0.34	0.45	1127	0.36	0.48	1171	0.39	0.52	1213	0.41	0.55	1252	0.44	0.59	1289	0.46	0.62	1324	0.49	0.66
613	1300	1044	0.35	0.47	1091	0.37	0.49	1137	0.40	0.53	1181	0.42	0.56	1221	0.45	0.60	1259	0.48	0.64	1296	0.51	0.68	1330	0.53	0.71
661	1400	1058	0.38	0.51	1105	0.40	0.54	1150	0.43	0.57	1191	0.46	0.61	1231	0.48	0.65	1268	0.51	0.69	1303	0.54	0.73	1337	0.57	0.77
708	1500	1074	0.42	0.56	1120	0.44	0.59	1163	0.47	0.63	1203	0.50	0.67	1241	0.53	0.71	1277	0.56	0.75	1312	0.59	0.79	1345	0.61	0.82

BLOWER DATA - BELT DRIVE - KHA036 - HORIZONTAL

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

Air Volume		External Static - Pa (in.w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Field Furnished						Kit A01												Kit A05					
425	900	485	0.08	0.11	554	0.10	0.14	627	0.12	0.16	703	0.13	0.18	780	0.16	0.21	841	0.17	0.23	888	0.20	0.27	935	0.22	0.30
472	1000	509	0.10	0.13	578	0.12	0.16	649	0.14	0.19	722	0.16	0.21	796	0.17	0.23	854	0.19	0.26	900	0.22	0.29	947	0.25	0.33
519	1100	537	0.12	0.16	605	0.14	0.19	674	0.16	0.21	744	0.18	0.24	813	0.19	0.26	868	0.22	0.29	913	0.25	0.33	959	0.27	0.36
566	1200	567	0.14	0.19	633	0.16	0.22	700	0.18	0.24	768	0.20	0.27	833	0.22	0.30	884	0.25	0.33	928	0.28	0.37	974	0.30	0.40
613	1300	599	0.16	0.22	664	0.19	0.25	729	0.21	0.28	793	0.22	0.30	853	0.25	0.33	902	0.28	0.37	945	0.31	0.41	990	0.33	0.44
661	1400	634	0.19	0.26	697	0.22	0.29	758	0.23	0.31	819	0.25	0.34	875	0.28	0.38	921	0.31	0.42	964	0.34	0.46	1008	0.37	0.49
708	1500	669	0.22	0.30	730	0.25	0.33	789	0.27	0.36	846	0.29	0.39	897	0.31	0.42	941	0.35	0.47	983	0.38	0.51	1028	0.40	0.54

Air Volume		External Static - Pa (in.w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A05												Field Furnished											
425	900	986	0.24	0.32	1039	0.26	0.35	1090	0.28	0.37	1137	0.30	0.40	1177	0.32	0.43	1214	0.34	0.46	1248	0.37	0.49	1280	0.38	0.51
472	1000	997	0.26	0.35	1048	0.28	0.38	1098	0.31	0.41	1143	0.33	0.44	1184	0.35	0.47	1221	0.37	0.50	1255	0.40	0.53	1287	0.42	0.56
519	1100	1008	0.29	0.39	1059	0.31	0.41	1107	0.33	0.44	1150	0.35	0.47	1191	0.38	0.51	1228	0.40	0.54	1263	0.43	0.57	1295	0.45	0.6
566	1200	1022	0.32	0.43	1071	0.34	0.45	1117	0.36	0.48	1160	0.39	0.52	1200	0.41	0.55	1237	0.44	0.59	1271	0.46	0.62	1303	0.49	0.66
613	1300	1037	0.35	0.47	1085	0.37	0.50	1130	0.40	0.53	1171	0.43	0.57	1210	0.45	0.60	1246	0.48	0.64	1280	0.51	0.68	1312	0.53	0.71
661	1400	1054	0.39	0.52	1100	0.40	0.54	1144	0.43	0.58	1183	0.46	0.62	1221	0.49	0.66	1256	0.52	0.70	1290	0.54	0.73	1321	0.57	0.77
708	1500	1073	0.43	0.57	1117	0.45	0.60	1159	0.48	0.64	1197	0.50	0.67	1234	0.53	0.71	1268	0.56	0.75	1301	0.59	0.79	1332	0.62	0.83

BLOWER DATA - BELT DRIVE - KHA048 - DOWNFLOW

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

DOWNFLOW

Air Volume		External Static - Pa (in.w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Field Furnished			Kit A02															Kit A06					
566	1200	560	0.16	0.21	625	0.19	0.25	689	0.21	0.28	755	0.22	0.30	820	0.24	0.32	879	0.25	0.34	932	0.28	0.37	983	0.30	0.40
613	1300	591	0.18	0.24	654	0.21	0.28	716	0.23	0.31	779	0.25	0.33	841	0.26	0.35	897	0.28	0.38	948	0.31	0.41	996	0.33	0.44
661	1400	631	0.19	0.26	690	0.22	0.30	748	0.25	0.34	807	0.27	0.36	864	0.29	0.39	916	0.31	0.42	964	0.34	0.46	1011	0.37	0.49
708	1500	675	0.21	0.28	729	0.25	0.33	782	0.27	0.36	835	0.30	0.40	887	0.32	0.43	935	0.35	0.47	981	0.37	0.50	1028	0.40	0.54
755	1600	718	0.23	0.31	766	0.26	0.35	814	0.30	0.40	862	0.33	0.44	910	0.36	0.48	955	0.39	0.52	1000	0.41	0.55	1046	0.44	0.59
802	1700	756	0.25	0.34	799	0.29	0.39	843	0.33	0.44	887	0.37	0.49	932	0.40	0.53	976	0.43	0.57	1020	0.46	0.61	1066	0.48	0.64
849	1800	787	0.30	0.40	828	0.34	0.45	870	0.37	0.50	912	0.41	0.55	955	0.44	0.59	999	0.47	0.63	1043	0.50	0.67	1089	0.52	0.70
897	1900	815	0.34	0.46	855	0.38	0.51	897	0.43	0.57	939	0.46	0.62	981	0.49	0.66	1024	0.51	0.69	1068	0.54	0.73	1113	0.57	0.76
944	2000	843	0.40	0.53	884	0.44	0.59	925	0.48	0.64	968	0.51	0.68	1009	0.54	0.72	1052	0.57	0.76	1095	0.59	0.79	1138	0.62	0.83

Air Volume		External Static - Pa (in.w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A06												Field Furnished											
566	1200	1031	0.32	0.43	1079	0.34	0.45	1127	0.36	0.48	1171	0.39	0.52	1213	0.41	0.55	1252	0.44	0.59	1289	0.46	0.62	1324	0.49	0.66
613	1300	1044	0.35	0.47	1091	0.37	0.49	1137	0.40	0.53	1181	0.42	0.56	1221	0.45	0.60	1259	0.48	0.64	1296	0.51	0.68	1330	0.53	0.71
661	1400	1058	0.38	0.51	1105	0.40	0.54	1150	0.43	0.57	1191	0.46	0.61	1231	0.48	0.65	1268	0.51	0.69	1303	0.54	0.73	1337	0.57	0.77
708	1500	1074	0.42	0.56	1120	0.44	0.59	1163	0.47	0.63	1203	0.50	0.67	1241	0.53	0.71	1277	0.56	0.75	1312	0.59	0.79	1345	0.61	0.82
755	1600	1092	0.46	0.61	1137	0.48	0.65	1178	0.51	0.68	1216	0.54	0.72	1253	0.57	0.76	1288	0.60	0.80	1321	0.63	0.84	1354	0.66	0.88
802	1700	1112	0.50	0.67	1155	0.52	0.70	1193	0.56	0.75	1230	0.59	0.79	1265	0.62	0.83	1299	0.65	0.87	1332	0.68	0.91	1364	0.71	0.95
849	1800	1133	0.54	0.73	1174	0.57	0.77	1209	0.60	0.81	1244	0.63	0.85	1278	0.67	0.90	1311	0.70	0.94	1343	0.73	0.98	1375	0.76	1.02
897	1900	1156	0.60	0.80	1193	0.63	0.84	1226	0.66	0.89	1260	0.69	0.93	1293	0.72	0.97	1325	0.75	1.01	1356	0.79	1.06	1388	0.82	1.1
944	2000	1178	0.65	0.87	1213	0.69	0.92	1243	0.72	0.97	1275	0.76	1.02	1307	0.79	1.06	1339	0.82	1.10	1370	0.85	1.14	1402	0.88	1.18

BLOWER DATA - BELT DRIVE - KHA048 - HORIZONTAL

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

HORIZONTAL

Air Volume		External Static - Pa (in.w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Field Furnished			Kit A02																		Kit A06		
566	1200	567	0.14	0.19	633	0.16	0.22	700	0.18	0.24	768	0.20	0.27	833	0.22	0.30	884	0.25	0.33	928	0.28	0.37	974	0.30	0.40
613	1300	599	0.16	0.22	664	0.19	0.25	729	0.21	0.28	793	0.22	0.30	853	0.25	0.33	902	0.28	0.37	945	0.31	0.41	990	0.33	0.44
661	1400	634	0.19	0.26	697	0.22	0.29	758	0.23	0.31	819	0.25	0.34	875	0.28	0.38	921	0.31	0.42	964	0.34	0.46	1008	0.37	0.49
708	1500	669	0.22	0.30	730	0.25	0.33	789	0.27	0.36	846	0.29	0.39	897	0.31	0.42	941	0.35	0.47	983	0.38	0.51	1028	0.40	0.54
755	1600	705	0.25	0.34	763	0.28	0.37	819	0.30	0.40	873	0.32	0.43	921	0.36	0.48	963	0.39	0.52	1004	0.42	0.56	1048	0.44	0.59
802	1700	741	0.28	0.38	796	0.31	0.41	850	0.34	0.45	900	0.37	0.49	945	0.40	0.53	985	0.43	0.58	1026	0.46	0.62	1070	0.48	0.65
849	1800	776	0.32	0.43	829	0.34	0.46	880	0.38	0.51	927	0.41	0.55	970	0.45	0.60	1009	0.48	0.64	1050	0.51	0.68	1093	0.53	0.71
897	1900	812	0.36	0.48	862	0.39	0.52	910	0.43	0.57	955	0.46	0.62	996	0.49	0.66	1035	0.53	0.71	1076	0.55	0.74	1118	0.58	0.78
944	2000	847	0.40	0.54	895	0.44	0.59	941	0.48	0.64	984	0.51	0.69	1023	0.55	0.74	1062	0.58	0.78	1103	0.60	0.81	1144	0.63	0.85

Air Volume		External Static - Pa (in.w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A06												Field Furnished											
566	1200	1022	0.32	0.43	1071	0.34	0.45	1117	0.36	0.48	1160	0.39	0.52	1200	0.41	0.55	1237	0.44	0.59	1271	0.46	0.62	1303	0.49	0.66
613	1300	1037	0.35	0.47	1085	0.37	0.50	1130	0.40	0.53	1171	0.43	0.57	1210	0.45	0.60	1246	0.48	0.64	1280	0.51	0.68	1312	0.53	0.71
661	1400	1054	0.39	0.52	1100	0.40	0.54	1144	0.43	0.58	1183	0.46	0.62	1221	0.49	0.66	1256	0.52	0.70	1290	0.54	0.73	1321	0.57	0.77
708	1500	1073	0.43	0.57	1117	0.45	0.60	1159	0.48	0.64	1197	0.50	0.67	1234	0.53	0.71	1268	0.56	0.75	1301	0.59	0.79	1332	0.62	0.83
755	1600	1093	0.46	0.62	1136	0.49	0.66	1175	0.52	0.70	1212	0.55	0.74	1247	0.58	0.78	1281	0.61	0.82	1313	0.64	0.86	1344	0.67	0.9
802	1700	1114	0.51	0.68	1155	0.54	0.72	1192	0.57	0.76	1227	0.60	0.80	1262	0.63	0.85	1295	0.66	0.89	1327	0.69	0.93	1358	0.72	0.97
849	1800	1136	0.56	0.75	1175	0.59	0.79	1210	0.62	0.83	1245	0.66	0.88	1278	0.69	0.92	1311	0.72	0.97	1342	0.75	1.01	1373	0.78	1.05
897	1900	1159	0.61	0.82	1197	0.64	0.86	1229	0.69	0.92	1263	0.72	0.97	1296	0.75	1.01	1328	0.79	1.06	1359	0.82	1.10	1390	0.85	1.14
944	2000	1183	0.67	0.90	1218	0.71	0.95	1249	0.75	1.01	1282	0.79	1.06	1314	0.83	1.11	1346	0.86	1.15	1377	0.90	1.20	1408	0.93	1.24

BLOWER DATA - BELT DRIVE - KHA060 - DOWNFLOW

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

Air Volume		External Static - Pa (in.w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Field Furnished			Kit A03																				
755	1600	665	0.22	0.30	716	0.25	0.34	768	0.28	0.38	819	0.31	0.41	879	0.33	0.44	937	0.34	0.46	985	0.37	0.49	1022	0.39	0.52
802	1700	723	0.23	0.31	768	0.26	0.35	814	0.29	0.39	860	0.32	0.43	910	0.35	0.47	959	0.37	0.50	1001	0.40	0.54	1037	0.43	0.58
849	1800	779	0.24	0.32	818	0.28	0.37	857	0.31	0.41	897	0.34	0.46	939	0.37	0.50	980	0.41	0.55	1018	0.44	0.59	1054	0.48	0.64
897	1900	826	0.27	0.36	859	0.31	0.41	894	0.34	0.45	928	0.37	0.50	964	0.42	0.56	1000	0.46	0.61	1036	0.49	0.66	1072	0.52	0.70
944	2000	857	0.31	0.42	889	0.35	0.47	920	0.39	0.52	952	0.43	0.57	986	0.46	0.62	1020	0.51	0.68	1055	0.54	0.73	1091	0.57	0.77
991	2100	878	0.37	0.49	909	0.40	0.54	940	0.44	0.59	973	0.48	0.64	1006	0.52	0.70	1041	0.56	0.75	1076	0.60	0.80	1112	0.63	0.85
1038	2200	897	0.41	0.55	929	0.46	0.61	961	0.49	0.66	994	0.54	0.72	1028	0.58	0.78	1063	0.62	0.83	1099	0.66	0.89	1134	0.69	0.93
1085	2300	918	0.46	0.62	950	0.51	0.68	983	0.55	0.74	1017	0.60	0.80	1052	0.64	0.86	1087	0.69	0.92	1122	0.72	0.97	1157	0.76	1.02
1133	2400	941	0.52	0.70	974	0.57	0.77	1008	0.62	0.83	1042	0.67	0.90	1077	0.72	0.96	1111	0.75	1.01	1146	0.79	1.06	1181	0.83	1.11

Air Volume		External Static - Pa (in.w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A07																					Field Furnished		
755	1600	1059	0.43	0.57	1098	0.46	0.61	1138	0.48	0.65	1177	0.51	0.68	1218	0.53	0.71	1257	0.56	0.75	1290	0.59	0.79	1319	0.62	0.83
802	1700	1074	0.46	0.62	1113	0.49	0.66	1152	0.52	0.70	1190	0.55	0.74	1231	0.57	0.77	1268	0.60	0.80	1299	0.63	0.84	1328	0.66	0.89
849	1800	1091	0.51	0.68	1129	0.54	0.72	1167	0.57	0.76	1205	0.60	0.80	1244	0.62	0.83	1280	0.65	0.87	1310	0.68	0.91	1338	0.71	0.95
897	1900	1109	0.56	0.75	1146	0.59	0.79	1183	0.61	0.82	1221	0.64	0.86	1260	0.67	0.90	1294	0.70	0.94	1323	0.73	0.98	1349	0.76	1.02
944	2000	1128	0.61	0.82	1164	0.64	0.86	1201	0.66	0.89	1239	0.69	0.93	1276	0.72	0.97	1310	0.75	1.01	1336	0.79	1.06	1362	0.82	1.1
991	2100	1148	0.66	0.89	1185	0.69	0.93	1221	0.72	0.97	1258	0.75	1.01	1294	0.78	1.05	1325	0.81	1.09	1351	0.85	1.14	1376	0.89	1.19
1038	2200	1170	0.72	0.97	1206	0.75	1.01	1242	0.78	1.05	1277	0.81	1.09	1311	0.85	1.14	1341	0.88	1.18	1365	0.92	1.23	1390	0.95	1.28
1085	2300	1193	0.79	1.06	1228	0.81	1.09	1262	0.85	1.14	1295	0.89	1.19	1327	0.93	1.24	1355	0.96	1.29	1380	0.99	1.33	1406	1.02	1.37
1133	2400	1216	0.86	1.15	1250	0.89	1.19	1282	0.93	1.24	1313	0.97	1.30	1343	1.01	1.36	1371	1.04	1.40	1396	1.07	1.44	1423	1.10	1.48

BLOWER DATA - BELT DRIVE - KHA060 - HORIZONTAL

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

Air Volume		External Static - Pa (in.w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A03																							
755	1600	712	0.22	0.29	758	0.24	0.32	807	0.27	0.36	855	0.29	0.39	906	0.32	0.43	955	0.34	0.46	997	0.37	0.50	1035	0.40	0.54
802	1700	766	0.24	0.32	808	0.27	0.36	850	0.30	0.40	892	0.33	0.44	936	0.35	0.47	978	0.38	0.51	1016	0.42	0.56	1052	0.45	0.60
849	1800	814	0.27	0.36	851	0.30	0.40	888	0.33	0.44	925	0.37	0.49	963	0.40	0.53	1000	0.43	0.57	1035	0.46	0.62	1071	0.49	0.66
897	1900	853	0.31	0.41	886	0.34	0.46	919	0.37	0.50	952	0.41	0.55	986	0.45	0.60	1021	0.48	0.64	1056	0.51	0.69	1091	0.54	0.73
944	2000	883	0.36	0.48	913	0.40	0.53	944	0.43	0.57	976	0.46	0.62	1009	0.50	0.67	1043	0.53	0.71	1078	0.57	0.76	1112	0.60	0.80
991	2100	906	0.42	0.56	936	0.45	0.60	967	0.48	0.65	999	0.52	0.70	1033	0.56	0.75	1067	0.59	0.79	1101	0.63	0.84	1135	0.66	0.88
1038	2200	930	0.48	0.64	960	0.51	0.68	991	0.54	0.73	1024	0.58	0.78	1058	0.62	0.83	1092	0.66	0.88	1126	0.69	0.92	1160	0.72	0.96
1085	2300	954	0.54	0.72	985	0.57	0.77	1017	0.61	0.82	1051	0.65	0.87	1085	0.69	0.92	1119	0.72	0.96	1152	0.75	1.00	1186	0.78	1.04
1133	2400	981	0.60	0.81	1013	0.64	0.86	1046	0.68	0.91	1079	0.72	0.96	1113	0.75	1.00	1146	0.78	1.05	1180	0.81	1.09	1213	0.84	1.13

Air Volume		External Static - Pa (in.w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A07																		Field Furnished					
755	1600	1071	0.43	0.58	1109	0.46	0.62	1147	0.49	0.66	1186	0.51	0.69	1225	0.54	0.72	1263	0.57	0.76	1299	0.60	0.80	1334	0.62	0.83
802	1700	1088	0.48	0.64	1126	0.51	0.68	1164	0.54	0.72	1202	0.56	0.75	1240	0.58	0.78	1276	0.61	0.82	1311	0.64	0.86	1345	0.67	0.9
849	1800	1107	0.52	0.70	1143	0.55	0.74	1181	0.58	0.78	1219	0.60	0.81	1256	0.63	0.85	1291	0.66	0.89	1324	0.69	0.93	1357	0.72	0.97
897	1900	1126	0.57	0.77	1163	0.60	0.81	1200	0.63	0.85	1237	0.66	0.88	1273	0.69	0.92	1306	0.72	0.96	1339	0.75	1.00	1371	0.78	1.04
944	2000	1148	0.63	0.84	1183	0.66	0.88	1220	0.69	0.92	1257	0.72	0.96	1291	0.75	1.00	1323	0.78	1.04	1354	0.81	1.08	1385	0.84	1.12
991	2100	1170	0.69	0.92	1206	0.72	0.96	1242	0.75	1.00	1277	0.78	1.04	1310	0.81	1.08	1340	0.84	1.13	1371	0.87	1.17	1401	0.90	1.21
1038	2200	1195	0.75	1.00	1230	0.78	1.04	1265	0.81	1.08	1299	0.84	1.13	1330	0.88	1.18	1359	0.92	1.23	1388	0.95	1.27	1418	0.98	1.31
1085	2300	1220	0.81	1.08	1254	0.84	1.13	1288	0.87	1.17	1320	0.92	1.23	1350	0.95	1.28	1378	1.00	1.34	1406	1.03	1.38	1435	1.06	1.42
1133	2400	1245	0.88	1.18	1278	0.91	1.22	1311	0.95	1.28	1341	0.99	1.33	1370	1.04	1.40	1397	1.08	1.45	1425	1.12	1.50	1454	1.15	1.54

BLOWER DATA - BELT DRIVE - KHA072 - DOWNFLOW

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

Air Volume		External Static - Pa (in. w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A08																							
897	1900	826	0.27	0.36	859	0.31	0.41	894	0.34	0.45	928	0.37	0.50	964	0.42	0.56	1000	0.46	0.61	1036	0.49	0.66	1072	0.52	0.70
944	2000	857	0.31	0.42	889	0.35	0.47	920	0.39	0.52	952	0.43	0.57	986	0.46	0.62	1020	0.51	0.68	1055	0.54	0.73	1091	0.57	0.77
991	2100	878	0.37	0.49	909	0.40	0.54	940	0.44	0.59	973	0.48	0.64	1006	0.52	0.70	1041	0.56	0.75	1076	0.60	0.80	1112	0.63	0.85
1038	2200	897	0.41	0.55	929	0.46	0.61	961	0.49	0.66	994	0.54	0.72	1028	0.58	0.78	1063	0.62	0.83	1099	0.66	0.89	1134	0.69	0.93
1085	2300	918	0.46	0.62	950	0.51	0.68	983	0.55	0.74	1017	0.60	0.80	1052	0.64	0.86	1087	0.69	0.92	1122	0.72	0.97	1157	0.76	1.02
1133	2400	941	0.52	0.70	974	0.57	0.77	1008	0.62	0.83	1042	0.67	0.90	1077	0.72	0.96	1111	0.75	1.01	1146	0.79	1.06	1181	0.83	1.11
1180	2500	966	0.59	0.79	1000	0.64	0.86	1034	0.69	0.93	1068	0.75	1.00	1103	0.79	1.06	1137	0.83	1.11	1171	0.87	1.16	1205	0.90	1.20
1227	2600	994	0.67	0.90	1028	0.72	0.97	1062	0.78	1.04	1096	0.82	1.10	1130	0.87	1.16	1164	0.90	1.21	1197	0.94	1.26	1231	0.97	1.30
1274	2700	1023	0.75	1.01	1057	0.81	1.08	1091	0.86	1.15	1125	0.91	1.22	1159	0.95	1.27	1192	0.98	1.32	1225	1.02	1.37	1258	1.05	1.41
1321	2800	1053	0.84	1.13	1088	0.90	1.21	1122	0.95	1.27	1155	0.99	1.33	1188	1.04	1.39	1221	1.07	1.43	1253	1.10	1.48	1286	1.14	1.53
1369	2900	1085	0.94	1.26	1119	0.99	1.33	1153	1.04	1.40	1186	1.08	1.45	1218	1.13	1.51	1250	1.16	1.55	1281	1.20	1.61	1313	1.24	1.66

Air Volume		External Static - Pa (in. w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A08			Kit A09																		Field Furnished		
897	1900	1109	0.56	0.75	1146	0.59	0.79	1183	0.61	0.82	1221	0.64	0.86	1260	0.67	0.90	1294	0.70	0.94	1323	0.73	0.98	1349	0.76	1.02
944	2000	1128	0.61	0.82	1164	0.64	0.86	1201	0.66	0.89	1239	0.69	0.93	1276	0.72	0.97	1310	0.75	1.01	1336	0.79	1.06	1362	0.82	1.10
991	2100	1148	0.66	0.89	1185	0.69	0.93	1221	0.72	0.97	1258	0.75	1.01	1294	0.78	1.05	1325	0.81	1.09	1351	0.85	1.14	1376	0.89	1.19
1038	2200	1170	0.72	0.97	1206	0.75	1.01	1242	0.78	1.05	1277	0.81	1.09	1311	0.85	1.14	1341	0.88	1.18	1365	0.92	1.23	1390	0.95	1.28
1085	2300	1193	0.79	1.06	1228	0.81	1.09	1262	0.85	1.14	1295	0.89	1.19	1327	0.93	1.24	1355	0.96	1.29	1380	0.99	1.33	1406	1.02	1.37
1133	2400	1216	0.86	1.15	1250	0.89	1.19	1282	0.93	1.24	1313	0.97	1.30	1343	1.01	1.36	1371	1.04	1.40	1396	1.07	1.44	1423	1.10	1.48
1180	2500	1240	0.93	1.24	1273	0.96	1.29	1302	1.01	1.36	1331	1.06	1.42	1360	1.10	1.48	1388	1.13	1.52	1414	1.16	1.55	1441	1.18	1.58
1227	2600	1265	1.00	1.34	1296	1.04	1.40	1324	1.10	1.47	1352	1.15	1.54	1381	1.19	1.60	1408	1.22	1.64	1434	1.25	1.67	1460	1.27	1.70
1274	2700	1291	1.09	1.46	1321	1.13	1.52	1347	1.19	1.60	1374	1.25	1.67	1403	1.28	1.72	1429	1.31	1.76	1455	1.34	1.79	1481	1.36	1.82
1321	2800	1317	1.18	1.58	1346	1.24	1.66	1372	1.30	1.74	1399	1.34	1.80	1426	1.38	1.85	1451	1.41	1.89	1477	1.43	1.92	1503	1.45	1.95
1369	2900	1343	1.28	1.72	1371	1.34	1.80	1397	1.40	1.88	1424	1.45	1.95	1450	1.48	1.99	1475	1.51	2.02	1500	1.53	2.05	1526	1.55	2.08

BLOWER DATA - BELT DRIVE - KHA072 - HORIZONTAL

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (heat section, economizer, etc.).
2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).
See page 21 for blower motors and drives and wet coil and options/accessory air resistance data.

Air Volume		External Static - Pa (in. w.g.)																							
		25 (0.10)			50 (0.20)			75 (0.30)			100 (0.40)			125 (0.50)			150 (0.60)			175 (0.70)			200 (0.80)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A08																							
897	1900	853	0.31	0.41	886	0.34	0.46	919	0.37	0.50	952	0.41	0.55	986	0.45	0.60	1021	0.48	0.64	1056	0.51	0.69	1091	0.54	0.73
944	2000	883	0.36	0.48	913	0.40	0.53	944	0.43	0.57	976	0.46	0.62	1009	0.50	0.67	1043	0.53	0.71	1078	0.57	0.76	1112	0.60	0.80
991	2100	906	0.42	0.56	936	0.45	0.60	967	0.48	0.65	999	0.52	0.70	1033	0.56	0.75	1067	0.59	0.79	1101	0.63	0.84	1135	0.66	0.88
1038	2200	930	0.48	0.64	960	0.51	0.68	991	0.54	0.73	1024	0.58	0.78	1058	0.62	0.83	1092	0.66	0.88	1126	0.69	0.92	1160	0.72	0.96
1085	2300	954	0.54	0.72	985	0.57	0.77	1017	0.61	0.82	1051	0.65	0.87	1085	0.69	0.92	1119	0.72	0.96	1152	0.75	1.00	1186	0.78	1.04
1133	2400	981	0.60	0.81	1013	0.64	0.86	1046	0.68	0.91	1079	0.72	0.96	1113	0.75	1.00	1146	0.78	1.05	1180	0.81	1.09	1213	0.84	1.13
1180	2500	1010	0.68	0.91	1042	0.72	0.96	1075	0.75	1.00	1109	0.78	1.05	1142	0.81	1.09	1175	0.85	1.14	1207	0.88	1.18	1239	0.92	1.23
1227	2600	1040	0.75	1.01	1073	0.78	1.05	1106	0.82	1.10	1139	0.85	1.14	1171	0.89	1.19	1203	0.92	1.23	1235	0.95	1.28	1266	0.99	1.33
1274	2700	1072	0.82	1.10	1104	0.86	1.15	1137	0.90	1.20	1169	0.93	1.24	1201	0.96	1.29	1232	1.00	1.34	1263	1.04	1.40	1293	1.09	1.46
1321	2800	1105	0.90	1.21	1137	0.93	1.25	1168	0.97	1.30	1200	1.01	1.35	1231	1.04	1.40	1261	1.09	1.46	1291	1.13	1.52	1321	1.19	1.59
1369	2900	1138	0.98	1.32	1169	1.02	1.37	1200	1.06	1.42	1231	1.10	1.47	1261	1.14	1.53	1291	1.19	1.60	1321	1.24	1.66	1350	1.29	1.73

Air Volume		External Static - Pa (in. w.g.)																							
		225 (0.90)			250 (1.00)			275 (1.10)			300 (1.20)			325 (1.30)			350 (1.40)			375 (1.50)			400 (1.60)		
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	Rev/ min	kW	BHP	Rev/ min	kW	BHP
		Kit A09																		Field Furnished					
897	1900	1126	0.57	0.77	1163	0.60	0.81	1200	0.63	0.85	1237	0.66	0.88	1273	0.69	0.92	1306	0.72	0.96	1339	0.75	1.00	1371	0.78	1.04
944	2000	1148	0.63	0.84	1183	0.66	0.88	1220	0.69	0.92	1257	0.72	0.96	1291	0.75	1.00	1323	0.78	1.04	1354	0.81	1.08	1385	0.84	1.12
991	2100	1170	0.69	0.92	1206	0.72	0.96	1242	0.75	1.00	1277	0.78	1.04	1310	0.81	1.08	1340	0.84	1.13	1371	0.87	1.17	1401	0.90	1.21
1038	2200	1195	0.75	1.00	1230	0.78	1.04	1265	0.81	1.08	1299	0.84	1.13	1330	0.88	1.18	1359	0.92	1.23	1388	0.95	1.27	1418	0.98	1.31
1085	2300	1220	0.81	1.08	1254	0.84	1.13	1288	0.87	1.17	1320	0.92	1.23	1350	0.95	1.28	1378	1.00	1.34	1406	1.03	1.38	1435	1.06	1.42
1133	2400	1245	0.88	1.18	1278	0.91	1.22	1311	0.95	1.28	1341	0.99	1.33	1370	1.04	1.40	1397	1.08	1.45	1425	1.12	1.50	1454	1.15	1.54
1180	2500	1271	0.95	1.28	1303	0.99	1.33	1334	1.04	1.39	1363	1.08	1.45	1391	1.13	1.52	1418	1.17	1.57	1446	1.21	1.62	1474	1.24	1.66
1227	2600	1297	1.04	1.39	1328	1.08	1.45	1357	1.13	1.52	1385	1.18	1.58	1412	1.22	1.64	1439	1.27	1.70	1467	1.30	1.74	1495	1.33	1.78
1274	2700	1323	1.13	1.52	1353	1.18	1.58	1382	1.23	1.65	1409	1.28	1.72	1435	1.32	1.77	1462	1.36	1.82	1490	1.39	1.86	1517	1.42	1.90
1321	2800	1351	1.23	1.65	1380	1.28	1.72	1407	1.33	1.78	1434	1.38	1.85	1460	1.42	1.90	1486	1.45	1.95	1513	1.48	1.99	1541	1.51	2.02
1369	2900	1379	1.34	1.79	1407	1.39	1.86	1434	1.43	1.92	1460	1.48	1.98	1485	1.52	2.04	1511	1.55	2.08	1538	1.58	2.12	1565	1.60	2.15

BLOWER DATA

BELT DRIVE KIT SPECIFICATIONS

Model No.	Blower Motor Choice kW (HP)		Drive Kit No.	Rev/Min Range
	Nominal	Maximum		
036	1.5 (2)	1.7 (2.3)	A01	561 - 842 rev/min
			A05	748 - 1122 rev/min
048	1.5 (2)	1.7 (2.3)	A02	621 - 931 rev/min
			A06	893 - 1191 rev/min
060	1.5 (2)	1.7 (2.3)	A03	694 - 1042 rev/min
			A07	1010 - 1290 rev/min
072	1.5 (2)	1.7 (2.3)	A08	994 - 1326 rev/min
			A09	1193 - 1594 rev/min

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

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure		Air Volume Exhausted		Return Air System Static Pressure		Air Volume Exhausted	
Pa	in. w.g.	L/s	cfm	Pa	in. w. g.	L/s	cfm
036-060 MODELS				072 MODELS			
0	0.00	787	1665	0	0.00	1249	2645
12	0.05	783	1660	12	0.05	1162	2465
25	0.10	757	1605	25	0.10	1056	2240
37	0.15	712	1510	37	0.15	948	2010
50	0.20	654	1385	50	0.20	851	1805
62	0.25	593	1255	62	0.25	755	1600
75	0.30	531	1125	75	0.30	558	1185
87	0.35	476	1010	87	0.35	472	1000

OPTIONS / ACCESSORIES AIR RESISTANCE

Air Volume		Wet Indoor Coil						Economizer		Electric Heat		Filters			
		036-048		060		072						MERV 8		MERV 13	
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.
375	800	2	0.01	2	0.01	2	0.01	10	0.04	2	0.01	7	0.04	12	0.05
470	1000	5	0.02	5	0.02	2	0.01	10	0.04	7	0.03	7	0.04	17	0.07
565	1200	7	0.03	7	0.04	5	0.02	10	0.04	15	0.06	7	0.04	17	0.07
660	1400	10	0.04	12	0.05	7	0.03	10	0.04	22	0.09	7	0.04	17	0.07
755	1600	12	0.05	15	0.06	7	0.04	10	0.04	30	0.12	7	0.04	17	0.07
850	1800	15	0.06	17	0.07	12	0.05	12	0.05	37	0.15	12	0.05	17	0.07
945	2000	20	0.08	22	0.09	15	0.06	12	0.05	45	0.18	12	0.05	20	0.08
1040	2200	22	0.09	25	0.10	17	0.07	12	0.05	50	0.20	12	0.05	20	0.08
1130	2400	25	0.10	30	0.12	20	0.08	12	0.05	55	0.22	12	0.05	20	0.08
1225	2600	27	0.11	30	0.13	22	0.09	15	0.06	60	0.24	12	0.05	20	0.08
1320	2800	30	0.13	37	0.15	25	0.10	15	0.06	65	0.26	12	0.05	20	0.08
1415	3000	35	0.14	40	0.16	30	0.12	15	0.06	70	0.28	12	0.05	20	0.08

BLOWER DATA

CEILING DIFFUSERS AIR RESISTANCE

Air Volume		RTD9-65 Step–Down Diffuser						FD9-65 Flush Diffuser		RTD11-95 Step–Down Diffuser						FD11-95 Flush Diffuser	
		2 Ends Open		1 Side & 2 Ends Open		All Ends & Sides Open				2 Ends Open		1 Side & 2 Ends Open		All Ends & Sides Open			
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.
375	800	37	0.15	32	0.13	27	0.11	27	0.11	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
470	1000	47	0.19	40	0.16	35	0.14	35	0.14	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
565	1200	62	0.25	50	0.20	42	0.17	42	0.17	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
660	1400	82	0.33	65	0.26	50	0.20	50	0.20	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
755	1600	107	0.43	80	0.32	50	0.20	50	0.24	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
850	1800	139	0.56	99	0.40	75	0.30	75	0.30	32	0.13	27	0.11	22	0.09	22	0.09
945	2000	182	0.73	124	0.50	90	0.36	90	0.36	37	0.15	32	0.13	27	0.11	25	0.10
1040	2200	236	0.95	157	0.63	109	0.44	109	0.44	45	0.18	37	0.15	30	0.12	30	0.12
1130	2400	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	52	0.21	45	0.18	37	0.15	35	0.14
1225	2600	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	60	0.24	52	0.21	45	0.18	42	0.17
1320	2800	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	67	0.27	60	0.24	52	0.21	50	0.20
1415	3000	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	80	0.32	72	0.29	62	0.25	62	0.25

CEILING DIFFUSER AIR THROW DATA

Air Volume		[1] Effective Throw			
Model No.		RTD9-65		FD9-65	
L/s	cfm	m	ft.	m	ft.
375	800	3 - 5	10 - 17	4 - 5	14 - 18
470	1000	3 - 5	10 - 17	5 - 6	15 - 20
565	1200	3 - 5	11 - 18	5 - 7	16 - 22
660	1400	4 - 6	12 - 19	5 - 7	17 - 24
755	1600	4 - 6	12 - 20	5 - 8	18 - 25
850	1800	4 - 6	13 - 21	6 - 9	20 - 28
945	2000	4 - 7	14 - 23	6 - 9	21 - 29
1040	2200	5 - 8	16 - 25	7 - 9	22 - 30
Model No.		RTD11-95		FD11-95	
1225	2600	7 - 9	24 - 29	6 - 7	19 - 24
1320	2800	8 - 9	25 - 30	6 - 9	20 - 28
1415	3000	8 - 10	27 - 33	6 - 9	21 - 29

[1] Effective throw based on terminal velocities of 23 m per minute (75 ft. per minute).

ELECTRICAL DATA

Model No.			KHA036S4	KHA048S4	KHA060S4	KHA072S4
[1] Voltage - 50hz with Neutral			380/420V - 3 Ph	380/420V - 3 Ph	380/420V - 3 Ph	380/420V - 3 Ph
Compressor	Rated Load Amps		5.4	6.1	7.8	9.7
	Locked Rotor Amps		38	43	51.5	64
Outdoor Fan Motor	Full Load Amps		1.1	1.1	1.3	1.5
Power Exhaust (1) 0.25 kW	Full Load Amps		1.3	1.3	1.3	1.3
Indoor Blower Motor	kW		1.5	1.5	1.5	1.5
	Full Load Amps		3.5	3.5	3.5	3.5
[2] Maximum Overcurrent Protection	Unit Only		15	15	20	25
	With (1) 0.25 kW Power Exhaust		15	20	20	25
[3] Minimum Circuit Ampacity	Unit Only		12	13	15	18
	With (1) 0.25 kW Power Exhaust		13	14	16	19

ELECTRIC HEAT DATA

Electric Heat Voltage			420V	420V	420V	420V
[2] Maximum Overcurrent Protection	Unit+ [4] Electric Heat	5.7 kW	25	25	30	30
		11.5 kW	35	35	35	40
		17.2 kW	- - -	- - -	45	50
		23 kW	- - -	- - -	- - -	60
[3] Minimum Circuit Ampacity	Unit+ [4] Electric Heat	5.7 kW	22	23	25	27
		11.5 kW	32	32	35	37
		17.2 kW	- - -	- - -	45	47
		23 kW	- - -	- - -	- - -	57
[2] Maximum Overcurrent Protection	Unit+ [4] Electric Heat and (1) 0.25 kW Power Exhaust	5.7 kW	25	25	30	35
		11.5 kW	35	35	40	40
		17.2 kW	- - -	- - -	50	50
		23 kW	- - -	- - -	- - -	60
[3] Minimum Circuit Ampacity	Unit+ [4] Electric Heat and (1) 0.25 kW Power Exhaust	5.7 kW	23	24	26	29
		11.5 kW	33	34	36	39
		17.2 kW	- - -	- - -	46	49
		23 kW	- - -	- - -	- - -	58

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

[2] Heating, Air Conditioning, Refrigeration type breaker or fuse.

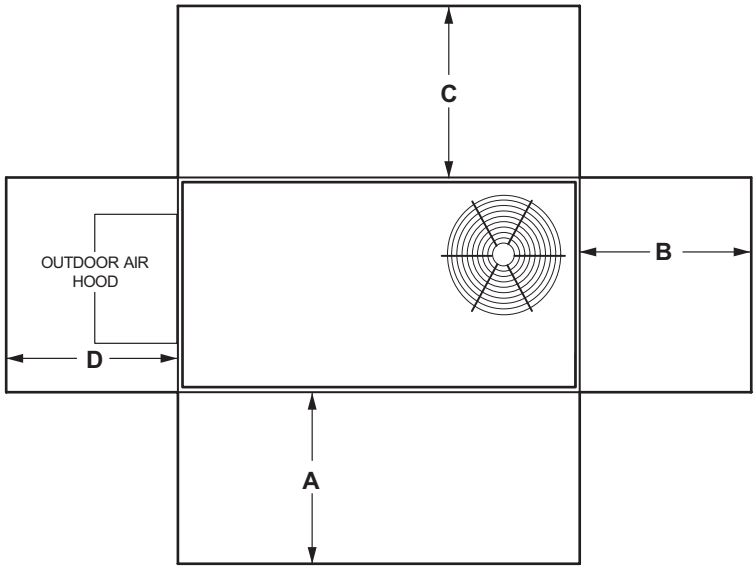
[3] Refer to local electrical code to determine wire, fuse and disconnect size requirements.

[4] Nominal kW based on 420V-3ph-50hz.

ELECTRIC HEAT CAPACITIES

	5.7 kW			11.5 kW			17.2 kW			23 kW		
Input Voltage	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output
380	1	4.7	16 100	1	9.4	32 100	1	14.1	48 200	1	18.8	64 200
400	1	5.2	17 800	1	10.4	35 500	1	15.6	53 300	1	20.9	71 400
420	1	5.7	19 500	1	11.5	39 300	1	17.2	58 800	1	23.0	78 500

UNIT CLEARANCES - MM (INCHES)



[1] Unit Clearance	A		B		C		D		Top Clearance
	mm	in.	mm	in.	mm	in.	mm	in.	
Service Clearance	914	36	914	36	914	36	914	36	Unobstructed
Minimum Operation Clearance	914	36	914	36	914	36	914	36	

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

[1] Unit Model No.	Operating Mode	Octave Band Sound Power Levels dBA, re 10^{-12} Watts Center Frequency - HZ							Sound Rating Number (dB)
		125	250	500	1000	2000	4000	8000	
036 and 048	Cooling	63	66	70	71	68	62	53	75
	Heating	63	66	71	70	68	62	54	75
060	Cooling	67	72	77	76	73	68	61	82
	Heating	70	72	77	76	73	69	60	82
072	Cooling	67	75	78	78	75	68	59	83
	Heating	69	77	79	80	76	69	61	84

Note The octave power sound data does not include tonal correction.
[1] Tested according to AHRI Standard 270–2008 test conditions and ANSI Standard S1.32–1981.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS - FIELD INSTALLED

COMMERCIAL TOUCHSCREEN THERMOSTAT



ENERGY STAR

Intuitive Touchscreen Interface - **Two Stage Heating / Two Stage Cooling Conventional or Heat Pump** - Seven Day Programmable - Four Time Periods/ Day - Economizer Output - Title 24 Compliant - ENERGY STAR® Qualified - Backlit Display - Automatic Changeover	C0STAT02AE1L **(14W81)**
Sensors For Touchscreen Thermostat	
[1] Remote non-adjustable wall mount 20k temperature sensor	C0SNZN01AE2- **(47W36)**
[1] Remote non-adjustable wall mount 10k averaging temperature sensor	C0SNZN73AE1- **(47W37)**
[1] Remote non-adjustable duct mount temperature sensor	C0SNDC00AE1- **(19L22)**
Outdoor temperature sensor	C0SNSR03AE1- **(X4148)**
Accessories For Touchscreen Thermostat	
Locking cover (clear)	C0MISC15AE1- **(39P21)**

[1] Remote sensors for C0STAT02AE1L can be applied in the following combinations: (1) C0SNZN01AE1-, (2) C0SNZN73AE1-, (2) C0SNZN01AE1- and (1) C0SNZN73AE1-, (4) C0SNZN01AE1-, (3) C0SNZN01AE1- and (2) C0SNZN73AE1.

DIGITAL NON-PROGRAMMABLE THERMOSTATS



Intuitive Interface - Automatic Changeover - Simple Up and Down Temperature Control	
Two-stage heating / cooling conventional systems	C0STAT10AE1L **(13K98)**
Sensor For Digital Non-Programmable Thermostats Above	
Remote wall mounted temperature sensor	C0SNZN00AE1- **(26K57)**



Intuitive Interface - Automatic Changeover - Backlit Display - Simple Up and Down Temperature Control	
One-stage heating / cooling conventional systems	C0STAT12AE1L **(51M32)**
Sensor For Digital Non-Programmable Thermostats Above	
Outdoor temperature sensor	C0SNSR04AE1- **(X2658)**
Accessories For Digital Non-Programmable Thermostats Above	
Optional wall mounting plate	C0MISC17AE1- **(X2659)**

WEIGHT DATA

Model Number	Net				Shipping			
	Base		Max.		Base		Max.	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.
036	243	535	293	647	270	595	325	716
048	253	557	303	669	280	617	335	738
060	303	667	349	770	330	727	382	842
072	340	750	391	862	367	810	422	931

Base Unit - The unit with NO OPTIONS.
Max. Unit - The unit with ALL OPTIONS installed (Economizer, etc.).

OPTIONS / ACCESSORIES

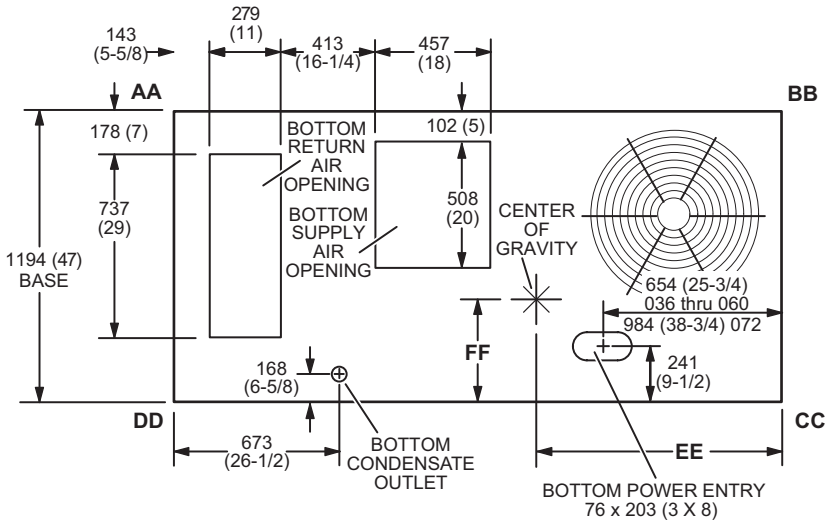
		Shipping Weights	
		kg	lbs.
ECONOMIZER / OUTDOOR AIR			
Economizer			
Economizer, Includes Outdoor Air Hood and Barometric Relief Dampers with Hood	K1ECON30A-2-	56	123
	K1ECON30AT2-	65	142
OUTDOOR AIR			
Outdoor Air Dampers			
Motorized	K1DAMP21A-1	12	25
	K1DAMP21AT1	14	29
Manual	C1DAMP11A-1	9	27
	C1DAMP11AT1	11	22
POWER EXHAUST			
Standard Static	C1PWRE10A-1	17	35
	C1PWRE10N-1	19	39
ELECTRIC HEAT			
Electric Heat	5.2 kW - E1EH0057AN1M	14	31
	10.4 kW - E1EH0115AN1M	14	31
	15.6 kW - E1EH0172N-1M	16	35
	20.9 kW - E1EH0230N-1M	16	35
ROOF CURBS - DOWNFLOW			
Clip Curb			
203 mm (8 in.) height	T1CURB23AN1	35	78
	K1CURB23AP1	38	83
356 mm (14 in.) height	T1CURB20AN1	44	96
	K1CURB20AP1	46	101
457 mm (18 in.) height	T1CURB21AN1	49	108
	K1CURB21AP1	51	113
610 mm (24 in.) height	T1CURB22AN1	57	126
	K1CURB22AP1	59	131
Hinged			
203 mm (8 in.) height	T1CURB30AN1	35	78
	K1CURB30AP1	38	83
457 mm (18 in.) height	T1CURB32AN1	49	108
	K1CURB32AP1	51	113
610 mm (24 in.) height	T1CURB33AN1	57	126
	K1CURB33AP1	59	131
Standard			
356 mm (14 in.) height	T1CURB10AN1	44	96
	K1CURB10AP1	46	101
CEILING DIFFUSERS			
Step-Down	RTD9-65	30	67
	RTD11-95	40	88
Flush	FD9-65	17	37
	FD11-95	34	75
Transitions (Supply and Return)	T1TRAN10AN1	10	22
	T1TRAN20N-1	10	21

DIMENSIONS - MM (INCHES)

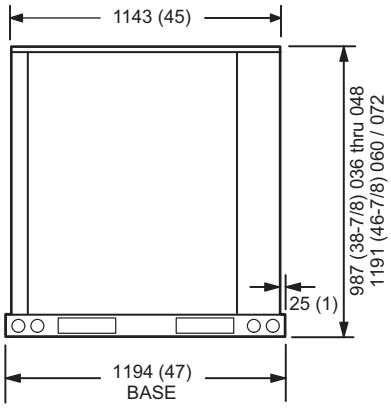
Model No.	CORNER WEIGHTS																CENTER OF GRAVITY							
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.	mm	in.	mm	in.
036	42	93	53	116	51	112	60	132	82	181	96	212	68	149	85	187	978	38-1/2	1016	40	457	18	457	18
048	44	96	55	120	53	117	62	136	86	188	100	219	71	155	88	194	978	38-1/2	1016	40	457	18	457	18
060	52	115	63	138	64	140	71	157	103	226	115	252	84	166	101	223	978	38-1/2	1016	40	457	18	457	18
072	73	160	84	185	82	180	94	208	106	233	122	269	94	207	109	239	1174	46-1/4	1174	46-1/4	521	20-1/2	521	20-1/2

Base Unit - The unit with NO INTERNAL OPTIONS.

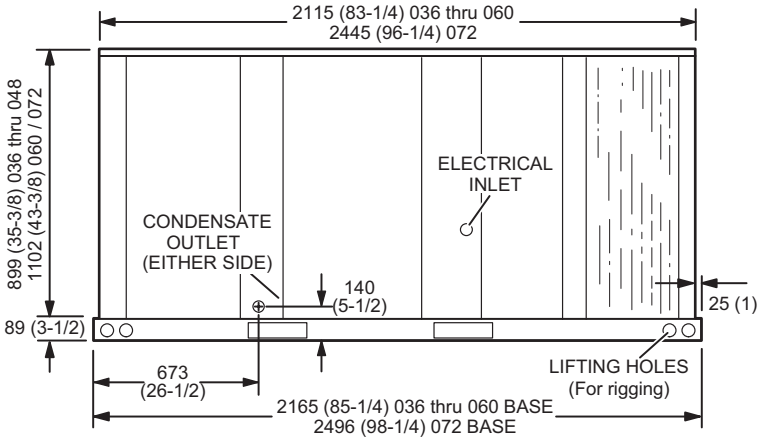
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



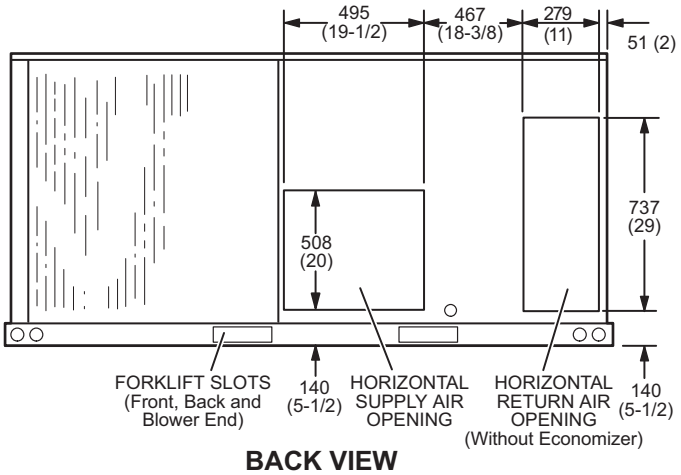
TOP VIEW (Base)



END VIEW



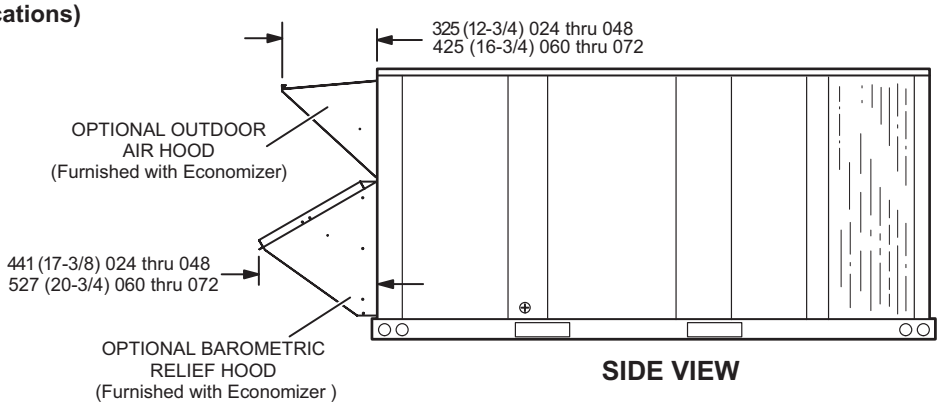
SIDE VIEW



BACK VIEW

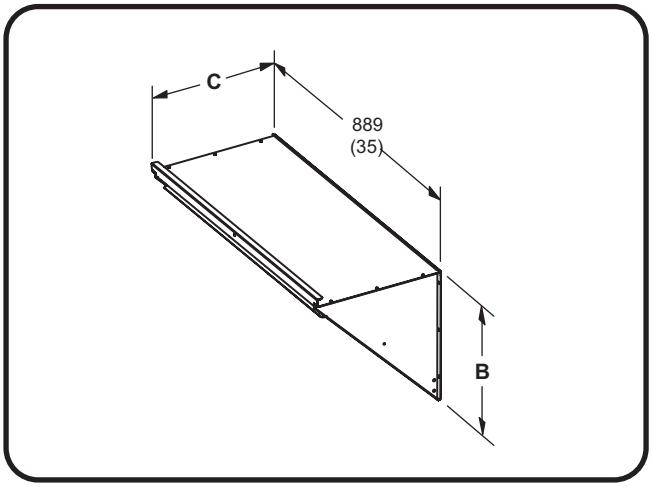
ACCESSORY DIMENSIONS - MM (INCHES)

OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS (Downflow Applications)

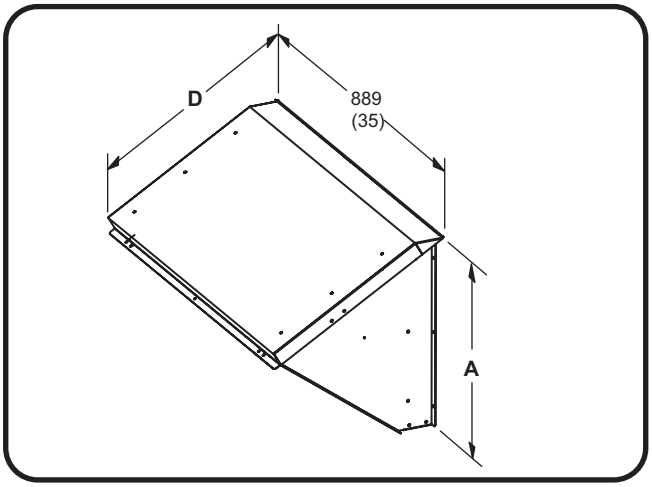


SIDE VIEW

OUTDOOR AIR HOOD FOR ECONOMIZER (Furnished)

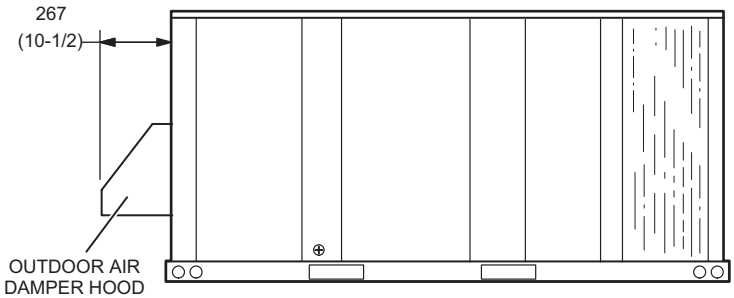


BAROMETRIC RELIEF HOOD FOR ECONOMIZER (Furnished)

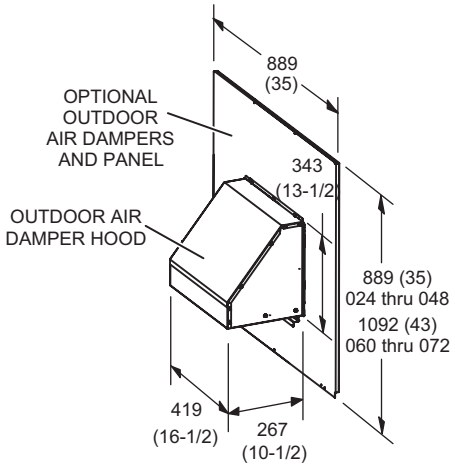


Model No.	A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.
024, 030, 036, 048	505	19-7/8	330	13	298	11-3/4	441	17-3/8
060, 072	603	23-3/4	432	17	400	15-3/4	527	20-3/4

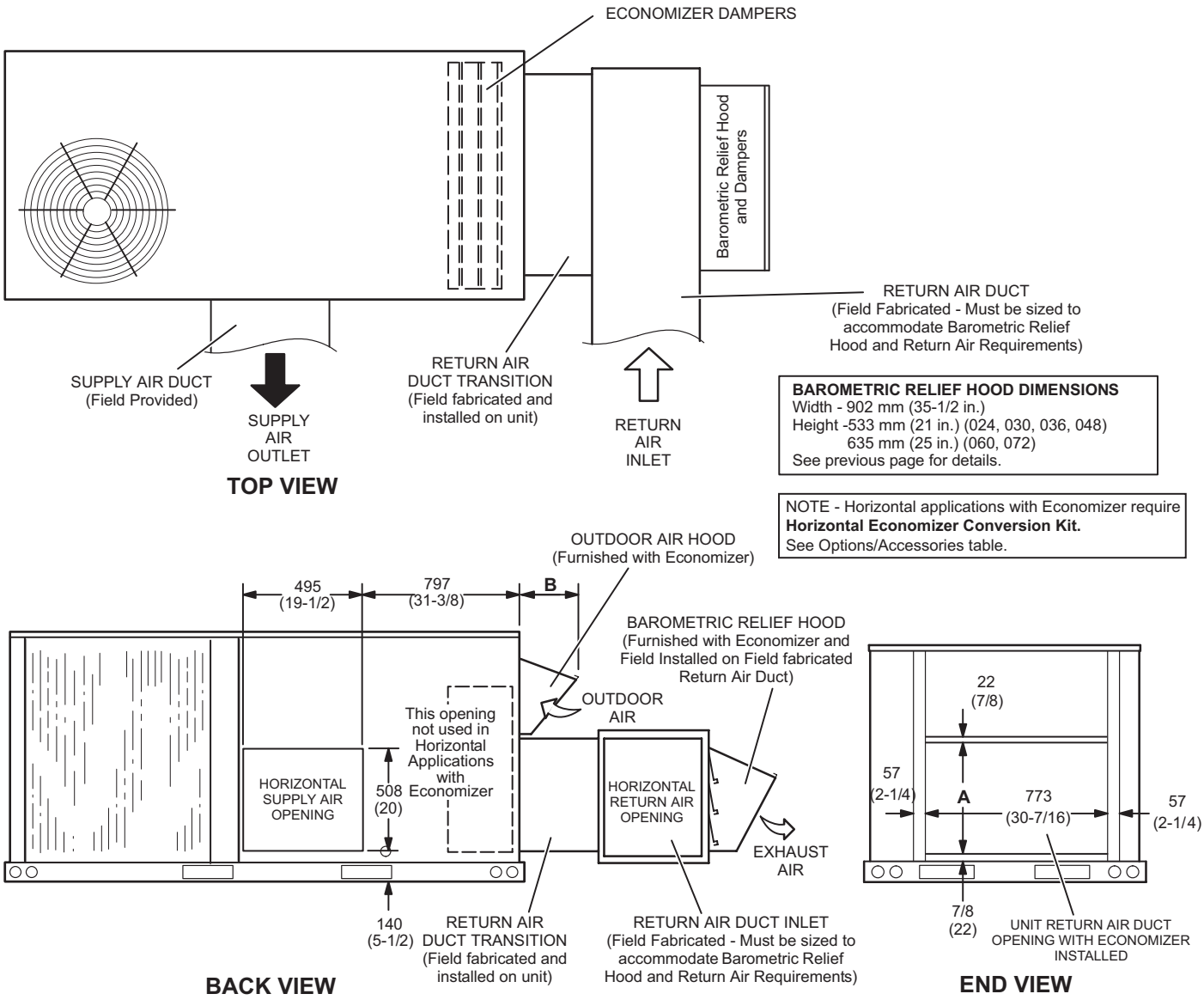
OUTDOOR AIR DAMPER HOOD DETAIL FOR OPTIONAL MANUAL OR MOTORIZED OUTDOOR AIR DAMPERS (Downflow or Horizontal Applications)



SIDE VIEW



OUTDOOR AIR HOOD DETAIL WITH OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS (Horizontal Applications)

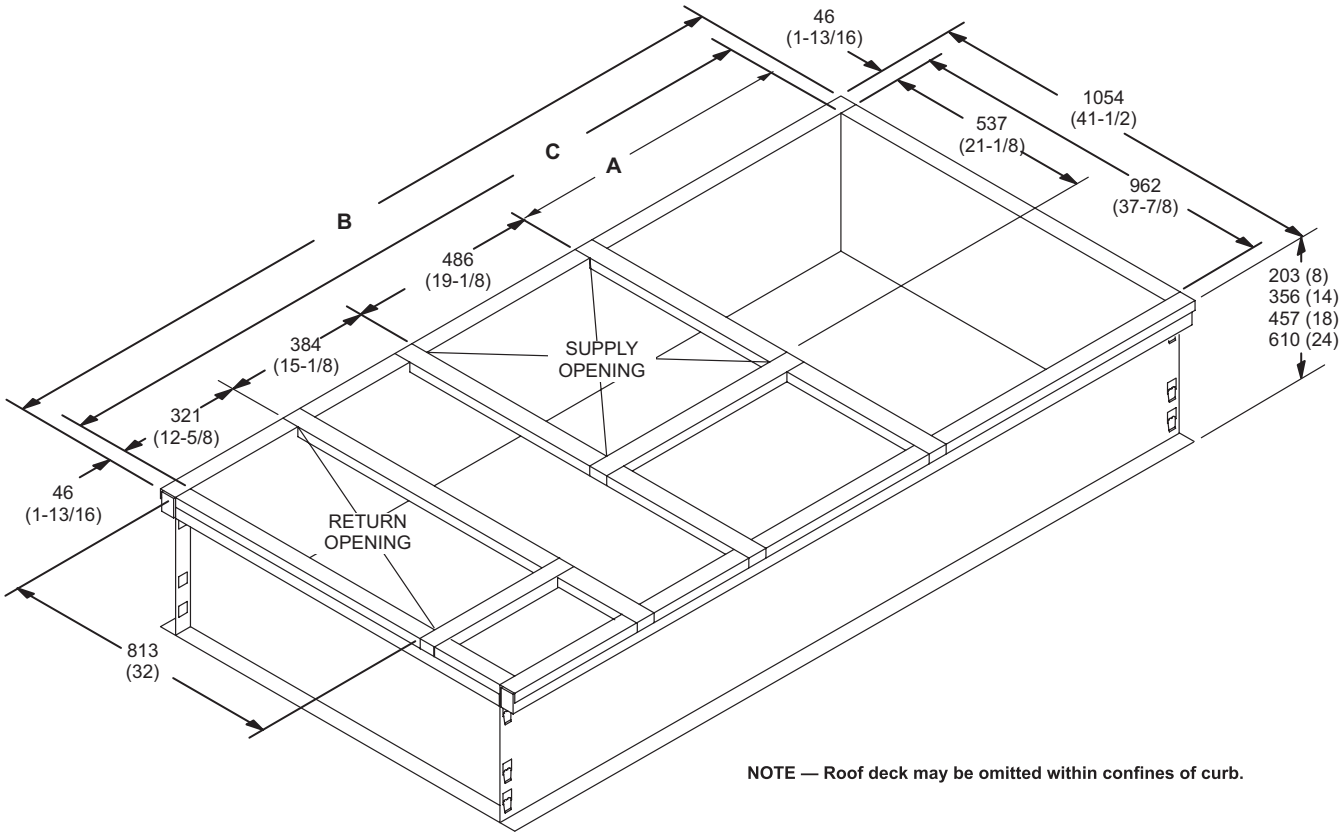


NOTE - Return Air Duct and Transition must be supported.

Model No.	A		B	
	mm	in.	mm	in.
036, 048	476	18-3/4	324	12-3/4
060, 072	572	22-1/2	425	16-3/4

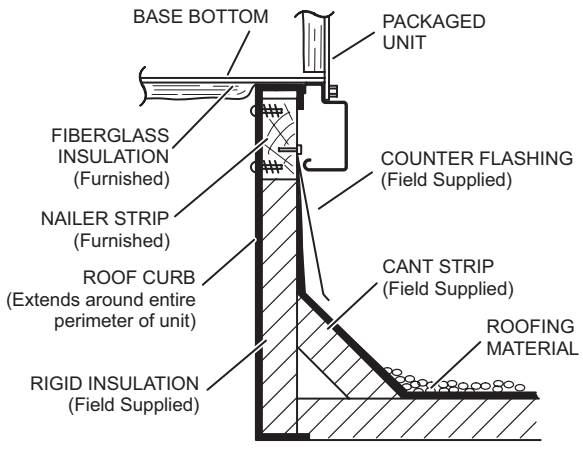
ACCESSORY DIMENSIONS - MM (INCHES)

CLIP CURBS - DOUBLE DUCT OPENING

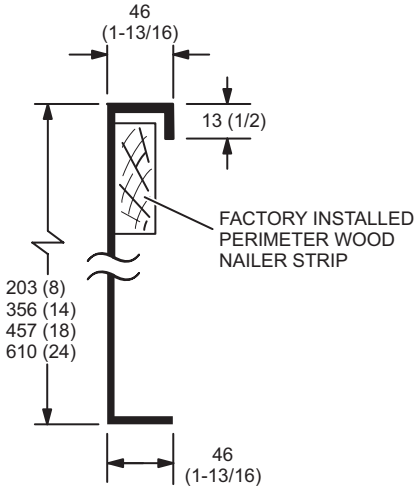


NOTE — Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

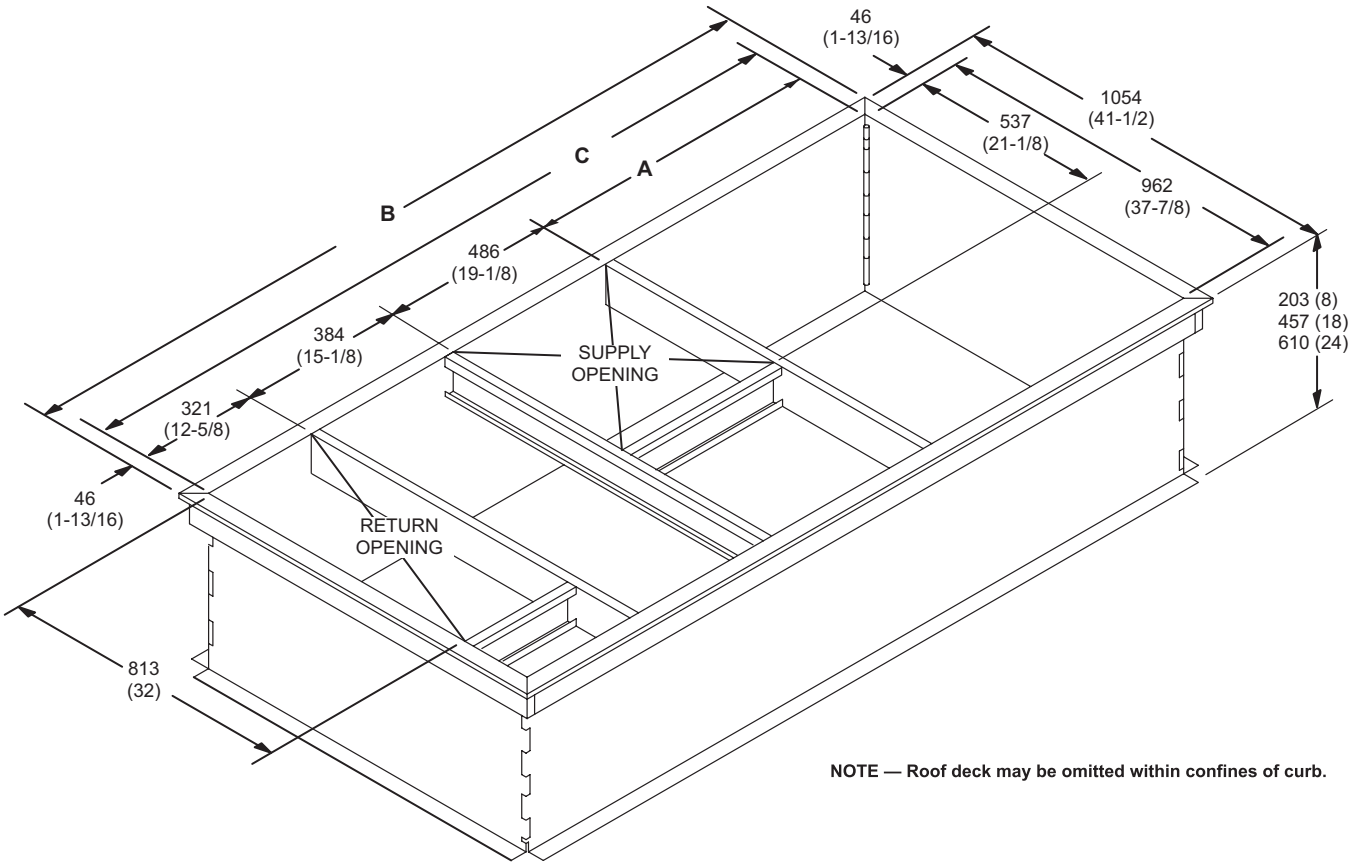


Model No.	A		B		C	
	mm	in.	mm	in.	mm	in.
036, 048, 060, [1] 072	743	29-1/4	2026	79-3/4	1934	76-1/8
072	1073	42-1/4	2356	92-3/4	2264	89-1/8

[1] 072 models can be used on smaller 2026 mm (79-3/4 in.) roof curbs (not full perimeter) with 400 mm (15-3/4 in.) overhang at condenser end of unit. See dimension drawing on page 33.

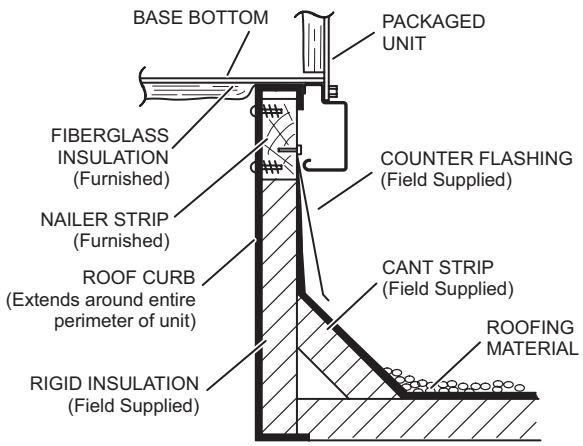
ACCESSORY DIMENSIONS - MM (INCHES)

HINGED ROOF CURBS - DOUBLE DUCT OPENING

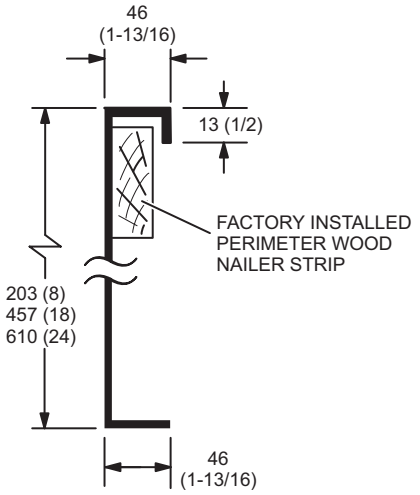


NOTE — Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

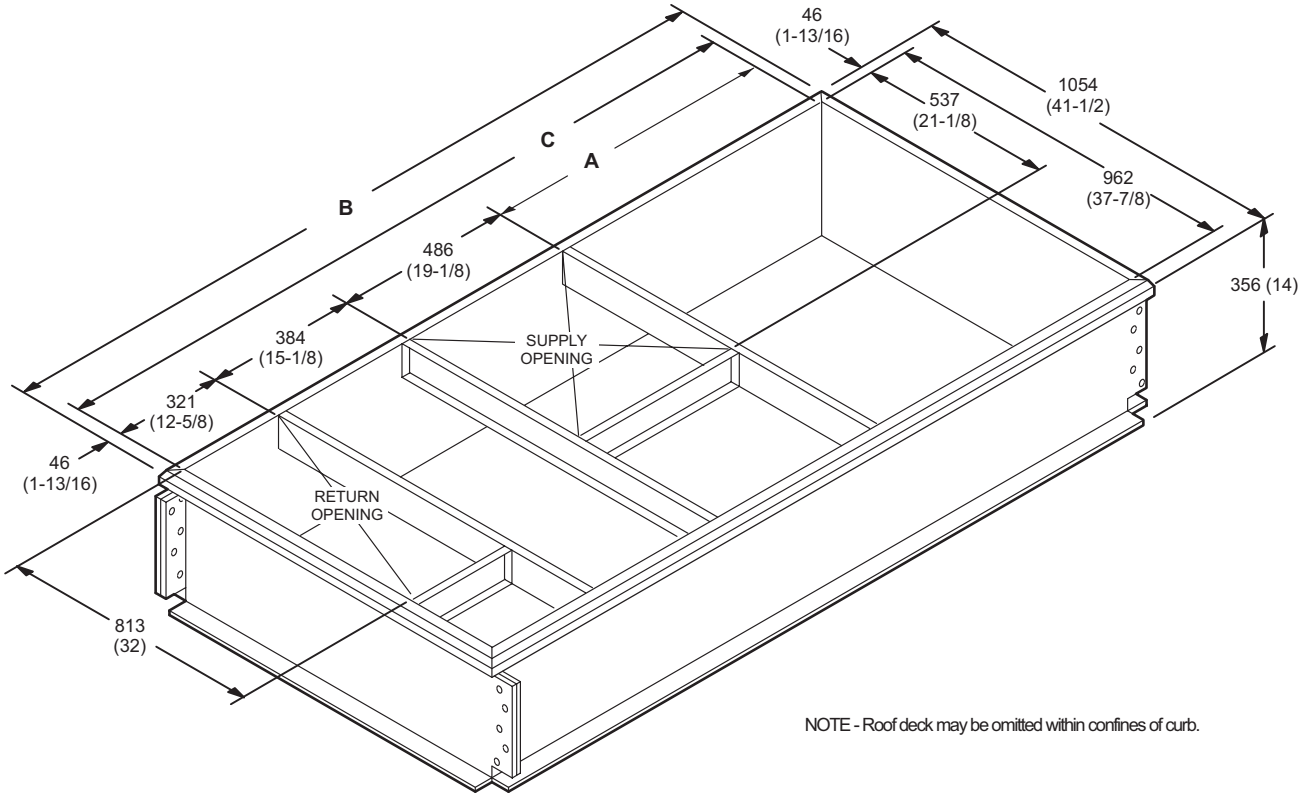


Model No.		A		B		C
	mm	in.	mm	in.	mm	in.
036, 048, 060 [1] 072	743	29-1/4	2026	79-3/4	1934	76-1/8
072	1073	42-1/4	2356	92-3/4	2264	89-1/8

[1] 072 models can be used on smaller 2026 mm (79-3/4 in.) roof curbs (not full perimeter) with 400 mm (15-3/4 in.) overhang at condenser end of unit. See dimension drawing on page 33.

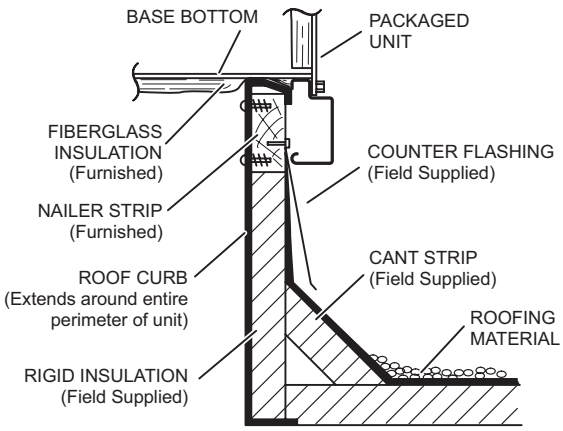
ACCESSORY DIMENSIONS - MM (INCHES)

STANDARD ROOF CURBS - DOUBLE DUCT OPENING

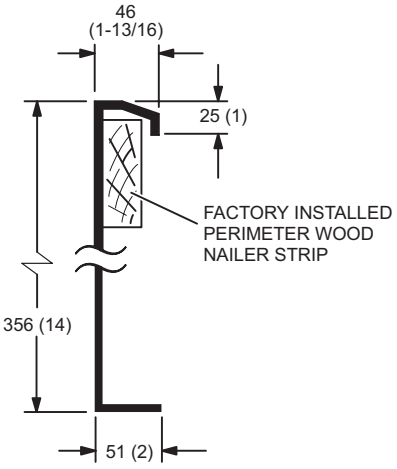


NOTE - Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

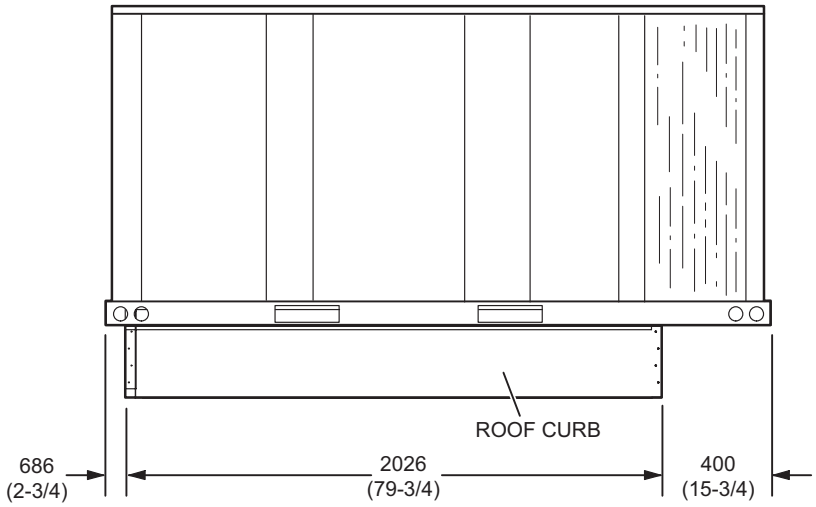


Model No.	A		B		C	
	mm	in.	mm	in.	mm	in.
036, 048, 060, [1] 072	743	29-1/4	2026	79-3/4	1934	76-1/8
072	1073	42-1/4	2356	92-3/4	2264	89-1/8

[1] 072 models can be used on smaller 2026 mm (79-3/4 in.) roof curbs (not full perimeter) with 400 mm (15-3/4 in.) overhang at condenser end of unit. See dimension drawing on page 33.

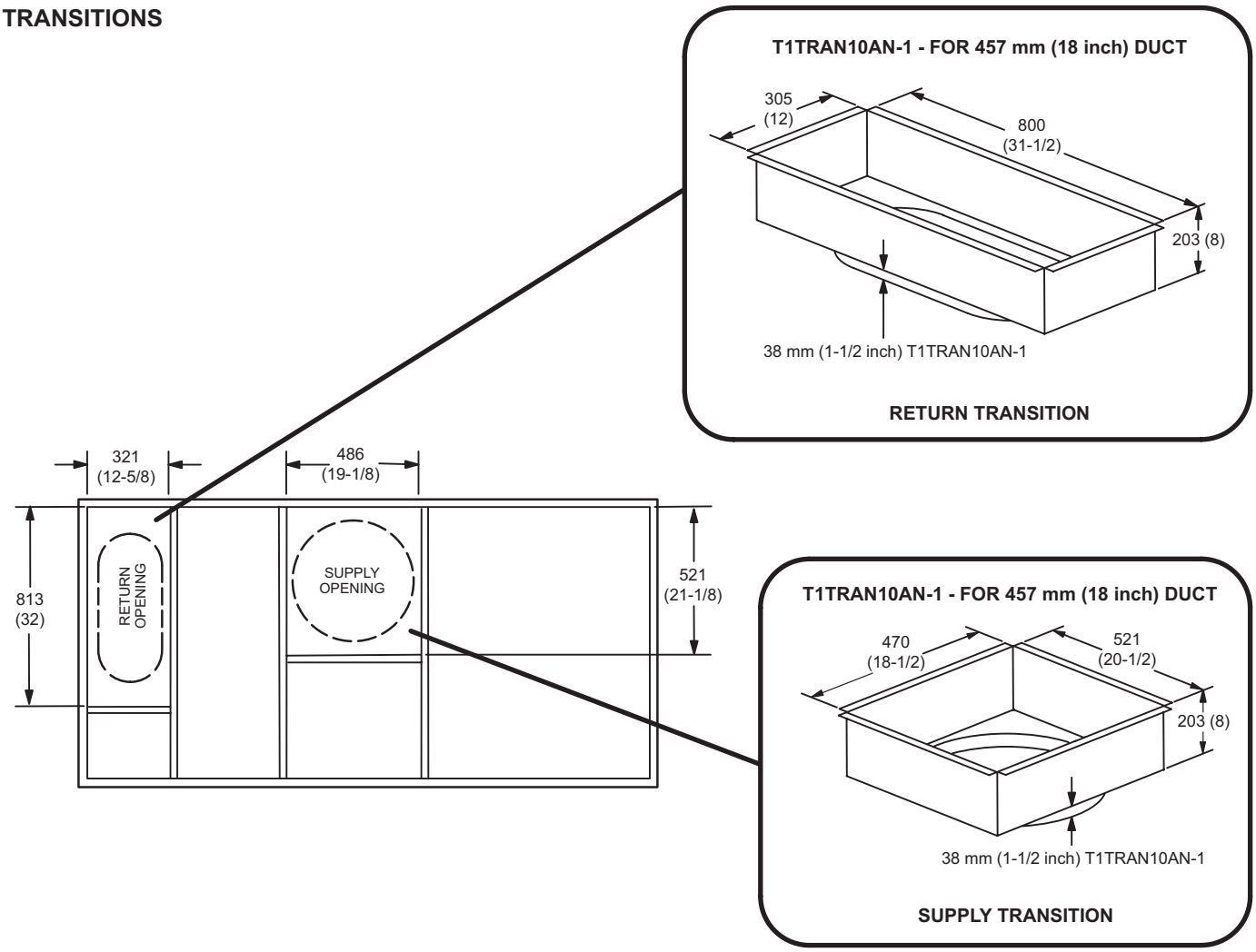
ACCESSORY DIMENSIONS - MM (INCHES)

072 MODELS - SHOWING OVERHANG ON SMALLER 2026 MM (79-3/4 INCH) LENGTH ROOF CURBS (Not Full Perimeter)



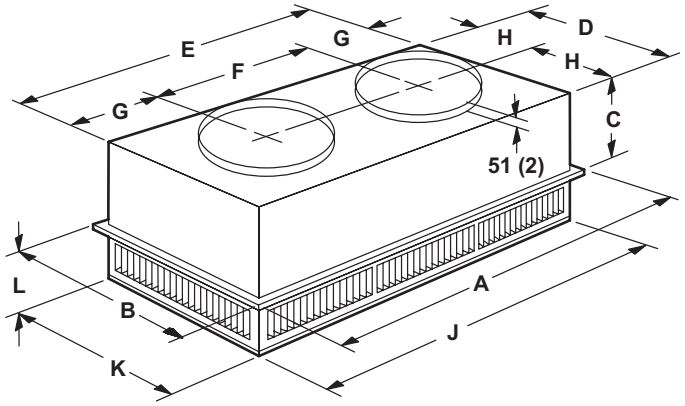
SIDE VIEW

TRANSITIONS



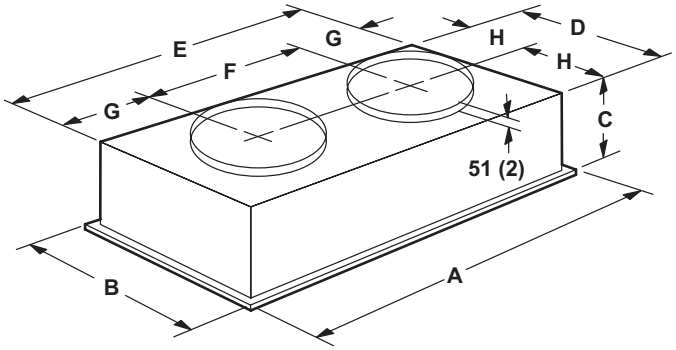
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



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

FLUSH CEILING DIFFUSER



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

REVISIONS

Section	Description
Blower Data	Added air resistance data for filters.
Options/Accessories	New Economizer models added.

ISO 9001 REGISTERED QUALITY SYSTEMS

LENNOX

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Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
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