PACKAGED HEAT PUMP

TH

T-CLASS™ ROOFTOP UNITS
50 HZ

ENGINEERING DATA

Bulletin No. 490114
February 2009
Supersedes December 2007

10.5 to 21 kW (3 to 6 Tons)
Net Cooling Capacity - 9.3 to 18.4 (31 800 to 63 000 Btuh)
Net Heating Capacity - 9.0 to 19.3 (30 800 to 66 000 Btuh)
Optional Electric Heat - 5.2 to 20.8 kW

MODEL NUMBER IDENTIFICATION

T H A 060 S 2 B N 1 M

- **Brand/Family**
  T = T-Class Product Line
- **Unit Type**
  H = Packaged Heat Pump
- **Major Design Sequence**
  A = 1st Generation
  B = 2nd Generation
- **Nominal Cooling Capacity**
  036 = 10.5 kW (3 Tons)
  048 = 14 kW (4 Tons)
  060 = 17.5 kW (5 Tons)
  072 = 21 kW (6 Tons)
- **Cooling Efficiency**
  S = Standard Efficiency
- **Refrigerant Type**
  2 = R-22
- **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

CONTENTS

FEATURES AND BENEFITS

APPROVALS

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 and Refrigeration Institute (ARI) Standard 210/240-2005 while operating at rated voltage and air volumes.

6 ton models cooling performance is rated at test conditions included in Air-Conditioning and Refrigeration Institute (ARI) Standard 340/360-2004 while operating at rated voltage and air volumes.

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

CABINET

1 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 down-flow (vertical) configuration, can be field converted to horizontal air flow configuration without the need of a kit.

2 Power Entry

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

3 Exterior Panels

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

4 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

Polymeric epoxy coating that is deposited by electrical transport (electrophoresis), using a process known as electrocoat (e-coat). Available for enhanced coil corrosion protection.

5 Hinged Access Panels

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

Field Installed

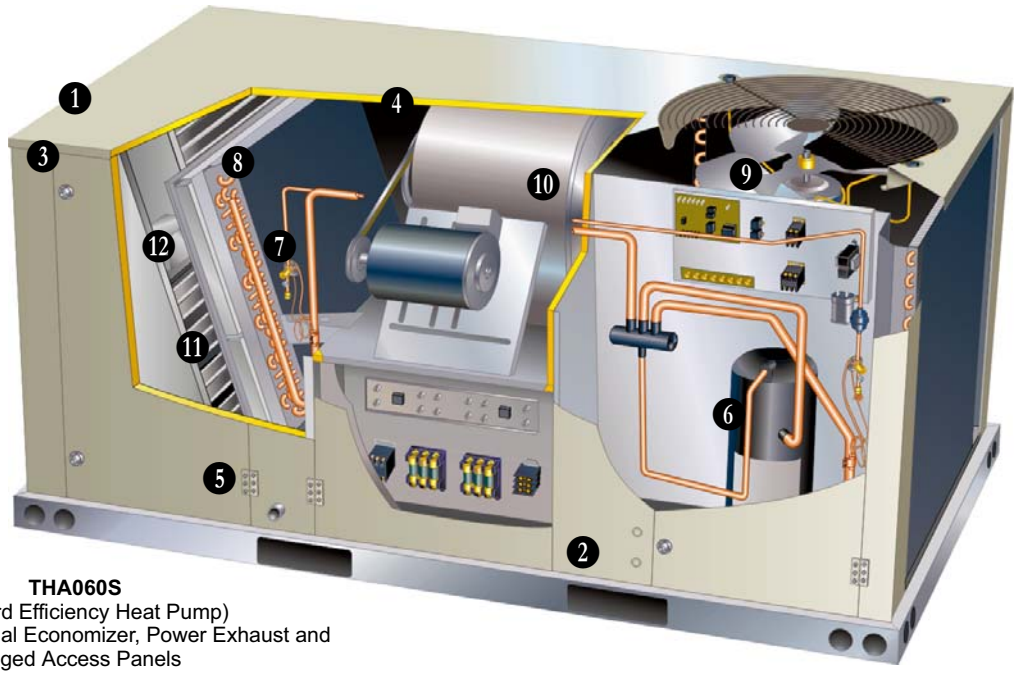
Coil Guards

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.

FEATURES AND BENEFITS



THA060S
(Standard Efficiency Heat Pump)
Shown With Optional Economizer, Power Exhaust and Hinged Access Panels

COOLING / HEATING SYSTEM

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

System can operate from -1°C to 52°C (30°F to 125°F) without any additional controls.

6 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.

7 Check/Thermal Expansion Valves

Assures optimal performance throughout the application range.

Removable element head.

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.

Filter/Drier

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

Freezestat

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

8 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 Standard 62.1. Side or bottom drain connections. Reversible to allow connection at back of unit.

9 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).

High Pressure Switch

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

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 (0°F).

FEATURES AND BENEFITS

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

Dirty Filter Switch

Senses static pressure increase indicating dirty filter condition.

Smoke Detector

Photoelectric type, installed in return air section

Thermostats

Control system and thermostat options. Aftermarket unit controller options. See Page 19.

⑩ BLOWER

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

Motor

Equipped with ball bearings.

External overload protector.

Belt drive motors are offered on all models.

Supply Air Blower

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

All belt drive 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 Blower Data Table for specifications)

INDOOR AIR QUALITY

Air Filters

Disposable 51 mm (2 inch) fiters furnished as standard.

OPTIONS/ACCESSORIES

Field Installed

Indoor Air Quality (CO_2) Sensor

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

ELECTRICAL

OPTIONS/ACCESSORIES

Field Installed

Electric Heat

Helix wound nichrome elements, individual element limit controls, wiring harness. Unit Fuse Block must be ordered extra. See Electrical/Electric Heat tables for ordering information, Page 17.

Disconnect Switch up to 150 Amp

Accessible from outside of unit, spring loaded weatherproof cover furnished. Main power to the unit is field connected to the disconnect which allows all power to be shut off for service. See Electrical/Electric Heat tables for ordering information, Page 17.

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.

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

⓫ Economizer, Down-Flow

Parallel 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. Economizer includes barometric relief dampers.

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

Outdoor Air Hoods are included.

Choice of single (factory installed) or differential (optional) enthalpy economizer control is available.

Horizontal conversion kit available for field installation.

Single Enthalpy Control

Outdoor air enthalpy sensor enables economizer if the outdoor enthalpy is less than the setpoint of the board. Furnished with Economizer.

Field Installed

Outdoor Air Damper - Manual

Two sliding dampers provide 0 to 35% outdoor air, installs internal to unit. Includes Outdoor Air Hood.

Outdoor Air Damper Motorized Kit

Used to convert Manual Outdoor Air Dampers to motorized dampers. Kit includes linked mechanical dampers and spring return damper motor with plug-in connection.

Differential Enthalpy Control

An optional, return air, solid-state enthalpy sensor can be ordered extra for field installation. Allows the economizer control board to select between outdoor air or return air, whichever has lower enthalpy. Field installed.

Economizer Temperature Control - Single

An optional, solid-state temperature sensor can be ordered extra for field installation. Enables the economizer when the outdoor air temperature is below the configured setpoint.

Economizer Temperature Control - Differential

Order two, single-temperature control kits. One is field installed in the return air section, the other in the outdoor air section. Allows the economizer control board to select between outdoor air or return air, whichever has lower temperature.

Horizontal Conversion Kit

Insulated panel covers the bottom return air opening on the unit base to convert down-flow economizer to horizontal air flow.

⓬ Power Exhaust Fan

Installs internal to unit for down-flow 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 and Outdoor Air Hood (ordered separately). Fan is 406 mm (16 inches) diameter with 4 fan blades (T1PWRE10A) or 508 mm (20 inches) diameter with 5 blades (T1PWRE10N). Both include a 560 (3/4 hp) watts motor.

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, Down-Flow

Nailer strip furnished, mates to unit, US National Roofing Contractors Approved, shipped knocked down. Available in 203, 356, 457 and 610 mm (8, 14, 18 and 24 in.) heights.

Hinged curb corners fasten together with furnished hinge pins.

Standard roof curb corners fasten together with furnished hardware.

OPTIONS / ACCESSORIES

Item			036	048	060	072
COOLING SYSTEM						
Condensate Drain Trap	Polyvinyl Chloride (PVC) - LTACDKP03/07	**37K69**	x	x	x	x
	Copper - LTACDKC03/07	**45K67**	x	x	x	x
High Pressure Switch	T1SNSR14AN1	**43W03**	x	x	x	x
Low Ambient Kit	T1SNSR13AN1	**43W09**	x	x	x	x
Refrigerant Type	R-22		○	○	○	○
ELECTRICAL						
Disconnect	See Electric Data Tables for usage		x	x	x	x
Voltage - 50 hz	380/420V - 3 phase with neutral		○	○	○	○
Unit Fuse Block	See Electric Data Tables for usage		x	x	x	x
[1] **ELECTRIC HEAT**						
5.2 kW	T1EH0075AN1	**14W39**	x	x	x	x
10.4 kW	T1EH0150AN1	**14W40**	x	x	x	x
15.6 kW	T1EH0225AN1	**14W41**			x	x
20.8 kW	T1EH0300N-1	**14W42**				x
BLOWER - SUPPLY AIR						
Motors	Belt Drive - 1.5 kW (2 hp) Standard Efficiency	**Factory**	○	○	○	○
Drive Kits See Blower Data Tables for selection	Drive Kit # 1 - T1DRKT001-1 - 561 - 842 rev/min	**20W81**	⊗			
	Drive Kit # 2 - T1DRKT002-1 - 621 - 931 rev/min	**20W82**		⊗		
	Drive Kit # 3 - T1DRKT003-1 - 694 - 1042 rev/min	**20W83**			⊗	
	Drive Kit # 4 - T1DRKT004-1 - 807 - 1117 rev/min	**20W84**				⊗
	Drive Kit # 5 - T1DRKT005-1 - 748 - 1142 rev/min	**20W85**	⊗			
	Drive Kit # 6 - T1DRKT006-1 - 893 - 1191 rev/min	**20W86**		⊗		
	Drive Kit # 7 - T1DRKT007-1 - 1010 - 1290 rev/min	**20W87**			⊗	
	Drive Kit # 8 - T1DRKT008-1 - 994 - 1326 rev/min	**20W88**				⊗
CABINET						
Coil Guards	T1GARD20A-1	**17W87**	x	x		
	T1GARD20N-1	**17W88**			x	x
Corrosion Protection			○	○	○	○
Hail Guards	T1GARD10A-1	**17W89**	x	x		
	T1GARD10N-1	**17W90**			x	x
Hinged Access Panels		**Factory**	○	○	○	○
CONTROLS						
Dirty Filter Switch	COSWCH00AE-1	**30K48**	x	x	x	x
Smoke Detector ? Supply and Return (order 2)	T1SNSR41AN1	**39W16**	x	x	x	x
Indoor Air Quality (Co_2) Sensors						
Sensor - white case CO_2 display	C0SNSR50AE1L	**77N39**	x	x	x	x
Sensor - duct-mount, black case, no display	C0SNSR53AE1L	**87N54**	x	x	x	x
CO_2 Sensor Duct Mounting Kit	C0MISC19AE1-	**85L43**	x	x	x	x

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

[1] Nominal kW at 400V-3ph-50hz. Electric heat model numbers are based on nominal kW for US applications.

⊗ - Field Installed or Configure to Order (factory installed)

○ - Configure to Order (Factory Installed)

X - Field Installed.

OPTIONS / ACCESSORIES

Item			036	048	060S	072
ECONOMIZER						
Economizer						
Economizer, Single Enthalpy Control Includes Outdoor Air Hood and Barometric Relief Dampers	T1ECON30A-1	**36W96**	⊗	⊗		
	T1ECON30N-1	**36W97**			⊗	⊗
Horizontal Economizer Conversion Kit	T1HECK00AN1	**17W45**	x	x	x	x
Economizer Controls						
Differential Enthalpy Sensor	T1SNSR60AN1	**17W71**	x	x	x	x
Single Temperature Control	TASEK10/15	**76M37**	x	x	x	x
Differential Temperature Control	Order 2 - TASEK10/15	**76M37**	x	x	x	x
OUTDOOR AIR						
Outdoor Air Dampers						
Damper Section - Manual, Includes Outdoor Air Hood	T1DAMP11A-1	**16W88**	x	x		
	T1DAMP11N-1	**16W91**			x	x
Damper Motorized Kit - Order Manual Outdoor Air Damper Separately	T1DAMP21AN1	**16W92**	x	x	x	x
Power Exhaust Fans						
Standard Static	380/420V - T1PWRE10A-1G	**17W40**	x	x		
	380/420V - T1PWRE10N-1G	**17W43**			x	x
ROOF CURBS - DOWN-FLOW						
Standard						
356 mm (14 in.) height	T1CURB10AN1	**13W27**	x	x	x	x
Hinged						
203 mm (8 in.) height	T1CURB30AN1	**17W46**	x	x	x	x
457 mm (18 in.) height	T1CURB32AN1	**17W47**	x	x	x	x
610 mm (24 in.) height	T1CURB33AN1	**17W48**	x	x	x	x
CEILING DIFFUSERS						
Step-Down - Order one	RTD9-65	**27G87**	x	x	x	
	RTD11-95	**29G04**				x
Flush - Order one	FD9-65	**27G86**	x	x	x	
	FD11-95	**29G08**				x
Transitions (Supply and Return) - Order one	T1TRAN10AN1	**17W53**	x	x	x	
	T1TRAN20N-1	**17W54**				x

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

⊗ - Field Installed or Configure to Order (factory installed)
X - Field Installed.

SPECIFICATIONS

General Data	Nominal kW	**10.5 kW**	**14 kW**	**17.5 kW**	**21 kW**
	Model No.	**THA036S2B**	**THA048S2B**	**THA060S2B**	**THA072S2B**
	Efficiency Type	Standard	Standard	Standard	Standard
Cooling Performance	Gross Cooling Capacity - kW (Btuh)	9.7 (33 000)	13.1 (44 800)	17.4 (59 500)	19.6 (67 000)
	[1] Net Cooling Capacity - kW (Btuh)	9.3 (31 800)	12.6 (43 000)	16.7 (57 000)	18.4 (63 000)
	Rated Air Flow - L/s (cfm)	545 (1160)	825 (1750)	945 (2000)	1135 (2400)
	Total Unit Power - kW	2.6	3.7	4.7	6.2
	[1] Energy Efficiency Ratio (Btuh/Watt)	12.1	11.6	12.2	10.1
	Coefficient of Performance (Output/input)	3.55	3.39	41.62	2.96
Heating Performance	[1] Total High Heating Capacity - kW (Btuh)	9.0 (30 800)	11.7 (40 000)	15.5 (53 000)	19.3 (66 000)
	Total Unit Power - kW	2.5	3.1	4.1	5.2
	[1] Coefficient of Performance (Output/input)	3.7	3.8	3.8	3.7
	[1] Total Low Heating Capacity - kW (Btuh)	5.5 (18 700)	7.5 (25 600)	8.3 (28 400)	11.1 (38 000)
	Total Unit Power - kW	2.2	2.9	3.7	4.7
	[1] Coefficient of Performance (Output/input)	2.4	2.6	[2] 2.2	2.4
Refrigerant	Type	R-22	R-22	R-22	R-22
	Charge Furnished	6.2 kg (13 lbs. 12 oz.)	5.9 kg (13 lbs. 0 oz.)	6.8 kg (15 lbs 0 oz.)	6.58 kg (14 lbs. 8 oz.)
Compressor Type (no.)		Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)
Outdoor Coil	Net face area - m^2 (sq. ft.)	1.45 (15.6)	1.45 (15.6)	1.79 (19.27)	1.79 (19.27)
	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)	248 (1/3)
	Motor rev/min	690	690	900	900
	Total motor watts	190	190	310	310
	Diameter - mm (in.) / No. of blades	610 (24) - 3	610 (24) - 3	610 (24) - 3	610 (24) - 3
	Total air volume - L/s (cfm)	1320 (2800)	1320 (2800)	1885 (4000)	1885 (4000)
Indoor Coil	Net face area - m^2 (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	4	4	4
	Fins per meter (Fins per inch)	552 (14)	552 (14)	552 (14)	552 (14)
	Drain Connection (no. and size) - in.	(1) 3/4 NPT	(1) 3/4 NPT	(1) 3/4 NPT	(1) 3/4 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)	
	Maximum Usable Motor kW (HP)	1.7 (2.3)		1.7 (2.3)	
	Available Drive Kits	Drive Kit #1 - 561 - 842 rev/min Drive Kit #5 - 748 - 1142 rev/min	Drive Kit #2 - 621 - 931 rev/min Drive Kit #6 - 893 - 1191 rev/min	Drive Kit #3 - 694 - 1042 rev/min Drive Kit #7 - 1010 - 1290 rev/min	Drive Kit #4 - 807 - 1117 rev/min Drive Kit #8 - 994 - 1326 rev/min
	Wheel nom. diameter x width - in. (mm)	254 x 254 (10 x 10)		254 x 254 (10 x 10)	
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 - 3 phase with neutral			

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 and Refrigeration Institute (ARI) 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 ARI 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.

COOLING / HEATING 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 (3 Ton) STANDARD EFFICIENCY - COOLING CAPACITY — THA036S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																					
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.45	960	9.2	31.5	1.80	.72	.89	1.00	8.9	30.3	2.03	.73	.91	1.00	8.5	29.1	2.30	.75	.93	1.00	8.1	27.8	2.60	.76	.96	1.00
	.56	1200	9.6	32.8	1.81	.78	.98	1.00	9.3	31.6	2.04	.80	1.00	1.00	8.9	30.5	2.31	.83	1.00	1.00	8.6	29.3	2.61	.85	1.00	1.00
	.68	1440	10.1	34.3	1.82	.86	1.00	1.00	9.7	33.1	2.05	.88	1.00	1.00	9.3	31.9	2.31	.91	1.00	1.00	9.0	30.6	2.62	.94	1.00	1.00
19°C (67°F)	.45	960	9.8	33.6	1.82	.56	.70	.85	9.5	32.3	2.05	.56	.71	.87	9.1	30.9	2.31	.57	.73	.89	8.6	29.5	2.62	.58	.74	.92
	.56	1200	10.1	34.6	1.83	.59	.76	.95	9.8	33.3	2.05	.60	.78	.97	9.3	31.9	2.32	.62	.80	1.00	8.9	30.4	2.62	.63	.83	1.00
	.68	1440	10.4	35.4	1.83	.63	.84	1.00	10.0	34.0	2.06	.64	.86	1.00	9.6	32.6	2.32	.66	.89	1.00	9.1	31.2	2.63	.68	.91	1.00
22°C (71°F)	.45	960	10.5	35.9	1.84	.41	.54	.67	10.1	34.5	2.06	.41	.55	.69	9.7	33.1	2.33	.42	.56	.70	9.3	31.6	2.63	.42	.57	.72
	.56	1200	10.8	36.9	1.84	.42	.58	.74	10.4	35.5	2.07	.43	.59	.76	10.0	34.0	2.33	.43	.60	.77	9.5	32.4	2.64	.44	.62	.80
	.68	1440	11.0	37.6	1.85	.44	.62	.81	10.6	36.1	2.08	.45	.64	.83	10.1	34.6	2.34	.45	.65	.86	9.6	32.9	2.64	.46	.67	.89

10.5 kW (3 Ton) STANDARD EFFICIENCY - HEATING CAPACITY — THA036S2

Indoor Coil Air Volume 21°C db (70°F db)		Air Temperature Entering Outdoor Coil															
		18°C (65°F)			7°C (45°F)			minus 4°C (25°F)			minus 15°C (5°F)			minus 28°C (minus 15°F)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
m^3/s	cfm	kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh	
0.46	960	10.9	37.1	2.14	8.3	28.4	1.99	5.6	19.1	1.83	3.9	13.2	1.66	1.9	6.4	1.26
0.57	1200	11.2	38.1	1.96	8.6	29.4	1.81	5.9	20.1	1.65	4.2	14.2	1.49	2.2	7.4	1.08
0.68	1440	11.3	38.6	1.89	8.8	29.9	1.74	6.0	20.6	1.58	4.3	14.7	1.42	2.3	7.9	1.01

14 kW (4 Ton) STANDARD EFFICIENCY - COOLING CAPACITY — THA048S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																					
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.60	1280	12.5	42.8	2.58	.74	.90	1.00	12.0	41.1	2.90	.75	.92	1.00	11.5	39.4	3.26	.76	.94	1.00	11.0	37.6	3.69	.78	.97	1.00
	.75	1600	13.1	44.7	2.60	.80	.99	1.00	12.6	43.0	2.92	.82	1.00	1.00	12.1	41.4	3.28	.84	1.00	1.00	11.6	39.7	3.70	.87	1.00	1.00
	.90	1920	13.7	46.7	2.62	.88	1.00	1.00	13.2	45.1	2.93	.90	1.00	1.00	12.7	43.3	3.30	.92	1.00	1.00	12.2	41.5	3.72	.95	1.00	1.00
19°C (67°F)	.60	1280	13.4	45.6	2.61	.57	.71	.86	12.8	43.8	2.92	.58	.72	.88	12.3	41.9	3.29	.58	.74	.90	11.7	39.9	3.71	.60	.76	.93
	.75	1600	13.8	47.1	2.62	.61	.78	.96	13.2	45.1	2.94	.62	.80	.98	12.6	43.1	3.30	.63	.82	1.00	12.0	41.0	3.73	.65	.85	1.00
	.90	1920	14.1	48.1	2.63	.65	.85	1.00	13.5	46.2	2.95	.66	.87	1.00	12.9	44.1	3.31	.68	.90	1.00	12.3	42.0	3.74	.69	.93	1.00
22°C (71°F)	.60	1280	14.3	48.7	2.64	.42	.55	.69	13.7	46.8	2.95	.42	.56	.70	13.1	44.7	3.32	.43	.57	.72	12.5	42.6	3.74	.43	.58	.74
	.75	1600	14.7	50.1	2.65	.44	.60	.76	14.1	48.0	2.97	.44	.61	.77	13.5	45.9	3.33	.44	.62	.79	12.8	43.7	3.76	.45	.63	.82
	.90	1920	15.0	51.1	2.66	.45	.64	.83	14.3	48.9	2.97	.46	.65	.85	13.7	46.7	3.34	.46	.67	.88	13.0	44.4	3.76	.47	.69	.91

14 kW (4 Ton) STANDARD EFFICIENCY - HEATING CAPACITY — THA048S2

Indoor Coil Air Volume 21°C db (70°F db)		Air Temperature Entering Outdoor Coil															
		18°C (65°F)			7°C (45°F)			minus 4°C (25°F)			minus 15°C (5°F)			minus 28°C (minus 15°F)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
m^3/s	cfm	kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh	
0.61	1280	14.0	47.6	2.62	10.8	36.9	2.44	7.5	25.5	2.26	5.5	18.8	2.05	2.7	9.3	1.53
0.76	1600	14.1	48.2	2.48	11.0	37.5	2.30	7.6	26.1	2.12	5.7	19.4	1.91	2.9	9.9	1.39
0.91	1920	14.4	49.1	2.39	11.3	38.4	2.21	7.9	27.0	2.03	5.9	20.3	1.82	3.2	10.8	1.30

COOLING / HEATING 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 (5 Ton) STANDARD EFFICIENCY - COOLING CAPACITY — THA060S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.75	1600	16.4	56.1	3.15	.71	.89	1.00	15.8	53.9	3.49	.73	.91	1.00	15.1	51.6	3.88	.74	.94	1.00	14.4	49.2	4.30	.76	.97	1.00
	.94	2000	17.2	58.6	3.18	.78	.99	1.00	16.6	56.5	3.53	.80	1.00	1.00	15.9	54.3	3.91	.83	1.00	1.00	15.2	52.0	4.34	.86	1.00	1.00
	1.13	2400	18.0	61.4	3.22	.86	1.00	1.00	17.4	59.3	3.56	.88	1.00	1.00	16.7	56.9	3.95	.92	1.00	1.00	15.9	54.4	4.38	.95	1.00	1.00
19°C (67°F)	.75	1600	17.6	59.9	3.20	.55	.69	.84	16.9	57.5	3.54	.56	.70	.86	16.1	55.0	3.92	.57	.72	.89	15.3	52.2	4.35	.58	.74	.93
	.94	2000	18.1	61.9	3.23	.59	.75	.95	17.4	59.4	3.57	.60	.77	.98	16.6	56.7	3.95	.61	.80	1.00	15.8	53.8	4.37	.63	.83	1.00
	1.13	2400	18.6	63.4	3.24	.63	.83	1.00	17.8	60.8	3.58	.64	.86	1.00	17.0	58.1	3.97	.66	.89	1.00	16.1	55.1	4.39	.68	.92	1.00
22°C (71°F)	.75	1600	18.8	64.2	3.25	.41	.54	.67	18.1	61.6	3.59	.41	.54	.68	17.3	58.9	3.98	.41	.55	.70	16.4	55.9	4.40	.42	.57	.71
	.94	2000	19.4	66.1	3.28	.42	.58	.73	18.6	63.4	3.62	.43	.59	.75	17.7	60.4	4.00	.43	.60	.77	16.8	57.3	4.43	.44	.62	.80
	1.13	2400	19.8	67.4	3.29	.44	.62	.81	18.9	64.6	3.64	.44	.63	.83	18.0	61.5	4.02	.45	.65	.86	17.1	58.3	4.44	.46	.67	.90

17.5 kW (5 Ton) STANDARD EFFICIENCY - HEATING CAPACITY — THA060S2

Indoor Coil Air Volume 21°C db (70°F db)		Air Temperature Entering Outdoor Coil															
		18°C (65°F)			7°C (45°F)			minus 4°C (25°F)			minus 15°C (5°F)			minus 28°C (minus 15°F)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
m^3/s	cfm	kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh	
0.76	1600	19.8	67.5	3.41	14.5	49.6	3.17	9.0	30.7	2.92	5.7	19.6	2.62	3.0	10.2	1.96
0.95	2000	20.0	68.1	3.20	14.7	50.2	2.96	9.2	31.3	2.71	5.9	20.2	2.41	3.2	10.8	1.76
1.14	2400	20.2	68.9	3.07	14.9	51.0	2.83	9.4	32.1	2.58	6.2	21.0	2.28	3.4	11.6	1.62

21 kW (6 Ton) STANDARD EFFICIENCY - COOLING CAPACITY — THA072S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.90	1920	18.8	64.0	4.16	.71	.87	1.00	18.0	61.5	4.64	.73	.90	1.00	17.3	58.9	5.20	.74	.92	1.00	16.4	56.0	5.86	.76	.95	1.00
	1.13	2400	19.5	66.7	4.21	.78	.97	1.00	18.8	64.2	4.69	.80	.99	1.00	18.1	61.7	5.26	.82	1.00	1.00	17.3	59.0	5.92	.85	1.00	1.00
	1.36	2880	20.4	69.6	4.26	.85	1.00	1.00	19.7	67.2	4.75	.87	1.00	1.00	18.9	64.5	5.31	.90	1.00	1.00	18.1	61.7	5.97	.93	1.00	1.00
19°C (67°F)	.90	1920	20.0	68.1	4.24	.55	.69	.83	19.2	65.5	4.72	.56	.70	.86	18.3	62.6	5.28	.57	.72	.88	17.4	59.4	5.93	.58	.74	.91
	1.13	2400	20.6	70.3	4.28	.59	.75	.94	19.8	67.5	4.76	.60	.77	.96	18.9	64.5	5.32	.61	.79	.99	17.9	61.2	5.97	.63	.82	1.00
	1.36	2880	21.1	71.9	4.32	.63	.83	1.00	20.2	69.0	4.79	.64	.85	1.00	19.3	65.9	5.35	.66	.88	1.00	18.3	62.6	6.01	.67	.91	1.00
22°C (71°F)	.90	1920	21.3	72.8	4.33	.41	.54	.67	20.5	69.9	4.81	.41	.54	.68	19.6	66.8	5.37	.42	.55	.69	18.6	63.5	6.02	.42	.57	.71
	1.13	2400	21.9	74.8	4.37	.42	.58	.73	21.0	71.8	4.85	.43	.59	.75	20.1	68.5	5.41	.43	.60	.77	19.1	65.1	6.06	.44	.62	.79
	1.36	2880	22.3	76.2	4.41	.44	.62	.80	21.4	73.1	4.88	.45	.63	.82	20.4	69.7	5.44	.45	.65	.85	19.4	66.1	6.09	.46	.67	.88

21 kW (6 Ton) STANDARD EFFICIENCY - HEATING CAPACITY — THA072S2

Indoor Coil Air Volume 70°F db (21°C db)		Air Temperature Entering Outdoor Coil															
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
		Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input
cfm	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1920	905	90.4	26.5	5.09	68.3	20.0	4.63	45.2	13.2	4.15	29.9	8.8	3.69	15.1	4.4	2.79
2400	1135	91.6	26.8	4.77	69.5	20.4	4.31	46.4	13.6	3.84	31.1	9.1	3.37	16.3	4.8	2.47
2880	1360	92.6	27.1	4.58	70.5	20.7	4.12	47.4	13.9	3.64	32.1	9.4	3.18	17.3	5.1	2.28

BLOWER DATA - BELT DRIVE — 10.5 KW (3 TON)

Blower tables include resistance for base unit with wet indoor coil & 51 mm (2 in.) disposable air filters in place.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (economizer, etc.) See page 16

2 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.) See page 16

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

50 to 200 Pa — **10.5 kW (3 Ton) Standard Efficiency (Down-Flow)** — **THA036S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #1						Drive Kit #5					
425	900	595	0.15	0.11	780	0.30	0.22	930	0.50	0.37	1065	0.75	0.56
470	1000	615	0.20	0.15	790	0.35	0.26	945	0.55	0.41	1075	0.75	0.56
520	1100	640	0.20	0.15	805	0.35	0.26	955	0.55	0.41	1085	0.80	0.60
565	1200	665	0.25	0.19	825	0.40	0.30	965	0.60	0.45	1095	0.85	0.63
615	1300	695	0.30	0.22	845	0.45	0.34	980	0.65	0.48	1105	0.90	0.67
660	1400	730	0.35	0.26	865	0.50	0.37	995	0.70	0.52	1120	0.95	0.71
705	1500	760	0.40	0.30	890	0.55	0.41	1015	0.75	0.56	1135	1.00	0.75

250 to 400 Pa — **10.5 kW (3 Ton) Standard Efficiency (Down-Flow)** — **THA036S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Field Furnished											
425	900	1180	1.00	0.75	1285	1.25	0.93	1380	1.50	1.12	1465	1.80	1.34
470	1000	1190	1.00	0.75	1295	1.30	0.97	1390	1.60	1.19	1475	1.85	1.38
520	1100	1200	1.05	0.78	1300	1.35	1.01	1400	1.65	1.23	1485	1.95	1.45
565	1200	1210	1.10	0.82	1310	1.40	1.04	1410	1.70	1.27	1495	2.00	1.49
615	1300	1220	1.15	0.86	1320	1.45	1.08	1415	1.75	1.31	1505	2.05	1.53
660	1400	1230	1.20	0.90	1330	1.50	1.12	1425	1.80	1.34	1515	2.15	1.60
705	1500	1240	1.25	0.93	1345	1.55	1.16	1435	1.90	1.42	1525	2.20	1.64

50 to 200 Pa — **10.5 kW (3 Ton) Standard Efficiency (Horizontal)** — **THA036S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #1						Drive Kit #5					
425	900	570	0.15	0.11	735	0.30	0.22	875	0.45	0.34	1000	0.65	0.48
470	1000	595	0.15	0.11	750	0.30	0.22	890	0.50	0.37	1010	0.70	0.52
520	1100	625	0.20	0.15	765	0.35	0.26	900	0.50	0.37	1020	0.75	0.56
565	1200	660	0.25	0.19	790	0.40	0.30	915	0.55	0.41	1030	0.75	0.56
615	1300	690	0.30	0.22	810	0.40	0.30	930	0.60	0.45	1045	0.80	0.60
660	1400	730	0.35	0.26	840	0.50	0.37	950	0.65	0.48	1060	0.85	0.63
705	1500	765	0.40	0.30	870	0.55	0.41	970	0.70	0.52	1075	0.95	0.71

250 to 400 Pa — **10.5 kW (3 Ton) Standard Efficiency (Horizontal)** — **THA036S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #5			Field Furnished								
425	900	1105	0.90	0.67	1200	1.10	0.82	1285	1.35	1.01	1365	1.60	1.19
470	1000	1115	0.90	0.67	1210	1.15	0.86	1300	1.40	1.04	1380	1.70	1.27
520	1100	1125	0.95	0.71	1220	1.20	0.90	1310	1.50	1.12	1395	1.75	1.31
565	1200	1135	1.00	0.75	1235	1.25	0.93	1320	1.55	1.16	1405	1.85	1.38
615	1300	1145	1.05	0.78	1245	1.30	0.97	1330	1.60	1.19	1415	1.90	1.42
660	1400	1160	1.10	0.82	1255	1.40	1.04	1340	1.65	1.23	1425	1.95	1.45
705	1500	1175	1.15	0.86	1265	1.45	1.08	1355	1.75	1.31	1435	2.05	1.53

BLOWER DATA - BELT DRIVE — 14 KW (4 TON)

Blower tables include resistance for base unit with wet indoor coil & 51 mm (2 in.) disposable air filters in place.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (economizer, etc.) See page 16

2 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.) See page 16

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

50 to 200 Pa — **14 kW (4 Ton) Standard Efficiency (Down-Flow)** — **THA048S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #2						Drive Kit #6					
565	1200	670	0.20	0.15	820	0.35	0.26	955	0.50	0.37	1080	0.70	0.52
615	1300	700	0.25	0.19	840	0.40	0.30	970	0.55	0.41	1090	0.75	0.56
660	1400	735	0.30	0.22	865	0.45	0.34	990	0.60	0.45	1105	0.80	0.60
705	1500	765	0.35	0.26	890	0.50	0.37	1010	0.65	0.48	1125	0.85	0.63
755	1600	800	0.40	0.30	920	0.55	0.41	1030	0.70	0.52	1140	0.90	0.67
800	1700	840	0.50	0.37	945	0.60	0.45	1055	0.80	0.60	1160	1.00	0.75
850	1800	875	0.55	0.41	980	0.70	0.52	1080	0.85	0.63	1180	1.05	0.78
895	1900	915	0.65	0.48	1010	0.80	0.60	1105	0.95	0.71	1205	1.15	0.86
945	2000	950	0.70	0.52	1045	0.90	0.67	1135	1.05	0.78	1230	1.25	0.93

250 to 400 Pa — **14 kW (4 Ton) Standard Efficiency (Down-Flow)** — **THA048S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	High Static - Drive Kit #6			Field Furnished								
565	1200	1185	0.90	0.67	1285	1.15	0.86	1375	1.35	1.01	1460	1.60	1.19
615	1300	1200	0.95	0.71	1300	1.20	0.90	1390	1.45	1.08	1475	1.70	1.27
660	1400	1215	1.00	0.75	1310	1.25	0.93	1400	1.50	1.12	1485	1.75	1.31
705	1500	1225	1.05	0.78	1325	1.30	0.97	1415	1.55	1.16	1500	1.85	1.38
755	1600	1245	1.15	0.86	1340	1.40	1.04	1430	1.65	1.23	1510	1.90	1.42
800	1700	1260	1.20	0.90	1355	1.45	1.08	1440	1.70	1.27	1525	2.00	1.49
850	1800	1275	1.30	0.97	1370	1.55	1.16	1455	1.80	1.34	1540	2.10	1.57
895	1900	1295	1.40	1.04	1385	1.65	1.23	1470	1.90	1.42	1555	2.20	1.64
945	2000	1320	1.50	1.12	1405	1.75	1.31	1490	2.00	1.49	1570	2.30	1.72

50 to 200 Pa — **14 kW (4 Ton) Standard Efficiency (Horizontal)** — **THA048S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #2									Drive Kit #6		
565	1200	660	0.20	0.15	790	0.35	0.26	915	0.50	0.37	1030	0.70	0.52
615	1300	695	0.25	0.19	815	0.40	0.30	935	0.55	0.41	1045	0.70	0.52
660	1400	735	0.30	0.22	845	0.45	0.34	955	0.60	0.45	1060	0.75	0.56
705	1500	770	0.35	0.26	870	0.50	0.37	975	0.65	0.48	1075	0.80	0.60
755	1600	810	0.45	0.34	905	0.55	0.41	1000	0.70	0.52	1095	0.90	0.67
800	1700	850	0.50	0.37	935	0.65	0.48	1030	0.80	0.60	1120	0.95	0.71
850	1800	890	0.60	0.45	970	0.70	0.52	1055	0.85	0.63	1145	1.05	0.78
895	1900	935	0.70	0.52	1010	0.80	0.60	1090	0.95	0.71	1170	1.15	0.86
945	2000	975	0.80	0.60	1045	0.90	0.67	1120	1.05	0.78	1195	1.25	0.93

250 to 400 Pa — **14 kW (4 Ton) Standard Efficiency (Horizontal)** — **THA048S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #6			Field Furnished								
565	1200	1130	0.85	0.63	1225	1.10	0.82	1305	1.30	0.97	1385	1.55	1.16
615	1300	1145	0.90	0.67	1235	1.15	0.86	1320	1.35	1.01	1400	1.60	1.19
660	1400	1160	1.00	0.75	1250	1.20	0.90	1335	1.45	1.08	1415	1.70	1.27
705	1500	1175	1.05	0.78	1265	1.25	0.93	1350	1.50	1.12	1430	1.75	1.31
755	1600	1190	1.10	0.82	1280	1.35	1.01	1365	1.60	1.19	1440	1.80	1.34
800	1700	1210	1.15	0.86	1295	1.40	1.04	1380	1.65	1.23	1455	1.90	1.42
850	1800	1230	1.25	0.93	1315	1.50	1.12	1395	1.75	1.31	1470	2.00	1.49
895	1900	1250	1.35	1.01	1330	1.55	1.16	1410	1.80	1.34	1485	2.10	1.57
945	2000	1275	1.45	1.08	1355	1.70	1.27	1430	1.95	1.45	1500	2.20	1.64

BLOWER DATA - BELT DRIVE — 17.5 KW (5 TON)

Blower tables include resistance for base unit with wet indoor coil, & 51 mm (2 in.) disposable air filters in place.
FOR ALL UNITS ADD:
1 - Any factory installed options air resistance (economizer, etc.) See page 16
2 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.) See page 16
Then determine from table the blower motor output and drive required.

50 to 200 Pa — **17.5 kW (5 Ton) Standard Efficiency (Down-Flow)** — **THA060S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #3											
755	1600	730	0.35	0.26	835	0.45	0.34	935	0.60	0.45	1030	0.70	0.52
800	1700	760	0.40	0.30	860	0.50	0.37	960	0.65	0.48	1050	0.80	0.60
850	1800	795	0.50	0.37	890	0.60	0.45	980	0.70	0.52	1070	0.85	0.63
895	1900	830	0.55	0.41	920	0.65	0.48	1010	0.80	0.60	1090	0.95	0.71
945	2000	865	0.65	0.48	950	0.75	0.56	1035	0.90	0.67	1115	1.05	0.78
990	2100	900	0.70	0.52	980	0.85	0.63	1060	1.00	0.75	1140	1.15	0.86
1040	2200	935	0.80	0.60	1010	0.95	0.71	1090	1.10	0.82	1165	1.25	0.93
1085	2300	970	0.90	0.67	1045	1.05	0.78	1120	1.20	0.90	1190	1.35	1.01
1130	2400	1005	1.05	0.78	1075	1.15	0.86	1150	1.30	0.97	1220	1.50	1.12

250 to 400 Pa — **17.5 kW (5 Ton) Standard Efficiency (Down-Flow)** — **THA060S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #7									Field Furnished		
755	1600	1120	0.85	0.63	1200	1.05	0.78	1280	1.20	0.90	1355	1.35	1.01
800	1700	1135	0.95	0.71	1215	1.10	0.82	1295	1.30	0.97	1365	1.45	1.08
850	1800	1155	1.00	0.75	1230	1.20	0.90	1310	1.35	1.01	1380	1.55	1.16
895	1900	1170	1.10	0.82	1250	1.25	0.93	1325	1.45	1.08	1395	1.65	1.23
945	2000	1195	1.20	0.90	1270	1.35	1.01	1340	1.55	1.16	1410	1.75	1.31
990	2100	1215	1.30	0.97	1290	1.45	1.08	1360	1.65	1.23	1425	1.85	1.38
1040	2200	1240	1.40	1.04	1310	1.60	1.19	1380	1.80	1.34	1445	1.95	1.45
1085	2300	1260	1.50	1.12	1330	1.70	1.27	1400	1.90	1.42	1465	2.10	1.57
1130	2400	1285	1.65	1.23	1355	1.85	1.38	1420	2.05	1.53	1480	2.20	1.64

50 to 200 Pa — **17.5 kW (5 Ton) Standard Efficiency (Horizontal)** — **THA060S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #3						Drive Kit #7					
755	1600	845	0.45	0.34	955	0.55	0.41	1060	0.70	0.52	1160	0.90	0.67
800	1700	880	0.50	0.37	990	0.65	0.48	1090	0.80	0.60	1185	0.95	0.71
850	1800	920	0.60	0.45	1020	0.75	0.56	1120	0.90	0.67	1210	1.05	0.78
895	1900	960	0.70	0.52	1060	0.85	0.63	1150	1.00	0.75	1240	1.15	0.86
945	2000	1000	0.80	0.60	1095	0.95	0.71	1185	1.10	0.82	1265	1.25	0.93
990	2100	1040	0.90	0.67	1130	1.05	0.78	1215	1.20	0.90	1300	1.40	1.04
1040	2200	1085	1.00	0.75	1170	1.15	0.86	1250	1.35	1.01	1330	1.50	1.12
1085	2300	1125	1.15	0.86	1205	1.30	0.97	1285	1.45	1.08	1360	1.65	1.23
1130	2400	1165	1.25	0.93	1245	1.45	1.08	1320	1.60	1.19	1395	1.80	1.34

250 to 400 Pa — **17.5 kW (5 Ton) Standard Efficiency (Horizontal)** — **THA060S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #7			Field Furnished								
755	1600	1255	1.05	0.78	1350	1.30	0.97	1440	1.55	1.16	1530	1.80	1.34
800	1700	1275	1.15	0.86	1365	1.35	1.01	1455	1.60	1.19	1540	1.85	1.38
850	1800	1300	1.25	0.93	1385	1.45	1.08	1470	1.70	1.27	1550	1.95	1.45
895	1900	1325	1.35	1.01	1405	1.55	1.16	1485	1.75	1.31	1565	2.00	1.49
945	2000	1350	1.45	1.08	1430	1.65	1.23	1505	1.85	1.38	1585	2.15	1.60
990	2100	1375	1.55	1.16	1455	1.80	1.34	1530	2.00	1.49	1605	2.25	1.68
1040	2200	1405	1.70	1.27	1480	1.90	1.42	1555	2.15	1.60	1625	2.40	1.79
1085	2300	1435	1.85	1.38	1510	2.05	1.53	1580	2.30	1.72	1650	2.55	1.90
1130	2400	1465	2.00	1.49	1535	2.20	1.64	1605	2.45	1.83	1675	2.70	2.01

BLOWER DATA - BELT DRIVE — 21 KW (6 TON)

Blower tables include resistance for base unit with wet indoor coil & 51 mm (2 in.) disposable air filters in place.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (economizer, etc.) See page 16

2 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.) See page 16

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

50 to 200 Pa — **21 kW (6 Ton) Standard Efficiency (Down-Flow)** — **THA072S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #4											
895	1900	820	0.50	0.37	915	0.65	0.48	1010	0.75	0.56	1105	0.90	0.67
945	2000	855	0.60	0.45	945	0.70	0.52	1035	0.85	0.63	1125	1.00	0.75
990	2100	890	0.65	0.48	975	0.80	0.60	1060	0.95	0.71	1145	1.10	0.82
1040	2200	925	0.75	0.56	1005	0.90	0.67	1090	1.05	0.78	1170	1.20	0.90
1085	2300	960	0.85	0.63	1035	1.00	0.75	1115	1.15	0.86	1195	1.30	0.97
1130	2400	995	0.95	0.71	1070	1.10	0.82	1145	1.25	0.93	1220	1.40	1.04
1180	2500	1030	1.10	0.82	1100	1.20	0.90	1175	1.35	1.01	1245	1.50	1.12
1225	2600	1065	1.20	0.90	1135	1.35	1.01	1205	1.50	1.12	1275	1.65	1.23
1275	2700	1100	1.35	1.01	1170	1.50	1.12	1235	1.65	1.23	1300	1.80	1.34
1320	2800	1140	1.50	1.12	1200	1.65	1.23	1265	1.80	1.34	1330	1.95	1.45
1370	2900	1175	1.65	1.23	1235	1.80	1.34	1295	1.95	1.45	1360	2.10	1.57

250 to 400 Pa — **21 kW (6 Ton) Standard Efficiency (Down-Flow)** — **THA072S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #8						Field Furnished					
895	1900	1190	1.10	0.82	1275	1.25	0.93	1355	1.45	1.08	1435	1.65	1.23
945	2000	1210	1.15	0.86	1290	1.35	1.01	1370	1.55	1.16	1445	1.75	1.31
990	2100	1230	1.25	0.93	1310	1.45	1.08	1385	1.65	1.23	1460	1.85	1.38
1040	2200	1250	1.35	1.01	1325	1.55	1.16	1400	1.75	1.31	1475	1.95	1.45
1085	2300	1270	1.45	1.08	1345	1.65	1.23	1420	1.85	1.38	1490	2.05	1.53
1130	2400	1295	1.60	1.19	1365	1.75	1.31	1440	2.00	1.49	1505	2.20	1.64
1180	2500	1315	1.70	1.27	1390	1.90	1.42	1455	2.10	1.57	1525	2.30	1.72
1225	2600	1340	1.85	1.38	1410	2.05	1.53	1480	2.25	1.68	1545	2.45	1.83
1275	2700	1370	2.00	1.49	1435	2.20	1.64	1500	2.40	1.79	1565	2.60	1.94
1320	2800	1395	2.15	1.60	1460	2.35	1.75	1520	2.55	1.90	1585	2.80	2.09
1370	2900	1420	2.30	1.72	1485	2.50	1.87	1545	2.70	2.01	1605	2.95	2.20

BLOWER DATA - BELT DRIVE — 21 KW (6 TON)

Blower tables include resistance for base unit with wet indoor coil & 51 mm (2 in.) disposable air filters in place.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (economizer, etc.) See page 16

2 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.) See page 16

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

50 to 200 Pa — **21 kW (6 Ton) Standard Efficiency (Horizontal)** — **THA072S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #4						Drive Kit #8					
895	1900	955	0.65	0.48	1045	0.75	0.56	1135	0.90	0.67	1215	1.05	0.78
945	2000	995	0.75	0.56	1085	0.85	0.63	1170	1.00	0.75	1250	1.15	0.86
990	2100	1035	0.85	0.63	1120	0.95	0.71	1205	1.10	0.82	1280	1.25	0.93
1040	2200	1075	0.95	0.71	1160	1.10	0.82	1235	1.25	0.93	1310	1.40	1.04
1085	2300	1115	1.05	0.78	1195	1.20	0.90	1275	1.35	1.01	1345	1.50	1.12
1130	2400	1155	1.20	0.90	1235	1.35	1.01	1310	1.50	1.12	1380	1.70	1.27
1180	2500	1200	1.35	1.01	1275	1.50	1.12	1345	1.65	1.23	1415	1.85	1.38
1225	2600	1240	1.50	1.12	1315	1.65	1.23	1385	1.85	1.38	1450	2.00	1.49
1275	2700	1285	1.65	1.23	1355	1.85	1.38	1420	2.00	1.49	1485	2.20	1.64
1320	2800	1325	1.85	1.38	1395	2.00	1.49	1460	2.20	1.64	1520	2.40	1.79
1370	2900	1365	2.00	1.49	1435	2.20	1.64	1500	2.40	1.79	1560	2.60	1.94

250 to 400 Pa — **21 kW (6 Ton) Standard Efficiency (Horizontal)** — **THA072S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
		rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
L/s	cfm	Drive Kit #8			Field Furnished								
895	1900	1295	1.15	0.86	1370	1.30	0.97	1440	1.45	1.08	1510	1.65	1.23
945	2000	1325	1.30	0.97	1395	1.45	1.08	1465	1.60	1.19	1530	1.75	1.31
990	2100	1355	1.40	1.04	1425	1.55	1.16	1490	1.70	1.27	1555	1.90	1.42
1040	2200	1385	1.55	1.16	1455	1.70	1.27	1520	1.85	1.38	1585	2.05	1.53
1085	2300	1415	1.70	1.27	1480	1.85	1.38	1545	2.00	1.49	1610	2.20	1.64
1130	2400	1450	1.85	1.38	1515	2.00	1.49	1575	2.20	1.64	1635	2.35	1.75
1180	2500	1480	2.00	1.49	1545	2.20	1.64	1605	2.35	1.75	1665	2.55	1.90
1225	2600	1515	2.20	1.64	1575	2.35	1.75	1635	2.55	1.90	1695	2.75	2.05
1275	2700	1550	2.40	1.79	1610	2.55	1.90	1670	2.75	2.05	1725	2.95	2.20
1320	2800	1585	2.60	1.94	1645	2.80	2.09	1700	2.95	2.20	1760	3.20	2.39
1370	2900	1620	2.80	2.09	1675	3.00	2.24	1735	3.20	2.39	1790	3.40	2.54

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

		rev/min Range							
Nominal	Maximum	Drive 1	Drive 2	Drive 3	Drive 4	Drive 5	Drive 6	Drive 7	Drive 8
1.5 kW (2 hp)	1.7 kW (2.3 hp)	561 - 842	621 - 931	694 - 1042	807 - 1117	748 - 1142	893 - 1191	1010 - 1290	994 - 1326

*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 by Lennox are shown. If motors of comparable kW are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

BLOWER DATA

POWER EXHAUST FANS PERFORMANCE

Return Air System Static Pressure		Air Volume Exhausted											
		T1PWRE10A						T1PWRE10N					
		Low		Medium		High		Low		Medium		High	
Pa	in. w.g.	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm
0	0	510	1085	515	1085	510	1080	1525	3235	1625	3445	1705	3615
25	0.1	410	865	415	875	415	880	1280	2710	1395	2960	1475	3130
50	0.2	315	670	320	675	320	675	855	1810	1185	2510	1275	2700
75	0.3	235	495	230	490	230	485	865	1835	9985	2085	1090	2310
100	0.4	160	335	155	335	160	340	665	1405	790	1675	915	1935
125	0.5	95	200	100	210	120	250	440	935	595	1260	740	1570
150	0.6	35	75	65	135	115	240	185	390	390	825	360	760

OPTIONS / ACCESSORIES AIR RESISTANCE

Air Volume		Economizer		Electric Heat	
L/s	cfm	Pa	in. w.g.	Pa	in. w.g.
470	1000	10	0.04	7	0.03
565	1200	10	0.04	15	0.06
660	1400	10	0.04	22	0.09
755	1600	10	0.04	30	0.12
850	1800	12	0.05	37	0.15
945	2000	12	0.05	45	0.18
1040	2200	12	0.05	50	0.20
1130	2400	12	0.05	55	0.22
1225	2600	15	0.06	60	0.24
1320	2800	15	0.06	65	0.26
1415	3000	15	0.06	70	0.28

CEILING DIFFUSER AIR THROW DATA

Air Volume		[1] Effective Throw			
Model No.		RTD9-65		FD9-65	
L/s	cfm	m	ft.	m	ft.
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).

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.
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

ELECTRIC HEAT CAPACITIES

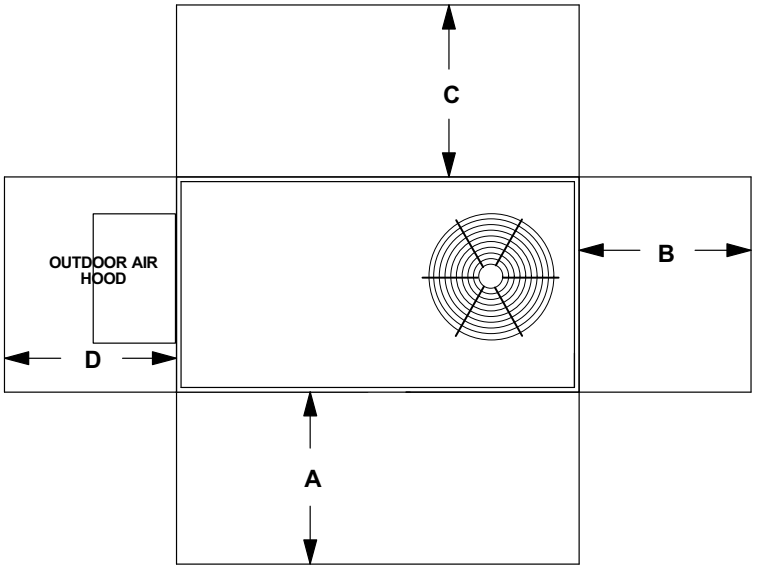
Input Voltage	5.2 kW			10.4 kW			15.6 kW			20.8 kW		
	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output	No of Steps	kW input	Btuh Output
380	1	4.7	16,100	1	9.4	32,100	1	14.1	48,200	1	18.8	64,200
400	1	5.2	17,800	1	10.4	35,500	1	15.6	53,300	1	20.8	71,400
420	1	5.7	19,500	1	11.5	39,300	1	17.2	58,800	1	23.0	78,500

ELECTRICAL/ELECTRIC HEAT DATA

STANDARD EFFICIENCY (R-22)			THA036S2	THA048S2	THA060S2	THA072S2
ELECTRICAL DATA						
[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		4.5	6.4	6.7	9
	Locked Rotor Amps		31	44	49.5	75
Outdoor Fan Motor - Full Load Amps			1.1	1.1	1.3	1.3
Power Exhaust (1) 0.56 kW - Full Load Amps			2.2	2.2	2.2	2.2
Indoor Blower Motor	kW		1.49	1.49	1.49	1.49
	Full Load Amps		3.5	3.5	3.5	3.5
[2] Maximum Overcurrent Protection	Unit Only		15	15	15	25
	With Power Exhaust		15	20	20	25
[3] Minimum Circuit Ampacity	Unit Only		11	13	14	17
	With Power Exhaust		13	15	16	19
ELECTRIC HEAT DATA						
Electric Heat Voltage			380/420	380/420	380/420	380/420
[2] Maximum Overcurrent Protection	Unit+ [5] Electric Heat	5.2 kW	25	25	25	30
		10.4 kW	30	35	35	40
		15.6 kW	- - -	- - -	45	50
		20.8 kW	- - -	- - -	- - -	60
	Unit+ [5] Electric Heat and (1) 0.56 kW Power Exhaust	5.2 kW	25	25	30	35
		10.4 kW	35	35	40	40
		15.6 kW	- - -	- - -	45	50
		20.8 kW	- - -	- - -	- - -	60
[3] Minimum Circuit Ampacity	Unit+ [5] Electric Heat	5.2 kW	21	23	24	26
		10.4 kW	30	33	33	36
		15.6 kW	- - -	- - -	43	46
		20.8 kW	- - -	- - -	- - -	56
	Unit+ [5] Electric Heat and (1) 0.56 kW Power Exhaust	5.2 kW	23	25	26	29
		10.4 kW	33	35	36	38
		15.6 kW	- - -	- - -	45	48
		20.8 kW	- - -	- - -	- - -	58
ELECTRICAL ACCESSORIES						
Unit Fuse Block	Unit Only		**18W06**	**18W06**	**18W07**	**18W06**
	with exhaust fan		**18W06**	**18W06**	**180W7**	**18W07**
Disconnect	Hinged Access Panel		**20W15**	**20W15**	**20W15**	**20W15**
	Standard Access Panel		**20W21**	**20W21**	**20W21**	**20W21**

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.
5 Nominal kW based on 400V-3ph-50hz.

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	934	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 and 072	Cooling	67	72	77	76	73	68	61	82
	Heating	70	72	77	76	73	69	60	82

Note The octave power sound data does not include tonal correction.

[1] Tested according to ARI Standard 270-95 test conditions and ANSI Standard S1.32-1981.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS - FIELD INSTALLED

COMMERCIAL TOUCHSCREEN THERMOSTAT

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

Sensors For Touchscreen Thermostat

[1] Remote non-adjustable wall mount 20k temperature sensor C0SNZN01AE1-

[1] Remote non-adjustable wall mount 10k averaging temperature sensor C0SNZN73AE1-

[1] Remote non-adjustable duct mount temperature sensor C0SNDC00AE1-

Outdoor temperature sensor C0SNSR03AE1-

Accessories For Touchscreen Thermostat

Locking cover (clear) C0MISC15AE1-

[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

Sensor For Digital Non-Programmable Thermostats Above

Remote wall mounted temperature sensor C0SNZN00AE1-

Intuitive Interface - Automatic Changeover - Backlit Display - Simple Up and Down Temperature Control

One-stage heating / cooling conventional systems C0STAT12AE1L

Sensor For Digital Non-Programmable Thermostats Above

Outdoor temperature sensor C0SNSR04AE1-

Accessories For Digital Non-Programmable Thermostats Above

Optional wall mounting plate C0MISC17AE1-

WEIGHT DATA

Model Number	Net				Shipping			
	Base		Maximum		Base		Maximum	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.
036	247	544	298	656	273	604	329	725
048	257	566	308	678	284	626	339	747
060	304	671	351	774	332	731	384	846
072	307	676	353	779	334	736	386	851

OPTIONS / ACCESSORIES

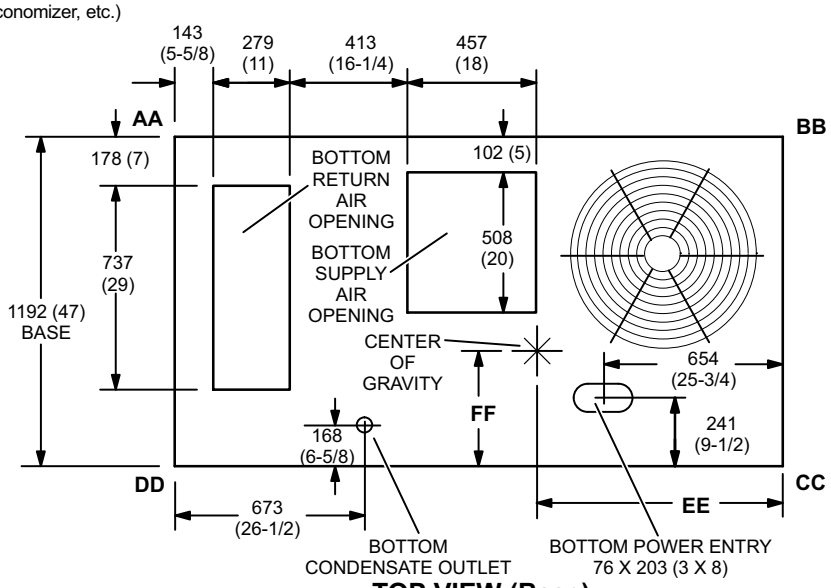
		Shipping Weights	
		kg	lbs.
ECONOMIZER			
Economizer			
Economizer	T1ECON30A-1	56	123
	T1ECON30N-1	64	142
ELECTRIC HEAT			
Electric Heat	**5.2 kW** - T1EH0075AN1	14	31
	10.4 kW - T1EH0150AN1	14	31
	15.6 kW - T1EH0225AN1	16	35
	20.8 kW - T1EH0300N-1	16	35
OUTDOOR AIR			
Outdoor Air Dampers			
Outdoor Air Damper Motorized Kit	T1DAMP11A-1	12	25
	T1DAMP11N-1	14	29
Damper Section Manual	T1DAMP21AN1	9	18
Power Exhaust Fans			
Standard Static	T1PWRE10A-1	17	35
	T1PWRE10N-1	19	39
ROOF CURBS - DOWN-FLOW			
Hinged			
203 mm (8 in.) height	T1CURB30AN1	35	78
457 mm (18 in.) height	T1CURB32AN1	49	108
610 mm (24 in.) height	T1CURB33AN1	57	126
Standard			
356 mm (14 in.) height	T1CURB10AN1	44	96
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

Base Unit - The unit with NO OPTIONS.
Maximum Unit - The unit with ALL OPTIONS Installed (Economizer, etc.)

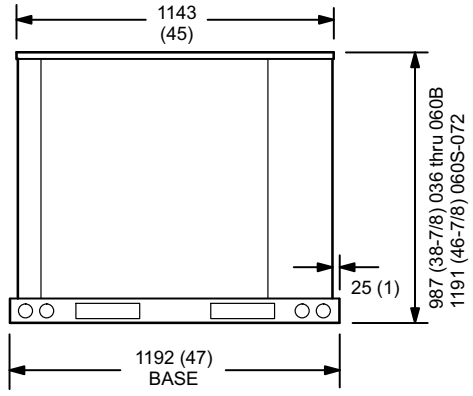
DIMENSIONS - MM (INCHES)

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	43	94	52	118	54	114	60	133	83	184	69	215	98	152	86	190	978	38-1/2	1016	40	457	18	457	18
048	44	98	54	122	55	119	63	138	87	192	72	222	101	158	89	196	978	38-1/2	1016	40	457	18	457	18
060	53	116	64	139	63	141	71	157	103	227	85	253	115	187	102	224	978	38-1/2	1016	40	457	18	457	18
072	53	117	64	140	64	142	72	158	104	229	85	255	116	188	102	225	978	38-1/2	1016	40	457	18	457	18

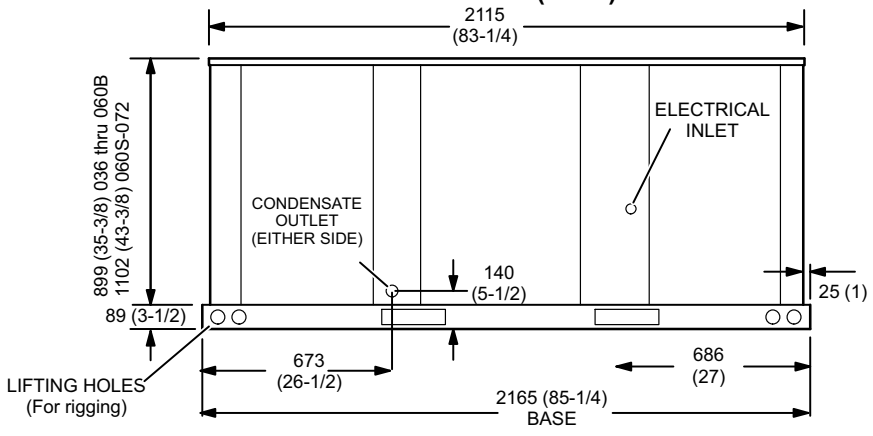
Base Unit - The unit NO OPTIONS.
Max. Unit - The unit with ALL OPTIONS Installed. (Electric Heat, Economizer, etc.)



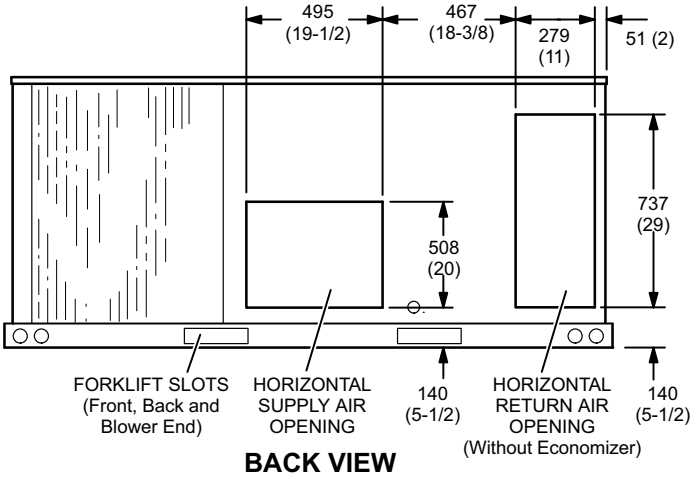
TOP VIEW (Base)



END VIEW



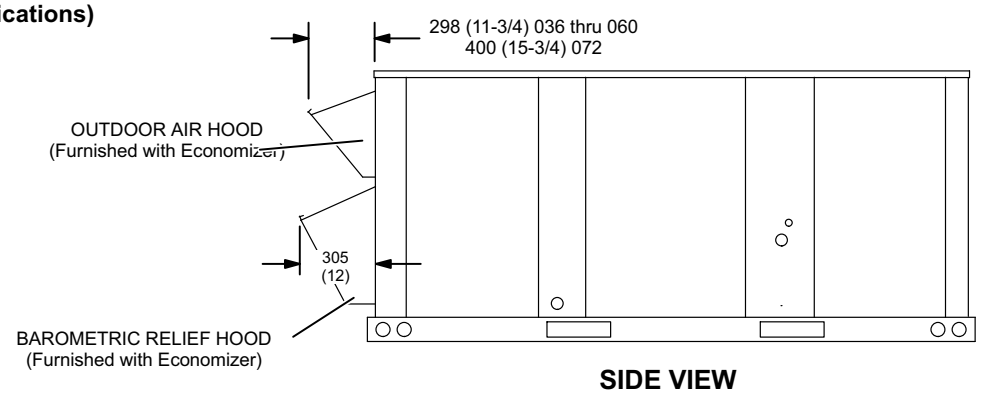
SIDE VIEW



BACK VIEW

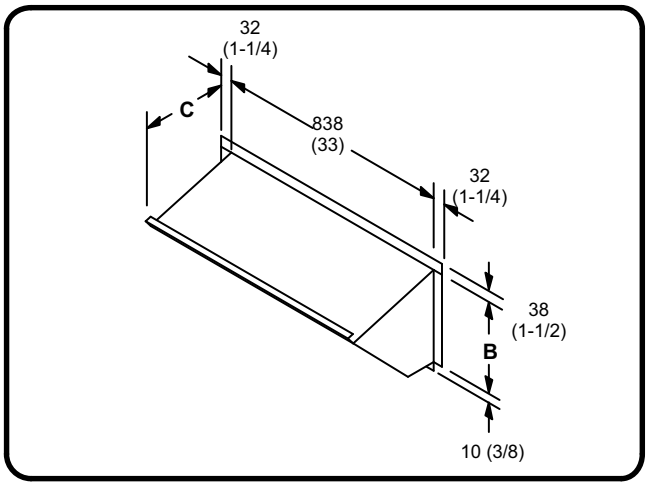
ACCESSORY DIMENSIONS - MM (INCHES)

OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER
(Down-Flow Applications)

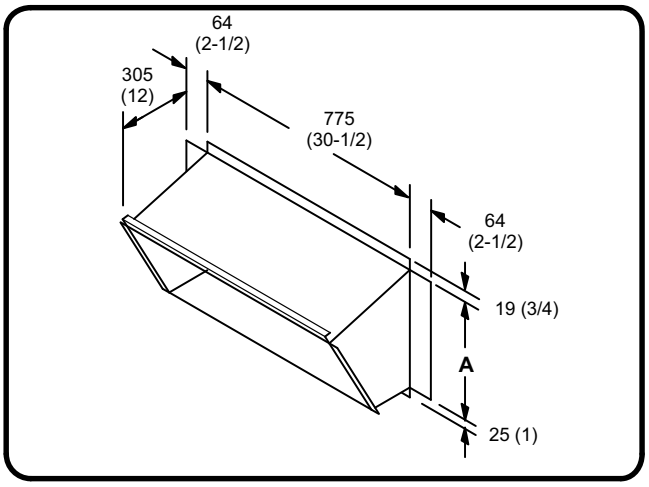


SIDE VIEW

OUTDOOR AIR HOOD FOR ECONOMIZER
(Furnished with Economizer)

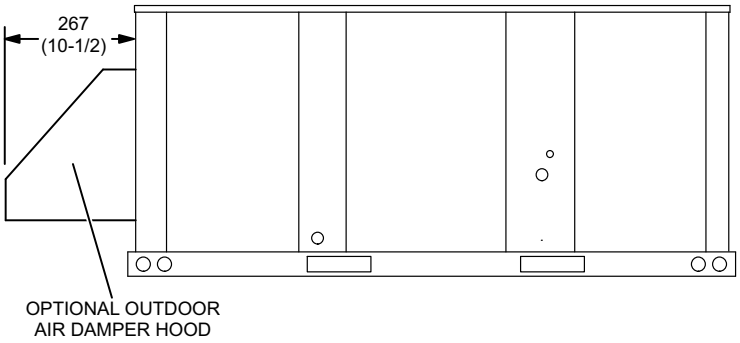


BAROMETRIC RELIEF HOOD FOR ECONOMIZER
(Furnished with Economizer)

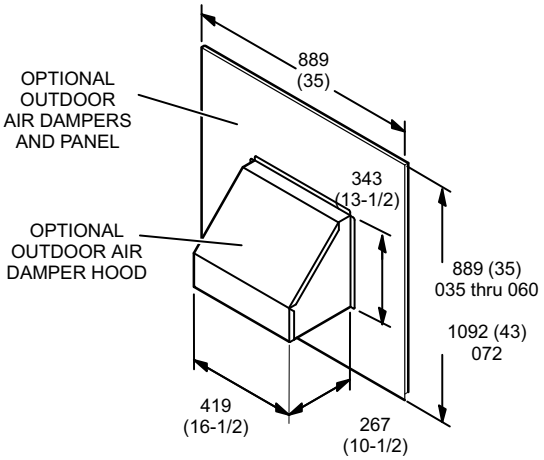


Model No.	A		B		C	
	mm	in.	mm	in.	mm	in.
036, 048	489	19-1/4	330	13	298	11-3/4
060S, 072S	591	23-1/4	432	17	400	15-3/4

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

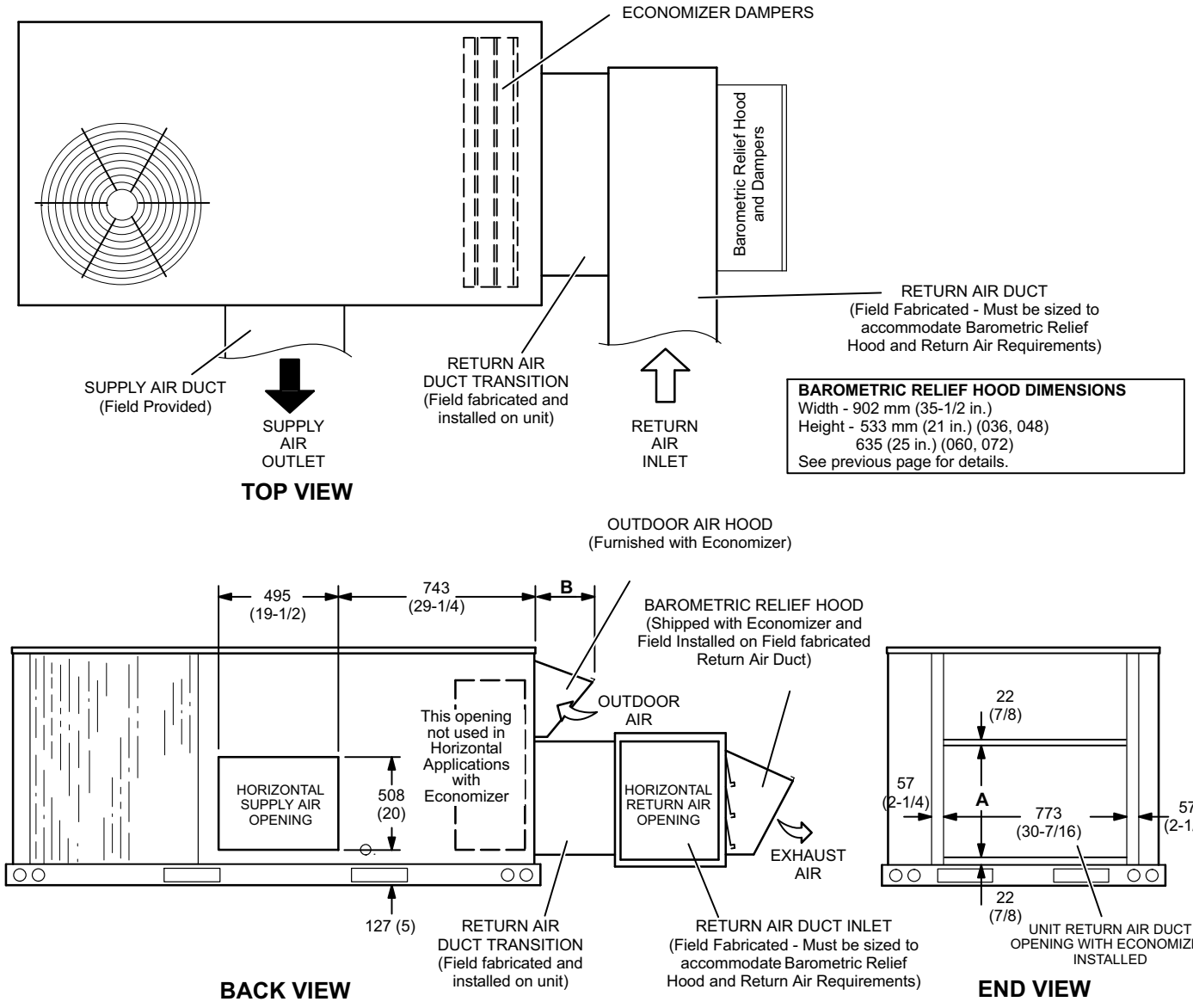


SIDE VIEW



ACCESSORY DIMENSIONS - MM (INCHES)

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

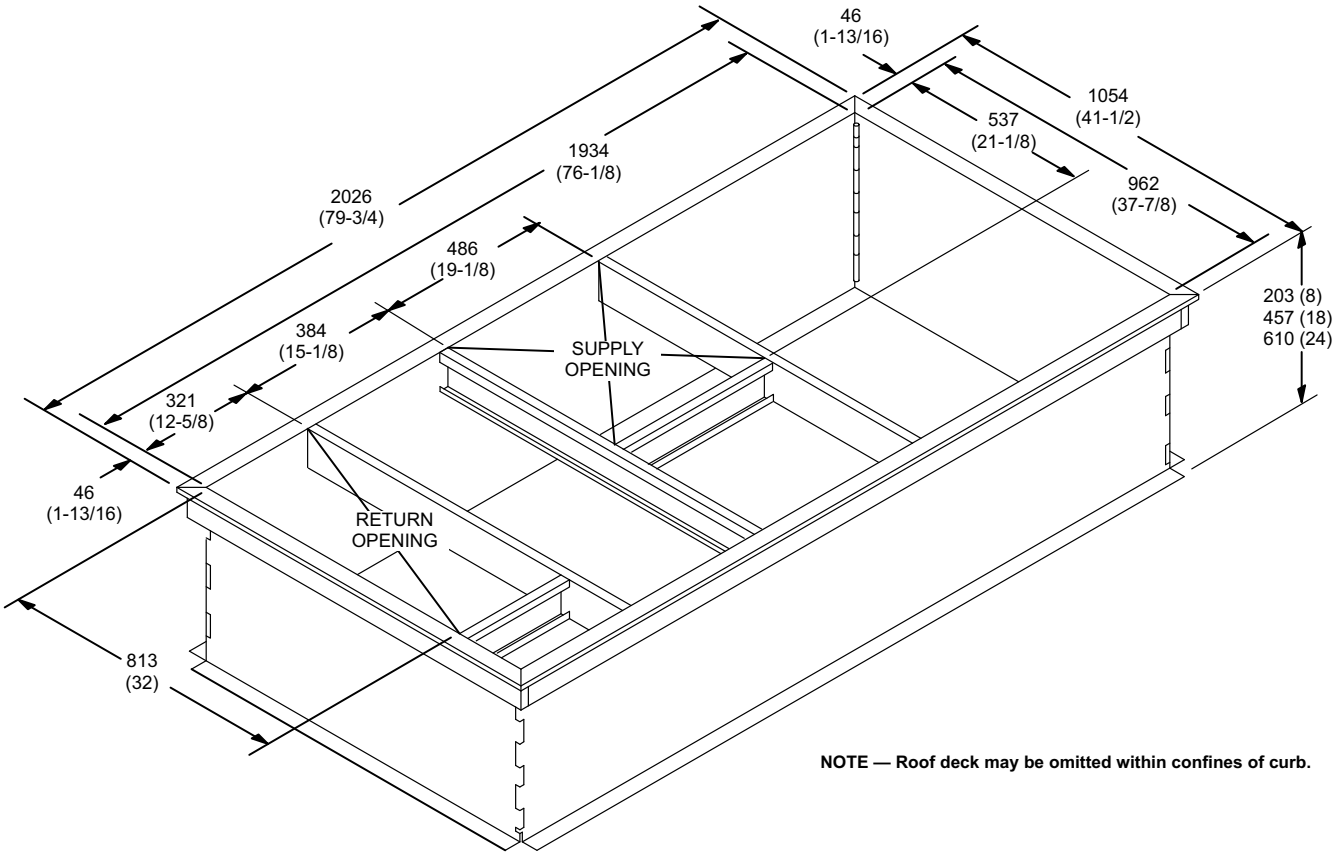


NOTE - Return Air Duct and Transition must be supported.

Model No.	A		B	
	mm	in.	mm	in.
036, 048	476	18-3/4	298	11-3/4
060, 072	572	22-1/2	400	15-3/4

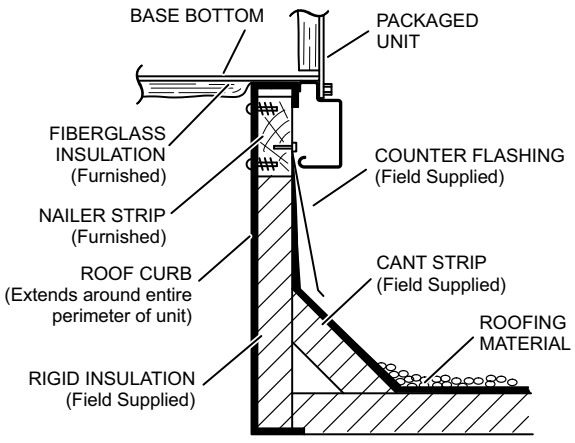
ACCESSORY DIMENSIONS - MM (INCHES)

HINGED ROOF CURBS - DOUBLE DUCT OPENING

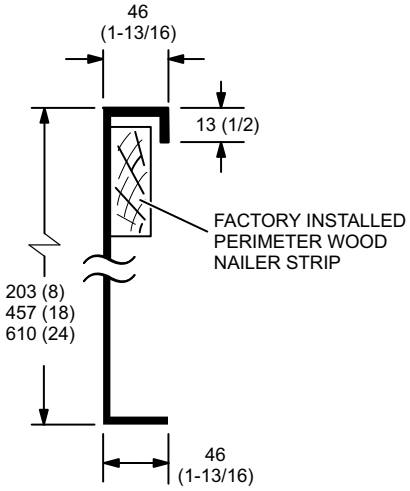


NOTE — Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB

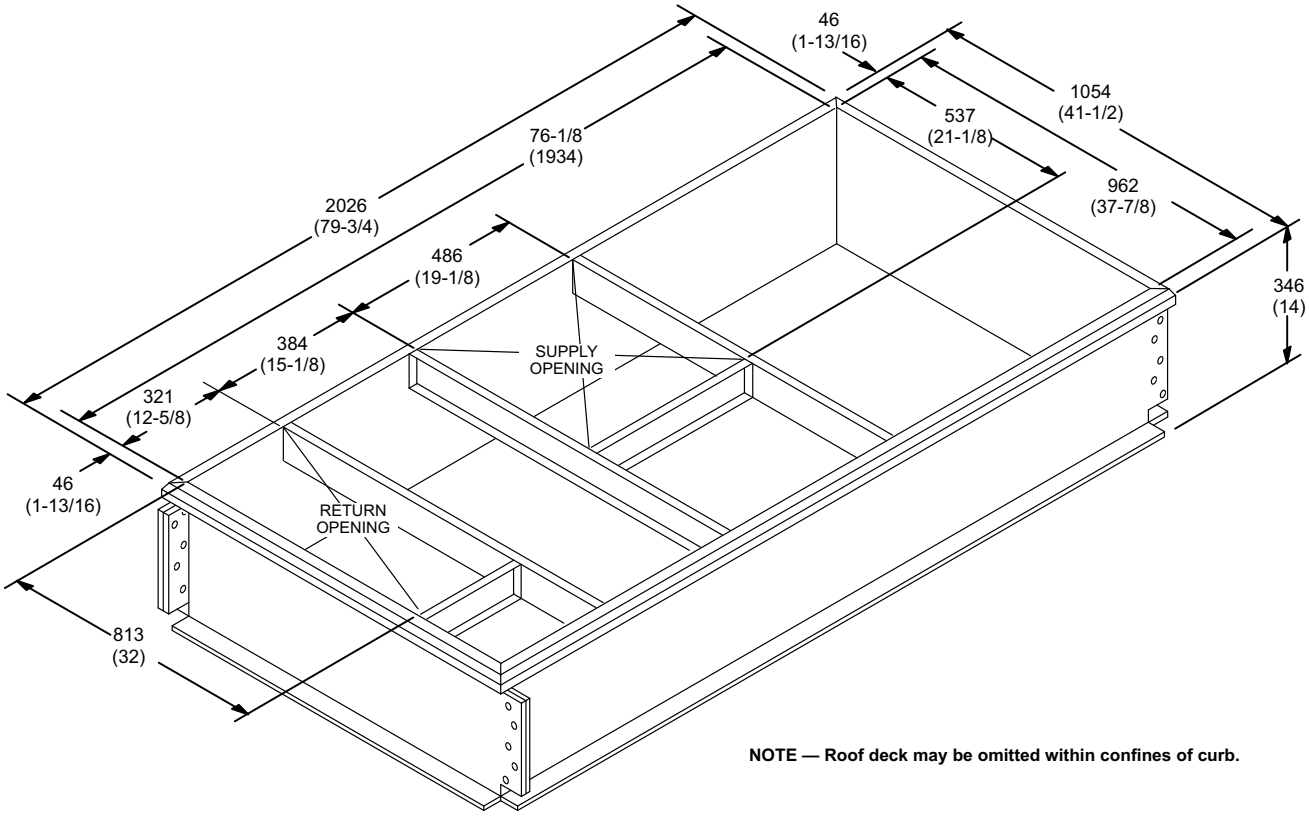


DETAIL ROOF CURB



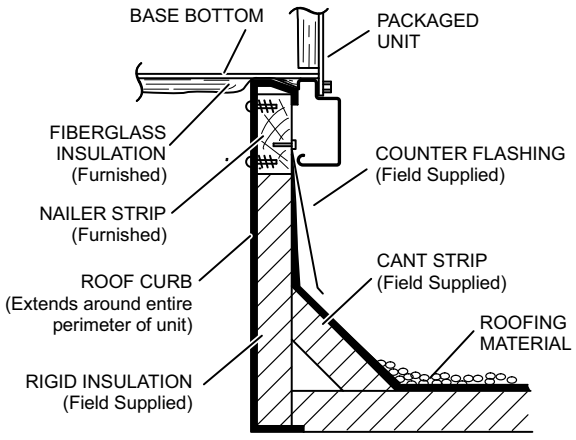
ACCESSORY DIMENSIONS - MM (INCHES)

STANDARD ROOF CURBS - DOUBLE DUCT OPENING

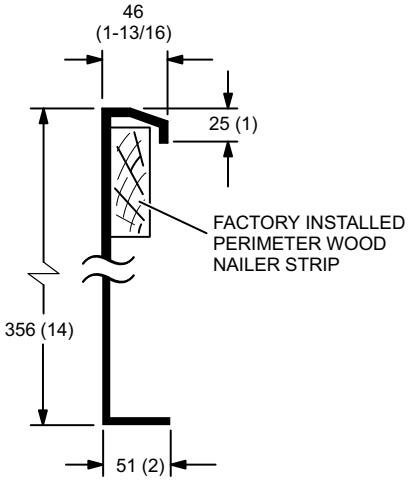


NOTE — Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB

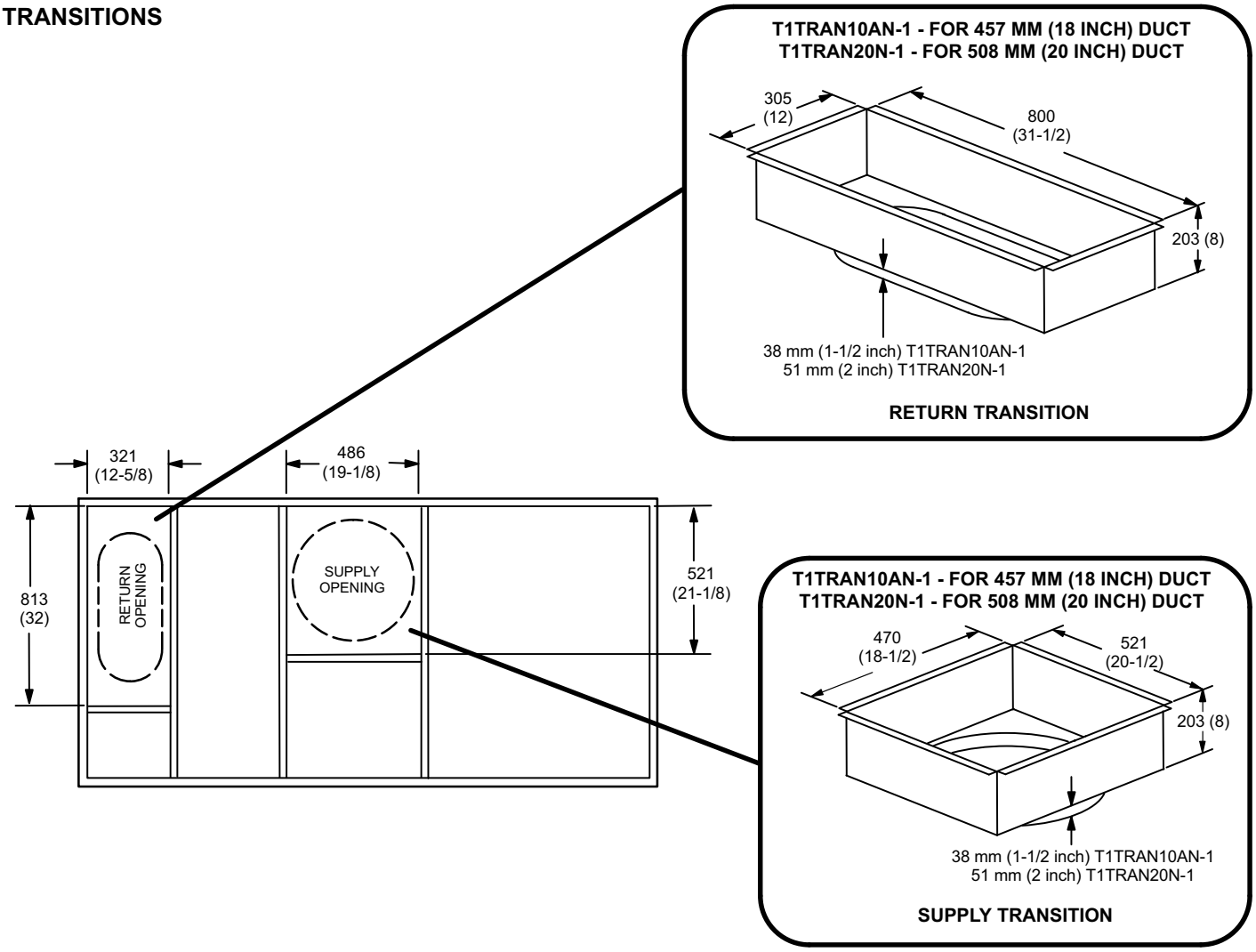


DETAIL ROOF CURB



ACCESSORY DIMENSIONS - INCHES (MM)

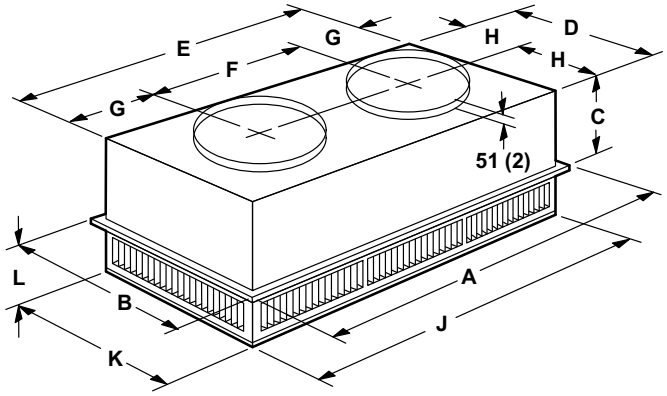
TRANSITIONS



ACCESSORY DIMENSIONS - MM (INCHES)

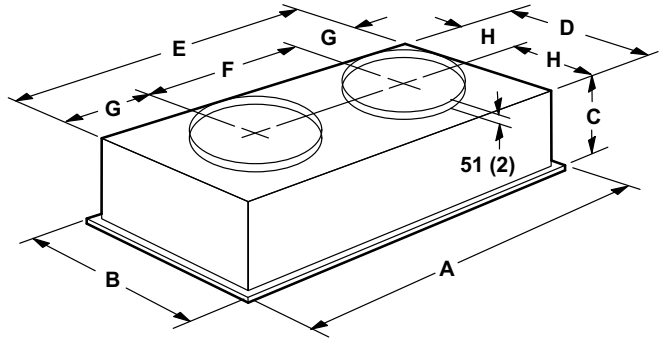
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



Model Number		RTD9-65	RTD11-95
A	mm	1159	1159
	in.	47-5/8	47-5/8
B	in.	23-5/8	29-5/8
	mm	600	752
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

Sections	Description of Change
All	Removed all Basic efficiency models
Features / Benefits	Updated filter information
Electrical Data	Updated all

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