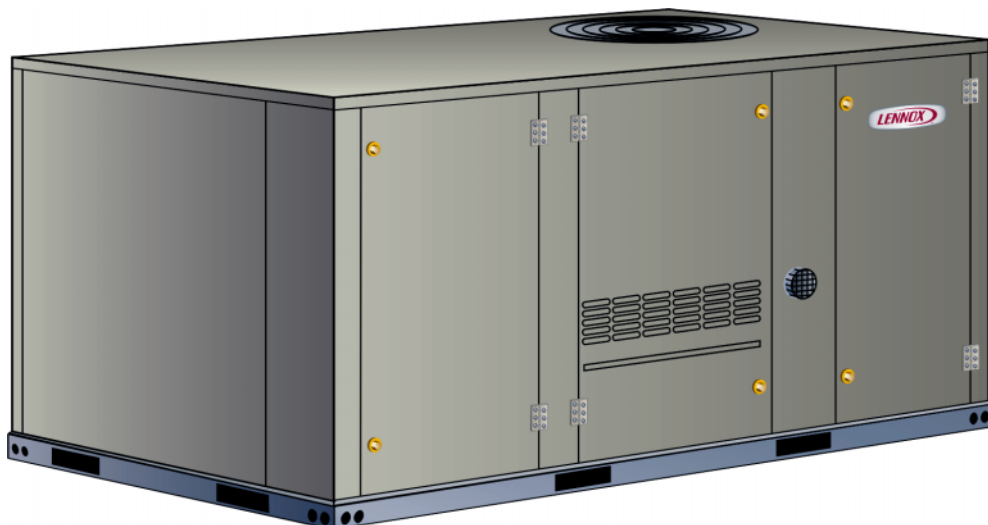




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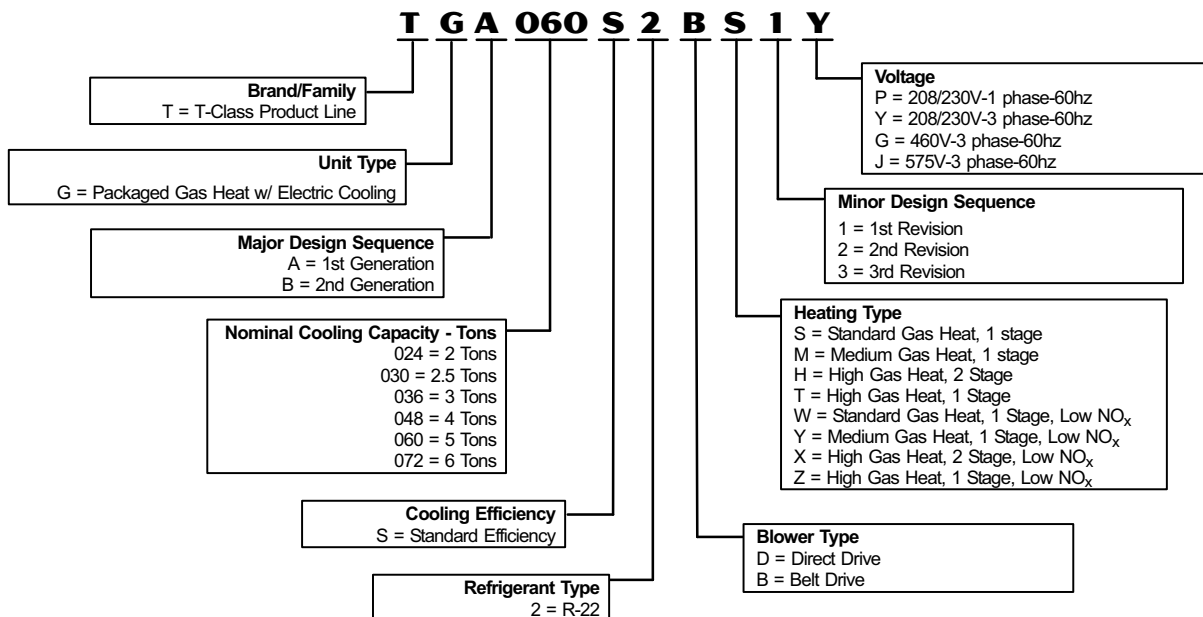


ASHRAE 90.1
COMPLIANT



2 to 6 Tons
Net Cooling Capacity - 23,400 to 72,000 Btuh
Gas Input Heat Capacity - 65,000 to 150,000 Btuh

MODEL NUMBER IDENTIFICATION



CONTENTS

Accessory Air Resistance	Page 22
Blower Performance	Pages 15-21
Cooling Ratings	Pages 13-14
Dimensions	Pages 28-35
Electrical Data	Pages 23-25
Features and Benefits	Pages 2-5
Guide Specifications	Pages 36-42
High Altitude Information	Page 12
Model Number Identification	Page 1
Options / Accessories	Pages 5-7
Specifications	Pages 10-11
Sound Data	Page 23
Temperature Control Systems	Page 26
Unit Clearances	Page 25
Weights	Page 27

FEATURES AND BENEFITS

APPROVALS

ETL and CSA listed.

Efficiency rating verified by GAMA (US) and CSA certified (Canada).

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

2 thru 5 ton models are certified in accordance with the USE certification program, which is based on ARI Standard 210/240-2005.

6 ton models are certified in accordance with the ULE certification program, which is based on ARI Standard 340/360-2004.

All models are ASHRAE 90.1 compliant. ENERGY STAR® certified units are designed to use less energy, help save money on utility bills, and help protect the environment. Standard efficiency models are ENERGY STAR® certified (all models except TGA072S2B).

The ENERGY STAR® Partner of the Year Award signifies that Lennox has made outstanding contributions to design energy efficient units that will lower energy bills, while meeting industry standards for comfort and indoor air quality. Lennox was the first HVAC manufacturer to win this award and has been a four-time recipient since 2003. ISO 9001 Registered Manufacturing Quality System.

All Low NOx models meet the California Nitrogen Oxides (NOx) Standards that apply in the South Coast Air Quality Management District and the San Francisco Bay Area Air Quality Management District.

WARRANTY

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

Limited five years on compressors.

Limited one year all other covered components.

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/Gas Entry

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

Optional Bottom Gas Entry Kit is available.

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

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, ASTM 1153 Standard Specification for Methyl Isobutyl Ketone.

5 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.

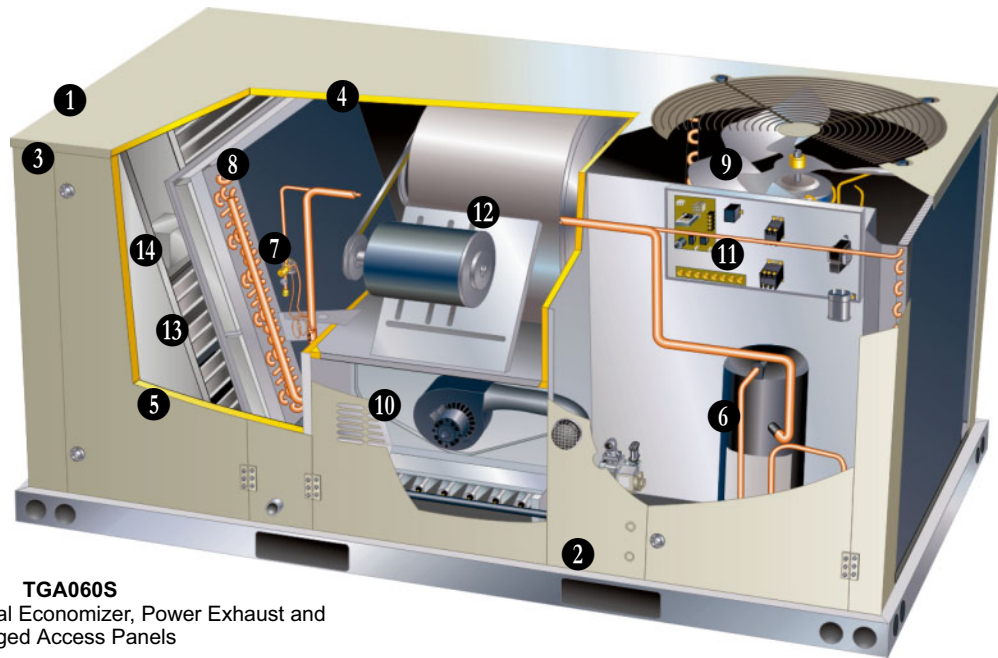
Hail Guards

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

Bottom Gas Entry Kit

Field installed piping kit to facilitate bottom gas entry.

FEATURES AND BENEFITS



TGA060S

Shown With Optional Economizer, Power Exhaust and Hinged Access Panels

COOLING SYSTEM

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

System can operate from 30°F to 125°F without any additional controls.

- 6 Compressor**
Resiliently mounted on rubber grommets for quiet operation. Scroll compressors for high performance, reliability and quiet operation.
- 7 Thermal Expansion Valve**
Assures optimal performance throughout the application range. Removable element head.
- 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.
- Evaporator Coil**
Cross row circuiting with rifled copper tubing optimizes both sensible and latent cooling capacity.
- Condenser Coil**
Two independent formed coils allow separation for cleaning.

Condensate Drain Pan

Plastic pan, sloped to meet drainage requirements of ASHRAE 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 (024, 030, 036 and 048 models) or ball bearings (060 and 072 models), shaft up, wire basket mount.

Outdoor Coil Fan

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 PVC.

Compressor Crankcase Heater

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

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 0°F. A crankcase heater must be installed on the compressor.

FEATURES AND BENEFITS

HEATING SYSTEM

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

Heat Exchanger

Tubular construction, aluminized steel, life cycle tested.

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

- 11 **Electronic Pilot Ignition**

Solid-state electronic spark igniter provides positive direct ignition of burners on each operating cycle. The system permits main gas valve to stay open only when the burners are proven to be lit. Should a loss of flame occur, the gas valve closes, shutting off the gas to the burners. Ignition module has LED to indicate status and aid in troubleshooting.

Watchguard circuit on module automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance service calls. Ignition control is factory installed in the controls section.

Limit Controls

Factory installed, redundant limit controls with fixed temperature setting. Heat limit controls protect heat exchanger and other components from overheating.

Safety Switches

Flame roll-out switch, flame sensor and combustion air inducer proving switch protect system operation.

Low NO_x Models

All models are available in low NO_x versions.

REQUIRED SELECTIONS

Gas Input Choice - Order one:

- 65,000 Btuh Standard Gas Heat, 1 Stage
- 105,000 Btuh Medium Gas Heat, 1 Stage
- 105,000/150,000 Btuh High Gas Heat, 2 Stage
- 150,000 Btuh High Gas Heat, 1 Stage

Standard or Low NO_x

Specify standard gas heat or Low NO_x option.

OPTIONS/ACCESSORIES

Factory Installed

Stainless Steel Heat Exchanger

Required if mixed air temperature is below 45°F.

Field Installed

Combustion Air Intake Extensions

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

Cold Weather Kit

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

LPG/Propane Kits

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

Vertical Vent Extension Kit

Use to exhaust flue gases vertically above unit. Required when unit vent is too close to fresh air intakes per building codes. The vent kit also prevents ice formation on intake louvers.

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 supply or return air section

Commercial Control Systems

L Connection® Network

Complete building automation control system for single or multi-zone applications. Options include local interface, software for local or remote communication, and hardware for networking other control functions. See L Connection Network Engineering Handbook Bulletin for details.

Thermostats

Control system and thermostat options. Aftermarket unit controller options. See Page 26.

12 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).

Direct drive motors are offered on 024, 030, 036, 048 and 060 models.

Belt drive motors are offered on 036, 048, 060 and 072 models and are available in several different sizes to maximize air performance.

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 direct drive or belt drive motor. For belt drive, specify motor horsepower and drive kit number when base unit is ordered.

REQUIRED SELECTIONS

Supply Air Blower

Order one, belt drive or direct drive (See Blower Data Table for specifications).

Order one drive kit, belt drive only, see Drive Kit Specifications Table.

INDOOR AIR QUALITY

Air Filters

Disposable 2 inch filters furnished as standard.

OPTIONS/ACCESSORIES

Indoor Air Quality (CO₂) Sensor

Monitors CO₂ levels, adjusts economizer dampers as needed for Demand Control Ventilation.

ELECTRICAL

REQUIRED SELECTIONS

Voltage Choice

Specify when ordering base unit.

OPTIONS/ACCESSORIES

Field Installed

GFI Service Outlets (2)

115v ground fault circuit interrupter (GFCI) type.

FEATURES AND BENEFITS

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

13 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. Hood furnished

Outdoor Air Hoods are included when economizer is factory installed and are furnished with economizer when ordered for field installation.

Choice of single (factory installed) or differential (optional) enthalpy or temperature 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.

14 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 with Outdoor Air Hood. Fan is 16 in. diameter with 4 fan blades (T1PWRE10A) or 20 in. diameter with 5 blades (T1PWRE10N). Both include a 3/4 hp motor.

NOTE - Not available for 024 and 030 models.

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 8, 14, 18, and 24 inch heights.

Cliplock 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.

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.

OPTIONS / ACCESSORIES

Item	Catalog No.	024	030	036	048	060	072
COOLING SYSTEM							
Condensate Drain Trap	PVC - LTACDKP03/07	37K69	x	x	x	x	x
	Copper - LTACDKC03/07	45K67	x	x	x	x	x
Compressor Crankcase Heater	208/230V-1 or 3 ph - K1CCHT02A-1P	39W04	x	x	x		
	208/230V-1 or 3 ph - T1CCHT01AN1P	95M07				x	x
	460V-3ph - K1CCHT012A-1G	39W05			x		
	460V-3ph - T1CCHT01AN1G	95M08				x	x
	575V-3ph - T1CCHT01AN1J	95M09				x	x
Low Ambient Kit	T1SNSR12AN2	43W08	x	x	x	x	x
Efficiency	Standard		○	○	○	○	○
High Pressure Switch	T1SNSR11A-2	43W02	x	x	x	x	x
Refrigerant Type	R-22		○	○	○	○	○
HEATING SYSTEM							
Bottom Gas Piping Kit	T1GPKT01AN1	19W50	x	x	x	x	x
Cold Weather Kit	208/230V-1 or 3 ph - T1CWKT01AN1Y	19W53	x	x	x	x	x
	460V-3ph - T1CWKT01AN1G	19W54			x	x	x
	575V-3ph - T1CWKT01AN1J	19W62			x	x	x
Combustion Air Intake Extensions	T1EXTN10AN1	19W51	x	x	x	x	x
Gas Heat Input	Standard One-Stage - 65 kBtuh input		○	○	○	○	○
	Medium One-Stage - 105 kBtuh input				○	○	○
	High Two-Stage - 105/150 kBtuh input				○	○	○
	High One-Stage - 150 kBtuh input				○	○	○
LPG/Propane Conversion Kits	For one-stage models - T1PROP10AN1	19W48	x	x	x	x	x
	For two-stage models - T1PROP20AN1	19W49			x	x	x
Stainless Steel Heat Exchanger			○	○	○	○	○
Vertical Vent Extension	C1EXTN20FF1	31W62	x	x	x	x	x
BLOWER - SUPPLY AIR							
Motors	Direct Drive - 0.25 hp		○	○			
	Direct Drive - 0.5 hp				○	○	
	Direct Drive - 0.75 hp					○	
	Belt Drive - 1.5 hp Standard Efficiency				○	○	○
	Belt Drive - 1 2 hp Standard Efficiency				○	○	○
Drive Kits See Blower Data Tables for selection	Drive Kit # 1 - T1DRKT001-1 - 673-1010 rpm	20W81			⊗		
	Drive Kit # 2 - T1DRKT002-1 - 745-1117 rpm	20W82				⊗	
	Drive Kit # 3 - T1DRKT003-1 - 833-1250 rpm	20W83					⊗
	Drive Kit # 4 - T1DRKT004-1 - 968-1340 rpm	20W84					
	Drive Kit # 5 - T1DRKT005-1 - 897-1346 rpm	20W85			⊗		
	Drive Kit # 6 - T1DRKT006-1 - 1071-1429 rpm	20W86				⊗	
	Drive Kit # 7 - T1DRKT007-1 - 1212-1548 rpm	20W87					⊗
	Drive Kit # 8 - T1DRKT008-1 - 1193-1591 rpm	20W88					
CABINET							
Coil Guards	T1GARD20A-1	17W87	x	x	x	x	
	T1GARD20N-1	17W88					x
Corrosion Protection			○	○	○	○	○
Hail Guards	T1GARD10A-1	17W89	x	x	x	x	
	T1GARD10N-1	17W90					x
Hinged Access Panels			○	○	○	○	○

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

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

○ - Configure to Order (Factory Installed)

x - Field Installed.

¹ 2 hp blower motor is not available for 208/230V-1ph applications.

OPTIONS / ACCESSORIES

Item	Catalog No.	024	030	036	048	060	072
CONTROLS							
Dirty Filter Switch	COSWCH00AE-1 30K48	x	x	x	x	x	x
Smoke Detector - Supply and Return (order 2)	T1SNSR41AN1 39W16	x	x	x	x	x	x
ELECTRICAL							
Voltage 60 hz	208/230V - 1 phase	○	○	○	○	○	
	208/230V - 3 phase			○	○	○	○
	460V - 3 phase			○	○	○	○
	575V - 3 phase			○	○	○	○
Disconnect	See Electric Data Tables for usage	x	x	x	x	x	x
GFI Service Outlets	LTAGFIK10/15 74M70	x	x	x	x	x	x
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	x	x
Economizer Controls							
Differential Enthalpy Sensor	T1SNSR60AN1 17W71	x	x	x	x	x	x
Single Temperature Control	TASEK10/15 76M37	x	x	x	x	x	x
Differential Temperature Control	Order 2 - TASEK10/15 76M37	x	x	x	x	x	x
OUTDOOR AIR							
Outdoor Air Dampers							
Damper Section - Manual, Includes Outdoor Air Hood	T1DAMP11A-1 16W88	x	x	x	x	x	
	T1DAMP11N-1 16W91						x
Damper Motorized Kit - Order Manual Out- door Air Damper Separately	T1DAMP21AN1 16W92	x	x	x	x	x	x
POWER EXHAUST FAN							
Standard Static	208/230V-1 or 3 ph - T1PWRE10A-1P 17W39			x	x	x	
	460V-3ph - T1PWRE10A-1G 17W40			x	x	x	
	575V-3ph - T1PWRE10A-1J 17W41			x	x	x	
	208/230V-1 or 3 ph - T1PWRE10N-1P 17W42						x
	460V-3ph - T1PWRE10N-1G 17W43						x
	575V-3ph - T1PWRE10N-1J 17W44						x
INDOOR AIR QUALITY							
Indoor Air Quality (CO₂) Sensors							
Sensor - white case CO ₂ display	C0SNSR50AE1L 77N39	x	x	x	x	x	x
Sensor - duct mount, black case, no display	C0SNSR53AE1L 87N54	x	x	x	x	x	x
CO ₂ Sensor Duct Mounting Kit	C0MISC19AE1- 85L43	x	x	x	x	x	x

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

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

○ - Configure to Order (Factory Installed)

X - Field Installed.

OPTIONS / ACCESSORIES

Item	Catalog No.	024	030	036	048	060	072
CEILING DIFFUSERS							
Step-Down - Order one	RTD9-65-R	27G87	x	x	x	x	
	RTD11-95	29G04					x
	(Canada Only) RTD11-95S	13K61					x
Flush - Order one	FD9-65-R	27G86	x	x	x	x	
	FD11-95	29G08					x
	(Canada Only) FD11-95S	13K56					x
Transitions (Supply and Return) - Order one	T1TRAN10AN1	17W53	x	x	x	x	
	T1TRAN20N-1	17W54					x
ROOF CURBS - DOWN-FLOW							
Cliplock							
8 in. height	T1CURB23AN1	16W93	x	x	x	x	x
14 in. height	T1CURB20AN1	16W94	x	x	x	x	x
18 in. height	T1CURB21AN1	16W95	x	x	x	x	x
24 in. height	T1CURB22AN1	16W96	x	x	x	x	x
Hinged							
8 in. height	T1CURB30AN1	17W46	x	x	x	x	x
18 in. height	T1CURB32AN1	17W47	x	x	x	x	x
24 in. height	T1CURB33AN1	17W48	x	x	x	x	x
Standard							
14 in. height	T1CURB10AN1	13W27	x	x	x	x	x

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

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

○ - Configure to Order (Factory Installed)

X - Field Installed.

SPECIFICATIONS - DIRECT DRIVE BLOWER
2 - 2.5 TON

General Data		Nominal Tonnage	2 Ton	2.5 Ton
		Model No.	TGA024S2D	TGA030S2D
		Efficiency Type	Standard	Standard
Cooling Performance	Gross Cooling Capacity - Btuh		24,000	30,000
	¹ Net Cooling Capacity - Btuh		23,400	29,400
	ARI Rated Air Flow - cfm		840	1000
	² Sound Rating Number (dB)		75	75
	Total Unit Power - kW		2	2.5
		¹ SEER (Btuh/Watt)		13.5
	¹ EER (Btuh/Watt)		12	11.8
Refrigerant	Type		R-22	R-22
	Charge Furnished		7 lbs. 0 oz.	7 lbs. 0 oz.
Gas Heating Options - See Page 12			Standard (1 Stage)	
Compressor Type (one per unit)			Scroll	Scroll
Outdoor Coil	Net face area - sq. ft.		15.6	15.6
	Tube diameter - in.		3/8	3/8
	Number of rows		1	1
	Fins per inch		20	20
Outdoor Coil Fan	Motor HP		1/4	1/4
	Motor rpm		825	825
	Total motor watts		250	250
	Diameter - in. / No. of blades		24 - 3	24 - 3
	Total air volume - cfm		3700	3700
Indoor Coil	Net face area - sq. ft.		7.78	7.78
	Tube diameter - in.		3/8	3/8
	Number of rows		3	3
	Fins per inch		14	14
	Drain Connection (no. and size) - in.		(1) 3/4 npt	(1) 3/4 npt
	Expansion device type		Balanced Port Thermostatic Expansion Valve, removeable power head	
Indoor Blower	Nominal Motor HP		.25	.25
	Wheel nominal diameter x width - in.		10 x 10	10 x 10
Filters	Type		Disposable	
	Number and size - in.		(4) 16 x 20 x 2	
Electrical Characteristics - 60 Hz			208/230V 1 phase	208/230V 1 phase

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

¹ Certified in accordance with the USE certification program, which is based on ARI Standard 210/240; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

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

SPECIFICATIONS - DIRECT DRIVE BLOWER
3 - 5 TON

General Data		Nominal Tonnage	3 Ton	4 Ton	5 Ton
		Model No.	TGA036S2D	TGA048S2D	TGA060S2D
		Efficiency Type	Standard	Standard	Standard
Cooling Performance	Gross Cooling Capacity - Btuh		38,000	50,000	62,000
	¹ Net Cooling Capacity - Btuh		36,600	48,000	59,000
	ARI Rated Air Flow - cfm		1200	1600	1800
	² Sound Rating Number (dB)		75	75	82
	Total Unit Power - kW		3.2	4.4	5.4
		¹ SEER (Btuh/Watt)		13.0	13.0
	¹ EER (Btuh/Watt)		11.6	11.5	11.0
Refrigerant	Type		R-22	R-22	R-22
	Charge Furnished		7 lbs. 12 oz.	9 lbs. 12 oz.	11 lbs. 5 oz.
Gas Heating Options - See Page 12			Standard or Medium (1 Stage)	Standard, Medium, or High (1 or 2 stage)	
Compressor Type (one per unit)			Scroll	Scroll	Scroll
Outdoor Coil	Net face area - sq. ft.		15.6	15.6	15.6
	Tube diameter - in.		3/8	3/8	3/8
	Number of rows		1.5	2	2
	Fins per inch		20	20	20
Outdoor Coil Fan	Motor HP		1/4	1/4	1/3
	Motor rpm		825	825	1075
	Total motor watts		250	250	370
	Diameter - in. / No. of blades		24 - 3	24 - 3	24 - 3
	Total air volume - cfm		3500	3300	4300
Indoor Coil	Net face area - sq. ft.		7.78	7.78	7.78
	Tube diameter - in.		3/8	3/8	3/8
	Number of rows		3	3	4
	Fins per inch		14	14	14
	Drain Connection (no. and size) - in.		(1) 3/4 npt	(1) 3/4 npt	(1) 3/4 npt
	Expansion device type		Balanced Port Thermostatic Expansion Valve, removeable power head		
Indoor Blower	Nominal Motor HP		.5	.5	.75
	Wheel nominal diameter x width - in.		10 x 10	10 x 10	11 x 10
Filters	Type		Disposable		
	Number and size - in.		(4) 16 x 20 x 2		
Electrical Characteristics - 60 Hz			208/230V 1 phase	208/230V 1 phase	208/230V 1 phase
			208/230V, 460V & 575V 3 phase	208/230V, 460V & 575V 3 phase	208/230V, 460V & 575V 3 phase

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

¹ Certified in accordance with the USE certification program, which is based on ARI Standard 210/240; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

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

SPECIFICATIONS - BELT DRIVE BLOWER
3 - 6 TON

General Data		Nominal Tonnage	3 Ton	4 Ton	5 Ton	6 Ton
	Model No.		TGA036S2B	TGA048S2B	TGA060S2B	TGA072S2B
	Efficiency Type		Standard	Standard	Standard	Standard
Cooling Performance	Gross Cooling Capacity - Btuh		38,000	50,000	62,000	75,000
	Net Cooling Capacity - Btuh		¹ 36,600	¹ 48,000	¹ 59,000	² 72,000
	ARI Rated Air Flow - cfm		1200	1600	2000	2250
	³ Sound Rating Number (dB)		75	75	82	82
	Total Unit Power - kW		3.2	4.4	5.4	7.1
	SEER (Btuh/Watt)		¹ 13.0	¹ 13.0	¹ 13.0	- - -
	EER (Btuh/Watt)		¹ 11.6	¹ 11.5	¹ 11.0	² 10.1
Refrigerant	Type		R-22	R-22	R-22	R-22
	Charge Furnished		7 lbs. 12 oz.	9 lbs. 12 oz.	11 lbs. 5 oz.	11 lbs. 4 oz.
Gas Heating Options - See Page 12			Standard or Med. (1 Stage)	Standard, Medium, or High (1 or 2 stage)		
Compressor Type (one per unit)			Scroll	Scroll	Scroll	Scroll
Outdoor Coil	Net face area - sq. ft.		15.6	15.6	15.6	19.27
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		1.5	2	2	1.4
	Fins / inch		20	20	20	20
Outdoor Coil Fan	Motor HP		1/4	1/4	1/3	1/3
	Motor rpm		825	825	1075	1075
	Total motor watts		250	250	370	405
	Diameter - in. / No. of blades		24 - 3	24 - 3	24 - 3	24 - 3
	Total air volume - cfm		3500	3300	4300	4800
Indoor Coil	Net face area - sq. ft.		7.78	7.78	7.78	9.7
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		3	3	4	3
	Fins per inch		14	14	14	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			
⁴ Indoor Blower & Drive Selection	Nominal Motor HP		1.5 hp, ⁵ 2 hp	1.5 hp, ⁵ 2 hp	1.5 hp, ⁵ 2 hp	1.5 hp, 2 hp
	Maximum Usable Motor HP		1.72 hp, 2.3 hp	1.72 hp, 2.3 hp	1.72 hp, 2.3 hp	1.72 hp, 2.3 hp
	Wheel nominal diameter x width - in.		10 x 10	10 x 10	10 x 10	10 x 10
	Available Drive Kits		Drive Kit #1 673 - 1010 rpm Drive Kit #5 897 - 1346 rpm	Drive Kit #2 745 - 1117 rpm Drive Kit #6 1071 - 1429 rpm	Drive Kit #3 833 - 1250 rpm Drive Kit #7 1212 - 1548 rpm	Drive Kit #4 968 - 1340 rpm Drive Kit #8 1193 - 1591 rpm
Filters	Type		Disposable		Disposable	Disposable
	Number and size - in.		(4) 16 x 20 x 2		(4) 16 x 20 x 2	(4) 20 x 20 x 2
Electrical Characteristics - 60 Hz			208/230V 1 phase	208/230V, 1 phase	208/230V 1 phase	208/230V, 460V & 575V 3 phase
			208/230V, 460V & 575V 3 phase	208/230V 460V & 575V 3 phase	208/230V, 460V & 575V 3 phase	

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

¹ Certified in accordance with the USE certification program, which is based on ARI Standard 210/240; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

² Certified in accordance with the ULE certification program, which is based on ARI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

³ Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.

⁴ Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor hp required. Maximum usable hp of motors furnished are shown. In Canada, nominal motor hp is also maximum usable motor hp output. If motors of comparable hp are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

⁵ 2 hp blower motor is not available for 208/230V-1ph applications.

SPECIFICATIONS - GAS HEAT

Model No.	TGA024, TGA030	TGA036, TGA048, TGA060, TGA072	TGA048, TGA060, TGA072		
Heat Input Type	Standard (1 Stage)	Standard (1 Stage)	Medium (1 Stage)	High (1 Stage)	High (2 Stage)
Input - Btuh First Stage	65,000	65,000	105,000	150,000	105,000
Second Stage	---	---	---	---	150,000
Output - Btuh First Stage	52,000	52,000	84,000	120,000	85,500
Second Stage	---	---	---	---	120,000
Temperature Rise Range	35 - 65°F	20 - 50°F	30 - 75°F	40 - 85°F	40 - 85°F
¹ AFUE	80%	80%	80%	80%	80%
Thermal Efficiency	80%	80%	80%	80%	81.5%/80%
Gas Supply Connections	1/2 in. NPT				
Rec. Gas Supply Pressure - Natural / LPG	7 in. w.g. / 11 in. w.g.				

¹ Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and FTC labeling regulations.

HIGH ALTITUDE DERATE

Heat Input Type	Altitude Feet	Gas Manifold Pressure in. w.g.		Input Rate (Btuh)
		Natural Gas	LPG/Propane	
Standard (1 stage)	2001 - 4500	3.0	8.7	60,000
Medium (1 stage)	2001 - 4500	3.0	8.7	97,000
High (1 stage)	2001 - 4500	3.0	8.7	138,000
High (2 stage)	2001 - 4500	3.0/1.7	8.7/5.5	138,000/ 105,000

NOTE - Units may be installed at altitudes up to 2000 ft. above sea level without any modifications.
 At altitudes above 2000 ft. units must be derated to match information in the table shown.
 At altitudes above 4500 ft. unit must be derated 2% for each 1000 ft. above sea level.

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

COOLING RATINGS

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

2 TON STANDARD EFFICIENCY - COOLING CAPACITY

TGA024S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			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		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	640	300	22.4	6.6	1.29	.71	.85	.99	21.6	6.3	1.46	.72	.87	1.00	20.8	6.1	1.65	.73	.88	1.00	19.8	5.8	1.88	.75	.91	1.00
	800	380	23.4	6.9	1.29	.77	.93	1.00	22.5	6.6	1.46	.78	.96	1.00	21.7	6.4	1.65	.80	.98	1.00	20.7	6.1	1.88	.82	.99	1.00
	960	455	24.2	7.1	1.29	.83	1.00	1.00	23.5	6.9	1.46	.85	1.00	1.00	22.7	6.7	1.66	.87	1.00	1.00	21.7	6.4	1.88	.89	1.00	1.00
67°F (19°C)	640	300	24.0	7.0	1.29	.56	.69	.81	23.2	6.8	1.46	.56	.69	.83	22.2	6.5	1.65	.57	.71	.85	21.2	6.2	1.88	.58	.73	.87
	800	380	25.0	7.3	1.29	.59	.74	.90	24.0	7.0	1.46	.60	.76	.92	23.0	6.7	1.66	.61	.77	.94	22.0	6.4	1.88	.62	.79	.97
	960	455	25.6	7.5	1.29	.62	.80	.98	24.6	7.2	1.46	.63	.82	.99	23.6	6.9	1.66	.65	.84	1.00	22.5	6.6	1.88	.66	.86	1.00
71°F (22°C)	640	300	25.8	7.6	1.29	.42	.54	.66	24.9	7.3	1.46	.42	.54	.67	23.9	7.0	1.66	.42	.55	.68	22.8	6.7	1.88	.42	.56	.70
	800	380	26.7	7.8	1.29	.43	.58	.71	25.7	7.5	1.46	.43	.58	.73	24.6	7.2	1.66	.44	.59	.75	23.5	6.9	1.88	.44	.60	.77
	960	455	27.4	8.0	1.29	.44	.61	.78	26.3	7.7	1.46	.45	.62	.80	25.2	7.4	1.66	.45	.63	.82	24.0	7.0	1.88	.46	.65	.84

2.5 TON STANDARD EFFICIENCY - COOLING CAPACITY

TGA030S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			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		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	800	380	28.0	8.2	1.71	.71	.85	.99	26.9	7.9	1.93	.72	.87	1.00	25.8	7.6	2.18	.73	.89	1.00	24.6	7.2	2.46	.74	.91	1.00
	1000	470	29.3	8.6	1.72	.76	.93	1.00	28.1	8.2	1.94	.78	.96	1.00	27.0	7.9	2.19	.80	.98	1.00	25.7	7.5	2.46	.81	1.00	1.00
	1200	565	30.4	8.9	1.72	.82	1.00	1.00	29.3	8.6	1.95	.84	1.00	1.00	28.2	8.3	2.19	.86	1.00	1.00	27.1	7.9	2.47	.89	1.00	1.00
67°F (19°C)	800	380	30.1	8.8	1.72	.55	.68	.81	28.9	8.5	1.94	.56	.69	.83	27.7	8.1	2.19	.57	.70	.85	26.4	7.7	2.47	.57	.72	.87
	1000	470	31.3	9.2	1.72	.58	.73	.89	30.0	8.8	1.95	.59	.75	.92	28.7	8.4	2.20	.60	.77	.94	27.3	8.0	2.48	.61	.79	.97
	1200	565	32.1	9.4	1.73	.62	.80	.97	30.8	9.0	1.95	.63	.82	.99	29.4	8.6	2.20	.64	.84	1.00	28.0	8.2	2.48	.65	.86	1.00
71°F (22°C)	800	380	32.4	9.5	1.73	.41	.53	.65	31.1	9.1	1.95	.42	.54	.66	29.8	8.7	2.20	.42	.55	.68	28.4	8.3	2.48	.42	.56	.69
	1000	470	33.5	9.8	1.73	.42	.57	.71	32.2	9.4	1.96	.43	.58	.73	30.8	9.0	2.21	.43	.59	.74	29.3	8.6	2.49	.44	.60	.76
	1200	565	34.3	10.1	1.73	.44	.60	.77	32.9	9.6	1.96	.44	.62	.79	31.5	9.2	2.21	.45	.63	.81	29.9	8.8	2.49	.45	.64	.84

3 TON STANDARD EFFICIENCY - COOLING CAPACITY

TGA036S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			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		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	960	455	35.6	10.4	2.17	.69	.83	.97	34.1	10.0	2.44	.70	.85	.99	32.7	9.6	2.74	.71	.87	1.00	31.1	9.1	3.08	.73	.90	1.00
	1200	565	37.1	10.9	2.18	.74	.92	1.00	35.6	10.4	2.45	.76	.94	1.00	34.1	10.0	2.75	.78	.96	1.00	32.6	9.6	3.09	.80	.99	1.00
	1440	680	38.5	11.3	2.19	.80	.98	1.00	37.0	10.8	2.46	.82	1.00	1.00	35.6	10.4	2.76	.84	1.00	1.00	34.2	10.0	3.10	.87	1.00	1.00
67°F (19°C)	960	455	38.2	11.2	2.19	.54	.66	.79	36.6	10.7	2.45	.55	.67	.81	35.0	10.3	2.76	.55	.69	.83	33.4	9.8	3.09	.56	.70	.85
	1200	565	39.6	11.6	2.20	.57	.72	.88	38.0	11.1	2.47	.58	.73	.90	36.3	10.6	2.77	.59	.75	.92	34.6	10.1	3.10	.60	.77	.95
	1440	680	40.7	11.9	2.21	.60	.77	.95	39.0	11.4	2.47	.61	.79	.97	37.2	10.9	2.78	.62	.82	.99	35.4	10.4	3.11	.64	.84	1.00
71°F (22°C)	960	455	41.0	12.0	2.21	.41	.52	.64	39.4	11.5	2.48	.41	.53	.65	37.7	11.0	2.78	.41	.54	.66	36.0	10.6	3.12	.41	.54	.67
	1200	565	42.5	12.5	2.22	.42	.55	.69	40.8	12.0	2.49	.42	.56	.71	39.0	11.4	2.79	.42	.57	.72	37.1	10.9	3.13	.43	.58	.74
	1440	680	43.5	12.7	2.23	.43	.59	.75	41.7	12.2	2.50	.43	.60	.77	39.8	11.7	2.80	.44	.61	.79	37.9	11.1	3.13	.44	.63	.81

4 TON STANDARD EFFICIENCY - COOLING CAPACITY

TGA048S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			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		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1280	605	47.1	13.8	2.95	.68	.82	.98	45.4	13.3	3.31	.69	.84	.99	43.5	12.7	3.71	.70	.86	1.00	41.5	12.2	4.17	.71	.89	1.00
	1600	755	48.9	14.3	2.97	.73	.91	1.00	47.2	13.8	3.33	.74	.94	1.00	45.3	13.3	3.73	.76	.96	1.00	43.3	12.7	4.19	.79	.98	1.00
	1920	905	50.6	14.8	2.99	.79	.98	1.00	48.9	14.3	3.34	.81	1.00	1.00	47.1	13.8	3.74	.83	1.00	1.00	45.2	13.2	4.21	.86	1.00	1.00
67°F (19°C)	1280	605	50.2	14.7	2.98	.53	.65	.78	48.4	14.2	3.34	.54	.66	.80	46.4	13.6	3.74	.54	.67	.82	44.3	13.0	4.20	.55	.69	.85
	1600	755	51.9	15.2	3.00	.56	.70	.88	50.0	14.7	3.36	.57	.72	.90	47.9	14.0	3.76	.58	.74	.92	45.7	13.4	4.22	.59	.76	.95
	1920	905	53.1	15.6	3.02	.59	.77	.96	51.1	15.0	3.37	.60	.79	.97	49.0	14.4	3.77	.61	.81	.99	46.7	13.7	4.23	.63	.83	1.00
71°F (22°C)	1280	605	53.6	15.7	3.02	.40	.51	.63	51.7	15.2	3.38	.40	.52	.64	49.6	14.5	3.78	.40	.53	.65	47.4	13.9	4.24	.40	.53	.66
	1600	755	55.3	16.2	3.04	.41	.55	.68	53.3	15.6	3.40	.41	.55	.70	51.1	15.0	3.80	.42	.56	.71	48.7	14.3	4.26	.42	.58	.73
	1920	905	56.4	16.5	3.06	.42	.58	.74	54.3	15.9	3.41	.43	.59	.76	52.1	15.3	3.82	.43	.60	.78	49.6	14.5	4.28	.43	.62	.81

COOLING RATINGS

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

5 TON STANDARD EFFICIENCY - COOLING CAPACITY

TGA060S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			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		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1600	755	59.7	17.5	3.65	.70	.84	.99	57.4	16.8	4.10	.71	.86	1.00	55.0	16.1	4.63	.72	.89	1.00	52.4	15.4	5.26	.74	.91	1.00
	2000	945	62.1	18.2	3.68	.76	.93	1.00	59.7	17.5	4.13	.77	.96	1.00	57.3	16.8	4.66	.79	.98	1.00	54.8	16.1	5.29	.81	1.00	1.00
	2400	1135	64.3	18.8	3.70	.82	1.00	1.00	62.1	18.2	4.15	.84	1.00	1.00	59.7	17.5	4.68	.86	1.00	1.00	57.3	16.8	5.31	.89	1.00	1.00
67°F (19°C)	1600	755	63.5	18.6	3.70	.55	.67	.81	61.1	17.9	4.15	.55	.69	.83	58.5	17.1	4.68	.56	.70	.85	55.7	16.3	5.30	.57	.72	.87
	2000	945	65.6	19.2	3.72	.58	.73	.90	63.0	18.5	4.16	.59	.75	.92	60.3	17.7	4.69	.60	.77	.94	57.4	16.8	5.32	.61	.79	.97
	2400	1135	67.0	19.6	3.73	.62	.80	.98	64.3	18.8	4.18	.63	.82	.99	61.6	18.1	4.71	.64	.84	1.00	58.7	17.2	5.33	.65	.87	1.00
71°F (22°C)	1600	755	67.7	19.8	3.74	.41	.53	.65	65.0	19.0	4.18	.41	.54	.66	62.3	18.3	4.72	.41	.55	.68	59.4	17.4	5.34	.42	.56	.69
	2000	945	69.6	20.4	3.75	.42	.57	.71	66.8	19.6	4.20	.43	.58	.73	64.0	18.8	4.72	.43	.59	.74	60.9	17.8	5.35	.43	.60	.77
	2400	1135	70.9	20.8	3.77	.44	.61	.77	68.0	19.9	4.21	.44	.62	.80	65.1	19.1	4.73	.45	.63	.82	61.9	18.1	5.36	.45	.65	.85

6 TON STANDARD EFFICIENCY - COOLING CAPACITY

TGA072S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			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		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1920	905	71.5	21.0	4.98	.65	.80	.97	68.9	20.2	5.57	.66	.82	.98	66.2	19.4	6.26	.67	.85	1.00	63.1	18.5	7.07	.68	.87	1.00
	2400	1135	74.4	21.8	5.05	.70	.90	1.00	71.7	21.0	5.64	.72	.92	1.00	68.8	20.2	6.33	.73	.95	1.00	65.7	19.3	7.14	.76	.97	1.00
	2880	1360	76.8	22.5	5.10	.76	.97	1.00	74.1	21.7	5.69	.79	.99	1.00	71.4	20.9	6.39	.81	1.00	1.00	68.4	20.0	7.21	.84	1.00	1.00
67°F (19°C)	1920	905	76.1	22.3	5.09	.51	.62	.76	73.4	21.5	5.68	.51	.63	.78	70.4	20.6	6.37	.52	.65	.80	67.1	19.7	7.17	.53	.66	.83
	2400	1135	78.7	23.1	5.14	.54	.67	.86	75.7	22.2	5.74	.54	.69	.88	72.5	21.2	6.44	.55	.71	.91	69.1	20.3	7.24	.56	.73	.94
	2880	1360	80.4	23.6	5.19	.56	.74	.94	77.4	22.7	5.78	.57	.76	.96	74.2	21.7	6.47	.58	.78	.98	70.6	20.7	7.28	.60	.81	1.00
71°F (22°C)	1920	905	81.2	23.8	5.21	.38	.49	.60	78.3	22.9	5.80	.38	.50	.61	75.2	22.0	6.50	.38	.50	.62	71.7	21.0	7.30	.39	.51	.64
	2400	1135	83.7	24.5	5.27	.39	.52	.65	80.6	23.6	5.87	.39	.53	.67	77.3	22.7	6.56	.40	.54	.68	73.6	21.6	7.37	.40	.55	.70
	2880	1360	85.4	25.0	5.31	.40	.56	.71	82.2	24.1	5.90	.41	.56	.73	78.7	23.1	6.60	.41	.57	.75	74.8	21.9	7.41	.42	.59	.79

BLOWER DATA - DIRECT DRIVE**2 - 2.5 TON**

Blower tables include resistance for base unit with standard heat, wet indoor coil, & 2 in. disposable air filters in place.

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (larger gas heat section, economizer, etc.) See page 22.
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 22.

External Static Pressure (in. w.g.)	Air Volume (cfm) at Various Blower Speeds					
	208 VOLTS			230 VOLTS		
	High	Medium	Low	High	Medium	Low
2 and 2.5 Ton Standard Efficiency (Down-Flow)				TGA024S and TGA030S		
0.0	1255	985	860	1420	1150	920
0.1	1240	965	830	1410	1120	910
0.2	1225	940	790	1400	1095	890
0.3	1210	910	745	1390	1065	860
0.4	1185	870	695	1365	1030	820
0.5	1150	825	---	1335	985	770
0.6	1100	775	---	1280	935	715
0.7	1035	715	---	1210	865	---
0.8	940	---	---	1115	780	---
0.9	815	---	---	990	---	---
1.0	---	---	---	830	---	---
2 and 2.5 Ton Standard Efficiency (Horizontal)				TGA024S and TGA030S		
0.0	1190	935	815	1345	1090	875
0.1	1175	915	785	1335	1065	865
0.2	1160	890	750	1330	1035	845
0.3	1145	860	705	1315	1010	815
0.4	1125	825	660	1295	975	775
0.5	1090	785	---	1265	935	730
0.6	1045	735	---	1215	885	675
0.7	980	680	---	1150	820	---
0.8	890	---	---	1055	740	---
0.9	775	---	---	935	---	---
1.0	---	---	---	785	---	---

BLOWER DATA - DIRECT DRIVE

3 - 5 TON

Blower tables include resistance for base unit with standard heat, wet indoor coil, & 2 in. disposable air filters in place.

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (larger gas heat section, economizer, etc.) See page 22.
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 22.

External Static Pressure (in. w.g.)	Air Volume (cfm) at Various Blower Speeds								
	208 VOLTS			230 VOLTS			460/575 VOLTS		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
3 and 4 Ton Standard Efficiency (Down-Flow)					TGA036S and TGA048S				
0.0	1965	1640	1150	2145	1845	1330	2070	1755	1220
0.1	1905	1595	1150	2070	1785	1325	2020	1700	1220
0.2	1855	1545	1130	2010	1735	1300	1970	1645	1205
0.3	1810	1500	1095	1955	1680	1260	1920	1595	1180
0.4	1755	1455	1035	1895	1625	1200	1865	1545	1135
0.5	1690	1405	965	1830	1570	1130	1795	1495	1075
0.6	1610	1350	875	1745	1510	1045	1715	1450	1000
0.7	1515	1290	775	1635	1445	945	1615	1410	910
0.8	1385	1220	---	1490	1370	---	1490	1375	---
0.9	1225	1150	---	1310	1290	---	1340	1360	---
1.0	1025	---	---	1075	---	---	1150	---	---

External Static Pressure (in. w.g.)	Air Volume (cfm) at Various Blower Speeds								
	208 VOLTS			230 VOLTS			460/575 VOLTS		
	High	Low	Low	High	Low	Low	High	Low	Low
3 and 4 Ton Standard Efficiency (Horizontal)					TGA036S and TGA048S				
0.0	1860	1565	1095	2030	1755	1265	2055	1765	1260
0.1	1805	1510	1090	1960	1695	1255	1990	1700	1245
0.2	1755	1465	1075	1900	1640	1235	1935	1640	1230
0.3	1710	1420	1035	1850	1585	1195	1875	1590	1200
0.4	1660	1370	985	1790	1535	1140	1815	1545	1160
0.5	1595	1320	910	1720	1475	1070	1745	1495	1095
0.6	1510	1260	825	1630	1410	980	1660	1440	1005
0.7	1400	1190	720	1510	1330	880	1555	1375	885
0.8	1255	1100	---	1350	1230	---	1425	1295	---
0.9	1065	990	---	1140	1110	---	1260	1200	---
1.0	830	---	---	875	---	---	1055	---	---

External Static Pressure (in. w.g.)	Air Volume (cfm) at Various Blower Speeds					
	208 VOLTS		230 VOLTS		460/575 VOLTS	
	High	Low	High	Low	High	Low
5 Ton Standard Efficiency (Down-Flow)				TGA060S		
0.0	2230	1670	2410	1950	2240	1730
0.1	2205	1680	2380	1945	2175	1725
0.2	2175	1685	2350	1930	2130	1725
0.3	2145	1685	2315	1915	2095	1725
0.4	2110	1670	2270	1890	2070	1720
0.5	2065	1650	2215	1860	2040	1705
0.6	2015	1615	2155	1815	2010	1675
0.7	1950	1565	2085	1755	1960	1630
0.8	1875	1495	2000	1685	1900	1560
0.9	1780	1410	1900	1595	1810	1465
1.0	1675	---	1785	---	1690	---

External Static Pressure (in. w.g.)	Air Volume (cfm) at Various Blower Speeds					
	208 VOLTS		230 VOLTS		460/575 VOLTS	
	High	Low	High	Low	High	Low
5 Ton Standard Efficiency (Horizontal)				TGA060S		
0.0	2110	1615	2280	1885	2305	1815
0.1	2075	1625	2245	1880	2260	1825
0.2	2040	1625	2205	1860	2215	1820
0.3	2000	1610	2155	1835	2170	1805
0.4	1950	1590	2100	1800	2120	1775
0.5	1900	1555	2040	1750	2065	1735
0.6	1835	1505	1965	1695	2005	1680
0.7	1765	1450	1890	1625	1935	1615
0.8	1685	1375	1800	1545	1855	1535
0.9	1595	1295	1700	1460	1755	1445
1.0	1495	---	1595	---	1645	---

BLOWER DATA - BELT DRIVE

3 TON

Blower tables include resistance for base unit with standard heat, wet indoor coil, & 2 in. disposable air filters in place.

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (larger gas heat section, economizer, etc.) See page 22.
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 22.

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

0.10 to 1.00 in. w.g. 3 Ton Standard Efficiency (Down-Flow) TGA036S

Air Volume (cfm)	External Static (in.w.g.)															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Furnished				Low Static - Drive Kit #1								Kit 5			
900	500	0.10	605	0.15	705	0.25	790	0.30	870	0.40	945	0.50	1010	0.60	1075	0.75
1000	535	0.15	630	0.20	720	0.25	805	0.35	885	0.45	955	0.55	1020	0.65	1085	0.80
1100	570	0.15	655	0.20	740	0.30	820	0.40	895	0.45	970	0.60	1035	0.70	1095	0.80
1200	605	0.20	685	0.25	765	0.35	840	0.40	915	0.50	980	0.60	1045	0.75	1110	0.85
1300	640	0.25	715	0.30	790	0.35	865	0.45	930	0.55	1000	0.65	1060	0.80	1120	0.90
1400	680	0.30	750	0.35	820	0.45	885	0.50	955	0.60	1015	0.70	1080	0.85	1135	0.95
1500	720	0.35	785	0.40	850	0.50	910	0.55	975	0.65	1035	0.80	1095	0.90	1155	1.05

0.90 to 1.60 in. w.g. 3 Ton Standard Efficiency (Down-Flow) TGA036S

Air Volume (cfm)	External Static (in.w.g.)															
	0.90		1.0		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	High Static - Drive Kit #5						Field Furnished									
900	1135	0.85	1190	1.00	1245	1.10	1295	1.25	1345	1.40	1390	1.55	1435	1.70	1480	1.85
1000	1145	0.90	1200	1.05	1255	1.15	1305	1.30	1355	1.45	1400	1.60	1445	1.75	1490	1.90
1100	1155	0.95	1210	1.10	1265	1.20	1315	1.35	1365	1.50	1410	1.65	1455	1.80	1500	1.95
1200	1165	1.00	1225	1.15	1275	1.25	1325	1.40	1375	1.55	1425	1.75	1470	1.90	1510	2.05
1300	1180	1.05	1235	1.20	1285	1.30	1340	1.50	1385	1.65	1435	1.80	1480	1.95	1525	2.15
1400	1195	1.10	1245	1.25	1300	1.40	1350	1.55	1400	1.70	1445	1.85	1490	2.05	1535	2.20
1500	1210	1.15	1260	1.30	1315	1.45	1360	1.60	1410	1.75	1455	1.95	1500	2.10	1545	2.30

0.10 to 0.80 in. w.g. 3 Ton Standard Efficiency (Horizontal) TGA036S

Air Volume (cfm)	External Static (in.w.g.)															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Furnished				Low Static - Drive Kit #1											
900	490	0.10	580	0.15	665	0.20	745	0.25	815	0.30	880	0.40	940	0.45	1000	0.55
1000	525	0.10	610	0.15	690	0.25	760	0.30	830	0.35	895	0.45	955	0.50	1010	0.60
1100	560	0.15	640	0.20	710	0.25	780	0.30	850	0.40	910	0.45	970	0.55	1025	0.65
1200	600	0.20	670	0.25	740	0.30	805	0.35	870	0.45	930	0.50	985	0.60	1040	0.70
1300	635	0.25	705	0.30	770	0.35	830	0.40	890	0.50	950	0.55	1005	0.65	1055	0.75
1400	675	0.30	740	0.35	800	0.40	860	0.50	915	0.55	970	0.65	1025	0.70	1075	0.80
1500	715	0.35	775	0.40	830	0.45	885	0.55	940	0.60	995	0.70	1045	0.80	1095	0.90

0.90 to 1.60 in. w.g. 3 Ton Standard Efficiency (Horizontal) TGA036S

Air Volume (cfm)	External Static (in.w.g.)															
	0.90		1.0		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	High Static - Drive Kit #5										Field					
900	1055	0.60	1105	0.70	1155	0.80	1205	0.90	1250	0.95	1295	1.05	1335	1.15	1375	1.25
1000	1065	0.65	1115	0.75	1165	0.85	1215	0.95	1260	1.05	1305	1.15	1345	1.20	1385	1.30
1100	1080	0.70	1130	0.80	1175	0.90	1225	1.00	1270	1.10	1315	1.20	1355	1.30	1395	1.40
1200	1090	0.75	1140	0.85	1190	0.95	1235	1.05	1280	1.15	1325	1.25	1365	1.35	1405	1.45
1300	1105	0.80	1155	0.90	1205	1.00	1250	1.10	1295	1.25	1335	1.35	1375	1.45	1415	1.55
1400	1125	0.90	1170	1.00	1220	1.10	1265	1.20	1305	1.30	1350	1.40	1390	1.50	1430	1.65
1500	1145	1.00	1190	1.05	1235	1.15	1280	1.30	1320	1.40	1365	1.50	1405	1.60	1440	1.70

BLOWER DATA - BELT DRIVE

4 TON

Blower tables include resistance for base unit with standard heat, wet indoor coil, & 2 in. disposable air filters in place.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (larger gas heat section, economizer, etc.) See page 22.

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 22.

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

0.10 to 0.80 in. w.g.

4 Ton Standard Efficiency (Down-Flow)

TGA048S

Air Volume (cfm)	External Static (in.w.g.)															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Furnished				Low Static - Drive Kit #2											
1200	600	0.20	680	0.25	755	0.30	830	0.35	900	0.45	965	0.55	1025	0.65	1085	0.75
1300	640	0.20	710	0.25	780	0.35	850	0.40	915	0.50	980	0.60	1040	0.70	1100	0.80
1400	675	0.25	745	0.30	810	0.40	875	0.45	940	0.55	1000	0.65	1060	0.75	1115	0.85
1500	715	0.30	780	0.35	840	0.45	900	0.50	960	0.60	1020	0.70	1080	0.80	1135	0.90
1600	755	0.35	815	0.45	870	0.50	930	0.60	985	0.65	1045	0.75	1100	0.85	1150	0.95
1700	795	0.45	850	0.50	905	0.55	960	0.65	1015	0.75	1070	0.85	1120	0.95	1170	1.05
1800	835	0.50	885	0.60	940	0.65	990	0.75	1045	0.80	1095	0.90	1145	1.00	1195	1.15
1900	880	0.60	925	0.65	975	0.75	1025	0.80	1075	0.90	1120	1.00	1170	1.10	1220	1.20
2000	920	0.70	965	0.75	1010	0.85	1055	0.90	1105	1.00	1150	1.10	1195	1.20	1245	1.35

0.90 to 1.60 in. w.g.

4 Ton Standard Efficiency (Down-Flow)

TGA048S

Air Volume (cfm)	External Static (in.w.g.)															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	High Static - Drive Kit #6															
	Field															
1200	1140	0.85	1195	0.95	1245	1.05	1295	1.20	1340	1.30	1385	1.40	1430	1.55	1470	1.65
1300	1155	0.90	1205	1.00	1260	1.10	1305	1.25	1350	1.35	1395	1.50	1440	1.60	1480	1.75
1400	1170	0.95	1220	1.05	1270	1.15	1320	1.30	1365	1.40	1410	1.55	1455	1.70	1495	1.80
1500	1185	1.00	1235	1.10	1285	1.25	1335	1.35	1380	1.50	1425	1.65	1465	1.75	1510	1.90
1600	1205	1.10	1255	1.20	1300	1.30	1350	1.45	1395	1.60	1435	1.70	1480	1.85	1520	2.00
1700	1220	1.15	1270	1.25	1320	1.40	1365	1.55	1410	1.65	1450	1.80	1495	1.95	1535	2.05
1800	1245	1.25	1290	1.35	1335	1.50	1380	1.60	1425	1.75	1465	1.90	1510	2.05	1550	2.15
1900	1265	1.35	1310	1.45	1355	1.60	1400	1.70	1440	1.85	1485	2.00	1525	2.15	1565	2.30
2000	1290	1.45	1330	1.55	1375	1.70	1420	1.80	1460	1.95	1500	2.10	1540	2.25	1580	2.40

0.10 to 0.80 in. w.g.

4 Ton Standard Efficiency (Horizontal)

TGA048S

Air Volume (cfm)	External Static (in.w.g.)															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Furnished				Low Static - Drive Kit #2											
1200	590	0.20	665	0.25	735	0.30	805	0.35	870	0.40	930	0.50	990	0.55	1050	0.65
1300	630	0.20	695	0.25	760	0.35	825	0.40	890	0.45	950	0.55	1010	0.65	1065	0.70
1400	670	0.25	730	0.30	790	0.40	850	0.45	910	0.50	970	0.60	1025	0.70	1080	0.75
1500	710	0.35	765	0.40	820	0.45	880	0.50	935	0.60	990	0.65	1045	0.75	1095	0.85
1600	750	0.40	800	0.45	855	0.50	910	0.60	960	0.65	1015	0.75	1065	0.80	1115	0.90
1700	790	0.45	840	0.50	890	0.60	940	0.65	990	0.75	1040	0.80	1090	0.90	1135	1.00
1800	830	0.55	875	0.60	925	0.65	970	0.75	1020	0.80	1065	0.90	1115	1.00	1160	1.10
1900	870	0.65	915	0.70	960	0.75	1005	0.85	1050	0.90	1095	1.00	1140	1.10	1185	1.20
2000	915	0.75	955	0.80	995	0.85	1040	0.95	1080	1.00	1125	1.10	1165	1.20	1210	1.30

0.90 to 1.60 in. w.g.

4 Ton Standard Efficiency (Horizontal)

TGA048S

Air Volume (cfm)	External Static (in.w.g.)															
	0.90		1.0		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Kit #2															
	High Static - Drive Kit #6															
1200	1105	0.75	1155	0.85	1205	0.95	1255	1.05	1300	1.15	1340	1.25	1385	1.35	1425	1.45
1300	1115	0.80	1165	0.90	1215	1.00	1265	1.10	1310	1.20	1355	1.30	1395	1.40	1435	1.55
1400	1130	0.85	1180	0.95	1230	1.05	1275	1.15	1320	1.25	1365	1.40	1405	1.50	1450	1.60
1500	1145	0.90	1195	1.00	1245	1.15	1290	1.25	1335	1.35	1375	1.45	1420	1.55	1460	1.70
1600	1165	1.00	1210	1.10	1260	1.20	1305	1.30	1345	1.40	1390	1.55	1430	1.65	1470	1.75
1700	1185	1.10	1230	1.20	1275	1.30	1320	1.40	1360	1.50	1405	1.60	1445	1.75	1485	1.85
1800	1205	1.15	1250	1.25	1295	1.40	1335	1.50	1380	1.60	1420	1.70	1460	1.85	1500	1.95
1900	1225	1.25	1270	1.35	1315	1.50	1355	1.60	1395	1.70	1435	1.80	1475	1.95	1515	2.10
2000	1250	1.40	1295	1.50	1335	1.60	1375	1.70	1415	1.80	1455	1.95	1490	2.05	1530	2.20

BLOWER DATA - BELT DRIVE

5 TON

Blower tables include resistance for base unit with standard heat, wet indoor coil, & 2 in. disposable air filters in place.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (larger gas heat section, economizer, etc.) See page 22.

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 22.

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

0.10 to 0.80 in. w.g.

5 Ton Standard Efficiency (Down-Flow)

TGA060S

Air Volume (cfm)	External Static (in.w.g.)															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Furnished				Low Static - Drive Kit #3											
1600	765	0.35	820	0.40	870	0.45	925	0.55	975	0.60	1025	0.65	1075	0.70	1120	0.80
1700	805	0.45	855	0.50	905	0.55	955	0.60	1005	0.65	1055	0.75	1100	0.80	1145	0.85
1800	850	0.50	895	0.55	945	0.60	990	0.70	1035	0.75	1080	0.80	1125	0.90	1170	0.95
1900	890	0.60	935	0.65	980	0.70	1025	0.75	1070	0.85	1115	0.90	1155	1.00	1200	1.05
2000	935	0.70	975	0.75	1020	0.80	1060	0.85	1100	0.95	1145	1.00	1185	1.10	1225	1.15
2100	975	0.80	1015	0.85	1055	0.90	1095	0.95	1135	1.05	1175	1.10	1215	1.20	1255	1.25
2200	1020	0.90	1055	0.95	1095	1.00	1135	1.10	1170	1.15	1210	1.25	1250	1.30	1285	1.40
2300	1060	1.00	1095	1.10	1135	1.15	1170	1.20	1210	1.30	1245	1.35	1280	1.45	1320	1.55
2400	1105	1.15	1140	1.20	1175	1.30	1210	1.35	1245	1.45	1280	1.50	1315	1.60	1350	1.70

0.90 to 1.60 in. w.g.

5 Ton Standard Efficiency (Down-Flow)

TGA060S

Air Volume (cfm)	External Static (in.w.g.)															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Drive Kit #3				High Static - Drive Kit #7											
1600	1165	0.85	1210	0.95	1255	1.05	1295	1.10	1335	1.20	1375	1.30	1415	1.35	1450	1.45
1700	1190	0.95	1235	1.05	1275	1.10	1315	1.20	1355	1.30	1395	1.35	1430	1.45	1470	1.55
1800	1215	1.05	1255	1.10	1295	1.20	1335	1.30	1375	1.40	1415	1.45	1450	1.55	1485	1.65
1900	1240	1.15	1280	1.20	1320	1.30	1360	1.40	1395	1.50	1435	1.60	1470	1.65	1505	1.75
2000	1265	1.25	1305	1.30	1345	1.40	1380	1.50	1420	1.60	1455	1.70	1490	1.80	1525	1.90
2100	1295	1.35	1335	1.45	1370	1.55	1405	1.60	1445	1.70	1480	1.80	1515	1.90	1550	2.00
2200	1325	1.50	1360	1.55	1395	1.65	1435	1.75	1470	1.85	1505	1.95	1535	2.05	1570	2.15
2300	1355	1.60	1390	1.70	1425	1.80	1460	1.90	1495	2.00	1530	2.10	1560	2.20	1595	2.30
2400	1385	1.75	1420	1.85	1455	1.95	1490	2.05	1520	2.15	1555	2.25	1585	2.35	1620	2.45

0.10 to 0.80 in. w.g.

5 Ton Standard Efficiency (Horizontal)

TGA060S

Air Volume (cfm)	External Static (in.w.g.)															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Furnished				Low Static - Drive Kit #3											
1600	750	0.35	805	0.40	865	0.50	925	0.55	980	0.65	1040	0.75	1095	0.85	1150	0.95
1700	790	0.45	845	0.50	900	0.55	955	0.65	1010	0.75	1065	0.80	1115	0.90	1170	1.05
1800	830	0.50	880	0.55	930	0.65	985	0.70	1035	0.80	1090	0.90	1140	1.00	1190	1.10
1900	870	0.60	920	0.65	965	0.75	1015	0.80	1065	0.90	1115	1.00	1165	1.10	1210	1.20
2000	910	0.70	955	0.75	1005	0.85	1050	0.90	1095	1.00	1145	1.10	1190	1.20	1235	1.30
2100	955	0.80	995	0.85	1040	0.95	1085	1.00	1130	1.10	1175	1.20	1220	1.30	1260	1.40
2200	995	0.90	1035	0.95	1075	1.05	1120	1.15	1160	1.20	1205	1.30	1245	1.40	1290	1.55
2300	1035	1.00	1075	1.10	1115	1.15	1155	1.25	1195	1.35	1235	1.45	1275	1.55	1320	1.65
2400	1080	1.15	1115	1.25	1155	1.30	1190	1.40	1230	1.50	1270	1.60	1310	1.70	1345	1.80

0.90 to 1.60 in. w.g.

5 Ton Standard Efficiency (Horizontal)

TGA060S

Air Volume (cfm)	External Static (in.w.g.)															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Drive Kit #3				High Static - Drive Kit #7											
1600	1200	1.05	1250	1.20	1300	1.30	1350	1.45	1395	1.55	1440	1.70	1485	1.85	1525	2.00
1700	1220	1.15	1270	1.25	1315	1.40	1365	1.50	1410	1.65	1455	1.80	1495	1.90	1540	2.10
1800	1240	1.20	1285	1.35	1335	1.45	1380	1.60	1425	1.75	1470	1.90	1510	2.00	1550	2.15
1900	1260	1.30	1305	1.45	1350	1.55	1395	1.70	1440	1.85	1485	1.95	1525	2.10	1565	2.25
2000	1280	1.40	1325	1.55	1370	1.65	1415	1.80	1455	1.90	1500	2.05	1540	2.20	1580	2.35
2100	1305	1.50	1350	1.65	1390	1.75	1435	1.90	1475	2.05	1515	2.20	1555	2.30	1595	2.50
2200	1330	1.65	1375	1.75	1415	1.90	1455	2.00	1495	2.15	1535	2.30	1575	2.45	1615	2.60
2300	1360	1.80	1400	1.90	1440	2.05	1480	2.15	1515	2.30	1555	2.45	1595	2.60	1630	2.75
2400	1385	1.90	1425	2.05	1465	2.20	1500	2.30	1540	2.45	1580	2.60	1615	2.75	1650	2.90

BLOWER DATA - BELT DRIVE

6 TON

Blower tables include resistance for base unit with standard heat, wet indoor coil, & 2 in. disposable air filters in place.

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (larger gas heat section, economizer, etc.) See page 22.
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 22.

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

0.10 to 0.80 in. w.g.

6 Ton Standard Efficiency (Down-Flow)

TGA072S

Air Volume (cfm)	External Static (in.w.g.)															
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Field Furnished						Low Static - Drive Kit #4									
1900	840	0.45	885	0.50	930	0.55	980	0.60	1025	0.65	1070	0.70	1115	0.75	1155	0.80
2000	875	0.55	920	0.55	965	0.60	1010	0.65	1055	0.75	1100	0.80	1140	0.85	1180	0.90
2100	915	0.60	960	0.65	1000	0.70	1045	0.75	1085	0.80	1130	0.85	1170	0.95	1210	1.00
2200	955	0.70	995	0.75	1040	0.80	1080	0.85	1120	0.90	1160	0.95	1200	1.05	1235	1.10
2300	995	0.80	1035	0.85	1075	0.90	1115	0.95	1150	1.00	1190	1.05	1230	1.15	1265	1.20
2400	1035	0.90	1075	0.95	1110	1.00	1150	1.05	1185	1.10	1225	1.20	1260	1.25	1295	1.30
2500	1075	1.00	1110	1.05	1150	1.10	1185	1.15	1220	1.25	1255	1.30	1290	1.35	1325	1.45
2600	1115	1.10	1150	1.20	1185	1.25	1220	1.30	1255	1.35	1290	1.45	1325	1.50	1355	1.55
2700	1155	1.25	1190	1.30	1225	1.35	1255	1.45	1290	1.50	1325	1.55	1355	1.65	1390	1.70
2800	1195	1.40	1230	1.45	1260	1.50	1295	1.60	1325	1.65	1360	1.70	1390	1.80	1420	1.85
2900	1235	1.55	1270	1.60	1300	1.65	1330	1.75	1360	1.80	1395	1.90	1425	1.95	1455	2.00

0.90 to 1.60 in. w.g.

6 Ton Standard Efficiency (Down-Flow)

TGA072S

Air Volume (cfm)	External Static (in.w.g.)															
	0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	Low Static - Kit #4							High Static - Drive Kit #8								
1900	1200	0.90	1240	0.95	1280	1.00	1320	1.05	1355	1.15	1395	1.20	1430	1.25	1465	1.35
2000	1225	0.95	1265	1.05	1300	1.10	1340	1.15	1375	1.20	1410	1.30	1450	1.35	1485	1.45
2100	1250	1.05	1285	1.10	1325	1.20	1360	1.25	1400	1.35	1435	1.40	1470	1.45	1500	1.55
2200	1275	1.15	1310	1.20	1350	1.30	1385	1.35	1420	1.45	1455	1.50	1490	1.60	1525	1.65
2300	1305	1.25	1340	1.35	1375	1.40	1410	1.45	1445	1.55	1480	1.60	1510	1.70	1545	1.75
2400	1330	1.35	1365	1.45	1400	1.50	1435	1.60	1470	1.65	1500	1.75	1535	1.80	1565	1.90
2500	1360	1.50	1395	1.55	1430	1.65	1460	1.70	1495	1.80	1525	1.85	1560	1.95	1590	2.05
2600	1390	1.65	1425	1.70	1455	1.80	1490	1.85	1520	1.95	1550	2.00	1585	2.10	1615	2.20
2700	1420	1.80	1455	1.85	1485	1.95	1515	2.00	1550	2.10	1580	2.15	1610	2.25	1640	2.35
2800	1455	1.95	1485	2.00	1515	2.10	1545	2.15	1575	2.25	1605	2.35	1635	2.40	1665	2.50
2900	1485	2.10	1515	2.15	1545	2.25	1575	2.35	1605	2.40	1635	2.50	1660	2.60	1690	2.65

BLOWER DATA - BELT DRIVE

6 TON

Blower tables include resistance for base unit with standard heat, wet indoor coil, & 2 in. disposable air filters in place.

FOR ALL UNITS ADD:

1 - Any factory installed options air resistance (larger gas heat section, economizer, etc.) See page 22.

2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.) See page 22.

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

Air Volume (cfm)		6 Ton Standard Efficiency (Horizontal)														TGA072S	
		External Static (in.w.g.)															
		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		Field Furnished								Low Static - Drive Kit #4							
1900		795	0.45	850	0.55	905	0.60	960	0.70	1010	0.75	1060	0.85	1110	0.90	1160	1.00
2000		835	0.55	885	0.60	935	0.70	985	0.75	1035	0.85	1085	0.90	1135	1.00	1180	1.10
2100		870	0.65	920	0.70	970	0.75	1015	0.85	1065	0.90	1110	1.00	1160	1.10	1205	1.20
2200		905	0.70	955	0.80	1000	0.85	1045	0.95	1095	1.00	1140	1.10	1185	1.20	1225	1.30
2300		945	0.80	990	0.90	1035	0.95	1080	1.05	1120	1.10	1165	1.20	1210	1.30	1250	1.40
2400		980	0.90	1025	1.00	1065	1.05	1110	1.15	1150	1.25	1195	1.30	1235	1.40	1275	1.50
2500		1020	1.05	1060	1.10	1100	1.20	1140	1.25	1180	1.35	1225	1.45	1265	1.55	1305	1.65
2600		1055	1.15	1095	1.25	1135	1.30	1175	1.40	1215	1.50	1255	1.60	1290	1.65	1330	1.80
2700		1095	1.30	1130	1.35	1170	1.45	1210	1.55	1245	1.60	1285	1.70	1320	1.80	1360	1.95
2800		1130	1.45	1170	1.50	1205	1.60	1240	1.70	1280	1.80	1315	1.85	1350	1.95	1385	2.05
2900		1170	1.60	1205	1.65	1240	1.75	1275	1.85	1310	1.95	1345	2.05	1380	2.15	1415	2.25

Air Volume (cfm)		6 Ton Standard Efficiency (Horizontal)														TGA072S	
		External Static (in.w.g.)															
		0.90		1.00		1.10		1.20		1.30		1.40		1.50		1.60	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		Low Static - Drive Kit #4								High Static - Drive Kit #8							
1900		1205	1.10	1250	1.20	1295	1.30	1340	1.45	1380	1.55	1420	1.65	1460	1.75	1500	1.90
2000		1225	1.20	1270	1.30	1315	1.40	1355	1.50	1400	1.65	1440	1.75	1475	1.85	1515	2.00
2100		1250	1.30	1290	1.40	1335	1.50	1375	1.60	1415	1.75	1455	1.85	1495	2.00	1530	2.10
2200		1270	1.40	1310	1.50	1355	1.60	1395	1.75	1435	1.85	1475	1.95	1510	2.10	1550	2.20
2300		1295	1.50	1335	1.60	1375	1.70	1415	1.85	1455	1.95	1490	2.05	1530	2.20	1565	2.35
2400		1320	1.65	1355	1.75	1395	1.85	1435	1.95	1475	2.10	1510	2.20	1545	2.30	1585	2.45
2500		1345	1.75	1380	1.85	1420	2.00	1455	2.10	1495	2.20	1530	2.35	1565	2.45	1600	2.60
2600		1370	1.90	1405	2.00	1445	2.10	1480	2.25	1515	2.35	1550	2.50	1585	2.60	1620	2.75
2700		1395	2.05	1430	2.15	1470	2.25	1505	2.40	1540	2.50	1575	2.65	1610	2.75	1640	2.90
2800		1425	2.20	1460	2.30	1495	2.45	1530	2.55	1565	2.70	1595	2.80	1630	2.95	1665	3.05
2900		1450	2.35	1485	2.45	1520	2.60	1555	2.70	1585	2.85	1620	2.95	1655	3.10	1685	3.25

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Motor hp		RPM Range							
Nominal	Maximum	Drive 1	Drive 2	Drive 3	Drive 4	Drive 5	Drive 6	Drive 7	Drive 8
1.5	1.7	673 - 1010	745 - 1117	833 - 1250	968 - 1340	897 - 1346	1071 - 1429	1212 - 1548	1193 - 1591
2	2.3								

*Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor hp required. Maximum usable hp of motors furnished by Lennox are shown. In Canada, nominal motor hp is also maximum usable motor hp. If motors of comparable hp 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 in. w.g.	Air Volume Exhausted - cfm											
	T1PWRE10A						T1PWRE10N					
	208V			230V, 460V and 575V			208V			230V, 460V and 575V		
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
0	1290	1300	1320	1300	1305	1295	3545	3915	4230	3880	4135	4340
0.1	1045	1055	1055	1040	1050	1055	2880	3215	3580	3255	3550	3755
0.2	805	805	815	805	810	810	2290	2665	3055	2710	3010	3240
0.3	580	580	600	595	590	585	1735	2175	2605	2200	2500	2770
0.4	390	405	400	405	400	410	1165	1660	2175	1685	2010	2325
0.5	245	315	215	240	255	300	530	1045	1710	1120	1510	1885
0.6	155	340	35	90	165	290	---	250	1160	470	990	1420
0.7	145	515	---	---	140	400	---	---	470	---	430	915

OPTIONS / ACCESSORIES AIR RESISTANCE - in. w.g.

Air Volume cfm	Economizer	Gas Heat	
		Medium Input	High Input
800	0.04	0.02	0.02
1000	0.04	0.02	0.02
1200	0.04	0.02	0.02
1400	0.04	0.02	0.03
1600	0.04	0.03	0.04
1800	0.05	0.03	0.05
2000	0.05	0.04	0.06
2200	0.05	0.04	0.07
2400	0.05	0.05	0.08
2600	0.06	0.05	0.09
2800	0.06	0.06	0.10
3000	0.06	0.07	0.11

CEILING DIFFUSERS AIR RESISTANCE (in. w.g.)

Air Volume cfm	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	
800	0.15	0.13	0.11	0.11	---	---	---	---
1000	0.19	0.16	0.14	0.14	---	---	---	---
1200	0.25	0.20	0.17	0.17	---	---	---	---
1400	0.33	0.26	0.20	0.20	---	---	---	---
1600	0.43	0.32	0.20	0.24	---	---	---	---
1800	0.56	0.40	0.30	0.30	0.13	0.11	0.09	0.09
2000	0.73	0.50	0.36	0.36	0.15	0.13	0.11	0.10
2200	0.95	0.63	0.44	0.44	0.18	0.15	0.12	0.12
2400	---	----	---	---	0.21	0.18	0.15	0.14
2600	---	----	---	---	0.24	0.21	0.18	0.17
2800	---	----	---	---	0.27	0.24	0.21	0.20
3000	---	----	---	---	0.32	0.29	0.25	0.25

CEILING DIFFUSER AIR THROW DATA

Air Volume - cfm	¹ Effective Throw - ft.	
	RTD9-65	FD9-65
800	10 - 17	14 - 18
1000	10 - 17	15 - 20
1200	11 - 18	16 - 22
1400	12 - 19	17 - 24
1600	12 - 20	18 - 25
1800	13 - 21	20 - 28
2000	14 - 23	21 - 29
2200	16 - 25	22 - 30
Model No.	RTD11-95	FD11-95
2600	24 - 29	19 - 24
2800	25 - 30	20 - 28
3000	27 - 33	21 - 29

¹ Effective throw based on terminal velocities of 75 ft. per minute.

OUTDOOR SOUND DATA

1 Unit Model No.	Octave Band Sound Power Levels dBA, re 10 ⁻¹² Watts - Center Frequency - HZ							Sound Rating Number (dB)
	125	250	500	1000	2000	4000	8000	
024, 030, 036 and 048	63	66	70	71	68	62	53	75
060 and 072	67	72	77	76	73	68	61	82

NOTE - The octave sound power data shown does not include tonal correction.

¹ Tested according to ARI Standard 270-95 test conditions.

ELECTRICAL DATA

2 - 2.5 TON

DIRECT DRIVE BLOWER		TGA024S	TGA030S
Efficiency		Standard	Standard
Voltage - 60hz		208/230V-1ph	
Compressor	Rated Load Amps	10.4	14.1
	Locked Rotor Amps	54	68
Outdoor Fan Motor	Full Load Amps	1.7	1.7
	Locked Rotor Amps	3.1	3.1
Service Outlet 115V GFI		15	15
Indoor Blower Motor	Horsepower	.25	.25
	Rated Load Amps	1.7	1.7
	Locked Rotor Amps	2.2	2.2
¹ Maximum Overcurrent Protection	Unit Only	25	35
² Minimum Circuit Ampacity	Unit Only	17	22
Disconnect Kit	Standard Access Door	T1DISC080A-1 (20W17)	T1DISC080A-1 (20W17)
	Hinged	T1DISC080AH1 (20W23)	T1DISC080AH1 (20W23)

ELECTRICAL DATA

3 TON

BELT OR DIRECT DRIVE BLOWER		TGA036S										
Efficiency		Standard										
Voltage - 60hz		208/230V-1ph			208/230V-3ph			460V-3ph			575V-3ph	
Compressor	Rated Load Amps	14.4	9.6	5.8	4.0							
	Locked Rotor Amps	77.0	73.0	38.0	28.0							
Outdoor Fan Motor	Full Load Amps	1.7	1.7	1.1	0.7							
	Locked Rotor Amps	3.1	3.1	2.2	1.3							
Power Exhaust Fan	Horsepower	(1) 3/4		(1) 3/4		(1) 3/4		(1) 3/4				
	Full Load Amps	5.0	5.0	2.2	1.5							
	Locked Rotor Amps	7.8	7.8	3.4	2.9							
Service Outlet 115V GFI		15	15	15	15							
Indoor Blower Motor	Horsepower	.5	1.5	.5	1.5	2	.5	1.5	2	.5	1.5	2
	Rated Load Amps	3.1	11.5	3.1	5.7	7.5	1.5	2.8	3.4	1.5	2.4	2.7
	Locked Rotor Amps	6.8	55	6.8	40	46.9	3.8	20	20.4	3.8	15	16.2
¹ Maximum Overcurrent Protection	Unit Only	35	45	25	25	30	15	15	15	15	15	15
	with power exhaust	40	50	30	30	35	15	15	15	15	15	15
² Minimum Circuit Ampacity	Unit Only	23	32	17	20	22	10	12	12	8	8	9
	with power exhaust	28	37	22	25	27	13	14	14	9	10	10
Disconnect Kit	Standard Access Door	T1DISC080A-1 (20W17)										
	Hinged	T1DISC080AH1 (20W23)										

NOTE - Extremes of operating range are plus and minus 10% of line voltage.

¹ HACR type breaker or fuse.

² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA**4 TON**

BELT OR DIRECT DRIVE BLOWER		TGA048S											
Efficiency		Standard											
Voltage - 60hz		208/230V-1ph			208/230V-3ph			460V-3ph			575V-3ph		
Compressor	Rated Load Amps	20.2			12.2			6.1			4.2		
	Locked Rotor Amps	137.0			83.1			41.0			33.0		
Outdoor Fan Motor	Full Load Amps	1.7			1.7			1.1			0.7		
	Locked Rotor Amps	3.1			3.1			2.2			1.3		
Power Exhaust Fan	Horsepower	(1) 3/4			(1) 3/4			(1) 3/4			(1) 3/4		
	Full Load Amps	5.0			5.0			2.2			1.5		
	Locked Rotor Amps	7.8			7.8			3.4			2.9		
Service Outlet 115V GFI		15			15			15			15		
Indoor Blower Motor	Horsepower	.5	1.5	.5	1.5	2	.5	1.5	2	.5	1.5	2	
	Rated Load Amps	3.1	11.5	3.1	5.7	7.5	1.5	2.8	3.4	1.5	2.4	2.7	
	Locked Rotor Amps	6.8	55	6.8	40	46.9	3.8	20	20.4	3.8	15	16.2	
¹ Maximum Overcurrent Protection	Unit Only	50	50	30	30	35	15	15	15	15	15	15	
	with power exhaust	50	60	35	35	40	15	15	20	15	15	15	
² Minimum Circuit Ampacity	Unit Only	31	39	21	23	25	11	12	13	8	9	9	
	with power exhaust	36	44	26	28	30	13	14	15	9	10	11	
Disconnect Kit	Standard Access Door	T1DISC080A-1 (20W17)											
	Hinged	T1DISC080AH1 (20W23)											

ELECTRICAL DATA**5 TON**

BELT OR DIRECT DRIVE BLOWER		TGA060S											
Efficiency		Standard											
Voltage - 60hz		208/230V-1ph			208/230V-3ph			460V-3ph			575V-3ph		
Compressor	Rated Load Amps	25.3			15.4			7.1			5.3		
	Locked Rotor Amps	141.0			110.0			52.0			38.9		
Outdoor Fan Motor	Full Load Amps	2.4			2.4			1.3			1.0		
	Locked Rotor Amps	4.7			4.7			2.4			1.9		
Power Exhaust Fan	Horsepower	(1) 3/4			(1) 3/4			(1) 3/4			(1) 3/4		
	Full Load Amps	5.0			5.0			2.2			1.5		
	Locked Rotor Amps	7.8			7.8			3.4			2.9		
Service Outlet 115V GFI		15			15			15			15		
Indoor Blower Motor	Horsepower	.75	1.5	.75	1.5	2	.75	1.5	2	.75	1.5	2	
	Rated Load Amps	4.2	11.5	4.2	5.7	7.5	2.2	2.8	3.4	2.2	2.4	2.7	
	Locked Rotor Amps	9.6	55	9.6	40	46.9	5.2	20	20.4	5.2	15	16.2	
¹ Maximum Overcurrent Protection	Unit Only	60	70	40	40	40	15	20	20	15	15	15	
	with power exhaust	60	70	45	45	45	20	20	20	15	15	15	
² Minimum Circuit Ampacity	Unit Only	39	46	26	28	30	13	13	14	10	10	11	
	with power exhaust	44	51	31	33	35	15	16	16	12	12	12	
Disconnect Kit	Standard Access Door	T1DISC080A-1 (20W17)											
	Hinged	T1DISC080AH1 (20W23)											

NOTE - Extremes of operating range are plus and minus 10% of line voltage.

¹ HACR type breaker or fuse.² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA

6 TON

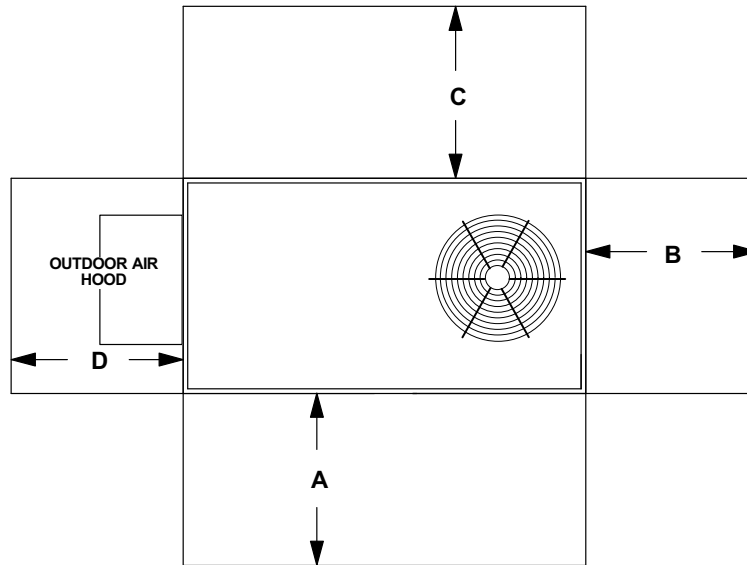
BELT DRIVE BLOWER		TGA072S Standard					
Efficiency		208/230V-3ph		460V-3ph		575V-3ph	
Compressor	Rated Load Amps	18.6		9.0		7.4	
	Locked Rotor Amps	156.0		75.0		54.0	
Outdoor Fan Motor	Full Load Amps	2.4		1.3		1.0	
	Locked Rotor Amps	4.7		2.4		1.9	
Power Exhaust Fan	Horsepower	(1) 3/4		(1) 3/4		(1) 3/4	
	Full Load Amps	5.0		2.2		1.5	
	Locked Rotor Amps	7.8		3.4		2.9	
Service Outlet 115V GFI		15		15		15	
Indoor Blower Motor	Horsepower	1.5	2	1.5	2	1.5	2
	Rated Load Amps	5.7	7.5	2.8	3.4	2.4	2.7
	Locked Rotor Amps	40	46.9	20	20.4	15	16.2
¹ Maximum Overcurrent Protection	Unit Only	50	50	20	25	20	20
	with power exhaust	50	50	25	25	20	20
² Minimum Circuit Ampacity	Unit Only	32	34	16	16	13	13
	with power exhaust	37	39	18	19	15	15
Disconnect Kit	Standard Access Door	T1DISC080N-1 (20W20)					
	Hinged	T1DISC080NH1 (20W26)					

NOTE - Extremes of operating range are plus and minus 10% of line voltage.

¹ HACR type breaker or fuse.

² Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

UNIT CLEARANCES - INCHES (MM)



¹ Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	48	1219	36	914	36	914	36	914	Unobstructed
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	36	914	36	914	36	914	36	914	

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

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

Clearance to Combustibles - Required clearance to combustible material.

Minimum Operation Clearance - Required clearance for proper unit operation.

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-
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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
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Sensor For Digital Non-Programmable Thermostats Above

Remote wall mounted temperature sensor	C0SNZN00AE1-
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Intuitive Interface - Automatic Changeover - Backlit Display - Simple Up and Down Temperature Control

One-stage heating / cooling conventional systems	C0STAT12AE1L
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Sensor For Digital Non-Programmable Thermostats Above

Outdoor temperature sensor	C0SNSR04AE1-
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Accessories For Digital Non-Programmable Thermostats Above

Optional wall mounting plate	C0MISC17AE1-
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NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

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

Clearance to Combustibles - Required clearance to combustible material.

Minimum Operation Clearance - Required clearance for proper unit operation.

WEIGHT DATA

Model Number	Net				Shipping			
	Base		Max.		Base		Max.	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
024	530	240	630	286	590	268	699	317
030	533	242	633	287	593	269	702	318
036	547	248	647	293	607	275	716	325
048	583	264	694	315	643	292	763	346
060	600	272	711	323	660	299	780	354
072	667	303	765	347	727	330	837	380

Base Unit - The unit with standard heat exchanger NO OPTIONS.

Max. Unit - The unit with ALL OPTIONS Installed. (High Input Heat Exchanger, Economizer, etc.)

OPTIONS / ACCESSORIES

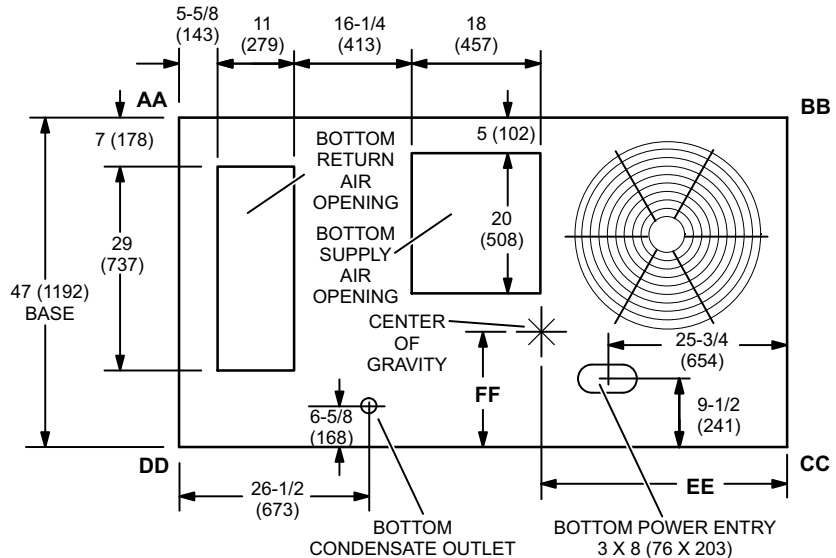
		Shipping Weights	
		lbs.	kg
ECONOMIZER / OUTDOOR AIR			
Economizer			
Economizer, Includes Outdoor Air Hood and Barometric Relief Dampers with Hood	T1ECON30A-1	123	56
	T1ECON30N-1	142	65
Outdoor Air Hood			
Outdoor Air Hood	T1HOOD30A-1	26	13
	T1HOOD30N-1	33	16
OUTDOOR AIR			
Outdoor Air Dampers			
Outdoor Air Damper Motorized Kit	T1DAMP11A-1	25	12
	T1DAMP11N-1	29	14
Damper Section Manual	T1DAMP21AN1	18	9
Power Exhaust			
Standard Static	T1PWRE10A-1	35	17
	T1PWRE10N-1	39	19
GAS HEAT			
	Medium Input	8	4
	High Input	19	9
ROOF CURBS - DOWN-FLOW			
Cliplock			
8 in. height	T1CURB23AN1	78	35
14 in. height	T1CURB20AN1	96	44
18 in. height	T1CURB21AN1	108	49
24 in. height	T1CURB22AN1	126	57
Hinged			
8 in. height	T1CURB30AN1	78	35
18 in. height	T1CURB32AN1	108	49
24 in. height	T1CURB33AN1	126	57
Standard			
14 in. height	T1CURB10AN1	96	44
CEILING DIFFUSERS			
Step-Down	RTD9-65	67	30
	RTD11-95	88	40
Flush	FD9-65	37	17
	FD11-95	75	34
Transitions (Supply and Return)	T1TRAN10AN1	22	10
	T1TRAN20N-1	21	10

DIMENSIONS - INCHES (MM)

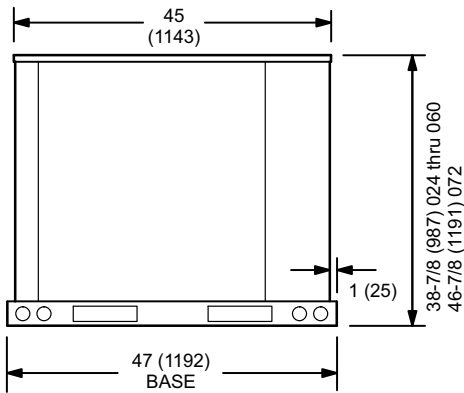
Model No.	CORNER WEIGHTS										CENTER OF GRAVITY													
	AA		BB		CC		DD		EE				FF											
	Base lbs.	Max. kg	Base lbs.	Max. kg	Base lbs.	Max. kg	Base lbs.	Max. kg	Base in.	Max. mm	Base in.	Max. mm	Base in.	Max. mm	Base in.	Max. mm								
024	94	43	116	53	114	52	132	60	176	80	203	92	145	66	179	81	38-1/2	978	40	1016	18-1/2	470	18-1/2	470
030	95	43	117	53	115	52	132	60	177	80	204	92	146	66	180	82	38-1/2	978	40	1016	18-1/2	470	18-1/2	470
036	97	44	120	54	118	54	135	61	182	83	208	94	150	68	184	83	38-1/2	978	40	1016	18-1/2	470	18-1/2	470
048	104	47	128	58	126	57	145	66	194	88	224	102	160	73	198	90	38-1/2	978	40	1016	18-1/2	470	18-1/2	470
060	107	49	131	59	130	59	149	68	200	91	229	104	164	74	202	92	38-1/2	978	40	1016	18-1/2	470	18-1/2	470
072	118	54	141	64	144	65	160	73	222	101	246	112	183	83	218	99	38-1/2	978	40	1016	18-1/2	470	18-1/2	470

Base Unit - The unit with standard heat exchanger NO OPTIONS.

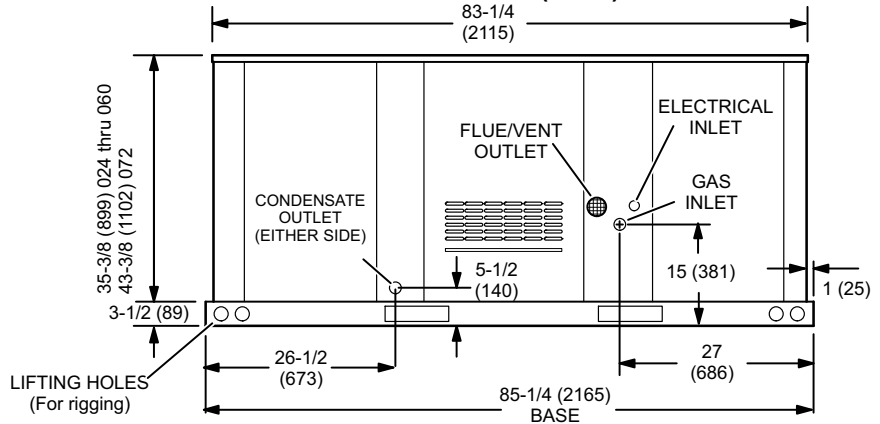
Max. Unit - The unit with ALL OPTIONS Installed. (High Input Heat Exchanger, Economizer, etc.)



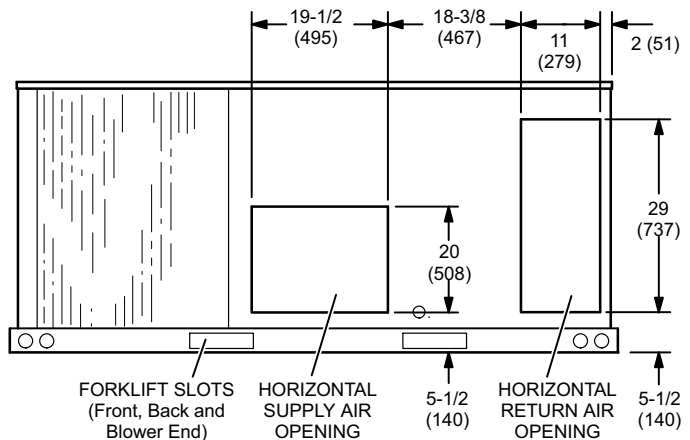
TOP VIEW (Base)



END VIEW



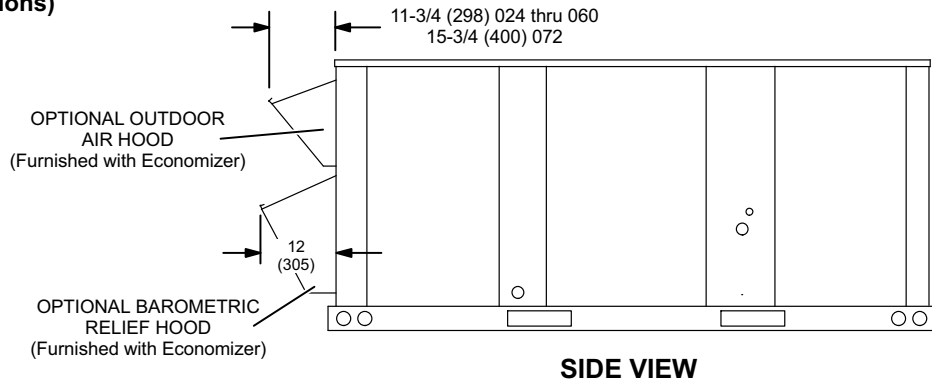
SIDE VIEW



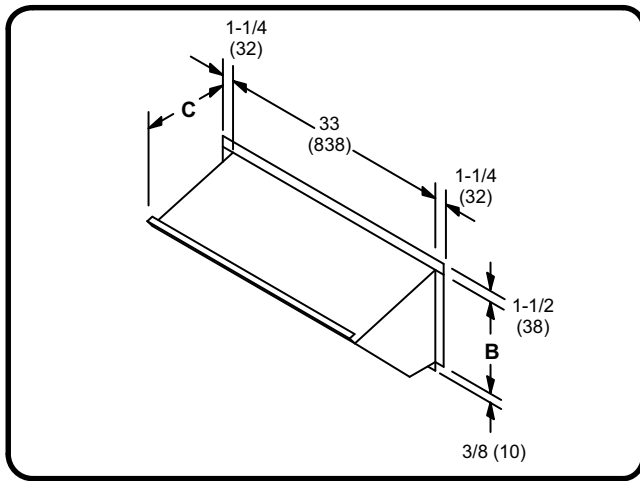
BACK VIEW

ACCESSORY DIMENSIONS - INCHES (MM)

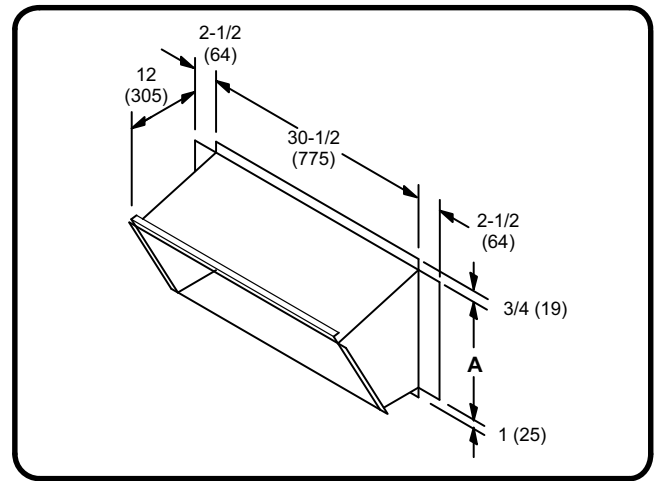
OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER AND BAROMETRIC RELIEF DAMPERS (Down-Flow Applications)



OUTDOOR AIR HOOD FOR ECONOMIZER (Furnished)

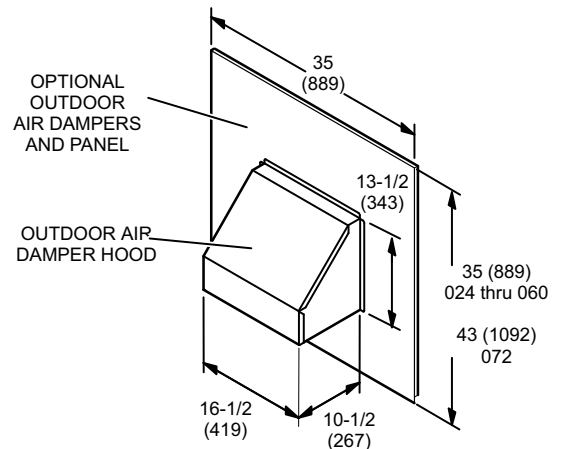
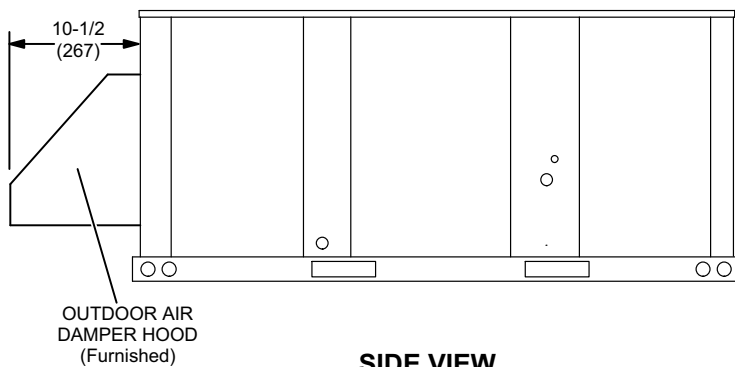


BAROMETRIC RELIEF HOOD FOR ECONOMIZER (Furnished)



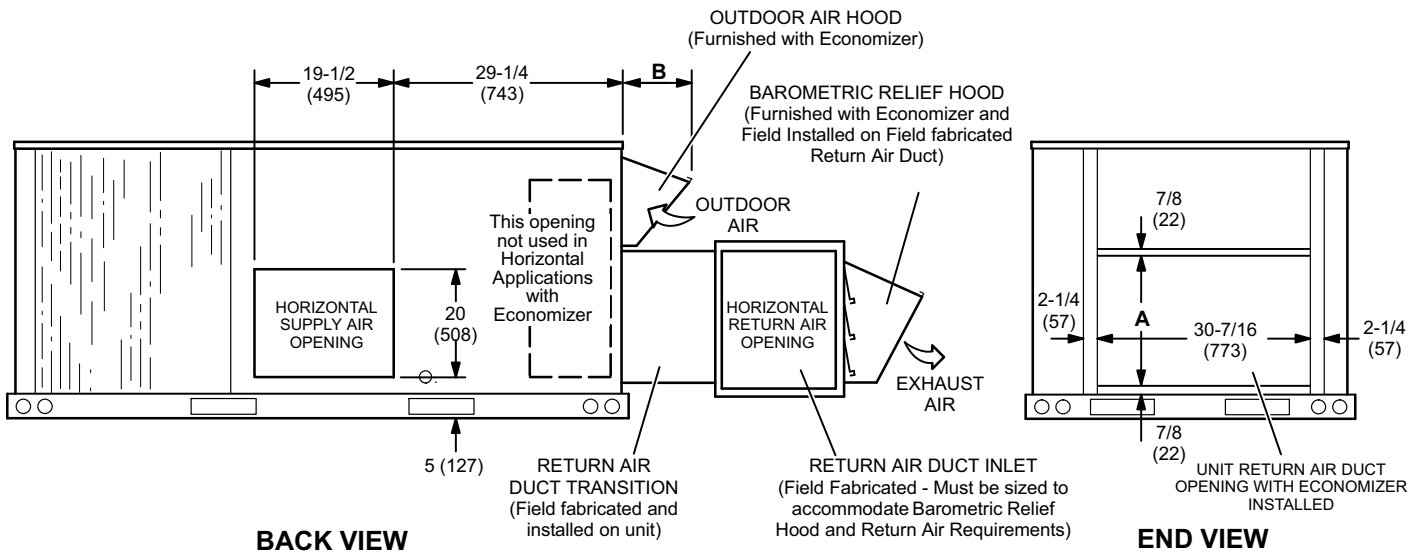
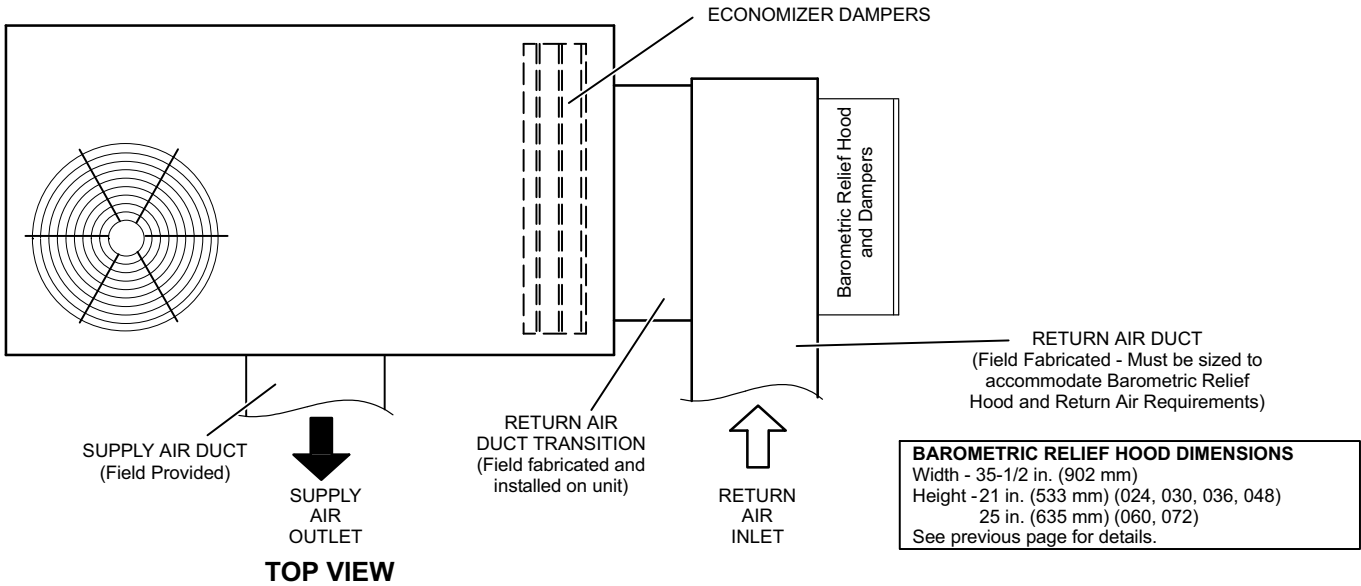
Model No.	A		B		C	
	in.	mm	in.	mm	in.	mm
024, 030, 036, 048, 060	19-1/4	489	13	330	11-3/4	298
072	23-1/4	591	17	432	15-3/4	400

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



ACCESSORY DIMENSIONS - INCHES (MM)

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

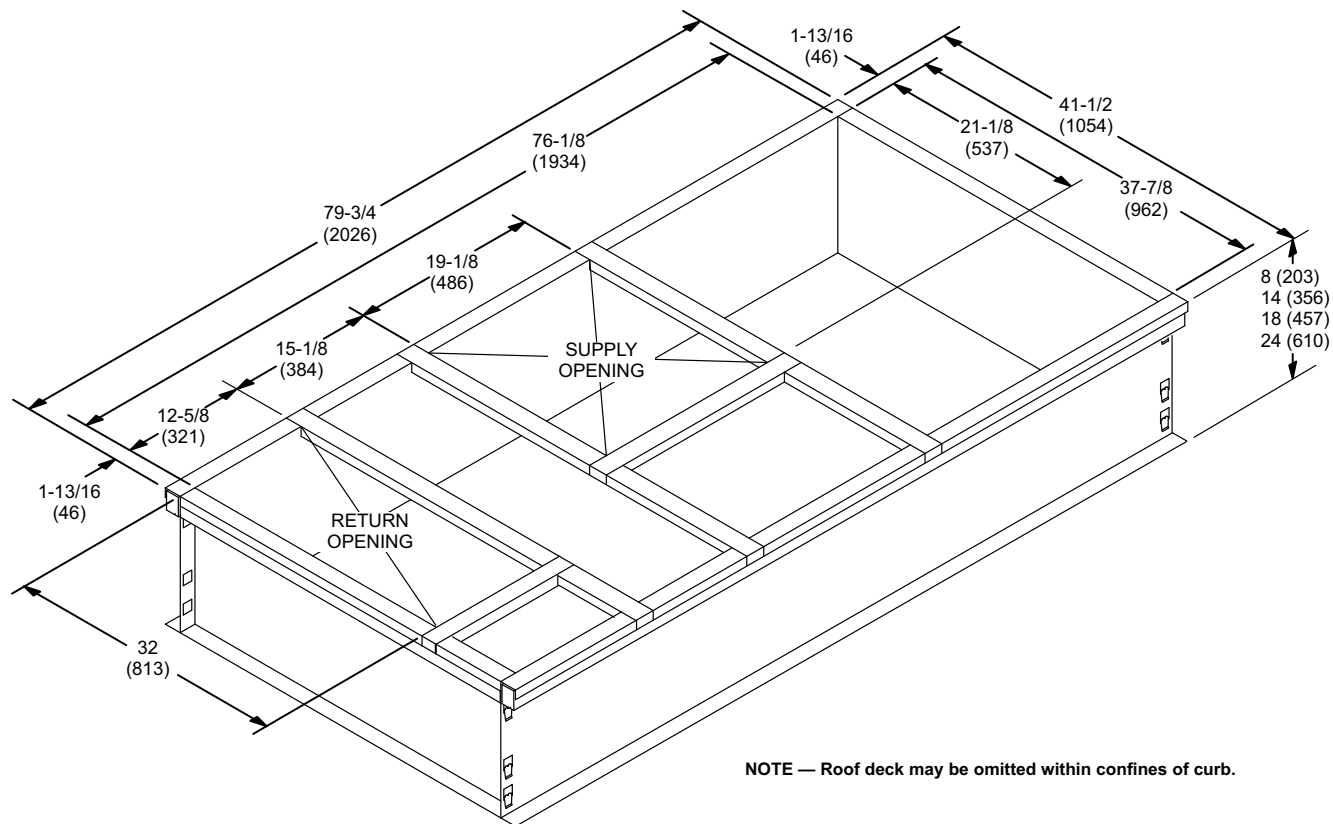


NOTE - Return Air Duct and Transition must be supported.

Model No.	A		B	
	in.	mm	in.	mm
024, 030, 036, 048, 060	18-3/4	476	11-3/4	298
072	22-1/2	572	15-3/4	400

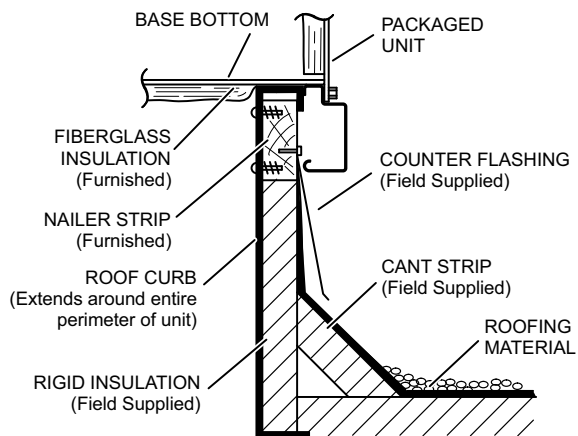
ACCESSORY DIMENSIONS - INCHES (MM)

CLIPLOCK 1000 ROOF CURBS - DOUBLE DUCT OPENING

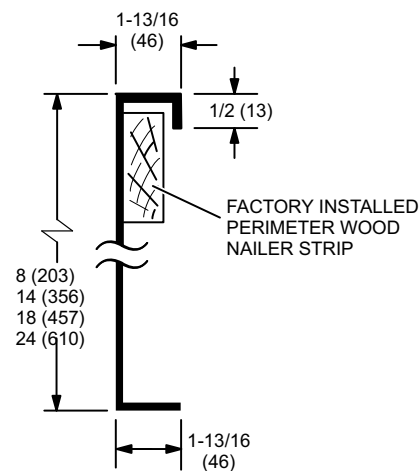


NOTE — Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB

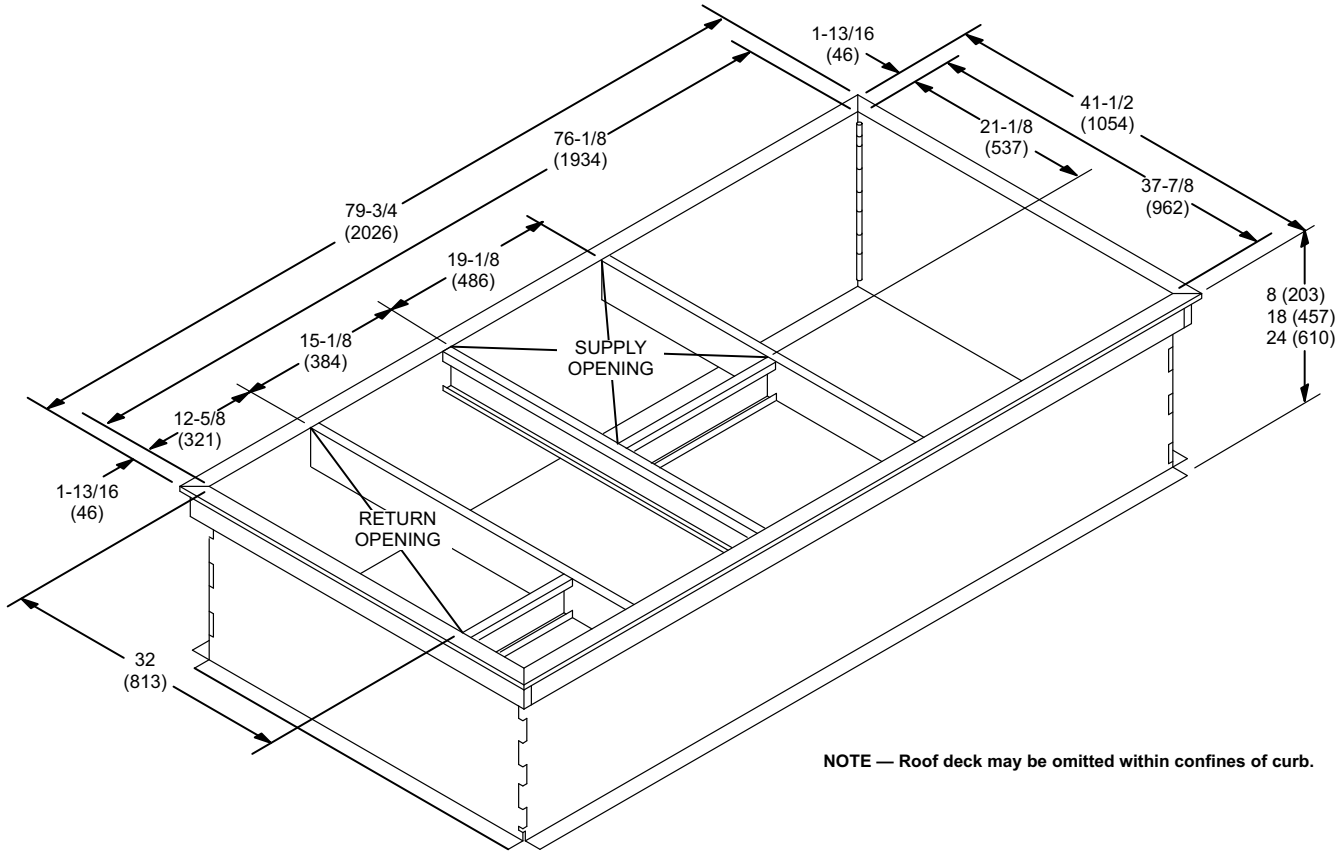


DETAIL ROOF CURB



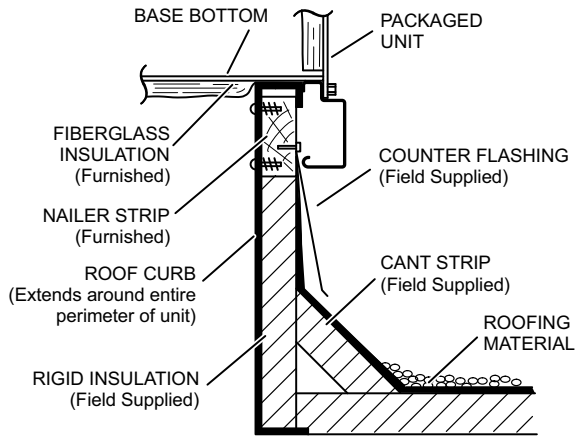
ACCESSORY DIMENSIONS - INCHES (MM)

HINGED ROOF CURBS - DOUBLE DUCT OPENING

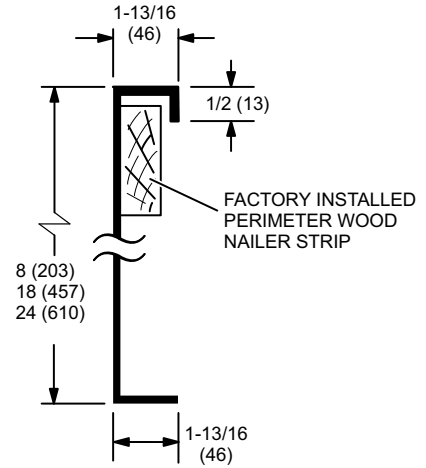


NOTE — Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB

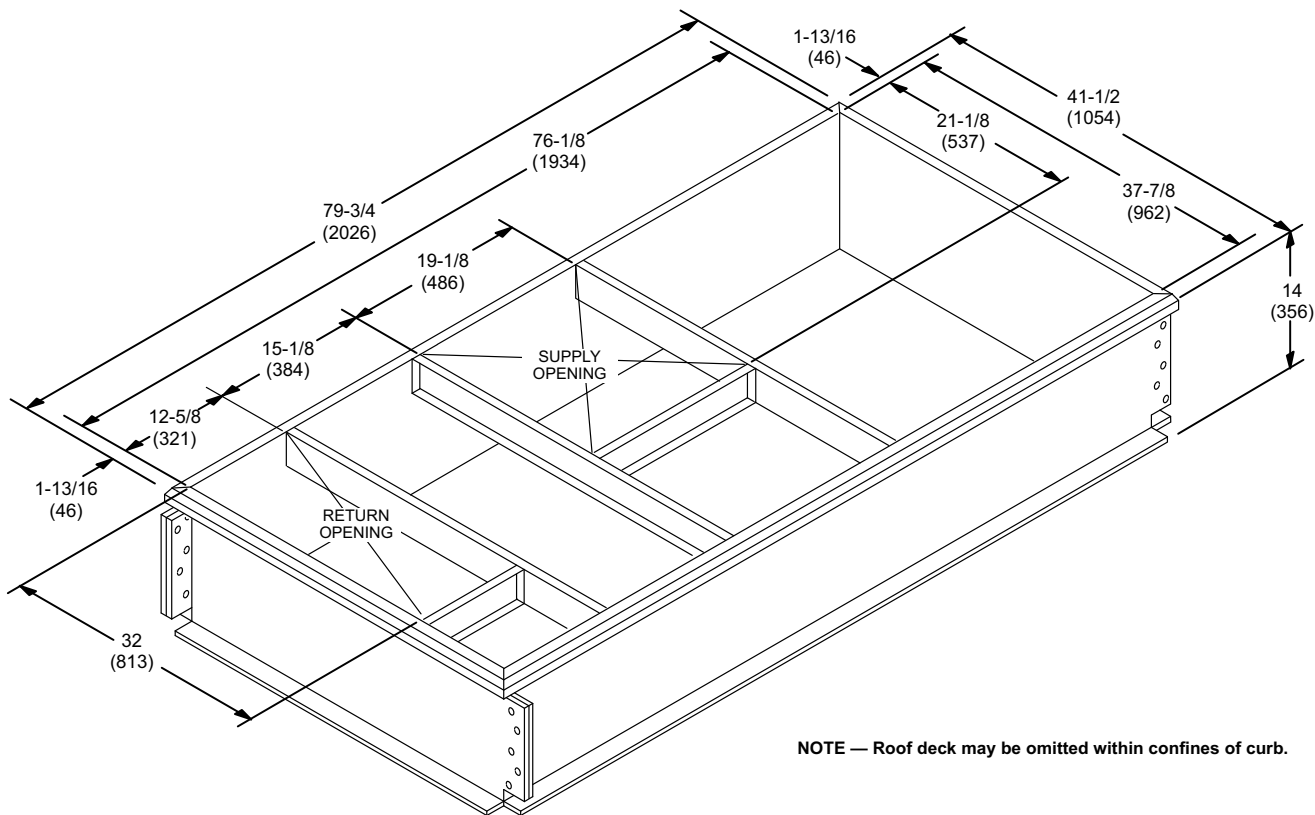


DETAIL ROOF CURB



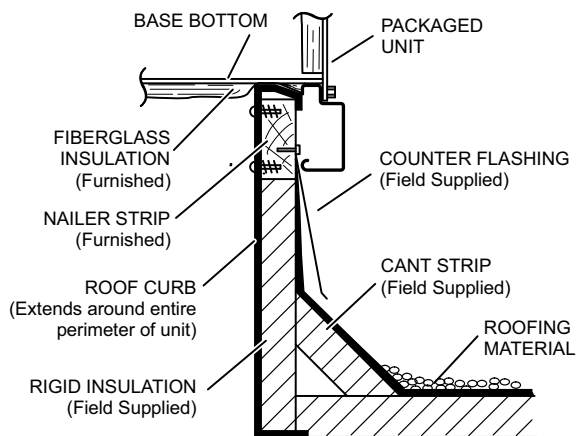
ACCESSORY DIMENSIONS - INCHES (MM)

STANDARD ROOF CURBS - DOUBLE DUCT OPENING

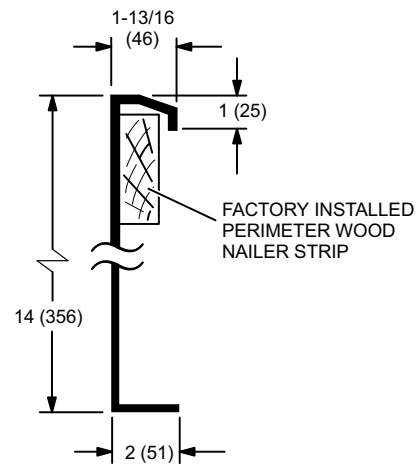


NOTE — Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB

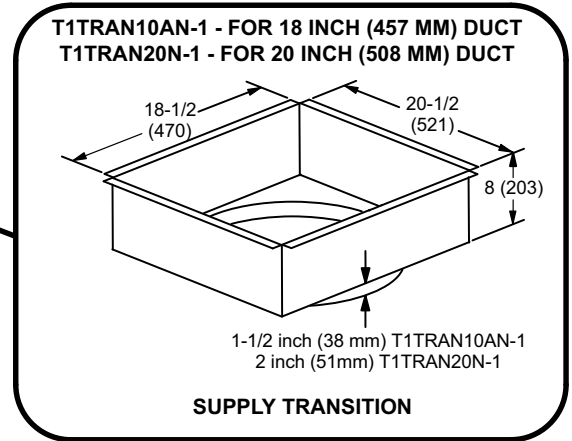
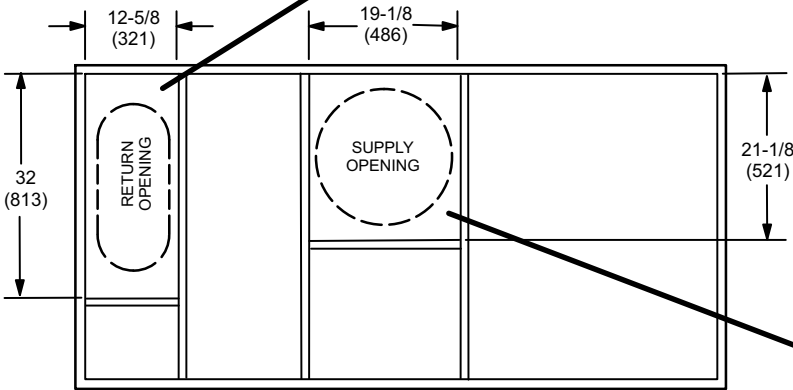
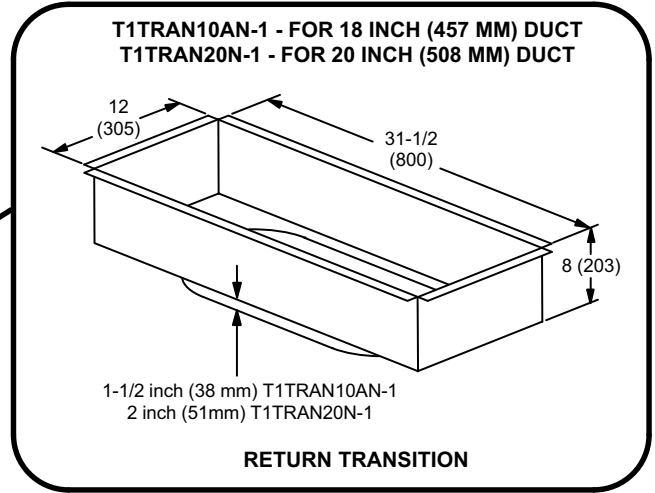


DETAIL ROOF CURB



ACCESSORY DIMENSIONS - INCHES (MM)

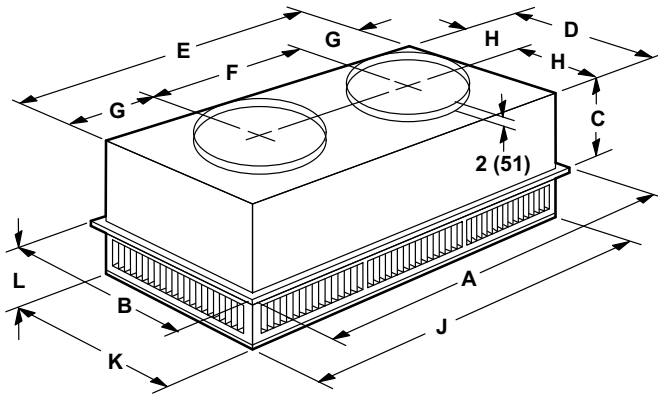
TRANSITIONS



ACCESSORY DIMENSIONS - INCHES (MM)

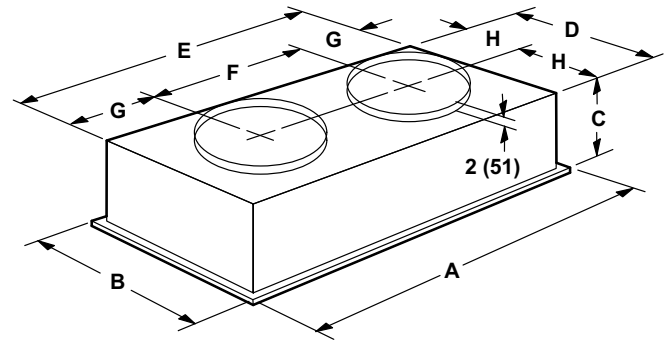
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



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

FLUSH CEILING DIFFUSER



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

GUIDE SPECIFICATIONS

This specification is for **[Lennox Industries T-Class™]** rooftop units. Revise specification section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

Optional text and text that requires a decision are indicated by **bold brackets []** and proprietary information is indicated by **bold italic brackets []**; delete text that is not needed in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

SECTION 237433

UNITARY AIR CONDITIONING EQUIPMENT

PART 1 GENERAL

PART 1.01 SUMMARY

- A. Section Includes: Packaged rooftop units and commercial packaged, gas/electric, electric/electric and electric/heat pumps.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI *MasterFormat* and specifier's practice.

- B. Related Sections:

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

PART 1.02 REFERENCES

- A. Agency Listings:
1. Intertek ETL.
 2. Canadian Standards Association (CSA).
- B. Safety Standards:
1. Underwriters Laboratories (UL).
 2. Underwriters Laboratories of Canada (ULC).
 3. National Electric Code (NEC).
 4. Canadian Electric Code (CEC).
- C. Air-Conditioning and Refrigerating Institute (ARI):
1. ARI 340/360 Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment.
 2. ARI 370 Sound Rating of Large Outdoor Refrigerating and Air Conditioning Equipment.
 3. ARI 210/240 Performance Rating of Unitary Air Conditioning and Air-Source Heat Pump Equipment.
- D. American Society for Testing and Materials (ASTM):
1. ASTM B117 – Standard Practice for Operating Salt Spray.
 2. ASTM 1153 – Standard Method for Methyl Isobutyl Ketone.
- E. ISO 9001, Quality Management Systems.
- F. Meet Military Specification MIL-P-53084

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties required to link components of a system together and to interface with other systems.

PART 1.03 SYSTEM DESCRIPTION

- A. Performance Requirements:

Specifier Note: Article below should be restricted to T-Class (TH), heat pumps packaged roof top units only.

1. [2, 2.5, 3, 4, 5, 6, 7.5, 8.5, 10, 12.5, 15 and 20 ton capacity.]

Specifier Note: Article below should be restricted to T-Class (TG) gas/electric packaged roof top units or T-Class (TC) electric/electric packaged roof top units.

2. [2, 2.5, 3, 4, 5, 6, 7.5, 8.5, 10, 12.5, 15, 17.5, 20 and 25 ton capacity.]
3. Electrical Characteristics:
 - a. 60 Hz

GUIDE SPECIFICATIONS

Specifier Note: 208/230 volt 1 phase is only available on 2, 2.5, 3, 4 and 5 ton standard efficiency models. All other voltages are available on 3-25 ton T-Class RTU's.

- b. [208/230 v – 1 Phase] [208/230 v – 3 Phase] [460 v – 3 Phase] [575 v – 3 Phase]

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

PART 1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures.
- B. Product Data: Submit product data for specified products.
- C. Shop Drawings:
 - 1. Submit shop drawings in accordance with Section 01330 - Submittal Procedures.
 - 2. Indicate:
 - a. Equipment, piping and connections, together with valves, strainers, control assemblies, thermostatic controls, auxiliaries and hardware, and recommended ancillaries which are mounted, wired and piped ready for final connection to building system, its size and recommended bypass connections.
 - b. Piping, valves and fittings shipped loose showing final location in assembly.
 - c. Control equipment shipped loose, showing final location in assembly.
 - d. Dimensions, internal and external construction details, recommended method of installation with proposed structural steel support, mounting curb details, sizes and location of mounting bolt holes; include mass distribution drawings showing point loads.
 - e. Detailed composite wiring diagrams for control systems showing factory installed wiring and equipment on packaged equipment or required for controlling devices or ancillaries, accessories and controllers.
 - f. Fan performance curves.
 - g. Details of vibration isolation.
 - h. Estimate of sound levels to be expected across individual octave bands in dB.
 - i. Type of refrigerant used.
 - j. Plan view, front view end view, back view and curb detail with dimensions.
- D. Quality Assurance:
 - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 - 2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
 - 3. Manufacturer's Instructions: Manufacturer's installation instructions.

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article herein. Retain or delete as applicable.

- E. Manufacturer's Field Reports: Manufacturer's field reports specified.
- F. Closeout Submittals: Submit following:
 - 1. Warranty: Warranty documents specified.
 - 2. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance. Include names and addresses of spare part suppliers.
 - 3. Provide brief description of unit, with details of function, operation, control and component service.
 - 4. Provide equipment inspection report and equipment operation test report.
 - 5. Commissioning Report: Submit commissioning reports, report forms and schematics in accordance with Section 01810 - Commissioning.

PART 1.05 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

PART 1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Packing, Shipping, Handling and Delivery:
 - 1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 2. Ship, handle and unload units according to manufacturer's instructions.
- D. Storage and Protection:

GUIDE SPECIFICATIONS

1. Store materials protected from exposure to harmful weather conditions.
2. Factory shipping covers to remain in place until installation.

PART 1.07 PROJECT CONDITIONS

- A. Installation Location: **[Confirm design conditions and temperature.]**.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty).

PART 1.08 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: "Aluminized Heat Exchanger" and "Stainless steel Heat Exchanger" limited warranty is only available on T-Class (TG) Gas/Electric models. "Compressor" and "Other System Components" are covered on all T-Class units.

- C. Warranty: Commencing on Date of Installation.
1. Compressors: 5 years (limited).
 2. Other Covered System Components: 1 year (limited).
 3. **[Aluminized Heat Exchangers: 10 years (limited).] [Stainless Steel Heat Exchangers: 15 years (limited).]**

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

PART 2.01 ROOFTOP UNITS

- A. Manufacturer: Lennox Industries.
1. Contact: 2100 Lake Park Blvd., Richardson, TX 75080; Telephone: (800) 453-6669; website: www.lennox.com.
- B. Proprietary Products/Systems: Lennox T-Class Packaged Rooftop Units, including the following equipment:
1. Cabinet:
 - a. Heavy gauge steel panels.
 - b. Pre-painted steel panels.
 - c. Heavy Gauge galvanized steel base rail.
 - d. Rigging holes on all four corners.
 - e. Forklift slots (on three sides, not directly below condenser coil) on base rail.
 - f. Raised or flanged edges around duct and power entry openings.

Specifier Note: "Down Flow" is the standard configuration that all T-Class units are shipped as.

Specifier Note: "Horizontal Flow" is an option for all T-Class models. T-Class TH, TG and TC models of tonnages 2, 2.5, 3, 4, 5 and 6 can be converted, in the field, to horizontal flow without the need of a conversion kit. If applied horizontally with an economizer, a conversion kit is required.

Specifier Note: "Horizontal Flow" is an option for all T-Class models. T-Class TH, TG and TC models of tonnages 7.5, 8.5, 10 and 12.5 can be converted, in the field, with a separate to Horizontal Conversion Kit.

Specifier Note: "Horizontal Flow" is an option for all T-Class models. T-Class TH, TG and TC models of tonnages 15, 17.5, 20 and 25 require a roof curb that allows for horizontal air flow. A Horizontal Air Panel Kit is also required if converting a down-flow configured unit to horizontal air flow.

- g. **[Down-Flow] [Horizontal] Air Flow configuration**

Specifier Note: add the "and gas lines" only if using a T-Class (TG) gas/electric model.

- h. Electrical lines **[and gas lines]** can be brought through the base of the unit or through horizontal knockouts.
- i. Insulation:
- 1) All panels adjacent to conditioned air are fully insulated with non-hygroscopic fiberglass insulation.
 - 2) Unit base is fully insulated.
 - 3) Unit base insulation also serves as a roof curb seal.
- j. Access Panels:
- 1) Provided for economizer/filter section.
 - 2) Provided for Heating/blower section.
- k. Condensate Drain Pan.

Specifier Note: "Factory Installed Options" are options that can be selected for the T-Class roof top units. The "Factory Installed Options" are installed at the Lennox manufacturing facility.

GUIDE SPECIFICATIONS

- I. [Factory Installed Options:]
 - 1) [Corrosion Protection, meets standards:
 - a) Military Specification MIL-P-53084.
 - b) ASTM B117
 - c) ASTM 1153]
 - 2) [Hinged Access panels]
 - 3) [GFI Service Outlets (field wired)]

Specifier Note: “Field Installed Accessories” are options that can be selected for the T-Class roof top units. The “Field Installed Accessories” are shipped separately and installed in the field.

- m. [Field Installed Accessories:]

Specifier Note: Of the selections below, [Coil Guards] [Hail Guards], only one can be selected.

- 1) [Coil Guards] [Hail Guards].
- 2) [Horizontal Return Air Panel Kit].

Specifier Note: “Circuit Breakers(up to 175 amps)” is not available on 2-6 ton models.

- 3) [Circuit Breakers (up to 175 amps)]
- 4) [Disconnect Switch (up to 250 amps)]
- 5) [Condensate drain trap]

2. Cooling System:
 - a. Capable of operating from 30 - 125 degrees F (-1 - 52 degrees C) without installation of additional controls.
 - b. Compressors:
 - 1) Scroll Type.
 - 2) Resiliently mounted on rubber mounts for vibration isolation.
 - 3) Overload Protected
 - 4) Internal excessive current and temperature protection.
 - 5) Isolated from condenser fan air stream.
 - 6) Refrigerant cooled.
 - c. TXV
 - d. Freezestat
 - e. High capacity filter driers

Specifier Note: Include following 2 articles for T-Class (TH) packaged heat pumps models.

- f. Reversing Valves: Four-way interchange reversing valve.
- g. Defrost Control.

Specifier Note: 2-6 ton models are only available in Standard efficiency and 7.5-20 ton models are available in Standard or High efficiencies only.

Specifier Note: The 12.5 ton model is available in standard efficiency only.

- h. Efficiency: [Standard] [and]/[or] [High].
- i. [Low ambient kit: Field installed]

Specifier Note: High pressure switch is available to be field installed on all units except the T-Class model TH on tonnages 15-20.

- j. [High pressure switch: Field installed]

Specifier Note: Crankcase heater is available to be field installed on all units except the T-Class model TH on tonnages 2-6 and 15-20.

- k. [Crankcase heater: field installed]

3. Coil Construction:
 - a. Condensing/evaporator coil general construction:
 - 1) Aluminum Rippled and Lanced fins.
 - 2) Copper tube construction.
 - 3) Aluminum fins mechanically bonded to copper tubes.
 - 4) All coils are high pressure leak tested at manufacturing facility.
 - b. Evaporator Coils:
 - 1) With balanced port thermal expansion valves, freeze protection on each compressor circuit, pressure and leak tested to 500 psi, and maximum 14 fins per inch.

GUIDE SPECIFICATIONS

- 2) Each compressor circuit on coil divided across face of coil and active through full depth of coil.
- 3) **[With flexible immersed coating electrodeposited by dry film process].**
- c. Condenser Coils:
 - 1) **[With flexible immersed coating electrodeposited by dry film process] on corrosion hardened units only.**
4. Wiring:
 - a. Color coded and continuously marked to identify point-to-point component connections.
 - b. Not in contact with hot-gas refrigerant lines or sharp metal edges.
5. Cooling Controls:
 - a. Provide minimum compressor on time of 4 minutes.

Specifier Note: "4 Stages of cooling from thermostat" is only available for models that have 4 independent refrigerant circuits. 2-6 ton models have 1 circuit, 7.5-12.5 ton models have 2 circuits, and 15-25 ton models have several models with 4 circuits.

- b. Support up to 4 stages of cooling from thermostat or external DDC controller. (4 independent refrigerant circuits required.)

Specifier Note: T-Class units with Gas Heating Systems are TG models.

6. Gas Heating System:
 - a. Induced draft
 - b. Natural gas fired system with direct spark ignition
 - c. Electronic flame sensors
 - d. Flame rollout switches
 - e. High heat limit switches
 - f. Induced draft failure switch and capable of operating to altitude of 2000 feet (610 m) with no derate to manifold pressure.
 - g. Service access for controls, burners and heat exchanger.
 - h. Heat Exchanger:
 - 1) Tubular Design
 - 2) **[Aluminized steel] [Stainless steel].**
 - i. Gas piping system tight and free of leaks when pressurized to maximum supply pressure.
 - j. Gas Valve: Two-stage, redundant type gas heat valve with manual shutoff.

Specifier Note: One Stage Gas valve only available on 2-6 ton models.

- k. Gas Valve: Single-stage.
- l. Gas Burners: Aluminized steel inshot-type gas burners.
- m. Direct spark pilot ignition.
- n. Fan and Limit Controls.
- o. Safety Switches.
- p. Gas piping system tight and free of leaks when.

Specifier Note: Lox NOx is only available for factory installation on the T-Class (TG) Gas/Electric models of tonnages 2 – 5.

- q. **[Low NOx]**

Specifier Note: "Cold Weather Kit" is only available for field mounting on the T-Class (TG) Gas/Electric models of tonnages 15 – 25 or factory mounting on the T-Class (TG) Gas/Electric models of tonnages 7.5 – 12.

- r. **[Cold Weather Kit:] [field] [factory]**

Specifier Note: "Field Installed Accessories" are options that can be selected for the T-Class TG Gas/Electric models. The "Field Installed Accessories" are shipped separately and installed in the field.

- s. **[Field Installed Accessories:]**
 - 1) **[Combustion Air Intake Extensions].**
 - 2) **[Vertical Vent Extension Kit].**
 - 3) **[LPG/Propane Kit].**

Specifier Note: "Low Temperature Vestibule Heater" is only available for the T-Class (TG) Gas/Electric models of tonnages 2, 2.5, 3, 4, 5 and 6.

- 4) **[Low Temperature Vestibule Heater].**

Specifier Note: The "Electric Heating System" is an option for T-Class (TH), heat pump, and T-Class (TC), electric/electric models only. The "Electric Heating System" can be either factory or field installed.

7. Electric Heating System:
 - a. Electrical resistance heater.

GUIDE SPECIFICATIONS

- b. **[Factory] [Field]** installed.
- c. **[Factory] [Field]** installed Fuse Block.
- d. Reset thermal limit protection.
- e. Single point power supply.
- f. Heater Element:
 - 1) Nickel chromium wire.
 - 2) Individually fused.
- g. Electric heater slides out of unit for service.

8. Heating Controls:

Specifier Note: 2 stages of heating control are only available on T-Class (TG) gas/electric models of tonnages 4-6, on two stage units.

- a. Support 2 stages of heating control from thermostat or DDC.
- b. With delay time of 30 seconds between low and high heat stages.

9. Supply Air Fan Motor and Drives:

- a. Permanently lubricated ball bearings (for belt drive motors).
- b. Thermal overload protected motors with automatic reset.

Specifier Note: Slide out accessibility is only available on T-Class models of tonnages 7.5-25.

- c. Adjustable sheaves on belt drive motors for blower speed adjustment.
- d. Optional low and high static motor/drive combinations and optional drive kits.

10. Supply Air Fan:

- a. Double inlet type, G90 (Z275) galvanized steel with forward curved blades.
- b. Statically and dynamically balanced.
- c. Slide-out accessibility unit for servicing and belt tension adjustment.
- d. Continuous or automatic control for occupied periods.

11. Supply Air Filters:

- a. Disposable 2 inch.

Specifier Note: Permanent metal frame filters with 2 inch polyester replaceable media are only available on T-Class models of tonnages 15-25 tons.

- b. **[Permanent metal frame filters with 2 inch polyester replaceable media].**

12. Condenser Fan Motor:

Specifier Note: T-Class 2-4 ton models have sleeve bearings.

- a. Direct drive with permanently lubricated ball bearings.
- b. Watertight with thermal overload protection and automatic reset.
- c. Motor mount isolated from fan safety guard.

13. Condenser Fans:

- a. Corrosion resistant propeller type with vertical discharge and finger safety guard.

14. Microprocessor Based Unit Controller System:

- a. Solid state, microprocessor based control board to control unit cooling operations.
- b. Green blinking LED to indicate normal operation.
- c. Pushbutton reset.
- d. Four-position DIP switch to select unit operating mode/unit type.
- e. Test mode for quick operation checks.
- f. Up to 2-stage heat/4-stage cool thermostat or DDC capable thermostat operation.
- g. Digital Inputs:

- 1) Low cool demand
- 2) High cool demand
- 3) Low heat demand
- 4) Supply fan demand
- 5) Primary heat limit (2)
- 6) Flame rollout switch (2)
- 7) Induced draft motor switch (2)
- 8) Gas valve sense switch (2)

Specifier Note: T-Class models of tonnages 15-25 have four Freeze protection switches. 7.5 - 12 ton models have two. 2-6 ton models have one.

- 9) Freeze protection switch (2), (4).

GUIDE SPECIFICATIONS

- h. Digital Outputs:
 - 1) Supply air fan motor
 - 2) compressor 1
 - 3) compressor 2
 - 4) condenser fans
 - 5) inducer fan motor 1

Specifier Note: T-Class 7.5 - 25 ton models only.

- 6) heat 1
 - 7) critical diagnostic fault code occurrence.
- i. [Control Options:]
 - 1) [Single Enthalpy Control] : [Field] [Factory]
 - 2) [Differential Enthalpy Control : Field]

Specifier Note: The factory mounted CO2 sensor is only available T-Class models of tonnages 15 - 25. All other models can be field mounted only.

- 3) [CO2 Sensor:] [Field] [Factory]

Specifier Note: Economizer Control: Field is only available for T-Class models of tonnages 7.5 - 25.

- 4) [Economizer Control: Field]

15. [Accessories:]

- a. [Economizer]: [Field] [Factory]

Specifier Note: Motorized outdoor air damper is only available in a field mounted version for the T-Class models of tonnages 2, 2.5, 3, 4, 5 and 6. All other models can be factory or field.

- b. [Motorized outdoor air damper]: [Field] [Factory]

Specifier Note: Manual outdoor air damper is only available in a field mounted version for the T-Class models of tonnages 2, 2.5, 3, 4, 5 and 6. All other models can be factory or field.

- c. [Manual outdoor air damper]: [Field] [Factory]

Specifier Note: Barometric relief damper and outdoor air hood is included with factory or field installed economizer on 2-6 ton models. All other models can be factory or field installed separately.

- d. [Barometric relief damper]: [Field] [Factory]

Specifier Note: The factory mounted Power Exhaust Fan is only available on the versions of T-Class models of tonnages 15-25. All other models can be field mounted.

- e. [Power exhaust fan]: [Field] [Factory]

- f. [Dirty filter switch: Field]

Specifier Note: The field mounted Blower Proving Switch is only available on T-Class models of tonnages 7.5-25.

- g. [Blower proving switch]: [Field] [Factory]

- h. [Smoke detectors: Field]

- i. [Roof curb: Field]

- j. [Outdoor air hood: Field]

- k. [Barometric relief damper hood: Field]

Specifier Note: Edit article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

PART 2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

PART 3 EXECUTION

PART 3.01 MANUFACTURER'S INSTRUCTIONS

Specifier Note: Revise article below to suit project requirements and specifier's practice.

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions and manufacturer's SPEC-DATA® sheets.

PART 3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions

PART 3.03 INSTALLATION

- A. Install [Packaged rooftop units] [And] [Commercial packaged, gas/electric, electric/electric and electric/heat pumps] in accordance with manufacturer's instructions [On roof curbs provided by manufacturer] [As indicated].

END OF SECTION

REVISIONS

Sections	Description of Change
Document	Removed all Basic Efficiency model information.
Optional Accessories	Updated Information - High Pressure Switch, Low Ambient Kit and Smoke Detector.



VERIFIED
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