



ENGINEERING DATA

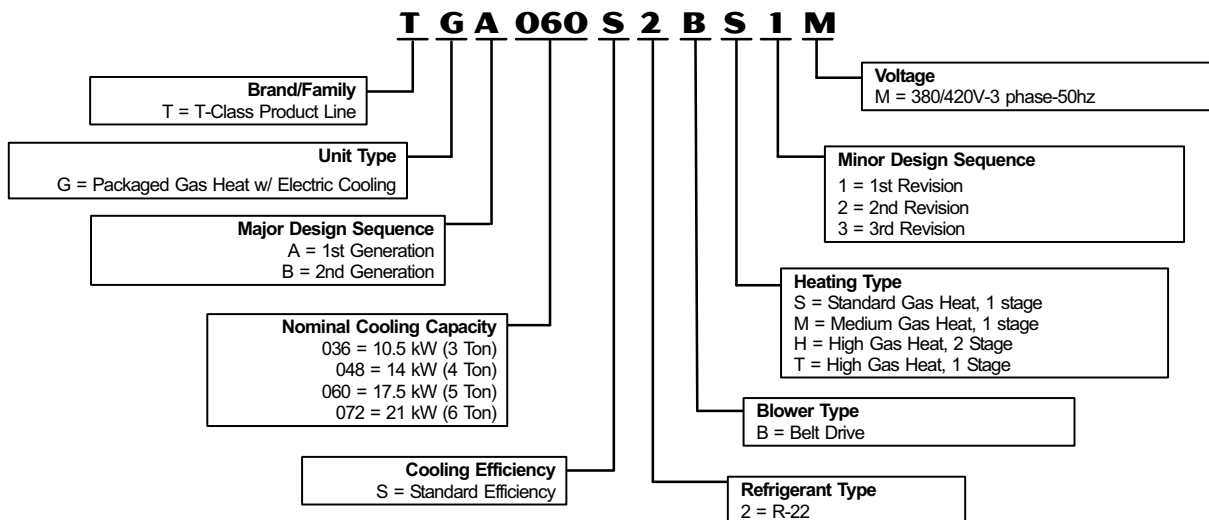
**TG**  
**T-CLASS™ ROOFTOP UNITS**  
**50 HZ**

Bulletin No. 490112  
 February 2009  
 Supersedes December 2007



**Nominal Capacity - 10.5 to 21 kW (3 to 6 Ton)**  
**Net Cooling Capacity - 9.6 to 19.1 kW (32 800 to 65 000 Btuh)**  
**Gas Input Heat Capacity - 16.7 to 38.7 kW (57 000 to 132 000 Btuh)**

**MODEL NUMBER IDENTIFICATION**



## CONTENTS

Accessory Air Resistance .....	Page 16
Blower Performance .....	Pages 11-16
Cooling Ratings .....	Page 10
Dimensions .....	Pages 21-27
Electrical Data .....	Page 17
Features and Benefits .....	Pages 2-5
High Altitude Information .....	Page 9
Model Number Identification .....	Page 1
Options / Accessories .....	Pages 5-7
Specifications .....	Page 8
Sound Data .....	Page 17
Temperature Control Systems .....	Page 19
Unit Clearances .....	Page 18
Weights .....	Page 20

## FEATURES AND BENEFITS

### APPROVALS

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

10.5 through 17.5 kW (3 to 5 ton) models cooling performance is rated at test conditions included in Air-Conditioning and Refrigeration Institute (ARI) Standard 210/240-2005 while operating at rated voltage and air volumes.

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

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

### CABINET

#### 1 Construction

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

Base rails have rigging holes. Three sides of the base rail have fork slots.

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

#### Air-Flow Choice

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

#### 2 Power/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

##### Bottom Gas Entry Kit

Field installed piping kit to facilitate bottom gas entry.

##### Corrosion Protection

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

#### 5 Hinged Access Panels

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

#### Field Installed

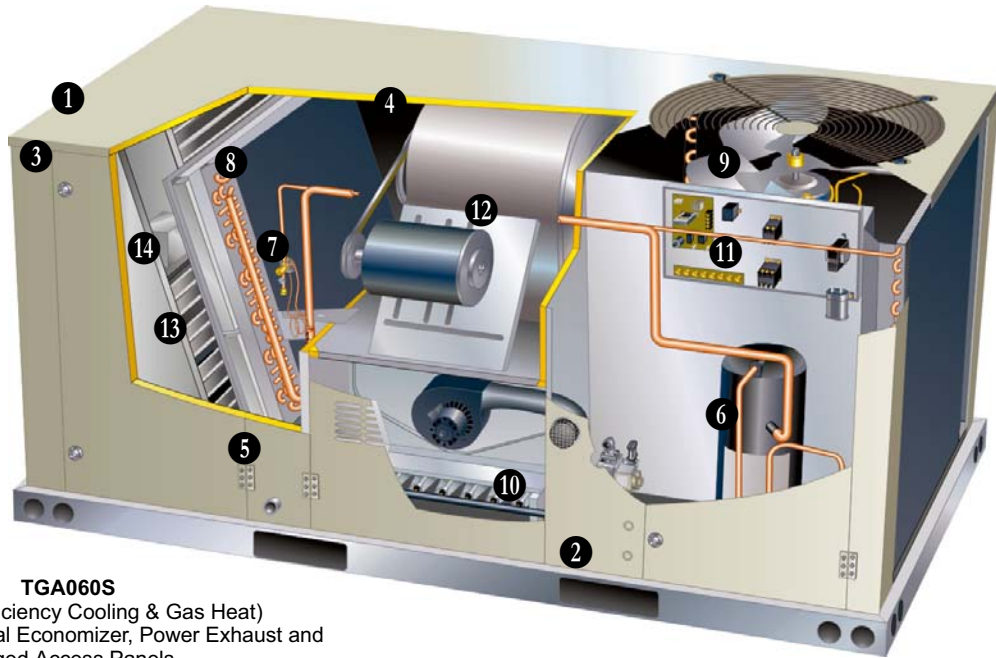
##### Coil Guards

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

##### Hail Guards

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

## FEATURES AND BENEFITS



**TGA060S**

(Standard Efficiency Cooling & Gas Heat)

Shown With Optional Economizer, Power Exhaust and Hinged Access Panels

### **COOLING SYSTEM**

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

Two efficiency levels provide design flexibility.

System can operate from  $-1^{\circ}\text{C}$  to  $52^{\circ}\text{C}$  ( $30^{\circ}\text{F}$  to  $125^{\circ}\text{F}$ ) 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 American Society of Heating Refrigeration and Air Conditioning Engineers Standard 62.1. Side or bottom drain connections. Reversible to allow connection at back of unit.

#### **9 Outdoor Coil Fan Motor**

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

#### **Outdoor Coil Fan**

Polyvinyl chloride (PVC) coated fan guard furnished.

### **REQUIRED SELECTIONS**

#### **Cooling Capacity**

Specify nominal cooling capacity of the unit.

### **OPTIONS/ACCESSORIES**

#### **Field Installed**

##### **Condensate Drain Trap**

Field installed only.

Available in copper or polyvinyl chloride (PVC).

##### **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  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ). 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 7°C (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 light emitting diode (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.

### REQUIRED SELECTIONS

#### Gas Input Choice - Order one:

- 16.7 kW (57 000 Btuh) Standard Gas Heat, 1 Stage
- 27.0 kW (92 000 Btuh) Medium Gas Heat, 1 Stage
- 27.0/38.7 kW (92 000/132 000) Btuh High Gas Heat, 2 Stage
- 38.7 kW (132 000 Btuh) High Gas Heat, 1 Stage

### OPTIONS/ACCESSORIES

#### Factory Installed

##### Stainless Steel Heat Exchanger

Required if mixed air temperature is below 7°C (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.

##### Low Temperature Vestibule Heater

Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below -40°C (-40°F). Allows operation of unit down to -50°C (-60°F).

##### Propane Kits

Conversion kit to field change over units from Natural Gas to 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 return air section

##### Thermostats

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

### 12 BLOWER

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

#### Motor

Externally overload protected, equipped with ball bearings.

Belt drive motors are offered on all models.

#### Supply Air Blower

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

Motors have adjustable pulley for speed change.

#### Ordering Information

Specify drive kit number when base unit is ordered.

### REQUIRED SELECTIONS

#### Supply Air Blower

Order one drive kit (See Blower Data Table for specifications)

### INDOOR AIR QUALITY

#### Air Filters

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

### OPTIONS/ACCESSORIES

#### Field Installed

##### Indoor Air Quality (CO<sub>2</sub>) Sensor

Monitors CO<sub>2</sub> levels adjusts economizer dampers as needed for Demand Control Ventilation.

## 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 thermal expansion valve.

#### **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.

Outdoor Air Hoods are included.

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

Horizontal conversion kit available for field installation.

#### **Single Enthalpy Control**

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

#### **Field Installed**

##### **Outdoor Air Damper - Manual**

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

##### **Outdoor Air Damper Motorized Kit**

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

#### **Differential Enthalpy Control**

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

#### **Economizer Temperature Control - Single**

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

#### **Economizer Temperature Control - Differential**

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

#### **Horizontal Conversion Kit**

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

##### **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 and Outdoor Air Hood (ordered separately). Fan is 406 mm (16 inches) diameter with 4 fan blades (T1PWRE10A) or 508 mm (20 inches) diameter with 5 blades (T1PWRE10N). Both include a 560 (3/4 hp) watts motor.

### **CEILING DIFFUSERS**

#### **Ceiling Diffusers (Flush and Step-Down)**

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

#### **Transitions (Supply and Return)**

Used with diffusers, installs in roof curb, galvanized steel construction, flanges furnished for duct connection to diffusers, fully insulated.

### **ROOF CURB**

#### **Roof Curb, Down-Flow**

Nailer strip furnished, mates to unit, US National Roofing Contractors Approved, shipped knocked down. Available in 203, 356, 457 and 610 mm (8, 14, 18 and 24 in.) heights. Hinged curb corners fasten together with furnished hinge pins. Standard roof curb corners fasten together with furnished hardware.

## OPTIONS / ACCESSORIES

Item	Catalog No.	036	048	060	072	
<b>COOLING SYSTEM</b>						
Condensate Drain Trap	Polyvinyl Chloride (PVC) - LTACDKP03/07	37K69	x	x	x	x
	Copper - LTACDKC03/07	45K67	x	x	x	x
Compressor Crankcase Heater	K1CCHT02A-1G	39W05	x			
	T1CCHT01AN1G	95M08		x	x	x
High Pressure Switch	T1SNSR11A-2	43W02	x	x	x	x
Low Ambient Kit	T1SNSR12AN2	43W08	x	x	x	x
Refrigerant Type	R-22	Factory	○	○	○	○
<b>HEATING SYSTEM</b>						
Bottom Gas Piping Kit	T1GPKT01AN1	19W50	x	x	x	x
Low Temperature Vestibule Heater	T1CWKT01AN1G	19W54	x	x	x	x
Combustion Air Intake Extensions	T1EXTN10AN1	19W51	x	x	x	x
Gas Heat Input	Standard One-Stage - 16.7 kW (57 000 Btuh) input	Factory	○	○	○	○
	Medium One-Stage - 27.0 kW (92 000 Btuh) input	Factory	○	○	○	○
	High Two-Stage - 30.7/38.7 kW (105 000 Btuh) input	Factory		○	○	○
	High One-Stage - 38.7 kW (132 000 Btuh) input	Factory		○	○	○
LPG/Propane Conversion Kits	For one-stage models - T1PROP10AN1	19W48	x	x	x	x
	For two-stage models - T1PROP20AN1	19W49	x	x	x	x
Stainless Steel Heat Exchanger		Factory	○	○	○	○
Vertical Vent Extension	C1EXTN20FF1	31W62	x	x	x	x
<b>BLOWER - SUPPLY AIR</b>						
Motor	Belt Drive - 1.5 kW (2 hp) Standard Efficiency	Factory	○	○	○	○
Drive Kits See Blower Data Tables for selection	Drive Kit 1 - T1DRKT001-1 - 561 - 842 rev/min	20W81	⊗			
	Drive Kit 2 - T1DRKT002-1 - 621 - 931 rev/min	20W82		⊗		
	Drive Kit 3 - T1DRKT003-1 - 694 - 1042 rev/min	20W83			⊗	
	Drive Kit 4 - T1DRKT004-1 - 807 - 1117 rev/min	20W84				⊗
	Drive Kit 5 - T1DRKT005-1 - 748 - 1142 rev/min	20W85	⊗			
	Drive Kit 6 - T1DRKT006-1 - 893 - 1191 rev/min	20W86		⊗		
	Drive Kit 7 - T1DRKT007-1 - 1010 - 1290 rev/min	20W87			⊗	
	Drive Kit 8 - T1DRKT008-1 - 994 - 1326 rev/min	20W88				⊗
<b>CABINET</b>						
Coil Guards	T1GARD20A-1	17W87	x	x	x	
	T1GARD20N-1	17W88				x
Corrosion Protection		Factory	○	○	○	○
Hail Guards	T1GARD10A-1	17W89	x	x	x	
	T1GARD10N-1	17W90				x
Hinged Access Panels		Factory	○	○	○	○
<b>CONTROLS</b>						
Dirty Filter Switch	COSWCH00AE-1	30K48	x	x	x	x
Smoke Detector - Supply and Return (order 2)	T1SNSR41AN1	39W16	x	x	x	x
<b>INDOOR AIR QUALITY</b>						
<b>Indoor Air Quality (CO<sub>2</sub>) Sensors</b>						
Sensor - white case CO <sub>2</sub> display	C0SNSR50AE1L	77N39	x	x	x	x
Sensor - duct mount, black case, no display	C0SNSR53AE1L	87N54	x	x	x	x
CO <sub>2</sub> Sensor Duct Mounting Kit	C0MISC19AE1-	85L43	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.	036	048	060	072
<b>ELECTRICAL</b>					
Disconnect	See Electric Data Tables for usage	x	x	x	x
Voltage - 50 hz	380/420V - 3 phase with neutral	Factory	○	○	○
<b>ECONOMIZER</b>					
<b>Economizer</b>					
Economizer, Single Enthalpy Control	T1ECON30A-1	36W96	⊗	⊗	⊗
Includes Outdoor Air Hood and Barometric Relief Dampers	T1ECON30N-1	36W97			⊗
Horizontal Economizer Conversion Kit	T1HECK00AN1	17W45	x	x	x
<b>Economizer Controls</b>					
Differential Enthalpy Sensor	T1SNSR60AN1	17W71	x	x	x
Single Temperature Control	TASEK10/15	76M37	x	x	x
Differential Temperature Control	Order 2 - TASEK10/15	76M37	x	x	x
<b>OUTDOOR AIR</b>					
<b>Outdoor Air Dampers</b>					
Damper Section - Manual, Includes Outdoor Air Hood	T1DAMP11A-1	16W88	x	x	x
	T1DAMP11N-1	16W91			x
Damper Motorized Kit - Order Manual Outdoor Air Damper Separately	T1DAMP21AN1	16W92	x	x	x
<b>Power Exhaust</b>					
Standard Static	380/420V - T1PWRE10A-1G	17W40	x	x	x
	380/420V - T1PWRE10N-1G	17W43			x
<b>ROOF CURBS - DOWN-FLOW</b>					
<b>Hinged</b>					
203 mm (8 in.) height	T1CURB30AN1	17W46	x	x	x
457 mm (18 in.) height	T1CURB32AN1	17W47	x	x	x
610 mm (24 in.) height	T1CURB33AN1	17W48	x	x	x
<b>Standard</b>					
356 mm (14 in.) height	T1CURB10AN1	13W27	x	x	x
<b>CEILING DIFFUSERS</b>					
Step-Down - Order one	RTD9-65	27G87	x	x	x
	RTD11-95	29G04			x
Flush - Order one	FD9-65	27G86	x	x	x
	FD11-95	29G08			x
Transitions (Supply and Return) - Order one	T1TRAN10AN1	17W53	x	x	x
	T1TRAN20N-1	17W54			x

**NOTE** - The model and catalog 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 - BELT DRIVE BLOWER

General Data		Nominal kW	10.5 kW	14.0 kW	17.5 kW	21 kW
	Model No.		TGA036S2B	TGA048S2B	TGA060S2B	TGA072S2B
	Efficiency Type		Standard	Standard	Standard	Standard
<b>Cooling Performance</b>	Gross Cooling Capacity - kW (Btuh)		10.2 (34 900)	14.0 (47 800)	16.5 (56 400)	20.0 (68 200)
	<sup>1</sup> Net Cooling Capacity - kW (Btuh)		9.8 (33 600)	13.5 (46 000)	15.7 (53 500)	19.0 (65 000)
	Rated Air Flow - L/s (cfm)		565 (1200)	755 (1600)	945 (2000)	1060 (2250)
	<sup>2</sup> Sound Rating Number (dB)		75	75	82	82
	Total Unit Power - kW		2.8	4.1	4.7	6.2
	<sup>1</sup> Energy Efficiency Ratio (Btuh/Watts)		12.0	11.3	11.3	10.5
	Coefficient of Performance (Output/Input)		3.52	3.31	3.31	3.08
<b>Refrigerant</b>	Type		R-22	R-22	R-22	R-22
	Charge Furnished		3.51 kg (7 lbs. 12 oz.)	4.42 kg (9 lbs. 12 oz.)	5.13 kg (11 lbs. 5 oz.)	5.10 kg (11 lbs. 4 oz.)
<b>Gas Heating Options - See Page 9</b>			<b>Standard or Medium</b>	<b>Standard, Medium, or High (1 or 2 stage)</b>		
<b>Compressor Type (no.)</b>			Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)
<b>Outdoor Coil</b>	Net face area - m <sup>2</sup> (sq. ft.)		1.45 (15.6)	1.45 (15.6)	1.45 (15.6)	1.79 (19.27)
	Tube diameter - mm (in.)		9.5 (3/8)	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)
	Number of rows		1.5	2.0	2.0	1.4
	Fins per meter (Fins per inch)		788 (20)	788 (20)	788 (20)	788 (20)
<b>Outdoor Coil Fan</b>	Motor W (hp)		560 (1/4)	560 (1/4)	248 (1/3)	248 (1/3)
	Motor rev/min		690	690	900	900
	Total motor watts		190	190	280	310
	Diameter - mm (in.) / No. of blades		610 (24) - 3	610 (24) - 3	610 (24) - 3	610 (24) - 3
	Total air volume - L/s (cfm)		1370 (2900)	1320 (2800)	1700 (3600)	1885 (4000)
<b>Indoor Coil</b>	Net face area - m <sup>2</sup> (sq. ft.)		0.72 (7.78)	0.72 (7.78)	0.72 (7.78)	0.90 (9.7)
	Tube diameter - mm (in.)		9.5 (3/8)	9.5 (3/8)	9.5 (3/8)	9.5 (3/8)
	Number of rows		3	3	4	3
	Fins per meter (Fins per inch)		551 (14)	551 (14)	551 (14)	551 (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			
<b><sup>3</sup> Indoor Blower &amp; Drive Selection</b>	Nominal Motor Size		1.5 kW (2 hp)			
	Maximum Usable Motor Size		1.7 kW (2.3 hp)			
	Available Drive Kits		kit #1 - 561 - 842 rev/min kit #5 - 748 - 1122 rev/min	kit #2 - 621 - 931 rev/min kit #6 - 893 - 1191 rev/min	kit #3 - 694 - 1042 rev/min kit #7 - 1010 - 1290 rev/min	kit #4 - 807 - 1117 rev/min kit #8 - 994 - 1326 rev/min
	Wheel nominal diameter x width - mm (in.)		254 x 254 (10 x 10)			
<b>Filters</b>	Type		Disposable			
	Number and size - mm (in.)		(4) 406 x 508 x 51 (16 x 20 x 2)			(4) 508 x 508 x 51 (20 x 20 x2)
<b>Electrical Characteristics - 50 Hz</b>			380/420V - 3 phase with neutral			

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

<sup>1</sup> Tested at conditions included in the USE certification program, which is based on ARI Standard 210/240; 35°C (95°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air; minimum external duct static pressure while operating at rated voltage and air volumes.

<sup>2</sup> Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.

<sup>3</sup> Using total air volume and system static pressure requirements determine from blower performance tables rev/min and motor size required. Maximum usable size of motors furnished is shown. If motors of comparable size are used, be sure to keep within the service factor limitations outlined on the motor nameplate.



## SPECIFICATIONS - GAS HEAT

Model No.	TGA036, TGA048, TGA060, TGA072		TGA048, TGA060, TGA072	
Heat Input Type	<b>Standard (1 Stage)</b>	<b>Medium (1 Stage)</b>	<b>High (1 Stage)</b>	<b>High (2 Stage)</b>
Input - kW (Btuh) First Stage	16.7 (57 000)	27.0 (92 000)	38.7 (132 000)	30.8 (105 000)
Second Stage	---	---	---	38.7 (132 000)
Output - kW (Btuh) First Stage	13.5 (46 000)	21.7 (74 000)	31.0 (106 000)	---
Second Stage	---	---	---	31.1 (106 000)
Thermal Efficiency	80%	80%	80%	80%
Gas Supply Connections	1/2 in. NPT			
Recommended Gas Supply Pressure - Natural / Propane	1.7 kPa (7.0 in. w.c.) / 2.7 kPa (11.0 in. w.c.)			

## HIGH ALTITUDE DERATE

NOTE - Units may be installed at altitudes up to 610 m (2000 ft) above sea level without any modifications. At altitudes above 610 m (2000 ft.), units must be derated to match information in the table shown. At altitudes above 1372 m (4500 ft.), unit must be derated 2% for each 305 m (1000 ft.) above sea level. Example: 1524 m (5000 ft.) above sea level = 5 x 2% or 10% derate.

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

Heat Input Type	Altitude		Gas Manifold Pressure				Input Rate	
			kPa		in. w.g.			
	meters	feet	Natural Gas	LPG/Propane	Natural Gas	LPG/Propane	kW	Btuh
Standard (1 stage)	610 - 1372	2001 - 4500	0.62	2.11	2.5	8.5	16.1	55 000
Medium (1 stage)	610 - 1372	2001 - 4500	0.62	2.11	2.5	8.5	26.1	89 000
High (1 stage)	610 - 1372	2001 - 4500	0.62	2.11	2.5	8.5	37.2	127 000
High (2 stage)	610 - 1372	2001 - 4500	0.22/0.62	1.37/2.11	1.7/2.5	5.5/8.5	30.8/37.2	105 000 / 127 000

# 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.

## 10.5 kW (3 TON) STANDARD EFFICIENCY - COOLING CAPACITY

TGA036S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.45	960	9.8	33.5	1.83	.71	.86	1.00	9.3	31.7	2.20	.72	.89	1.00	8.7	29.7	2.63	.75	.92	1.00	8.1	27.7	3.14	.77	.96	1.00
	.56	1200	10.2	34.9	1.84	.76	.95	1.00	9.7	33.0	2.20	.79	.98	1.00	9.1	31.1	2.64	.82	1.00	1.00	8.6	29.2	3.15	.86	1.00	1.00
	.68	1440	10.6	36.3	1.84	.83	1.00	1.00	10.1	34.5	2.21	.86	1.00	1.00	9.6	32.6	2.65	.90	1.00	1.00	8.9	30.5	3.16	.94	1.00	1.00
19°C (67°F)	.45	960	10.5	35.8	1.84	.55	.68	.82	9.9	33.8	2.21	.56	.70	.85	9.3	31.7	2.65	.57	.72	.88	8.6	29.4	3.16	.59	.75	.92
	.56	1200	10.9	37.1	1.85	.58	.74	.91	10.2	34.9	2.22	.60	.76	.94	9.6	32.7	2.65	.61	.79	.98	8.9	30.3	3.17	.63	.83	1.00
	.68	1440	11.1	37.9	1.85	.62	.80	.98	10.5	35.8	2.22	.64	.83	1.00	9.8	33.4	2.66	.66	.87	1.00	9.1	31.1	3.18	.68	.91	1.00
22°C (71°F)	.45	960	11.3	38.4	1.85	.41	.53	.66	10.6	36.2	2.23	.41	.54	.67	9.9	33.9	2.66	.42	.56	.69	9.2	31.5	3.18	.42	.57	.72
	.56	1200	11.6	39.6	1.86	.42	.57	.72	10.9	37.3	2.23	.43	.58	.74	10.2	34.9	2.67	.43	.60	.77	9.5	32.3	3.19	.44	.62	.80
	.68	1440	11.8	40.4	1.87	.44	.61	.78	11.2	38.1	2.24	.44	.62	.81	10.4	35.5	2.68	.45	.65	.85	9.6	32.9	3.20	.46	.67	.89

## 14 kW (4 TON) STANDARD EFFICIENCY - COOLING CAPACITY

TGA048S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.60	1280	13.5	46.0	2.69	.68	.83	.99	12.7	43.5	3.22	.70	.86	1.00	11.9	40.6	3.86	.72	.90	1.00	11.0	37.5	4.61	.75	.95	1.00
	.75	1600	14.0	47.8	2.71	.74	.93	1.00	13.2	45.2	3.24	.76	.96	1.00	12.4	42.3	3.88	.80	.99	1.00	11.6	39.5	4.63	.84	1.00	1.00
	.90	1920	14.5	49.5	2.72	.80	.99	1.00	13.8	47.0	3.25	.83	1.00	1.00	13.0	44.2	3.89	.87	1.00	1.00	12.1	41.2	4.65	.92	1.00	1.00
19°C (67°F)	.60	1280	14.4	49.0	2.72	.53	.66	.79	13.5	46.2	3.25	.54	.68	.82	12.7	43.2	3.88	.55	.70	.86	11.7	39.8	4.64	.57	.73	.91
	.75	1600	14.9	50.7	2.74	.56	.71	.89	14.0	47.8	3.27	.58	.73	.92	13.0	44.5	3.90	.59	.77	.96	12.0	41.0	4.66	.61	.81	1.00
	.90	1920	15.2	51.9	2.75	.60	.77	.97	14.3	48.8	3.28	.61	.81	.99	13.3	45.5	3.91	.63	.85	1.00	12.3	41.9	4.67	.66	.90	1.00
22°C (71°F)	.60	1280	15.4	52.4	2.75	.40	.52	.63	14.5	49.4	3.29	.40	.53	.65	13.5	46.2	3.92	.41	.54	.67	12.5	42.6	4.68	.41	.56	.70
	.75	1600	15.8	54.0	2.77	.41	.55	.69	14.9	50.9	3.30	.42	.56	.71	13.9	47.4	3.93	.42	.58	.74	12.8	43.7	4.69	.43	.60	.79
	.90	1920	16.1	55.1	2.78	.42	.59	.75	15.2	51.8	3.31	.43	.60	.78	14.1	48.2	3.94	.44	.62	.82	13.0	44.4	4.71	.45	.65	.87

## 17.5 kW (5 TON) STANDARD EFFICIENCY - COOLING CAPACITY

TGA060S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.75	1600	16.3	55.5	3.04	.72	.88	1.00	15.4	52.4	3.63	.74	.91	1.00	14.4	49.2	4.34	.76	.95	1.00	13.5	45.9	5.19	.79	.98	1.00
	.94	2000	16.9	57.8	3.07	.78	.97	1.00	16.0	54.7	3.66	.81	1.00	1.00	15.2	51.7	4.37	.84	1.00	1.00	14.2	48.6	5.22	.88	1.00	1.00
	1.13	2400	17.6	60.2	3.10	.85	1.00	1.00	16.7	57.1	3.69	.89	1.00	1.00	15.8	54.0	4.40	.92	1.00	1.00	14.9	50.7	5.25	.96	1.00	1.00
19°C (67°F)	.75	1600	17.3	59.0	3.08	.56	.70	.84	16.3	55.6	3.67	.57	.72	.87	15.3	52.2	4.38	.58	.74	.91	14.2	48.5	5.23	.60	.77	.95
	.94	2000	17.8	60.9	3.11	.60	.76	.94	16.8	57.3	3.70	.61	.79	.97	15.7	53.7	4.40	.63	.82	1.00	14.7	50.0	5.25	.65	.86	1.00
	1.13	2400	18.2	62.2	3.13	.64	.83	1.00	17.2	58.6	3.72	.65	.86	1.00	16.1	54.9	4.42	.68	.90	1.00	15.0	51.3	5.26	.70	.94	1.00
22°C (71°F)	.75	1600	18.4	62.9	3.14	.41	.54	.67	17.4	59.3	3.72	.42	.56	.69	16.3	55.6	4.43	.42	.57	.72	15.2	51.9	5.27	.43	.59	.74
	.94	2000	18.9	64.6	3.16	.43	.59	.74	17.8	60.8	3.75	.43	.60	.76	16.7	57.0	4.45	.44	.62	.79	15.6	53.1	5.29	.45	.64	.83
	1.13	2400	19.3	65.8	3.18	.44	.63	.81	18.1	61.9	3.77	.45	.65	.84	17.0	57.9	4.47	.46	.67	.88	15.8	54.0	5.30	.47	.70	.92

## 21 kW (6 TON) STANDARD EFFICIENCY - COOLING CAPACITY

TGA072S2

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtu/h		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.90	1920	19.5	66.5	4.19	.67	.83	1.00	18.4	62.9	4.95	.68	.87	1.00	17.3	59.0	5.90	.70	.91	1.00	15.9	54.4	7.10	.74	.97	1.00
	1.13	2400	20.3	69.1	4.26	.72	.94	1.00	19.2	65.4	5.01	.75	.98	1.00	18.1	61.6	5.96	.79	1.00	1.00	16.8	57.4	7.17	.84	1.00	1.00
	1.36	2880	21.0	71.5	4.31	.80	1.00	1.00	20.0	68.1	5.07	.83	1.00	1.00	18.8	64.3	6.03	.88	1.00	1.00	17.5	59.7	7.24	.93	1.00	1.00
19°C (67°F)	.90	1920	20.7	70.6	4.29	.52	.64	.79	19.6	66.8	5.05	.53	.66	.82	18.3	62.6	5.99	.54	.68	.87	16.9	57.6	7.18	.56	.71	.92
	1.13	2400	21.3	72.8	4.34	.55	.70	.90	20.2	68.8	5.09	.56	.72	.94	18.8	64.3	6.04	.58	.76	.98	17.3	59.2	7.24	.60	.81	1.00
	1.36	2880	21.8	74.4	4.38	.58	.77	.98	20.6	70.2	5.13	.60	.81	1.00	19.3	65.7	6.08	.62	.85	1.00	17.7	60.5	7.28	.65	.91	1.00
22°C (71°F)	.90	1920	22.1	75.3	4.40	.39	.50	.62	20.9	71.3	5.16	.39	.51	.64	19.6	66.8	6.11	.39	.53	.66	18.0	61.4	7.31	.40	.55	.69
	1.13	2400	22.7	77.4	4.45	.40	.54	.68	21.4	73.1	5.20	.40	.55	.70	20.0	68.3	6.15	.41	.57	.73	18.4	62.8	7.35	.42	.59	.78
	1.36	2880	23.1	78.8	4.49	.41	.58	.74	21.8	74.4	5.24	.42	.59	.78	20.3	69.4	6.19	.43	.61	.82	18.7	63.8	7.39	.44	.64	.88

**BLOWER DATA - BELT DRIVE**

**10.5 kW**

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

FOR ALL UNITS ADD:

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

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

50 to 200 Pa		10.5 kW (3 Ton) Standard Efficiency (Down-Flow)									TGA036S		
Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		Low Static - Drive Kit #1						High Static - Drive Kit #5					
425	900	595	0.15	0.11	780	0.30	0.22	930	0.50	0.37	1065	0.75	0.56
470	1000	615	0.20	0.15	790	0.35	0.26	945	0.55	0.41	1075	0.75	0.56
520	1100	640	0.20	0.15	805	0.35	0.26	955	0.55	0.41	1085	0.80	0.60
565	1200	665	0.25	0.19	825	0.40	0.30	965	0.60	0.45	1095	0.85	0.63
615	1300	695	0.30	0.22	845	0.45	0.34	980	0.65	0.48	1105	0.90	0.67
660	1400	730	0.35	0.26	865	0.50	0.37	995	0.70	0.52	1120	0.95	0.71
705	1500	760	0.40	0.30	890	0.55	0.41	1015	0.75	0.56	1135	1.00	0.75

250 to 400 Pa		10.5 kW (3 Ton) Standard Efficiency (Down-Flow)									TGA036S		
Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		Field Furnished											
425	900	1180	1.00	0.75	1285	1.25	0.93	1380	1.50	1.12	1465	1.80	1.34
470	1000	1190	1.00	0.75	1295	1.30	0.97	1390	1.60	1.19	1475	1.85	1.38
520	1100	1200	1.05	0.78	1300	1.35	1.01	1400	1.65	1.23	1485	1.95	1.45
565	1200	1210	1.10	0.82	1310	1.40	1.04	1410	1.70	1.27	1495	2.00	1.49
615	1300	1220	1.15	0.86	1320	1.45	1.08	1415	1.75	1.31	1505	2.05	1.53
660	1400	1230	1.20	0.90	1330	1.50	1.12	1425	1.80	1.34	1515	2.15	1.60
705	1500	1240	1.25	0.93	1345	1.55	1.16	1435	1.90	1.42	1525	2.20	1.64

50 to 200 Pa		10.5 kW (3 Ton) Standard Efficiency (Horizontal)									TGA036S		
Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		Low Static - Drive Kit #1						High Static - Drive Kit #5					
425	900	570	0.15	0.11	735	0.30	0.22	875	0.45	0.34	1000	0.65	0.48
470	1000	595	0.15	0.11	750	0.30	0.22	890	0.50	0.37	1010	0.70	0.52
520	1100	625	0.20	0.15	765	0.35	0.26	900	0.50	0.37	1020	0.75	0.56
565	1200	660	0.25	0.19	790	0.40	0.30	915	0.55	0.41	1030	0.75	0.56
615	1300	690	0.30	0.22	810	0.40	0.30	930	0.60	0.45	1045	0.80	0.60
660	1400	730	0.35	0.26	840	0.50	0.37	950	0.65	0.48	1060	0.85	0.63
705	1500	765	0.40	0.30	870	0.55	0.41	970	0.70	0.52	1075	0.95	0.71

250 to 400 Pa		10.5 kW (3 Ton) Standard Efficiency (Horizontal)									TGA036S		
Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		High Static - Drive Kit #5						Field Furnished					
425	900	1105	0.90	0.67	1200	1.10	0.82	1285	1.35	1.01	1365	1.60	1.19
470	1000	1115	0.90	0.67	1210	1.15	0.86	1300	1.40	1.04	1380	1.70	1.27
520	1100	1125	0.95	0.71	1220	1.20	0.90	1310	1.50	1.12	1395	1.75	1.31
565	1200	1135	1.00	0.75	1235	1.25	0.93	1320	1.55	1.16	1405	1.85	1.38
615	1300	1145	1.05	0.78	1245	1.30	0.97	1330	1.60	1.19	1415	1.90	1.42
660	1400	1160	1.10	0.82	1255	1.40	1.04	1340	1.65	1.23	1425	1.95	1.45
705	1500	1175	1.15	0.86	1265	1.45	1.08	1355	1.75	1.31	1435	2.05	1.53

**BLOWER DATA - BELT DRIVE**

**14.0 KW**

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

FOR ALL UNITS ADD:

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

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

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

**50 to 200 Pa 14 kW (4 Ton) Standard Efficiency (Down-Flow) TGA048S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
Low Static - Drive Kit #2						High Static - Drive Kit #6							
565	1200	660	0.20	0.15	815	0.35	0.26	955	0.55	0.41	1075	0.70	0.52
615	1300	690	0.25	0.19	835	0.40	0.30	970	0.55	0.41	1090	0.75	0.56
660	1400	720	0.30	0.22	855	0.45	0.34	985	0.60	0.45	1105	0.85	0.63
705	1500	755	0.35	0.26	880	0.50	0.37	1005	0.65	0.48	1120	0.90	0.67
755	1600	790	0.40	0.30	910	0.55	0.41	1025	0.75	0.56	1135	0.95	0.71
800	1700	825	0.45	0.34	935	0.60	0.45	1045	0.80	0.60	1155	1.00	0.75
850	1800	860	0.55	0.41	965	0.70	0.52	1070	0.85	0.63	1175	1.10	0.82
895	1900	895	0.60	0.45	995	0.75	0.56	1095	0.95	0.71	1195	1.15	0.86
945	2000	935	0.70	0.52	1030	0.85	0.63	1125	1.05	0.78	1220	1.25	0.93

**250 to 400 Pa 14 kW (4 Ton) Standard Efficiency (Down-Flow) TGA048S**

Air Volume		External Static - Pa (in.w.g.)												
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)			
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	
High Static - Drive Kit #6					Field Furnished									
565	1200	1185	0.95	0.71	1285	1.15	0.86	1380	1.45	1.08	1465	1.70	1.27	
615	1300	1200	1.00	0.75	1300	1.25	0.93	1390	1.50	1.12	1475	1.75	1.31	
660	1400	1210	1.05	0.78	1310	1.30	0.97	1400	1.55	1.16	1490	1.85	1.38	
705	1500	1225	1.10	0.82	1320	1.35	1.01	1415	1.60	1.19	1500	1.90	1.42	
755	1600	1240	1.20	0.90	1335	1.40	1.04	1425	1.70	1.27	1510	1.95	1.45	
800	1700	1255	1.25	0.93	1350	1.50	1.12	1440	1.80	1.34	1520	2.05	1.53	
850	1800	1270	1.30	0.97	1365	1.60	1.19	1450	1.85	1.38	1535	2.15	1.60	
895	1900	1290	1.40	1.04	1380	1.65	1.23	1465	1.95	1.45	1550	2.25	1.68	
945	2000	1310	1.50	1.12	1395	1.75	1.31	1480	2.05	1.53	1565	2.35	1.75	

**50 to 200 Pa 14 kW (4 Ton) Standard Efficiency (Horizontal) TGA048S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
Low Static - Drive Kit #2						High Static - Drive Kit #6							
565	1200	655	0.20	0.15	780	0.35	0.26	900	0.50	0.37	1015	0.65	0.48
615	1300	685	0.25	0.19	805	0.35	0.26	920	0.50	0.37	1030	0.70	0.52
660	1400	725	0.30	0.22	830	0.40	0.30	940	0.55	0.41	1045	0.75	0.56
705	1500	760	0.35	0.26	860	0.50	0.37	960	0.60	0.45	1060	0.80	0.60
755	1600	800	0.45	0.34	890	0.55	0.41	985	0.70	0.52	1080	0.85	0.63
800	1700	840	0.50	0.37	925	0.60	0.45	1015	0.75	0.56	1100	0.95	0.71
850	1800	880	0.60	0.45	960	0.70	0.52	1040	0.85	0.63	1125	1.00	0.75
895	1900	920	0.65	0.48	995	0.80	0.60	1070	0.95	0.71	1150	1.10	0.82
945	2000	960	0.75	0.56	1030	0.90	0.67	1105	1.05	0.78	1180	1.20	0.90

**250 to 400 Pa 14 kW (4 Ton) Standard Efficiency (Horizontal) TGA048S**

Air Volume		External Static - Pa (in.w.g.)												
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)			
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	
High Static - Drive Kit #6					Field Furnished									
565	1200	1115	0.85	0.63	1210	1.05	0.78	1295	1.30	0.97	1375	1.50	1.12	
615	1300	1130	0.90	0.67	1220	1.10	0.82	1305	1.35	1.01	1385	1.60	1.19	
660	1400	1140	0.95	0.71	1235	1.15	0.86	1320	1.40	1.04	1400	1.65	1.23	
705	1500	1155	1.00	0.75	1245	1.20	0.90	1330	1.45	1.08	1410	1.70	1.27	
755	1600	1170	1.05	0.78	1260	1.30	0.97	1345	1.55	1.16	1420	1.80	1.34	
800	1700	1190	1.15	0.86	1275	1.35	1.01	1355	1.60	1.19	1435	1.85	1.38	
850	1800	1210	1.20	0.90	1290	1.45	1.08	1370	1.70	1.27	1450	1.95	1.45	
895	1900	1230	1.30	0.97	1310	1.55	1.16	1390	1.80	1.34	1465	2.05	1.53	
945	2000	1255	1.40	1.04	1330	1.65	1.23	1405	1.85	1.38	1480	2.15	1.60	

**BLOWER DATA - BELT DRIVE**

**17.5 KW**

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

FOR ALL UNITS ADD:

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

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

**50 to 200 Pa 17.5 kW (5 Ton) Standard Efficiency (Down-Flow) TGA060S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
Low Static - Drive Kit #3											High Static - Drive Kit #7		
755	1600	790	0.35	0.26	895	0.45	0.34	995	0.55	0.41	1090	0.70	0.52
800	1700	830	0.45	0.34	925	0.55	0.41	1020	0.65	0.48	1110	0.75	0.56
850	1800	865	0.50	0.37	960	0.60	0.45	1050	0.70	0.52	1135	0.85	0.63
895	1900	905	0.60	0.45	990	0.70	0.52	1075	0.80	0.60	1160	0.95	0.71
945	2000	945	0.65	0.48	1025	0.75	0.56	1110	0.90	0.67	1190	1.05	0.78
990	2100	985	0.75	0.56	1060	0.85	0.63	1140	1.00	0.75	1215	1.10	0.82
1040	2200	1025	0.85	0.63	1100	1.00	0.75	1170	1.10	0.82	1245	1.25	0.93
1085	2300	1065	1.00	0.75	1135	1.10	0.82	1205	1.20	0.90	1275	1.35	1.01
1130	2400	1105	1.10	0.82	1170	1.20	0.90	1240	1.35	1.01	1310	1.50	1.12

**250 to 400 Pa 17.5 kW (5 Ton) Standard Efficiency (Down-Flow) TGA060S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
High Static - Drive Kit #7								Field Furnished					
755	1600	1180	0.85	0.63	1265	0.95	0.71	1345	1.15	0.86	1425	1.30	0.97
800	1700	1200	0.90	0.67	1280	1.05	0.78	1360	1.20	0.90	1440	1.40	1.04
850	1800	1220	1.00	0.75	1300	1.10	0.82	1380	1.30	0.97	1455	1.45	1.08
895	1900	1240	1.05	0.78	1320	1.20	0.90	1395	1.35	1.01	1470	1.55	1.16
945	2000	1265	1.15	0.86	1340	1.30	0.97	1415	1.45	1.08	1485	1.65	1.23
990	2100	1290	1.25	0.93	1365	1.40	1.04	1435	1.60	1.19	1505	1.75	1.31
1040	2200	1320	1.40	1.04	1390	1.55	1.16	1460	1.70	1.27	1525	1.85	1.38
1085	2300	1345	1.50	1.12	1415	1.65	1.23	1480	1.85	1.38	1550	2.00	1.49
1130	2400	1375	1.65	1.23	1440	1.80	1.34	1505	1.95	1.45	1570	2.15	1.60

**50 to 200 Pa 17.5 kW (5 Ton) Standard Efficiency (Horizontal) TGA060S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
Low Static - Drive Kit #3											High Static - Drive Kit #7		
755	1600	805	0.40	0.30	900	0.50	0.37	1000	0.65	0.48	1100	0.80	0.60
800	1700	845	0.50	0.37	930	0.55	0.41	1025	0.70	0.52	1120	0.85	0.63
850	1800	885	0.55	0.41	965	0.65	0.48	1055	0.80	0.60	1145	0.95	0.71
895	1900	925	0.65	0.48	1000	0.75	0.56	1085	0.90	0.67	1170	1.05	0.78
945	2000	965	0.75	0.56	1040	0.85	0.63	1115	0.95	0.71	1195	1.15	0.86
990	2100	1010	0.85	0.63	1075	0.95	0.71	1145	1.05	0.78	1225	1.25	0.93
1040	2200	1050	0.95	0.71	1115	1.05	0.78	1180	1.20	0.90	1250	1.35	1.01
1085	2300	1095	1.10	0.82	1155	1.20	0.90	1215	1.30	0.97	1285	1.50	1.12
1130	2400	1135	1.25	0.93	1190	1.35	1.01	1255	1.45	1.08	1315	1.60	1.19

**250 to 400 Pa 17.5 kW (5 Ton) Standard Efficiency (Horizontal) TGA060S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
High Static - Drive Kit #7								Field Furnished					
755	1600	1195	1.00	0.75	1285	1.20	0.90	1370	1.40	1.04	1445	1.60	1.19
800	1700	1215	1.05	0.78	1300	1.25	0.93	1385	1.50	1.12	1460	1.70	1.27
850	1800	1230	1.15	0.86	1320	1.35	1.01	1400	1.55	1.16	1475	1.80	1.34
895	1900	1255	1.20	0.90	1335	1.40	1.04	1415	1.65	1.23	1495	1.90	1.42
945	2000	1275	1.30	0.97	1355	1.50	1.12	1435	1.75	1.31	1510	2.00	1.49
990	2100	1300	1.40	1.04	1375	1.60	1.19	1450	1.85	1.38	1525	2.10	1.57
1040	2200	1325	1.55	1.16	1400	1.75	1.31	1470	1.95	1.45	1545	2.20	1.64
1085	2300	1355	1.65	1.23	1425	1.85	1.38	1495	2.10	1.57	1565	2.30	1.72
1130	2400	1380	1.80	1.34	1450	2.00	1.49	1515	2.20	1.64	1585	2.45	1.83

**BLOWER DATA - BELT DRIVE**

**21.0 kW**

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

FOR ALL UNITS ADD:

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

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

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

**50 to 200 Pa**

**21 kW (6 Ton) Standard Efficiency (Down-Flow)**

**TGA072S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		Field Furnished			Low Static - Drive Kit #4								
895	1900	810	0.50	0.37	905	0.60	0.45	1000	0.75	0.56	1095	0.90	0.67
945	2000	845	0.60	0.45	935	0.70	0.52	1025	0.85	0.63	1115	1.00	0.75
990	2100	875	0.65	0.48	965	0.80	0.60	1050	0.90	0.67	1135	1.10	0.82
1040	2200	910	0.75	0.56	995	0.90	0.67	1075	1.00	0.75	1160	1.20	0.90
1085	2300	945	0.85	0.63	1025	0.95	0.71	1105	1.10	0.82	1180	1.30	0.97
1130	2400	980	0.95	0.71	1055	1.10	0.82	1130	1.25	0.93	1205	1.40	1.04
1180	2500	1010	1.05	0.78	1085	1.20	0.90	1160	1.35	1.01	1230	1.50	1.12
1225	2600	1045	1.15	0.86	1115	1.30	0.97	1190	1.50	1.12	1260	1.65	1.23
1275	2700	1080	1.30	0.97	1150	1.45	1.08	1220	1.60	1.19	1285	1.80	1.34
1320	2800	1115	1.45	1.08	1180	1.60	1.19	1250	1.75	1.31	1315	1.95	1.45
1370	2900	1155	1.60	1.19	1215	1.75	1.31	1280	1.90	1.42	1340	2.10	1.57

**250 to 400 Pa**

**21 kW (6 Ton) Standard Efficiency (Down-Flow)**

**TGA072S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		High Static - Drive Kit #8									Field Furnished		
895	1900	1180	1.10	0.82	1265	1.25	0.93	1345	1.45	1.08	1420	1.65	1.23
945	2000	1200	1.15	0.86	1280	1.35	1.01	1360	1.55	1.16	1435	1.75	1.31
990	2100	1220	1.25	0.93	1300	1.45	1.08	1375	1.65	1.23	1450	1.85	1.38
1040	2200	1240	1.35	1.01	1315	1.55	1.16	1390	1.75	1.31	1460	1.95	1.45
1085	2300	1260	1.45	1.08	1335	1.65	1.23	1405	1.85	1.38	1480	2.10	1.57
1130	2400	1280	1.55	1.16	1355	1.80	1.34	1425	2.00	1.49	1495	2.20	1.64
1180	2500	1305	1.70	1.27	1375	1.90	1.42	1445	2.10	1.57	1510	2.30	1.72
1225	2600	1330	1.85	1.38	1395	2.05	1.53	1465	2.25	1.68	1530	2.45	1.83
1275	2700	1355	2.00	1.49	1420	2.20	1.64	1485	2.40	1.79	1550	2.60	1.94
1320	2800	1380	2.15	1.60	1445	2.35	1.75	1505	2.55	1.90	1570	2.80	2.09
1370	2900	1405	2.30	1.72	1470	2.50	1.87	1530	2.70	2.01	1590	2.95	2.20

## BLOWER DATA - BELT DRIVE

**21.0 KW**

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

FOR ALL UNITS ADD:

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

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

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

**50 to 200 Pa**

**21 kW (6 Ton) Standard Efficiency (Horizontal)**

**TGA072S**

Air Volume		External Static - Pa (in.w.g.)											
		50 (0.20)			100 (0.40)			150 (0.60)			200 (0.80)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		<b>Field Furnished</b>			<b>Low Static - Drive Kit #4</b>								
895	1900	940	0.60	0.45	1035	0.75	0.56	1125	0.90	0.67	1205	1.00	0.75
945	2000	<b>980</b>	<b>0.70</b>	<b>0.52</b>	1070	0.85	0.63	1155	1.00	0.75	1235	1.10	0.82
990	2100	1020	0.80	0.60	1110	0.95	0.71	1190	1.10	0.82	1265	1.25	0.93
1040	2200	1060	0.90	0.67	1145	1.05	0.78	1225	1.20	0.90	1300	1.35	1.01
1085	2300	1100	1.05	0.78	1180	1.20	0.90	1260	1.35	1.01	1330	1.50	1.12
1130	2400	1140	1.15	0.86	1220	1.30	0.97	1295	1.50	1.12	<b>1365</b>	<b>1.65</b>	<b>1.23</b>
1180	2500	1180	1.30	0.97	1260	1.45	1.08	1330	1.65	1.23	1400	1.80	1.34
1225	2600	1225	1.45	1.08	1295	1.60	1.19	<b>1365</b>	<b>1.80</b>	<b>1.34</b>	1435	1.95	1.45
1275	2700	1265	1.60	1.19	1335	1.80	1.34	1405	1.95	1.45	1470	2.15	1.60
1320	2800	1305	1.80	1.34	<b>1375</b>	<b>1.95</b>	<b>1.45</b>	1440	2.15	1.60	1505	2.35	1.75
1370	2900	<b>1350</b>	<b>1.95</b>	<b>1.45</b>	1415	2.15	1.60	1480	2.35	1.75	1540	2.55	1.90

**250 to 400 Pa**

**21 kW (6 Ton) Standard Efficiency (Horizontal)**

**TGA072S**

Air Volume		External Static - Pa (in.w.g.)											
		250 (1.00)			300 (1.20)			350 (1.40)			400 (1.60)		
L/s	cfm	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW	rev/min	BHP	kW
		<b>High Static - Drive Kit #8</b>											
895	1900	1285	1.15	0.86	1355	1.30	0.97	1430	1.45	1.08	1495	1.60	1.19
945	2000	1310	1.25	0.93	1385	1.40	1.04	1455	1.55	1.16	1520	1.70	1.27
990	2100	1340	1.40	1.04	1410	1.55	1.16	1480	1.70	1.27	1545	1.85	1.38
1040	2200	1370	1.50	1.12	1440	1.65	1.23	1505	1.85	1.38	1570	2.00	1.49
1085	2300	1400	1.65	1.23	1470	1.80	1.34	1530	1.95	1.45	<b>1595</b>	<b>2.15</b>	<b>1.60</b>
1130	2400	1435	1.80	1.34	1500	1.95	1.45	1560	2.15	1.60	1620	2.30	1.72
1180	2500	1465	1.95	1.45	1530	2.15	1.60	1590	2.30	1.72	1650	2.50	1.87
1225	2600	1500	2.15	1.60	1560	2.30	1.72	<b>1620</b>	<b>2.50</b>	<b>1.87</b>	1680	2.70	2.01
1275	2700	1530	2.30	1.72	<b>1595</b>	<b>2.50</b>	<b>1.87</b>	1650	2.70	2.01	1710	2.90	2.16
1320	2800	<b>1565</b>	<b>2.50</b>	<b>1.87</b>	1625	2.70	2.01	1685	2.90	2.16	1740	3.10	2.31
1370	2900	1600	2.75	2.05	1660	2.95	2.20	1715	3.10	2.31	1770	3.30	2.46

Note - **BOLD** - to operate in this range, 3 hp blower motor is required.

## BLOWER DATA

### FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Nominal kW	Maximum hp	Maximum kW	Maximum hp	rev/min Range							
				Drive 1	Drive 2	Drive 3	Drive 4	Drive 5	Drive 6	Drive 7	Drive 8
1.5	2	1.7	2.3	561 - 845	561 - 931	694 - 1042	807 - 1117	748 - 1122	893 - 1191	1010 - 1290	994 - 1326

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

## BLOWER DATA

### POWER EXHAUST FANS PERFORMANCE

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

### OPTIONS / ACCESSORIES AIR RESISTANCE

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

### CEILING DIFFUSER AIR THROW DATA

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

<sup>1</sup> Effective throw based on terminal velocities of 23 m per minute ( 75 ft. per minute).

### CEILING DIFFUSERS AIR RESISTANCE

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



## OUTDOOR SOUND DATA

<sup>1</sup> Unit Model No.	Octave Band Sound Power Levels dBA, re 10 <sup>-12</sup> Watts - Center Frequency - HZ							Sound Rating Number (dB)
	125	250	500	1000	2000	4000	8000	
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.

<sup>1</sup> Tested according to ARI Standard 270-95 test conditions and ANSI Standard S1.32-1981.

## ELECTRICAL DATA

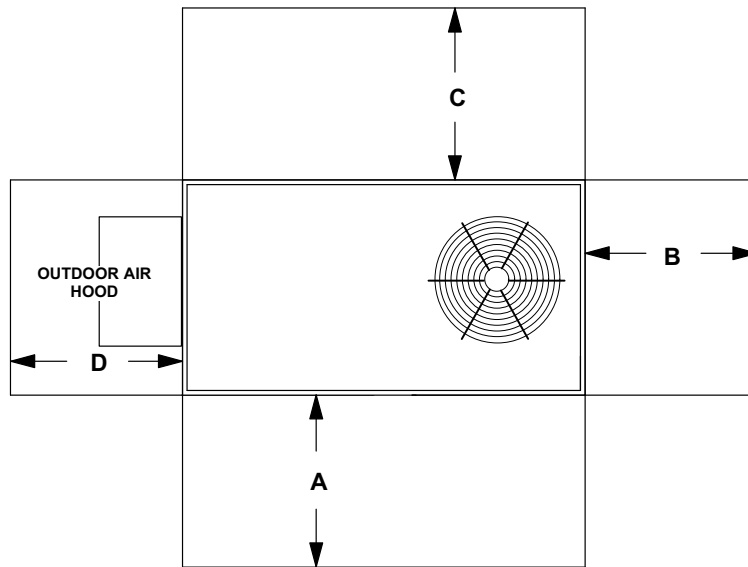
STANDARD EFFICIENCY (R-22)		TGA036S2	TGA048S2	TGA060S2	TGA072S2
<b>ELECTRICAL DATA</b>					
<sup>1</sup> Voltage - 50hz with neutral		380/420V - 3 Ph	380/420V - 3 Ph	380/420V - 3 Ph	380/420V - 3 Ph
Compressor	Rated Load Amps	5.1	7.1	6.7	9
	Locked Rotor Amps	39	50	49.5	75
Outdoor Fan Motor - Full Load Amps		1.1	1.1	1.3	1.3
Power Exhaust (1) 0.56 kW - Full Load Amps		2.2	2.2	2.2	2.2
Indoor Blower Motor	kW	1.5	1.5	1.5	1.5
	Full Load Amps	3.5	3.5	3.5	3.5
<sup>2</sup> Maximum Overcurrent Protection	Unit Only	15	20	15	25
	With Power Exhaust	15	20	20	25
<sup>3</sup> Minimum Circuit Ampacity	Unit Only	11	14	14	17
	With Power Exhaust	14	16	16	19
<b>ELECTRICAL ACCESSORIES</b>					
Unit Fuse Block	Unit Only	18W06	18W07	18W06	18W08
	with exhaust fan	18W06	18W07	18W07	18W08
Disconnect	Hinged Access Panel	20W15	20W15	20W21	20W24
	Standard Access Panel	20W21	20W21	20W15	20W18

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> Heating, Air Conditioning, Refrigeration type breaker or fuse.

<sup>3</sup> Refer to local electrical code to determine wire, fuse and disconnect size requirements.

## UNIT CLEARANCES - MM (INCHES)



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

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

<sup>1</sup> **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-
-----------------------------	--------------

<sup>1</sup> 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

<b>Two-stage heating / cooling</b> conventional systems .....	C0STAT10AE1L
---	--------------

#### Sensor For Digital Non-Programmable Thermostats Above

Remote wall mounted temperature sensor .....	C0SNZN00AE1-
--	--------------



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

<b>One-stage heating / cooling</b> conventional systems .....	C0STAT12AE1L
---	--------------

#### Sensor For Digital Non-Programmable Thermostats Above

Outdoor temperature sensor .....	C0SNSR04AE1-
----------------------------------	--------------

#### Accessories For Digital Non-Programmable Thermostats Above

Optional wall mounting plate .....	C0MISC17AE1-
------------------------------------	--------------

**WEIGHT DATA - KG (LBS.)**

Model Number	Net				Shipping			
	Base		Maximum		Base		Maximum	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.
036S	248	547	293	647	275	607	325	716
048S	264	583	315	694	292	643	346	763
060S	272	600	323	711	299	660	354	780
072S	303	667	347	765	330	727	380	837

**OPTIONS / ACCESSORIES**

		Shipping Weights	
		kg	lbs

**ECONOMIZER****Economizer**

Economizer	T1ECON30A-1	56	123
	T1ECON30N-1	64	142

**OUTDOOR AIR****Outdoor Air Dampers**

Outdoor Air Damper Motorized Kit	T1DAMP11A-1	12	25
	T1DAMP11N-1	14	29
Damper Section Manual	T1DAMP21AN1	9	18

**Power Exhaust**

Standard Static	T1PWRE10A-1	17	35
	T1PWRE10N-1	19	39

**GAS HEAT**

	Medium Input	4	8
	High Input	9	19

**ROOF CURBS - DOWN-FLOW****Hinged**

203 mm (8 in.) height	T1CURB30AN1	35	78
457 mm (18 in.) height	T1CURB32AN1	49	108
610 mm (24 in.) height	T1CURB33AN1	57	126

**Standard**

356 mm (14 in.) height	T1CURB10AN1	44	96
------------------------	-------------	----	----

**CEILING DIFFUSERS**

Step-Down	RTD9-65	30	67
	RTD11-95	40	88
Flush	FD9-65	17	37
	FD11-95	34	75
Transitions (Supply and Return)	T1TRAN10AN1	10	22
	T1TRAN20N-1	10	21

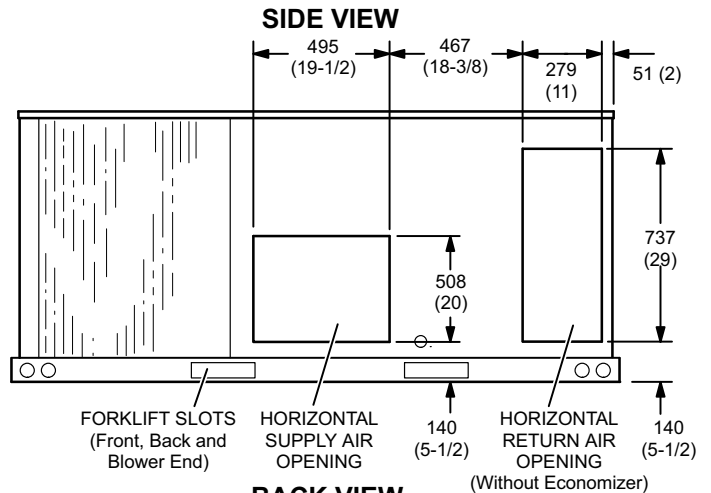
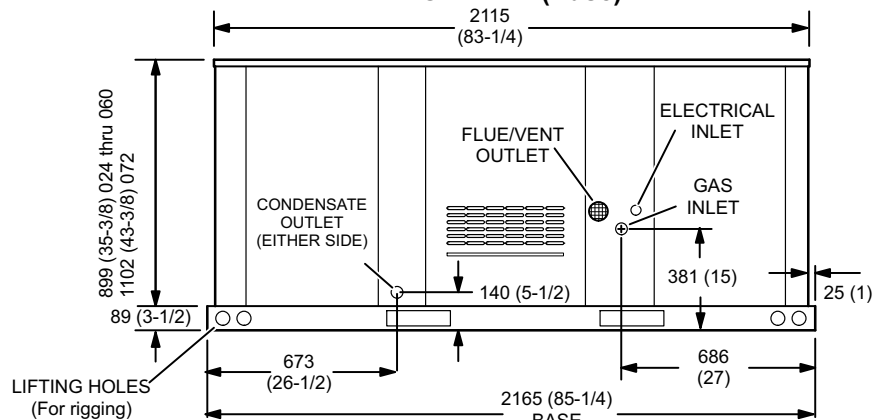
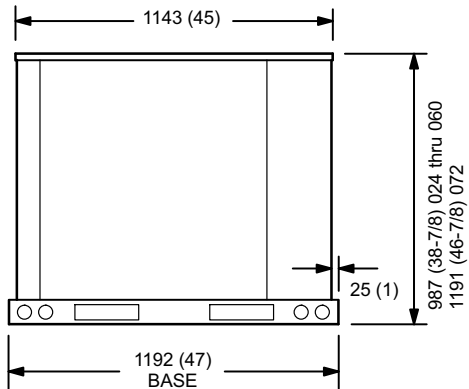
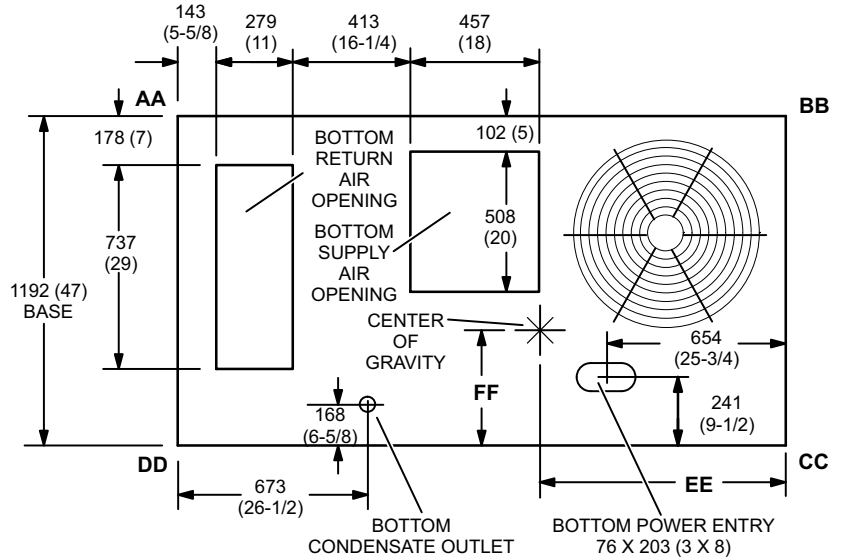
Base Unit - The unit with standard heat exchanger NO OPTIONS.

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

# DIMENSIONS - MM (INCHES)

Mod- el No.	CORNER WEIGHTS								CENTER OF GRAVITY															
	AA		BB		CC		DD		EE		FF		FF		FF									
	Base	Maximum	Base	Maximum	Base	Maximum	Base	Maximum	Base	Maximum	Base	Maximum	Base	Maximum	Base	Maximum								
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.	mm	in.	mm	in.				
036	44	97	54	120	54	118	61	135	83	182	94	208	68	150	83	184	978	38-1/2	1016	40	470	18-1/2	470	18-1/2
048	47	104	58	128	57	126	66	145	88	194	102	224	73	160	90	198	978	38-1/2	1016	40	470	18-1/2	470	18-1/2
060	49	107	59	131	59	130	68	149	91	200	104	229	74	164	92	202	978	38-1/2	1016	40	470	18-1/2	470	18-1/2
072	54	118	64	141	65	144	73	160	101	222	112	246	83	183	99	218	978	38-1/2	1016	40	470	18-1/2	470	18-1/2

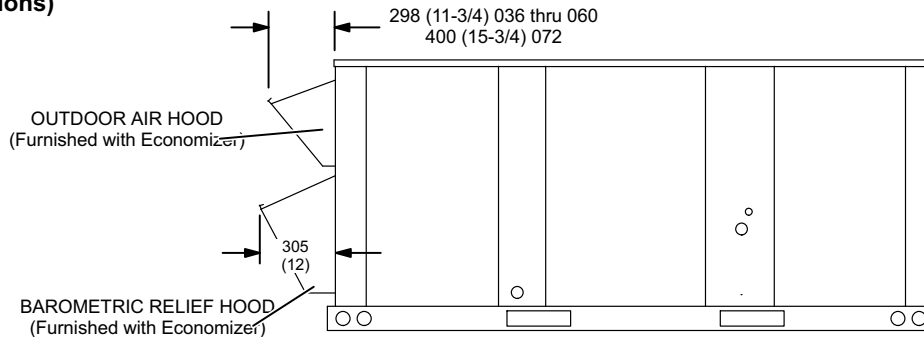
Base Unit - The unit with standard heat exchanger NO OPTIONS.  
 Max. Unit - The unit with ALL OPTIONS Installed. (High Input Heat Exchanger, Economizer, etc.)



## ACCESSORY DIMENSIONS - MM (INCHES)

### OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER

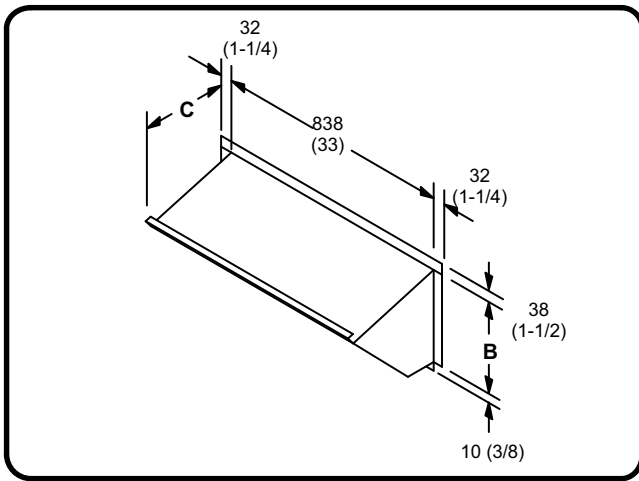
(Down-Flow Applications)



**SIDE VIEW**

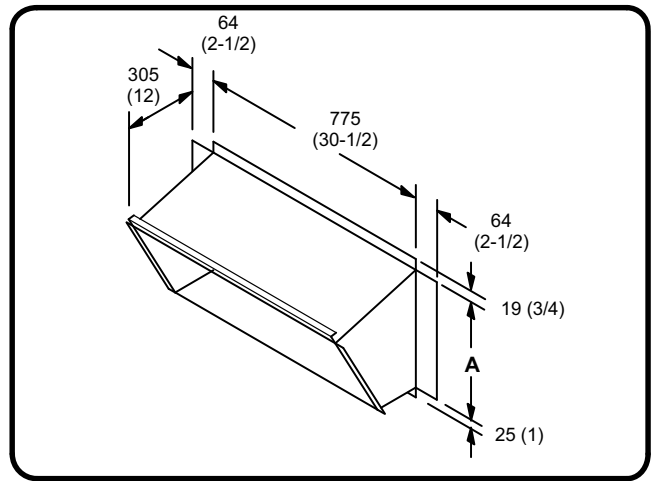
### OUTDOOR AIR HOOD FOR ECONOMIZER

(Furnished with Economizer)



### BAROMETRIC RELIEF HOOD FOR ECONOMIZER

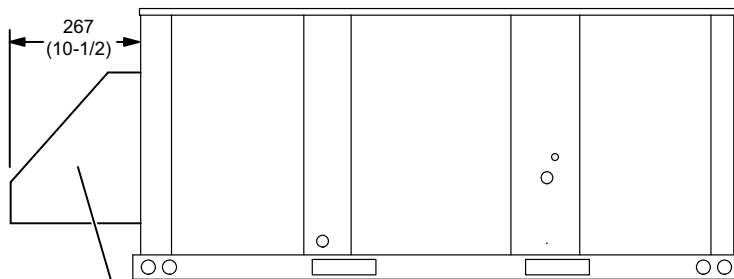
(Furnished with Economizer)



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

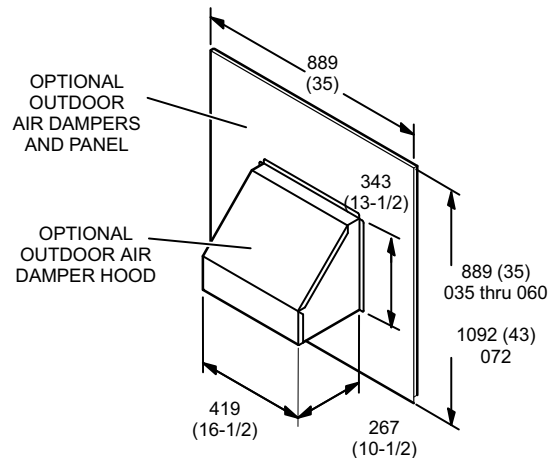
### OPTIONAL OUTDOOR AIR DAMPER HOOD DETAIL FOR MANUAL OR MOTORIZED OUTDOOR AIR DAMPERS

(Down-Flow or Horizontal Applications)



OPTIONAL OUTDOOR AIR DAMPER HOOD

**SIDE VIEW**

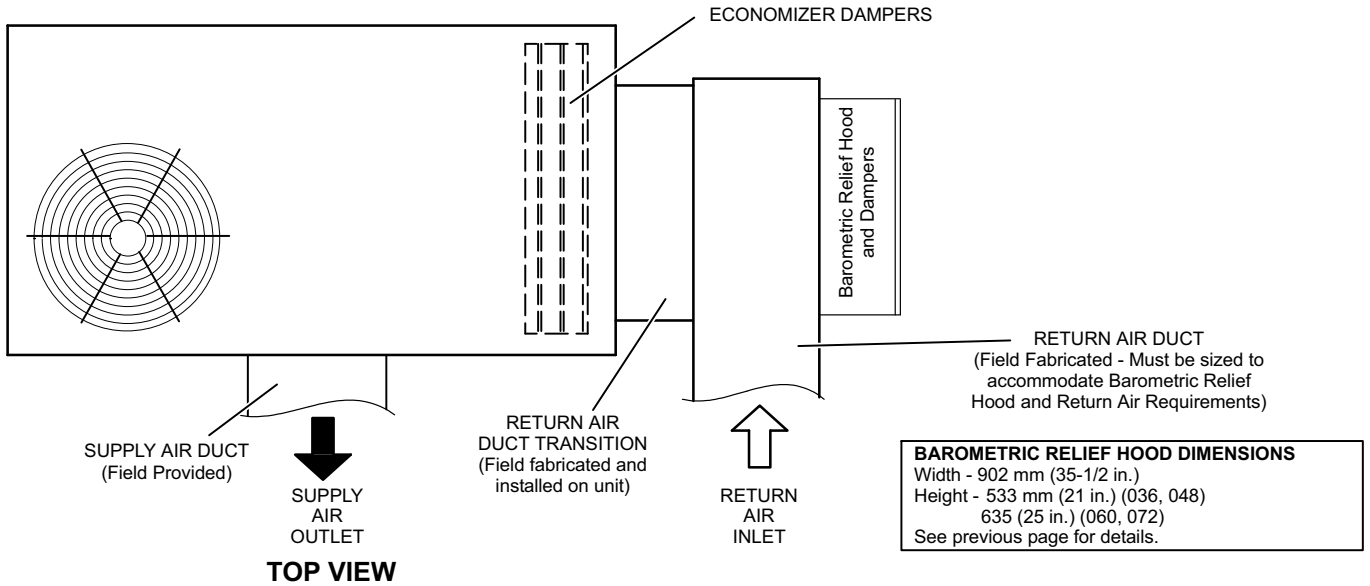


OPTIONAL OUTDOOR AIR DAMPERS AND PANEL

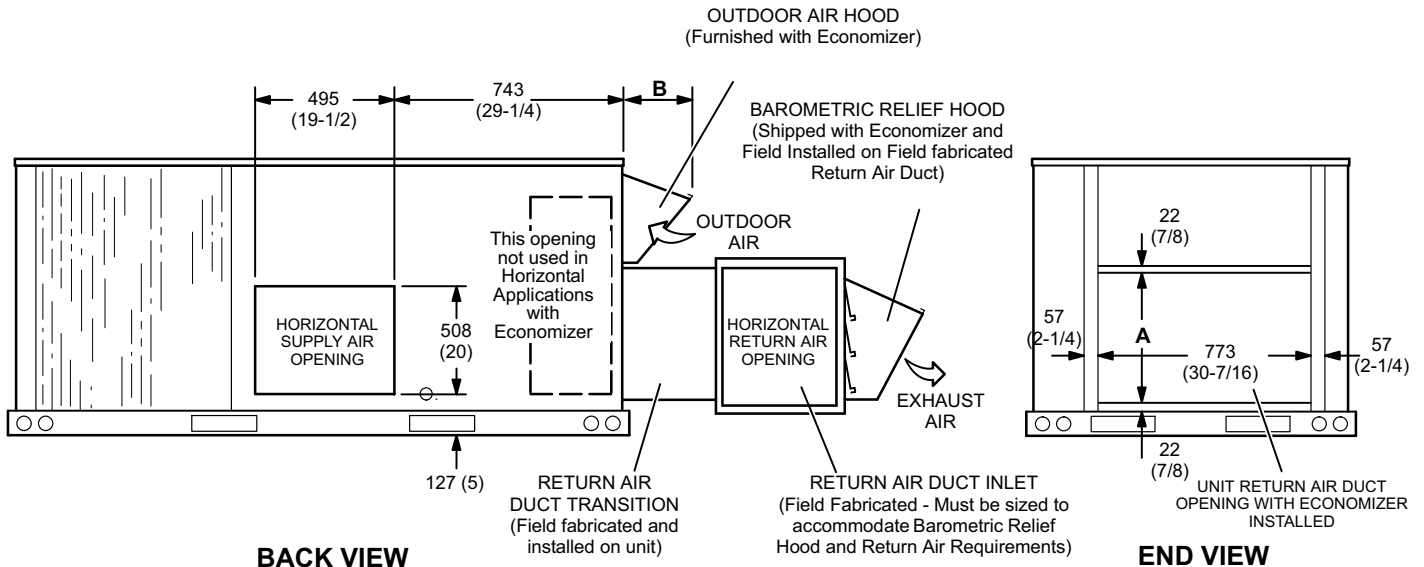
OPTIONAL OUTDOOR AIR DAMPER HOOD

# ACCESSORY DIMENSIONS - MM (INCHES)

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



**TOP VIEW**



**BACK VIEW**

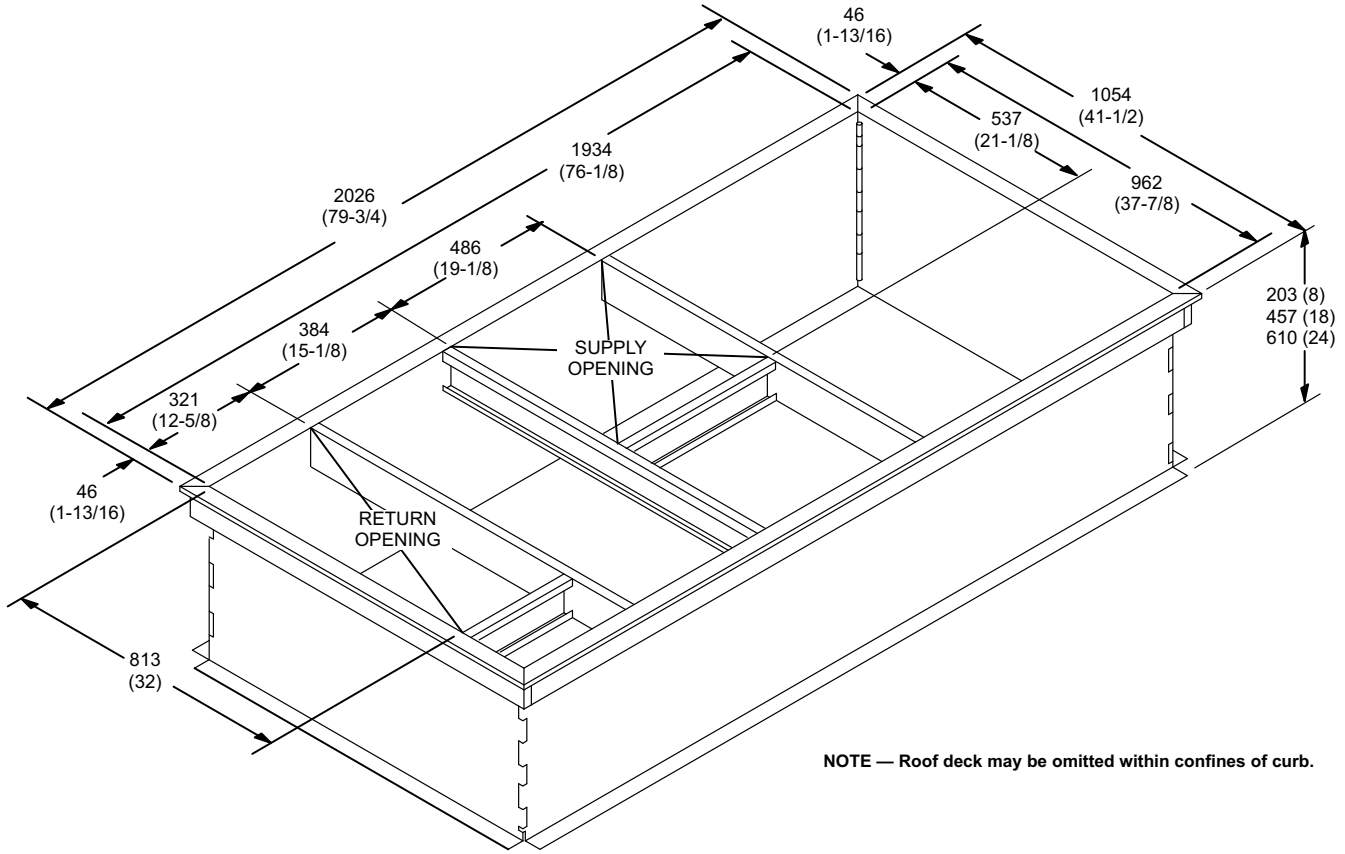
**END VIEW**

**NOTE** - Return Air Duct and Transition must be supported.

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

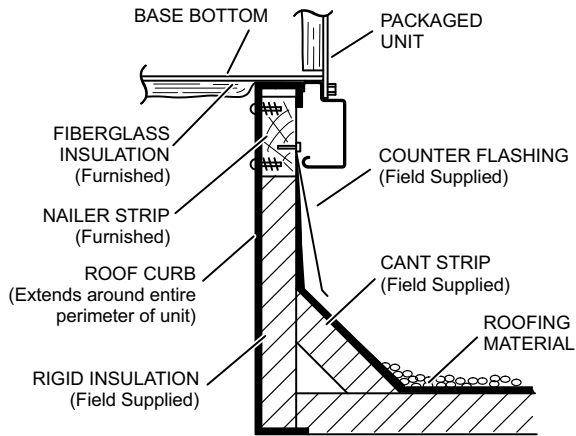
# ACCESSORY DIMENSIONS - MM (INCHES)

## HINGED ROOF CURBS - DOUBLE DUCT OPENING

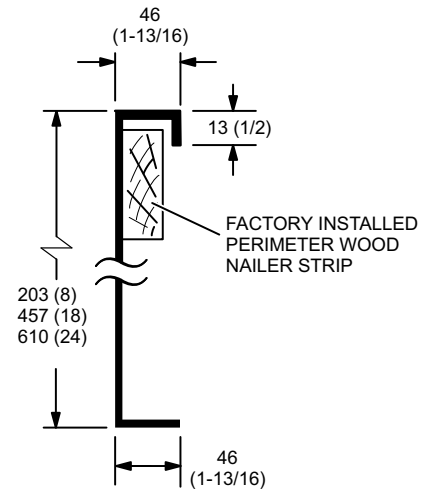


NOTE — Roof deck may be omitted within confines of curb.

### TYPICAL FLASHING DETAIL FOR ROOF CURB



### DETAIL ROOF CURB

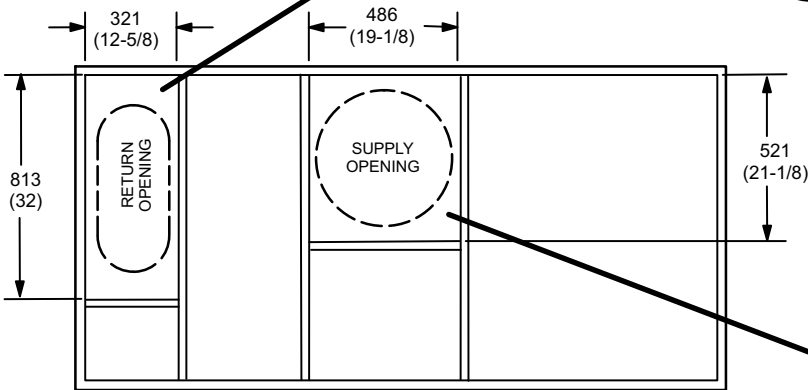
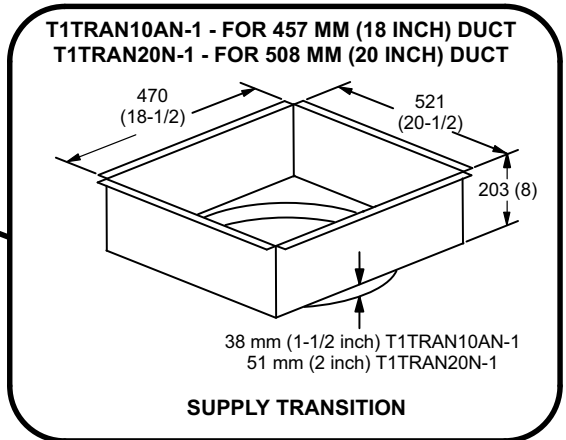
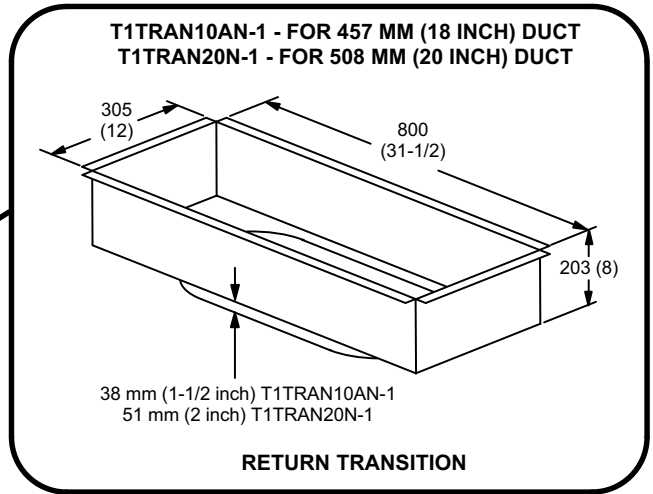






# ACCESSORY DIMENSIONS - INCHES (MM)

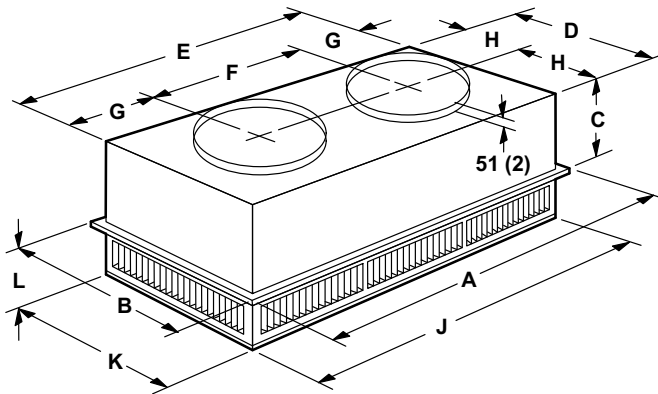
## TRANSITIONS



## ACCESSORY DIMENSIONS - MM (INCHES)

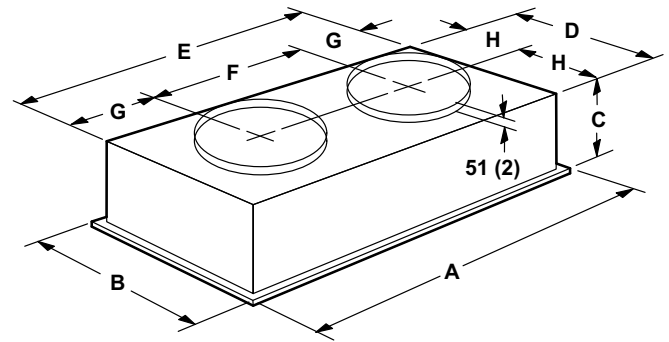
### COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

#### STEP-DOWN CEILING DIFFUSER



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

#### FLUSH CEILING DIFFUSER



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

## REVISIONS

Sections	Description of Change
All	Removed all Basic efficiency models
Electrical Data	Updated all



Visit us at [www.lennox.com](http://www.lennox.com)  
For the latest technical information, [www.lennoxcommercial.com](http://www.lennoxcommercial.com)  
Contact us at 1-800-4-LENNOX

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

©2009 Lennox Industries Inc.