



**PACKAGED GAS / ELECTRIC**

**GCS16-024-030-036-048-060**  
**GCS20-036-048-060**

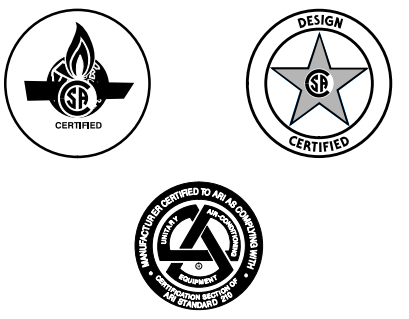
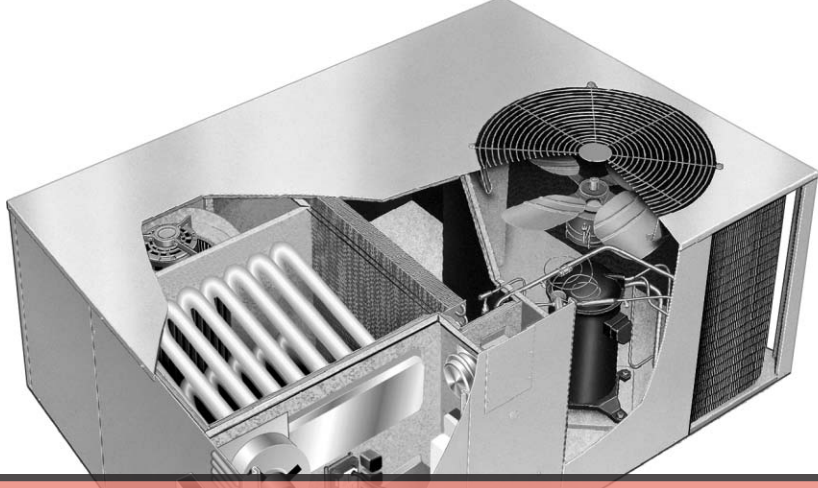
2 to 5 Ton (7.0 to 17.3 kW)

AFUE - 80%

SEER - up to 12.70

Net Cooling Capacity - 23,200 to 59,000 Btuh (6.8 to 17.3 kW)  
 Input Heating Capacity - 50,000 to 120,000 Btuh (14.7 to 35.2 kW)

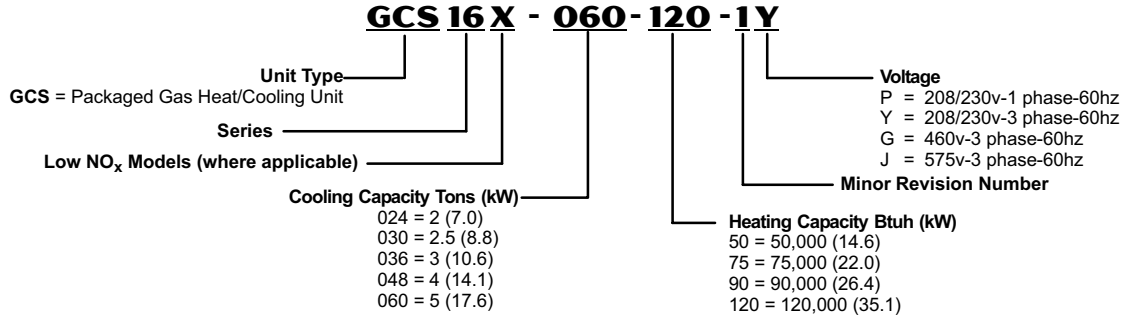
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NOTE - This Document is Only Available in Electronic Form!



**MODEL NUMBER IDENTIFICATION**



**FEATURES**

- Application**
- AFUE of 80%.
  - SEER up to 12.70.
  - 2 through 5 ton (7.0 through 17.6 kW).
  - Single and three phase power supply.
  - Bottom (down-flow) or horizontal supply and return air.
  - Designed for outdoor rooftop or ground level installations in light commercial applications.

- Approvals**
- Certified in accordance with the USE certification program, which is based on ARI Standard 210/240-94.
  - Sound rated in the Lennox reverberant sound test room in accordance with test conditions included in ARI Standard 270-95.
  - Tested in the Lennox Research Laboratory environmental test room.
  - Rated according to U.S. Department of Energy (DOE) test procedures.
  - Blower data is from unit tests conducted in the Lennox Laboratory air test chamber.
  - Design certified by CSA and ratings certified by GAMA.
  - Gas heat is tested according to DOE test procedures and FTC labeling regulations.
  - All "X" models meet California Nitrogen Oxides (NO<sub>x</sub>) standards and California Seasonal Efficiency Requirements.
  - Manufactured in accordance with ISO 9002 quality standards.
  - Each unit test operated at the factory before shipment ensuring dependable operation at start-up.

## FEATURES - CONTINUED

### Equipment Warranty

- Compressor - limited warranty for five years.
- Heat Exchanger - limited warranty for ten years.
- All other covered components - one year limited warranty.
- Refer to Lennox Equipment Limited Warranty certificate for specific details.

### Heat Exchanger

- Constructed of tubular, aluminized steel for superior resistance to corrosion and oxidation.
- Curving design allows complete exposure of heating surfaces to supply air stream.
- Round surfaces create minimum air resistance and allow air to surround all surfaces for excellent heat transfer. Internal baffles prolong flue gas passage resulting in maximum heat transfer.
- Compact design reduces space requirements in unit cabinet.
- Removable cabinet panels allow service access. Panel also has a peep hole for viewing flame.
- Heat exchanger has been laboratory life cycle tested.

### Combustion Air Inducer

- Combustion air inducer prepurges heat exchanger and safely vents flue products.
- Pressure switch proves blower operation before allowing gas valve to open.
- Combustion air inducer operates only during heating cycle.
- Flame rollout switch (manual reset) protects against loss of combustion air due to flue vent or intake air blockage.

### Inshot Burners

- Aluminized steel inshot burners provide efficient trouble free operation, unaffected by adverse wind or atmospheric conditions.
- Burner venturi mixes air and gas in correct proportion for proper combustion.
- Burners can be removed individually for service.

### Gas Control Valve

- 24 volt redundant combination gas control valve combines a manual main shutoff valve, pressure regulation and automatic electric valve (dual) into one compact combination control.

### Direct Spark Ignition

- Solid-state electronic direct spark ignition control provides positive and safe main burner ignition.
- Spark is intermittent and occurs only when required.
- Separate electronic flame sensor control assures safe and reliable operation.
- Should loss of flame occur, flame sensor controls will initiate 3 attempts at re-ignition.

### Fan and Limit Controls

- Factory installed and accurately located limit control provides protection from abnormal operating conditions.
- Limit control has fixed temperature setting.

### Compressor

#### Reciprocating - GCS16-024, GCS16-030 and GCS16-060

- Designed for dependable efficiency with minimum operating cost.
- Suction cooled and overload protected with internal pressure relief.
- Hermetically sealed with built-in protection from excessive current and temperatures.
- Immersible self-regulating, crankcase heater assures proper compressor lubrication.
- Running gear assembly resiliently suspended internally inside case. Compressor installed in unit on resilient rubber mounts assuring low sound and vibration free operation.

#### Copeland Scroll™ Compressor - GCS16-036, GCS16-048, and all GCS20 models

- Compressor features high efficiency with uniform suction flow, constant discharge flow and high volumetric efficiency and quiet operation.
- Compressor consists of two involute spiral scrolls matched together to generate a series of crescent shaped gas pockets between them.
- During compression, one scroll remains stationary while the other scroll orbits around it.
- Gas is drawn into the outer pocket, the pocket is sealed as the scroll rotates.
- As the spiral movement continues, gas pockets are pushed to the center of the scrolls. Volume between the pockets is simultaneously reduced.
- When pocket reaches the center, gas is now at high pressure and is forced out of a port located in the center of the fixed scrolls.
- During compression, several pockets are compressed simultaneously resulting in a smooth continuous compression cycle.
- Continuous flank contact, maintained by centrifugal force, minimizes gas leakage and maximizes efficiency.
- Scroll compressor is tolerant to the effects of slugging and contaminants. If this occurs, scrolls separate, allowing liquid or contaminants to be worked toward the center and discharged.
- Low gas pulses during compression reduces operational sound levels.
- Compressor motor is internally protected from excessive current and temperature.
- Compressor is installed in the unit on resilient rubber mounts for vibration free operation.



### Condenser Fan

- Direct drive fan moves large air volumes uniformly through entire condenser coil for high refrigerant cooling capacity.
- Vertical air discharge keeps air up and away from building.
- Permanently lubricated, permanent split capacitor (PSC) motor.
- Motor totally enclosed for maximum protection from weather, dust and corrosion.
- Corrosion resistant PVC (polyvinyl chloride) coated steel wire fan guard factory installed.

Continued On Next Page ►

## FEATURES - CONTINUED

### Cabinet

- Heavy gauge, galvanized steel cabinet with five station metal wash process.
- Powder enamel paint, electrostatically bonded to the metal, provides superior rust and corrosion protection.
- Control box is conveniently located with all controls factory wired.
- Large removable panels provide service access.
- Base section and cabinet panels exposed to conditioned air are lined with thick fiberglass insulation.
- Flanged supply and return air openings.
- Aluminized steel flue outlet shipped with unit for field installation,
- Gas and electrical inlets furnished for entry into the cabinet.
- Evaporator coil drain pan constructed of painted, corrosion resistant galvanized with galvanized pipe (mpt) drain outlet.
- Lifting brackets factory installed. See dimension drawings.

### Refrigeration System

- All models include: expansion valve, liquid line strainer, suction and liquid line service gauge ports, high pressure switch (manual reset) and full refrigerant charge.
- Freezestat prevents coil freeze-up during low ambient operation or loss of air flow.
- Low ambient operation down to 30°F (-1°C) without additional controls.

### Copper Tube/Enhanced Fin Coil

- Lennox designed and fabricated coil.
- Copper tube construction, indoor coil is rifled for improved efficiency.
- Lanced fins provide maximum exposure of fin surface to air stream resulting in excellent heat transfer.
- Fin collars grip tubing for maximum contact area.
- Long life copper tubing for ease of field servicing.
- Flared shoulder tubing connections/silver soldering construction.
- Coil is factory tested under high pressure to insure leakproof construction.

### Blower

- Multi-speed direct drive blowers.
- Each blower assembly statically and dynamically balanced.
- Multiple-speed permanent split capacitor (PSC) motor resiliently mounted.
- Blower speeds are easily changed on the blower motor.
- See blower performance tables.

### Air Filter

- Washable or vacuum cleanable one inch (25 mm) thick polyurethane frame type air filter.
- Filter rack is furnished for field installation in down-flow applications.
- Filter rack will accept up to two inch (51 mm) thick filter.
- Filters must be field installed in return air duct for horizontal applications without economizer.
- HF16 Horizontal Filter Kit available in Canada.
- See dimension drawings.

### Economizer Wiring

- Low voltage thermostat connections in main control area.
- Furnished and factory installed on all models.
- Economizer wiring harness with jack plug connections.
- See Optional Accessories for economizer options.

## OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

### Ceiling Diffusers

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

### Ceiling Diffuser Transitions (Supply and Return)

- Used with Ceiling Diffusers.
- Installs in roof mounting frame, galvanized steel construction, flanges furnished for duct connection, fully insulated.

### Coil Guards

- PVC coated steel wire guards to protect outdoor coil.
- Not for use with Hail Guards.

### Cold Weather Kit (Canada Only)

- Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below 40°F (4°C).
- CSA certified to allow operation of unit down to -60°F (-50°C).

### Combustion Air Intake Extensions

- For use in areas where high snow drifts can block intake air.

### Compressor Monitor (Canada Only)

- Non-adjustable switch (low ambient cut-out) prevents compressor operation when outdoor temperature is below 35°F (2°C).

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## OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

**Control Systems** - See pages 17-18.

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### **Economizer with Gravity Exhaust Dampers (Down-Flow)**

- Recirculated air dampers with pressure operated gravity exhaust damper.
  - Formed, gasketed damper blades with nylon bearings, 3-position or fully modulating 24V damper motor with adjustable minimum position switch, electronic discharge air sensor, and adjustable outdoor air enthalpy control.
  - Installs directly in cabinet.
  - Utilizes filter furnished with unit, filter rack will accept up to 2 in. (51 mm) filter.
  - Removable exhaust air hood and outdoor air intake hood with aluminum mesh filter.
  - Choice of economizer controls.
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### **Economizer Dampers (Horizontal)**

- Combination outdoor air and recirculated air damper.
  - Formed, gasketed damper blades with nylon bearings, 3-position or fully modulating 24V damper motor with adjustable minimum position switch, electronic discharge air sensor, and adjustable outdoor air enthalpy control.
  - Installs external to unit cabinet.
  - 1 in. (25 mm) fiberglass filter furnished. Filter rack will accept up to 2 in. (51 mm) filter.
  - Outdoor air intake hood with aluminum mesh filter.
  - Choice of economizer controls.
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### **Economizer Gravity Exhaust Dampers**

- Use with EMDH16.
  - Pressure operated assembly field installs in the return air duct adjacent to the economizer assembly.
  - Includes bird screen.
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### **Economizer Enthalpy Control, Differential**

- Used in conjunction with outdoor air enthalpy control.
  - Determines and selects which air has the lowest enthalpy.
  - Return air enthalpy sensor field installs in economizer damper section.
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### **Hail Guards**

- Heavy-duty, field installed coil guard protects coils from damage.
  - Not for use with Coil Guards.
  - **90N91** - three guards per order number, **90N90** - two guards per order number.
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### **Horizontal Filter Kit (Canada Only)**

- For horizontal applications. Painted steel cabinet with filter access.
  - Disposable, pleated fiber filter furnished.
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### **Low Ambient Control Kit**

- Units operate down to 30°F (-1°C) outdoor air temperature in cooling mode without any additional controls.
  - Enables unit to operate properly down to 0°F (-17.7°C).
- 

### **LPG/Propane Kits**

- Conversion from Natural Gas to LPG/Propane.
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### **Outdoor Air Damper Section (Down-Flow)**

- Damper assembly replaces blower access panel.
  - Manually adjustable, 0 to 25% (fixed) outdoor air.
  - Outdoor air hood with cleanable filter included.
- 

### **Roof Curb Power Entry Kit**

- Allows power entry through roof mounting frame, knockouts provided in roof frame.
  - Kit contains 40 in. (1016 mm) armored conduit and installation hardware.
  - Two kits are required, one for low voltage and one for high voltage. See Dimension Drawing.
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### **Roof Mounting Frame**

- Nailer strip furnished, mates to unit, U.S. National Roofing Contractors Approved, shipped knocked down.
  - RMF16-41 may be used on all sizes, with a slight unit overhang on GCS16-048-060 and GCS20-036-048-060 units.
  - Sound Reduction Plate must be ordered separately for field installation (US Only).
- 

### **Timed Off Control**

- Prevents compressor short-cycling and allows time for suction and discharge pressure to equalize, permitting the compressor to start in an unloaded condition.
  - Automatic reset control provides a time delay between compressor shutoff and start-up.
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### **Vertical Vent Extension Kit**

- To exhaust flue gases vertically above unit.
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### **Unit Stand-Off Mounting Kit**

- Elevates horizontal application units above mounting surface.
  - Includes six high impact polystyrene stand-off mounts. See dimension drawings.
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**OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA**

		Model No.	GCS16-024	GCS16-030	GCS16-036	GCS20-036	GCS16-048 GCS20-048	GCS16-060 GCS20-060
<b>Ceiling Diffusers</b>	Step-Down - Net Weight - lbs. (kg)			RTD9-65 - 67 (30)			RTD9-65 - 67 (30)	
	Flush - Net Weight - lbs. (kg)			FD9-65 - 37 (17)			FD9-65 - 37 (17)	
	Transitions (Supply and Return) - lbs. (kg)			SRT16-65 - 20 (9)			SRT16-65 - 20 (9)	
<b>Coil Guards</b>			<b>47J23</b> (2 per order)				<b>47J24</b> (3 per order)	
<b>Cold Weather Kit (Canada Only)</b>	208/203V-1ph			<b>65C03</b>			<b>65C03</b>	
	575V-3ph		Not Available		<b>83K33</b>	Not Available	<b>83K33</b>	<b>83K33</b>
<b>Combustion Air Intake Extensions</b>				<b>96L71</b>			<b>96L71</b>	
<b>Compressor Monitor (Canada Only)</b>				<b>45F08</b>			<b>45F08</b>	
<b>Control Systems</b>				See Pages 17-18			See Pages 17-18	
<b>Economizers</b>	Down-Flow US Only	Three Position - Net Weight		REMD16-41 - 48 lbs. (22 kg)			REMD16-65 - 66 lbs. (30 kg)	
		Fully-Modulating - Net Weight		REMD16M-41 - 48 lbs. (22 kg)			REMD16M-65 - 66 (30)	
		□ Indoor Filter Size - in. (mm)		(1) 16 x 25 x 1 (406 x 635 x 25)			(1) 20 x 25 x 1 (508 x 635 x 25)	
		Outdoor Filter Size - in. (mm)		(1) 14 x 25 x 1 (356 x 635 x 25)			(1) 18 x 25 x 1 (457 x 635 x 25)	
	Down-Flow Canada Only	Fully-Modulating - Net Weight		REMD16M-41S - 85 lbs. (39 kg)			REMD16M-65S - 105 lbs. (48 kg)	
		Indoor Filter Size - in. (mm)		(1) 16 x 25 x 1 (406 x 635 x 25)			(1) 20 x 25 x 1 (508 x 635 x 25)	
		Outdoor Filter Size - in. (mm)		(1) 19-3/8 x 15-3/4 x 1 (492 x 400 x 25)			(1) 19-7/8 x 22-3/4 x 1 (505 x 578 x 25)	
	Horizontal US Only	Three Position - Net Weight		EMDH16-41 - 110 lbs. (50 kg)			EMDH16-65 - 130 lbs. (59 kg)	
		Fully-Modulating - Net Weight		EMDH16M-41 - 110 lbs. (50 kg)			EMDH16M-65 - 130 lbs. (59 kg)	
		Indoor Filter Size - in. (mm)		(1) 20 x 24 x1 (508 x 610 x25)			(1) 16 x 25 x 1 (406 x 635 x 25) (1) 14 x 25 x 1 (356 x 635 x 1)	
		Outdoor Filter Size - in. (mm)		(1) 8 x 24 x 1 (203 x 610 x 25)			(1) 8 x 28 x1 (203 x 711 x 25)	
	Horizontal Canada Only	Fully-Modulating - Net Weight		EMDH16M-41S - 70 lbs. (35 kg)			EMDH16M-65S - 86 lbs. (39 kg)	
Indoor Filter Size - in. (mm)			20 x 20 x1 (508 x 508 x25)			20 x 25 x 1 (508 x 635 x 25)		
Outdoor Filter Size - in. (mm)			16-1/2 x 21-3/4 x 1 (419 x 552 x 25)			22-1/2 x 25-1/4 x1 (571 x 641 x 25)		
<b>Gravity Exhaust Dampers - Net Weight</b>			GEDH16-65 - 4 lbs. (2 kg)			GEDH16-65 - 4 lbs. (2 kg)		
<b>Enthalpy Control, Differential</b>			<b>54G44</b>			<b>54G44</b>		
<b>Hail Guards</b>			<b>90N90</b> (2 per order)			<b>90N91</b> (3 per order)		
<b>Horizontal Filter Kit Canada Only</b>	Model No. - Net Weight			HF16-46S - 18 lbs. (8 kg)			HF16-65S - 21 lbs. (10 kg)	
	Number & size of filter - in. (mm)			(1) 20 x 20 x 2 (508 x 508 x 51)			(1) 20 x 25 x 2 (508 x 635 x 51)	
<b>Low Ambient Control Kit</b>				<b>24H77</b>			<b>24H77</b>	
<b>LPG/Propane Kits</b>	50,000 / 75,000 / 90,000 input			<b>50L89</b>			<b>50L89</b>	
	120,000 input			- - -			<b>50L88</b>	
<b>Outdoor Air Damper Section</b>	US Only	Down-Flow - Net Weight		OAD16-41 - 12 lbs. (5 kg)			OAD16-65 - 12 lbs. (5 kg)	
		Number & Size of Filter		(1) 5 x 17 x 1 in. (127 x 432 x 25 mm)			(1) 8 x 17 x 1 (203 x 432 x 25)	
	Canada Only	Down-Flow - Net Weight		OAD16-41S - 10 lbs. (5 kg)			OAD16-65S - 16 lbs. (7 kg)	
		Number & Size of Filter		(1) 14 x 6 x 1 in. (356 x 152 x 25 mm)			(1) 18 x 6 x 1 (457 x 152 x 25)	
<b>Outdoor Thermostat Kit</b>	Thermostat Kit			<b>56A87</b>			<b>56A87</b>	
	Mounting Box			<b>31461</b>			<b>31461</b>	
<b>Roof Curb Power Entry Kit</b>				<b>18H70</b>			<b>18H70</b>	
<b>Roof Mounting Frame</b>	Frame			RMF16-41			RMF16-41 or RMF16-65	
	Sound Reduction Plate - US Only - For RMF16-41			<b>73H80</b>			<b>73H80</b>	
	For RMF16-65			- - -			<b>73H82</b>	
<b>Timed-Off Control</b>				<b>47J27</b>			<b>47J27</b>	
<b>Unit Stand-Off Mounting Kit</b>				<b>38H18</b>			<b>38H18</b>	
<b>Vertical Vent Extension Kit</b>				<b>28M50</b>			<b>28M50</b>	

□ Indoor filter is not furnished with economizer. REMD16 utilizes existing filter furnished with GCS unit.

## SPECIFICATIONS - GCS16

Heating Performance		Model No. Low NO <sub>x</sub> Models	GCS16-024-50 GCS16X-024-50	GCS16-030-75 GCS16X-030-75	GCS16-036-90 GCS16X-036-90
		Input - Btuh (kW)	50,000 (14.7)	75,000 (22.0)	90,000 (26.4)
		Output - Btuh (kW)	40,000 (11.7)	60,000 (17.6)	72,000 (21.1)
		☆A.F.U.E.	80.0%	80.0%	80.0%
		California Seasonal Efficiency	76.0%	76.0%	76.5%
		Gas Supply Connections npt - in.	1/2	1/2	1/2
		Recommended Gas Supply Pressure - Natural Gas	7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)
		LPG/Propane	11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)
Cooling Performance		Nominal Tonnage (kW)	2 (7.0)	2.5 (8.8)	3 (10.6)
		★Cooling capacity - Btuh (kW)	23,200 (6.8)	27,400 (8.0)	35,400 (10.4)
		Total unit watts	2670	3150	3850
		★SEER (Btuh/Watts)	10.00	10.00	10.10
		EER (Btuh/Watts)	8.70	8.70	9.20
		*Sound Rating Number (dB)	80	80	80
		Refrigerant Charge (HCFC-22)	3 lbs. 3 oz. (1.45 kg)	4 lbs. 3 oz. (1.90 kg)	4 lbs. 6 oz. (1.98 kg)
Condenser Coil		Net face area - sq. ft. (m <sup>2</sup> ) Outer coil	8.7 (0.81)	8.7 (0.81)	8.7 (0.81)
		Inner coil	- - -	8.4 (0.78)	8.4 (0.78)
		Tube diameter - in. (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
		Number of rows	1	2	2
		Fins per inch (m)	20 (787)	20 (787)	20 (787)
Condenser Fan		Motor horsepower (W)	1/6 (124)	1/6 (124)	1/6 (124)
		Motor watts	220	240	240
		Diameter - in. (mm)	20 (508)	20 (508)	20 (508)
		Number of blades	4	4	4
		Air volume - cfm (L/s)	2450 (1155)	2200 (1040)	2200 (1040)
Evaporator Coil		Net face area - sq. ft. (m <sup>2</sup> )	3.2 (0.30)	3.2 (0.30)	4.1 (0.38)
		Tube diameter - in. (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
		Number of rows	2	2	2
		Fins per inch (m)	15 (591)	15 (591)	15 (591)
		Condensate drain coupling size npt - in.	3/4	3/4	3/4
Evaporator Blower		Motor horsepower (W)	1/3 (249)	1/3 (249)	1/2 (373)
		Blower wheel nominal diameter x width - in. (mm)	9 x 8 (229 x 203)	10 x 8 (254 x 203)	10 x 8 (254 x 203)
Filters		Cleanable, polyurethane - Number & size - in.	(1) 16 x 25 x 1	(1) 16 x 25 x 1	(1) 16 x 25 x 1
		mm	406 x 635 x 25	406 x 635 x 25	406 x 635 x 25
Shipping Data		Net weight of basic unit - lbs. (kg)	350 (159)	373 (169)	373 (169)
		Shipping weight of basic unit - lbs. (kg) 1 pkg.	432 (196)	455 (206)	455 (206)
Electrical characteristics (60hz)			208/230v - 1 ph	208/230v - 1 ph	208/230v - 1 ph, 208/230v, 460v or 575v - 3 ph

\*Sound Rating Number in accordance with test conditions included in ARI Standard 270.

★Certified in accordance with the USE certification program, which is based on ARI Standard 210/240: 95°F (35°F) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator coil air.

☆Annual Fuel Utilization Efficiency based on DOE test procedures and FTC labeling regulations.

## SPECIFICATIONS - GCS16

Heating Performance		Model No. Low NO <sub>x</sub> Models	GCS16-048-75 GCS16X-048-75	GCS16-048-120 GCS16X-048-120	GCS16-060-75 GCS16X-060-75	GCS16-060-120 GCS16X-060-120
Input - Btuh (kW)			75,000 (22.0)	120,000 (35.2)	75,000 (22.0)	120,000 (35.2)
Output - Btuh (kW)			60,000 (17.0)	96,000 (28.1)	60,000 (17.0)	96,000 (28.1)
☆A.F.U.E			80.0%	80.0%	80.0%	80.0%
California Seasonal Efficiency			75.0%	75.0%	75.0%	75.0%
Gas Supply Connections npt - in.			1/2	1/2	1/2	1/2
Recommended Gas Supply Pressure - Natural Gas			7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)
LPG/Propane			11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)
Cooling Performance		Nominal Tonnage (kW)	4 (14.1)	4 (14.1)	5 (17.6)	5 (17.6)
★Cooling capacity - Btuh (kW)			46,500 (13.6)	46,500 (13.6)	58,500 (17.1)	58,500 (17.1)
Total unit watts			4890	4890	6570	6570
★SEER (Btuh/Watts)			10.35	10.35	10.00	10.00
EER (Btuh/Watts)			9.50	9.50	8.90	8.90
*Sound Rating Number (dB)			82	82	82	82
Refrigerant Charge (HCFC-22)			5 lbs. 11 oz. (2.58 kg)	5 lbs. 11 oz. (2.58 kg)	7 lbs. 0 oz. (3.18 kg)	7 lbs. 0 oz. (3.18 kg)
Condenser Coil		Net face area - sq. ft. (m <sup>2</sup> ) Outer coil	14.3 (1.33)	14.3 (1.33)	14.3 (1.33)	14.3 (1.33)
		Inner coil	5.9 (0.55)	5.9 (0.55)	13.7 (1.27)	13.7 (1.27)
		Tube diameter - in. (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
		Number of rows	1.4	1.4	2	2
		Fins per inch (m)	20 (787)	20 (787)	20 (787)	20 (787)
Condenser Fan		Motor horsepower (W)	1/4 (187)	1/4 (187)	1/4 (187)	1/4 (187)
		Motor watts	340	340	360	360
		Diameter - in. (mm)	24 (610)	24 (610)	24 (610)	24 (610)
		Number of blades	4	4	4	4
		Air volume - cfm (L/s)	3880 (1830)	3880 (1830)	3770 (1780)	3770 (1780)
Evaporator Coil		Net face area - sq. ft. (m <sup>2</sup> )	5.3 (0.49)	5.3 (0.49)	6.2 (0.58)	6.2 (0.58)
		Tube diameter - in. (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
		No. of rows	2	2	2	2
		Fins per inch (m)	15 (591)	15 (591)	15 (591)	15 (591)
		Condensate drain coupling size npt - in.	3/4	3/4	3/4	3/4
Evaporator Blower		Motor horsepower (W)	3/4 (560)	3/4 (560)	3/4 (560)	3/4 (560)
		Blower wheel nominal diameter x width - in. (mm)	11-1/2 x 9 (292 x 229)	11-1/2 x 9 (292 x 229)	11-1/2 x 9 (292 x 229)	11-1/2 x 9 (292 x 229)
Filters		Cleanable, polyurethane - Number & size - in.	(1) 20 x 25 x 1	(1) 20 x 25 x 1	(1) 20 x 25 x 1	(1) 20 x 25 x 1
		mm	508 x 635 x 25	508 x 635 x 25	508 x 635 x 25	508 x 635 x 25
Shipping Data		Net weight of basic unit - lbs. (kg)	496 (225)	496 (225)	526 (239)	526 (239)
		Shipping weight of basic unit - lbs. (kg) 1 pkg.	605 (274)	605 (274)	635 (288)	635 (288)
Electrical characteristics (60hz)			208/230v - 1 ph, 208/230v or 460v - 3 ph	208/230v - 1 ph, 208/230v, 460v or 575v - 3 ph	208/230v - 1 ph, 208/230v or 460v - 3 ph	208/230v - 1 ph, 208/230v, 460v or 575v - 3 ph

\*Sound Rating Number in accordance with test conditions included in ARI Standard 270.

☆Annual Fuel Utilization Efficiency based on DOE test procedures and FTC labeling regulations.

★Certified in accordance with the USE certification program, which is based on ARI Standard 210/240: 95°F (35°F) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator coil air.

## SPECIFICATIONS - GCS20

		Model No.	GCS20-036-75	GCS20-048-75	GCS20-048-120	GCS20-060-75	GCS20-060-120
<b>Heating Performance</b>	Input - Btuh (kW)		75,000 (22.0)	75,000 (22.0)	120,000 (35.2)	75,000 (22.0)	120,000 (35.2)
	Output - Btuh (kW)		60,000 (17.6)	60,000 (17.6)	96,000 (28.1)	60,000 (17.6)	96,000 (28.1)
	☆A.F.U.E.		80.0%	80.0%	80.0%	80.0%	80.0%
	Gas Supply Connections npt - in.		1/2	1/2	1/2	1/2	1/2
	Recommended Gas Supply Pressure - Natural Gas		7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)	7 in. w.c. (1.7 kPa)
	LPG/Propane		11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)	11 in. w.c. (2.7 kPa)
<b>Cooling Performance</b>	Nominal Tonnage (kW)		3 (10.6)	4 (14.1)	4 (14.1)	5 (17.6)	5 (17.6)
	★Cooling Capacity Btuh (kW)		35,200 (10.3)	50,000 (14.6)	50,000 (14.6)	59,000 (17.3)	59,000 (17.3)
	Total Unit Watts		3330	4545	4545	5765	5765
	★SEER (Btuh/Watts)		12.40	12.70	12.70	12.00	12.00
	EER (Btuh/Watts)		10.60	11.00	11.00	10.20	10.20
	*Sound Rating Number (dB)		82	82	82	82	82
	Refrigerant Charge (HCFC-22)		5 lbs. 2 oz. (2.34 kg)	7 lbs. 14 oz. (3.57 kg)	7 lbs. 14 oz. (3.57 kg)	8 lbs. 8 oz. (3.86 kg)	8 lbs. 8 oz. (3.86 kg)
	<b>Condenser Coil</b>	Net face area - sq. ft. (m <sup>2</sup> ) Outer Coil		14.3 (1.33)	14.3 (1.33)	14.3 (1.33)	14.3 (1.33)
Inner Coil			5.9 (0.55)	13.7 (1.27)	13.7 (1.27)	13.7 (1.27)	13.7 (1.27)
Tube diameter - in. (mm)			3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Number of rows			1.4	2	2	2	2
Fins per inch (m)			20 (787)	20 (787)	20 (787)	20 (787)	20 (787)
<b>Condenser Fan</b>	Motor horsepower (W)		1/4 (187)	1/4 (187)	1/4 (187)	1/4 (187)	1/4 (187)
	Motor watts		340	360	360	360	360
	Diameter - in. (mm)		24 (610)	24 (610)	24 (610)	24 (610)	24 (610)
	Number of blades		4	4	4	4	4
	Air volume - cfm (L/s)		3880 (1830)	3770 (1780)	3770 (1780)	3770 (1780)	3770 (1780)
<b>Evaporator Coil</b>	Net face area - sq. ft. (m <sup>2</sup> )		5.3 (0.49)	6.2 (0.58)	6.2 (0.58)	6.2 (0.58)	6.2 (0.58)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Number of rows		2	3	3	3	3
	Fins per inch (m)		15 (590)	14 (552)	14 (552)	14 (552)	14 (552)
	Condensate drain coupling size npt - in.		3/4	3/4	3/4	3/4	3/4
<b>Evaporator Blower</b>	Motor horsepower (W)		1/2 (373)	3/4 (560)	3/4 (560)	3/4 (560)	3/4 (560)
	Wheel nominal diameter x width - in. (mm)		10 x 8 (254 X 203)	11-1/2 x 9 (292 x 228)	11-1/2 x 9 (292 x 228)	11-1/2 x 9 (292 x 228)	11-1/2 x 9 (292 x 228)
<b>Filters</b>	Cleanable, polyurethane - No. & size - in.		(1) 20 x 25 x 1	(1) 20 x 25 x 1	(1) 20 x 25 x 1	(1) 20 x 25 x 1	(1) 20 x 25 x 1
	mm		508 x 635 x 25	508 x 635 x 25	508 x 635 x 25	508 x 635 x 25	508 x 635 x 25
<b>Shipping Data</b>	Net weight of basic unit - lbs. (kg)		496 (225)	541 (245)	541 (245)	541 (245)	541 (245)
	Ship. wt. of basic unit - lbs. (kg) 1 pkg.		603 (274)	650 (295)	650 (295)	650 (295)	650 (295)
<b>Electrical characteristics (60 hz)</b>			208/203v - 3 ph 460v - 3 ph	208/203v - 3 ph 460v - 3 ph	208/203v - 3 ph 460v - 3 ph	208/203v - 3 ph 460v - 3 ph	208/203v - 3 ph 460v - 3 ph

☆Annual Fuel Utilization Efficiency based on DOE test procedures and FTC labeling regulations.

\*Sound Rating Number in accordance with test conditions included in ARI Standard 270.

★Certified in accordance with the USE certification program, which is based on ARI Standard 210/240: 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19.5°C) wb entering evaporator air.

## HIGH ALTITUDE INFORMATION

No gas pressure adjustment is needed when operating from 0 to 7500 ft. (0 to 2285 m). See below for correct manifold pressures for natural gas and LPG/propane.

FUEL	Manifold Absolute Pressure (outlet) 0 to 7500 ft. (0 to 2248 m) above sea level
Natural Gas	3.5 in. w.g. (0.87 kPa)
LPG/Propane	9.5 in. w.g. (2.36 kPa)



# COOLING RATINGS - GCS16

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

## GCS16-024 - COOLING CAPACITY

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														
			kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F												
			cfm	L/s	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C													
63°F (17°C)	640	300	23.0	6.7	1.90	.71	.84	.96	21.8	6.4	2.05	.73	.86	.98	20.6	6.0	2.21	.74	.88	.99	19.3	5.7	2.35	.77	.91	1.00												
	800	380	23.9	7.0	1.93	.75	.90	1.00	22.7	6.7	2.09	.78	.92	1.00	21.5	6.3	2.24	.79	.95	1.00	20.2	5.9	2.38	.83	.97	1.00												
	960	455	24.7	7.2	1.96	.80	.95	1.00	23.5	6.9	2.12	.82	.97	1.00	22.2	6.5	2.28	.85	.99	1.00	21.0	6.2	2.42	.88	1.00	1.00												
67°F (19°C)	640	300	24.6	7.2	1.95	.56	.68	.81	23.3	6.8	2.11	.57	.70	.83	22.0	6.4	2.27	.58	.72	.85	20.7	6.1	2.41	.59	.74	.87												
	800	380	25.4	7.4	1.98	.59	.73	.87	24.1	7.1	2.15	.60	.75	.89	22.8	6.7	2.30	.61	.77	.92	21.4	6.3	2.44	.62	.80	.94												
	960	455	26.0	7.6	2.00	.61	.78	.93	24.7	7.2	2.17	.63	.80	.95	23.3	6.8	2.33	.64	.83	.97	21.9	6.4	2.47	.66	.85	.99												
71°F (22°C)	640	300	26.3	7.7	2.01	.43	.54	.66	25.0	7.3	2.18	.43	.55	.67	23.7	6.9	2.34	.43	.56	.69	22.3	6.5	2.49	.43	.57	.71												
	800	380	27.2	8.0	2.03	.43	.57	.70	25.8	7.6	2.21	.44	.58	.72	24.4	7.2	2.37	.44	.59	.74	23.0	6.7	2.52	.44	.61	.77												
	960	455	27.8	8.1	2.05	.44	.60	.75	26.3	7.7	2.23	.45	.61	.78	24.9	7.3	2.39	.46	.63	.80	23.4	6.9	2.54	.46	.65	.83												

## GCS16-030 - COOLING CAPACITY

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														
			kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F												
			cfm	L/s	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C													
63°F (17°C)	800	380	27.6	8.1	2.22	.73	.86	.97	26.3	7.7	2.39	.74	.88	.99	25.0	7.3	2.56	.76	.90	1.00	23.5	6.9	2.75	.78	.93	1.00												
	1000	470	28.6	8.4	2.25	.77	.92	1.00	27.3	8.0	2.43	.79	.94	1.00	25.9	7.6	2.61	.81	.96	1.00	24.5	7.2	2.80	.84	.99	1.00												
	1200	565	29.5	8.6	2.28	.82	.97	1.00	28.2	8.3	2.46	.84	.99	1.00	26.8	7.9	2.65	.86	1.00	1.00	25.4	7.4	2.84	.89	1.00	1.00												
67°F (19°C)	800	380	29.4	8.6	2.27	.57	.70	.82	28.0	8.2	2.45	.58	.71	.84	26.6	7.8	2.64	.59	.73	.87	25.1	7.4	2.82	.60	.75	.89												
	1000	470	30.4	8.9	2.30	.60	.75	.89	28.9	8.5	2.49	.61	.76	.91	27.4	8.0	2.67	.62	.78	.93	25.8	7.6	2.87	.64	.81	.96												
	1200	565	31.0	9.1	2.32	.63	.80	.94	29.5	8.6	2.51	.64	.82	.96	28.0	8.2	2.70	.65	.84	.99	26.4	7.7	2.90	.67	.87	1.00												
71°F (22°C)	800	380	31.4	9.2	2.32	.43	.55	.67	30.0	8.8	2.52	.43	.56	.69	28.5	8.4	2.72	.44	.57	.70	26.9	7.9	2.92	.44	.58	.72												
	1000	470	32.4	9.5	2.35	.44	.58	.72	30.9	9.1	2.55	.44	.59	.74	29.3	8.6	2.75	.45	.60	.76	27.6	8.1	2.96	.45	.62	.78												
	1200	565	33.0	9.7	2.37	.45	.61	.77	31.5	9.2	2.57	.46	.62	.80	29.8	8.7	2.78	.46	.64	.82	28.1	8.2	2.99	.47	.66	.84												

## GCS16-036 COOLING CAPACITY

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														
			kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F												
			cfm	L/s	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C													
63°F (17°C)	960	455	34.1	10.0	2.82	.77	.91	1.00	33.0	9.7	3.15	.77	.92	1.00	31.8	9.3	3.52	.79	.93	1.00	30.5	8.9	3.94	.80	.96	1.00												
	1200	565	35.4	10.4	2.84	.82	.97	1.00	34.2	10.0	3.17	.83	.99	1.00	33.0	9.7	3.55	.85	1.00	1.00	31.7	9.3	3.97	.86	1.00	1.00												
	1440	680	36.4	10.7	2.86	.87	1.00	1.00	35.2	10.3	3.19	.88	1.00	1.00	34.0	10.0	3.57	.90	1.00	1.00	32.7	9.6	4.00	.92	1.00	1.00												
67°F (19°C)	960	455	36.3	10.6	2.86	.60	.74	.87	35.1	10.3	3.19	.61	.75	.89	33.8	9.9	3.56	.61	.76	.90	32.4	9.5	3.99	.62	.77	.92												
	1200	565	37.3	10.9	2.88	.63	.79	.94	36.1	10.6	3.21	.64	.80	.96	34.7	10.2	3.58	.65	.82	.97	33.3	9.8	4.01	.66	.84	1.00												
	1440	680	38.2	11.2	2.89	.66	.84	1.00	36.9	10.8	3.22	.67	.86	1.00	35.5	10.4	3.60	.68	.88	1.00	34.0	10.0	4.03	.69	.90	1.00												
71°F (22°C)	960	455	38.6	11.3	2.90	.45	.58	.71	37.4	11.0	3.23	.45	.59	.72	36.0	10.6	3.61	.46	.60	.73	34.6	10.1	4.05	.46	.60	.75												
	1200	565	39.7	11.6	2.92	.46	.62	.77	38.4	11.3	3.26	.47	.62	.78	37.0	10.8	3.64	.47	.63	.79	35.5	10.4	4.07	.47	.64	.81												
	1440	680	40.5	11.9	2.94	.47	.65	.82	39.1	11.5	3.27	.48	.66	.84	37.7	11.0	3.65	.48	.67	.85	36.1	10.6	4.09	.49	.68	.87												

## GCS16-048 COOLING CAPACITY

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														
			kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F	kBtu/h	kW		75°F	80°F	85°F												
			cfm	L/s	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C	24°C	27°C	29°C													
63°F (17°C)	1280	605	46.0	13.5	3.42	.71	.84	.95	44.5	13.0	3.81	.72	.85	.97	43.0	12.6	4.26	.73	.87	.98	41.2	12.1	4.78	.74	.89	.99												
	1600	755	47.6	14.0	3.45	.76	.90	1.00	46.1	13.5	3.84	.77	.92	1.00	44.4	13.0	4.29	.78	.93	1.00	42.7	12.5	4.82	.80	.95	1.00												
	1920	905	48.9	14.3	3.47	.80	.96	1.00	47.3	13.9	3.86	.82	.97	1.00	45.6	13.4	4.32	.83	.98	1.00	43.9	12.9	4.84	.85	.99	1.00												
67°F (19°C)	1280	605	48.7	14.3	3.46	.56	.69	.81	47.1	13.8	3.86	.56	.70	.82	45.4	13.3	4.31	.57	.71	.84	43.6	12.8	4.83	.58	.72	.86												
	1600	755	50.1	14.7	3.49	.59	.74	.88	48.4	14.2	3.88	.60	.75	.89	46.6	13.7	4.33	.60	.76	.91	44.7	13.1	4.86	.61	.78	.92												
	1920	905	51.1	15.0	3.51	.62	.78	.93	49.4	14.5	3.90	.62	.80	.95	47.5	13.9	4.35	.63	.81	.96	45.5	13.3	4.89	.65	.83	.98												
71°F (22°C)	1280	605	51.6	15.1	3.52	.42	.54	.66	50.0	14.7	3.91	.43	.55	.67	48.2	14.1	4.37	.43	.56	.68	46.2	13.5	4.90	.43	.56	.70												
	1600	755	53.0	15.5	3.54	.43	.57	.72	51.3	15.0	3.94	.43	.58	.73	49.4	14.5	4.39	.44	.59	.74	47.3	13.9	4.93	.44	.60	.76												
	1920	905	54.0	15.8	3.56	.44	.61	.76	52.2	15.3	3.95	.45	.61	.78	50.2	14.7	4.41	.45	.63	.80	48.1	14.1	4.95	.46	.64	.81												

## COOLING RATINGS - GCS16

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

### GCS16-060 COOLING CAPACITY

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														
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C												
cfm	L/s	kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW														
63°F (17°C)	1600	755	58.3	17.1	4.88	.72	.85	.97	55.6	16.3	5.22	.73	.87	.98	52.9	15.5	5.54	.75	.89	1.00	50.0	14.7	5.84	.77	.92	1.00												
	2000	945	60.5	17.7	4.97	.77	.91	1.00	57.8	16.9	5.32	.78	.93	1.00	55.0	16.1	5.65	.80	.95	1.00	52.0	15.2	5.97	.83	.98	1.00												
	2400	1135	62.4	18.3	5.04	.81	.96	1.00	59.6	17.5	5.41	.83	.98	1.00	56.8	16.6	5.75	.85	1.00	1.00	53.9	15.8	6.08	.88	1.00	1.00												
67°F (19°C)	1600	755	62.2	18.2	5.03	.57	.69	.82	59.4	17.4	5.39	.57	.71	.84	56.4	16.5	5.73	.58	.72	.86	53.3	15.6	6.04	.59	.74	.88												
	2000	945	64.2	18.8	5.11	.59	.74	.88	61.2	17.9	5.48	.60	.76	.90	58.1	17.0	5.82	.61	.78	.92	54.9	16.1	6.14	.63	.80	.95												
	2400	1135	65.6	19.2	5.17	.62	.79	.94	62.5	18.3	5.54	.63	.81	.96	59.4	17.4	5.89	.65	.83	.98	56.0	16.4	6.22	.66	.86	1.00												
71°F (22°C)	1600	755	66.5	19.5	5.19	.43	.55	.67	63.5	18.6	5.58	.43	.56	.68	60.3	17.7	5.94	.43	.57	.70	57.1	16.7	6.28	.44	.58	.72												
	2000	945	68.5	20.1	5.27	.44	.58	.72	65.4	19.2	5.66	.44	.59	.74	62.1	18.2	6.03	.44	.60	.75	58.7	17.2	6.37	.45	.61	.78												
	2400	1135	69.9	20.5	5.33	.45	.61	.77	66.6	19.5	5.72	.45	.62	.79	63.3	18.6	6.09	.46	.63	.81	59.7	17.5	6.43	.46	.65	.83												

## COOLING RATINGS - GCS20

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

### GCS20-036 - COOLING CAPACITY

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														
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C												
cfm	L/s	kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW														
63°F (17°C)	960	455	34.0	10.0	2.33	.71	.84	.96	32.9	9.6	2.62	.72	.86	.97	31.7	9.3	2.96	.73	.87	.98	30.4	8.9	3.35	.74	.89	.99												
	1200	565	35.3	10.3	2.34	.76	.91	1.00	34.1	10.0	2.63	.77	.92	1.00	32.9	9.6	2.97	.79	.94	1.00	31.6	9.3	3.35	.80	.96	1.00												
	1440	680	36.4	10.7	2.34	.81	.96	1.00	35.2	10.3	2.64	.82	.97	1.00	34.0	10.0	2.97	.84	.99	1.00	32.7	9.6	3.36	.86	1.00	1.00												
67°F (19°C)	960	455	36.2	10.6	2.34	.56	.69	.81	35.0	10.3	2.63	.57	.69	.82	33.7	9.9	2.97	.57	.71	.84	32.3	9.5	3.37	.58	.72	.86												
	1200	565	37.4	11.0	2.35	.59	.74	.88	36.1	10.6	2.64	.60	.75	.89	34.7	10.2	2.98	.60	.76	.91	33.3	9.8	3.37	.61	.78	.93												
	1440	680	38.2	11.2	2.35	.62	.79	.93	36.9	10.8	2.65	.63	.80	.95	35.5	10.4	2.99	.64	.82	.96	34.1	10.0	3.38	.65	.83	.98												
71°F (22°C)	960	455	38.6	11.3	2.35	.42	.54	.66	37.4	11.0	2.65	.43	.55	.67	36.0	10.6	2.99	.43	.55	.68	34.5	10.1	3.39	.43	.56	.70												
	1200	565	39.8	11.7	2.36	.43	.57	.71	38.2	11.3	2.66	.44	.58	.72	37.0	10.8	3.00	.44	.59	.74	35.5	10.4	3.40	.44	.60	.75												
	1440	680	40.6	11.9	2.37	.45	.61	.76	39.2	11.5	2.67	.45	.61	.78	37.8	11.1	3.01	.45	.62	.79	36.2	10.6	3.40	.46	.64	.81												

### GCS20-048 - COOLING CAPACITY

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														
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C												
cfm	L/s	kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW														
63°F (17°C)	1280	605	50.6	14.8	3.20	.74	.88	1.00	48.8	14.3	3.60	.75	.89	1.00	46.9	13.7	4.05	.76	.91	1.00	44.9	13.2	4.59	.78	.93	1.00												
	1600	755	52.5	15.4	3.21	.79	.95	1.00	50.6	14.8	3.61	.81	.96	1.00	48.7	14.3	4.07	.82	.98	1.00	46.6	13.7	4.61	.84	1.00	1.00												
	1920	905	54.0	15.8	3.23	.85	1.00	1.00	52.2	15.3	3.63	.86	1.00	1.00	50.2	14.7	4.09	.88	1.00	1.00	48.2	14.1	4.62	.90	1.00	1.00												
67°F (19°C)	1280	605	53.7	15.7	3.23	.58	.71	.84	51.8	15.2	3.63	.59	.72	.86	49.7	14.6	4.09	.60	.74	.88	47.6	14.0	4.62	.60	.75	.89												
	1600	755	55.4	16.2	3.25	.61	.77	.92	53.4	15.6	3.64	.62	.78	.93	51.3	15.0	4.10	.63	.80	.95	48.9	14.3	4.64	.64	.82	.97												
	1920	905	56.6	16.6	3.27	.65	.82	.98	54.5	16.0	3.66	.66	.84	1.00	52.3	15.3	4.12	.67	.86	1.00	49.9	14.6	4.65	.68	.88	1.00												
71°F (22°C)	1280	605	57.1	16.7	3.28	.44	.57	.69	55.1	16.1	3.67	.44	.57	.70	52.9	15.5	4.12	.45	.58	.71	50.6	14.8	4.65	.45	.59	.73												
	1600	755	58.8	17.2	3.30	.45	.60	.75	56.6	16.6	3.69	.45	.61	.76	54.4	15.9	4.15	.46	.62	.78	51.9	15.2	4.67	.46	.63	.79												
	1920	905	59.9	17.6	3.31	.46	.64	.80	57.7	16.9	3.71	.47	.64	.82	55.3	16.2	4.16	.47	.66	.84	52.8	15.5	4.68	.48	.67	.86												

### GCS20-060 - COOLING CAPACITY

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														
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C												
cfm	L/s	kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW			kBtuh	kW	kW														
63°F (17°C)	1600	755	60.6	17.8	4.02	.74	.87	.99	58.6	17.2	4.52	.75	.89	1.00	56.4	16.5	5.09	.76	.90	1.00	54.1	15.9	5.71	.77	.92	1.00												
	2000	945	62.9	18.4	4.05	.79	.94	1.00	60.8	17.8	4.55	.80	.96	1.00	58.6	17.2	5.11	.82	.97	1.00	56.2	16.5	5.74	.83	.99	1.00												
	2400	1135	64.8	19.0	4.07	.84	1.00	1.00	62.7	18.4	4.57	.85	1.00	1.00	60.5	17.7	5.13	.87	1.00	1.00	58.2	17.1	5.77	.89	1.00	1.00												
67°F (19°C)	1600	755	64.4	18.9	4.06	.58	.71	.84	62.2	18.2	4.56	.58	.72	.85	59.8	17.5	5.14	.59	.73	.87	57.4	16.8	5.77	.60	.75	.89												
	2000	945	66.4	19.5	4.09	.61	.77	.91	64.1	18.8	4.59	.63	.78	.93	61.7	18.1	5.15	.63	.79	.94	59.1	17.3	5.78	.64	.81	.96												
	2400	1135	67.9	19.9	4.10	.64	.82	.97	65.5	19.2	4.60	.65	.83	.99	63.0	18.5	5.18	.66	.85	1.00	60.4	17.7	5.81	.67	.87	1.00												
71°F (22°C)	1600	755	68.5	20.1	4.10	.44	.56	.68	66.2	19.4	4.61	.44	.57	.69	63.8	18.7	5.18	.44	.57	.71	61.2	17.9	5.81	.44	.58	.72												
	2000	945	70.5	20.7	4.13	.45	.60	.74	68.1	20.0	4.64	.45	.60	.76	65.5	19.2	5.20	.45	.61	.77	62.9	18.4	5.83	.46	.62	.79												
	2400	1135	71.9	21.1	4.15	.46	.63	.80	69.4	20.3	4.65	.46	.64	.81	66.7	19.5	5.22	.47	.65	.83	64.0	18.8	5.85	.47	.66	.85												

**BLOWER DATA - GCS16** - All air data is measured external to the unit with dry coil and without air filter.

**GCS16-024-50 BLOWER PERFORMANCE - 230 VOLTS** (For 208V unit operation, derate air volume by 7%)

External Static Pressure		Down-Flow Air Openings								Horizontal Air Openings							
		Air Volume at Various Blower Speeds								Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1315	620	915	430	840	395	615	290	1335	630	1000	470	905	425	665	315
.05	12	1300	615	930	440	855	405	640	300	1330	630	1010	475	915	430	680	320
.10	25	1285	605	945	445	870	410	655	310	1315	620	1015	480	920	435	685	325
.15	37	1265	595	950	450	875	415	670	315	1300	615	1015	480	925	435	690	325
.20	50	1240	585	950	450	880	415	680	320	1280	605	1010	475	920	435	695	330
.25	62	1220	575	950	450	880	415	685	325	1255	590	1005	475	915	430	695	330
.30	75	1195	565	945	445	875	415	685	325	1225	580	990	465	900	425	690	325
.40	100	1140	540	915	430	850	400	675	320	1160	550	945	445	865	410	665	315
.50	125	1080	510	870	410	815	385	650	305	1075	505	885	420	815	385	630	295
.60	150	1010	475	805	380	760	360	610	290	975	460	805	380	745	350	585	275
.70	175	935	440	725	340	690	325	550	260	860	405	705	335	655	310	520	245
.80	200	845	400	625	295	600	285	---	---	730	345	590	280	545	255	---	---
.90	225	735	345	515	245	---	---	---	---	570	270	---	---	---	---	---	---

**GCS16-030-75 BLOWER PERFORMANCE - 230 VOLTS** (For 208V unit operation, derate air volume by 7%)

External Static Pressure		Down-Flow Air Openings								Horizontal Air Openings							
		Air Volume at Various Blower Speeds								Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1480	700	1360	640	1155	545	1015	480	1365	645	1235	585	1050	495	910	430
.05	12	1465	690	1345	635	1145	540	1010	475	1365	645	1225	580	1050	495	905	425
.10	25	1445	680	1335	630	1135	535	1000	470	1360	640	1215	575	1045	495	900	425
.15	37	1425	675	1315	620	1120	530	985	465	1350	635	1205	570	1040	490	890	420
.20	50	1400	660	1295	610	1105	520	970	460	1335	630	1190	560	1030	485	880	415
.25	62	1375	650	1270	600	1085	510	955	450	1320	625	1170	550	1020	480	865	410
.30	75	1345	635	1245	590	1060	500	930	440	1300	615	1155	545	1005	475	850	400
.40	100	1275	600	1180	555	1005	475	875	415	1250	590	1110	525	965	455	815	385
.50	125	1195	565	1100	520	940	445	805	380	1185	560	1060	500	915	430	770	365
.60	150	1095	515	1010	475	865	410	720	340	1105	520	1000	470	855	405	715	335
.70	175	990	465	900	425	780	370	625	295	1010	475	930	440	780	370	655	310
.80	200	880	415	790	375	675	320	515	245	905	425	850	400	700	330	580	275
.90	225	745	350	655	310	---	---	---	---	780	370	730	345	---	---	---	---
1.00	250	590	280	---	---	---	---	---	---	630	295	---	---	---	---	---	---

**GCS16-036-90 BLOWER PERFORMANCE - 230 VOLTS** (For 208V unit operation, derate air volume by 7%)

External Static Pressure		Down-Flow Air Openings								Horizontal Air Openings							
		Air Volume at Various Blower Speeds								Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1700	800	1580	745	1430	675	1315	620	1740	820	1585	750	1500	710	1370	645
.05	12	1665	785	1550	730	1420	670	1300	615	1710	805	1565	740	1475	695	1350	635
.10	25	1635	770	1520	715	1405	665	1285	605	1675	790	1545	730	1450	685	1330	630
.15	37	1600	755	1490	705	1390	655	1270	600	1645	775	1525	720	1425	675	1310	620
.20	50	1570	740	1460	690	1370	645	1250	590	1615	760	1490	705	1400	660	1290	610
.25	62	1540	725	1430	675	1345	635	1230	580	1580	745	1465	690	1375	650	1265	595
.30	75	1505	710	1400	660	1315	620	1215	575	1550	730	1440	680	1345	635	1240	585
.40	100	1430	675	1340	630	1260	595	1165	550	1485	700	1380	650	1290	610	1190	560
.50	125	1370	645	1280	605	1200	565	1110	525	1420	670	1320	625	1230	580	1135	535
.60	150	1300	615	1215	575	1130	535	1030	485	1350	635	1260	595	1165	550	1075	505
.70	175	1235	585	1150	545	1045	495	970	460	1255	590	1165	550	1105	520	1015	480
.80	200	1165	550	1075	505	955	450	870	410	1180	555	1085	510	1025	485	940	445
.90	225	1090	515	990	465	825	390	---	---	1085	510	985	465	930	440	---	---
1.00	250	980	465	885	420	---	---	---	---	970	460	870	410	---	---	---	---

**BLOWER DATA - GCS16** - All air data is measured external to the unit with dry coil and without air filter.

**GCS16-036-90 BLOWER PERFORMANCE - 460/575 VOLTS**

External Static Pressure		Down-Flow Air Openings						Horizontal Air Openings					
		Air Volume at Various Blower Speeds						Air Volume at Various Blower Speeds					
		High		Medium		Low		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1570	740	1480	700	1135	535	1610	760	1515	715	1165	550
.05	12	1545	730	1455	685	1135	535	1585	750	1490	705	1165	550
.10	25	1520	715	1430	675	1130	535	1560	735	1465	690	1160	550
.15	37	1490	705	1405	665	1125	530	1525	720	1440	680	1155	545
.20	50	1465	690	1375	650	1115	525	1500	710	1410	665	1145	540
.25	62	1435	675	1350	635	1105	520	1470	695	1385	655	1135	535
.30	75	1405	665	1320	625	1090	515	1440	680	1355	640	1115	525
.40	100	1345	635	1265	595	1050	495	1380	650	1295	610	1085	510
.50	125	1285	605	1200	565	1020	480	1315	620	1230	580	1045	495
.60	150	1220	575	1140	540	975	460	1250	590	1170	550	1000	470
.70	175	1155	545	1070	505	920	435	1185	560	1095	515	945	445
.80	200	1085	510	1000	470	850	400	1110	525	1025	485	845	400
.90	225	1000	470	910	430	---	---	1030	485	940	445	---	---
1.00	250	905	425	810	380	---	---	940	445	845	400	---	---

**GCS16-048-75 and GCS16-048-120 BLOWER PERFORMANCE - 230 VOLTS** (For 208V unit operation, derate air volume by 7%)

External Static Pressure		Down-Flow Air Openings								Horizontal Air Openings											
		Air Volume at Various Blower Speeds								Air Volume at Various Blower Speeds											
		High		Medium-High		Medium		Medium-Low		Low		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2775	1310	2505	1180	2270	1070	1970	930	1710	805	2700	1275	2470	1165	2235	1055	1900	895	1650	780
.05	12	2725	1285	2465	1165	2240	1055	1950	920	1685	795	2675	1265	2450	1155	2225	1050	1890	890	1640	775
.10	25	2675	1265	2430	1145	2210	1045	1925	910	1665	785	2650	1250	2425	1145	2210	1045	1880	885	1630	770
.15	37	2630	1240	2395	1130	2180	1030	1905	900	1645	775	2625	1240	2405	1135	2200	1040	1870	885	1620	765
.20	50	2580	1220	2360	1115	2150	1015	1885	890	1620	765	2595	1225	2380	1125	2185	1030	1855	875	1610	760
.25	62	2540	1200	2320	1095	2120	1000	1860	880	1595	755	2570	1215	2360	1115	2165	1020	1840	870	1600	755
.30	75	2490	1175	2285	1080	2100	990	1840	870	1570	740	2535	1195	2335	1100	2150	1015	1830	865	1585	750
.40	100	2400	1135	2220	1050	2040	965	1795	845	1515	715	2480	1170	2280	1075	2110	995	1795	845	1550	730
.50	125	2300	1085	2145	1010	1980	935	1740	820	1450	685	2410	1140	2220	1050	2085	985	1750	825	1510	715
.60	150	2200	1040	2070	975	1910	900	1680	795	1365	645	2340	1105	2160	1020	2000	945	1680	795	1455	685
.70	175	2130	1005	2000	945	1865	880	1620	765	1305	615	2255	1065	2080	980	1965	925	1640	775	1410	665
.80	200	2050	970	1925	910	1800	850	1550	730	1210	570	2165	1020	2000	945	1880	885	1565	740	1350	635
.90	225	1950	920	1840	870	1715	810	1465	690	---	---	2065	975	1900	895	1785	845	1470	695	---	---
1.00	250	1840	870	1740	820	1610	760	---	---	---	---	1940	915	1780	840	1660	785	---	---	---	---

**GCS16-048-75 and GCS16-060-75 BLOWER PERFORMANCE - 460 VOLTS**

**GCS16-048-120 and GCS16-060-120 BLOWER PERFORMANCE - 460/575 VOLTS**

External Static Pressure		Down-Flow Air Openings						Horizontal Air Openings					
		Air Volume at Various Blower Speeds						Air Volume at Various Blower Speeds					
		High		Medium		Low		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2630	1240	2330	1100	1905	900	2655	1255	2350	1110	1920	905
.05	12	2605	1230	2310	1090	1890	890	2630	1240	2330	1100	1905	900
.10	25	2580	1220	2285	1080	1870	885	2605	1230	2310	1090	1890	890
.15	37	2555	1205	2260	1065	1850	875	2580	1220	2285	1080	1870	885
.20	50	2525	1190	2235	1055	1830	865	2555	1205	2260	1065	1850	875
.25	62	2495	1180	2210	1045	1810	855	2525	1190	2235	1055	1830	865
.30	75	2445	1155	2180	1030	1790	845	2495	1180	2210	1045	1810	855
.40	100	2400	1135	2125	1005	1745	825	2465	1165	2155	1015	1765	835
.50	125	2325	1095	2065	975	1695	800	2365	1115	2095	990	1720	810
.60	150	2250	1060	2000	945	1640	775	2200	1040	2030	960	1665	785
.70	175	2165	1020	1930	910	1580	745	2205	1040	1965	925	1610	760
.80	200	2080	980	1850	875	1510	715	2115	1000	1890	890	1545	730
.90	225	1985	935	1760	830	---	---	2010	950	1800	850	---	---
1.00	250	1860	880	1655	780	---	---	1885	890	1695	800	---	---

**BLOWER DATA - GCS16** - All air data is measured external to the unit with dry coil and without air filter.

**GCS16-060-75 and GCS16-060-120 BLOWER PERFORMANCE - 230 VOLTS** (For 208V unit operation, derate air volume by 7%)

External Static Pressure		Down-Flow Air Openings										Horizontal Air Openings									
		Air Volume at Various Blower Speeds										Air Volume at Various Blower Speeds									
		High		Medium-High		Medium		Medium-Low		Low		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2740	1295	2520	1190	2270	1070	2025	955	1710	805	2760	1305	2545	1200	2295	1085	2015	950	1680	795
.05	12	2715	1280	2495	1180	2250	1060	2005	945	1690	800	2745	1295	2530	1195	2280	1075	2005	945	1675	790
.10	25	2685	1265	2470	1165	2230	1055	1980	935	1670	790	2730	1290	2510	1185	2265	1070	1995	940	1670	790
.15	37	2655	1255	2445	1155	2210	1045	1960	925	1650	780	2710	1280	2495	1180	2250	1060	1985	935	1665	785
.20	50	2630	1240	2420	1140	2190	1035	1935	915	1635	770	2695	1270	2480	1170	2235	1055	1970	930	1665	785
.25	62	2600	1225	2395	1130	2170	1025	1910	900	1615	760	2675	1265	2460	1160	2220	1050	1955	925	1645	775
.30	75	2570	1215	2370	1120	2150	1015	1885	890	1595	755	2650	1250	2440	1150	2200	1040	1930	910	1635	770
.40	100	2510	1185	2320	1095	2100	990	1835	865	1550	730	2600	1225	2395	1130	2160	1020	1875	885	1605	760
.50	125	2450	1155	2255	1065	2080	980	1780	840	1500	710	2540	1200	2340	1105	2110	995	1805	850	1555	735
.60	150	2375	1120	2185	1030	1995	940	1755	830	1440	680	2480	1170	2265	1070	2025	955	1725	815	1475	695
.70	175	2305	1090	2120	1000	1935	915	1695	800	1390	655	2395	1130	2200	1040	1985	935	1630	770	1450	685
.80	200	2230	1055	2040	965	1860	880	1645	775	1315	620	2285	1080	2100	990	1900	895	1540	725	1370	645
.90	225	2140	1010	1945	920	1775	840	1585	750	---	---	2155	1015	1985	935	1795	845	1410	665	---	---
1.00	250	2030	960	1835	865	1670	790	---	---	---	---	2000	945	1845	870	1665	785	---	---	---	---

**BLOWER DATA - GCS20** - All air data is measured external to the unit with dry coil and without air filter.

**GCS20-036-75 BLOWER PERFORMANCE - 230 VOLTS** (For 208V unit operation, derate air volume by 7%)

External Static Pressure		Down-Flow Air Openings								Horizontal Air Openings							
		Air Volume at Various Blower Speeds								Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
.00	0	1890	890	1530	720	1335	630	990	465	1935	910	1580	745	1320	620	1140	540
.05	10	1870	880	1530	720	1335	630	995	470	1910	900	1580	745	1325	625	1150	545
.10	25	1845	870	1525	720	1340	630	995	470	1890	890	1570	740	1330	625	1160	550
.15	35	1820	860	1520	715	1340	630	1000	470	1870	880	1565	740	1330	630	1165	550
.20	50	1795	845	1510	715	1335	630	1000	470	1845	870	1555	735	1330	630	1170	550
.25	60	1765	835	1500	710	1330	625	995	470	1820	860	1540	725	1330	625	1170	555
.30	75	1740	820	1485	700	1320	625	995	470	1795	845	1525	720	1325	625	1170	550
.40	100	1675	790	1450	685	1295	610	985	465	1740	820	1490	705	1305	615	1160	545
.50	125	1605	760	1405	665	1255	595	975	460	1680	795	1450	685	1280	605	1135	535
.60	150	1530	725	1350	635	1210	570	955	450	1620	765	1395	660	1240	585	1105	520
.70	175	1450	685	1285	605	1155	545	930	440	1550	730	1335	630	1195	565	1060	500
.80	200	1360	645	1205	570	1085	510	900	425	1480	700	1270	600	1140	535	1010	475
.90	225	1270	600	1120	530	1005	475	870	410	1405	665	1190	565	1070	505	945	445
1.00	250	1170	550	1020	480	915	430	830	390	1325	625	1105	520	995	470	870	410

**GCS20-036-75 BLOWER PERFORMANCE - 460 VOLTS**

External Static Pressure		Down-Flow Air Openings						Horizontal Air Openings					
		Air Volume at Various Blower Speeds						Air Volume at Various Blower Speeds					
		High		Medium		Low		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
.00	0	1840	870	1725	815	1070	505	1910	900	1720	810	1095	515
.05	10	1820	860	1705	805	1080	510	1890	890	1710	805	1110	525
.10	25	1805	850	1690	795	1090	515	1870	880	1700	800	1120	530
.15	35	1785	840	1670	790	1100	520	1850	870	1685	795	1125	530
.20	50	1760	830	1650	780	1100	520	1825	860	1670	790	1130	535
.25	60	1735	820	1625	770	1100	520	1800	850	1655	780	1135	535
.30	75	1710	805	1605	755	1100	520	1775	840	1635	770	1135	535
.40	100	1650	780	1550	730	1085	515	1720	815	1595	755	1125	530
.50	125	1580	745	1490	705	1065	500	1660	785	1545	730	1110	525
.60	150	1505	710	1425	675	1025	485	1595	755	1490	705	1085	510
.70	175	1425	670	1355	640	980	460	1525	720	1430	675	1045	495
.80	200	1335	630	1275	600	920	435	1445	680	1360	640	1000	470
.90	225	1235	580	1190	560	850	400	1365	645	1285	605	945	445
1.00	250	1130	530	1095	520	765	360	1275	600	1200	565	875	415

**BLOWER DATA - GCS20** - All air data is measured external to the unit with dry coil and without air filter.

**GCS20-048-75, GCS20-048-120 GCS20-060-75 and GCS20-060-120 BLOWER PERFORMANCE - 230 VOLTS**  
 (For 208V unit operation, derate air volume by 7%)

External Static Pressure		Down-Flow Air Openings									Horizontal Air Openings										
		Air Volume at Various Blower Speeds																			
		High		Medium-High		Medium		Medium-Low		Low		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
.00	0	2480	1170	2315	1090	2060	975	1800	850	1555	735	2470	1165	2340	1105	2160	1020	1880	885	1620	765
.05	10	2460	1160	2295	1085	2055	970	1795	845	1555	735	2445	1155	2315	1095	2145	1010	1865	880	1615	765
.10	25	2435	1150	2275	1075	2050	965	1785	840	1550	730	2420	1140	2295	1085	2130	1005	1855	875	1610	760
.15	35	2410	1135	2255	1065	2040	965	1775	840	1545	730	2395	1130	2270	1070	2110	995	1840	870	1605	755
.20	50	2380	1125	2235	1055	2030	960	1765	835	1540	725	2365	1115	2245	1060	2090	985	1825	860	1595	755
.25	60	2355	1110	2210	1045	2015	950	1755	830	1535	725	2340	1105	2220	1050	2070	975	1810	855	1585	750
.30	75	2325	1100	2185	1030	2005	945	1745	825	1525	720	2310	1090	2195	1035	2050	965	1795	845	1575	740
.40	100	2265	1070	2135	1005	1970	930	1715	810	1505	710	2250	1060	2135	1010	2000	945	1760	830	1545	730
.50	125	2205	1040	2080	980	1930	910	1685	795	1475	695	2185	1030	2075	980	1950	920	1715	810	1510	710
.60	150	2135	1010	2015	950	1880	890	1650	780	1445	680	2115	1000	2010	950	1890	890	1670	790	1470	695
.70	175	2065	975	1950	920	1825	860	1610	760	1405	665	2045	965	1945	915	1825	860	1620	765	1420	670
.80	200	1990	940	1880	885	1765	835	1570	740	1365	645	1965	930	1870	885	1760	830	1565	740	1370	645
.90	225	1910	900	1800	850	1700	800	1520	720	1315	620	1885	890	1795	850	1685	795	1505	710	1310	620
1.00	250	1825	860	1720	810	1625	765	1470	695	1260	595	1800	850	1715	810	1605	755	1440	680	1245	585

**GCS20-048-75, GCS20-048-120 GCS20-060-75 and GCS20-060-120 BLOWER PERFORMANCE - 460 VOLTS**

External Static Pressure		Down-Flow Air Openings						Horizontal Air Openings					
		Air Volume at Various Blower Speeds						Air Volume at Various Blower Speeds					
		High		Medium		Low		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
.00	0	2395	1130	2205	1040	1960	925	2390	1125	2230	1050	2020	955
.05	10	2375	1120	2185	1030	1945	920	2365	1115	2205	1040	2005	945
.10	25	2350	1110	2165	1020	1935	910	2340	1105	2185	1030	1990	940
.15	35	2320	1095	2140	1010	1920	905	2310	1090	2160	1020	1970	930
.20	50	2295	1085	2120	1000	1905	900	2285	1080	2135	1010	1950	920
.25	60	2270	1070	2095	990	1885	890	2255	1065	2110	995	1930	910
.30	75	2240	1055	2070	975	1870	880	2230	1050	2085	985	1910	900
.40	100	2180	1030	2015	950	1825	860	2165	1025	2030	955	1860	880
.50	125	2115	1000	1960	925	1780	840	2105	990	1965	930	1810	855
.60	150	2050	965	1900	895	1730	815	2035	960	1900	895	1750	825
.70	175	1975	935	1835	865	1675	790	1960	925	1830	865	1690	795
.80	200	1900	895	1765	835	1615	760	1885	890	1755	830	1620	765
.90	225	1820	860	1695	800	1550	730	1805	850	1675	790	1550	730
1.00	250	1735	820	1620	765	1475	695	1720	810	1590	750	1470	695

# BLOWER DATA

## FILTER AND ACCESSORY AIR RESISTANCE

Unit Model No.	Air Volume		Total Air Resistance											
			1 in. (25mm) Filter Furnished		REMD16 Down-Flow Economizer						EMDH16 Horizontal Economizer			
					Less Filter		With Optional Pleated Polyester 2 in. (51mm) Filter		With Optional Fiberglass 2 in. (51mm) Filter		With Furnished 1 in. (25mm) Filter		Less Filter	
cfm	L/s	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	in. w.g.	Pa	
GCS16-024 GCS16-030 GCS16-036	800	380	.15	37	.05	12	.27	67	.13	32	.18	45	.10	25
	1000	470	.18	45	.06	15	.34	85	.18	45	.26	65	.15	37
	1200	565	.21	52	.09	22	.42	104	.24	60	.35	87	.21	52
	1400	660	.25	62	.15	37	.51	127	.31	77	.46	114	.29	72
GCS16-048 GCS16-060	1200	565	.12	30	.04	10	.29	72	.10	25	.23	57	.13	32
	1400	660	.13	32	.04	10	.34	85	.22	55	.26	65	.16	40
	1600	755	.15	37	.05	12	.40	99	.27	67	.30	75	.17	42
GCS20-036 GCS20-048 GCS20-060	1800	850	.17	42	.06	15	.48	119	.33	82	.35	87	.19	47
	2000	945	.20	50	.08	20	.56	139	.39	97	.40	99	.22	55
	2200	1040	.23	57	.13	32	.66	164	.46	114	.47	117	.26	85

## DIFFUSER AIR RESISTANCE

Air Volume		Total Air Resistance							
		2 Ends Open		RTD9-65 Diffuser		All Ends & Sides Open		FD9-65 Diffuser	
		in. w.g.	Pa	1 Side 2 Ends Open	in. w.g.	Pa	in. w.g.	Pa	in. w.g.
cfm	L/s								
800	380	.15	37	.13	32	.11	27	.11	27
1000	470	.19	47	.16	40	.14	35	.14	35
1200	565	.25	62	.20	50	.17	42	.17	42
1400	660	.33	82	.26	65	.20	50	.20	50
1600	755	.43	107	.32	80	.20	50	.24	60
1800	850	.56	139	.40	90	.30	75	.30	75
2000	945	.73	182	.50	124	.36	90	.36	90
2200	1040	.95	236	.63	157	.44	109	.44	109

## CEILING DIFFUSER AIR THROW DATA

Model No.		RTD9-65		FD9-65	
Air Volume		Effective Throw		Effective Throw	
cfm	L/s	ft.	m	ft.	m
1000	470	10-17	3-5	15-20	5-6
1200	565	11-18	3-5	16-22	5-7
1400	660	12-19	4-6	17-24	5-7
1600	755	12-20	4-6	18-25	5-8
1800	850	13-21	4-6	20-28	6-9
2000	945	14-23	4-7	21-29	6-9
2200	1040	16-25	5-8	22-30	7-9

Effective throw based on terminal velocities of 75 ft. (22.9 m) per minute.

## WET INDOOR COIL AIR RESISTANCE

Model Number	Air Volume		Air Resistance	
	cfm	L/s	in. w.g.	Pa
GCS16-024	800	380	0.06	15
	1000	470	0.07	17
	1200	565	0.08	20
GCS16-030	800	380	0.09	22
	1000	470	0.10	25
	1200	565	0.11	27
GCS16-036	800	380	0.09	22
	1000	470	0.10	25
	1200	565	0.11	27
GCS16-048	1400	660	0.12	30
	1000	470	0.08	20
	1200	565	0.09	22
GCS16-060	1400	660	0.10	25
	1600	755	0.11	27
	1800	850	0.12	30
GCS20-036	2000	945	0.13	32
	2200	1040	0.14	35
	1600	755	0.08	20
GCS20-048 GCS20-060	1800	850	0.09	22
	2000	945	0.10	25
	2200	1040	0.11	27

## ELECTRICAL DATA - GCS16

General Data	Model No.	GCS16-024		GCS16-030		GCS16-036	
		208/230v-1ph	208/230v-1ph	208/230v-1ph	208/230v-3ph	460v-3ph	575v-3ph
Line voltage data - 60 hz		208/230v-1ph	208/230v-1ph	208/230v-1ph	208/230v-3ph	460v-3ph	575v-3ph
Recommended maximum fuse size (amps)		25	30	40	25	15	15
†Minimum Circuit Ampacity		16	20	25	18	10	8
<b>Compressor</b>	Rated load amps	10.1	12.4	16	10.3	5.1	4.2
	Locked rotor amps	60	69.4	100	77	39	31
<b>Condenser Coil Fan Motor</b>	Full load amps	1.1	1.1	1.1	1.1	.80	□1.80
	Locked rotor amps	2.3	2.3	2.3	2.3	1.9	□1.9
<b>Evaporator Blower Motor</b>	Motor output - hp (W)	1/3 (249)	1/3 (249)	1/2 (373)	1/2 (373)	1/2 (373)	1/2 (373)
	Full load amps	2.2	3.0	3.9	3.9	1.9	□1.9
	Locked rotor amps	4.2	6.2	8.3	8.3	4.2	□4.2
<b>Combustion Air Inducer Motor (1 phase) full load amps</b>		0.7	0.7	0.7	0.7	0.7	0.7

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

□Motors are rated at 460 volts. Full load amps shown are for step-down transformer output.

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

## ELECTRICAL DATA - GCS16

General Data	Model No.	GCS16-048				GCS16-060			
		208/230v-1ph	208/230v-3ph	460v-3ph	575v-3ph	208/230v-1ph	208/230v-3ph	460v-3ph	575v-3ph
Line voltage data - 60 hz		208/230v-1ph	208/230v-3ph	460v-3ph	575v-3ph	208/230v-1ph	208/230v-3ph	460v-3ph	575v-3ph
Rec. maximum fuse size (amps)		50	35	15	15	60	45	20	15
†Minimum Circuit Ampacity		34	23	12	10	42	29	16	12
<b>Compressor</b>	Rated load amps	21.8	12.8	6.4	5.1	27.6	17.6	9.5	6.3
	Locked rotor amps	131	91	46	37	135	105	55	45
<b>Condenser Coil Fan Motor</b>	Full load amps	2	2	1.1	□1.1	2	2	1.1	□1.1
	Locked rotor amps	4.2	4.2	2.2	□2.2	4.2	4.2	2.2	□2.2
<b>Evaporator Blower Motor</b>	Motor output - hp (W)	3/4 (560)	3/4 (560)	3/4 (560)	3/4 (560)	3/4 (560)	3/4 (560)	3/4 (560)	3/4 (560)
	Full load amps	4.6	4.6	2.4	□2.4	4.6	4.6	2.4	□2.4
	Locked rotor amps	10.1	10.1	5.0	□5.0	10.1	10.1	5.0	□5.0
<b>Combustion Air Inducer Motor (1 phase) full load amps</b>		0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

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

□Motors are rated at 460 volts. Full load amps shown are for step-down transformer output.

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

## ELECTRICAL DATA - GCS20

General Data	Model No.	GCS20-036		GCS20-048		GCS20-060	
		208/230v-3ph	460v-3ph	208/230v-3ph	460v-3ph	208/230v-3ph	460v-3ph
Line voltage data - 60 hz		208/230v-3ph	460v-3ph	208/230v-3ph	460v-3ph	208/230v-3ph	460v-3ph
Recommended maximum fuse size (amps)		25	15	40	20	45	20
†Minimum Circuit Ampacity		19	10	24	13	29	14
<b>Compressor</b>	Rated load amps	10.3	5.1	14.7	7.1	17.3	8.2
	Locked rotor amps	77	39	91	50	123	62
<b>Condenser Coil Fan Motor</b>	Full load amps	2.0	1.1	2.0	1.1	2	1.1
	Locked rotor amps	4.2	2.2	4.2	2.2	4.2	2.2
<b>Evaporator Blower Motor</b>	Motor output - hp (W)	1/2 (373)	1/2 (373)	3/4 (560)	1/2 (373)	3/4 (560)	3/4 (560)
	Full load amps	3.9	1.9	5.0	2.4	5.0	2.4
	Locked rotor amps	8.3	4.2	10.1	5.0	10.1	5
<b>Combustion Air Inducer Motor (1 phase) full load amps</b>		0.7	0.7	0.7	0.7	0.7	0.7

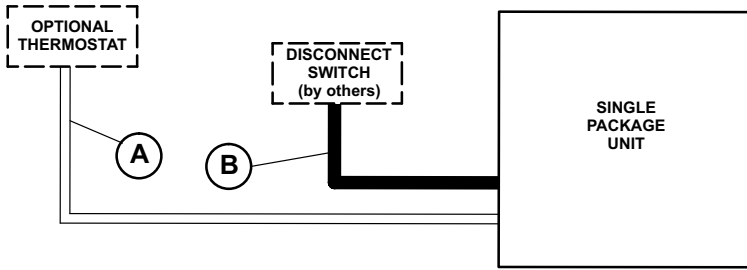
†Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

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



# FIELD WIRING

## BASIC UNIT



A — \*Four Wire Low Voltage (Electro-mechanical)

— \*Five Wire Low Voltage (Electronic)

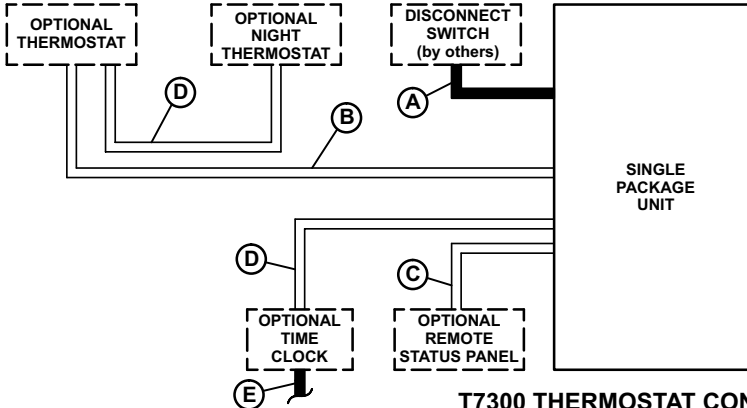
B — Two or Three Wire Power (See Electrical Data Table)

— Field Wiring Not Furnished —

\*When economizer with two stage thermostat is used, one additional wire is required

NOTE - All wiring must conform to NEC or CEC and local electrical codes.

## ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM



A - Two or Three wire power (See Electrical Data Table)

B - Six wire low voltage

C - Nine wire low voltage

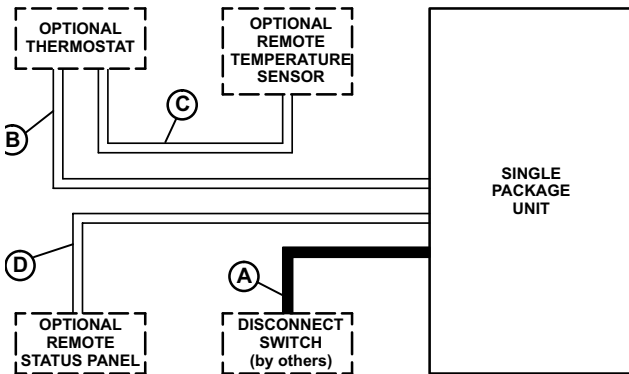
D - Two wire low voltage

E - Two wire low voltage

- Field wiring not furnished -

NOTE - All wiring must conform to NEC or CEC and local electrical codes.

## T7300 THERMOSTAT CONTROL SYSTEM



A - Two or Three wire power (See Electrical Data Table)

B - Nine wire low voltage

C - Two wire low voltage

- Seven wire low voltage (T7300 Room Sensor with override)

D - Nine wire low voltage (T7300 with optional override sensor)

- Four wire low voltage (T8600)

- Field wiring not furnished -

NOTE - All wiring must conform to NEC or CEC and local electrical codes.

# OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS (FIELD INSTALLED)

## System and Component Description

## Catalog No.

### ELECTRO-MECHANICAL THERMOSTAT

**Thermostat** — Two stage heat & two stage cool with dual temperature levers, subbase choice

**13F06**

**Subbase** — Manual system switch (Off-Heat-Auto-Cool), fan switch (Auto-On)

**13F17**

**Status Panel** — May be ordered extra

**12F83**

**Night Setback Operation** — Order components below

**Thermostat** — One stage heat & one stage cool

—

**Subbase** — Non-switching

**12F99**

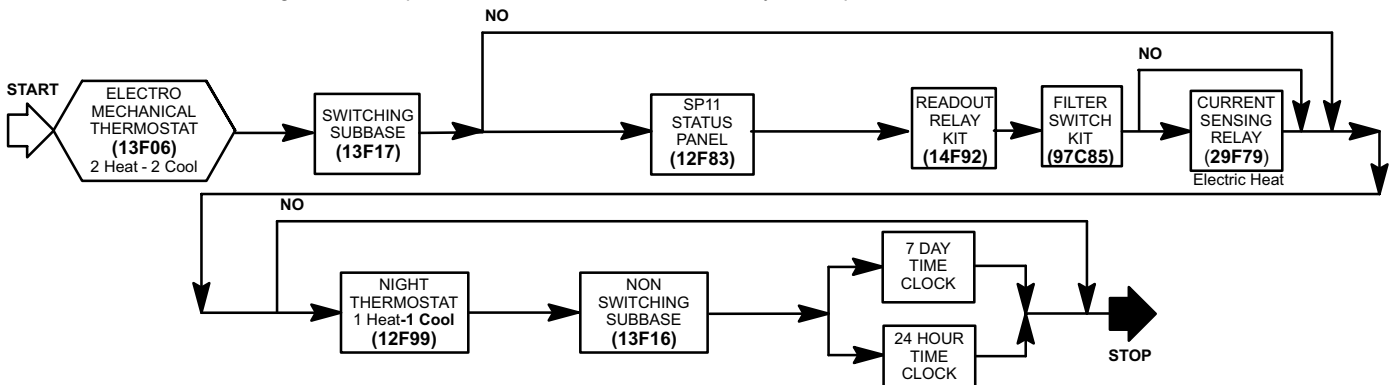
**13F16**

**Time Clock** — 7 day operation, indicates day and night periods, 2 hour increments, battery back-up

**See Price Book for Selection**

**Time Clock** — 24 hour night setback operation, 15 minute increments, battery back-up

**See Price Book for Selection**



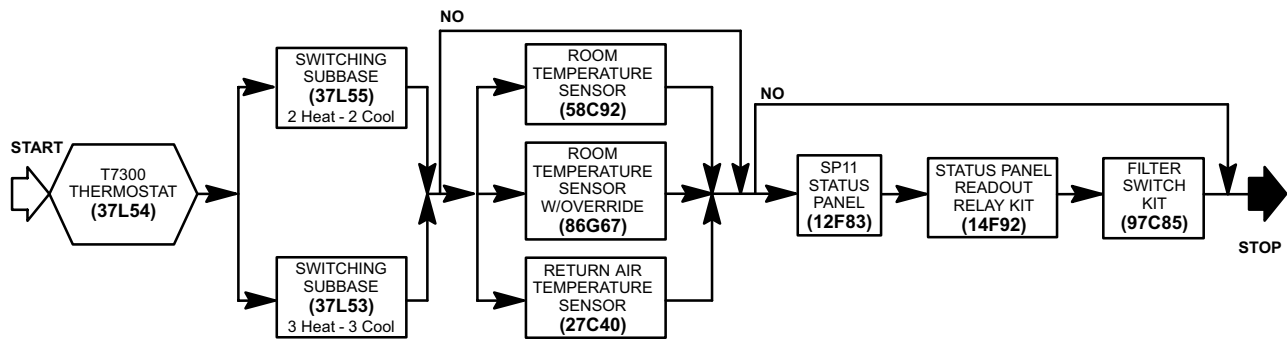
# OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS (FIELD INSTALLED)

## System and Component Description

## Catalog No.

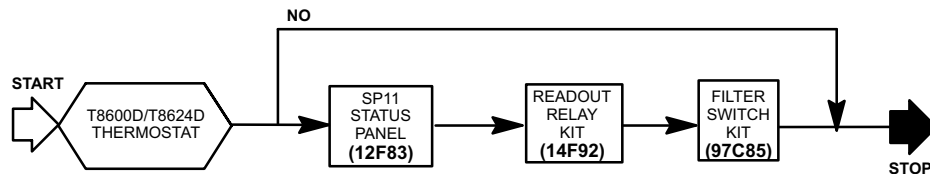
### HONEYWELL T7300 THERMOSTAT

<b>Thermostat</b> — Programmable, internal or optional remote temperature sensing (sensor required), touch sensitive keyboard, automatic switching, °F or °C readout, no anticipator, droop/no droop selection, indicator LED's, hour/day programming, override capabilities, time and operational mode readout, stage status indicators, battery back-up, subbase choice, manual system switch (Heat-Off-Auto-Cool), fan switch (Auto-On)	37L54
<b>Subbase</b> — Selectable staging, indicator LED's, auxiliary relay output for economizer operation	Up to two stage heat & two stage cool 37L55
	Up to three stage heat & three stage cool 37L53
<b>Sensor</b> — Room temperature	58C92
<b>Sensor</b> — Room temperature with 3 hour override and setpoint adjustment	86G67
<b>Sensor</b> — Return air temperature	27C40
<b>Status Panel</b> — May be ordered extra	12F83



### HONEYWELL T8600D/T8624D THERMOSTAT

<b>Thermostat</b> — Programmable, touch sensitive keypad, automatic heat/cool switching, °F or °C readout, indicator LED's, four temperature settings per daily schedule, override capabilities, time and operational mode readout, battery back-up (batteries included)	—
<b>T8600D Thermostat</b> — 1 heat/1 cool, 7 day programming, wiring wall plate included	37L59
<b>T8624D Thermostat</b> — 2 heat/2 cool, 7 day programming, switching subbase included	37L61
<b>Status Panel</b> — May be ordered extra	12F83



### STATUS PANEL

**SP11 Status Panel** — Allows remote monitoring of unit through status lights, requires Status Panel Readout Kit

	Status Light	Definition
Cool Mode	Green	Cooling operation
Heat Mode	Green	Heating operation
Compressor 1	Green	Compressor operation
	Red	Compressor malfunction
Compressor 2		Not used
No Heat	Red	Requires service
Filter	Red	Requires service

12F83

**Status Panel Readout Kit** — Required to interface SP11 to unit operation

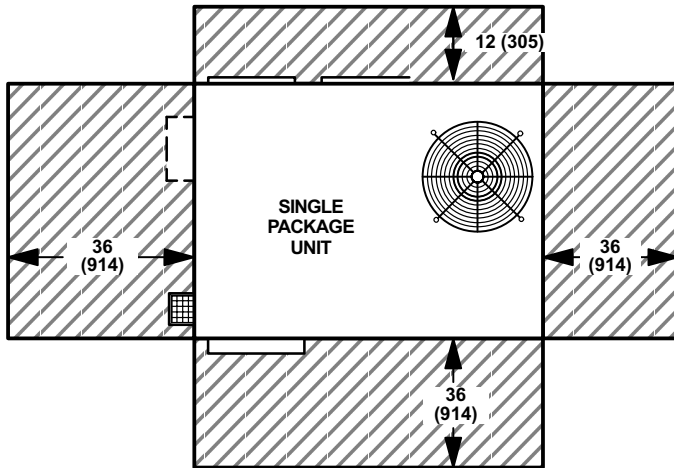
14F92

**Filter Switch Kit** — Required with Filter light option on SP11

97C85

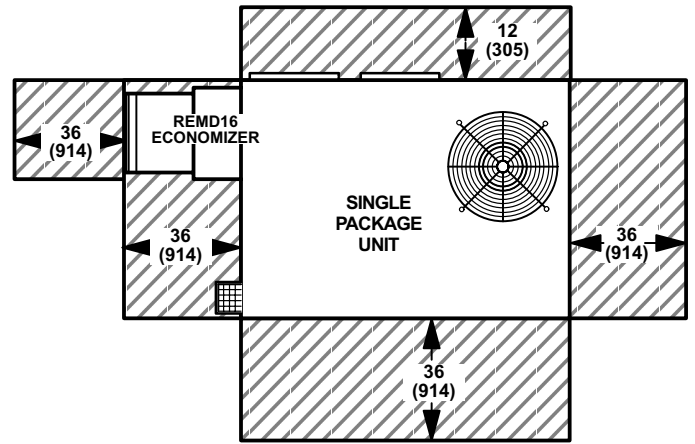
# INSTALLATION CLEARANCES - INCHES (MM)

**BASIC UNIT**



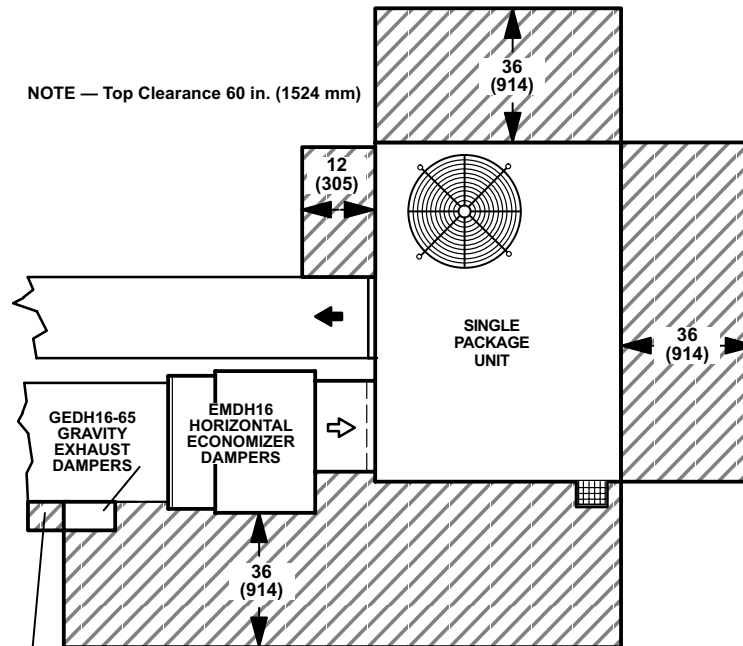
NOTE — Top Clearance 60 in. (1524 mm)  
 NOTE — Entire perimeter of unit requires support when elevated above mounting surface.

**UNIT WITH REMD16 ECONOMIZER**



NOTE — Top Clearance 60 in. (1525 mm).

**UNIT WITH EMD16M HORIZONTAL ECONOMIZER AND GEDH16-65 GRAVITY EXHAUST DAMPER**



Allow adequate clearance for duct & GEDH16-65 installation

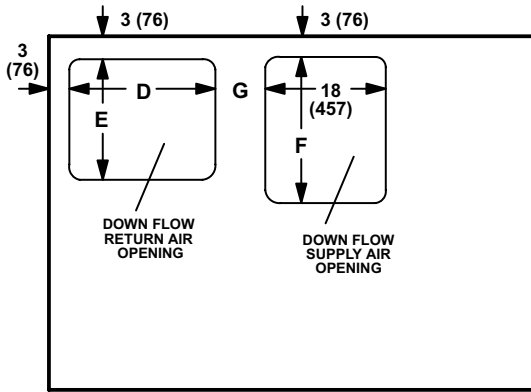
# DIMENSIONS - INCHES (MM) - BASE UNIT

## CORNER WEIGHTS

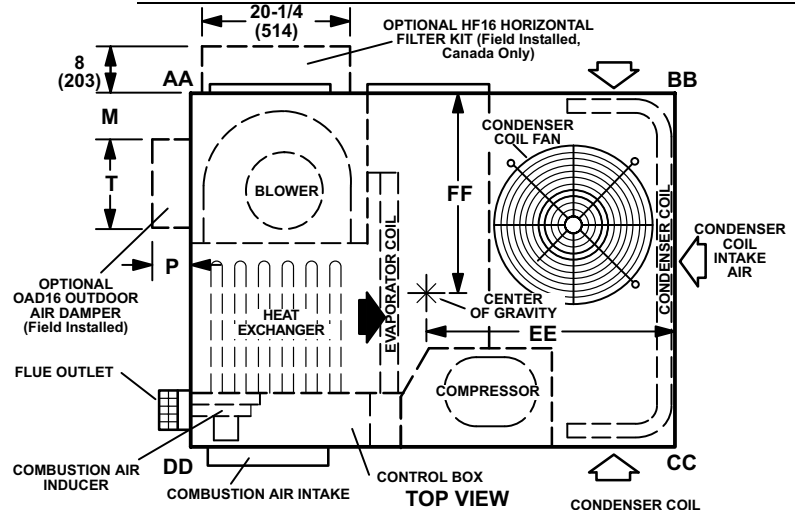
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS16-024	76	35	65	29	96	44	113	52
GCS16-030-036	81	37	69	31	102	46	121	55
GCS16-048 GCS20-036	111	50	97	44	135	61	154	70
GCS16-060	117	53	103	47	143	65	163	74
GCS20-048-060	121	55	106	48	147	57	168	76

## CENTER OF GRAVITY

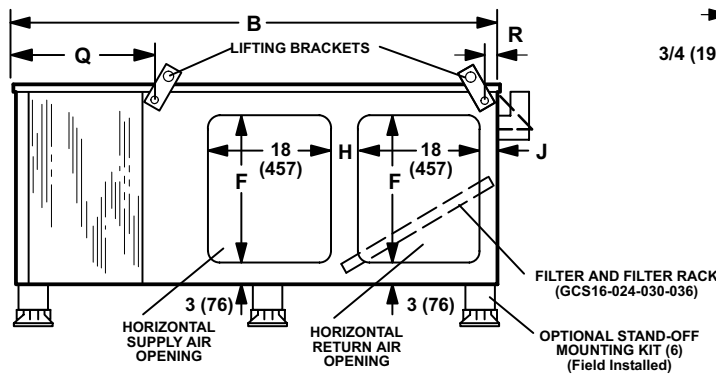
Model Number	EE		FF	
	inch	mm	inch	mm
GCS16-024 GCS16-030 GCS16-036	32-1/2	826	27-1/2	699
GCS16-048 GCS20-036 GCS16-060 GCS20-048 GCS16-060 GCS20-060	38-5/8	981	30-1/4	768



TOP VIEW BASE SECTION

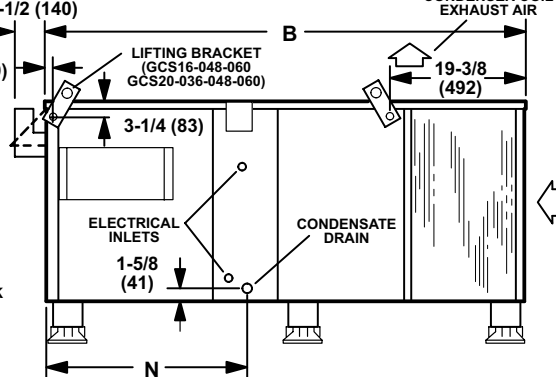


TOP VIEW

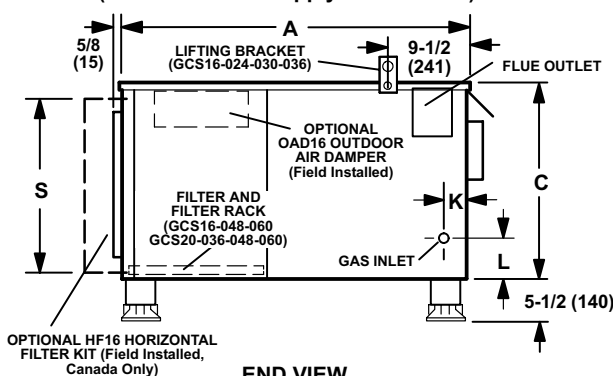


BACK VIEW

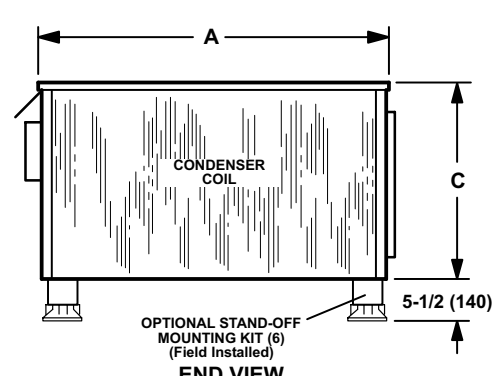
(With Horizontal Supply & Return Air)



FRONT VIEW



END VIEW



END VIEW

Model Number	A		B		C		D		E		F		G		H		J		K	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
GCS16-024 GCS16-030 GCS16-036	46	1168	60	1524	23	584	18	457	13	330	13	330	10	254	3	76	4	102	2-1/4	57
GCS16-048 GCS20-036 GCS16-060 GCS20-048 GCS16-060 GCS20-060	52	1321	72-1/2	1842	29	737	22	559	18	457	22	559	7-1/2	191	5	127	3	76	3-3/8	86

Model Number	L		M		N		P		P		Q		R		S		T		T	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
GCS16-024 GCS16-030 GCS16-036	10-5/8	270	2	51	26-3/4	679	5	127	6	152	20-5/16	516	4-1/8	105	22	559	13-3/4	349	14-1/2	368
GCS16-048 GCS20-036 GCS16-060 GCS20-048 GCS16-060 GCS20-060	13-1/8	333	5	127	28	711	8	203	6	152	19-3/16	487	3/4	19	27	686	13-3/4	349	18-5/8	473

Canada Only

# ACCESSORY DIMENSIONS - INCHES (MM)

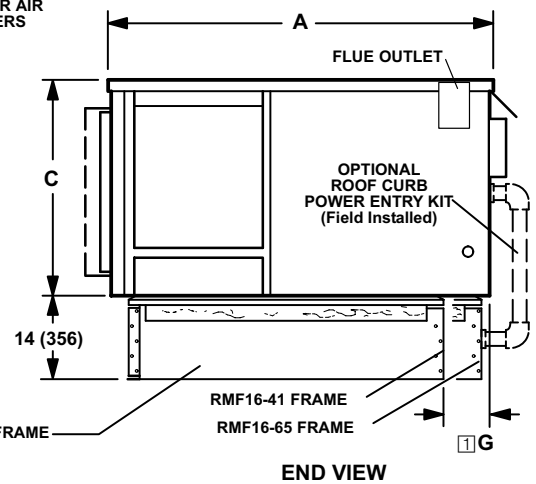
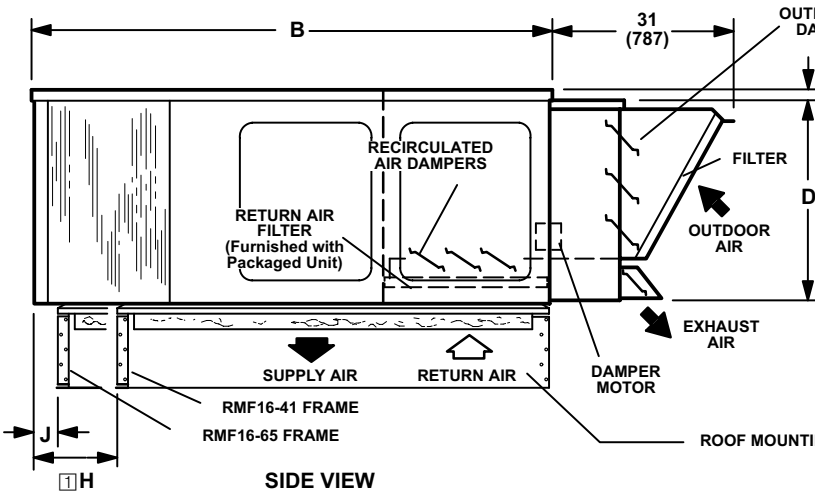
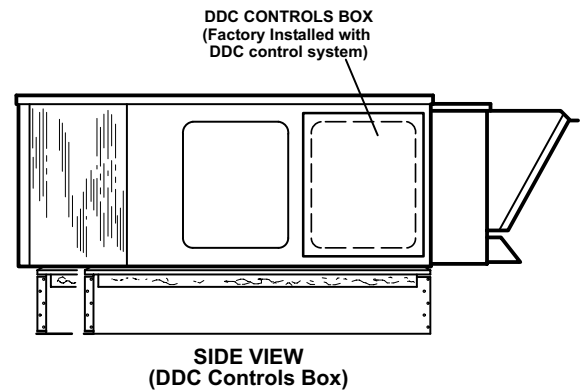
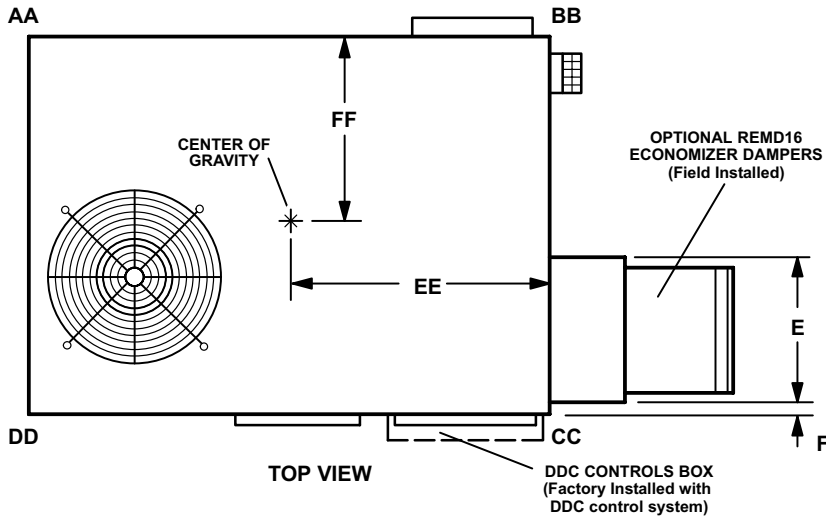
## UNIT WITH REMD16M ECONOMIZER DAMPER SECTION AND RMF16 ROOF MOUNTING FRAME

### CORNER WEIGHTS

Model Number	AA		BB		CC		DD		
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	
GCS16-024	108	49	149	68	126	57	90	41	
GCS16-030-036	113	51	157	71	132	60	95	43	
GCS16-048	GCS20-036	145	66	197	90	176	80	129	59
	GCS20-048-060	155	70	211	96	188	85	138	63
GCS16-060	152	69	206	94	184	84	135	62	

### CENTER OF GRAVITY

Model Number	EE		FF		
	inch	mm	inch	mm	
GCS16-024 GCS16-030 GCS16-036	25-1/8	638	21	533	
GCS16-048 GCS16-060	GCS20-036 GCS20-048 GCS20-060	30-3/4	781	24-1/2	622

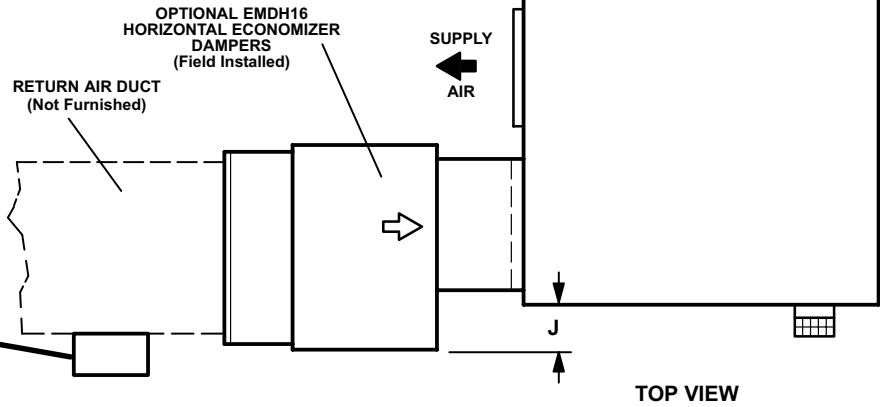
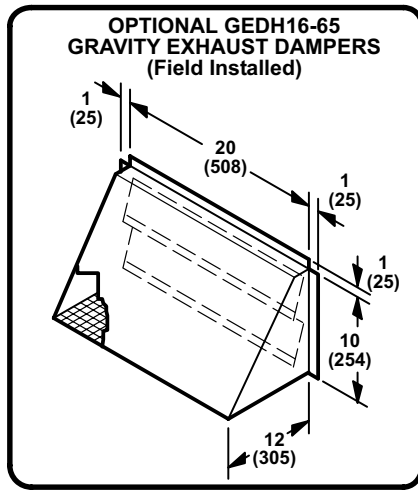


Model Number	A		B		C		D		E		F		G		H		J		
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
GCS16-024 GCS16-030 GCS16-036	46	1168	60	1524	23	584	21-3/4	552	16-1/4	413	3/4	19	---	---	---	---	---	---	
GCS16-048 GCS16-060	GCS20-036 GCS20-048 GCS20-060	52	1321	72-1/2	1842	29	737	27-3/4	705	20-7/16	519	1-1/2	38	7	178	16	406	3-1/2	89

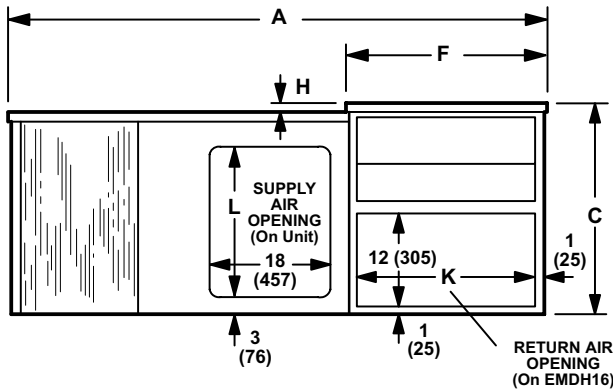
Dimensions reflect usage with RMF16-41 mounting frame.

# ACCESSORY DIMENSIONS - INCHES (MM)

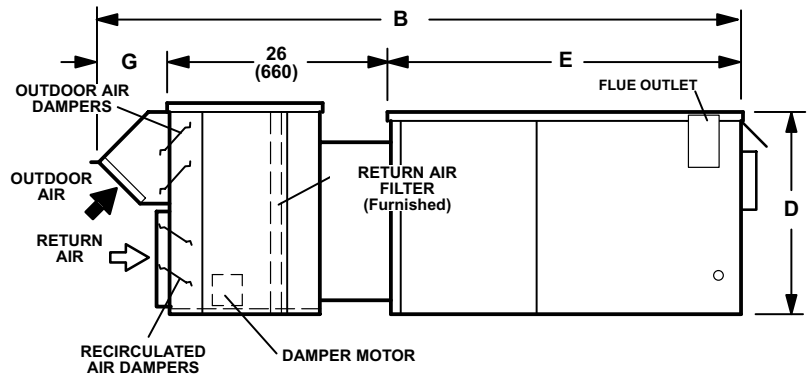
UNIT WITH EMDH16 HORIZONTAL ECONOMIZER DAMPER SECTION AND GEDH16-65 GRAVITY EXHAUST DAMPERS



TOP VIEW



END VIEW



SIDE VIEW

Model Number	A		B		C		D		E		F		G		H		J		K		L		
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
GCS16-024																							
GCS16-030	63	1600	81-1/2	2070	26	660	23	584	46	1168	26	660	9-1/2	241	3	76	3	76	24	610	13	330	
GCS16-036																							
GCS16-048	GCS20-036																						
GCS16-060	79-1/2	2019	90	8100	30-3/8	772	29	737	52	1321	30-1/2	775	12	305	1-1/2	38	7	178	28-7/8	733	22	559	
	GCS20-048																						
	GCS20-060																						

# ACCESSORY DIMENSIONS - INCHES (MM) - CANADA ONLY

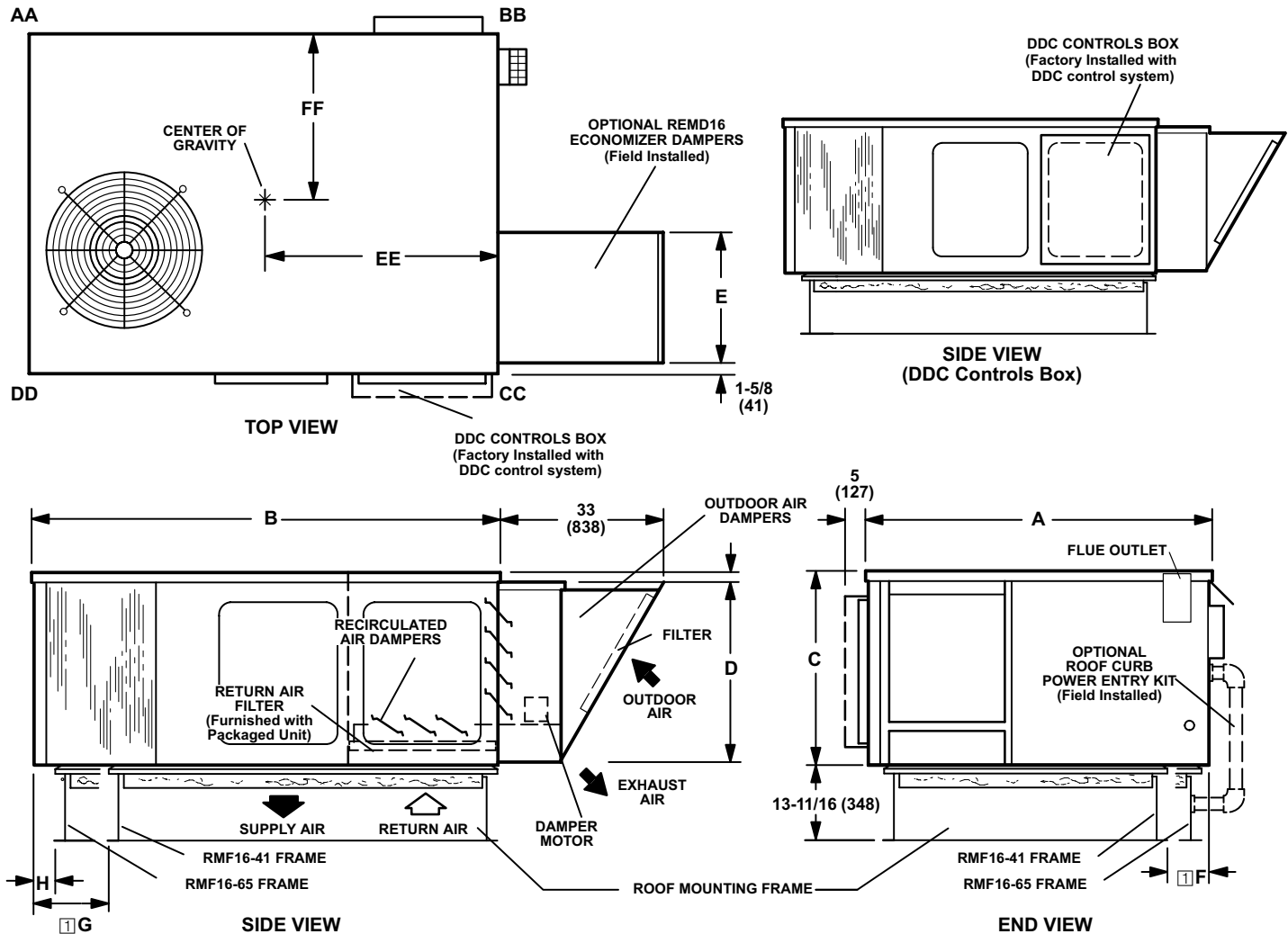
## UNIT WITH REMD16M ECONOMIZER DAMPER SECTION AND RMF16 ROOF MOUNTING FRAME

### CORNER WEIGHTS

Model Number	AA		BB		CC		DD		
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	
GCS16-024	103	47	160	73	150	68	97	44	
GCS16-030	108	49	167	76	157	71	101	46	
GCS16-036	107	49	166	76	156	71	100	46	
GCS16-048	GCS20-036	141	64	209	95	202	92	135	62
	GCS20-048	150	68	223	101	215	98	144	66
	GCS20-060	150	68	223	101	215	98	144	66
GCS16-060		147	67	219	99	210	96	141	64

### CENTER OF GRAVITY

Model Number	EE		FF		
	inch	mm	inch	mm	
GCS16-024	23-1/2	597	22-1/4	565	
GCS16-030					
GCS16-036					
GCS16-048	GCS20-036	29-1/8	740	25-1/2	648
	GCS20-048				
	GCS20-060				

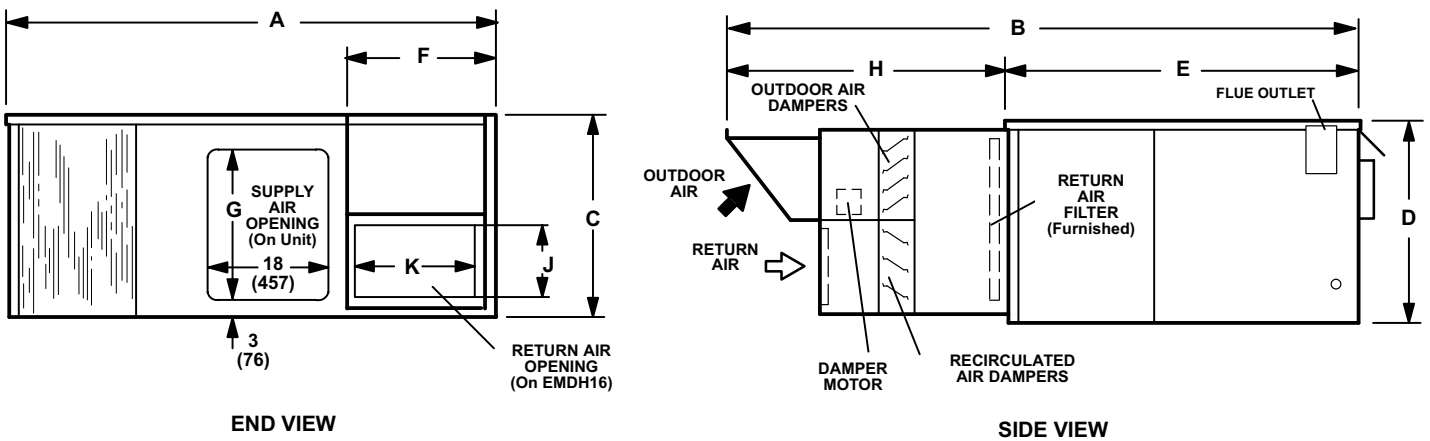
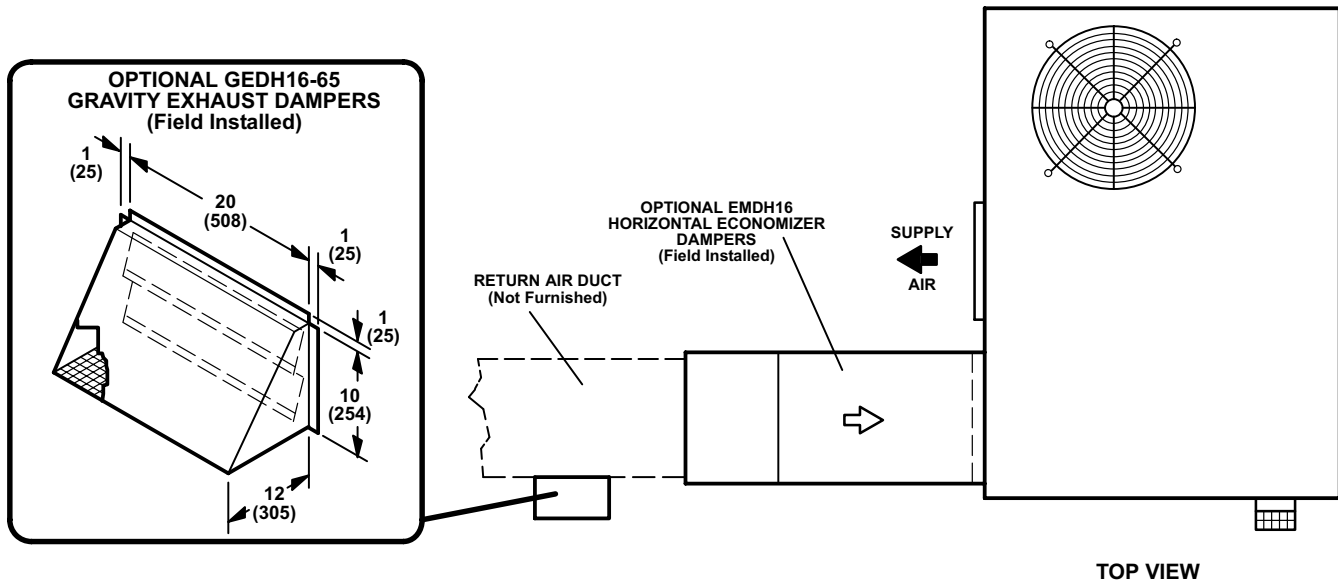


Model Number	A		B		C		D		E		F		G		H		
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
GCS16-024	46	1168	60	1524	23	584	21-3/4	552	16	406	---	---	---	---	---	---	
GCS16-030																	
GCS16-036																	
GCS16-048	GCS20-036	52	1321	72-1/2	1842	29	737	27-3/4	705	20-1/4	514	7	178	16	406	3-1/2	89
	GCS20-048																
	GCS20-060																

Dimensions reflect usage with RMF16-41 mounting frame.

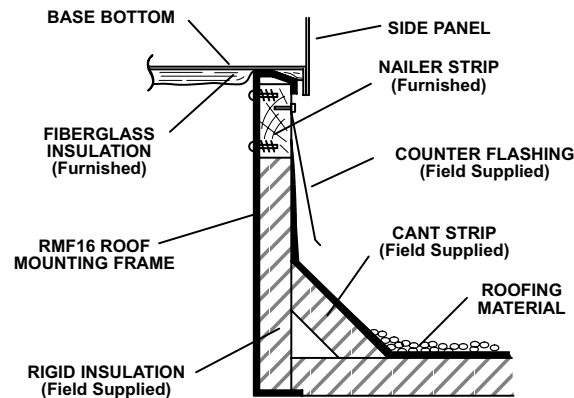
# ACCESSORY DIMENSIONS - INCHES (MM) - CANADA ONLY

UNIT WITH EMDH16M HORIZONTAL ECONOMIZER DAMPER SECTION AND GEDH16-65 GRAVITY EXHAUST DAMPERS



Model Number	A		B		C		D		E		F		G		H		J		K		
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
GCS16-024																					
GCS16-030																					
GCS16-036																					
GCS16-048																					
GCS16-060																					
GCS20-036																					
GCS20-048	72-1/2	1842	97-7/8	2486	27	686	29	737	52	1321	23-5/8	600	22	559	45-7/8	1165	12	305	21-3/4	552	
GCS20-060																					

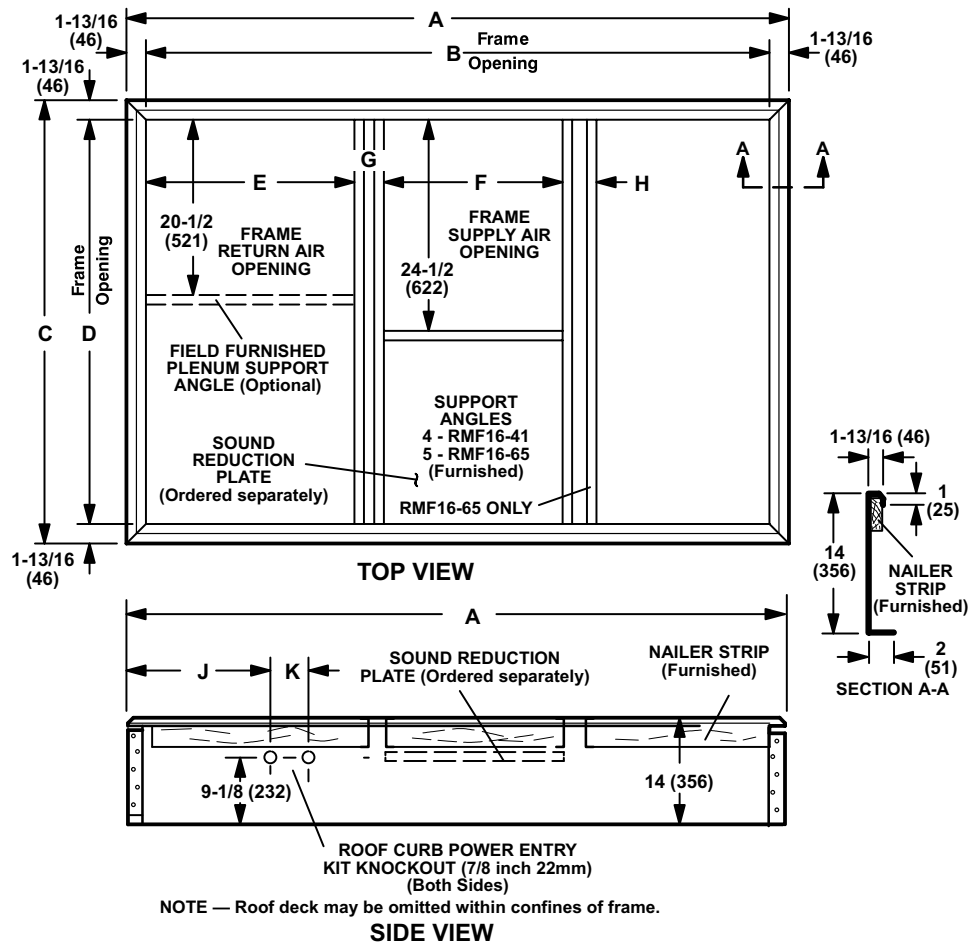
## TYPICAL FLASHING DETAIL FOR RMF16 ROOF MOUNTING FRAME





# ACCESSORY DIMENSIONS - INCHES (MM)

## RMF16-41 & RMF16-65 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING



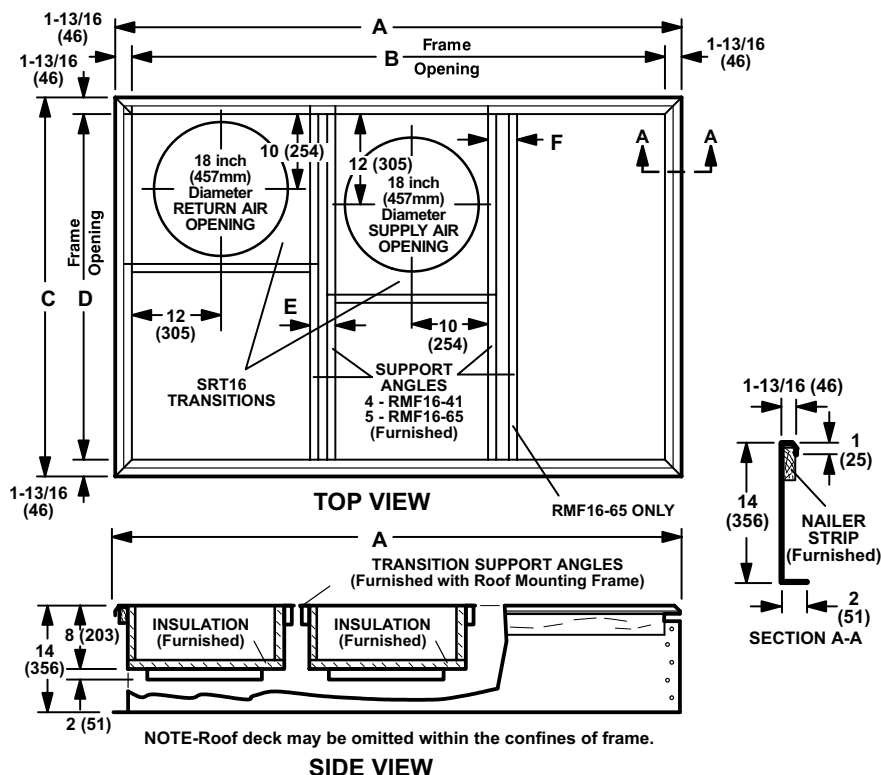
Model Number		RMF16-41	RMF16-65
A	inch	56-3/8	69
	mm	1432	1753
B	inch	52-3/4	65-3/8
	mm	1340	1661
C	inch	44-1/8	50-1/2
	mm	1121	1283
D	inch	40-1/2	46-7/8
	mm	1029	1191
E	inch	24-3/8	24-1/4
	mm	619	616
F	inch	20-9/16	20-1/2
	mm	522	521
G	inch	□4	4
	mm	□102	102
H	inch	---	4
	mm	---	102
J	inch	22-3/16	27
	mm	564	686
K	inch	4-1/2	5
	mm	114	127

□ 3-1/4 inches (83 mm) for GCS16-024-030-036.

## RMF16-41 & RMF16-65 ROOF MOUNTING FRAMES WITH SRT16-65 SUPPLY AND RETURN AIR TRANSITIONS FOR FD9-65 & RTD9-65 CEILING DIFFUSERS

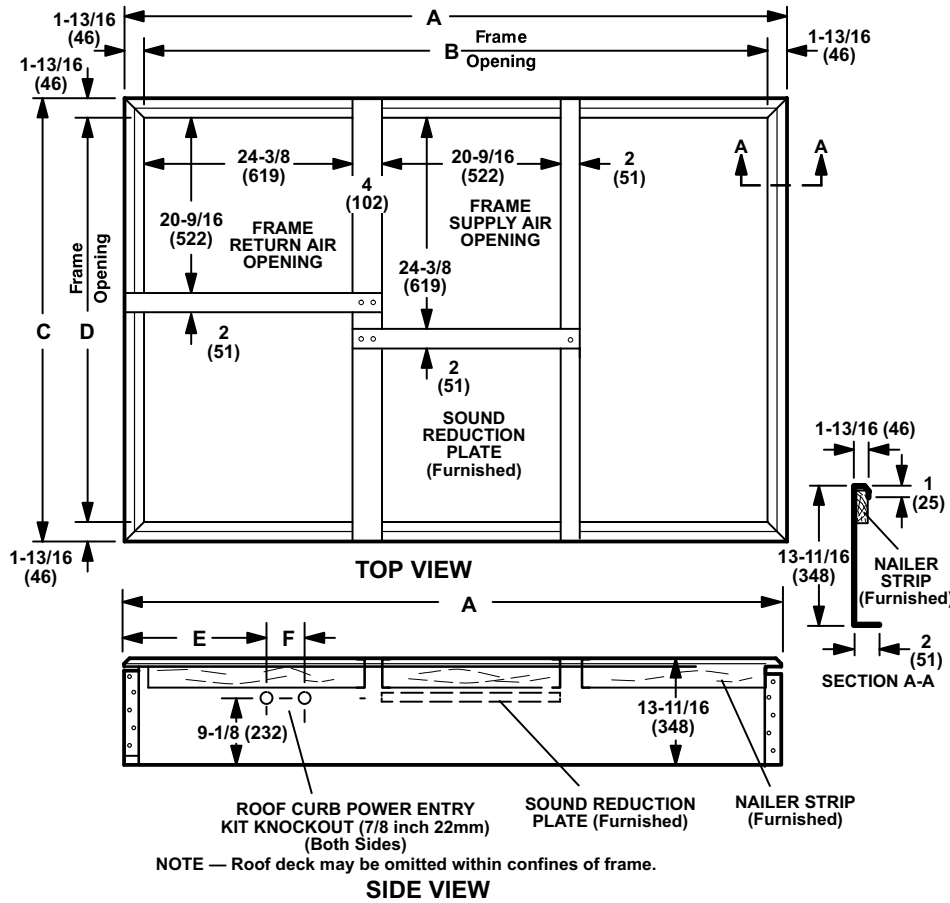
Model Number		RMF16-41 With SRT16-65	RMF16-65 With SRT16-65
A	inch	56-3/8	69
	mm	1432	1753
B	inch	52-3/4	65-3/8
	mm	1340	1661
C	inch	44-1/8	50-1/2
	mm	1121	1283
D	inch	40-1/2	46-7/8
	mm	1029	1191
E	inch	□4	4
	mm	□102	102
F	inch	---	4
	mm	---	102

□ 3-1/4 inches (83 mm) for GCS16-024-030-036.



# ACCESSORY DIMENSIONS - INCHES (MM) - CANADA ONLY

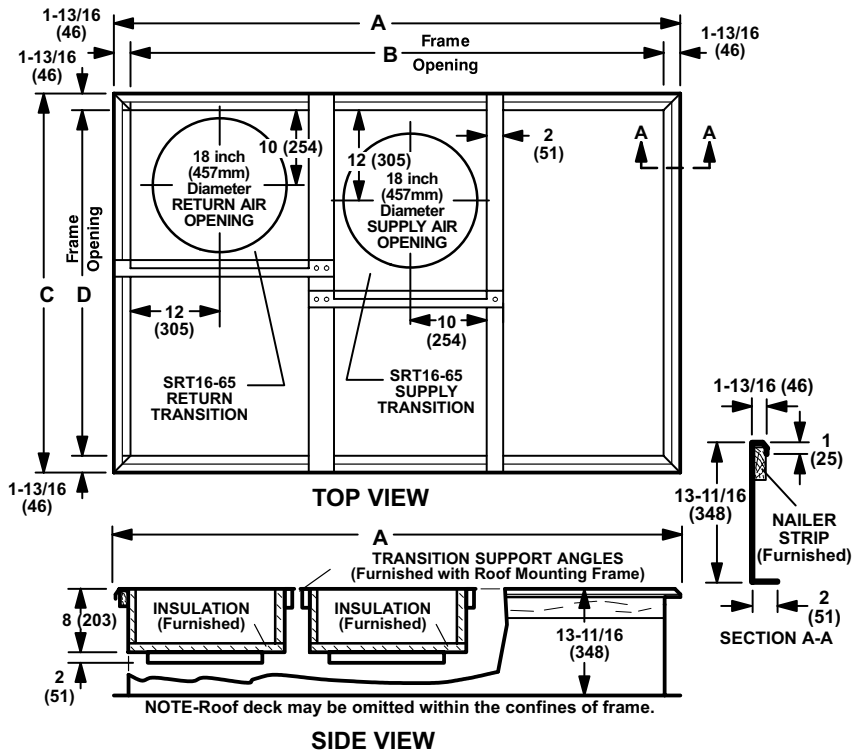
## RMF16-41 & RMF16-65 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING



Model Number		RMF16-41	RMF16-65
A	inch	56-3/8	69
	mm	1432	1753
B	inch	52-3/4	65-3/8
	mm	1340	1661
C	inch	44-7/8	50-1/2
	mm	1140	1283
D	inch	41-1/4	46-7/8
	mm	1048	1191
E	inch	22-3/16	27
	mm	564	686
F	inch	4-1/2	5
	mm	114	127

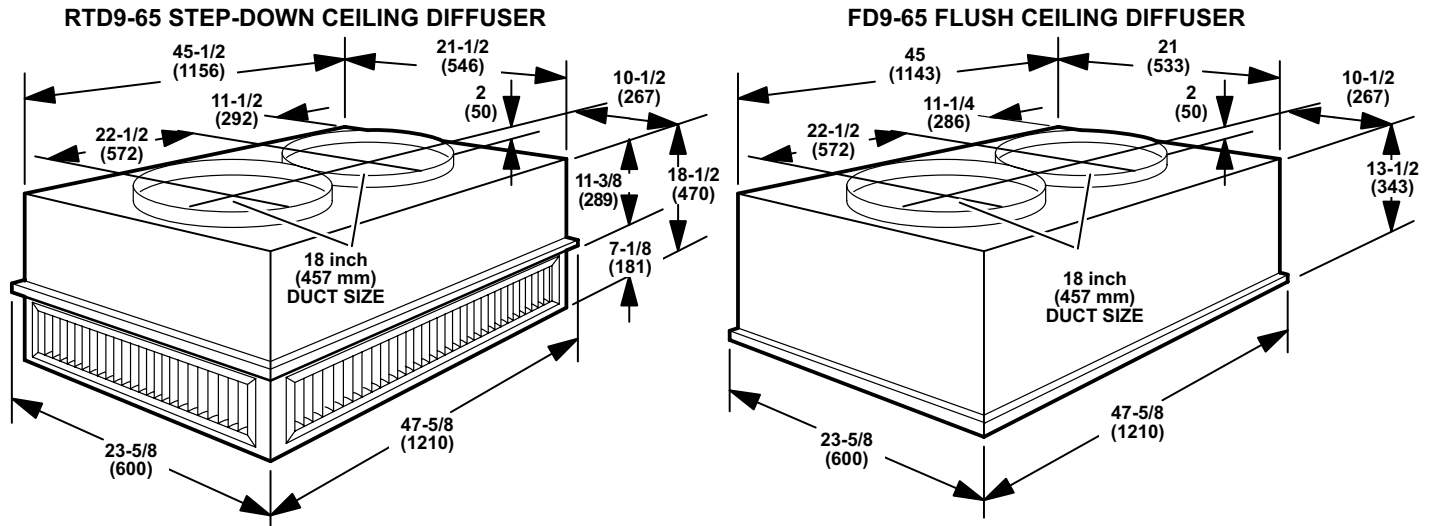
## RMF16-41 & RMF16-65 ROOF MOUNTING FRAMES WITH SRT16-65 SUPPLY AND RETURN AIR TRANSITIONS FOR FD9-65 & RTD9-65 CEILING DIFFUSERS

Model Number		RMF16-41 With SRT16-65	RMF16-65 With SRT16-65
A	inch	56-3/8	69
	mm	1432	1753
B	inch	52-3/4	65-3/8
	mm	1340	1661
C	inch	44-7/8	50-1/2
	mm	1140	1283
D	inch	41-1/4	46-7/8
	mm	1048	1191



## ACCESSORY DIMENSIONS - INCHES (MM)

### COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS



## GUIDE SPECIFICATIONS

### General

- Furnish and install a single package combination air to air DX mechanical heating/cooling system, complete with automatic controls.
- The single package unit shall be a standard product of a firm regularly engaged in the manufacture of heating-cooling equipment. The manufacturer shall have parts and service available throughout the U.S. and Canada.
- The equipment shall be shipped completely factory assembled, precharged, piped and wired internally ready for field connections.
- The manufacturer shall test operate system at the factory before shipment.

### Air Distribution

- Equipment shall be capable of bottom (down-flow) or side (horizontal) handling of conditioned air.

### Approvals

- All electrical components shall have UL and CSA Listing. All wiring shall be in compliance with NEC and CEC.
- Shall be certified by CSA International (formerly AGA/CGA) and ratings are certified by GAMA.
- Shall be rated and certified in accordance with the USE certification program, which is based on ARI Standard 210/240-94.

### Equipment Warranty

- Heat exchangers have a limited warranty for a full ten years.
- Compressors have a limited warranty for a full five years.
- All other covered components have a limited warranty for one year.
- Refer to the Lennox Equipment Limited Warranty certificate for details.

### Heating System

- Tubular heat exchanger and inshot type gas burners shall be constructed of aluminized steel.
- Controls shall consist of direct spark ignition, electronic flame sensor controls, flame rollout switch, limit control, automatic redundant gas valve and blower prove switch on combustion air inducer.
- Unit shall be available for use with LPG/propane as an option.

### Refrigeration System

- The coils shall be non-ferrous construction with aluminum fins mechanically bonded to durable copper tubes. Coils shall be pressure leak tested.
- Outdoor coil shall be formed coil construction. Optional coil guards shall be available.
- Compressors shall be resiliently mounted and have overload protection. The refrigeration system shall have discharge, suction and liquid line service gauge ports, freezestat, high pressure switch, liquid line strainer, expansion valve and full refrigerant charge.
- Control options available shall consist of low ambient controls, timed-off control and thermostat.

### Cabinet

- Shall be galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal.
- Cabinet panels where conditioned air is handled shall be fully insulated to prevent sweating and minimize sound. Openings shall be provided for power connection entry.
- Supply and return air openings shall be flanged.
- Indoor coil condensate drain shall be provided.
- Lifting brackets shall be factory installed.

### Economizer Wiring

- Economizer wiring harness shall be furnished and factory installed.

### Service Access

- All components, wiring and inspection areas shall be completely accessible through removable panels.

### Supply Air Blowers

- Centrifugal supply air blower shall be direct driven by a multi-speed motor.
- Blower shall be statically and dynamically balanced.

### Outdoor Coil Fans

- Direct drive propeller type condenser fans shall discharge vertically.
- Fan motor shall be permanently lubricated and inherently protected.
- Fans shall have a safety guard.

### Air Filters

- Cleanable 1 inch (25 mm) thick pleated filters shall be furnished.

## **OPTIONAL ACCESSORIES**

### **Ceiling Diffusers**

- Furnish and install a (flush or stepdown) optional combination ceiling supply and return air diffuser.

### **Ceiling Diffuser Supply and Return Air Transitions**

- Supply and return transitions shall be available, for field installation in the roof mounting frame, to facilitate duct connection to the diffuser.

### **Coil Guards**

- Furnish and install PVC (polyvinyl chloride) coated steel wire coil guards shall be available for field installation to protect outdoor coils.

### **Control Systems**

- Shall provide a selection of thermostats and related controls to automatically operate the mechanical equipment through the heating or cooling and ventilating cycles as required.

### **Economizer Dampers**

- Furnish and install, complete with controls, an air mixing damper assembly including outdoor air and recirculated air dampers.
- The assembly shall provide for the introduction of outside air for minimum ventilation and free cooling.
- Damper motor shall be 24 volt, fully-modulating or three-position spring return.
- Down-flow models shall include Gravity Exhaust Dampers.
- Horizontal models shall require optional Gravity Exhaust Dampers.
- Controls shall include electronic discharge air sensor, minimum position switch, and solid-state adjustable enthalpy control.
- Control option available shall consist of differential enthalpy control (return air sensor).

### **Hail Guards**

- Hail guards shall be available for field installation to protect outdoor coils from damage.

### **Horizontal Gravity Exhaust Dampers**

- Pressure operated dampers shall install in return air duct for horizontal applications.
- Damper blades shall ride in nylon bearings and shall be gasketed for tight seal and quiet operation.

### **Outdoor Air Damper Section**

- Optional manual outdoor dampers shall be available to provide outdoor air requirements of up to 25%.
- Damper section field installs external to the unit.
- Shall be equipped with outdoor air hood filter for extra air filtering and bird screen protection.

### **Remote Status Panel**

- Shall be available for installation within the conditioned area to observe equipment operation.
- The panel shall include signal lights for Cool Mode, Heat Mode, Compressor 1, Compressor 2, No Heat and Filter.

### **Roof Curb Power Entry Kit**

- Optional kit shall provide power entry to the unit through the roof mounting frame.

### **Roof Mounting Frame**

- Mechanical contractor shall install a steel roof mounting frame for bottom discharge and return air duct connection.
- It shall mate to the bottom perimeter of the equipment.
- When flashed into the roof it shall make a unit mounting curb and provide weatherproof duct connection and entry into the conditioned area.
- Flashing shall be the responsibility of a roofing contractor.
- Frame shall be approved by US National Roofing Contractors Association.

### **Stand-Off Mounting Kit**

- Optional kit shall be available to elevate unit above mounting surface in horizontal applications.