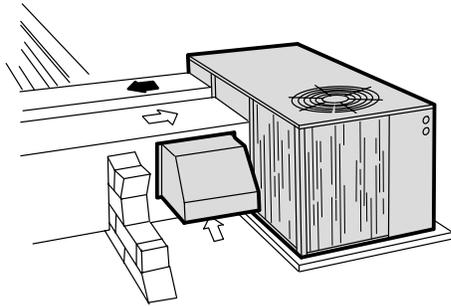
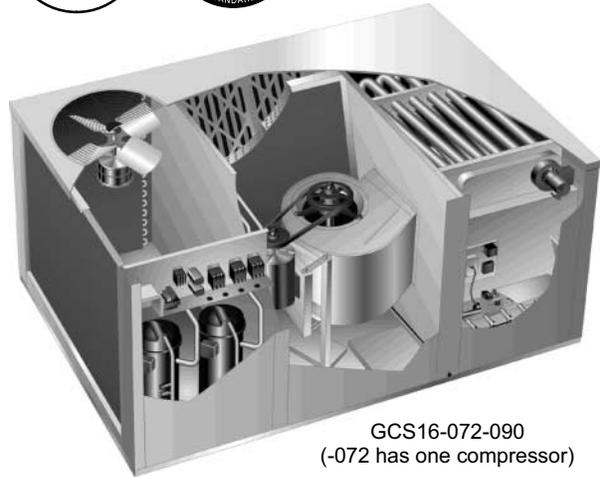


6, 7.5, 10 and 12.5 Ton
(21.1, 26.4, 35.2 and 44.0 kW)
Net Cooling Capacity - 72,000 to 144,000 Btuh (21.1 to 42.2 kW)
Input Heating Capacity - 104,000 to 270,000 Btuh (30.5 to 79.1 kW)

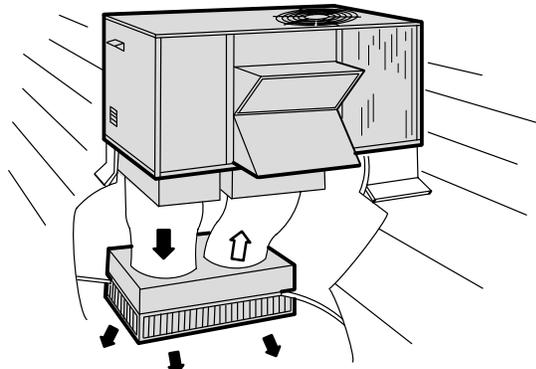
Bulletin #210228
August 2001
Supersedes January 2000



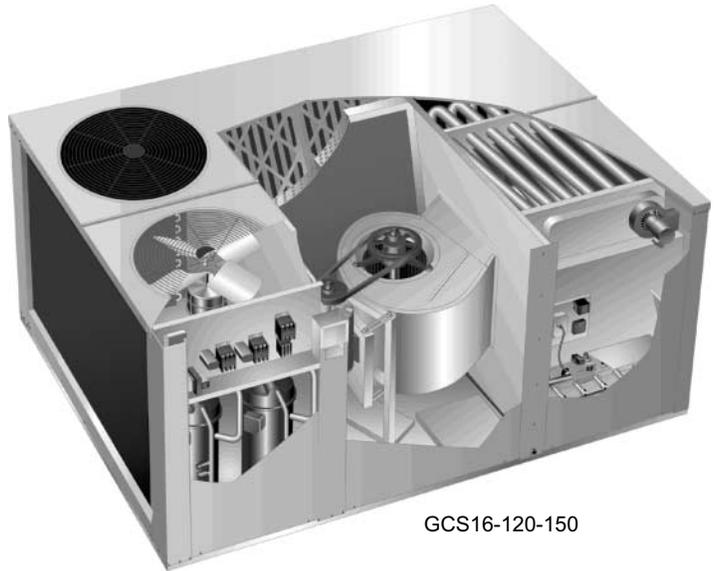
Horizontal (Side) Supply and Return Air Installation with OAD16 Outdoor Air Dampers.



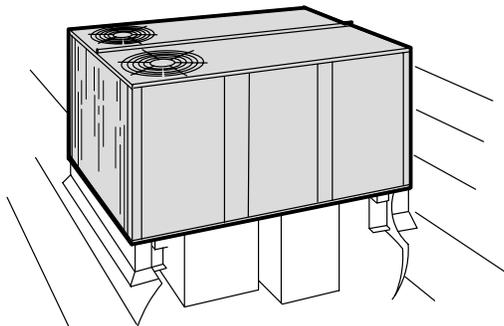
GCS16-072-090
(-072 has one compressor)



Down-Flow Supply and Return Air Installation With RMF16 Roof Mounting Frame, REMD16 Economizer and RTD11 Ceiling Diffuser.

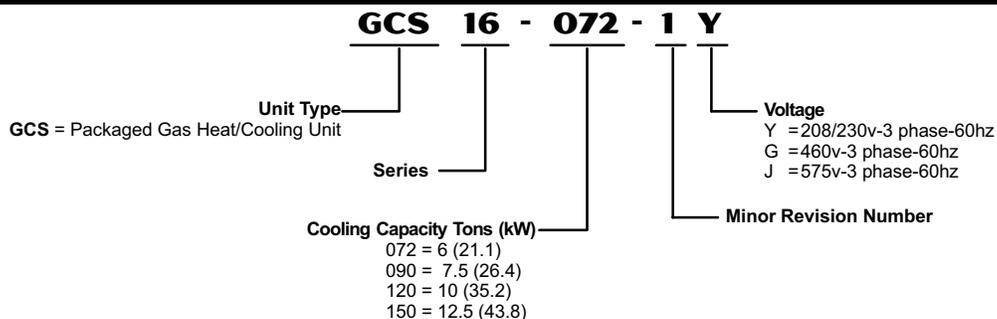


GCS16-120-150



Down-Flow Supply and Return Air Installation With RMF16 Roof Mounting Frame.

MODEL NUMBER IDENTIFICATION



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

FEATURES

Air Flow Choice

- Bottom (down-flow) or horizontal (side) supply and return air.

Approvals

- Certified by CSA International (formerly AGA/CGA) as a combination heating/ cooling unit for outdoor installation, bonded for grounding to meet safety standards for servicing required by CSA and National and Canadian Electrical Codes.
- Developed in accordance with ISO 9002 quality standards

ARI Rated and Certified

- Certified in accordance with the ULE certification program, which is based on ARI Standard 340/360-2000.

Cabinet

- Constructed of heavy gauge galvanized steel.
- Powdered enamel paint finish.
- Removable cabinet panels allow service access.
- Base section and cabinet panels exposed to conditioned air lined with thick fiberglass insulation.
- Electrical inlets provided in cabinet base and evaporator coil section cabinet panel for wiring entry.
- Control box with low voltage pigtail wiring connections and controls conveniently located for service access.
- Indoor coil condensate drain connection extends outside cabinet for ease of connection.
- Lifting brackets furnished for handling and rigging.

Coil Construction (Evaporator and Condenser)

- Extra large surface area and circuiting of coils provide maximum cooling efficiency, excellent heat transfer and low air resistance.
- Constructed of precisely spaced ripple-edged aluminum fins fitted to copper tubes.
- Fins equipped with collars that grip tubing for maximum contact area.
- Flared shoulder tubing connections and silver soldering provide tight, leakproof joints.
- Long life copper tubing is easy to field service.
- Coil is factory tested under high pressure to insure leakproof construction.
- Evaporator coil is face split with separate circuits. Each circuit has its separate expansion valve, compressor and refrigerant charge (-090, -120, -150 models).

Compressors

- Copeland Scroll™ type.
- 072 model has one compressor. 090-120 and -150 models have two.

Condenser Coils

- Formed coil construction.

Condenser Fans

- 072 and 090 have a single fan, 120 and 150 models have two.
- Direct drive fan(s) draw large air volumes uniformly through condenser coils and discharges it vertically.
- Fan orifice design and low fan tip speed keeps operating sound level at a minimum.
- Uniform air flow through the coil results in high refrigerant cooling capacity.
- Corrosion resistant polyvinyl chloride (PVC) coated steel wire fan guard(s) furnished.

Condenser Fan Motors

- Fan motor has ball bearings and is permanently lubricated, overload protected and resiliently mounted.

Fan and Limit Controls

- Factory installed, 90 second fan time delay, dual limit controls (primary and secondary) with fixed temperature setting

Filters

- Unit is furnished with disposable 2 inch (51 mm) pleated MERV 7 rated filters (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

Heat Exchanger

- Tubular construction, aluminized steel, life cycle tested.

Heating System

- Aluminized steel inshot burners, direct spark ignition, electronic flame sensor, redundant automatic dual gas valve with manual shut-off, combustion air inducer, flame rollout switch, peep hole for flame viewing

Refrigeration System

- Consists of: compressors, condenser coil and direct drive fan(s), evaporator coil and belt drive blower, expansion valves, high capacity driers, high pressure switches (072-090 only), full refrigerant charge, freezestats (prevents coil freeze-up during low ambient operation), independent refrigerant circuits (allows staging), low ambient cooling operation down to 30°F (-1°C) without additional controls.

Sound Rating

- Tested in accordance with conditions included in ARI 270.

Supply Air Blower

- Belt drive.
- Forward curved blades with double inlet.
- Statically and dynamically balanced.
- Permanently lubricated self aligning ball bearings with adjustable pulley.

Supply Air Motor

- Overload protected, equipped with ball bearings.
- Motor mounting base permits quick and simple motor changeover, belt tension adjustment or belt changing.
- Adjustable motor pulley allows for variable speed adjustments.

Warranty

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

OPTIONAL ACCESSORIES (MUST BE ORDERED EXTRA)

Item	GCS16-072	GCS16-090	GCS16-120	GCS16-150
Bottom Power Entry	LB-55757CA (34G70) - 12 lbs. (5 kg)			
Ceiling Diffusers (Step-Down) - Aluminum grilles, double deflection louvers, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), adapts to T-bar ceiling grids or plaster ceilings	RTD11-95 125 lbs. (57 kg)		RTD11-135 205 lbs. (93 kg)	
Ceiling Diffusers (Flush) - Aluminum grilles, fixed blade louvers, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), adapts to T-bar ceiling grids or plaster ceilings	FD11-95 95 lbs. (43 kg)		FD11-135 174 lbs. (79 kg)	
Ceiling Diffuser Transitions (Supply and Return) - Used with diffusers, installs in roof mounting frame, galvanized steel construction, flanges furnished for duct connection, fully insulated	SRT16-09 38 lbs. (17 kg)		SRT16-12 38 lbs. (17 kg)	
Coil Guard - PVC coated steel wire guards to protect outdoor coil. Not used with Hail Guards.	60L31		60L32	
Control Systems	See Page 13			
Crankcase Heaters - Ensures proper compressor lubrication at all times.	208/230 volt	67K90	90P12	67K90
	460 volt	67K89	49K11	67K89
	575 volt	42J85	49K12	42J85
Economizer Dampers (Down-Flow) - Mechanically linked recirculated air and outdoor air dampers, plug-in connections to unit, nylon bearings, stainless steel seals (outdoor dampers), 24 volt fully modulating spring return damper motor, adjustable minimum damper position switch, mixed air controller, solid-state adjustable outdoor air enthalpy control, 0 to 100% outdoor air adjustable, gravity exhaust air dampers furnished, powdered enamel paint finish NOTE - Fresh air/exhaust air hood with cleanable aluminum mesh frame filter, is required and must be ordered separately for field installation (see below)	Model No. - Net Wt.	REMD16M-09 60 lbs. (27 kg)	REMD16M-12 80 lbs. (36 kg)	REMD16M-15 100 lbs (45 kg)
	Net face area	2.1 ft. ² (0.20 m ²)	2.8 ft. ² (0.26 m ²)	3.6 ft. ² (0.33 m ²)
Economizer Damper Hood (Down-flow) - For use with REMD16M economizer dampers (see above). Must be ordered separately.	Order No.	27L58	27L60	48L00
	No. & Size of Filters	(1) 32-1/4 x 16-1/2 x 1 (819 x 419 x 25)	(1) 32-1/4 x 21-1/4 x 1 (819 x 546 x 25)	(1) 40-1/4 x 21-1/2 x 1 (1022 x 546 x 25)
Economizer Dampers (Horizontal) - Mechanically linked recirculated air and outdoor air dampers, plug-in connections to unit, nylon bearings, stainless steel seals (outdoor dampers), 24 volt fully modulating spring return damper motor, adjustable minimum damper position switch, mixed air controller, solid-state adjustable outdoor air enthalpy control, 0 to 100% outdoor air adjustable, galvanized steel cabinet, flanged air openings on return air section, powdered enamel paint finish, fully insulated. NOTE - Outdoor air hood with two cleanable aluminum mesh frame filters is required and must be ordered separately. Also requires optional Horizontal Supply and Return Air Kit for duct connection	Model No. - Net Wt.	EMDH16M-09 120 lbs. (54 kg)	EMDH16M-12 135 lbs. (62 kg)	EMDH16M-15 187 lbs (85 kg)
	Net face area			
Economizer Damper Hood (Horizontal) - For use with EMD16M economizer dampers (see above). Must be ordered separately.	Order No.	68G80	68G80	68G77
	No. & Size of Filters	(2) 16 x 25 x 1 (406 x 635 x 25)	(2) 16 x 25 x 1 (406 x 635 x 25)	(2) 20 x 25 x 1 (508 x 635 x 25)
Economizer Gravity Exhaust Dampers (Horizontal) - For use with EMDH16 horizontal economizer damper sections, two neoprene coated fiberglass dampers furnished, rainhoods furnished, bird screen furnished	GED16-09/12 (5 lbs.) (2 kg) Net face area - 0.43 sq. ft. (0.04 m ²) used with EMDH16M			
Economizer Differential Enthalpy Control - For use with economizer dampers, solid-state return air sensor allows selection between outdoor air and return air (whichever has lowest enthalpy)	54G44			
Hail Guards - Heavy duty field installed coil guard protects coils from damage. Not used with Coil Guards.	60L33		60L34	
Horizontal Supply and Return Air Kit - Provides duct connection to unit, flanges furnished, hardware furnished, two filler panels furnished for unused air openings, filter access panel furnished	LB-55756BA (34G71) 30 lbs. (14 kg)		LB-55756BB (35G42) 35 lbs. (16 kg)	LB-55756BC (51G27) 39 lbs. (18 kg)
Low Ambient Controls - Allows unit operation down to 0°F (-17.7°C)	LB-57113BC (24H77)	LB-57113BG (15J80)	LB-57113BW (53L84)	
LPG/Propane Kits	58L34			
Outdoor Air Damper Section - Linked mechanical dampers, interchangeable unit panel furnished (down-flow applications), two-piece cabinet (control access), cleanable polyurethane frame type filter furnished, 0 to 25% (fixed) outdoor air adjustable, manual or automatic operation (kit required for automatic operation), installs on unit for down-flow applications, installs in return air duct for horizontal applications Minimum mixed air temperature: Heat mode - 45°F (7°C) Maximum mixed air temperature: Cool mode - 90°F (32°C)	Model No. - Net Wt.	OAD16-09 41 lbs. (19 kg)	OAD16-12 43 lbs. (20 kg)	OAD16-15 50 lbs. (23 kg)
	No. & Size of Filters	(1) 16 x 20 x 1 (406 x 508 x 25)	(1) 16 x 20 x 1 (406 x 508 x 25)	(1) 16 x 20 x 1 (406 x 508 x 25)
Outdoor Air Damper Motorized Damper Kit - 3 position damper actuator, plug-in connection	35G21 - 7 lbs. (3 kg)			
Roof Mounting Frame - Nail strip furnished, mates to unit, U.S. National Roofing Contractors Approved, shipped knocked down	RMF16-09 107 lbs. (49 kg)		RMF16-12 119 lbs. (54 kg)	

SPECIFICATIONS

		Model No.	GCS16-072	GCS16-090	GCS16-120	GCS16-150
Heating Performance	Input (low) - Btuh (kW) Natural Gas/LPG-Propane		105,000/101,000 (30.8/29.6)	131,000/126,000 (38.3/36.9)	177,000/170,000 (51.9/49.8)	177,000/170,000 (51.9/49.8)
	Input (High) - Btuh (kW) Natural Gas/LPG-Propane		160,000/140,000 (46.9/41.0)	200,000/175,000 (58.6/51.3)	270,000/236,000 (79.1/69.1)	270,000/236,000 (79.1/69.1)
	Output (High) - Btuh (kW) Natural Gas/LPG-Propane		128,000/114,000 (37.5/33.4)	160,000/142,600 (46.9/41.8)	216,000/192,000 (63.3/56.3)	216,000/192,000 (63.3/56.3)
	AGA/CGA Thermal Efficiency Natural Gas/LPG-Propane		80.0%/81.4%	80.0%/81.0%	80.0%/81.4%	80.0%/81.4%
	Gas Supply Connections fpt - in. (mm)		3/4 (19)	3/4 (19)	3/4 (19)	3/4 (19)
	Recommended Gas Supply Pressure - wc. in. (kPa) Natural LPG/Propane		7 (1.7) 11 (2.7)	7 (1.7) 11 (2.7)	7 (1.7) 11 (2.7)	7 (1.7) 11 (2.7)
Cooling Performance	Nominal Tonnage (kW)		6 (21.1)	7.5 (26.4)	10 (35.2)	12.5 (42.2)
	Gross cooling capacity - Btuh (kW)		74,800 (21.9)	92,800 (27.2)	123,000 (36.0)	150,000 (44.0)
	★Net cooling capacity - Btuh (kW)		72,000 (21.1)	88,000 (25.8)	117,000 (34.3)	144,000 (42.2)
	Total unit kW		8.0	9.8	13.0	16.0
	★EER (Btuh/Watts)		9.0	9.0	9.0	9.0
	★Integrated Part Load Value		---	9.5	9.2	8.5
	*Sound Rating Number (db)		86	86	82	88
	Refrigerant Charge (HCFC-22) Circuit 1		9 lbs. 8 oz. (4.31 kg)	6 lbs. 0 oz. (2.72 kg)	7 lbs. 8 oz. (3.4 kg)	8 lbs. 8 oz. (3.9 kg)
	Circuit 2		---	6 lbs. 0 oz. (2.72 kg)	7 lbs. 8 oz. (3.4 kg)	8 lbs. 8 oz. (3.9 kg)
Condenser Coil	Net face area - sq. ft. (m ²)		13.0 (1.21)	15.67 (1.46)	24.0 (2.23)	24.0 (2.23)
	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)		20 (787)	20 (787)	20 (787)	20 (787)
Condenser Fan(s)	Motor horsepower (W)		(1) 1/3 (249)	(1) 3/4 (560)	(2) 1/3 (249)	(2) 1/2 (373)
	Motor rpm		1075	1075	1075	1075
	Motor watts		450	650	650	1250
	Diameter - in. (mm)		(1) 24 (610)	(1) 24 (610)	(2) 20 (508)	(2) 24 (610)
	No. of blades		3	4	4	3
	Air volume - cfm (L/s)		4100 (1935)	5150 (2430)	6400 (3020)	8400 (3965)
Evaporator Coil	Net face area - sq. ft. (m ²)		7.75 (0.72)	7.75 (0.72)	9.46 (0.88)	11.92 (1.11)
	Tube diameter - in. (mm)		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	No. of rows		3	3	3	4
	Fins per inch (m)		14 (551)	14 (551)	14 (551)	14 (551)
	Expansion device type Condensate drain size (furnished)		Thermostatic Expansion Valve 1 in. - 11-1/2 npt pipe nipple			
Evaporator Blower	Nominal motor hp (kW)		2 (1.5)	2 (1.5)	3 (2.2)	3 (2.2)
	Maximum usable hp (kW)		2.30 (1.7)	2.30 (1.7)	3.45 (2.6)	3.45 (2.6)
	RPM range		845 - 1130	845 - 1130	735 - 1015	735 - 1015
	Blower wheel nominal diameter x width - in. (mm)		12 x 12 (305 x 305)	12 x 12 (305 x 305)	15 x 15 (381 x 381)	15 x 15 (381 x 381)
Filters (furnished)	Filter type		Disposable, MERV 7 rated, commercial grade, pleated			
	No. & size - in. (mm)		(4) 16 x 20 x 2 (406 x 508 x 51)	(4) 16 x 20 x 2 (406 x 508 x 51)	(2) 16 x 25 x 2 (406 x 635 x 51) (2) 16 x 20 x 2 (406 x 508 x 51)	(2) 20 x 25 x 2 (508 x 635 x 51) (2) 20 x 20 x 2 (508 x 508 x 51)
Shipping Data	Net weight of basic unit - lbs. (kg)		760 (345)	875 (397)	1100 (499)	1200 (544)
	Shipping weight of basic unit - lbs. (kg) (1 Pkg.)		900 (408)	1060 (481)	1285 (582)	1385 (628)
Electrical characteristics			208/230v, 460v or 575v - 60 hertz - 3 phase			

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

★Certified in accordance with the ULE certification program, which is based on ARI Standard 340/360; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air; minimum external duct static pressure. Integrated Part Load Value tested at 80°F (27°C) outdoor air temperature.

NOTE - ARI capacity is net and includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

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

COOLING RATINGS

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

GCS16-072

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	75°F 24°C	80°F 27°C
cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW			
63°F (17°C)	1900	895	70.7	20.7	5.23	.71	.84	.96	68.3	20.0	5.86	.72	.86	.97	65.6	19.2	6.58	.73	.87	.99	62.8	18.4	7.39	.75	.89	1.00
	2400	1135	73.5	21.5	5.31	.76	.91	1.00	71.0	20.8	5.93	.78	.93	1.00	68.2	20.0	6.65	.79	.94	1.00	65.3	19.1	7.46	.81	.96	1.00
	2900	1370	75.7	22.2	5.35	.81	.97	1.00	73.1	21.4	5.99	.83	.98	1.00	70.5	20.7	6.71	.85	.99	1.00	67.6	19.8	7.54	.86	1.00	1.00
67°F (19°C)	1900	895	75.1	22.0	5.34	.56	.69	.81	72.5	21.2	5.97	.57	.70	.82	69.7	20.4	6.69	.57	.71	.84	66.7	19.5	7.51	.58	.72	.86
	2400	1135	77.6	22.7	5.41	.59	.74	.88	74.8	21.9	6.05	.60	.75	.90	71.9	21.1	6.76	.61	.77	.91	68.7	20.1	7.57	.62	.78	.93
	2900	1370	79.3	23.2	5.46	.62	.79	.94	76.5	22.4	6.09	.63	.81	.96	73.5	21.5	6.81	.64	.82	.97	70.2	20.6	7.64	.65	.84	.99
71°F (22°C)	1900	895	79.9	23.4	5.47	.42	.54	.66	77.2	22.6	6.11	.42	.55	.67	74.2	21.7	6.83	.43	.56	.68	71.0	20.8	7.66	.43	.56	.70
	2400	1135	82.3	24.1	5.54	.43	.58	.72	79.4	23.3	6.18	.44	.58	.73	76.3	22.4	6.91	.44	.59	.75	73.0	21.4	7.73	.44	.60	.76
	2900	1370	83.9	24.6	5.59	.45	.61	.77	80.9	23.7	6.23	.45	.62	.79	77.8	22.8	6.95	.45	.63	.80	74.3	21.8	7.79	.46	.64	.82

GCS16-090 — ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°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	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW			
63°F (17°C)	2500	1180	46.4	13.6	2.73	.69	.82	.93	45.1	13.2	3.04	.70	.83	.94	43.7	12.8	3.39	.71	.84	.96	42.2	12.4	3.80	.72	.85	.97
	3000	1415	47.8	14.0	2.76	.72	.87	.98	46.4	13.6	3.07	.73	.88	.99	44.9	13.2	3.42	.75	.89	1.00	43.4	12.7	3.84	.76	.91	1.00
	3500	1650	48.9	14.3	2.79	.76	.91	1.00	47.5	13.9	3.10	.77	.92	1.00	46.0	13.5	3.45	.79	.94	1.00	44.4	13.0	3.87	.80	.95	1.00
67°F (19°C)	2500	1180	49.3	14.4	2.79	.55	.67	.79	47.8	14.0	3.10	.55	.67	.80	46.3	13.6	3.46	.56	.68	.81	44.7	13.1	3.87	.56	.69	.82
	3000	1415	50.5	14.8	2.82	.57	.70	.84	49.0	14.4	3.14	.57	.71	.85	47.4	13.9	3.49	.58	.72	.86	45.7	13.4	3.90	.58	.73	.88
	3500	1650	51.4	15.1	2.85	.59	.74	.88	49.8	14.6	3.16	.59	.75	.90	48.2	14.1	3.52	.60	.76	.91	46.5	13.6	3.93	.61	.78	.93
71°F (22°C)	2500	1180	52.3	15.3	2.87	.42	.53	.64	50.7	14.9	3.18	.42	.54	.65	49.1	14.4	3.55	.42	.54	.66	47.4	13.9	3.96	.42	.55	.67
	3000	1415	53.5	15.7	2.90	.42	.55	.68	51.9	15.2	3.22	.43	.56	.69	50.2	14.7	3.58	.43	.56	.70	48.4	14.2	4.00	.43	.57	.71
	3500	1650	54.4	15.9	2.93	.43	.58	.72	52.8	15.5	3.25	.43	.58	.73	51.0	14.9	3.61	.44	.59	.74	49.2	14.4	4.02	.44	.60	.76

GCS16-090 — ALL COMPRESSORS OPERATING

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	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW			
63°F (17°C)	2500	1180	88.9	26.1	6.80	.72	.85	.97	85.8	25.1	7.62	.73	.87	.98	82.6	24.2	8.57	.74	.88	.99	79.0	23.2	9.65	.75	.90	1.00
	3000	1415	91.4	26.8	6.87	.76	.91	1.00	88.3	25.9	7.70	.77	.92	1.00	84.8	24.9	8.64	.79	.94	1.00	81.2	23.8	9.75	.80	.96	1.00
	3500	1650	93.6	27.4	6.93	.80	.95	1.00	90.3	26.5	7.76	.81	.96	1.00	86.9	25.5	8.71	.83	.98	1.00	83.4	24.4	9.81	.85	.99	1.00
67°F (19°C)	2500	1180	94.1	27.6	6.94	.56	.69	.82	90.8	26.6	7.76	.57	.70	.84	87.2	25.6	8.71	.58	.72	.85	83.4	24.4	9.81	.58	.73	.87
	3000	1415	96.3	28.2	7.00	.59	.74	.88	92.8	27.2	7.83	.59	.75	.89	89.2	26.1	8.78	.60	.76	.91	85.1	24.9	9.89	.61	.78	.93
	3500	1650	97.9	28.7	7.06	.61	.78	.92	94.4	27.7	7.88	.62	.79	.94	90.6	26.6	8.84	.63	.81	.96	86.5	25.4	9.95	.64	.83	.98
71°F (22°C)	2500	1180	99.8	29.2	7.12	.42	.55	.67	96.3	28.2	7.95	.43	.55	.68	92.5	27.1	8.91	.43	.56	.69	88.5	25.9	10.01	.43	.57	.71
	3000	1415	102.0	29.9	7.19	.43	.57	.71	98.3	28.8	8.02	.43	.58	.73	94.4	27.7	8.99	.44	.59	.74	90.2	26.4	10.09	.44	.60	.76
	3500	1650	103.5	30.3	7.24	.44	.60	.76	99.8	29.2	8.07	.44	.61	.77	95.7	28.0	9.03	.45	.62	.79	91.4	26.8	10.15	.45	.63	.81

COOLING RATINGS

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

GCS16-120 — ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	62.9	18.4	3.73	.64	.78	.92	61.3	18.0	4.13	.65	.79	.93	59.4	17.4	4.60	.65	.81	.95	57.2	16.8	5.13	.66	.83	.97
	4000	1890	65.1	19.1	3.78	.68	.86	.99	63.5	18.6	4.19	.69	.87	1.00	61.5	18.0	4.66	.71	.89	1.00	59.2	17.3	5.19	.72	.91	1.00
	4800	2265	66.9	19.6	3.83	.74	.93	1.00	65.2	19.1	4.24	.75	.94	1.00	63.2	18.5	4.71	.77	.96	1.00	61.0	17.9	5.24	.78	.97	1.00
67°F (19°C)	3200	1510	66.6	19.5	3.81	.51	.62	.74	64.9	19.0	4.23	.51	.62	.76	62.9	18.4	4.69	.51	.63	.77	60.6	17.8	5.22	.52	.64	.79
	4000	1890	68.5	20.1	3.86	.53	.66	.82	66.8	19.6	4.27	.54	.67	.84	64.7	19.0	4.74	.54	.68	.85	62.3	18.3	5.27	.55	.70	.87
	4800	2265	69.9	20.5	3.90	.56	.72	.89	68.1	20.0	4.31	.56	.73	.91	66.0	19.3	4.78	.57	.74	.93	63.5	18.6	5.31	.58	.76	.94
71°F (22°C)	3200	1510	70.5	20.7	3.91	.39	.49	.60	68.8	20.2	4.33	.39	.49	.60	66.7	19.5	4.80	.39	.50	.61	64.3	18.8	5.33	.39	.50	.62
	4000	1890	72.4	21.2	3.96	.39	.52	.64	70.7	20.7	4.38	.39	.52	.65	68.5	20.1	4.85	.40	.53	.66	66.0	19.3	5.38	.40	.53	.67
	4800	2265	73.7	21.6	4.00	.40	.55	.69	71.9	21.1	4.41	.41	.55	.70	69.7	20.4	4.88	.41	.56	.72	67.1	19.7	5.41	.41	.57	.74

GCS16-120 — ALL COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3200	1510	117.3	34.4	9.08	.70	.84	.98	112.9	33.1	10.12	.71	.86	.99	108.4	31.8	11.28	.72	.88	1.00	104.0	30.5	12.58	.74	.90	1.00
	4000	1890	121.4	35.6	9.19	.75	.92	1.00	116.9	34.3	10.24	.77	.94	1.00	112.3	32.9	11.41	.78	.96	1.00	107.8	31.6	12.71	.80	.98	1.00
	4800	2265	124.8	36.6	9.29	.81	.98	1.00	120.4	35.3	10.33	.82	1.00	1.00	115.9	34.0	11.50	.84	1.00	1.00	111.3	32.6	12.82	.86	1.00	1.00
67°F (19°C)	3200	1510	124.2	36.4	9.25	.55	.68	.81	119.6	35.1	10.30	.56	.69	.82	114.7	33.6	11.46	.56	.70	.84	109.9	32.2	12.78	.57	.71	.86
	4000	1890	127.7	37.4	9.35	.58	.73	.89	123.0	36.0	10.40	.59	.74	.91	117.9	34.6	11.58	.60	.76	.93	112.8	33.1	12.90	.61	.78	.95
	4800	2265	130.3	38.2	9.43	.61	.78	.95	125.4	36.8	10.47	.62	.80	.97	120.2	35.2	11.66	.63	.82	.99	115.1	33.7	12.97	.64	.84	1.00
71°F (22°C)	3200	1510	131.7	38.6	9.47	.41	.53	.65	127.0	37.2	10.51	.42	.54	.66	121.8	35.7	11.70	.42	.55	.68	116.7	34.2	13.03	.42	.56	.69
	4000	1890	135.2	39.6	9.57	.42	.57	.71	130.3	38.2	10.62	.43	.57	.72	124.9	36.6	11.80	.43	.58	.74	119.4	35.0	13.14	.43	.60	.75
	4800	2265	137.6	40.3	9.63	.44	.60	.76	132.4	38.8	10.67	.44	.61	.78	126.9	37.2	11.87	.44	.62	.80	121.4	35.6	13.22	.45	.63	.82

GCS16-150 — ONE COMPRESSOR OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3840	1810	73.4	21.5	4.53	.69	.82	.93	71.3	20.9	5.05	.70	.83	.94	69.1	20.3	5.63	.71	.84	.96	66.7	19.5	6.30	.72	.85	.97
	4800	2265	76.3	22.4	4.61	.74	.88	.99	74.1	21.7	5.12	.75	.89	1.00	71.8	21.0	5.70	.76	.91	1.00	69.3	20.3	6.37	.77	.92	1.00
	5760	2720	78.7	23.1	4.66	.79	.94	1.00	76.4	22.4	5.17	.80	.95	1.00	74.0	21.7	5.76	.81	.97	1.00	71.5	21.0	6.43	.83	.98	1.00
67°F (19°C)	3840	1810	77.9	22.8	4.64	.55	.67	.78	75.7	22.2	5.16	.55	.68	.80	73.3	21.5	5.74	.56	.68	.81	70.7	20.7	6.41	.56	.69	.82
	4800	2265	80.6	23.6	4.72	.58	.72	.85	78.2	22.9	5.23	.58	.73	.86	75.6	22.2	5.81	.59	.74	.88	73.0	21.4	6.48	.60	.75	.90
	5760	2720	82.5	24.2	4.77	.60	.77	.91	80.0	23.4	5.28	.61	.78	.93	77.4	22.7	5.86	.62	.79	.94	74.6	21.9	6.53	.63	.81	.96
71°F (22°C)	3840	1810	83.0	24.3	4.78	.42	.53	.64	80.5	23.6	5.29	.42	.54	.65	78.0	22.9	5.87	.42	.54	.66	75.3	22.1	6.55	.42	.55	.67
	4800	2265	85.6	25.1	4.85	.43	.56	.69	83.0	24.3	5.36	.43	.57	.70	80.3	23.5	5.95	.43	.57	.71	77.4	22.7	6.62	.43	.58	.73
	5760	2720	87.3	25.6	4.90	.44	.59	.74	84.6	24.8	5.41	.44	.60	.76	81.8	24.0	5.99	.45	.61	.77	78.9	23.1	6.66	.45	.62	.78

GCS16-150 — ALL COMPRESSORS OPERATING

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	3840	1810	142.3	41.7	11.29	.71	.84	.97	137.4	40.3	12.63	.72	.86	.98	132.2	38.7	14.15	.73	.87	.99	126.7	37.1	15.86	.74	.89	1.00
	4800	2265	147.7	43.3	11.43	.76	.92	1.00	142.6	41.8	12.78	.77	.93	1.00	137.3	40.2	14.30	.79	.95	1.00	131.7	38.6	16.03	.81	.97	1.00
	5760	2720	152.3	44.6	11.56	.82	.98	1.00	147.3	43.2	12.91	.83	.99	1.00	142.0	41.6	14.44	.85	1.00	1.00	136.5	40.0	16.20	.87	1.00	1.00
67°F (19°C)	3840	1810	150.7	44.2	11.52	.56	.68	.81	145.4	42.6	12.87	.56	.69	.83	139.9	41.0	14.40	.57	.71	.84	134.0	39.3	16.11	.58	.72	.86
	4800	2265	155.4	45.5	11.66	.59	.74	.89	150.0	44.0	13.00	.60	.75	.90	144.2	42.3	14.53	.60	.77	.92	137.9	40.4	16.27	.61	.78	.94
	5760	2720	158.9	46.6	11.75	.62	.80	.95	153.2	44.9	13.11	.63	.81	.97	147.2	43.1	14.64	.64	.83	.98	140.9	41.3	16.38	.65	.85	1.00
71°F (22°C)	3840	1810	160.3	47.0	11.79	.42	.54	.66	154.8	45.4	13.14	.42	.55	.67	148.8	43.6	14.69	.42	.55	.68	142.5	41.8	16.42	.43	.56	.70
	4800	2265	164.8	48.3	11.94	.43	.57	.72	158.9	46.6	13.28	.43	.58	.73	152.8	44.8	14.81	.44	.59	.75	146.2	42.8	16.57	.44	.60	.76
	5760	2720	167.9	49.2	12.02	.44	.61	.77	161.9	47.4	13.38	.45	.62	.79	155.5	45.6	14.92	.45	.63	.81	148.7	43.6	16.65	.46	.65	.83

BLOWER DATA

GCS16-072/090 BLOWER PERFORMANCE

BOLD DATA INDICATES FIELD FURNISHED DRIVE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)																								
	.20 (50)		.30 (75)		.40 (100)		.50 (125)		.60 (150)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.20 (300)		1.30 (325)		
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM
2000 (945)	600	0.35 (0.26)	655	0.40 (0.30)	705	0.50 (0.37)	755	0.55 (0.41)	800	0.60 (0.45)	845	0.70 (0.52)	890	0.75 (0.56)	930	0.85 (0.63)	970	0.90 (0.67)	1015	1.00 (0.75)	1050	1.05 (0.78)	1090	1.15 (0.86)	
2200 (1040)	640	0.45 (0.34)	690	0.50 (0.37)	735	0.55 (0.41)	780	0.65 (0.48)	825	0.70 (0.52)	870	0.80 (0.60)	910	0.85 (0.63)	950	0.95 (0.71)	990	1.05 (0.78)	1030	1.10 (0.82)	1065	1.20 (0.90)	1100	1.30 (0.97)	
2400 (1135)	680	0.55 (0.41)	725	0.60 (0.45)	770	0.70 (0.52)	815	0.75 (0.56)	855	0.85 (0.63)	895	0.90 (0.67)	935	1.00 (0.75)	975	1.10 (0.82)	1010	1.15 (0.86)	1045	1.25 (0.93)	1085	1.35 (1.01)	1120	1.45 (1.08)	
2600 (1225)	720	0.70 (0.52)	765	0.75 (0.56)	805	0.80 (0.60)	845	0.90 (0.67)	885	1.00 (0.75)	925	1.05 (0.78)	960	1.15 (0.86)	1000	1.25 (0.93)	1035	1.30 (0.97)	1070	1.40 (1.04)	1105	1.50 (1.12)	1140	1.60 (1.19)	
2800 (1320)	765	0.85 (0.63)	805	0.90 (0.67)	845	1.00 (0.75)	880	1.05 (0.78)	920	1.15 (0.86)	955	1.25 (0.93)	990	1.30 (0.97)	1025	1.40 (1.04)	1060	1.50 (1.12)	1095	1.60 (1.19)	1125	1.70 (1.27)	1160	1.80 (1.34)	
3000 (1415)	805	1.00 (0.75)	845	1.05 (0.78)	880	1.15 (0.86)	920	1.25 (0.93)	955	1.35 (1.01)	990	1.40 (1.04)	1020	1.50 (1.12)	1055	1.60 (1.19)	1090	1.70 (1.27)	1120	1.80 (1.34)	1150	1.90 (1.42)	1185	2.00 (1.49)	
3200 (1510)	850	1.20 (0.90)	885	1.25 (0.93)	920	1.35 (1.01)	955	1.45 (1.08)	990	1.55 (1.16)	1020	1.60 (1.19)	1055	1.70 (1.27)	1085	1.80 (1.34)	1120	1.90 (1.42)	1150	2.00 (1.49)	1180	2.10 (1.57)	1210	2.25 (1.68)	
3400 (1605)	895	1.40 (1.04)	930	1.50 (1.12)	960	1.55 (1.16)	995	1.65 (1.23)	1025	1.75 (1.31)	1060	1.85 (1.38)	1090	1.95 (1.45)	1120	2.05 (1.53)	1150	2.15 (1.60)	1180	2.25 (1.68)	1210	2.40 (1.79)	1240	2.50 (1.87)	
3600 (1700)	940	1.65 (1.23)	970	1.70 (1.27)	1005	1.85 (1.38)	1035	1.90 (1.42)	1065	2.00 (1.49)	1095	2.10 (1.57)	1125	2.20 (1.64)	1155	2.35 (1.75)	1185	2.45 (1.83)	1210	2.55 (1.90)	1240	2.65 (1.98)	1270	2.80 (2.09)	
3800 (1795)	985	1.90 (1.42)	1015	2.00 (1.49)	1045	2.10 (1.57)	1075	2.20 (1.64)	1105	2.30 (1.72)	1135	2.40 (1.79)	1160	2.50 (1.87)	1190	2.65 (1.98)	1220	2.75 (2.05)	1245	2.85 (2.13)	1270	2.95 (2.20)	1300	3.10 (2.31)	

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 12 for Accessory Air Resistance data.

NOTE — In Canada, maximum usable motor output is 2 hp (1.5 kW).

GCS16-120 BLOWER PERFORMANCE

BOLD DATA INDICATES FIELD FURNISHED DRIVE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)																												
	.20 (50)		.30 (75)		.40 (100)		.50 (125)		.60 (150)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.20 (300)		1.30 (325)		1.40 (350)		1.50 (375)		
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM
3000 (1415)	515	0.50 (0.37)	555	0.60 (0.45)	595	0.65 (0.48)	635	0.75 (0.56)	670	0.80 (0.60)	705	0.90 (0.67)	740	1.00 (0.75)	775	1.10 (0.82)	810	1.15 (0.86)	845	1.30 (0.97)	875	1.35 (1.01)	905	1.45 (1.08)	940	1.60 (1.19)	970	1.70 (1.27)	
3200 (1510)	535	0.60 (0.45)	575	0.65 (0.48)	615	0.75 (0.56)	650	0.85 (0.63)	685	0.90 (0.67)	720	1.00 (0.75)	755	1.10 (0.82)	790	1.20 (0.90)	820	1.30 (0.97)	850	1.40 (1.04)	885	1.50 (1.12)	915	1.60 (1.19)	945	1.70 (1.27)	975	1.80 (1.34)	
3400 (1605)	560	0.70 (0.52)	600	0.80 (0.60)	635	0.85 (0.63)	670	0.95 (0.71)	705	1.05 (0.78)	735	1.10 (0.82)	770	1.20 (0.90)	800	1.30 (0.97)	830	1.40 (1.04)	865	1.50 (1.12)	895	1.65 (1.23)	925	1.75 (1.31)	950	1.85 (1.38)	980	1.95 (1.45)	
3600 (1700)	585	0.80 (0.60)	620	0.90 (0.67)	655	1.00 (0.75)	690	1.05 (0.78)	720	1.15 (0.86)	755	1.25 (0.93)	785	1.35 (1.01)	815	1.45 (1.08)	845	1.55 (1.16)	875	1.65 (1.23)	905	1.75 (1.31)	935	1.90 (1.42)	960	2.00 (1.49)	990	2.10 (1.57)	
3800 (1795)	610	0.95 (0.71)	645	1.00 (0.75)	675	1.10 (0.82)	710	1.20 (0.90)	740	1.30 (0.97)	770	1.40 (1.04)	800	1.50 (1.12)	830	1.60 (1.19)	860	1.70 (1.27)	890	1.80 (1.34)	915	1.90 (1.42)	945	2.05 (1.53)	970	2.15 (1.60)	1000	2.25 (1.68)	
4000 (1890)	635	1.05 (0.78)	670	1.15 (0.86)	700	1.25 (0.93)	730	1.35 (1.01)	760	1.45 (1.08)	790	1.55 (1.16)	820	1.65 (1.23)	845	1.75 (1.31)	875	1.85 (1.38)	900	1.95 (1.45)	930	2.10 (1.57)	955	2.20 (1.64)	985	2.35 (1.75)	1010	2.45 (1.83)	
4200 (1980)	660	1.20 (0.90)	690	1.30 (0.97)	720	1.40 (1.04)	750	1.50 (1.12)	780	1.60 (1.19)	810	1.70 (1.27)	835	1.80 (1.34)	865	1.95 (1.45)	890	2.05 (1.53)	920	2.15 (1.60)	945	2.25 (1.68)	970	2.40 (1.79)	995	2.50 (1.87)	1020	2.60 (1.94)	
4400 (2075)	690	1.40 (1.04)	715	1.45 (1.08)	745	1.60 (1.19)	775	1.70 (1.27)	800	1.80 (1.34)	830	1.90 (1.42)	855	2.00 (1.49)	880	2.10 (1.57)	910	2.25 (1.68)	935	2.35 (1.75)	960	2.45 (1.83)	985	2.60 (1.94)	1010	2.70 (2.01)	1035	2.85 (2.13)	
4600 (2170)	715	1.55 (1.16)	740	1.65 (1.23)	770	1.75 (1.31)	795	1.85 (1.38)	825	2.00 (1.49)	850	2.10 (1.57)	875	2.20 (1.64)	900	2.30 (1.72)	925	2.45 (1.83)	950	2.55 (1.90)	975	2.65 (1.98)	1000	2.80 (2.09)	1025	2.95 (2.20)	1050	3.05 (2.28)	
4800 (2265)	740	1.75 (1.31)	765	1.85 (1.38)	795	1.95 (1.45)	820	2.10 (1.57)	845	2.20 (1.64)	870	2.30 (1.72)	895	2.40 (1.79)	920	2.55 (1.90)	945	2.65 (1.98)	970	2.80 (2.09)	995	2.90 (2.16)	1015	3.00 (2.24)	1040	3.15 (2.35)	1065	3.30 (2.46)	
5000 (2360)	765	1.95 (1.45)	790	2.05 (1.53)	820	2.20 (1.64)	845	2.30 (1.72)	870	2.40 (1.79)	890	2.50 (1.87)	915	2.65 (1.98)	940	2.75 (2.05)	965	2.90 (2.16)	990	3.05 (2.28)	1010	3.15 (2.35)	1035	3.30 (2.46)	1055	3.40 (2.54)	----		
5200 (2455)	795	2.20 (1.64)	820	2.30 (1.72)	840	2.40 (1.79)	865	2.50 (1.87)	890	2.65 (2.09)	915	2.80 (2.16)	940	2.90 (2.24)	960	3.00 (2.24)	985	3.15 (2.35)	1005	3.25 (2.42)	1030	3.40 (2.54)	----	----	----				

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 12 for Accessory Air Resistance data.

NOTE — In Canada, maximum usable motor output is 3 hp (2.24 kW).

BLOWER DATA

GCS16-150 BLOWER PERFORMANCE

BOLD DATA INDICATES FIELD FURNISHED DRIVE
SHADED DATA INDICATES FIELD FURNISHED MOTOR

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)														
	.20 (50)	.30 (75)	.40 (100)	.50 (125)	.60 (150)	.70 (175)	.80 (200)	.90 (225)	1.00 (250)	1.10 (275)	1.20 (300)	1.30 (325)	1.40 (350)	1.50 (375)	1.60 (400)
	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)
3800 (1795)	620 1.05 (0.78)	655 1.15 (0.86)	695 1.25 (0.93)	725 1.35 (1.01)	760 1.45 (1.08)	795 1.55 (1.16)	825 1.70 (1.27)	860 1.80 (1.34)	890 1.95 (1.45)	920 2.05 (1.53)	945 2.15 (1.60)	975 2.30 (1.72)	1005 2.45 (1.83)	1030 2.55 (1.90)	1055 2.70 (2.01)
3900 (1840)	630 1.10 (0.82)	665 1.20 (0.90)	705 1.30 (0.97)	740 1.45 (1.08)	770 1.55 (1.16)	805 1.65 (1.23)	835 1.75 (1.31)	865 1.90 (1.42)	895 2.00 (1.49)	925 2.15 (1.60)	955 2.25 (1.68)	980 2.40 (1.79)	1010 2.55 (1.90)	1035 2.65 (1.98)	1060 2.80 (2.09)
4000 (1890)	645 1.20 (0.90)	680 1.30 (0.97)	715 1.40 (1.04)	750 1.50 (1.12)	780 1.60 (1.19)	815 1.75 (1.31)	845 1.85 (1.38)	875 2.00 (1.49)	905 2.10 (1.57)	935 2.25 (1.68)	960 2.35 (1.75)	990 2.50 (1.87)	1015 2.65 (1.98)	1040 2.75 (2.05)	1070 2.90 (2.16)
4100 (1935)	655 1.25 (0.93)	690 1.35 (1.01)	725 1.50 (1.12)	760 1.60 (1.19)	790 1.70 (1.27)	820 1.85 (1.38)	855 1.95 (1.45)	885 2.10 (1.57)	910 2.20 (1.64)	940 2.35 (1.75)	970 2.50 (1.87)	995 2.60 (1.94)	1020 2.70 (2.01)	1050 2.90 (2.16)	1075 3.00 (2.24)
4200 (1980)	670 1.35 (1.01)	705 1.45 (1.08)	735 1.55 (1.16)	770 1.70 (1.27)	800 1.80 (1.34)	830 1.90 (1.42)	860 2.05 (1.53)	890 2.15 (1.60)	920 2.30 (1.72)	950 2.45 (1.83)	975 2.55 (1.90)	1005 2.70 (2.01)	1030 2.85 (2.13)	1055 3.00 (2.24)	1080 3.10 (2.31)
4300 (2030)	680 1.40 (1.04)	715 1.55 (1.16)	750 1.65 (1.23)	780 1.80 (1.34)	810 1.90 (1.42)	840 2.00 (1.49)	870 2.15 (1.60)	900 2.30 (1.72)	930 2.40 (1.79)	955 2.55 (1.90)	985 2.70 (2.01)	1010 2.80 (2.09)	1035 2.95 (2.20)	1060 3.10 (2.31)	1085 3.25 (2.42)
4400 (2075)	695 1.50 (1.12)	725 1.65 (1.23)	760 1.75 (1.31)	790 1.90 (1.42)	820 2.00 (1.49)	850 2.10 (1.57)	880 2.25 (1.68)	910 2.40 (1.79)	935 2.50 (1.87)	965 2.65 (1.98)	990 2.80 (2.09)	1020 2.95 (2.20)	1045 3.10 (2.31)	1070 3.20 (2.39)	1095 3.35 (2.50)
4500 (2125)	705 1.60 (1.19)	740 1.75 (1.31)	770 1.85 (1.38)	800 1.95 (1.45)	830 2.10 (1.57)	860 2.25 (1.68)	890 2.35 (1.75)	920 2.50 (1.87)	945 2.65 (1.98)	975 2.80 (2.09)	1000 2.90 (2.16)	1025 3.05 (2.28)	1050 3.20 (2.39)	1075 3.35 (2.50)	1100 3.50 (2.61)
4600 (2170)	720 1.70 (1.27)	750 1.85 (1.38)	780 1.95 (1.45)	815 2.10 (1.57)	840 2.20 (1.64)	870 2.35 (1.75)	900 2.50 (1.87)	930 2.65 (1.98)	955 2.75 (2.05)	980 2.90 (2.16)	1010 3.05 (2.28)	1035 3.20 (2.39)	1060 3.35 (2.50)	1085 3.50 (2.61)	1110 3.65 (2.72)
4700 (2220)	730 1.80 (1.34)	765 1.95 (1.45)	795 2.05 (1.53)	825 2.20 (1.64)	855 2.35 (1.75)	880 2.45 (1.83)	910 2.60 (1.94)	935 2.75 (2.05)	965 2.90 (2.16)	990 3.00 (2.24)	1015 3.15 (2.35)	1040 3.30 (2.46)	1065 3.45 (2.57)	1090 3.60 (2.69)	1115 3.75 (2.80)
4800 (2265)	745 1.90 (1.42)	775 2.05 (1.53)	805 2.20 (1.64)	835 2.30 (1.72)	865 2.45 (1.83)	890 2.55 (1.90)	920 2.70 (2.01)	945 2.85 (2.13)	975 3.00 (2.24)	1000 3.15 (2.35)	1025 3.30 (2.46)	1050 3.45 (2.57)	1075 3.60 (2.69)	1100 3.75 (2.80)	1125 3.90 (2.91)
4900 (2310)	755 2.00 (1.49)	785 2.15 (1.60)	820 2.30 (1.72)	845 2.40 (1.79)	875 2.55 (1.90)	900 2.70 (2.01)	930 2.85 (2.13)	955 3.00 (2.24)	985 3.15 (2.35)	1010 3.30 (2.46)	1035 3.45 (2.57)	1060 3.60 (2.69)	1085 3.75 (2.80)	1105 3.85 (2.87)	1130 4.05 (3.02)
5000 (2360)	770 2.15 (1.60)	800 2.30 (1.72)	830 2.40 (1.79)	860 2.55 (1.90)	885 2.70 (2.01)	915 2.85 (2.13)	940 3.00 (2.24)	965 3.10 (2.31)	990 3.25 (2.42)	1020 3.45 (2.57)	1040 3.55 (2.65)	1065 3.70 (2.76)	1090 3.85 (2.87)	1115 4.05 (3.02)	1140 4.20 (3.13)
5100 (2405)	785 2.25 (1.68)	815 2.40 (1.79)	840 2.55 (1.90)	870 2.70 (2.01)	895 2.80 (2.09)	925 2.95 (2.20)	950 3.10 (2.31)	975 3.25 (2.42)	1000 3.40 (2.54)	1025 3.55 (2.65)	1050 3.70 (2.76)	1075 3.85 (2.87)	1100 4.00 (2.98)	1125 4.20 (3.13)	1145 4.30 (3.21)
5200 (2455)	795 2.40 (1.79)	825 2.55 (1.90)	855 2.70 (2.01)	880 2.80 (2.09)	910 2.95 (2.20)	935 3.10 (2.31)	960 3.25 (2.42)	985 3.40 (2.54)	1010 3.55 (2.65)	1035 3.70 (2.76)	1060 3.85 (2.87)	1085 4.00 (2.98)	1110 4.20 (3.13)	1130 4.30 (3.21)	1155 4.50 (3.36)
5300 (2500)	810 2.50 (1.87)	840 2.65 (1.98)	865 2.80 (2.09)	895 2.95 (2.20)	920 3.10 (2.31)	945 3.25 (2.42)	970 3.40 (2.54)	995 3.55 (2.65)	1020 3.70 (2.76)	1045 3.85 (2.87)	1070 4.00 (2.98)	1095 4.20 (3.13)	1115 4.30 (3.21)	1140 4.50 (3.36)	1165 4.65 (3.47)
5400 (2550)	825 2.65 (1.98)	850 2.80 (2.09)	880 2.95 (2.20)	905 3.10 (2.31)	930 3.25 (2.42)	955 3.40 (2.54)	980 3.55 (2.65)	1005 3.70 (2.76)	1030 3.85 (2.87)	1055 4.00 (2.98)	1080 4.15 (3.10)	1105 4.35 (3.25)	1125 4.50 (3.36)	1150 4.65 (3.47)	1170 4.80 (3.58)
5500 (2595)	835 2.80 (2.09)	865 2.95 (2.20)	890 3.10 (2.31)	915 3.25 (2.42)	945 3.40 (2.54)	970 3.55 (2.65)	995 3.70 (2.76)	1020 3.85 (2.87)	1040 4.00 (2.98)	1065 4.15 (3.10)	1090 4.35 (3.25)	1110 4.50 (3.36)	1135 4.65 (3.47)	1155 4.80 (3.58)	1180 5.00 (3.73)
5600 (2645)	850 2.95 (2.20)	875 3.10 (2.31)	900 3.20 (2.39)	930 3.40 (2.54)	955 3.55 (2.65)	980 3.70 (2.76)	1005 3.85 (2.87)	1030 4.05 (3.02)	1050 4.15 (3.10)	1075 4.35 (3.25)	1100 4.50 (3.36)	1120 4.65 (3.47)	1145 4.85 (3.62)	1165 5.00 (3.73)	1190 5.20 (3.88)
5700 (2690)	860 3.10 (2.31)	890 3.25 (2.42)	915 3.40 (2.54)	940 3.55 (2.65)	965 3.70 (2.76)	990 3.85 (2.87)	1015 4.00 (2.98)	1040 4.20 (3.13)	1060 4.35 (3.25)	1085 4.50 (3.36)	1110 4.70 (3.51)	1130 4.85 (3.62)	1155 5.00 (3.73)	1175 5.20 (3.88)	1195 5.35 (3.99)
5800 (2735)	875 3.25 (2.42)	900 3.40 (2.54)	925 3.55 (2.65)	955 3.70 (2.76)	975 3.85 (2.87)	1000 4.00 (2.98)	1025 4.20 (3.13)	1050 4.35 (3.25)	1075 4.55 (3.39)	1095 4.70 (3.51)	1120 4.85 (3.62)	1140 5.00 (3.73)	1165 5.20 (3.88)	1185 5.35 (3.99)	1205 5.55 (4.14)
5900 (2785)	890 3.40 (2.54)	915 3.55 (2.65)	940 3.70 (2.76)	965 3.90 (2.91)	990 4.05 (3.02)	1015 4.20 (3.13)	1035 4.35 (3.25)	1060 4.55 (3.39)	1085 4.70 (3.51)	1105 4.85 (3.62)	1130 5.05 (3.77)	1150 5.20 (3.88)	1170 5.35 (3.99)	1195 5.55 (4.14)	1215 5.75 (4.29)
6000 (2830)	900 3.55 (2.65)	925 3.70 (2.76)	950 3.85 (2.87)	975 4.05 (3.02)	1000 4.20 (3.13)	1025 4.40 (3.28)	1050 4.55 (3.39)	1070 4.70 (3.51)	1095 4.90 (3.66)	1115 5.05 (3.77)	1140 5.25 (3.92)	1160 5.40 (4.03)	1180 5.55 (4.14)	1205 5.75 (4.29)	1225 5.95 (4.44)

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 12 for Accessory Air Resistance data.

NOTE — In Canada, maximum usable motor output is 3 hp (2.24 kW).

BLOWER DATA

ACCESSORY AIR RESISTANCE

Unit Model No.	Air Volume		Total Resistance													
			Wet Evaporator Coil		REMD16M Down-Flow Economizer		EMDH16M Horizontal Economizer		RTD11 Step-Down Diffuser						FD11 Flush Diffuser	
									2 Ends Open		1 Side 2 Ends Open		All Ends & Sides Open			
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	in. w.g.	Pa	
GCS16-072 GCS16-090	2000	945	0.10	25	0.11	27	0.02	5	0.15	37	0.12	30	0.11	27	0.08	20
	2200	1040	0.11	27	0.15	37	0.03	7	0.18	45	0.15	37	0.13	32	0.11	27
	2400	1185	0.12	30	0.19	47	0.03	7	0.21	52	0.18	45	0.15	37	0.14	35
	2600	1225	0.13	32	0.23	57	0.04	10	0.24	60	0.21	52	0.18	45	0.17	42
	2800	1320	0.14	35	0.27	67	0.04	10	0.27	67	0.24	60	0.21	52	0.20	50
	3000	1415	0.16	40	0.31	77	0.05	12	0.32	80	0.29	72	0.25	62	0.25	62
	3200	1510	0.18	45	0.35	87	0.05	12	0.41	102	0.37	92	0.32	80	0.31	77
	3400	1605	0.19	47	0.41	102	0.06	15	0.50	124	0.45	112	0.39	97	0.37	92
	3600	1700	0.21	52	0.47	117	0.06	15	0.61	152	0.54	134	0.48	119	0.44	109
	3800	1795	0.23	57	0.57	142	0.07	17	0.73	182	0.63	157	0.57	142	0.51	127
GCS16-120	3600	1700	0.12	30	0.14	35	0.03	7	0.36	90	0.28	70	0.23	57	0.15	37
	3800	1795	0.13	32	0.15	37	0.04	10	0.40	99	0.32	80	0.26	65	0.18	45
	4000	1890	0.14	35	0.16	40	0.04	10	0.44	109	0.36	90	0.29	72	0.21	52
	4200	1980	0.15	37	0.17	42	0.05	12	0.49	122	0.40	99	0.33	82	0.24	60
	4400	2075	0.16	40	0.18	45	0.05	12	0.54	134	0.44	109	0.37	92	0.27	67
	4600	2170	0.17	42	0.20	50	0.06	15	0.60	149	0.49	122	0.42	104	0.31	77
	4800	2265	0.18	45	0.22	55	0.07	17	0.65	162	0.53	132	0.46	114	0.35	87
	5000	2360	0.19	47	0.24	60	0.09	22	0.69	172	0.58	144	0.50	124	0.39	97
	5200	2455	0.20	50	0.27	67	0.10	25	0.75	186	0.62	154	0.54	134	0.43	107
GCS16-150	4200	1980	0.17	42	0.18	45	0.06	15	0.49	122	0.40	99	0.33	82	0.24	60
	4400	2075	0.18	45	0.20	50	0.07	17	0.54	134	0.44	109	0.37	92	0.27	67
	4600	2170	0.20	50	0.21	52	0.07	17	0.60	149	0.49	122	0.42	104	0.31	77
	4800	2265	0.21	52	0.23	57	0.08	20	0.65	162	0.53	132	0.46	114	0.35	87
	5000	2360	0.22	55	0.26	65	0.08	20	0.69	172	0.58	144	0.50	124	0.39	97
	5200	2455	0.24	60	0.31	77	0.09	22	0.75	186	0.62	154	0.54	134	0.43	106
	5400	2550	0.25	62	0.34	85	0.10	25	0.82	204	0.68	169	0.56	139	0.47	117
	5600	2640	0.26	65	0.38	94	0.12	30	0.88	219	0.73	182	0.64	159	0.52	129
	5800	2735	0.28	70	0.40	99	0.13	32	0.97	241	0.79	196	0.69	172	0.58	144

CEILING DIFFUSER AIR THROW DATA

Model No.	Air Volume		Effective Throw Range			
			RTD11 Step-Down		FD11 Flush	
			cfm	L/s	ft.	m
GCS16-072 GCS16-090	2625	1240	24 - 29	7 - 9	22 - 26	7 - 8
	3000	1415	27 - 33	8 - 10	25 - 30	8 - 9
	3375	1595	30 - 37	9 - 11	28 - 34	9 - 10
	3750	1770	34 - 41	10 - 12	31 - 38	9 - 12
GCS16-120	4400	2075	34 - 42	10 - 13	32 - 40	10 - 12
	4950	2335	38 - 47	12 - 14	36 - 45	11 - 14
	5500	2595	43 - 52	13 - 16	40 - 50	12 - 15
GCS16-150	4200	1980	39 - 46	12 - 14	40 - 48	12 - 15
	5000	2360	41 - 50	12 - 15	43 - 52	13 - 16
	5800	2735	43 - 52	13 - 16	45 - 54	14 - 16

☐ Throw is the horizontal or vertical distance an airstream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. (15 m) per minute. Four sides open.

ELECTRICAL DATA - 072-090 MODELS

General Data	Model No.	GCS16-072			GCS16-090		
		208/230v	460v	575v	208/230v	460v	575v
Line voltage data - 60 Hz - 3 phase		208/230v	460v	575v	208/230v	460v	575v
Recommended maximum fuse size (amps)		50	25	20	50	25	20
†Minimum Circuit Ampacity		34	17	14	42	21	17
Compressors (s)	No. of compressors	1	1	1	2	2	2
	Rated load amps - each (total)	18.8	9.1	7.5	13.3 (26.6)	6.7 (13.4)	5.4 (10.8)
	Locked rotor amps - each (total)	156	75	54	91 (182)	46 (92)	37 (74)
Condenser Fan Motor	Full load amps	2.4	1.3	1.0	3.7	1.9	1.6
	Locked rotor amps	4.7	2.4	1.9	7.3	3.7	2.9
Evaporator Blower Motor	Motor Output - hp (kW)	2 (1.5)	2 (1.5)	2 (1.5)	2 (1.5)	2 (1.5)	2 (1.5)
	Full load amps	7.5	3.4	2.7	7.5	3.4	2.7
	Locked rotor amps	41	20.4	16.2	41.0	20.4	16.2

†Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.
 □ Where current does not exceed 100 amps, HACR type circuit breaker may be used in place of fuse (U.S. only).
 NOTE - Extremes of operating range are plus and minus 10 % of line voltage.

ELECTRICAL DATA - 120-150 MODELS

General Data	Model No.	GCS16-120			GCS16-150		
		208/230v	460v	575v	208/230v	460v	575v
Line voltage data - 60 Hz - 3 phase		208/230v	460v	575v	208/230v	460v	575v
Recommended maximum fuse size (amps)		70	35	25	70	35	30
†Minimum Circuit Ampacity		58	28	21	59	29	24
Compressors (2)	Rated load amps - each (total)	18.6 (37.2)	10 (20)	6.6 (13.2)	18.8 (37.6)	9.1 (18.2)	7.5 (15)
	Locked rotor amps - each (total)	128 (256)	63 (126)	49 (98)	156 (312)	75 (150)	54 (108)
Condenser Fan Motors	Full load amps	(2) 4.8	(2) 2.6	(2) 2.0	(2) 6.0	(2) 3.0	(2) 2.4
	Locked rotor amps	(2) 9.4	(2) 4.8	(2) 3.8	(2) 12.0	(2) 6.0	(2) 5.8
Evaporator Blower Motor	Motor Output - hp (kW)	3 (2.2)	3 (2.2)	3 (2.2)	3 (2.2)	3 (2.2)	3 (2.2)
	Full load amps	10.6	4.8	3.9	10.6	4.8	3.9
	Locked rotor amps	66	26.8	23.4	66	26.8	23.4

†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.

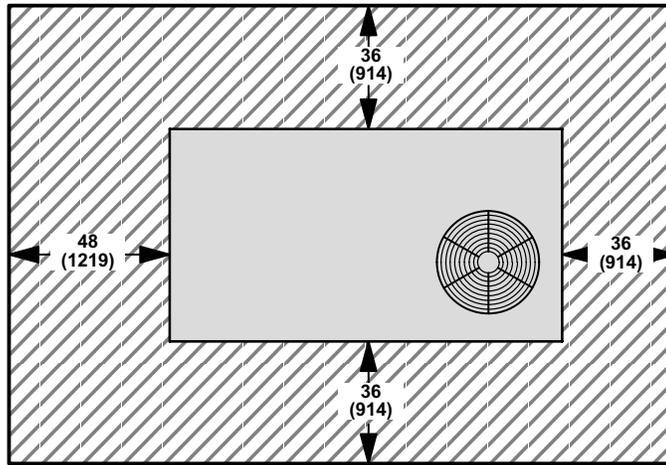
HIGH ALTITUDE INFORMATION

GCS16-072-090 models - derate is required when operating at altitudes from 4501 to 7500 ft. (1370 to 2285 m).
 GCS16-120-150 models - optional High Altitude Kit HAK16-95 (91J27) required for high altitude operation. No derate required.
 See below for correct manifold pressures for natural and LPG/Propane.

Altitude		Manifold Pressure									
		GCS16-072-090					GCS16-120-150				
		Nat.		LPG		Derate Required	Nat.		LPG		
ft.	m	in. w.g.	kPa	in. w.g.	kPa		in. w.g.	kPa	in. w.g.	kPa	
0 - 4500	0 - 1370	3.7	0.92	10.5	2.6	0%	3.7	0.92	10.5	2.6	
4501 - 5500	1370 - 1675	3.4	0.84	10.5	2.6	4%	3.7	0.92	10.5	2.6	
5501 - 6500	1675 - 1980	3.1	0.77	10.5	2.6	8%	3.7	0.92	10.5	2.6	
6501 - 7500	1980 - 2285	2.9	0.72	10.5	2.6	12%	3.7	0.92	10.5	2.6	

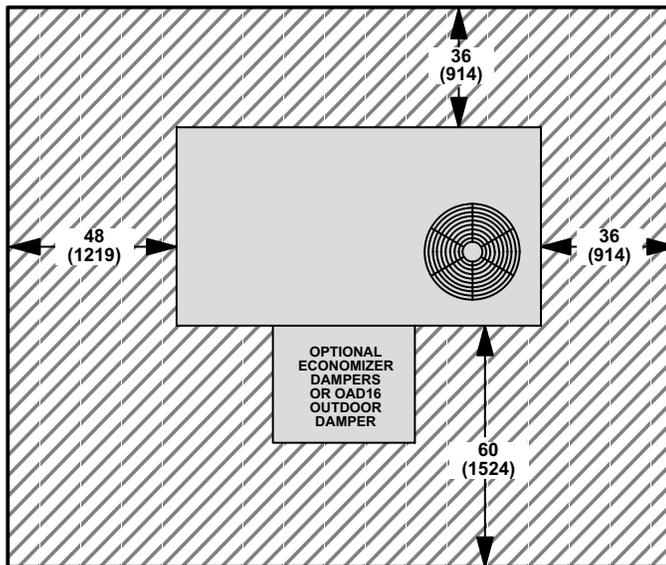
INSTALLATION CLEARANCES - INCHES (MM)

GCS16 BASIC UNIT



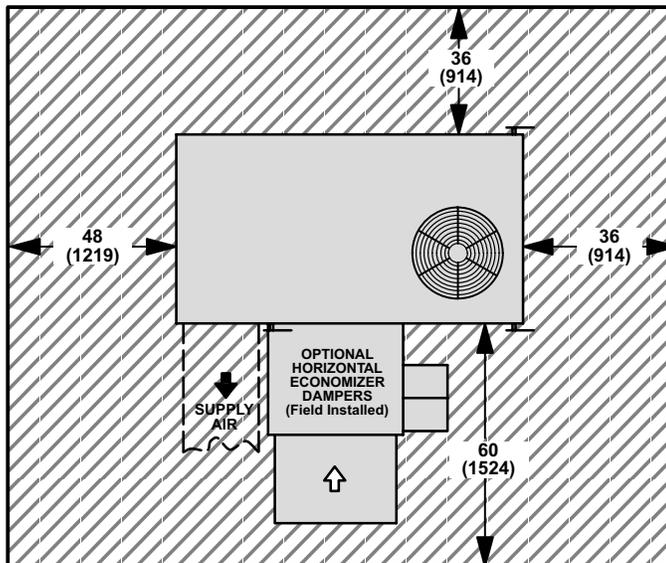
NOTE - Top Clearance Unobstructed.
NOTE - Entire perimeter of unit requires support when elevated above mounting surface.

GCS16 UNIT WITH REMD16M ECONOMIZER DAMPER SECTION OR OAD16 OUTDOOR AIR DAMPER SECTION



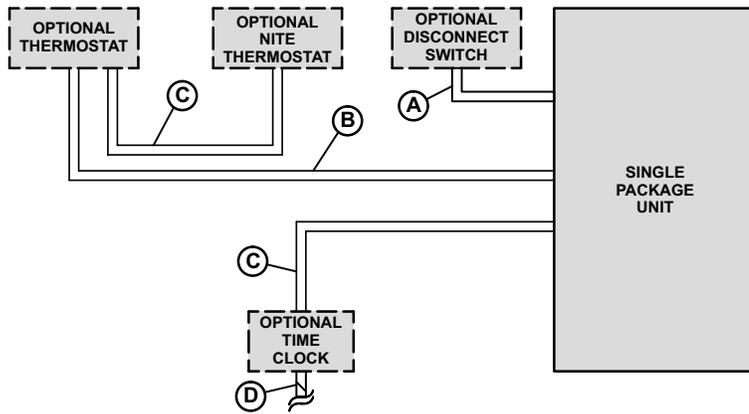
NOTE - Top Clearance Unobstructed.

GCS16 UNIT WITH EMDH16M HORIZONTAL ECONOMIZER DAMPER SECTION



NOTE - Top Clearance Unobstructed.

ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM

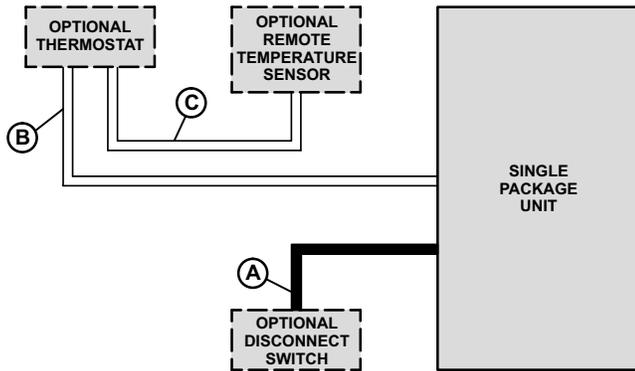


- A - Three wire power (See Electrical Data Table)
- B - Six wire low voltage
- C - Two wire low voltage
- D - Two wire power

- Field wiring not furnished -

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

T7300 OR T8600D/T8624D THERMOSTAT CONTROL SYSTEM



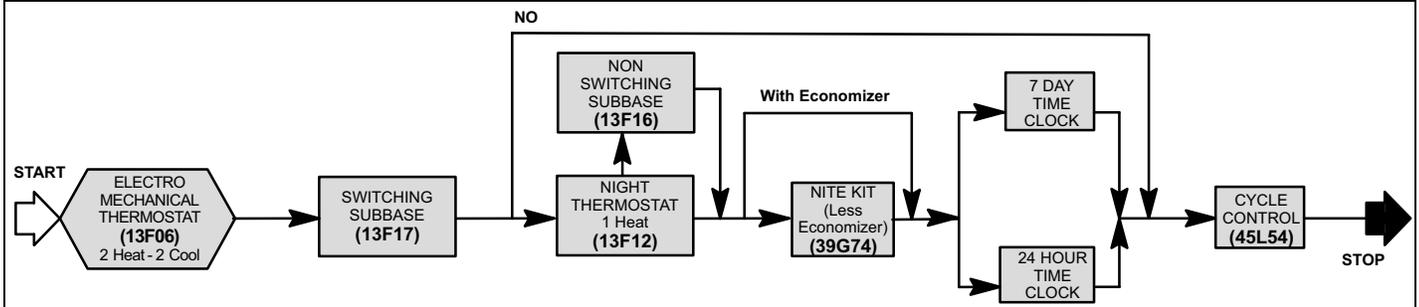
- A - Three wire power (See Electrical Data Table)
- B - Nine wire low voltage
- C - Two wire low voltage
- Seven wire low voltage (T7300 Room Sensor with override)

- Field wiring not furnished -

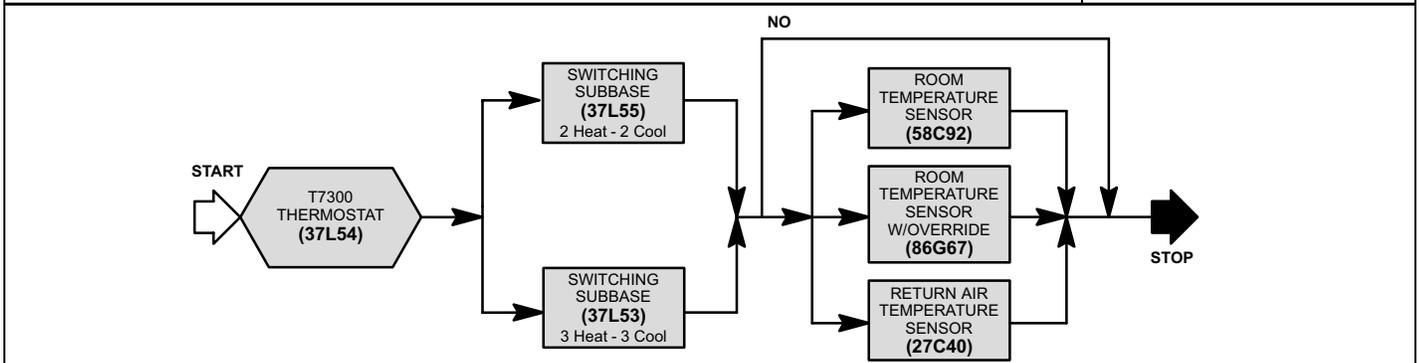
NOTE - All wiring must conform to NEC or CEC and local electrical codes.

OPTIONAL TEMPERATURE CONTROL SYSTEMS

System and Component Description	Catalog No.
ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM	
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
Night Setback Operation - Order components below	- - -
Heating Thermostat - Single stage heat	13F12
Subbase - Non-switching	13F16
Nite Kit - Required if economizer is not used, contains plug-in relay, overrides operation of day thermostat	39G74
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
Cycle Control (Required) - provides timed-on and off function, prevents compressor short cycling	45L54



T7300 THERMOSTAT CONTROL SYSTEM	
Thermostat - 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	37L54
Subbase - Selectable staging up to two stage heat & two stage cool, manual system switch (Heat-Off-Auto-Cool), fan switch (Auto-On), indicator LED's, auxiliary relay output for economizer operation	37L55
Subbase - Selectable staging up to three stage heat & three stage cool, manual system switch (Auto-Cool-Off-Heat-Emergency Heat) (heat pump only), fan switch (Auto-On), indicator LED's, auxiliary relay output for economizer operation	37L53
Sensor - Room temperature	58C92
Sensor - Room temperature with 3 hour override and setpoint adjustment	86G67
Sensor - Return air temperature	27C40



HONEYWELL T8600D/T8624D THERMOSTAT	
Thermostat - 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)	- - -
T8600D Thermostat - 1 heat/1 cool, 7 day programming, wiring wall plate included	37L59
T8624D Thermostat - 2 heat/2 cool, 7 day programming, switching subbase included	37L61

DIMENSIONS - INCHES (MM)

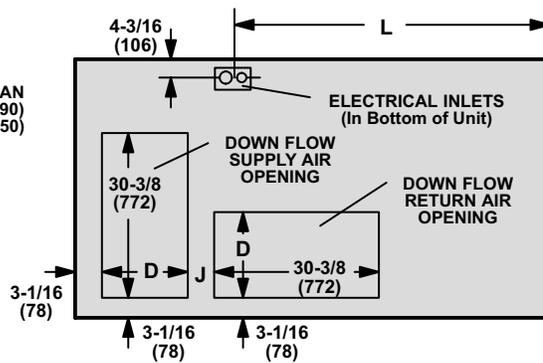
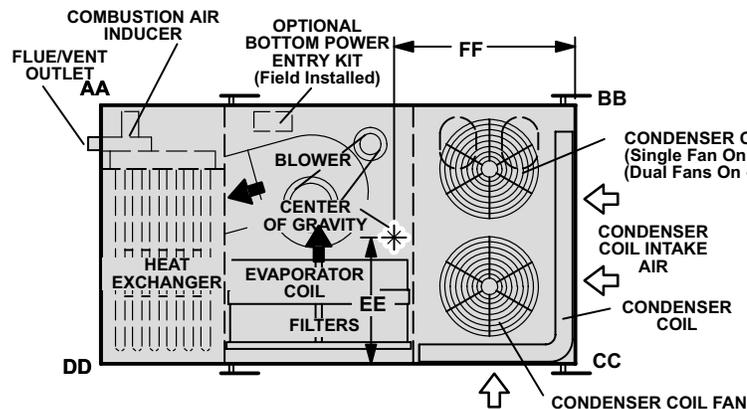
Basic Unit

CORNER WEIGHTS

Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS16-072	198	90	196	89	182	83	184	83
GCS16-090	236	107	283	128	194	88	162	69
GCS16-120	276	125	311	141	268	122	245	111
GCS16-150	292	132	337	153	303	137	269	122

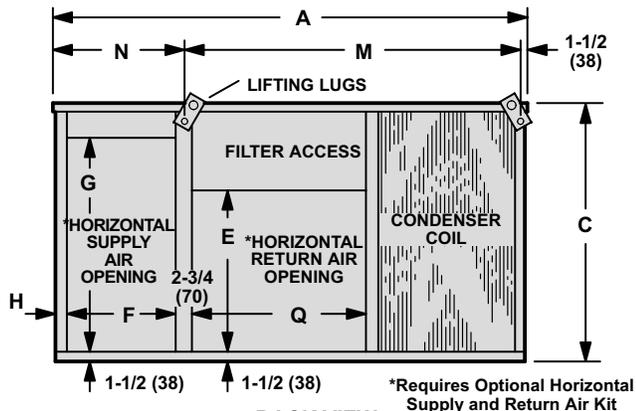
CENTER OF GRAVITY

Model Number	EE		FF	
	inch	mm	inch	mm
GCS16-072	28	711	44-1/4	1124
GCS16-090	28-1/2	724	40	1016
GCS16-120	37	940	43-1/2	1105
GCS16-150	35-3/4	908	46-1/2	1181

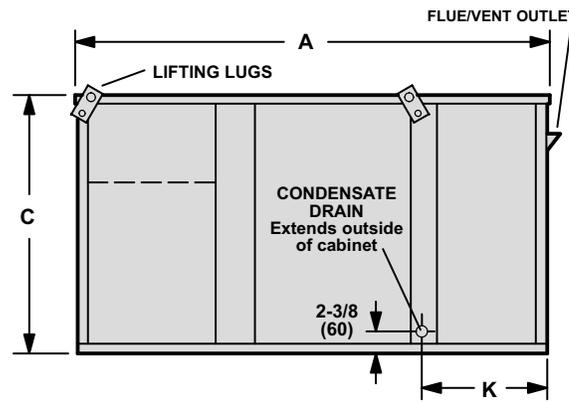


TOP VIEW

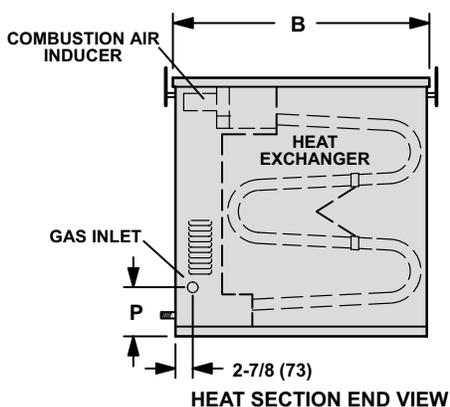
TOP VIEW BASE SECTION



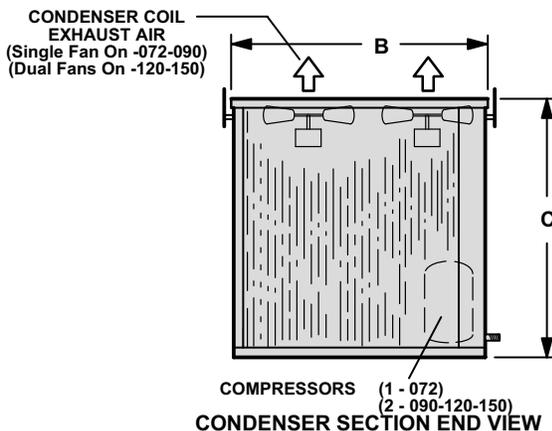
BACK VIEW WITH HORIZONTAL SUPPLY & RETURN AIR OPENING



FRONT VIEW



HEAT SECTION END VIEW



CONDENSER SECTION END VIEW

Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
GCS16-072-090	88-1/2	2248	48	1219	39	991	16-1/2	419	24-5/8	625	19-7/16	494	32-1/8	816
GCS16-120	94	2388	60	1524	46	1168	24	610	31-5/8	803	25-1/4	641	39-1/8	994
GCS16-150	102	2591	60	1524	46	1168	24	610	31-5/8	803	25-1/4	641	39-1/8	994

Model No.	H		J		K		L		M		N		P		Q	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
GCS16-072-090	1-5/8	41	5-5/8	143	25	635	54-1/2	1384	64-7/8	1648	22-1/8	562	9-3/4	248	33	838
GCS16-120	2	51	4-7/16	113	31-1/8	791	57-1/2	1461	64	1626	28-1/2	724	14	356	33	838
GCS16-150	2	51	4-7/16	113	31-1/8	791	65-1/2	1664	72	1829	28-1/2	724	14	356	41	1041

ACCESSORY DIMENSIONS - INCHES (MM)

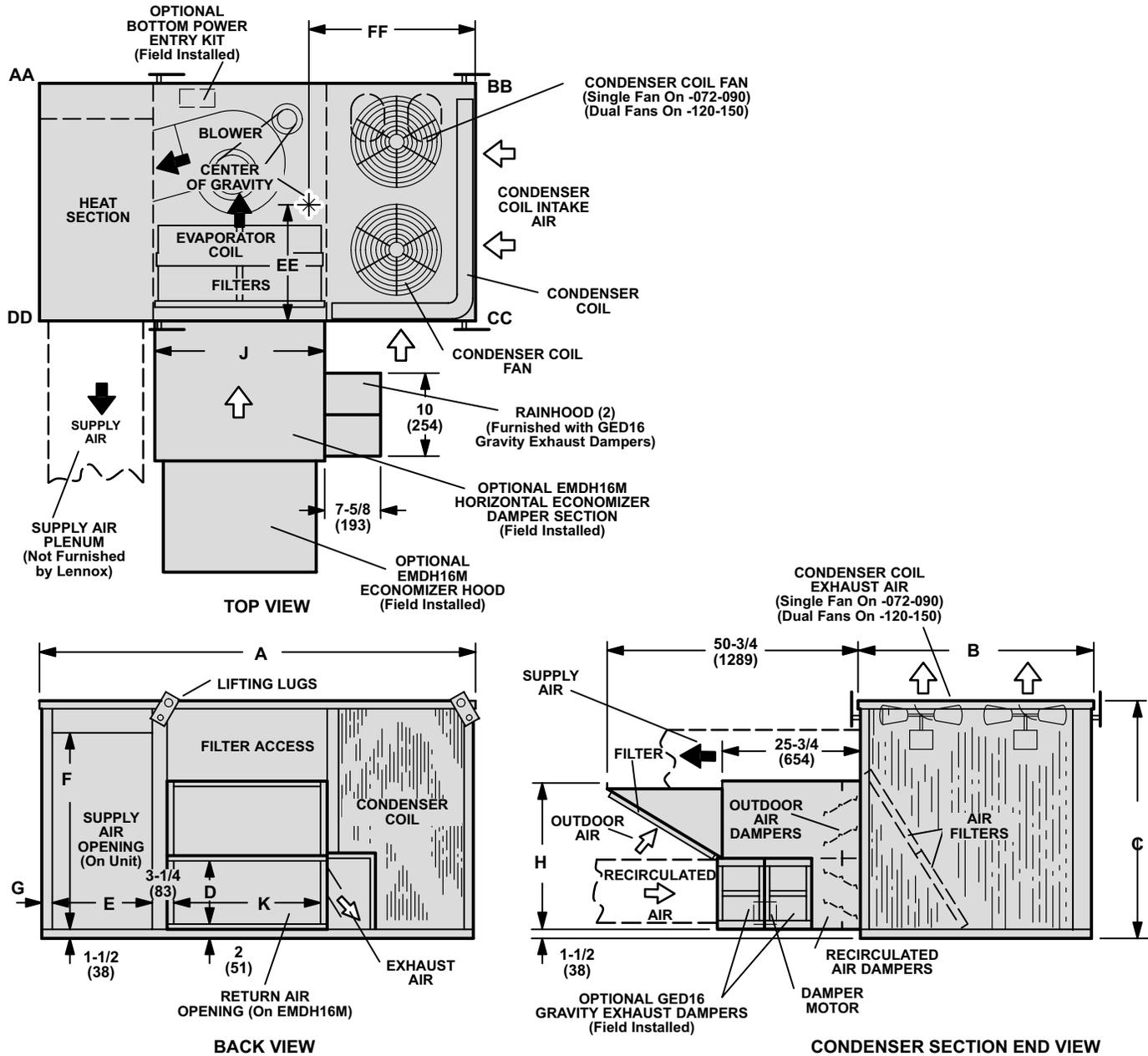
Basic Unit With EMDH16M (Horizontal) Economizer Damper Section

CORNER WEIGHTS

Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS16-072	215	98	214	97	210	95	211	96
GCS16-090	235	107	273	124	261	118	226	103
GCS16-120	294	133	329	149	302	137	274	124
GCS16-150	312	142	358	162	340	154	300	136

CENTER OF GRAVITY

Model Number	EE		FF	
	inch	mm	inch	mm
GCS16-072	25	635	44-1/4	1124
GCS16-090	24-1/2	622	41	1041
GCS16-120	34	864	43-1/2	1105
GCS16-150	32-3/4	832	46-1/2	1181

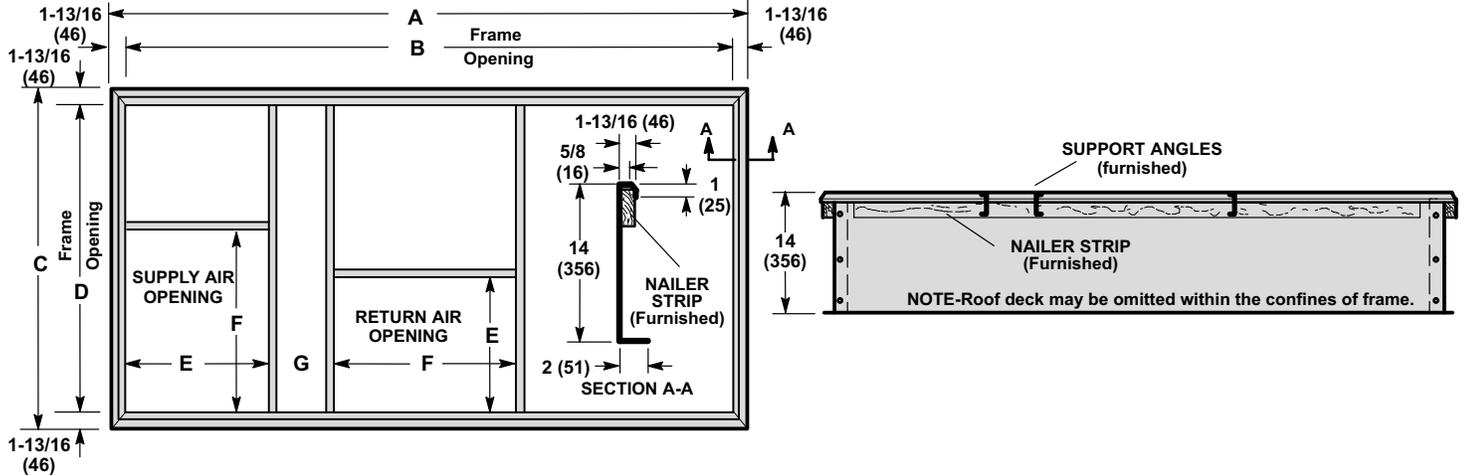


Model No.	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
GCS16-072-090	88-1/2	2248	48	1219	39	991	13-1/4	337	19-7/16	494
GCS16-120	94	2388	60	1524	46	1168	19-1/4	489	25-1/4	641
GCS16-150	102	2591	60	1524	46	1168	19-1/4	489	25-1/4	641

Model No.	F		G		H		J		K	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
GCS16-072-090	32-1/2	816	1-5/8	41	28-3/4	730	32-9/16	827	31-1/2	800
GCS16-120	39-1/8	994	2	51	34-3/4	883	32-9/16	827	31-1/2	800
GCS16-150	39-1/8	994	2	51	34-3/4	883	40-9/16	1030	39-1/2	1003

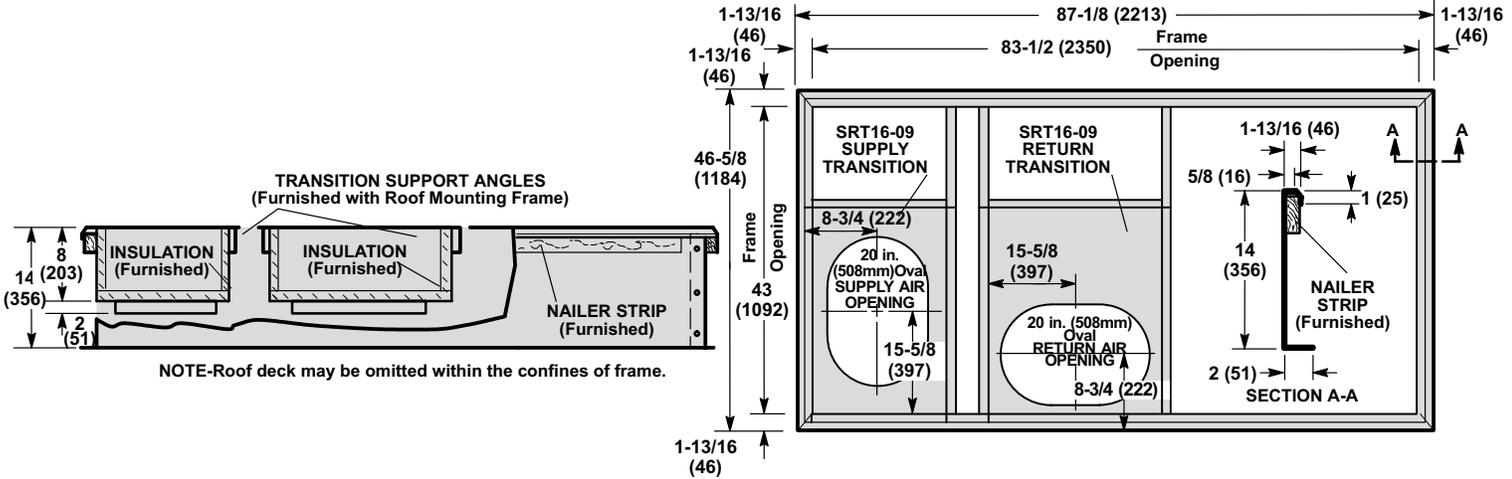
ACCESSORY DIMENSIONS - INCHES (MM) NOT FOR CANADA

RMF16 SERIES ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING

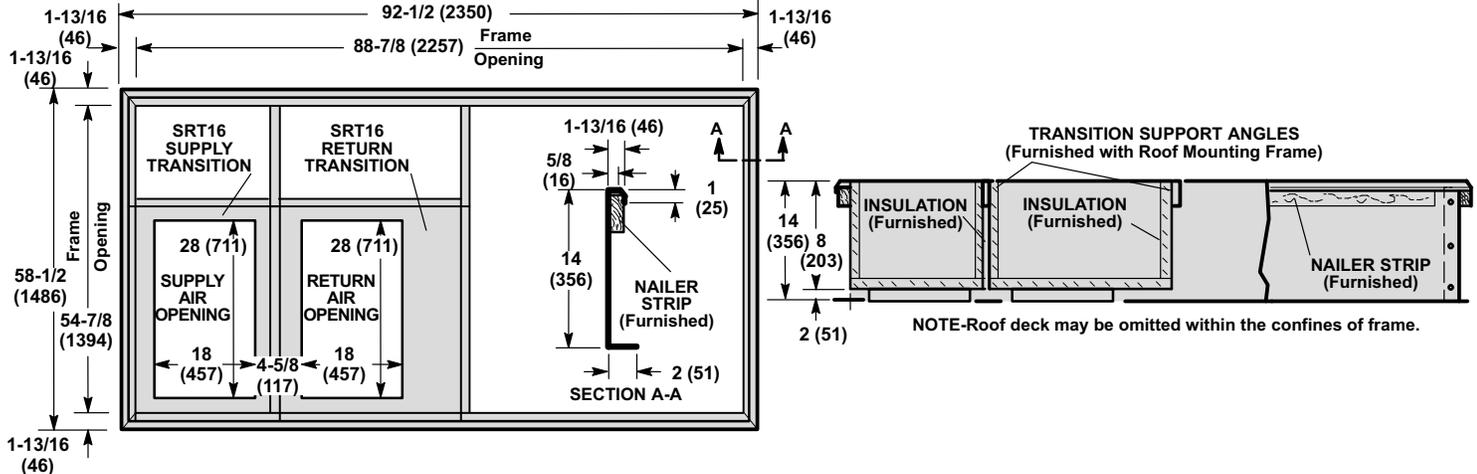


Model No.	A		B		C		D		E		F		G	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RMF16-09	87-1/8	2213	83-1/2	2121	46-5/8	1184	43	1092	17-15/16	456	31-1/2	800	4	102
RMF16-12	92-1/2	2350	88-7/8	2257	58-1/2	1486	54-7/8	1394	25-1/4	641	31-1/2	800	3-3/8	86

RMF16-09 ROOF MOUNTING FRAME WITH SRT16-09 SUPPLY AND RETURN AIR TRANSITIONS FOR FD11-95 & RTD11-95 CEILING DIFFUSERS

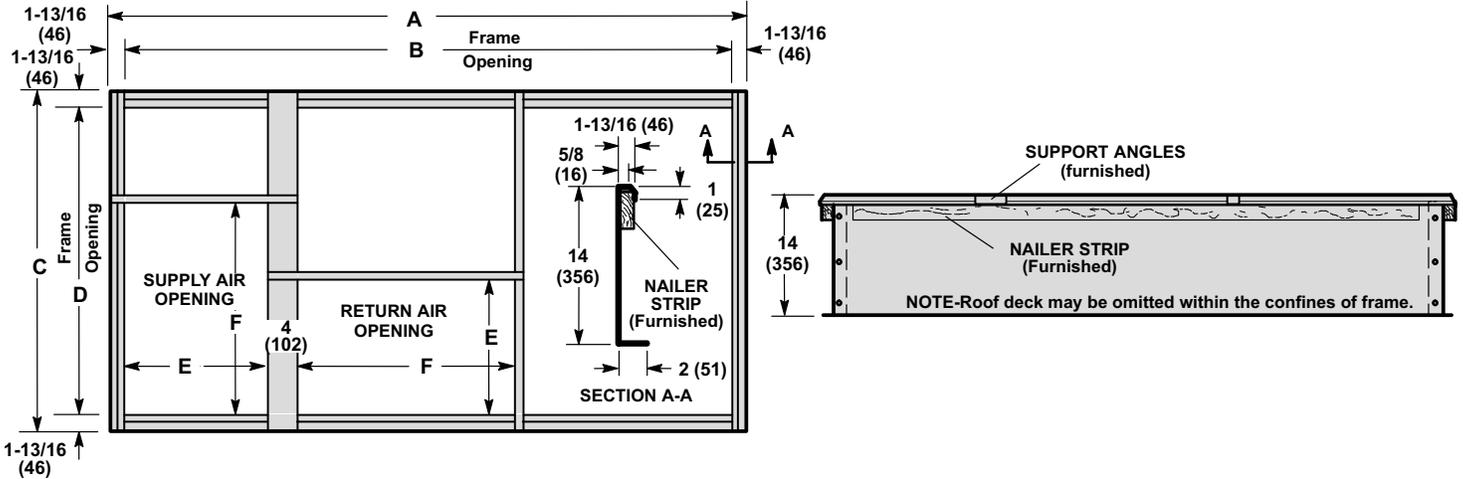


RMF16-12 ROOF MOUNTING FRAMES WITH SRT16-12 SUPPLY AND RETURN AIR TRANSITIONS FOR FD11-135 & RTD11-135 CEILING DIFFUSERS



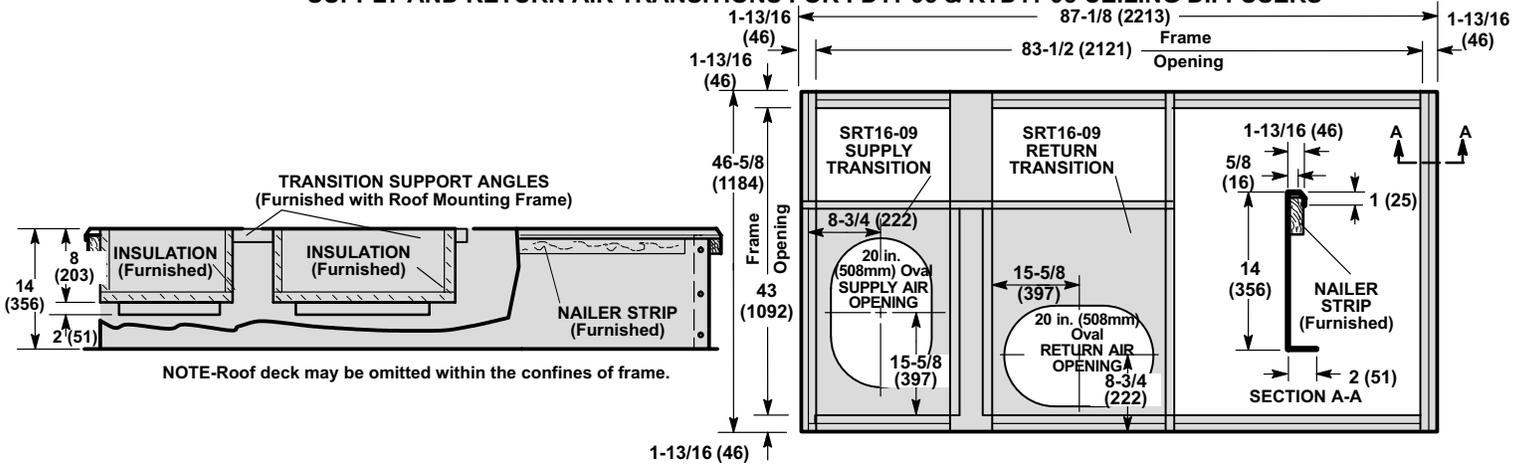
ACCESSORY DIMENSIONS - INCHES (MM) CANADA ONLY

RMF16-09 AND RMF16-12 SERIES ROOF MOUNTING FRAMES WITH DOUBLE DUCT OPENING

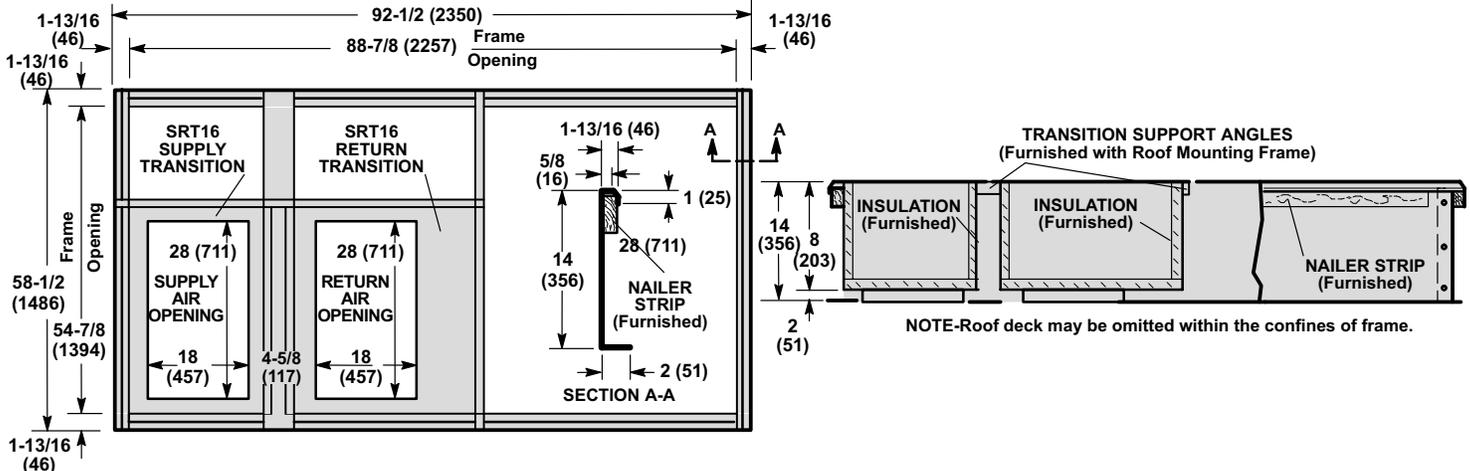


Model No.	A		B		C		D		E		F	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RMF16-09	87-1/8	2213	83-1/2	2121	46-5/8	1184	43	1092	17-15/16	456	31-1/2	800
RMF16-12	92-1/2	2350	88-7/8	2257	58-1/2	1486	54-7/8	1394	25-1/4	641	31-1/2	800

RMF16-09 ROOF MOUNTING FRAMES WITH SRT16-09 SUPPLY AND RETURN AIR TRANSITIONS FOR FD11-95 & RTD11-95 CEILING DIFFUSERS

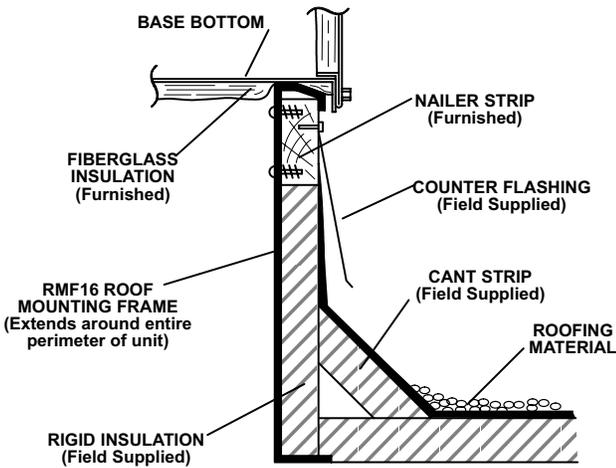


RMF16-12 ROOF MOUNTING FRAMES WITH SRT16-12 SUPPLY AND RETURN AIR TRANSITIONS FOR FD11-135 & RTD11-135 CEILING DIFFUSERS



ACCESSORY DIMENSIONS - INCHES (MM)

TYPICAL FLASHING DETAIL FOR RMF16 ROOF MOUNTING FRAME



ROOF MOUNTING FRAME SPECIFICATIONS

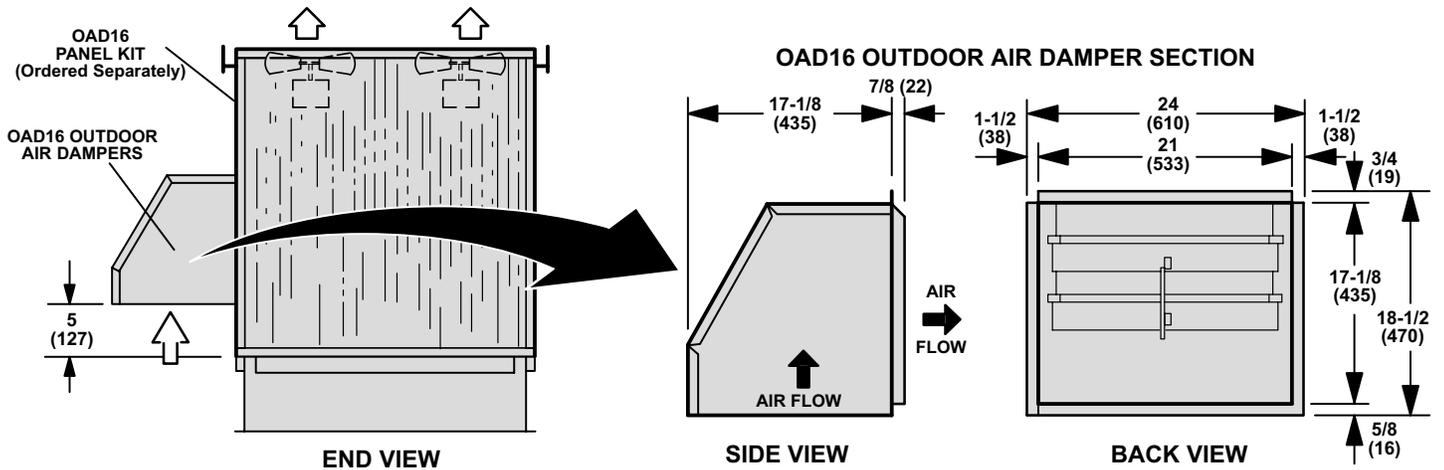
Roof Mounting frame is rigid enough to be spanned over its entire length or cantilevered if supported on both sides of center of gravity.

Roof Mounting Frames	RMF16
*Moment of inertia (I) (in. ⁴) (cm ⁴)	42 (1748)
*Section modulus $\frac{I}{C}$ (in. ³) (cm ³)	5.8 (95)
Maximum weight (lb/ft.) (kg/m) of length	5.5 (8.2)
Design strength (psi) (kPa)	20,000 (137,900)

*Includes both sides of frame.

GCS16 UNIT WITH OAD16 OUTDOOR AIR DAMPER SECTION DOWN-FLOW SUPPLY AND RETURN AIR

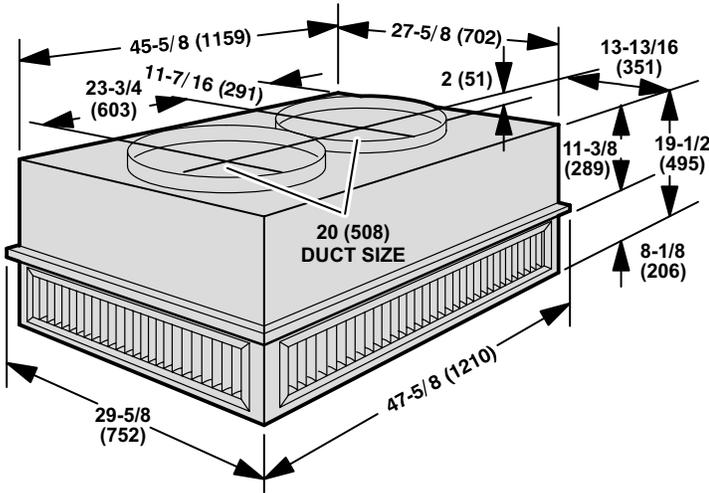
NOTE - For Horizontal (Side) Supply And Return Air, OAD16 Field Installs on Return Air Duct



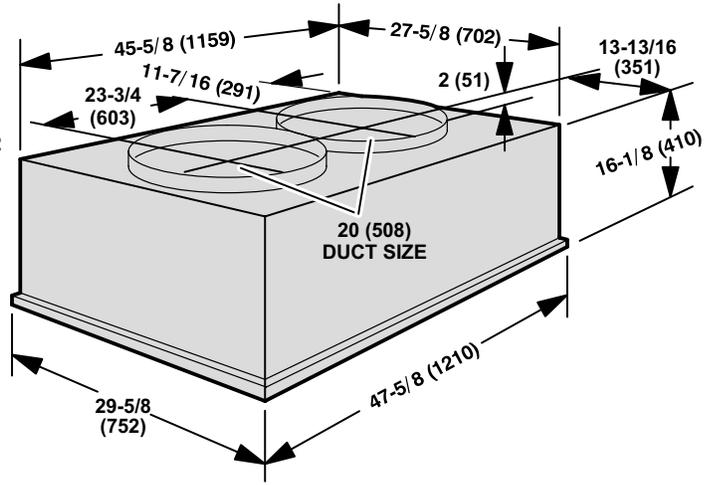
ACCESSORY DIMENSIONS - INCHES (MM)

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

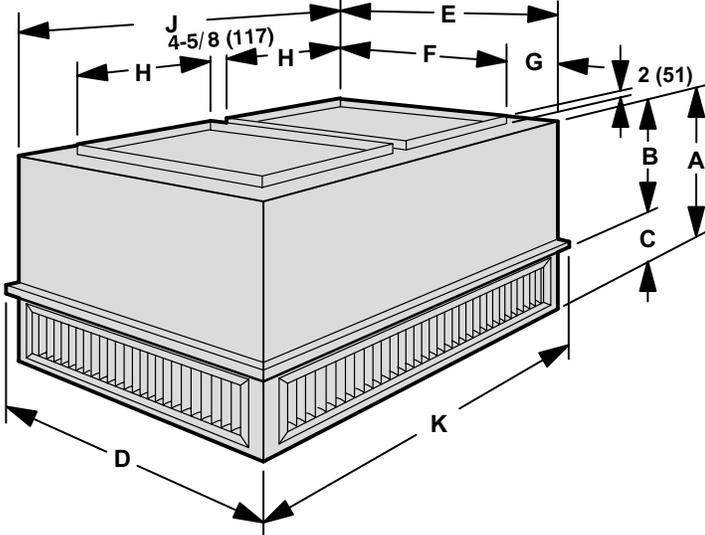
RTD11-95 STEP-DOWN CEILING DIFFUSER



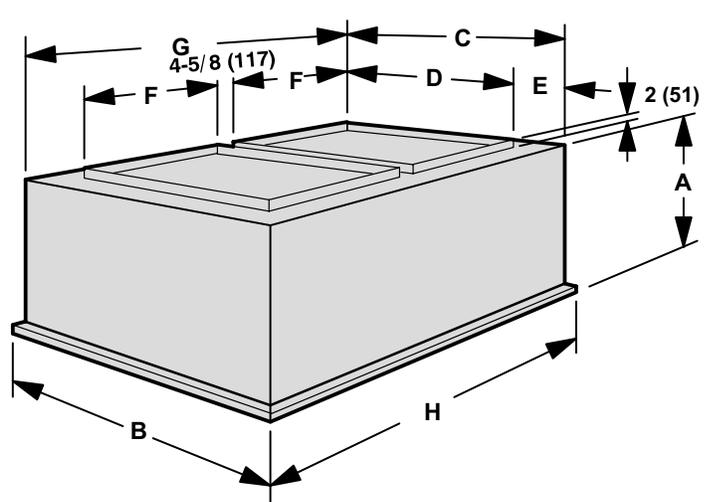
FD11-95 FLUSH CEILING DIFFUSER



RTD11-135 STEP-DOWN CEILING DIFFUSER



FD11-135 FLUSH CEILING DIFFUSER



Model Number	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
RTD11-135	28	711	18-7/8	479	9-1/8	232	35-5/8	905	33-5/8	854

Model Number	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
FD11-135	24-1/8	613	35-5/8	905	33-5/8	854	28	711

Model Number	F		G		H		J		K	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
RTD11-135	28	711	2-13/16	71	18	457	45-5/8	1159	47-5/8	1210

Model Number	E		F		G		H	
	in.	mm	in.	mm	in.	mm	in.	mm
FD11-135	2-13/16	71	18	457	45-5/8	1159	47-5/8	1210

GUIDE SPECIFICATIONS

General

- Furnish and install a single package air to air DX mechanical cooling and gas fired heating 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

- Units shall be design certified by CSA International (formerly AGA/CGA) as a combination heating/cooling unit for outdoor installation.
- Shall be rated and certified in accordance with the ULE certification program, which is based on ARI Standard 340/360-2000.
- All electrical components shall have UL and CSA Listing. All wiring shall be in compliance with NEC and CEC.

Equipment Warranty

- Heat exchanger shall have a limited warranty for a full ten years.
- Compressors shall have a limited warranty for a full five years.
- All other covered components shall 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 controls and automatic redundant dual gas valve with staging control and pressure switch (072 models) or centrifugal switch (090/120/150 models) on combustion air inducer.
- Unit shall be available for use with LPG/propane as an option.
- Complete service access shall be provided for controls and wiring.

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.
- Compressors shall be resiliently mounted and have overload protection.
- The refrigeration system shall have discharge, suction and liquid line service gauge ports, driers, freezestats, expansion valves, high pressure switches (072-090 only) 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. Optional bottom power entry shall be available.
- Shall have peep hole with cover for flame viewing of burners.
- Indoor coil condensate drain shall be provided and shall extend outside of cabinet.
- 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 have permanently lubricated ball bearings and adjustable belt drive. Motor mount base shall permit ease of motor changeover and belt tension adjustment.
- Blower wheel shall be statically and dynamically balanced.

Outdoor Coil Fan(s)

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

Air Filters

- Disposable 2 inch (51 mm) pleated MERV 7 rated filters (Minimum Efficiency Reporting Value based on ASHRAE 52.2) shall be furnished.

OPTIONAL ACCESSORIES

Bottom Power Entry Kit

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

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

- PVC (polyvinyl chloride) coil guards shall be available for field installation to protect outdoor coils from damage.

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 recirculated air dampers, outside air dampers, air filters, damper actuator and controls.
- The assembly shall provide for the introduction of outside air for minimum ventilation and free cooling.
- Low leakage dampers shall ride in nylon bearings.
- Down-flow models shall include Gravity Exhaust Dampers.
- Horizontal models shall require optional Gravity Exhaust Dampers.
- Damper actuator shall be 24 volt, fully modulating spring return.
- Controls shall include electronic discharge air sensor, minimum position switch, and solid-state adjustable enthalpy control.
- Outdoor Air Hood shall be ordered separately
- Control option shall consist of differential enthalpy control (return air sensor).

Economizer Horizontal Gravity Exhaust Dampers

- Pressure operated dampers shall install in return air duct for horizontal applications with EMDH16 horizontal economizer dampers.
- Damper blades shall ride in nylon bearings and be gasketed for tight seal and quiet operation.

Hail Guards

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

Horizontal Supply & Return Air Kit

- Optional kit shall provide necessary cabinet parts to field convert unit for side (horizontal) supply and return air duct connections.

Outdoor Air Damper Section

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

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.
- RMF16 frame shall be approved by US National Roofing Contractors Association.