

ELITE 11™

GCS20H-024-030

GCS20R-036-042-048-060

RESIDENTIAL PACKAGED GAS UNITS

23,800 to 58,000 Btuh (7.0 to 17.0 kW) Cooling Capacity

50,000 to 120,000 Btuh (14.7 to 35.2 kW) Input Heating Capacity

*ARI Standard 210/240 Ratings

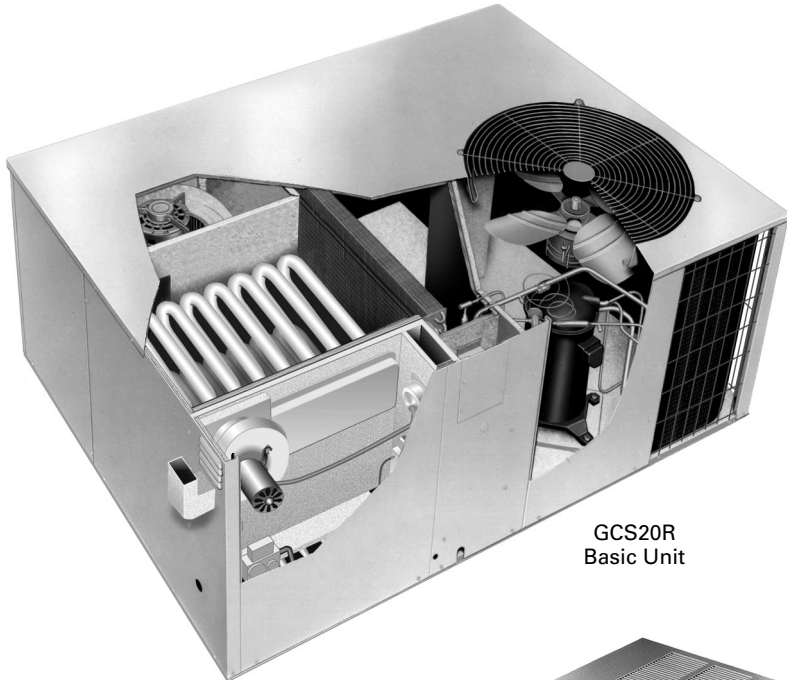
(2 to 5 Ton)

(7.0 to 17.0 kW)

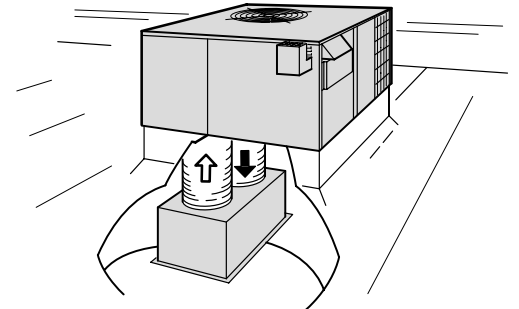
Bulletin #210178

July 1997

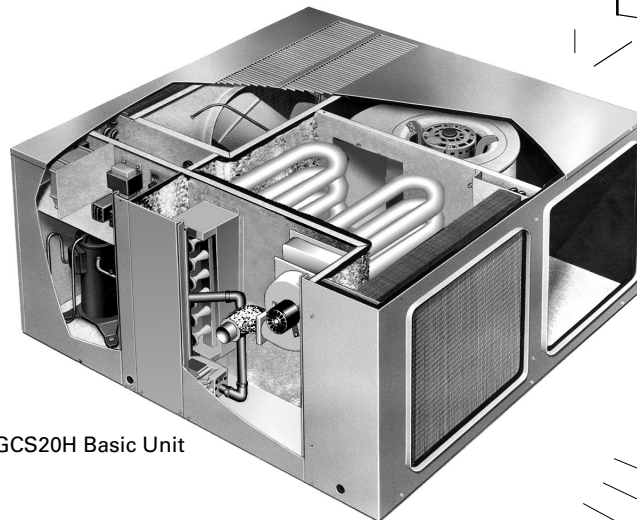
Supersedes April 1995



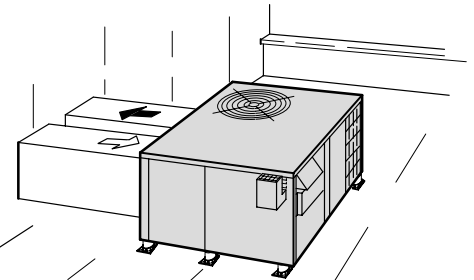
GCS20R
Basic Unit



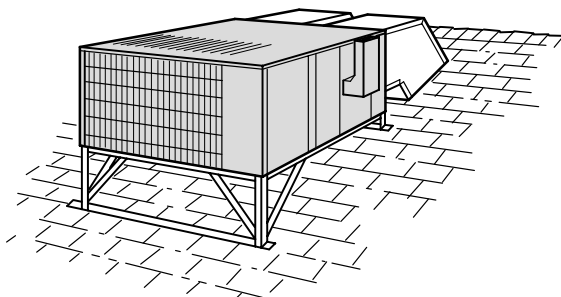
GCS20R Rooftop Installation With Combination
Supply and Return Air System



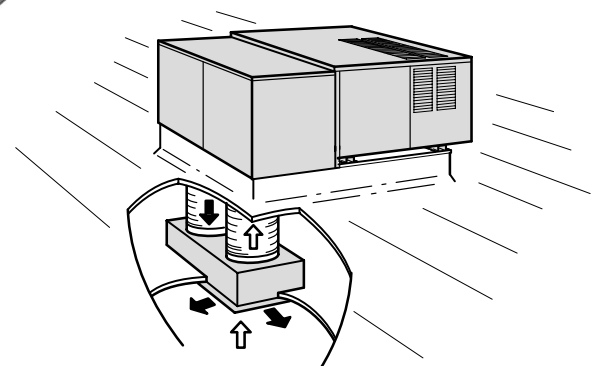
GCS20H Basic Unit



GCS20R Rooftop Installation



GCS20H Residential Rooftop Installation



GCS20H Rooftop Installation With
Combination Supply and Return Air System

FEATURES

Application – Lennox GCS20H and GCS20R DX cooled and gas fired all season units are designed for outdoor rooftop or ground level installations in residential applications. Units are capable of delivering bottom (down-flow) or side (horizontal) handling of supply and return air. GCS20H models are available in two model sizes, single phase voltage with 50,000 to 75,000 Btuh (14.7 to 22.0 kW) input heating capacity and 23,800 to 28,200 Btuh (7.0 to 8.3 kW) cooling capacity. GCS20R models are available in four model sizes, single phase voltage with 75,000 to 120,000 Btuh (22.0 to 35.2 kW) input heating capacity and 33,600 to 58,000 Btuh (9.8 to 17.0 kW) cooling capacity.

Optional accessories include: LPG/Propane conversion kits, lifting lug kit (H models only), stand-off mounting kit, down-flow filter adaptor kit (R models only), roof mounting frames, step-down or flush ceiling supply and return air diffusers and duct enclosure (H models only).

Approvals – Units are design certified by A.G.A. and C.G.A. and ratings are certified by GAMA. Heating ratings are according to D.O.E. test procedures and F.T.C. labeling regulations. Complies with ANSI safety codes. Cooling system has been rated in the Lennox environmental test room in accordance with ARI Standard 210/240-94. In addition, unit has been sound rated in the Lennox reverberant sound test room in accordance with test conditions included in ARI Standard 270-95. All models meet California Seasonal Efficiency requirements. Blower data is according to actual unit tests conducted in the Lennox air test chamber. In addition, units are test operated at the factory before shipment to ensure dependable field performance.

Equipment Warranty – Heat exchanger has a limited warranty for a full fifteen years. Compressor has a limited warranty for a full ten years. All other covered components have a limited warranty for five years. Refer to Lennox Equipment Limited Warranty furnished with the equipment for details.

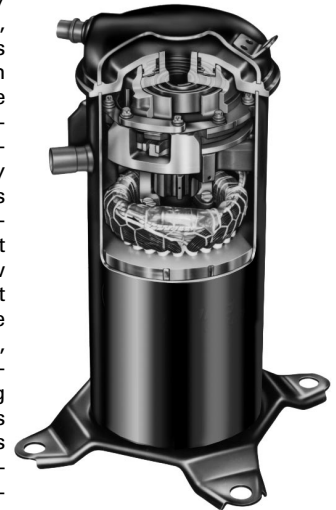
Heat Exchanger – Tubular heat exchanger is constructed of aluminumized steel for superior resistance to corrosion and oxidation. Curving design allows complete exposure of heating surfaces to supply air stream. Round surfaces create minimum air resistance and allows air to wipe all surfaces for excellent heat transfer. Internal baffles prolong flue gas passage resulting in maximum heat transfer. Compact design reduces space requirement in unit cabinet. Removable cabinet panels allow service access. Heat exchanger has been laboratory life cycle tested.

Heating System – Aluminumized 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 may be removed for service. 24 volt redundant combination control gas valve combines a manual main shut-off valve, pressure regulation and automatic electric valve (dual) into one compact control. Solid-state electronic direct spark ignition system provides positive and safe ignition. Spark is intermittent and occurs only when required. Electronic flame sensor controls assure safe and reliable operation. Should loss of flame occur, flame sensor controls will initiate 3 attempts at re-ignition. Induced draft blower purges heat exchanger and safely vents flue products. Centrifugal switch proves blower operation before allowing gas valve to open. Induced draft blower operates only during heating cycle. Flame roll-out switch protects against loss of combustion air due to flue vent or intake air blockage. Peep hole with cover is furnished in cabinet access panel for flame viewing.

Fan and Limit Controls – Factory installed and accurately located. Fan control has adjustable temperature setting. Limit control has fixed temperature setting and protects heating system from abnormal operating conditions.

Cabinet – Rugged cabinet is constructed of heavy gauge galvanized steel and completely insulated with thick fiberglass insulation. Pre-painted steel cabinets have an outside paint finish of mildly textured enamel with a primer coat on all unpainted inside surfaces. Large removable cabinet panels allow service access. Supply and return air openings have flanges for ease of duct connection. Control box with factory installed controls is conveniently located for service access. Electrical and gas line inlets are furnished for entry into the cabinet. Field installed flue outlet is constructed of durable aluminumized steel. Evaporator coil drain pan is constructed of corrosion resistant painted galvanized steel and is equipped with a galvanized pipe (mpt) drain outlet. Coil guards are furnished on all models. Lifting brackets are furnished on GCS20R models and may be ordered extra for GCS20H models.

Copeland® Compliant Scroll™ Compressor – High efficiency compressor features durability, steady uniform suction flow, constant discharge flow, high volumetric efficiency, quiet operation and the ability to start under any system load. Use of the scroll compressor eliminates the need for start capacitor and start relay. The compliant scroll type compressor is a simple compression concept design consisting of two involute spiral scrolls matched together to generate a series of crescent-shaped gas pockets between them. During compression, one scroll is stationary while the other is allowed to orbit, not rotate, around the fixed one. As this motion occurs, gas is drawn into the outer pocket sealing off the open passage. As the spiral movement continues, the pockets between the scrolls are slowly pushed to the center of the scrolls while simultaneously being reduced in volume. When the pocket reaches the center, the gas is now at high pressure and is forced out of a port located in the center of the fixed scroll. During compression, several pockets are being compressed simultaneously resulting in a smooth, nearly continuous compression cycle. Continuous flank contact, maintained by centrifugal force, minimizes gas leakage and maximizes efficiency. The scroll compressor is tolerant to the effects of liquid slugging and contaminants. Should this occur, the scrolls separate and allow the liquid or contaminants to be worked to the center and discharged. Low gas pulses during compression minimize operational sound level. Motor is internally protected from excessive current and temperature. Compressor is installed in the unit on resilient rubber mounts, assuring vibration free operation.



Refrigeration System – Complete factory sealed refrigeration system consists of: compressor, condenser coil and fan, evaporator coil and blower, expansion valve, liquid line strainer, suction and liquid line service gauge ports and full operating charge of refrigerant.

Condenser Fan – Direct drive fan draws air through the condenser coil and discharges it vertically, up and away from the building. Fan orifice design and low fan tip speed keeps operating sound level at a minimum. Uniform air movement through the coil results in high refrigerant cooling capacity. Permanently lubricated, inherently protected, PSC motor is totally enclosed for maximum protection from rain, dust and corrosion. All models are equipped with a corrosion resistant PVC coated steel wire fan guard.

Copper Tube/Enhanced Fin Evaporator and Condenser Coils – Extra large surface area and circuiting of Lennox designed coils provide maximum cooling efficiency, excellent heat transfer and low air resistance. Coils are constructed of precisely spaced ripple-edged aluminum fins fitted to durable copper tubes. Fins are equipped with collars that grip tubing for maximum contact area. Lanced fins provide maximum exposure of fin surface to air stream. Flared shoulder tubing connections and silver soldering provide tight, leakproof joints. Long life copper tubing is easy to field service. Coil is thoroughly factory tested under high pressure to insure leakproof construction. Evaporator coils feature rifled copper tubing for superior refrigerant flow resulting in maximum heat transfer.

Blower – Units are equipped with direct drive centrifugal blower precisely matched to the unit for maximum efficiency and minimum noise level. Blower is statically and dynamically balanced as an assembly before being installed in the unit. Multiple speed permanent split capacitor (PSC) motor is resiliently mounted. A choice of blower speeds is available, see blower performance tables. Change in blower speed is easily accomplished by a simple field change in wiring.

Air Filters (Not Furnished) – Filters for basic unit only applications must be provided by the installer for installation in the return air system exterior to the unit cabinet. Optional DF16 Down-Flow Filter Adapter Kit is available for GCS20R models.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Thermostat (Optional) – Thermostat is not furnished. See Thermostat bulletin in Thermostat and Controls section and Lennox Price Book.

LPG/Propane Conversion Kits – For LPG/Propane field models a conversion kit is required for field changeover from natural gas.

Timed-Off Control (Optional) – Timed-off control LB-50709BA (32F21) is available for field installation. Prevents compressor short-cycling and also 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 shut off and start-up.

Low Ambient Kit (Optional) – Units will operate satisfactorily in the cooling mode down to 55°F (13°C) outdoor air temperature without any additional controls. For cases where operation of the unit in the cooling mode is required at low ambients, a Low Ambient Control Kit LB-57113BC (24H77) can be added in the field, enabling it to operate properly down to 32°F (0°C).

Unit Stand-Off Mounting Kit (Optional) – Field installed kit (38H18) elevates horizontal application units above the mounting surface away from damaging moisture. Includes six high impact polystyrene stand-off mounts. Stand-offs are easily attached to unit and mounting surface. See dimension drawings.

RMF16 Roof Mounting Frame (Optional) – Roof mounting frame mates to the unit and provides a weather sealed rooftop installation. Shipped knocked down for ease of shipping and handling, it is easily field assembled. A wood nailer strip is secured to the frame sides to facilitate flashing. Design is approved by the National Roofing Contractor's Association. When RMF16 frame is used with GCS20H models, RDE16 Duct Enclosure is required. RMF16-41 may be used with all sizes of GCS20R models with slight unit overhang on the -042, -048 and -060 models. RMF16-65 frame exactly matches the GCS20R-042, -048 and -060 models.

Roof Curb Power Entry Kit (Optional) – Field installed kit is available for power entry to the unit through the roof mounting frame. Kit contains 40-inch (1016 mm) length of armored conduit and necessary installing hardware. Knockouts in side of roof mounting frame are provided for ease of installation. See dimension drawing. Two kits are required, one for low voltage and one for high voltage. Kit must be ordered extra. Order kit no. (18H70) 1/2 inch (13 mm).

RTD9-65 Combination Ceiling Supply and Return Diffuser (Optional) – RTD9-65 step-down mount diffuser extends slightly below ceiling level when installed and discharges conditioned air out through grilles on all four sides. Aluminum grilles are fitted with double deflection louvers for precise directional control of air flow. Return air enters through the large center grille. Assembly also includes insulated diffuser box with connection collars for round duct connection, hanging rings for suspending and molded fiberglass interior transition to insure low static and even air flow on all four sides. Transition is sealed internally to prevent recirculation. Diffuser assembly is completely factory assembled. Diffuser readily adapts to T-bar ceiling grids and plaster ceilings.

FD9-65 Combination Ceiling Supply and Return Diffuser (Optional) – FD9-65 flush mount diffuser installs almost flush with the ceiling level and discharges conditioned air out through fixed blade louvers on all four sides. Fixed blade louvers insure that air flow will be evenly distributed. Return air enters through large center grille. Assembly also includes insulated diffuser box with connection collars for round duct connection, support hanger eyelets at the top corners for secure installation and molded fiberglass interior transition to insure low static and even air flow on all four sides. Transition is sealed internally to prevent recirculation. Diffuser assembly is completely factory assembled. Diffuser readily adapts to T-bar ceiling grids and plaster ceilings.

SRTH16 and SRT16 Supply and Return Transitions (Optional) – Transitions field install in the roof mounting frame and provide segregated and simple duct connections to supply and return diffuser. Completely insulated galvanized steel transitions have collars for round duct connection. Round duct from the transitions to the diffuser is not furnished and must be provided by the installer. Transitions are completely factory assembled and easily field install in the roof mounting frame with minimum costs and labor requirement.

OPTIONAL ACCESSORIES – H Models Only

Lifting Lug Kit (Optional for GCS20H Models Only) – Field installed kit LB-62125DB (44H92) facilitates handling and rigging of units. Reusable heavy gauge steel lifting lugs (4) are easily and quickly secured to unit by means of a sliding steel pin. See dimension drawings for locations.

RDE16-41 Duct Enclosure (Optional for GCS20H Models Only) – The duct enclosure mounts to the GCS20H unit and the RMF16-41 roof mount frame. Included with the duct enclosure is a unit mounting platform that mounts on top of the roof frame. Heavy gauge steel platform has support rails that elevate unit off the mounting surface. Duct enclosure is completely insulated with thick fiberglass insulation, has a baked-on enamel paint finish and is shipped factory assembled. Supply and return air openings are located in the bottom of the enclosure. Minimum outdoor air damper allows a fixed amount (0–25%) of outdoor air into the system. A one-inch (25 mm) thick frame type disposable filter is furnished in the enclosure. Filter rack will accept up to two inch (51 mm) thick filter. Access panel allows easy access to air filter.

OPTIONAL ACCESSORIES – R Models Only

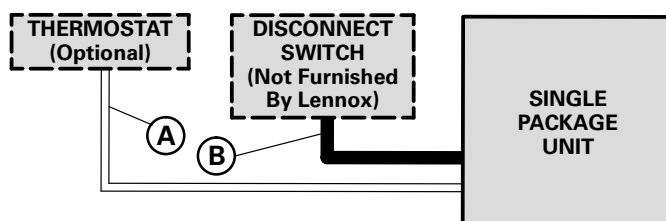
DF16 Down-Flow Filter Adaptor Kit (Optional for GCS20R Models Only) – Heavy gauge steel filter rails field install on down-flow return air opening. One-inch (25 mm) thick polyurethane cleanable frame type filter is furnished as standard. Filter rails are designed to accept up to two-inch (51 mm) thick filter. See Air Resistance table, page 11 for resistance data of two-inch (51 mm) pleated non-woven cotton fabric or two-inch (51 mm) fiberglass media filter. Filter access is accomplished by removing unit blower access panel. See Optional Accessories table for filter size.

HIGH ALTITUDE INFORMATION

No gas pressure adjustment is needed when operating from 0 to 7500 ft. (0 to 2248 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	7.5 in. w.g. (1.86 kPa)

FIELD WIRING



- 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 –

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

SPECIFICATIONS – GCS20H-024-030 and GCS20R-036-042

Model No.		GCS20H-024-50	GCS20H-030-75	GCS20R-036-90	GCS20R-042-75	GCS20R-042-120
Heating Capacity	Input – Btuh (kW)	50,000 (14.7)	75,000 (22.0)	90,000 (26.4)	75,000 (22.0)	120,000 (35.2)
	Output – Btuh (kW)	40,000 (11.7)	60,000 (17.6)	72,000 (21.1)	60,000 (17.6)	96,000 (28.1)
☆A.F.U.E.		80.0%				
California Seasonal Efficiency		76.0%		76.5%	76.0%	75.0%
*Sound Rating Number (db)		78		80	78	82
★ARI Standard 210/240 Ratings	Total cooling capacity – Btuh (kW)	23,800 (7.0)	28,200 (8.3)	33,600 (9.8)	41,000 (12.0)	
	Total unit watts	2430	2980	3500	4165	
	SEER (Btuh/Watts)	11.00			11.30	
	EER (Btuh/Watts)	9.80	9.50	9.60	9.8	
Refrigerant (HCFC-22) furnished		3 lbs. 1 oz. (1.36 kg)	3 lbs. 0 oz. (1.33 kg)	4 lbs. 6 oz. (3.02 kg)	5 lbs. 2 oz. (2.32 kg)	
Evaporator Blower	Blower wheel nom. diameter x width – in. (mm)	9 x 8 (229 x 203)		10 x 8 (254 X 203)	11-1/2 x 9 (292 x 228)	
	Motor horsepower (W)	1/3 (249)		1/2 (373)	3/4 (560)	
Evaporator Coil	Net face area – sq. ft (m ²)	2.3 (.21)	3.2 (.30)	4.1 (0.38)	5.3 (0.49)	
	Tube diameter – in. (mm) & Number of rows	3/8 (9.5) – 2				
	Fins per inch	15 (591)				
Condenser Coil	Net face area sq. ft (m ²)	Outer Coil	4.6 (.43)	8.7 (0.81)	14.3 (1.33)	
		Inner Coil	-----	8.4 (0.78)	5.9 (0.55)	
	Tube diameter – in. (mm) & Number of rows	3/8 (9.5) – 2			3/8 (9.5) – 1.4	
	Fins per inch	20 (787)				
Condenser Fan	Diameter – in. (mm) & No. of blades	20 (508) – 4			24 (610) – 4	
	Motor horsepower (W)	1/4 (187)		1/6 (124)	1/4 (187)	
	Watts	320		240	340	
	Air volume – cfm (L/s)	1900 (895)		2200 (1040)	3880 (1830)	
Gas Supply Connections fpt – in. (mm)		1/2 (12.7)				
Recommended Gas Supply Pressure wg. in. (kPa)	Natural	7 (1.7)				
	LPG/Propane	11 (2.7)				
Condensate drain size mpt – in. (mm)		3/4 (19)				
Net weight of basic unit – lbs. (kg)		346 (157)	345 (156)	406 (184)	545 (247)	545 (247)
Shipping weight of basic unit – lbs. (kg)		406 (184)	405 (184)	472 (214)	665 (302)	665 (302)
Electrical characteristics		208/230v – 60 hertz – 1 phase				
↕ Optional Accessories (Must Be Ordered Extra) ↕						
LPG/Propane Conversion Kit		92K00			91K99	
Down-flow Filter Adapter Kit – Number and size of polyurethane filters – in. (mm) furnished		-----	DF16-41 (1) 16 x 25 x 1 (406 x 635 x 25)	DF16-65 (1) 20 x 25 x 1 (508 x 635 x 25)		
Timed-Off Control		LB-50709BA (32F21)				
Stand-off Mounting Kit		(38H18) contains six stand-offs				
Lifting Lug Kit (LB-62125DB)		44H92			Furnished	
Roof Mounting Frame – Shipping Weight lbs. (kg)		RMF16-41 – 77 (35)			RMF16-41 (75 lbs.) (34 kg) or RMF16-65 (86 lbs.) (39 kg)	
Duct Enclosure – Shipping Weight lbs. (kg) Number and size of filters – in. (mm) fiberglass		RDE16-41 – 176 (80) (1) 20 x 20 x 1 (508 x 508 x 25)			-----	
Low Ambient Control Kit (LB-57113BC)		24H77				
Roof Curb Power Entry Kit (1/2 inch conduit)		18H70				
Ceiling Supply and Return Air Diffusers Net Weight	Step-Down	RTD9-65 – 72 lbs. (33 kg)				
	Flush	FD9-65 – 42 lbs. (19 kg)				
	Transition	SRTH16-65 – 20 lbs (9 kg)		SRT16-65 – 20 lbs (9 kg)		

*Sound Rating Number in accordance with test conditions included in ARI Standard 270.
 ★Rated in accordance with ARI Standard 210/240 and DOE; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.
 ☆Annual Fuel Utilization Efficiency based on DOE test procedures and FTC labeling regulations.

SPECIFICATIONS – GCS20R-048-060

Model No.		GCS20R-048-75	GCS20R-048-120	GCS20R-060-75	GCS20R-060-120
Heating Capacity	Input – Btuh (kW)	75,000 (22.0)	120,000 (35.2)	75,000 (22.0)	120,000 (35.2)
	Output – Btuh (kW)	60,000 (17.6)	96,000 (28.1)	60,000 (17.6)	96,000 (28.1)
★A.F.U.E.		80.0%			
California Seasonal Efficiency		76.0%	75.0%	76.0%	75.0%
*Sound Rating Number (dbs)		82			
★ARI Standard 210/240 Ratings	Total Cooling Capacity – Btuh (kW)	48,000 (14.1)		58,000 (17.0)	
	Total Unit Watts	4775		5985	
	SEER (Btuh/Watts)	11.30		11.00	
	EER (Btuh/Watts)	10.1		9.7	
Refrigerant Charge (HCFC-22)		7 lbs. 3 oz. (3.26 kg)		7 lbs. 5 oz. (3.32 kg)	
Evaporator Blower	Blower wheel nom. diameter x width – in. (mm)	11-1/2 x 9 (292 x 228)			
	Motor output – hp (W)	3/4 (560)			
Evaporator Coil	Net face area – sq. ft. (m ²)	5.3 (0.49)		6.2 (0.58)	
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 2			
	Fins per inch (m)	15 (590)			
Condenser Coil	Net face area sq. ft. (m ²)	Outer Coil	14.3 (1.32)		
		Inner Coil	13.7 (1.27)		
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 1.4		3/8 (9.5) – 2	
	Fins per inch (m)	20 (787)			
Condenser Fan	Diameter – in. (mm) & No. of blades	24 (610) – 4			
	Motor output – hp (W)	1/4 (124)		1/4 (187)	
	Motor watts	340		360	
	Air volume – cfm (L/s)	3880 (1830)		3770 (1780)	
Gas Supply Connections fpt – in. (mm)		1/2 (13)			
Recommended Gas Supply Pressure – wc. in. (kPa)	Natural	7 (1.7)			
	LPG/Propane	11 (2.7)			
Condensate drain size mpt – in. (mm)		3/4 (19)			
Net weight of basic unit – lbs. (kg) (1 Package)		560 (254)	600 (272)	565 (256)	595 (270)
Shipping weight of basic unit – lbs. (kg) (1 Package)		645 (293)	685 (311)	655 (297)	685 (311)
Electrical characteristics		208/230v – 60 hertz – 1 phase			
Optional Accessories – Must Be Ordered Extra					
LPG/Propane Conversion Kit		92K00	91K99	92K00	91K99
Down-flow Filter Adapter Kit Number and size of filters – in. (mm) furnished		DF16-65 – (1) 20 x 25 x 1 (508 x 635 x 25) (polyurethane)			
Timed-Off Control		LB-50709BA (32F21)			
Stand-Off Mounting Kit		38H18 contains six standoffs			
Roof Mounting Frame (Net Weight)		RMF16-41 (75 lbs.) (34 kg) or RMF16-65 (86 lbs.) (39 kg)			
Low Ambient Kit		LB-57113BC (24H77)			
Roof Curb Power Entry Kit (conduit size) – in. (mm)		18H70 – 1/2 (13)			
Ceiling Supply and Return Air Diffusers (Net Weight)	Step-down	RTD9-65 (67 lbs.) (30 kg)			
	Flush	FD9-65 (37 lbs.) (17 kg)			
	Transition	SRT16-65 (20 lbs.) (9 kg)			

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

*Sound Rating Number in accordance with ARI Standard 270.

★Rated in accordance with ARI Standard 210/240 and DOE; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19.5°C) wb entering evaporator air.

ELECTRICAL DATA

Model No.		GCS20H-024	GCS20H-030	GCS20R-036	GCS20R-042	GCS20R-048	GCS20R-060
Line voltage data (60 Hz — 1 phase)		208/230v					
Compressor	Rated load amps	12.2	13.5	16.1	18	23.7	28.8
	Locked rotor amps	61	72.5	88	104	129	169
Condenser Fan Motor	Full load amps	1.4		1.1		2.0	
	Locked rotor amps	2.9		1.9		4.4	
Evaporator Blower motor	Full load amps	2.2		3.9		4.6	
	Locked rotor amps	4.6		8.3		10.0	
Induced Draft Blower Motor	Full load amps (total)	.75		.6			
►Recommended maximum fuse size (amps)		25	30	40	50		70
†Minimum Circuit Ampacity		18	21	26	32	37	43
Unit Power Factor		.96	.95	.92	.89		.96

►Where current does not exceed 100 amps, HACR circuit breaker may be used in place of fuse (U.S. only).

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

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

RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section.

GCS20H-024 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																							
			85°F (29°C)					95°F (35°C)					105°F (41°C)					115°F (46°C)								
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	330	700	6.9	23,500	1600	.74	.87	1.00	6.7	22,700	1790	.75	.89	1.00	6.4	21,900	1980	.76	.90	1.00	6.2	21,000	2360	.77	.92	1.00
	380	800	7.1	24,200	1610	.77	.91	1.00	6.8	23,300	1800	.78	.92	1.00	6.6	22,500	1990	.79	.94	1.00	6.3	21,600	2400	.80	.96	1.00
	425	900	7.2	24,700	1620	.79	.94	1.00	7.0	23,900	1800	.80	.95	1.00	6.8	23,100	2000	.81	.97	1.00	6.5	22,100	2420	.83	.99	1.00
67°F (19.4°C)	330	700	7.2	24,600	1620	.59	.72	.84	7.0	23,800	1800	.59	.73	.85	6.7	23,000	2000	.60	.74	.87	6.5	22,100	2430	.61	.75	.88
	380	800	7.4	25,400	1620	.60	.74	.87	7.2	24,500	1810	.61	.75	.89	6.9	23,600	2010	.62	.76	.90	6.7	22,700	2460	.63	.78	.92
	425	900	7.6	26,000	1630	.62	.76	.90	7.4	25,100	1820	.63	.78	.92	7.1	24,200	2010	.63	.79	.94	6.8	23,200	2490	.64	.81	.96
71°F (21.7°C)	330	700	7.5	25,700	1630	.45	.57	.69	7.3	24,900	1820	.45	.58	.70	7.0	24,000	2010	.45	.59	.71	6.8	23,100	2490	.45	.59	.72
	380	800	7.8	26,500	1640	.45	.59	.72	7.5	25,600	1830	.45	.59	.73	7.2	24,700	2020	.46	.60	.74	6.9	23,700	2530	.46	.61	.75
	425	900	8.0	27,200	1650	.46	.60	.74	7.7	26,200	1840	.46	.61	.75	7.4	25,300	2030	.47	.62	.76	7.1	24,300	2560	.48	.63	.78

NOTE — All values are gross capacities and do not include evaporator coil blower motor heat deduction.

GCS20H-030 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																							
			85°F (29°C)					95°F (35°C)					105°F (41°C)					115°F (46°C)								
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb						Dry Bulb		
L/s	cfm	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh	75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	415	875	8.4	28,700	2090	.74	.90	1.00	8.1	27,600	2340	.76	.92	1.00	7.8	26,500	2660	.77	.94	1.00	7.4	25,300	3050	.78	.96	1.00
	470	1000	8.7	29,600	2110	.78	.94	1.00	8.3	28,400	2360	.79	.96	1.00	8.0	27,200	2680	.81	1.00	1.00	7.6	25,900	3070	.82	1.00	1.00
	530	1125	8.9	30,400	2120	.82	.98	1.00	8.5	28,900	2370	.82	.99	1.00	8.1	27,700	2690	.84	1.00	1.00	7.7	26,400	3090	.86	1.00	1.00
67°F (19.4°C)	415	875	8.8	30,100	2110	.59	.73	.87	8.5	29,000	2370	.59	.75	.89	8.1	27,800	2690	.60	.76	.90	7.8	26,600	3100	.61	.78	.92
	470	1000	9.1	30,900	2130	.61	.76	.91	8.7	29,800	2390	.61	.78	.93	8.4	28,600	2710	.62	.79	.95	8.0	27,300	3130	.63	.81	.96
	530	1125	9.3	31,700	2140	.63	.79	.95	8.9	30,500	2410	.63	.80	.97	8.5	29,100	2730	.64	.82	.99	8.2	27,900	3150	.65	.84	1.00
71°F (21.7°C)	415	875	9.2	31,300	2140	.44	.58	.73	8.9	30,200	2400	.44	.59	.74	8.5	29,100	2730	.45	.60	.75	8.2	27,900	3150	.45	.61	.77
	470	1000	9.4	32,200	2150	.45	.60	.76	9.1	31,100	2420	.45	.61	.77	8.7	29,800	2750	.45	.62	.79	8.4	28,500	3170	.46	.63	.80
	530	1125	9.7	33,000	2170	.46	.62	.79	9.3	31,800	2430	.46	.63	.80	8.9	30,500	2770	.46	.64	.82	8.5	29,100	3190	.47	.65	.83

NOTE — All values are gross capacities and do not include evaporator coil blower motor heat deduction.

BLOWER DATA

GCS20H-024-50 BLOWER PERFORMANCE @ 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1285	605	1065	500	935	440	770	365
.05	12	1255	590	1045	495	925	435	765	360
.10	25	1220	575	1025	485	915	430	760	360
.15	37	1190	560	1005	475	900	425	750	355
.20	50	1155	545	985	465	885	420	740	350
.25	62	1120	530	965	455	870	410	730	345
.30	75	1090	515	940	445	850	400	715	330
.40	100	1015	480	895	420	795	375	675	320
.50	125	940	445	835	395	715	340	620	295
.60	150	850	400	765	360	575	270	530	250
.70	175	775	365	670	315	505	240	-----	-----
.75	185	735	345	625	295	445	210	-----	-----

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

GCS20H-030-75 BLOWER PERFORMANCE @ 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1365	645	1055	500	885	420	735	345
.05	12	1335	630	1035	490	875	415	725	340
.10	25	1305	615	1015	480	860	405	710	335
.15	37	1275	600	995	470	845	400	695	330
.20	50	1245	590	975	460	830	390	680	320
.25	62	1215	575	955	450	815	385	665	315
.30	75	1185	560	930	440	795	375	650	305
.40	100	1115	525	880	415	750	355	610	290
.50	125	1035	490	815	385	695	330	555	260
.60	150	990	465	730	345	615	290	480	225
.70	175	840	395	650	305	-----	-----	-----	-----
.75	185	790	375	605	285	-----	-----	-----	-----

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

GCS20R-036-90 BLOWER PERFORMANCE @ 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1700	800	1580	745	1430	675	1315	620
.05	12	1665	785	1550	730	1420	670	1300	615
.10	25	1635	770	1520	715	1405	665	1285	605
.15	37	1600	755	1490	705	1390	655	1270	600
.20	50	1570	740	1460	690	1370	645	1250	590
.25	62	1540	725	1430	675	1345	635	1230	580
.30	75	1505	710	1400	660	1315	620	1215	575
.40	100	1430	675	1340	630	1260	595	1165	550
.50	125	1370	645	1280	605	1200	565	1110	525
.60	150	1300	615	1215	675	1130	535	1030	485
.70	175	1235	585	1150	545	1045	495	970	460
.75	185	1200	565	1115	525	1000	470	930	440

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

GCS20R-036-90 BLOWER PERFORMANCE @ 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1740	820	1585	750	1500	710	1370	645
.05	12	1710	805	1565	740	1475	695	1350	635
.10	25	1675	790	1545	730	1450	685	1330	630
.15	37	1645	775	1525	720	1425	670	1310	620
.20	50	1615	760	1490	705	1400	660	1290	610
.25	62	1580	745	1465	690	1375	650	1265	595
.30	75	1550	730	1440	680	1345	635	1240	585
.40	100	1485	700	1380	650	1290	610	1190	560
.50	125	1420	470	1320	620	1230	580	1135	535
.60	150	1350	635	1260	595	1165	550	1075	510
.70	175	1255	590	1165	550	1105	520	1015	480
.75	185	1220	575	1125	530	1070	505	980	460

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

BLOWER DATA

GCS20R-042/048-75 BLOWER PERFORMANCE @ 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2765	1305	2475	1170	2225	1050	1945	920	1670	790
.05	12	2735	1290	2450	1155	2205	1040	1930	910	1655	780
.10	25	2705	1275	2430	1145	2190	1035	1915	905	1640	775
.15	37	2670	1260	2405	1135	2170	1025	1900	895	1620	765
.20	50	2635	1245	2380	1125	2145	1010	1880	890	1605	760
.25	62	2600	1225	2355	1110	2125	1000	1860	880	1585	750
.30	75	2530	1195	2300	1085	2075	980	1820	860	1540	725
.40	100	2455	1160	2240	1055	2025	955	1775	840	1495	705
.50	125	2380	1125	2180	1030	1970	930	1725	815	1445	680
.60	150	2300	1085	2110	995	1910	900	1670	790	1385	655
.70	175	2260	1065	2075	980	1875	885	1640	775	1355	640
.75	185	2220	1050	2040	965	1840	870	1605	755	1325	625

NOTE — All air data is measured external to the unit with dry coil and without air filter.

NOTE — For 208v unit operation, derate air volume by 7%.

GCS20R-042/048-75 BLOWER PERFORMANCE @ 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2800	1320	2495	1175	2240	1055	1955	925	1680	795
.05	12	2765	1305	2475	1170	2225	1050	1945	920	1670	790
.10	25	2735	1290	2450	1155	2205	1040	1930	910	1655	780
.15	37	2705	1275	2430	1145	2190	1035	1915	905	1640	775
.20	50	2670	1260	2405	1135	2170	1025	1900	895	1620	765
.25	62	2635	1245	2380	1125	2145	1010	1880	890	1605	760
.30	75	2600	1225	2355	1110	2125	1005	1860	880	1585	750
.40	100	2530	1195	2300	1085	2075	980	1820	860	1540	725
.50	125	2455	1160	2240	1055	2025	955	1775	840	1495	705
.60	150	2380	1125	2180	1030	1970	930	1725	815	1445	680
.70	175	2300	1085	2110	995	1910	900	1670	790	1385	655
.75	185	2260	1065	2075	980	1875	885	1640	775	1355	640

NOTE — All air data is measured external to the unit with dry coil and without air filter.

NOTE — For 208v unit operation, derate air volume by 7%.

GCS20R-042-048-120 BLOWER PERFORMANCE @ 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2775	1310	2505	1180	2270	1070	1970	930	1710	805
.05	12	2725	1285	2465	1165	2240	1055	1950	920	1685	795
.10	25	2675	1260	2430	1145	2210	1045	1925	910	1665	785
.15	37	2630	1240	2395	1130	2180	1030	1905	900	1645	775
.20	50	2580	1215	2360	1115	2150	1015	1885	890	1620	765
.25	62	2540	1200	2320	1095	2120	1000	1860	880	1595	755
.30	75	2490	1175	2285	1080	2100	990	1840	870	1570	740
.40	100	2400	1130	2220	1050	2040	965	1795	845	1515	715
.50	125	2300	1085	2145	1010	1980	935	1740	820	1450	685
.60	150	2200	1040	2070	975	1910	900	1680	795	1365	645
.70	175	2130	1005	2000	945	1865	880	1620	765	1305	615
.75	185	2090	985	1965	925	1840	870	1590	750	1260	595

NOTE — All air data is measured external to the unit with dry coil and without air filter.

NOTE — For 208v unit operation, derate air volume by 7%.

GCS20R-042-048-120 BLOWER PERFORMANCE @ 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2700	1275	2470	1165	2235	1055	1900	895	1650	780
.05	12	2675	1265	2450	1155	2225	1050	1890	890	1640	775
.10	25	2650	1250	2425	1145	2210	1045	1880	890	1630	770
.15	37	2625	1240	2405	1135	2200	1040	1870	880	1620	765
.20	50	2595	1225	2380	1125	2185	1030	1855	875	1610	760
.25	62	2570	1215	2360	1115	2165	1020	1840	870	1600	755
.30	75	2535	1195	2335	1100	2150	1015	1830	865	1585	750
.40	100	2480	1170	2280	1075	2110	995	1795	850	1550	730
.50	125	2410	1135	2220	1050	2085	985	1750	825	1510	710
.60	150	2340	1105	2160	1020	2000	945	1680	880	1455	685
.70	175	2255	1065	2080	980	1965	930	1640	775	1410	665
.75	185	2215	1045	2045	965	1940	915	1610	760	1385	655

NOTE — All air data is measured external to the unit with dry coil and without air filter.

NOTE — For 208v unit operation, derate air volume by 7%.

BLOWER DATA

GCS20R-060-75 BLOWER PERFORMANCE @ 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2785	1315	2530	1195	2270	1070	1980	935	1715	810
.05	12	2755	1300	2510	1185	2255	1065	1965	925	1700	800
.10	25	2725	1285	2485	1175	2240	1055	1950	920	1690	800
.15	37	2695	1270	2455	1160	2220	1050	1935	915	1680	795
.20	50	2670	1260	2430	1145	2200	1040	1920	905	1670	790
.25	62	2640	1245	2400	1135	2180	1030	1905	900	1655	780
.30	75	2610	1230	2375	1120	2160	1020	1895	895	1645	775
.40	100	2550	1205	2320	1095	2120	1000	1865	880	1615	760
.50	125	2485	1175	2265	1170	2075	980	1825	860	1580	745
.60	150	2415	1140	2200	1040	2025	955	1780	840	1540	725
.70	175	2345	1105	2165	1020	1965	925	1765	835	1450	685
.75	185	2310	1090	2140	1010	1935	915	1745	825	1450	685

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

GCS20R-060-75 BLOWER PERFORMANCE @ 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2760	1300	2515	1185	2220	1050	1945	920	1680	795
.05	12	2740	1295	2500	1180	2210	1045	1935	915	1670	790
.10	25	2720	1285	2485	1175	2200	1040	1930	910	1660	785
.15	37	2700	1275	2465	1165	2190	1035	1920	905	1650	780
.20	50	2680	1265	2450	1155	2175	1025	1910	900	1635	770
.25	62	2660	1255	2430	1145	2160	1020	1900	895	1620	765
.30	75	2630	1240	2410	1135	2150	1015	1885	890	1600	755
.40	100	2570	1215	2360	1115	2115	1000	1860	880	1570	740
.50	125	2490	1175	2300	1085	2075	980	1820	860	1525	720
.60	150	2375	1120	2225	1050	2020	955	1770	835	1470	695
.70	175	2310	1090	2170	1025	1970	930	1730	815	1435	675
.75	185	2260	1065	2135	1010	1945	920	1710	805	1410	665

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

GCS20R-060-120 BLOWER PERFORMANCE @ 230 VOLTS (With Down-Flow Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2740	1295	2520	1190	2270	1070	2025	955	1710	805
.05	12	2715	1280	2495	1180	2250	1060	2005	945	1690	800
.10	25	2685	1265	2470	1165	2230	1055	1980	935	1670	790
.15	37	2655	1255	2445	1155	2210	1045	1960	925	1650	780
.20	50	2630	1240	2420	1140	2190	1035	1935	915	1635	770
.25	62	2600	1225	2395	1130	2170	1025	1910	900	1615	760
.30	75	2570	1215	2370	1120	2150	1015	1885	890	1595	755
.40	100	2510	1185	2320	1095	2100	990	1835	865	1550	730
.50	125	2450	1155	2255	1065	2080	980	1780	840	1500	710
.60	150	2375	1120	2185	1030	1995	940	1755	830	1440	680
.70	175	2305	1090	2120	1000	1935	915	1695	800	1390	655
.75	185	2265	1070	2080	980	1900	895	1675	790	1355	640

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

GCS20R-060-120 BLOWER PERFORMANCE @ 230 VOLTS (With Horizontal Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		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
0	0	2760	1300	2545	1200	2295	1085	2015	950	1680	795
.05	12	2745	1295	2530	1195	2280	1075	2005	945	1675	790
.10	25	2730	1290	2510	1185	2265	1070	1995	940	1670	790
.15	37	2710	1280	2495	1180	2250	1060	1985	935	1665	785
.20	50	2695	1270	2480	1170	2235	1055	1970	930	1665	785
.25	62	2675	1265	2460	1160	2220	1050	1955	925	1645	775
.30	75	2650	1250	2440	1150	2200	1040	1930	910	1635	770
.40	100	2600	1225	2395	1130	2160	1020	1875	885	1605	755
.50	125	2540	1200	2340	1105	2110	995	1805	850	1555	735
.60	150	2480	1170	2265	1070	2025	955	1725	815	1475	695
.70	175	2395	1130	2200	1040	1985	935	1630	770	1450	685
.75	185	2340	1105	2160	1020	1950	920	1575	745	1425	670

NOTE - All air data is measured external to the unit with dry coil and without air filter.

NOTE - For 208v unit operation, derate air volume by 7%.

ACCESSORY BLOWER DATA

FILTER AND ACCESSORY AIR RESISTANCE

Unit Model No.	Air Volume		Total Air Resistance – inches water gauge (Pa)			
			DF16 Down-Flow Filter Adaptor Kit			RDE16-41 Duct Enclosure
	cfm	L/s	With Furnished 1 in. (25mm) Filter	With Optional Pleated 2 in.(51mm) Filter	With Optional Fiberglass 2 in. (51mm) Filter	
GCS20H-024 GCS20H-030	800	380	-----	-----	-----	.11 (27)
	1000	470	-----	-----	-----	.19 (47)
	1200	565	-----	-----	-----	.22 (55)
GCS20R-036	800	380	.15 (37)	.27 (67)	.13 (32)	-----
	1000	470	.18 (45)	.34 (85)	.18 (45)	-----
	1200	565	.21 (52)	.42 (104)	.24 (60)	-----
	1400	660	.25 (62)	.51 (127)	.31 (77)	-----
GCS20R-042 GCS20R-048 GCS20R-060	1400	660	.13 (32)	.29 (72)	.17 (42)	-----
	1600	755	.15 (37)	.35 (87)	.22 (55)	-----
	1800	850	.17 (42)	.42 (104)	.27 (67)	-----
	2000	945	.20 (50)	.49 (122)	.32 (80)	-----
	2200	1040	.23 (57)	.57 (142)	.37 (92)	-----

† Air resistance with air filter in place.

DIFFUSER AIR RESISTANCE

Unit Model No.	Air Volume		Total Air Resistance – inches water gauge (Pa)			
			RTD9-65 Diffuser			FD9-65 Diffuser
	cfm	L/s	2 Ends Open	1 Side 2 Ends Open	All Ends & Sides Open	
GCS20H-024 GCS20H-030	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)
GCS20R-036	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)
GCS20R-042 GCS20R-048 GCS20R-060	1400	660	.33 (82)	.25 (62)	.19 (47)	.19 (47)
	1600	755	.43 (107)	.32 (80)	.24 (60)	.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)

WET INDOOR COIL AIR RESISTANCE

Model No.	Air Volume		Air Resistance	
	cfm	L/s	in. w.g.	Pa
GCS20H-024 GCS20H-030	800	380	.08	20
	1000	470	.09	22
	1200	565	.10	25
GCS20R-036	800	380	.07	17
	1000	470	.08	20
	1200	565	.09	22
GCS20R-042 GCS20R-048	1400	660	.12	30
	1600	755	.13	32
	1800	850	.14	35
	2000	945	.15	37
	2200	1040	.16	40
GCS20R-060	1600	755	.11	27
	1800	850	.12	30
	2000	945	.13	32
	2200	1040	.14	35

FD9-65 FLUSH CEILING DIFFUSER AIR THROW DATA

Air Volume		† Effective Throw – ft. (m)
cfm	L/s	
600	285	7 (2.0)
800	380	8 (2.5)
1000	470	8 (2.5)
1200	565	9 (2.5)
1400	660	9 (2.5)
1600	755	10 (3.0)
1800	850	11 (3.5)
2000	945	12 (3.5)
2200	1040	12 (3.5)
2400	1135	13 (4.0)

† Effective throw is determined at a point where conditioned air velocity has decreased to 50 ft. (15m) per minute.

ACCESSORY BLOWER DATA

RTD9-65 STEP-DOWN CEILING DIFFUSER AIR THROW DATA

Grille Vanes	Air Volume		Effective Throw – ft. (m)		
	cfm	L/s	Horizontal Vanes 180° Straight	Horizontal Vanes 22° Down	Horizontal Vanes 45° Down
2 Ends Open	600	285	21 (6.5)	20 (6.0)	14 (4.5)
	800	380	22 (6.5)	21 (6.5)	15 (4.5)
	1000	470	24 (7.5)	22 (6.5)	16 (5.0)
	1200	565	25 (7.5)	23 (7.0)	17 (5.0)
	1400	660	27 (8.0)	25 (7.5)	18 (5.5)
	1600	755	29 (9.0)	26 (8.0)	19 (6.0)
	1800	850	31 (9.5)	27 (8.0)	20 (6.0)
	2000	945	33 (10.0)	28 (8.5)	21 (6.5)
	2200	1040	35 (10.5)	30 (9.0)	22 (6.5)
	2400	1135	38 (11.5)	34 (10.5)	23 (7.0)
1 Side 2 Ends Open	600	285	15 (4.5)	14 (4.5)	8 (2.5)
	800	380	16 (5.0)	15 (4.5)	9 (2.5)
	1000	470	17 (5.0)	16 (5.0)	10 (3.0)
	1200	565	18 (5.5)	17 (5.0)	11 (3.5)
	1400	660	19 (6.0)	18 (5.5)	12 (3.5)

Effective throw is determined at a point where conditioned air velocity has decreased to 50 ft (15m). per minute.

Grille Vanes	Air Volume		Effective Throw – ft. (m)		
	cfm	L/s	Horizontal Vanes 180° Straight	Horizontal Vanes 22° Down	Horizontal Vanes 45° Down
1 Side 2 Ends Open	1600	755	20 (6.0)	18 (5.5)	12 (3.5)
	1800	850	21 (6.5)	19 (6.0)	13 (4.0)
	2000	945	23 (7.0)	20 (6.0)	14 (4.5)
	2200	1040	25 (7.5)	22 (6.5)	16 (5.0)
	2400	1135	27 (8.0)	24 (7.5)	17 (5.0)
All Sides And Ends Open	600	285	11 (3.5)	10 (3.0)	7 (2.0)
	800	380	12 (3.5)	11 (3.5)	8 (2.5)
	1000	470	13 (4.0)	12 (3.5)	8 (2.5)
	1200	565	14 (4.5)	13 (4.0)	9 (2.5)
	1400	660	15 (4.5)	14 (4.5)	9 (2.5)
	1600	755	16 (5.0)	14 (4.5)	10 (3.0)
	1800	850	17 (5.0)	15 (4.5)	10 (3.0)
	2000	945	18 (5.5)	16 (5.0)	11 (3.5)
	2200	1040	19 (6.0)	17 (5.0)	12 (3.5)
	2400	1135	20 (6.0)	18 (5.5)	12 (3.5)

Effective throw is determined at a point where conditioned air velocity has decreased to 50 ft (15m). per minute.

DIMENSIONS – inches (mm)

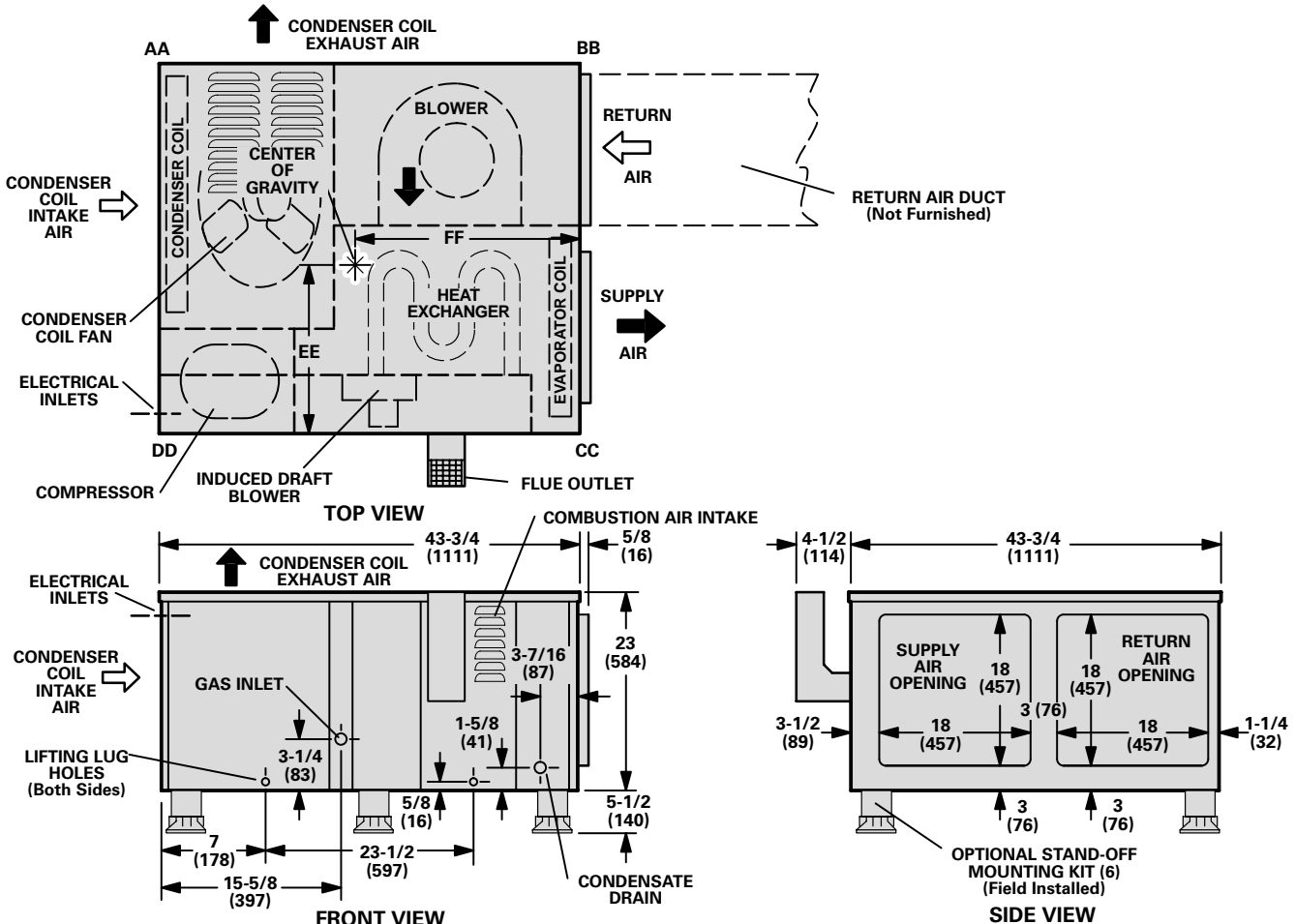
GCS20H-024 AND GCS20H-030 BASIC UNIT

CORNER WEIGHTS – lbs. (kg)

Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS20H-024	70	32	56	25	78	35	98	44
GCS20H-030								

CENTER OF GRAVITY – inches (mm)

Model Number	EE		FF	
	inch	mm	inch	mm
GCS20H-024	18-1/4	464	24-1/2	622
GCS20H-030				



ACCESSORY DIMENSIONS – inches (mm)

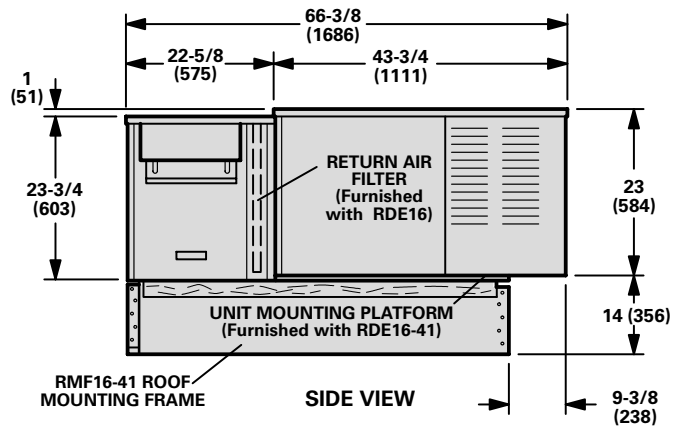
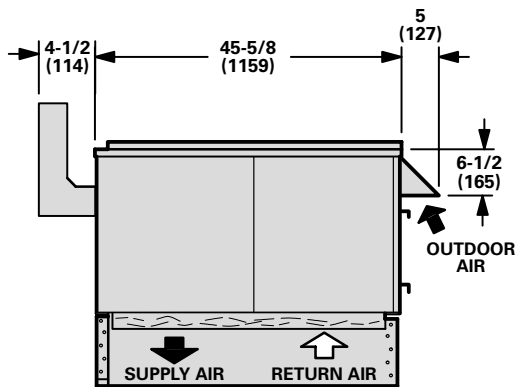
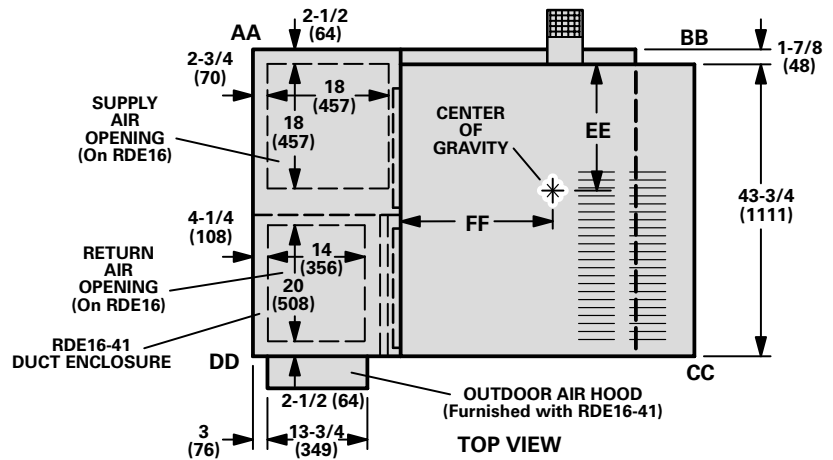
GCS20H-024 & 030 WITH RDE16-41 DUCT ENCLOSURE AND RMF16-41 ROOF MOUNTING FRAME

CORNER WEIGHTS – lbs. (kg)

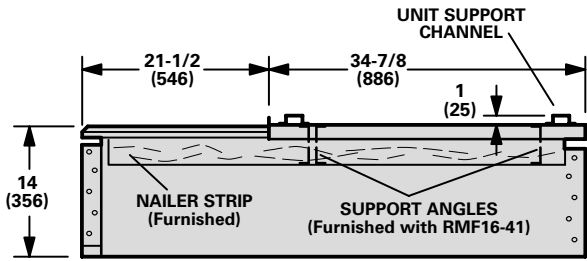
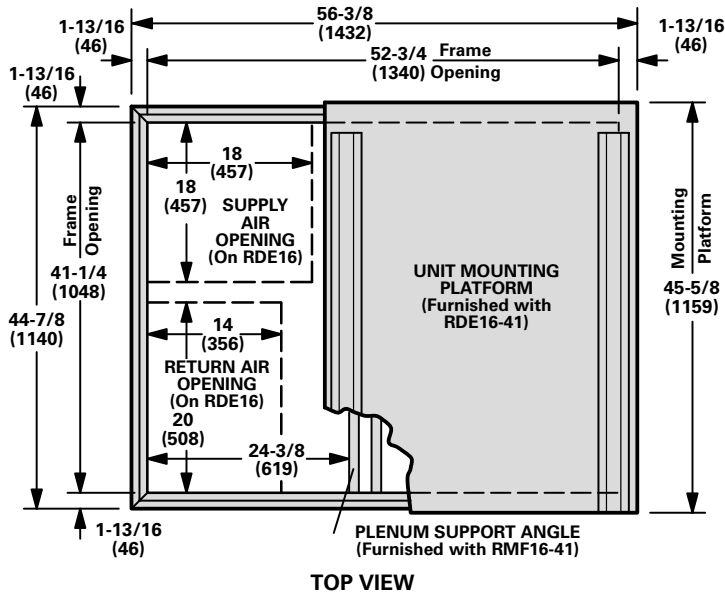
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS20H-024	108	49	156	71	119	54	82	37
GCS20H-030								

CENTER OF GRAVITY – inches (mm)

Model Number	EE		FF	
	inch	mm	inch	mm
GCS20H-024	18-13/16	478	16-5/8	422
GCS20H-030				

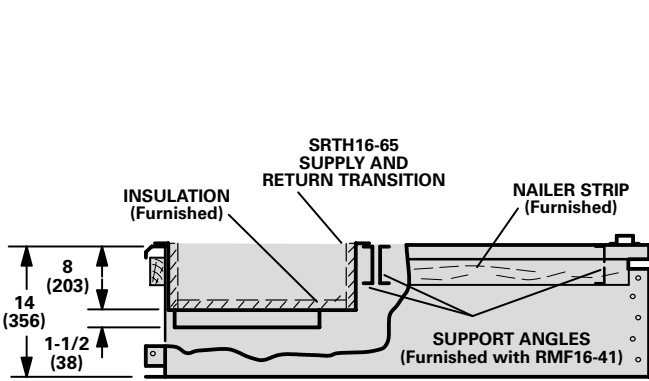


RMF16-41 ROOF MOUNTING FRAME FOR GCS20H WITH RDE16-41 DUCT ENCLOSURE

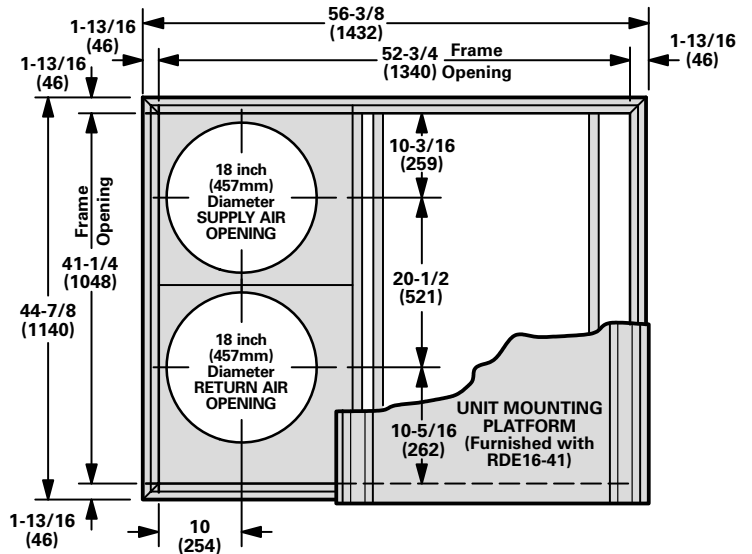


NOTE – Roof deck may be omitted within confines of frame.

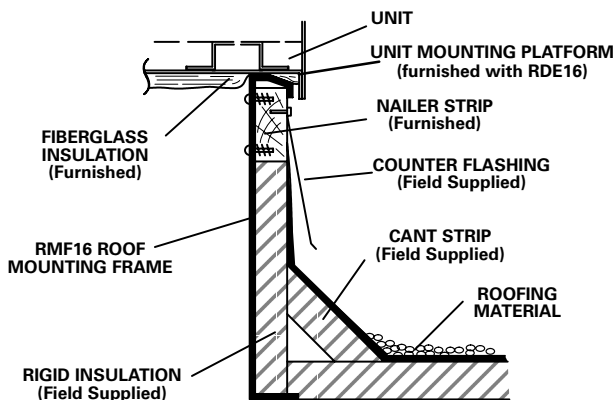
RMF16-41 ROOF MOUNTING FRAME FOR GCS20H UNITS WITH SRTH16-65 SUPPLY AND RETURN AIR TRANSITIONS FOR FD9-65 AND RTD9-65 CEILING DIFFUSERS



NOTE – Roof deck may be omitted within confines of frame.



TYPICAL FLASHING FOR RMF16-41 ROOF MOUNTING FRAMES WITH GCS20H UNITS



DIMENSIONS – inches (mm)

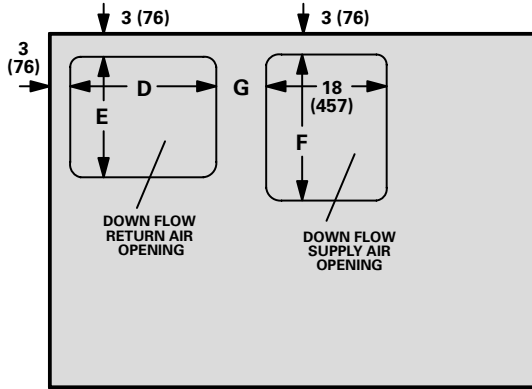
GCS20R BASIC UNIT

CORNER WEIGHTS – lbs. (kg)

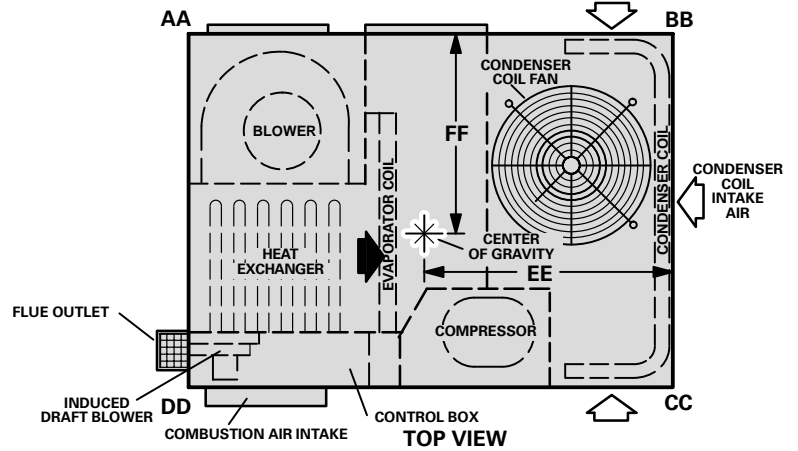
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS20R-036	107	49	119	54	89	40	81	37
GCS20R-042	127	58	110	50	126	57	141	64
GCS20R-048	141	64	164	74	120	54	103	47
GCS20R-060	151	68	166	75	132	60	119	54

CENTER OF GRAVITY – inches (mm)

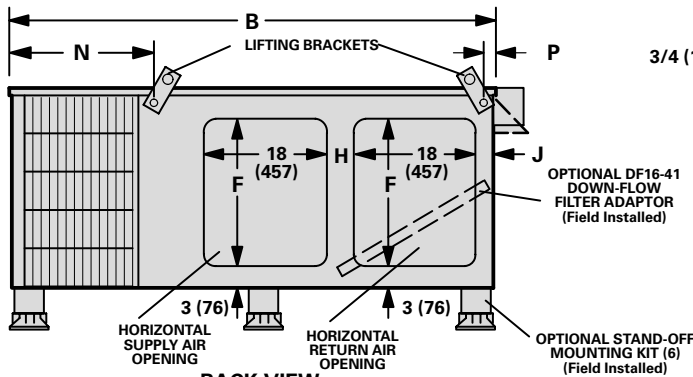
Model Number	EE		FF	
	inch	mm	inch	mm
GCS20R-036	28	711	17-1/2	445
GCS20R-042	39-7/8	1013	30-1/2	775
GCS20R-048	39-7/8	1013	30-1/2	775
GCS20R-060	38-1/2	978	31-3/4	806



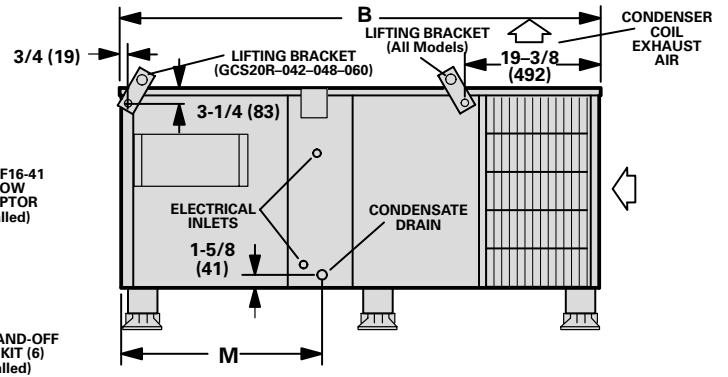
TOP VIEW BASE SECTION



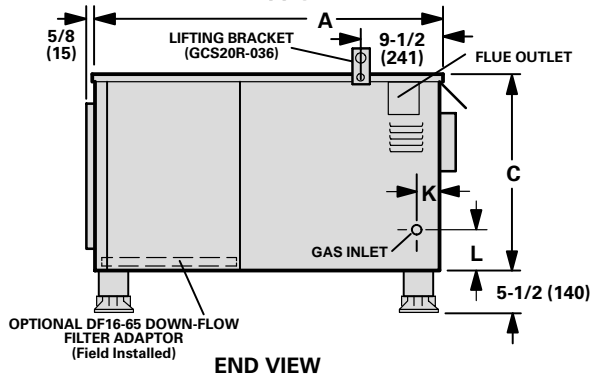
TOP VIEW



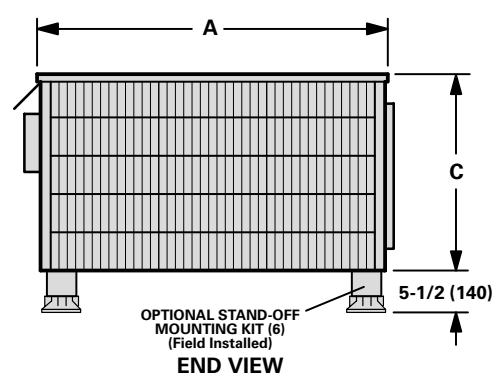
**BACK VIEW
(With Horizontal Supply & Return Air)**



FRONT VIEW



END VIEW



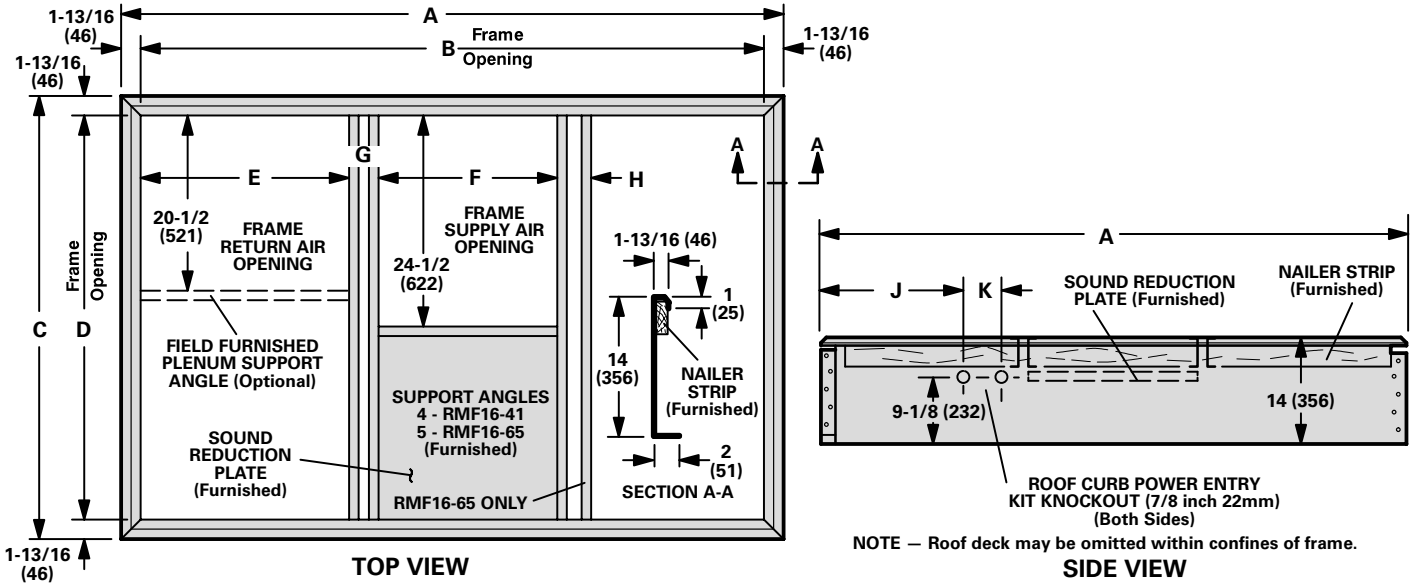
END VIEW

Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
GCS20R-036	46	1168	60	1524	23	584	18	457	13	330	13	330	10	254
GCS20R-042 GCS20R-048-060	52	1321	72-1/2	1842	29	737	22	559	18	457	22	737	7-1/2	191

Model No.	H		J		K		L		M		N		P	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
GCS20R-036	3	76	4	102	3-1/8	79	4-1/8	105	26-3/4	679	16-5/8	422	4	102
GCS20R-042 GCS20R-048-060	5	127	3	76	4-1/8	105	8-1/8	206	28	711	19-3/8	492	3/4	19

ACCESSORY DIMENSIONS – inches (mm)

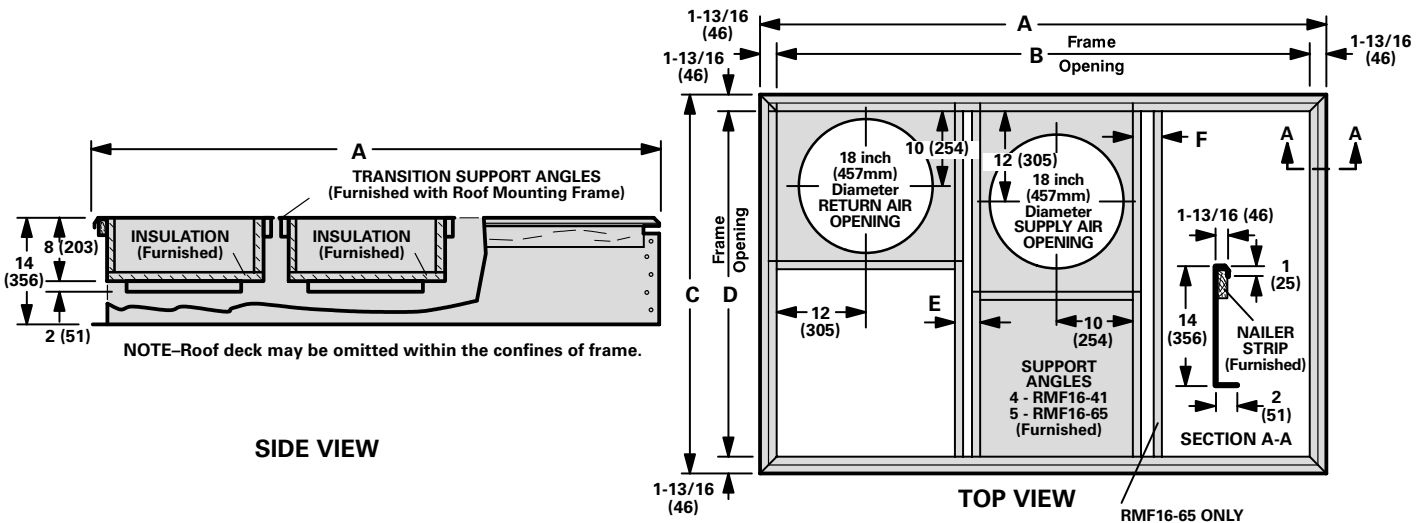
RMF16-41 & 65 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING FOR GCS20R UNITS



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
RMF16-41	56-3/8	1432	52-3/4	1340	44-7/8	1140	41-1/4	1048	24-3/8	619	20-9/16	522	1/4	102	----	----	22-3/16	564	4-1/2	114
RMF16-65	69	1753	65-3/8	1661	50-1/2	1283	46-7/8	1191	24-1/4	616	20-1/2	521	4	102	4	102	27	686	5	127

□ 3-1/4 inches (83 mm) for GCS20R-036.

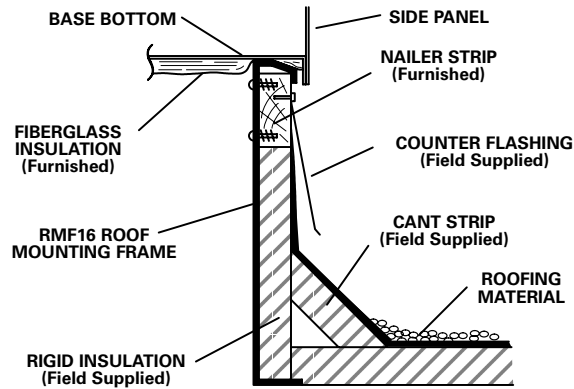
RMF16-41 & 65 ROOF MOUNTING FRAME FOR GCS20R UNITS WITH SRT16-65 SUPPLY AND RETURN AIR TRANSITIONS FOR FD9-65 & RTD9-65 CEILING DIFFUSERS



Model No.	A		B		C		D		E		F	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RMF16-41 with SRT16-65	56-3/8	1432	52-3/4	1340	44-7/8	1140	41-1/4	1048	1/4	102	----	----
RMF16-65 with SRT16-65	69	1753	65-3/8	1661	50-1/2	1283	46-7/8	1191	4	102	4	102

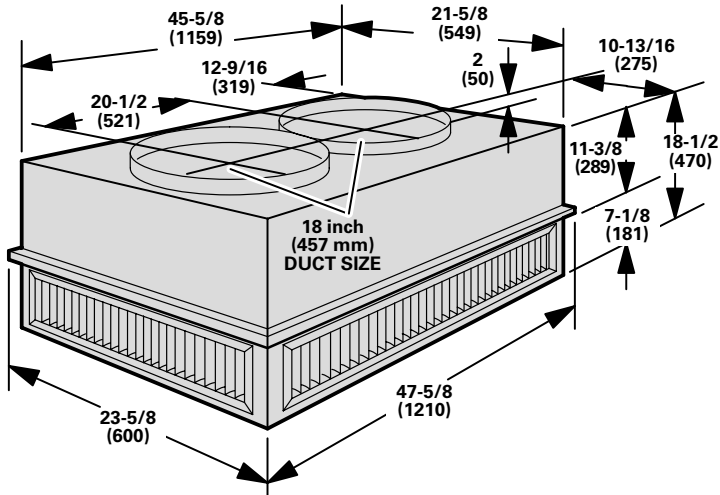
□ 3-1/4 inches (83 mm) for GCS20R-036 model.

TYPICAL FLASHING DETAIL FOR RMF16 ROOF MOUNTING FRAME

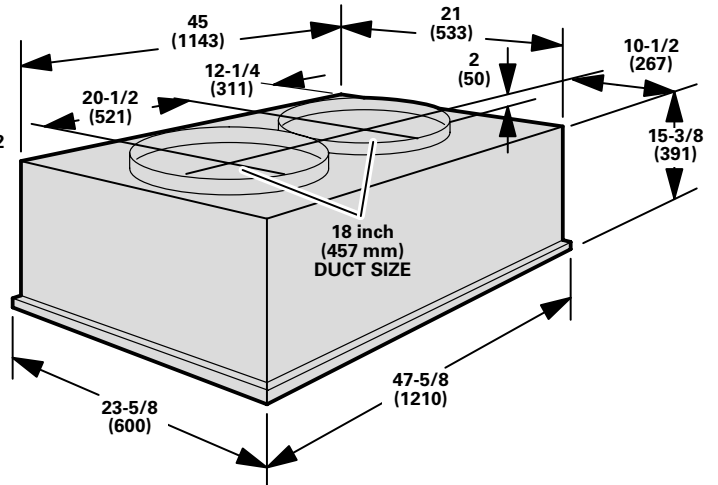


COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

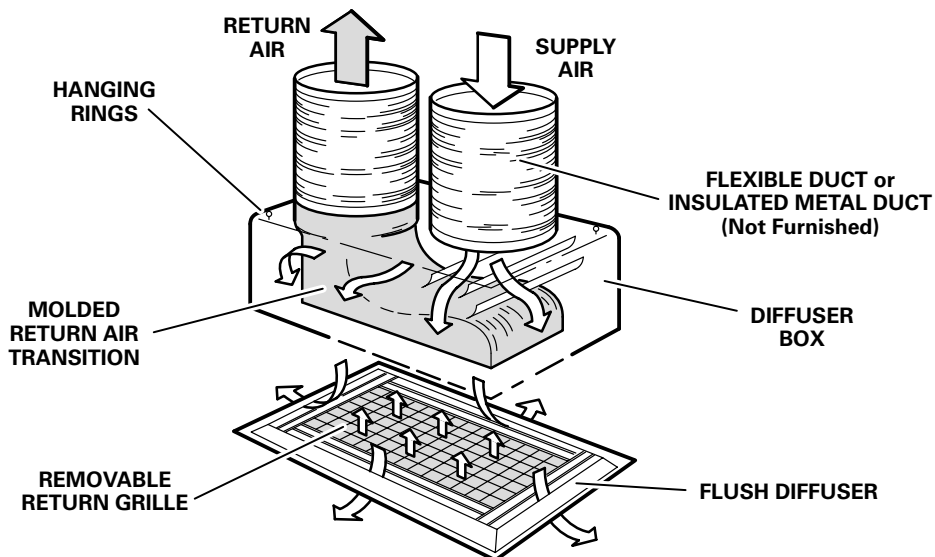
RTD9-65 STEP-DOWN CEILING DIFFUSER



FD9-65 FLUSH CEILING DIFFUSER

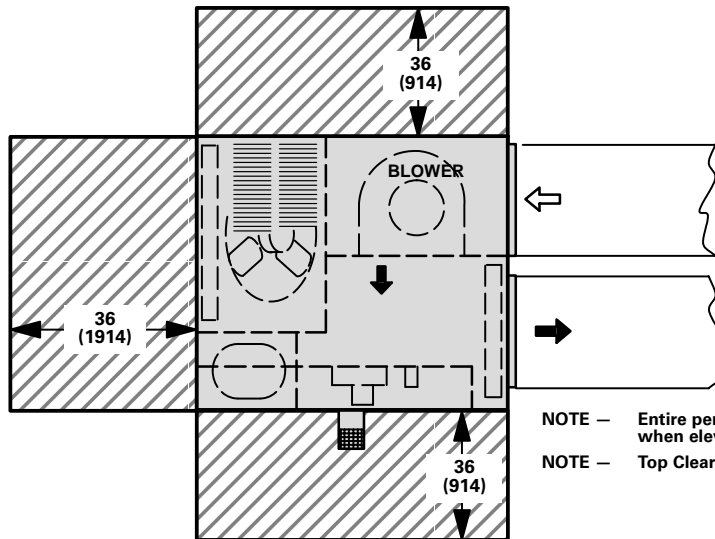


DIFFUSER AIR PATTERN



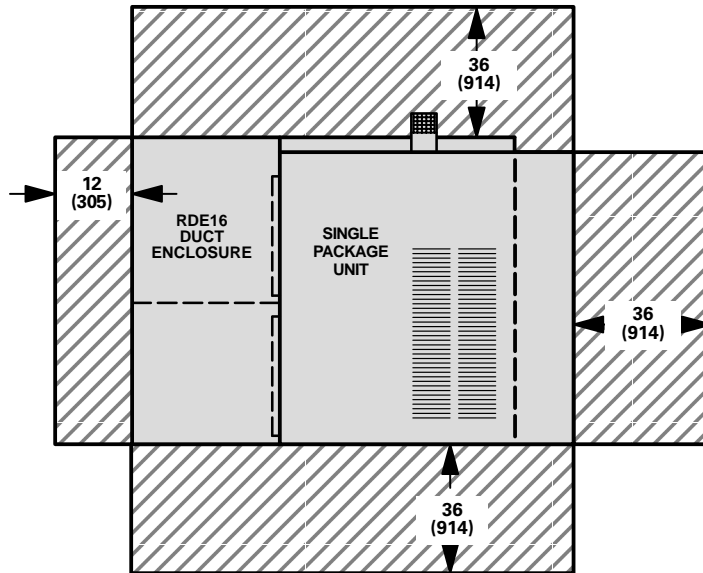
INSTALLATION CLEARANCES – inches (mm)

GCS20H BASIC UNIT



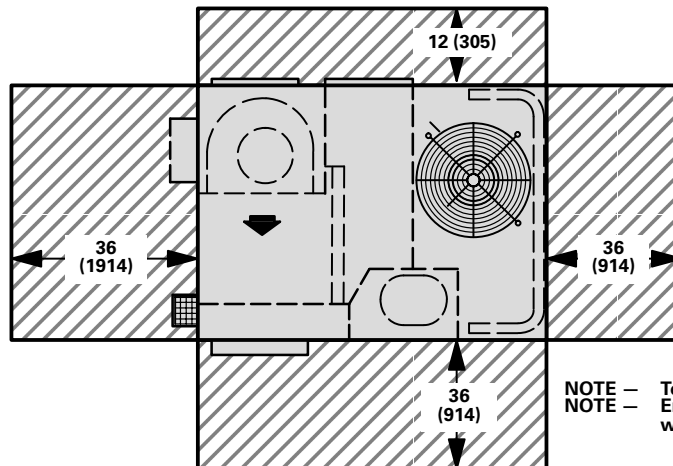
NOTE – Entire perimeter of unit requires support when elevated above mounting surface.
NOTE – Top Clearance Unobstructed.

GCS20H UNIT WITH RDE16-41 DUCT ENCLOSURE



NOTE – Top Clearance Unobstructed.

GCS20R BASIC UNIT



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