

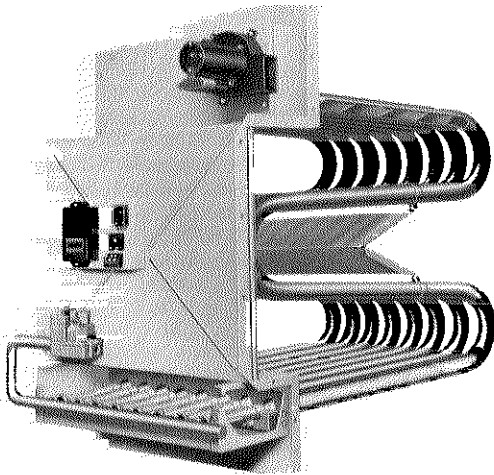
**GCS16-953 thru GCS16-3003  
PACKAGED UNITS  
COOLING & GAS HEAT**

**GCS16**  
**(7.5 to 25 Ton)**

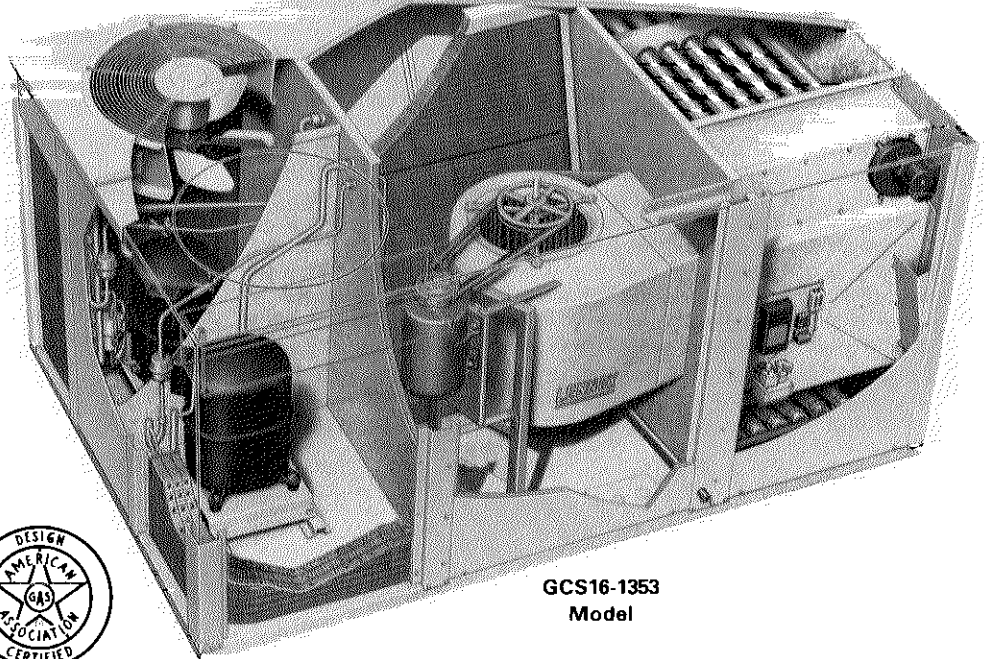
**\*88,000 to 284,000 Btuh Cooling Capacity  
126,000 to 470,000 Btuh Input Heating Capacity**

Bulletin No. 480022  
November 1993  
Supersedes April 1993

\*ARI Standard Ratings

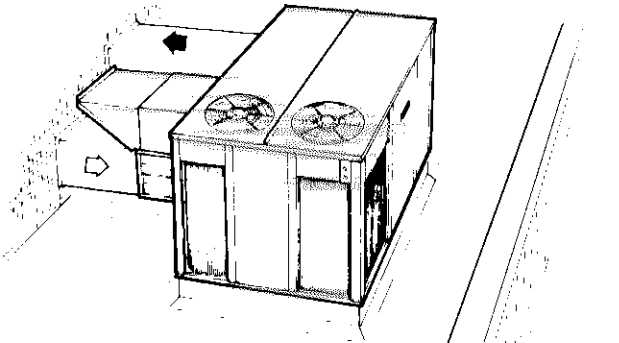


Tubular Heat Exchanger, Inshot Gas Burners,  
Induced Draft Blower and Gas Train.

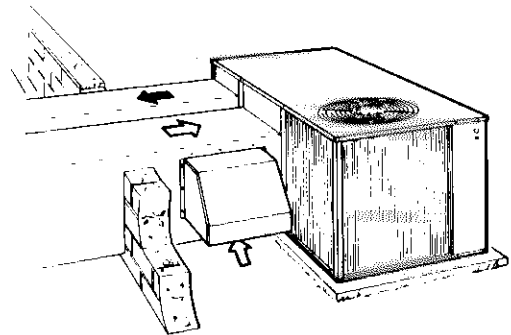


**GCS16-1353  
Model**

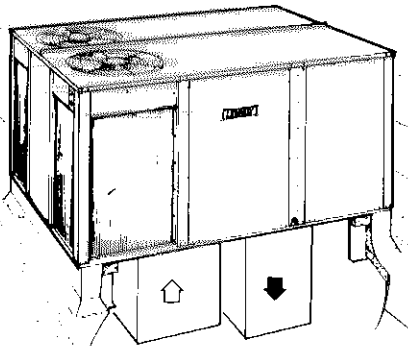
**Typical Applications**



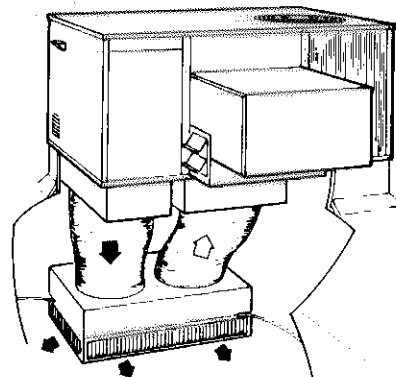
Horizontal (side) Supply and Return Air Installation  
with RMF16 Roof Mounting Frame and EMDH16M Economizer Dampers



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



Down-Flo Supply and Return Air Installation  
with RMF16 Roof Mounting Frame



Down Flo Supply and Return Air Installation with  
RMF16 Roof Mounting Frame, REMD16M Economizer Dampers  
and RTD11 Ceiling Diffuser.

## FEATURES

**Application** — Lennox GCS16 series all season DX cooling and gas fired heating units are designed for bottom (down-flo) or side (horizontal) handling of supply and return air. A separate roof mounting frame mates to the unit base and when flashed into the roof permits weather-proof duct connections and entry into the conditioned area in down-flo applications. The units can also be installed at grade level with horizontal (side) duct connections. A choice of RTD11 step-down or FD11 flush ceiling diffusers are available for combination ceiling supply and return air distribution systems. Optional economizer dampers provide "free cooling" by using outdoor air in lieu of mechanical refrigeration. Thermostat and system controls are not furnished and must be ordered extra. Available as options are W973 control system, W7400 control system, electro-mechanical or T7300 thermostat control systems. Units are shipped factory assembled, piped and wired. Each unit is factory test operated insuring unit dependability.

**Approvals** — The design of the units with the Lennox roof mounting frame is A.G.A. certified as combination heating-cooling units for outdoor installation. GCS16-953 & 1353 models have been rated and certified in the Lennox Research Laboratory environmental test room in accordance with ARI Standard 210/240-89. GCS16-953 & -1353 units have been sound rated and certified in the Lennox sound test room in accordance with ARI Standard 270-84. GCS16-1603, -1853, -2553 & -2753 units have been rated and certified in accordance with ARI Standard 360-86. GCS16-3003 units have been tested in accordance with test conditions included in ARI Standard 360-86. Units and components within are bonded for grounding to meet safety standards for servicing required by U.L. and National Electrical Codes. Blower data is from tests conducted in the Lennox Laboratory air test chamber.

**Equipment Warranty** — Heat exchanger has a limited warranty for a full ten years. Compressors have a limited warranty for a full five years. All other components have a limited warranty for one year. Refer to Lennox Equipment Limited Warranty included with unit for details.

**Rugged Tubular Heat Exchanger** — Tubular heat exchanger is constructed of aluminized steel for superior resistance to corrosion and oxidation. Curving design allows complete exposure of heating surfaces to supply air stream. Round surfaces create minimum air resistance and 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** — Aluminized steel inshot burners provide efficient, trouble free operation and are unaffected by adverse wind or atmospheric conditions. Burner venturi mixes air and gas in correct proportion for proper combustion. Burners can be removed individually for service. Equipped with direct spark 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 to 5 attempts at re-ignition before locking out unit operation. Redundant automatic dual gas valve has manual shut-off, pressure regulation and provides two stage operation. Induced draft blower prepurges heat exchanger and safely vents flue products. Centrifugal switch proves blower operation before allowing gas valve to open. Induced draft blower only operates during heating cycle. Flame rollout 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 time delay allows blower operation to continue approximately 90 seconds after burner shut-off. Dual limit controls (primary and secondary) have fixed temperature setting and protect heating system from abnormal operating conditions.

**Weather Resistant Cabinet** — Rugged cabinet is constructed of heavy gauge galvanized steel. Cabinet is subject to a five station metal wash process resulting in a perfect bonding surface for a paint finish of powder enamel, electrostatically bonded to the metal. Large removable cabinet panels allow service access. GCS16-1853-2553-2753-3003 filter access panel is hinged and equipped with quarter turn fasteners. Base section and cabinet panels exposed to conditioned air are lined with thick fiberglass insulation. Electrical inlets are provided in cabinet base and condenser section cabinet panel for wiring entry. Control box with factory installed controls is conveniently located for service access. A low voltage terminal strip is provided in the control box for ease of field wiring connections. Lifting brackets are furnished for ease of handling and rigging. Evaporator coil condensate drain connection extends outside of cabinet for ease of connection.

**Refrigeration System** — Factory sealed refrigerant system consists of multiple compressors, condenser coil and direct drive fan(s), evaporator coil and belt drive blower, expansion valves, high capacity driers, thermometer wells, high pressure switches and loss of charge service valves. Factory installed freeze-stat prevents evaporator coil freeze-up during low ambient operation. Independent refrigerant circuits provide staging control to fit varying cooling loads.

**Copper Tube Evaporator and Condenser Enhanced Fin Coils** — Extra large surface area and circuiting of 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. 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. The evaporator coil is face split with separate circuits. Each circuit has separate expansion valve, compressor and refrigerant charge.

**Dependable Compressors** — Rugged and reliable compressors are hermetically sealed, suction cooled and overload protected. GCS16-953, -1353, -1603 (2nd stage only) and -1853 units have internal pressure relief valve. Compressors are internally protected from excessive current and temperature. Crankcase heaters are furnished on all compressors. GCS16-953 thru -1603 and GCS16-2553 thru -3003 units have two compressors and GCS16-1853 unit has three. Compressor monitor (non-adjustable) prevents compressor operation when outdoor temperature is below 40° F. In addition, the compressors are installed on resilient rubber mounts in the unit, assuring quiet and vibration free operation.

**Powerful Supply Air Blower** — Belt drive centrifugal blower delivers large air volume efficiently and with minimum power consumption. Blower wheel is heavy duty, with forward curved blades and double inlet. Wheel is statically and dynamically balanced to eliminate vibration and designed to give maximum air delivery. Bearings are heavy duty, self aligning, permanently sealed and lubricated. Design of motor mounting base permits quick and simple motor changeover, belt tension adjustment or belt changing. Adjustable motor pulley allows for variable speed adjustments. Motor is overload protected. See specifications table for motors and drives available.

**Condenser Fan(s)** — GCS16-953 models are equipped with a single fan. GCS16-1353 thru -3003 have two. Direct drive fan(s) draw large air volumes uniformly through condenser coil 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. Fan motor is permanently lubricated and overload protected. Motor is resiliently mounted. Corrosion resistant PVC coated steel wire fan guard(s) are furnished.

**Air Filters** — Disposable frame type two inch thick commercial grade filters are furnished as standard. Filters are readily accessible for service. See dimension drawing. Filter rack is designed to accept one inch thick cleanable filters.

## OPTIONAL ACCESSORIES Must Be Ordered Extra

**Optional Low Ambient Control Kit** — System will operate satisfactorily down to 45° F outdoor air temperature without additional controls. If air conditioning operation is required at low ambients, a field installed low ambient kit can be added, enabling the unit to operate down to 30° F. Kits must be ordered extra. See Optional Accessories tables.

**Optional Timed-Off Control** — Timed-off control available for field installation. Prevents compressor short-cycling. Automatic reset control will shut the compressor off and hold it off for 5 minutes. Kit (40G20) includes two LB-50709BA controls and must be ordered extra. Furnished as standard on GCS16-1853 thru -3003 units.

**Optional RMF16 Roof Mounting Frame** — Sturdy mounting frame mates to the single package unit and provides an automatic weather sealed rooftop installation. Shipped knocked down for ease of shipping and handling it is easily field assembled. A nailer strip is secured to the frame sides to facilitate flashing. Approved by National Roofing Contractors Association.

## OPTIONAL ACCESSORIES (Must Be Ordered Extra)

**Optional REMD16M Economizer Dampers** — Economizer consists of: mechanically linked recirculated air dampers and outdoor air dampers, damper motor and controls. Economizers are shipped factory wired and only require plug-in connection. Formed low leakage (less than 3%) dampers rotate smoothly in nylon bearings. Outdoor air dampers are equipped with stainless steel seals for minimum air leakage. The positioning of the dampers is accomplished with a 24 volt fully modulating spring return damper motor with adjustable minimum damper position switch. Damper motor is controlled by the room thermostat, mixed air controller and solid-state adjustable outdoor air enthalpy control. The enthalpy control allows for 0 to 100% outdoor air (first stage of cooling) to be used for "free cooling" when outdoor humidity and temperature are acceptable. Additionally, an integrated economizer cycle can be accomplished by allowing the outside air dampers to remain open, continuing to admit outside air, and cycling the compressors to provide dehumidification and additional cooling, as needed. The integrated economizer cycle uses only the amount of mechanical cooling necessary. Two cleanable polyurethane media frame filters are furnished for extra air filtering and bird screen protection.

REMD16M-95, 135 & 160 are available for down-flo applications only. Economizer cabinet is constructed of heavy gauge galvanized steel with a powder enamel paint finish electrostatically bonded to the metal and completely insulated with thick fiberglass insulation. Economizer cabinet field installs on the unit cabinet. Provisions have been made in the economizer cabinet for easy field installation of optional GED16 gravity exhaust dampers. See dimension drawings.

REMD16M-185 & -300 are available for down-flo or horizontal applications. Factory or field installed damper assembly slides in cavity provided in unit cabinet. Outdoor air hood field installs over outdoor air dampers external to the unit. Gravity exhaust dampers are also furnished for field installation. See dimension drawings. Horizontal applications require Optional Horizontal Supply and Return Air Kit for duct connection to unit. See Optional Accessories tables.

**Optional PED16 Power Exhaust Fans (GCS16-1853, -2553, -2753 & -3003 Units Only)** — Fans field install on REMD16M-185 & -300 economizers in down-flo applications and must be ordered extra. Fans provide pressure relief and are interlocked to run when return air dampers are closed and supply air blowers are operating. Motors are overload protected. See dimension drawing.

**Optional EMDH16M Horizontal Economizer Dampers (GCS16-953, 1353 & 1603 Units Only)** — The EMDH16M horizontal economizer cabinet section contains recirculated air dampers, outdoor air dampers, damper motor and controls. Economizer section field installs on the unit cabinet. Outdoor air hood is shipped separately and is field installed. Economizer is factory assembled and wired and only requires field plug-in connection. Cabinet is constructed of heavy gauge galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal. Completely insulated with thick fiberglass insulation. Recirculated damper section of cabinet has flanged air openings for ease of duct connection. Formed low leakage (less than 3%) dampers rotate smoothly in nylon bearings. Outdoor air damper blades are equipped with stainless steel seals for minimum air leakage. The positioning of the dampers is accomplished with a 24 volt fully modulating spring return damper motor with adjustable minimum damper positioner. Damper motor is controlled by the room thermostat, mixed air controller and solid-state adjustable outdoor air enthalpy control. The enthalpy control allows for 0 to 100% outdoor air (first stage of cooling) to be used for "free cooling" when outdoor humidity and temperature are acceptable. Additionally, an integrated economizer cycle can be accomplished by allowing the outside air dampers to remain open, continuing to admit outside air, and cycling the compressors to provide dehumidification and additional cooling as needed. The integrated economizer cycle uses only the amount of mechanical cooling necessary. Two cleanable polyurethane media frame filters are furnished for extra air filtering and bird screen protection. See dimension drawing. Provisions have been made in the economizer cabinet for easy field installation of optional GED16 gravity exhaust dampers. Requires Optional Horizontal Supply and Return Air Kit for duct connection to unit. See Optional Accessories tables.

**Optional GED16 Gravity Exhaust Dampers** — Optional for use with REMD16M and EMDH16M-95, 135 & 160 economizer damper sections and must be ordered extra. Furnished as standard with REMD16M-185 & -300 Openings are provided in the economizer cabinet for easy field installation. See dimension drawing. Two exhaust dampers are furnished for installation on the economizer section. Rainhoods are also furnished for field installation on 95/135/160 model. Neoprene coated fiberglass dampers prevent blow-back and outdoor air infiltration during off cycle. Bird screen is provided. Exhaust dampers are field installed on the return air duct adjacent to the unit in horizontal applications with REMD16M-185 & -300.

**Optional Differential Enthalpy Control** — A solid-state return air enthalpy sensor is available to be used with the outdoor air enthalpy control to determine which air has the lowest enthalpy. The air with the lowest enthalpy will be selected. Return air enthalpy sensor (54G44) field installs in the return air section and must be ordered extra.

**Optional OAD16 Outdoor Air Damper Section** — Damper section with factory installed and linked dampers field installs external to the unit cabinet and must be ordered extra. Interchangeable unit cabinet panel with opening for installation is furnished with damper for down-flo air applications. Two-piece cabinet allows access to controls. See unit dimension drawing for location. Damper section field installs in return air duct for horizontal supply and return air applications. A cleanable polyurethane media frame type air filter is furnished and factory installed. Dampers allow a fixed amount of outdoor air into the system and can be adjusted for air quantities up to 25%. Damper section is available for manual or automatic operation. Manually operated dampers may be adjusted and locked in place for the amount of air desired. Automatic operation is available with the addition of a spring return 3 position damper actuator. Actuator only requires plug-in connection for operation. Automatic OAD16 damper kit (35G21) must be ordered extra.

**Optional Horizontal Supply and Return Air Kit** — Provides horizontal supply and return air duct connection to the side of the unit. Kit contains duct connection flanges for field installation on the supply and return air openings, screws for installing, two filler panels for supply and return air openings in the unit base not being used and a filter access panel to replace the existing cabinet panel above the return air opening. Kit must be ordered extra. See Optional Accessories tables.

**Optional LPG Conversion Kits** — For LPG models, a field conversion kit is required for changeover from natural gas. Kit is not furnished and must be ordered extra. See Optional Accessories tables.

**Optional Bottom Power Entry Kit (GCS16-953 & 1353)** — Factory or field installed kit LB-55757CA (34G70) is provided for bottom power entry into the unit within the confines of the roof mounting frame. Bottom power entry is furnished with GCS16-1603 thru -3003 units. Kit contains wiring junction box with cover (6" x 8" x 10"), 78 inch length of armored cable and necessary installing hardware. Galvanized steel junction box with pre-punched mounting holes and electrical knock-outs installs on electrical inlet openings located in the unit base. Kit must be ordered extra. See basic unit dimension drawing.

**Optional RTD11 Combination Ceiling Supply and Return Diffuser Assembly** — Step-down mount diffuser extends slightly below ceiling level 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 flanges for ease of duct connection, hanging rings for suspending and 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. Must be ordered extra, see Optional Accessories tables.

**Optional FD11 Combination Ceiling Supply and Return Diffuser Assembly** — 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 flanges for ease of duct connections, support hanger eyelets at the top corners for secure installation and 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. Must be ordered extra, see Optional Accessories tables.

**Optional SRT16 Supply and Return Transitions** — 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 flanges for ease of duct connection. Duct from the transitions to the diffuser is not furnished and must be provided by installer. Transitions are completely factory assembled and easily field installed in the roof mounting frame with minimum costs and labor requirements. Must be ordered extra, see Optional Accessories tables.

- SRT16-95 used with the RMF16-95 with GCS16-953.
- SRT16-135 used with the RMF16-135/160 with GCS16-1353.
- SRT16-160 used with the RMF16-135/160 with GCS16-1603.
- SRT16-185 used with the RMF16-185 with GCS16-1853.
- SRT16-300 used with the RMF16-300 with GCS16-2553, GCS16-2753 & GCS16-3003 units.

## OPTIONAL TEMPERATURE CONTROL SYSTEMS

### **Optional Electro-Mechanical Thermostat and Controls System** —

The thermostat and related controls of this system must be ordered extra for field installation. Two stage heat and two stage cool thermostat (13F06) with dual temperature selector levers. Uses subbase (13F17) with manual system switch (Off-Heat-Auto-Cool) and fan switch (Auto-On) or non-switching subbase (13F16). SP11 Remote Status Panel (12F83) or SSP11 Remote Switching Status Panel (12F84) is available for observing and controlling unit operation from the conditioned area. A SSP11 Relay Kit (41G39) is required for switching functions of the Switching Status Panel. Kit must be ordered extra and field installed. For nite operation the following are available. Single stage heating thermostat (13F12) and non-switching subbase (13F16). For applications without the economizer a Nite Kit (39G74), containing a plug-in relay, is required to override the operation of day thermostat. Two time clocks are available for the system. Automatic 7 day time clock (43G98) programs a weekly schedule. Any day or days can be omitted. Each day of the week is clearly separated from every other day. Day and nite periods are distinctly marked. When the settings have been made the clock will turn the system on and off. Spaced in 2 hour increments and equipped with battery back-up in case of power outage. 24 hour nite setback time clock (43G99) automatically programs the system to keep conditioned area at a more conservative temperature level (nite setback thermostat setting) during a period of vacancy. Spaced in 15 minute increments and equipped with battery back-up in case of power outage. Also available is a Warm Up Kit (39G77) which holds the economizer outdoor air dampers closed during nite heat operation and morning warm up. Cycle Control (42H51) is required with GCS16-953 thru -1603 units. Furnished on GCS16-1853 thru 3003 units. Plug in control provides timed off delay to prevent compressor short-cycling. See Flow Chart on page 5.

### **Optional W973 Control System** —

Control system must be ordered extra for field installation. Logic Panel (39G76) controls the operation of the economizer dampers and the stages of cooling and heating in response to a signal from the thermostat. To maintain stable temperatures the logic panel balances the conditioned space thermostat demand against the system output. System output is measured by a discharge sensor (furnished with the logic panel) located in the discharge air duct of the unit. The combined demand and output signals from the sensor determines economizer damper position and number of cooling or heating stages energized. The logic panel field installs in the unit or in a remote panel located within the conditioned space. W973 Plug-In Relay (furnished with the logic panel) is required to adapt the control system to the unit. Two thermostats are available for the system. Dual set point room thermostat (25C52) or transmitter (25C51) with a choice of remote sensors. Both have separate heating-cooling locking set points concealed under the cover and do not have indicating thermometer. The room thermostat has integral sensor and installs in the conditioned space. The transmitter installs outside the conditioned space with a Room Temperature Sensor (58C92) in the conditioned area or a Return Air Temperature Sensor (27C40) in the return air duct of the unit. Thermostat and transmitter are furnished with a wiring wallplate. Also available is a switching subbase (58C93) with system selector switch (Heat-Auto-Cool-Off) and fan switch (Auto-On). SP11 Remote Status Panel (12F83) or SSP11 Remote Switching Status Panel (12F84) is available for observing and controlling unit operation from the conditioned area. Two time clocks are available for the system. Automatic 7 day time clock (43G98) programs a weekly schedule. Any day or days can be omitted. Each day of the week is clearly separated from every other day. Day and nite periods are distinctly marked. When the settings have been made the clock will turn the system on and off. Spaced in 2 hour increments and equipped with battery back-up in case of power outage. 24 hour nite setback time clock (43G99) automatically programs the system to keep the conditioned area at a more conservative temperature level (nite set back thermostat setting) during a period of vacancy. Spaced in 15 minute increments and equipped with battery back-up in case of power outage. Also available is a Warm Up Kit (39G77) which holds the economizer outdoor air dampers closed during nite heat operation and warm up. See Flow Chart on page 5.

**Optional W7400 Control System** — Control system must be ordered extra for field installation. Control Module (74G11) controls the operation of the economizer dampers and the stages of heating and cooling. Controlling input signals are setpoint, space temperature sensor and time-of-day scheduling from the thermostat. The control module balances the space temperature signal against the number of

stages operating for system output. System output is measured and updated by monitoring the actual space temperature deviation from set point, and the rate of change of the space temperature. The control module field installs in the unit or in a remote panel located within the conditioned area. Two thermostats are available for the system. A room thermostat (36G62) with integral sensor that installs in the conditioned space or a remote thermostat (36G64) that installs outside the conditioned space with a Room Temperature Sensor (58C92) in the conditioned area or a Return Air Temperature Sensor (27C40) in the return air duct of the unit. Both thermostats are equipped with touch sensitive keyboard, automatic switching from heat to cool, no anticipator, zero droop, indicator lights, hour/day programming, override capabilities, time readout, stage status indicators, battery back-up and wiring wallplate. W7400 Plug-In Relay (furnished with the control module) provides separate set points for the economizer dampers and DX cooling. SP11 Remote Status Panel (12F83) is available for checking unit operation within the conditioned area. See Flow Chart on page 6.

### **Optional T7300 Thermostat and Control System** —

The thermostat and related controls of this system must be ordered extra for field installation. T7300 programmable thermostat (81G59) has internal or optional remote temperature sensing, touch sensitive keyboard, automatic switching from heat to cool, °F or °C temperature readout, no anticipator, droop/no droop selection, indicator LED's, hour/day programming, override capabilities, time readout, stage status indicators, operational mode readout and battery back-up. T7300 thermostat has a choice of subbases. Switching subbase (81G60) features selectable output staging up to two heat and two cool, indicator LED's, manual system switch (Heat-Off-Auto-Cool) and fan switch (Auto-On). Switching subbase (13H76) features selectable output staging up to three heat and two cool, indicator LED's, manual system switch (Auto-Cool-Off-Heat-Emergency Heat) (Heat Pump Only) and fan switch (Auto-On). Both subbases also features an auxiliary relay output which controls economizer operation during occupied and unoccupied periods. Also available is a Room Temperature Sensor (58C92) or Room Temperature Sensor with 3-hour override and setpoint adjustment (86G67) for installation in the conditioned area and a Return Air Temperature Sensor (27C40) for installation in the return air duct of the unit. SP11 Status Panel (12F83) is available for checking unit operation from within the conditioned area. See Flow Chart on page 6.

### **Optional SP11 Remote Status Panel** —

The operation of the unit can be checked at a glance on the Remote Status Panel (12F83) conveniently located within the conditioned area. Signal lights on the panel indicate "Cool Mode", "Heat Mode", "Compressor 1", "Compressor 2", "No Heat" and "Filter". The Cool Mode signal light is green when lit and indicates economizer damper operation or DX cooling operation for units without the economizer. Heat Mode light is green and reflects heating operation. Compressor 1 and Compressor 2 lights are green when operating and will turn red if there is an operational malfunction. The No Heat and Filter lights will show red and indicate a requirement for service. The following field installed controls are required for use with the status panel and must be ordered extra. Filter Switch Kit (97C85) is required for operation of the filter light. Status Panel Readout Relay Kit is required to interface status panel with unit operation. See flowcharts for selection.

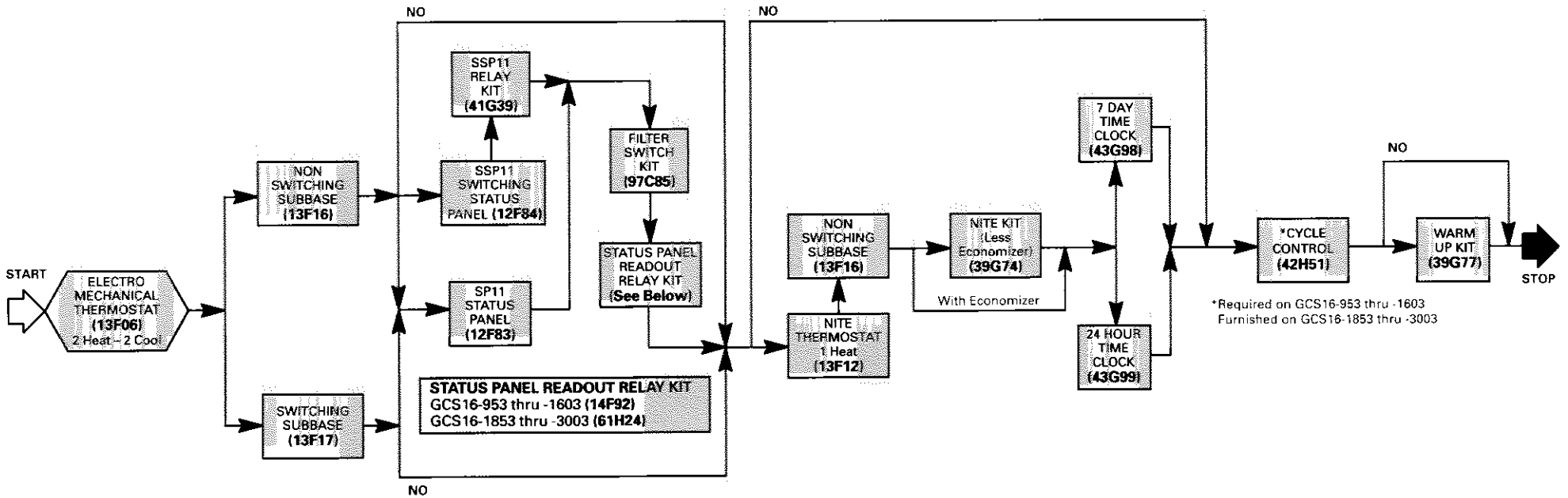
### **Optional SSP11 Remote Switching Status Panel** —

The operation of the unit can be controlled and observed on the Switching Status Panel (12F84) conveniently located within the conditioned area. Signal lights on the panel indicate "Cool Mode", "Heat Mode", "Compressor 1", "Compressor 2", "No Heat" and "Filter". The Cool Mode signal light is green when lit and indicates economizer damper operation or DX cooling operation for units without the economizer. Heat Mode light is green and reflects heating operation. Compressor 1 and Compressor 2 lights are green when operating and will turn red if there is an operational malfunction. The No Heat and Filter lights will show red and indicates a requirement for service. Additionally, panel is equipped with a system selector switch (Off—Heat—Auto—Cool

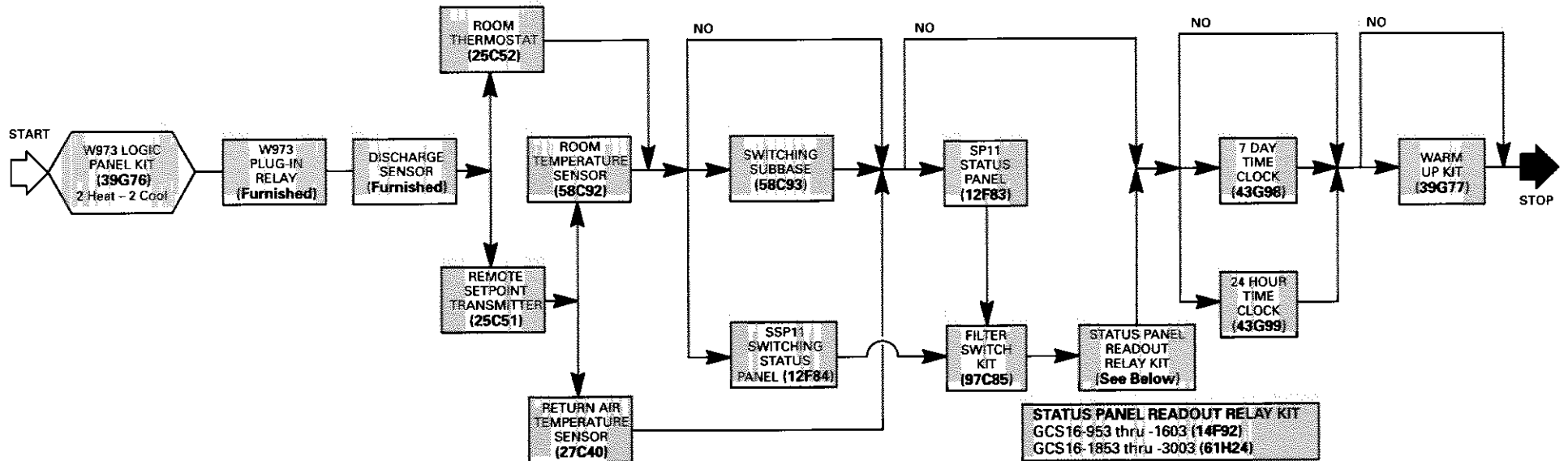
Emergency Heat) (Heat Pump Only), fan switch (Auto—On) and after hours timer. Fan switch provides a choice of intermittent (Auto) or continuous (On) blower operation. Manually operated after hours timer (0 to 12 hours) overrides night setback controls providing normal operation for time period set. A momentary push button switch is used to initiate the timer period. The following field installed controls are required for use with the status panel and must be ordered extra. Filter Switch Kit (97C85) is required for operation of the filter light. Status Panel Readout Relay Kit is required to interface status panel with unit operation. See flowcharts for selection.

# TEMPERATURE CONTROL SELECTION FLOWCHARTS

## OPTIONAL ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM

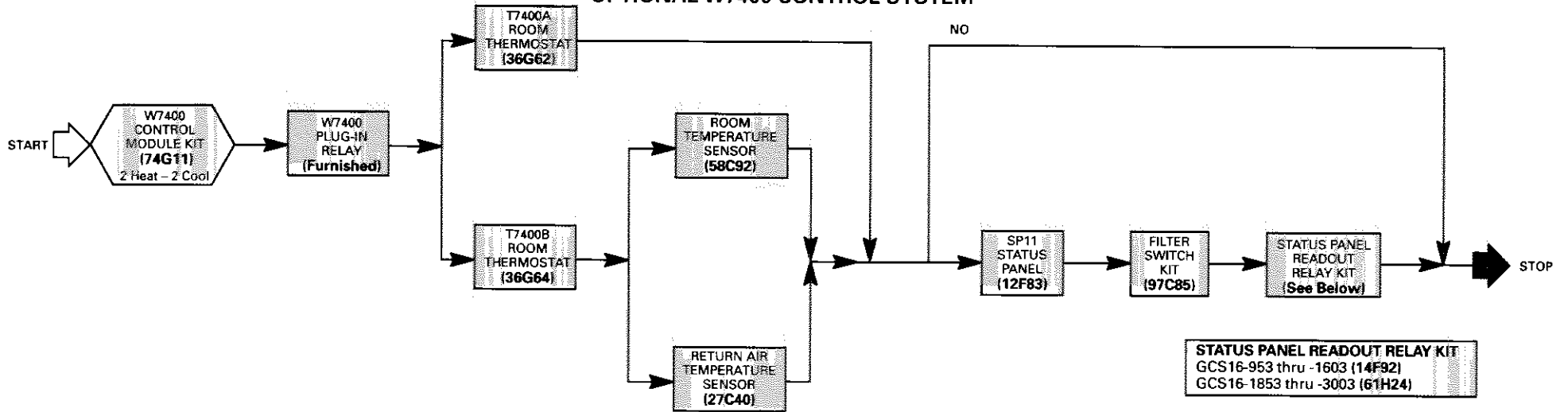


## OPTIONAL W973 CONTROL SYSTEM

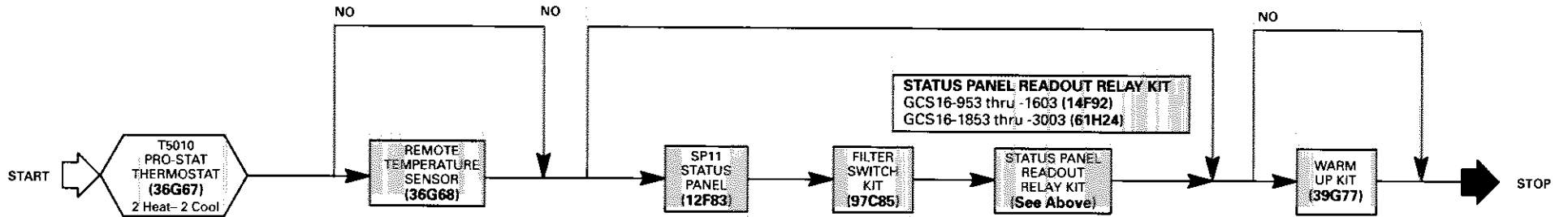


# TEMPERATURE CONTROL SELECTION FLOWCHARTS

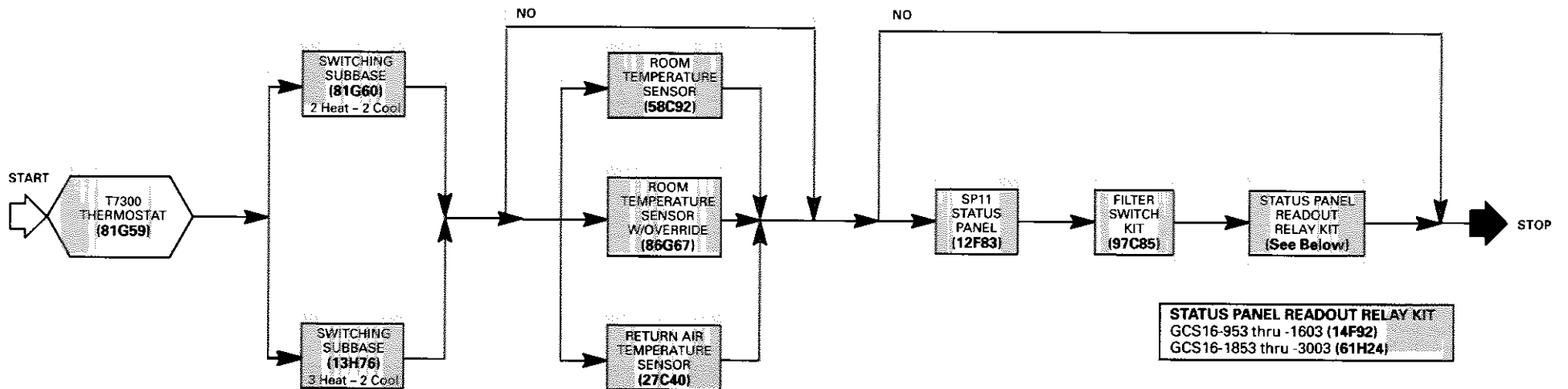
## OPTIONAL W7400 CONTROL SYSTEM



## OPTIONAL PRO-STAT THERMOSTAT CONTROL SYSTEM



## OPTIONAL T7300 CONTROL SYSTEM



## HIGH ALTITUDE DERATE

If the heating value of the gas does not exceed the values listed in table, derating of unit is not required. Should the heating value of the gas exceed the table values, or if the elevation is greater than 6,000 feet above sea level, it will be necessary to derate the unit. Lennox requires that derate conditions be 4% per thousand feet above sea level. Thus, at an altitude of 4000 feet, if the heating value of the gas exceeds 1000 btu/ft.<sup>3</sup>, the unit will require a 16% derate.

Elevation Above Sea Level (Feet)	Maximum Heating Value (Btu/ft. <sup>3</sup> )
5001 — 6000	900
4001 — 5000	950
3001 — 4000	1000
2001 — 3000	1050
Sea Level — 2000	1100

## SPECIFICATIONS — GCS16-953

Model No.		GCS16-953	
*ARI Standard 210/240 Ratings	Total cooling capacity (btuh)	88,000	
	Total unit watts	9,780	
	EER (Btuh/Watts)	9.0	
★ARI Standard 270 SRN (Bels)		8.6	
Refrigerant (22) Charge	Stage 1	6 lbs. 4 oz.	
	Stage 2	5 lbs. 14 oz.	
Evaporator Blower and Drive Selection	Blower wheel nominal diameter x width (in.)	12 x 12	
	Factory Installed ***Drives	Nominal motor horsepower	2
		Maximum usable horsepower	2.30
		Voltage & phase	208/230/460v-3ph
RPM range	740 — 1010		
Evaporator Coil	Net face area (sq. ft.)	7.75	
	Tube diameter (in.) & No. of rows	3/8 — 3	
	Fins per inch	14	
Condenser Coil	Net face area (sq. ft.)	15.67	
	Tube diameter (in.) & No. of rows	3/8 — 2	
	Fins per inch	20	
Condenser Fans	Diameter (in.) & No. of blades	24 — 4	
	Air volume (cfm)	5300	
	Motor horsepower	3/4	
	Motor watts	660	
Two Stage Heating Capacity (Natural Gas Only)	Btuh Input (low)	126,000	
	Btuh Output (low)	98,000	
	Btuh Input (High)	200,000	
	Btuh Output (High)	160,000	
	A.G.A. Thermal Efficiency	80%	
Two Stage Heating Capacity (**LPG Gas Only)	Btuh Input (low)	126,000	
	Btuh Output (low)	98,000	
	Btuh Input (High)	175,000	
	Btuh Output (High)	142,000	
	A.G.A. Thermal Efficiency	81.5%	
Gas Supply Connections fpt (in.)	Natural	3/4	
	**LPG	3/4	
Recommended Gas Supply Pressure (wc. in.)	Natural	7	
	**LPG	11	
Condensate drain size mpt (in.)		1	
No. & size of filters (in.)		(4) 16 x 20 x 2	
Net weight of basic unit (lbs.) (1 Package)		875	
Electrical characteristics		208/230v or 460v — 60 hertz — 3 phase	

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

\*\*Rated in accordance with ARI Standard 210/240; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air.

\*\*\*For LPG units a field conversion kit is required and must be ordered extra. See Optional Accessories table.

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

**SPECIFICATIONS — GCS16-1353 & GCS16-1603**

Model No.		GCS16-1353	GCS16-1603	
*ARI Standard 210/240 Ratings or Standard ☆360 Ratings	Total cooling capacity (btuh)	119,000	☆142,000	
	Total unit watts	13,220	16,820	
	EER (Btuh/Watts)	9.0	8.50	
	Integrated Part Load Value	-----	8.8	
★ARI Standard 270 SRN (Bels)		8.8	-----	
Refrigerant (22) Charge	Stage 1	7 lbs. 4 oz.	10 lbs. 12 oz.	
	Stage 2	7 lbs. 4 oz.	7 lbs. 12 oz.	
Evaporator Blower and Drive Selection	Blower wheel nominal diameter x width (in.)		15 x 15	15 x 15
	Factory Installed ***Drives	Nominal motor horsepower	2	3
		Maximum usable horsepower	2.30	3.45
		Voltage & phase	208/230/460v-3ph	208/230/460v-3ph
		RPM range	730 — 950	730 — 950
	Optional Factory Installed ***Drives	Nominal motor horsepower	3	-----
		Maximum usable horsepower	3.45	-----
		Voltage & phase	208/230/460v-3ph	-----
RPM range		730 — 950	-----	
Evaporator Coil	Net face area (sq. ft.)		9.46	11.9
	Tube diameter (in.) & No. of rows		3/8 — 4	3/8 — 3
	Fins per inch		12	12
Condenser Coil	Net face area (sq. ft.)		20.0	24.4
	Tube diameter (in.) & No. of rows		3/8 — 2	3/8 — 2
	Fins per inch		20	20
Condenser Fans	Diameter (in.) & No. of blades		(2) 20 — 5	(2) 22 — 4
	Air volume (cfm)		6400 Total	7700 Total
	Motor horsepower		(2) 1/3	(2) 1/2
	Motor watts		875 Total	1050 Total
Two Stage Heating Capacity (Natural Gas Only)	Btuh Input (low)		170,000	170,000
	Btuh Output (low)		132,500	132,500
	Btuh Input (High)		270,000	270,000
	Btuh Output (High)		216,000	216,000
	A.G.A. Thermal Efficiency		80%	80%
Two Stage Heating Capacity (**LPG Gas Only)	Btuh Input (low)		170,000	170,000
	Btuh Output (low)		132,500	132,500
	Btuh Input (High)		236,250	236,250
	Btuh Output (High)		192,500	192,500
	A.G.A. Thermal Efficiency		81.5%	81.5%
Gas Supply Connections fpt (in.)	Natural	3/4	3/4	
	**LPG	3/4	3/4	
Recommended Gas Supply Pressure (wc. in.)	Natural	7	7	
	**LPG	11	11	
Condensate drain size mpt (in.)		1	1	
No. & size of filters (in.)		(4) 16 x 25 x 2	(4) 20 x 25 x 2	
Net weight of basic unit (lbs.) (1 Package)		1100	1288	
Electrical characteristics		208/230v or 460v — 60 hertz — 3 phase		

★Sound Rating Number in accordance with ARI Standard 270.

\*Rated in accordance with ARI Standard 210/240 or 360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air.

\*\*For LPG units a field conversion kit is required and must be ordered extra. See Optional Accessories table.

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



**SPECIFICATIONS - GCS16-1853**

Model No.		GCS16-1853-235	GCS16-1853-330	
*ARI Standard 360 Ratings	Total cooling capacity (btuh)	178,000		
	Total unit watts	20,300		
	EER (Btuh/Watts)	8.8		
	Integrated Part Load Value	9.6		
Refrigerant (22) Charge	Stage 1	7 lbs. 9 oz.		
	Stage 2	7 lbs. 9 oz.		
	Stage 3	7 lbs. 9 oz.		
Evaporator Blower and Drive Section	Blower wheel nominal diameter x width (in.)		18 x 18	
	Factory Installed ***Drives	Nominal motor horsepower	3	
		Maximum useable horsepower	3.45	
		Voltage & Phase	208/230/460v-3ph	
		RPM Range	610 780	
	Factory Installed ***Drives	Nominal motor horsepower	5	
		Maximum useable horsepower	5.75	
		Voltage & Phase	208/230/460v-3ph	
RPM Range		770 - 980		
Evaporator Coil	Net face area (sq. ft.)		16.0	
	Tube diameter (in.) & No. of rows		3/8 — 3	
	Fins per inch		13	
Condenser Coil	Net face area (sq. ft.)		30.5	
	Tube diameter (in.) & No. of rows		3/8 - 2	
	Fins per inch		20	
Condenser Fan(s)	Diameter (in.) & No. of blades		(2) 26 4	
	Air volume (cfm)		12,000 Total	
	Motor horsepower		(2) 1	
	Motor watts		2200 Total	
Two Stage Heating Capacity (Natural Gas Only)	Btuh Input (Low)	145,000	205,000	
	Btuh Output (Low)	116,000	159,900	
	Btuh Input (high)	235,000	330,000	
	Btuh Output (High)	188,000	264,000	
	A.G.A. Thermal Efficiency	80%	80%	
Two Stage Heating Capacity (**LPG Gas Only)	Btuh Input (Low)	164,000	237,000	
	Btuh Output (Low)	131,200	189,600	
	Btuh Input (High)	235,000	330,000	
	Btuh Output (High)	188,000	264,000	
	A.G.A. Thermal Efficiency	80%	80%	
Gas Supply Connections fpt (in.)	Natural	3/4		
	**LPG	3/4		
Recommended Gas Supply Pressure (wc. in.)	Natural	7		
	**LPG	11		
Condensate Drain Size mpt (in.)		1		
No. & Size of filters (in.)		(4) 24 x 24 x 2		
Net weight of basic unit (lbs.) (1 package)		1730		
Electrical characteristics		208/230 to 460 volt - 60 hertz - 3 phase		

\*Rated in accordance with ARI Standard 360; 95 °F outdoor air temperature and 80 °F db/ 67 °F wb entering evaporator air; minimum external duct static pressure.  
 \*\*For LPG models a field conversion kit is required and must be ordered extra. See Optional Accessories table.  
 \*\*\*Using total air volume and system static pressure requirements determine from blower tables rpm and bhp required. Maximum usable hp of motors furnished by Lennox are shown. If motors of comparable hp are used be sure to keep within the service factor limitations outlined on the motor nameplate.

**SPECIFICATIONS — GCS16-2553**

Model No.		GCS16-2553-235	GCS16-2553-470	
*ARI Standard 360 Ratings	Total Cooling Capacity (btuh)	●210,000		
	Total Unit Watts	21,400		
	EER (Btuh/Watts)	●9.8		
	Integrated Part Load Value	10.4		
Refrigerant (22) Charge	Stage 1	18 lbs. 8 oz.		
	Stage 2	18 lbs. 8 oz.		
Evaporator Blower and Drive Selection	Blower wheel nominal diameter x width (in.)		20 x 18	
	Factory Installed ***Drives	Nominal motor horsepower	5	
		Maximum usable horsepower	5.75	
		Voltage & phase	208/230v-3ph or 460v-3ph	
		RPM range	660 — 840	
	Optional Factory Installed ***Drives	Nominal motor horsepower	7.5	
		Maximum usable horsepower	8.60	
		Voltage & phase	208/230v-3ph or 460v-3ph	
RPM range		750 — 905		
Evaporator Coil	Net face area (sq. ft.)		21.0	
	Tube diameter (in.) & No. of rows		3/8 — 3	
	Fins per inch		13	
Condenser Coil	Net face area (sq. ft.)		48.5	
	Tube diameter (in.) & No. of rows		3/8 — 2	
	Fins per inch		20	
Condenser Fans	Diameter (in.) & No. of blades		(2) 26 — 4	
	Air volume (cfm)		14,000 (Total)	
	Motor horsepower		(2) 1	
	Motor watts		2100 (Total)	
Two Stage Heating Capacity (Natural Gas Only)	Btuh Input (low)	145,000	290,000	
	Btuh Output (low)	116,000	232,000	
	Btuh Input (High)	235,000	470,000	
	Btuh Output (High)	188,000	376,000	
	A.G.A. Thermal Efficiency	80%	80%	
Two Stage Heating Capacity (**LPG Gas Only)	Btuh Input (low)	164,000	376,000	
	Btuh Output (low)	131,200	262,400	
	Btuh Input (High)	235,000	470,000	
	Btuh Output (High)	188,000	328,000	
	A.G.A. Thermal Efficiency	80%	80%	
Gas Supply Connections fpt (in.)	Natural	3/4	1	
	**LPG	3/4	1	
Recommended Gas Supply Pressure (wc. in.)	Natural	7		
	**LPG	11		
Condensate drain size mpt (in.)		(2) 1		
No. & size of filters (in.)		(6) 20 x 25 x 2		
Net weight of basic unit (lbs.) (1 Package)		2210	2410	
Electrical characteristics		208/230v or 460v — 60 hertz — 3 phase		

\* Rated in accordance with ARI Standard 360; 95 °F outdoor air temperature and 80 °F db/67 °F wb entering evaporator air; minimum external duct static pressure.  
 \*\*For LPG units a field conversion kit is required and must be ordered extra. See Optional Accessories table.  
 \*\*\*Using total air volume and system static pressure requirements determine from blower performance tables rpm and bhp required. Maximum usable hp of motors furnished by Lennox are shown. If motors of comparable hp are used, be sure to keep within the service factor limitations outlined on the motor nameplate.  
 ●208,000 Btuh and 9.6 EER at 208 volts.

**SPECIFICATIONS — GCS16-2753 & GCS16-3003**

Model No.		GCS16-2753-235	GCS16-2753-470	GCS16-3003-235	GCS16-3003-470	
*ARI Standard 360 Ratings	Total Cooling Capacity (btuh)	●240,000		†284,000		
	Total Unit Watts	26,700		†33,400		
	EER (Btuh/Watts)	●9.0		†8.5		
	Integrated Part Load Value	9.7		†9.1		
Refrigerant (22) Charge	Stage 1	19 lbs. 0 oz.		20 lbs. 0 oz.		
	Stage 2	19 lbs. 0 oz.		20 lbs. 0 oz.		
Evaporator Blower and Drive Selection	Blower wheel nom. diameter x width (in.)		20 x 18		20 x 18	
	Factory Installed ***Drives	Nominal motor horsepower	5		7.5	
		Max. usable horsepower	5.75		8.6	
		Voltage & phase	208/230v-3ph or 460v-3ph		208/230v-3ph or 460v-3ph	
		RPM range	660 — 840		610 — 780	
	Optional Factory Installed ***Drives	Nominal motor horsepower	7.5		10	
		Max. usable horsepower	8.60		11.5	
		Voltage & phase	208/230v-3ph or 460v 3ph		208/230v-3ph or 460v-3ph	
RPM range		750 — 905		770 — 980		
Evaporator Coil	Net face area (sq. ft.)		21.0		21.0	
	Tube diameter (in.) & No. of rows		3/8 — 3		3/8 — 3	
	Fins per inch		13		13	
Condenser Coil	Net face area (sq. ft.)		48.5		48.5	
	Tube diameter (in.) & No. of rows		3/8 — 2		3/8 — 3	
	Fins per inch		20		16	
Condenser Fans	Diameter (in.) & No. of blades		(2) 26 — 4		(2) 26 — 4	
	Air volume (cfm)		14,000 (Total)		14,500 (Total)	
	Motor horsepower		(2) 1		(2) 1	
	Motor watts		2100 (Total)		2200 (Total)	
Two Stage Heating Capacity (Natural Gas Only)	Btuh Input (low)		145,000	290,000	145,000	290,000
	Btuh Output (low)		116,000	232,000	116,000	232,000
	Btuh Input (High)		235,000	470,000	235,000	470,000
	Btuh Output (High)		188,000	376,000	188,000	376,000
	A.G.A. Thermal Efficiency		80%	80%	80%	80%
Two Stage Heating Capacity (**LPG Gas Only)	Btuh Input (low)		164,000	328,000	164,000	328,000
	Btuh Output (low)		131,200	262,400	131,200	262,400
	Btuh Input (High)		235,000	470,000	235,000	470,000
	Btuh Output (High)		188,000	376,000	188,000	376,000
	A.G.A. Thermal Efficiency		80%	80%	80%	80%
Gas Supply Connections fpt (in.)	Natural	3/4	1	3/4	1	
	**LPG	3/4	1	3/4	1	
Recommended Gas Supply Pressure (wc. in.)	Natural	7		7		
	**LPG	11		11		
Condensate drain size mpt (in.)		(2) 1		(2) 1		
No. & size of filters (in.)		(6) 20 x 25 x 2		(6) 20 x 25 x 2		
Net weight of basic unit (lbs.) (1 Package)		2210	2410	2800	3000	
Electrical characteristics		208/230v or 460v — 60 hertz — 3 phase				

† Rating test conditions are those included in ARI Standard 360.

\* Rated in accordance with ARI Standard 360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

\*\*For LPG units a field conversion kit is required and must be ordered extra. See Optional Accessories table.

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

●238,000 Btuh and 8.9 EER at 208 volts.

**GCS16-953 Thru -1603 OPTIONAL ACCESSORIES (Must Be Ordered Extra)**

Unit Model No.		GCS16-953	GCS16-1353	GCS16-1603
**LPG Conversion Kit		LB-55755DA (32G88)	LB-55755DA (32G88)	
Roof Mounting Frame — (Net Weight)		RMF16-95 (107 lbs.) (32G90)	RMF16-135/160 (119 lbs.) (32G91)	
Economizer Dampers — (Net Weight) No. & size of filters (in.)		REMD16M-95 (118 lbs.) (2) 16 x 25 x 1 (74G22)	REMD16M-135 (125 lbs.) (2) 16 x 25 x 1 (74G23)	REMD16M-160 (140 lbs.) (2) 20 x 25 x 1 (51G25)
Horizontal Economizer Dampers — (Net Weight) No. & size of filters (in.)		EMDH16M-95 (120 lbs.) (2) 16 x 25 x 1 (24H03)	EMDH16M-135 (137 lbs.) (2) 16 x 25 x 1 (24H04)	EMDH16M-160 (147 lbs.) (2) 20 x 25 x 1 (24H05)
Exhaust Dampers — (Net Weight) (Net Face Area)		GED16-95/135/160 (5 lbs.) (0.43 sq. ft.) (34G80)		
Differential Enthalpy Control		54G44		
Horizontal Supply and Return Air Kit — (Net Weight)		LB-55756BA (30 lbs.) (34G71)	LB-55756BB (35 lbs.) (35G42)	LB-55756BC (42 lbs.) (51G27)
Bottom Power Entry Kit — (Net Weight)		LB-55757CA (12 lbs.) (34G70)		Furnished
Ceiling Supply and Return Air Diffusers (Net Weight)	Step-Down	RTD11-95 (88 lbs.) (29G04)	RTD11-135 (125 lbs.) (29G05)	RTD11-185 (392 lbs.) (29G06)
	Flush	FD11-95 (75 lbs.) (29G05)	FD11-135 (95 lbs.) (29G09)	FD11-185 (289 lbs.) (29G10)
	Transition	SRT16-95 (29 lbs.) (33G96)	SRT16-135 (38 lbs.) (97H10)	SRT16-160 (70 lbs.) (97H11)
Outdoor Air Dampers — (Net Weight) No. & size of filters (in.)		OAD16-95 (41 lbs.) (1) 16 x 20 x 1 (35G26)	OAD16-135 (43 lbs.) (1) 16 x 20 x 1 (35G25)	OAD16-160 (45 lbs.) (1) 16 x 20 x 1 (51G30)
Automatic OAD16 Damper Kit — (Net Weight)		35G21 (7 lbs.)		
Low Ambient Control Kit		LB-57113BG (15J80)	LB-57113BH (16J86)	LB-57113BJ (16J87)
Timed-Off Control Kit (2) LB-50709BA		40G20		

\*\*For LPG units a field conversion kit is required and must be ordered extra.

**GCS16-1853 Thru -3003 OPTIONAL ACCESSORIES (Must Be Ordered Extra)**

Unit Model No.		GCS16-1853	GCS16-2553, GCS16-2753 & GCS16-3003	
**LPG Conversion Kit		LB-81509DA (12H31)	LB-81509DA (12H31) (2 required on -470)	
Roof Mounting Frame — (Net Weight)		RMF16-185 (127 lbs.) (12H05)	RMF16-300 (180 lbs.) (41H04)	
Economizer Dampers with Gravity Exhaust— (Net Weight) No. & size of filters (in.)		REMD16M-185 (160 lbs.) (2) 25 x 25 x 1 (40H14)	REMD16M-300 (210 lbs.) (3) 20 x 25 x 1 (44H47)	
Differential Enthalpy Control		54G44		
Optional Power Exhaust Fans (Down-Flo Only)	Model No. (Net Weight)	208/230v	PED16-185 (60 lbs.) (12H16)	PED16-300 (91 lbs.) (44H79)
		460v	PED16-185 (60 lbs.) (12H17)	PED16-300 (91 lbs.) (44H80)
	Diameter (in.) & No. of Blades		(2) 16 — 5	(3) 16 — 5
	Total air volume (cfm)		4200	6300
	Motor Horsepower		(2) 1/4	(3) 1/4
	Watts input (total)		500	750
Horizontal Supply and Return Air Kit — (Net Weight)		LB-55756BD (52 lbs.) (12H04)	LB-55756BE (60 lbs.) (41H23)	
Ceiling Supply and Return Air Diffusers (Net Weight)	Step-Down	RTD11-185 (392 lbs.) (29G06)	RTD11-275 (403 lbs.) (29G07)	
	Flush	FD11-185 (289 lbs.) (29G10)	FD11-275 (363 lbs.) (29G11)	
	Transition	SRT16-185 (75 lbs.) (97H12)	SRT16-300 (120 lbs.) (97H13)	
Outdoor Air Dampers — (Net Weight) No. & size of filters (in.)		OAD16-185 (120 lbs.) (1) 25 x 27 x 1 (12H03)	OAD16-300 (84 lbs.) (1) 26 x 31 x 1 (40H47)	
Automatic OAD16 Damper Kit — (Net Weight)		35G21 (7 lbs.)		
Low Ambient Control Kit		LB-57113BK (16J88)	LB-57113BL (16J89)	

\*\*For LPG units a field conversion kit is required and must be ordered extra.

**ELECTRICAL DATA — GCS16-953, -1353 & -1603**

Model No.		GCS16-953		GCS16-1353				GCS16-1603	
Line voltage data — 60 hz — 3 phase		208/230v	460v	208/230v	460v	208/230v	460v	208/230v	460v
Compressors (2)	Rated load amps — each (total)	14.8/14.1 (28.9)	7.7/7.1 (14.8)	17.3/17.3 (34.6)	9.6/9.6 (19.2)	27.1/17.9 (45.0)	14.2/10.0 (24.2)		
	Locked rotor amps — each (total)	130/130 (260.0)	64/64 (128.0)	150/150 (300.0)	73/73 (146.0)	183/150 (323.0)	91/73 (164)		
Condenser Fan Motor(s)	Full load amps (total)	3.7	1.9	2.1/2.1 (4.2)	1.2/1.2 (2.4)	3.0/3.0 (6.0)	1.5/1.5 (3.0)		
	Locked rotor amps (total)	7.3	3.7	5.1/5.1 (10.2)	2.7/2.7 (5.4)	6.2/6.2 (12.4)	3.4/3.4 (6.8)		
Evaporator Blower Motor	Horsepower	2	2	2	3	2	3	3	3
	Full load amps	7.5	3.4	7.5	10.6	3.4	4.8	10.6	4.8
	Locked rotor amps	41.0	20.4	41.0	58.0	20.4	26.8	58.0	26.8
**Recommended maximum fuse size (amps)		50	25	60	60	35	35	90	45
*Minimum Circuit Ampacity		44.0	23.0	51.0	54.0	28.0	29.0	69.0	36.0
Unit power factor		.88	.88	.88	.88	.88	.88	.88	.88

\*Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.  
 NOTE — Extremes of operating range are plus and minus 10 % of line voltage.  
 \*\*Where current does not exceed 100 amps, HACR type circuit breaker may be used in place of fuse.

**ELECTRICAL DATA — GCS16-1853, -2553, -2753 & -3003**

Model No.		GCS16-1853				GCS16-2553				GCS16-2753				GCS16-3003				
Line voltage data — 60 hz — 3 phase		208/230v		460v		208/230v		460v		208/230v		460v		208/230v		460v		
Compressors	Rated load amps	each	(3) 19.2	(3) 9.6	(2) 31.0	(2) 16.8	(2) 37.1	(2) 17.8	(2) 46.5	(2) 22.2								
		total	57.6	28.8	62.0	33.6	74.2	35.6	93.0	44.4								
	Locked rotor amps	each	(3) 124	(3) 62	(2) 205.0	(2) 104.0	(2) 239.0	(2) 120.0	(2) 269.0	(2) 135.0								
		total	372.0	186.0	410.0	208.0	478.0	240.0	538.0	270.0								
Condenser Fan Motors (2)	Full load amps (total)	9.6	4.8	9.6	4.8	9.6	4.8	9.6	4.8	9.6	4.8	9.6	4.8	9.6	4.8	9.6	4.8	
	Locked rotor amps (total)	24.0	12.0	46.0	23.0	46.0	23.0	46.0	23.0	46.0	23.0	46.0	23.0	46.0	23.0	46.0	23.0	
Evaporator Blower Motor	Horsepower	3	5	3	5	5	7-1/2	5	7-1/2	5	7-1/2	5	7-1/2	7-1/2	10	7-1/2	10	
	Full load amps	10.6	16.7	4.8	7.6	16.7	24.2	7.6	11.0	16.7	24.2	7.6	11.0	24.2	30.8	11.0	14.0	
	Locked rotor amps	58.0	91.0	26.8	45.6	105.0	152.0	45.6	66.0	105.0	152.0	45.6	66.0	152.0	193.0	66.0	84.0	
Optional Power Exhaust Fans	(No.) Horsepower	(2) — 1/4	(2) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	(3) — 1/4	
	Full load amps (total)	2.8	1.4	4.2	2.2	4.2	2.2	4.2	2.2	4.2	2.2	4.2	2.2	4.2	2.2	4.2	2.2	
	Locked rotor amps (total)	6.5	3.3	8.7	3.9	8.7	3.9	8.7	3.9	8.7	3.9	8.7	3.9	8.7	3.9	8.7	3.9	
**Recommended max. fuse size (amps)	With Exhaust Fans	100	110	50	50	125	125	60	70	150	150	70	70	175	175	90	90	
	Less Exhaust Fans	100	110	50	50	125	125	60	70	125	150	70	70	175	175	90	90	
*Minimum Circuit Ampacity	With Exhaust Fans	85.0	95.0	45.0	50.0	101.0	108.0	53.0	56.0	114.0	122.0	55.0	58.0	143.0	150.0	68.0	71.0	
	Less Exhaust Fans	82.0	92.0	43.0	48.0	97.0	104.0	51.0	54.0	110.0	118.0	53.0	56.0	139.0	146.0	66.0	69.0	
Unit Power Factor	With Exhaust Fans	.84	.84	.84	.84	.88	.88	.88	.88	.88	.88	.88	.88	.87	.87	.87	.87	
	Less Exhaust Fans	.84	.84	.84	.84	.88	.88	.88	.88	.88	.88	.88	.88	.87	.87	.87	.87	

\*Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.  
 NOTE — Extremes of operating range are plus and minus 10 % of line voltage.  
 \*\*Where current does not exceed 100 amps, HACR type circuit breaker may be used in place of fuse.

**W973 CONTROL SYSTEM**

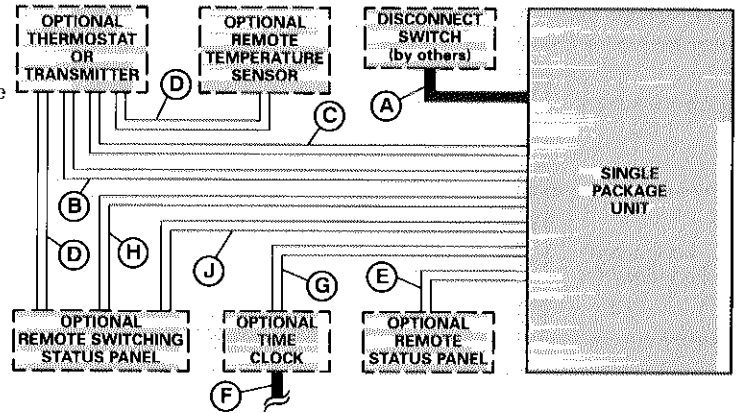
- A — Three wire power (See Electrical Data Table)
- B — Seven wire low voltage — DC only
- Five wire low voltage — DC only — with SSP11 Switching Status Panel
- Seven wire low voltage — DC only — with switching subbase
- C — Two wire low voltage — AC only — with switching subbase
- D — Two wire low voltage — DC only
- E — Nine wire low voltage — AC only
- F — Two wire low voltage — AC only
- G — Two wire low voltage — AC only
- H — Thirteen wire low voltage — AC only
- J — Two wire low voltage — DC only

AC — Alternating current  
DC — Direct current

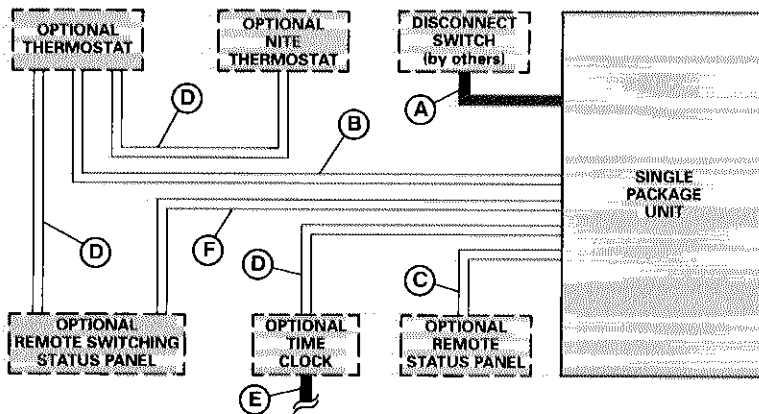
NOTE — Run separate harnesses for AC and DC.  
AC voltage interferes with DC signals.

— Field wiring not furnished —

NOTE — All wiring must conform to NEC and local electrical codes.



**ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM**



- A — Three wire power (See Electrical Data Table)
- B — Six wire low voltage
- Five wire low voltage — with SSP11 Switching Status Panel
- C — Nine wire low voltage
- D — Two wire low voltage
- E — Two wire low voltage
- F — Sixteen wire low voltage

— Field wiring not furnished —

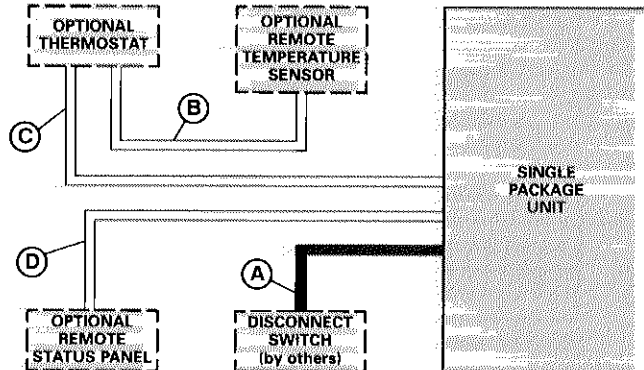
NOTE — All wiring must conform to NEC and local electrical codes.

**W7400 CONTROL SYSTEM**

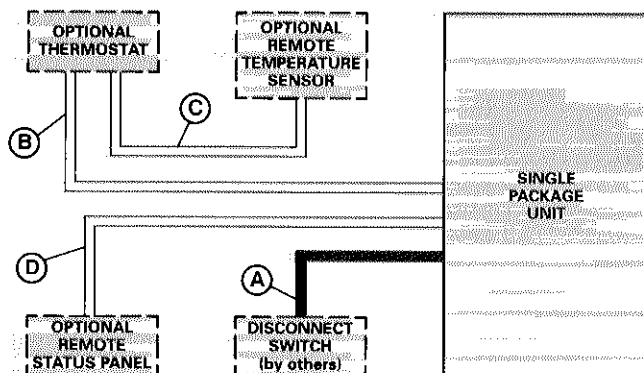
- A — Three wire power (See Electrical Data Table)
- B — Two wire low voltage
- C — Four wire low voltage
- D — Nine wire low voltage

— Field wiring not furnished —

NOTE — All wiring must conform to NEC and local electrical codes.



**T7300 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)
- D — Nine wire low voltage

— Field wiring not furnished —

NOTE — All wiring must conform to NEC and local electrical codes.

# RATINGS

NOTE -- To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 9.

## GCS16-953 COOLING CAPACITY (With One Compressor Only Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																			
		65					75					85					95				
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)		
			75	80	85				75	80	85				75	80	85				
63	2500	56,100	2940	.68	.79	.90	54,100	3230	.69	.80	.92	51,900	3530	.70	.82	.94	49,800	3830	.71	.84	.96
	3000	58,900	2960	.71	.83	.95	56,700	3260	.72	.85	.97	54,300	3570	.73	.87	.98	52,200	3880	.75	.88	1.00
	3500	61,200	2980	.74	.87	.99	58,900	3290	.75	.89	1.00	56,100	3610	.76	.91	1.00	53,800	3930	.78	.93	1.00
67	2500	59,000	2960	.55	.65	.76	56,900	3270	.55	.66	.77	54,700	3580	.56	.67	.78	52,500	3900	.56	.68	.80
	3000	62,000	2990	.56	.68	.80	59,500	3300	.57	.69	.81	57,300	3630	.58	.71	.83	54,900	3950	.59	.72	.85
	3500	64,000	3010	.58	.71	.84	61,700	3330	.59	.72	.85	59,200	3660	.60	.74	.87	56,700	4000	.61	.75	.90
71	2500	61,900	2990	.43	.53	.63	59,700	3300	.43	.53	.64	57,600	3630	.43	.54	.65	55,200	3960	.43	.55	.66
	3000	64,600	3020	.43	.55	.66	62,300	3340	.43	.55	.67	59,900	3680	.44	.56	.68	57,500	4020	.44	.57	.69
	3500	66,900	3040	.43	.56	.69	64,400	3370	.44	.57	.70	61,900	3710	.44	.58	.71	59,300	4060	.44	.59	.73

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

## GCS16-953 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																			
		85					95					105					115				
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)		
			75	80	85				75	80	85				75	80	85				
63	2500	88,200	7160	.72	.85	.97	84,500	7660	.73	.86	.99	80,700	8140	.75	.88	1.00	76,300	8590	.76	.91	1.00
	3000	91,900	7290	.75	.89	1.00	87,600	7790	.77	.92	1.00	83,400	8280	.78	.94	1.00	79,300	8760	.81	.97	1.00
	3500	94,500	7380	.78	.95	1.00	90,100	7890	.80	.96	1.00	85,800	8410	.82	.98	1.00	81,600	8890	.85	1.00	1.00
67	2500	92,700	7320	.57	.70	.81	88,900	7850	.58	.71	.83	84,900	8370	.59	.72	.85	80,900	8860	.60	.74	.87
	3000	96,300	7460	.60	.73	.86	92,300	8000	.60	.74	.88	88,100	8530	.61	.76	.91	83,900	9030	.62	.78	.93
	3500	99,200	7560	.62	.76	.91	94,900	8120	.63	.78	.93	90,600	8650	.64	.80	.96	86,000	9150	.65	.82	.98
71	2500	97,100	7490	.44	.56	.67	93,200	8040	.44	.56	.68	89,200	8580	.44	.57	.69	85,100	9100	.44	.58	.71
	3000	100,700	7620	.44	.58	.70	96,600	8190	.45	.59	.72	92,300	8740	.45	.60	.73	88,000	9270	.46	.61	.75
	3500	103,600	7730	.45	.60	.74	99,200	8310	.45	.61	.75	94,700	8860	.46	.62	.77	90,200	9390	.47	.64	.80

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

## GCS16-1353 COOLING CAPACITY (With One Compressor Only Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																			
		65					75					85					95				
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)		
			75	80	85				75	80	85				75	80	85				
63	3500	71,500	4010	.70	.81	.93	68,700	4390	.71	.83	.95	66,000	4780	.72	.85	.97	63,300	5170	.73	.87	.99
	4250	74,700	4080	.74	.87	.99	71,700	4470	.74	.88	1.00	68,900	4860	.76	.90	1.00	65,800	5250	.77	.93	1.00
	5000	77,200	4120	.77	.91	1.00	73,900	4520	.78	.94	1.00	70,800	4910	.80	.96	1.00	67,600	5310	.81	.98	1.00
67	3500	75,400	4090	.56	.67	.78	72,700	4480	.56	.68	.79	69,900	4880	.57	.69	.81	67,000	5290	.57	.70	.83
	4250	78,800	4150	.58	.72	.83	75,700	4550	.58	.72	.85	72,700	4960	.59	.73	.87	69,500	5370	.60	.75	.89
	5000	80,900	4190	.59	.74	.88	77,900	4600	.61	.76	.90	74,800	5020	.63	.78	.92	71,500	5440	.63	.80	.95
71	3500	78,900	4160	.44	.54	.64	76,300	4570	.43	.54	.65	73,700	4980	.43	.55	.66	70,800	5410	.44	.56	.68
	4250	81,800	4210	.43	.56	.69	79,000	4630	.44	.57	.69	76,100	5060	.45	.58	.71	73,300	5490	.44	.58	.72
	5000	83,500	4240	.44	.58	.72	81,100	4670	.44	.59	.74	78,200	5110	.45	.61	.75	75,100	5550	.46	.63	.77

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

## GCS16-1353 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																			
		85					95					105					115				
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)		
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)		
			75	80	85				75	80	85				75	80	85				
63	3500	118,100	9770	.72	.86	.98	113,100	10,480	.74	.87	1.00	107,800	11,180	.75	.90	1.00	102,000	11,830	.77	.93	1.00
	4250	122,600	9930	.76	.91	1.00	117,400	10,650	.78	.93	1.00	111,000	11,350	.80	.96	1.00	105,300	12,040	.82	.99	1.00
	5000	126,100	10,040	.80	.96	1.00	120,300	10,760	.82	.99	1.00	114,300	11,500	.84	1.00	1.00	109,600	12,260	.87	1.00	1.00
67	3500	125,000	10,000	.57	.70	.82	119,800	10,750	.58	.71	.84	114,400	11,490	.59	.73	.86	108,800	12,210	.60	.74	.89
	4250	129,600	10,170	.59	.74	.88	124,200	10,930	.60	.75	.90	118,400	11,690	.62	.77	.92	112,800	12,420	.63	.79	.95
	5000	133,300	10,280	.62	.77	.92	127,100	11,060	.63	.80	.95	121,300	11,830	.64	.82	.98	115,500	12,570	.66	.84	1.00
71	3500	131,800	10,230	.43	.55	.67	126,500	11,010	.44	.56	.68	120,900	11,790	.44	.57	.70	115,000	12,560	.44	.58	.72
	4250	136,200	10,390	.44	.58	.71	130,800	11,190	.45	.59	.73	125,100	11,990	.45	.60	.75	119,100	12,760	.45	.61	.77
	5000	139,300	10,500	.45	.60	.75	134,100	11,320	.46	.62	.77	127,900	12,130	.46	.63	.79	121,800	12,910	.47	.64	.82

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

**RATINGS**

NOTE — To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 9.

**GCS16-1603 COOLING CAPACITY (With One Compressor Only Operating)**

Enter. Wet Bulb (°F)		Total Air Vol. (cfm)		Outdoor Air Temperature Entering Condenser Coil (°F)																							
				65						75						85						95					
				Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
						Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
		75	80	85			75	80	85			75	80	85			75	80	85								
63	4,200	96,700	6830	.68	.79	.90	92,700	7250	.69	.81	.92	88,600	7640	.70	.83	.94	84,300	8020	.72	.84	.96						
	5,000	100,500	6980	.71	.83	.94	96,300	7400	.72	.84	.96	92,000	7810	.73	.87	.98	87,400	8190	.75	.89	1.00						
	5,800	103,300	7080	.73	.86	.98	98,800	7520	.74	.88	1.00	94,300	7930	.76	.90	1.00	89,900	8320	.77	.92	1.00						
67	4,200	101,300	7010	.55	.66	.76	97,300	7440	.55	.67	.77	93,200	7870	.56	.68	.79	88,900	8270	.57	.69	.81						
	5,000	105,200	7160	.56	.68	.79	101,000	7610	.57	.69	.81	96,600	8020	.58	.70	.83	92,100	8440	.58	.72	.85						
	5,800	108,200	7280	.57	.70	.83	103,900	7720	.58	.72	.84	99,200	8160	.59	.73	.87	94,400	8580	.60	.75	.89						
71	4,200	105,800	7190	.42	.53	.63	101,900	7630	.42	.54	.64	97,700	8070	.43	.54	.65	93,300	8510	.43	.55	.66						
	5,000	109,800	7340	.43	.54	.66	105,600	7800	.43	.55	.67	101,100	8240	.43	.56	.68	96,400	8680	.44	.57	.69						
	5,800	112,700	7460	.43	.56	.68	108,400	7920	.44	.57	.69	103,600	8380	.45	.58	.71	98,700	8800	.45	.59	.72						

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

**GCS16-1603 TOTAL COOLING CAPACITY (With Both Compressors Operating)**

Enter. Wet Bulb (°F)		Total Air Vol. (cfm)		Outdoor Air Temperature Entering Condenser Coil (°F)																							
				85						95						105						115					
				Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
						Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
		75	80	85			75	80	85			75	80	85			75	80	85								
63	4200	142,600	12,310	.70	.83	.94	136,000	13,010	.72	.84	.96	129,300	13,660	.73	.87	.99	122,300	14,250	.75	.89	1.00						
	5000	148,000	12,550	.73	.87	.97	141,000	13,250	.75	.89	.99	133,800	13,920	.76	.91	1.0	126,800	14,530	.78	.93	1.00						
	5800	151,800	12,730	.76	.90	1.00	144,700	13,450	.77	.92	1.00	137,800	14,130	.79	.95	1.00	129,900	14,730	.81	.97	1.00						
67	4200	150,100	12,650	.56	.68	.79	143,400	13,380	.57	.69	.81	136,500	14,080	.58	.71	.83	129,600	14,720	.59	.72	.85						
	5000	155,600	12,880	.58	.70	.83	148,600	13,640	.58	.72	.85	141,300	14,340	.59	.74	.87	134,000	15,000	.61	.75	.90						
	5800	159,800	13,070	.59	.73	.87	152,500	13,840	.60	.75	.89	145,000	14,550	.61	.77	.91	137,500	15,210	.63	.79	.94						
71	4200	157,400	12,950	.43	.54	.65	150,600	13,740	.43	.55	.66	143,700	14,480	.44	.56	.68	136,500	15,150	.44	.57	.69						
	5000	163,000	13,200	.43	.56	.68	155,800	13,990	.44	.57	.69	148,400	14,740	.44	.58	.71	141,100	15,460	.45	.59	.73						
	5800	167,200	13,390	.44	.58	.71	159,600	14,180	.45	.59	.72	152,100	14,960	.45	.60	.74	144,400	15,680	.45	.61	.76						

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

**GCS16-1853 COOLING CAPACITY (With Two Compressors Operating)**

Enter. Wet Bulb (°F)		Total Air Vol. (cfm)		Outdoor Air Temperature Entering Condenser Coil (°F)																							
				65						75						85						95					
				Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
						Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
		75	80	85			75	80	85			75	80	85			75	80	85								
63	5400	134,800	8080	.66	.79	.93	129,100	8580	.67	.82	.96	122,800	9190	.69	.84	.99	116,200	9940	.71	.87	1.00						
	6400	139,900	8150	.69	.84	.98	133,900	8670	.70	.87	1.00	127,600	9310	.72	.90	1.00	120,600	10,100	.75	.94	1.00						
	7400	144,000	8210	.72	.88	1.00	137,700	8750	.74	.92	1.00	129,900	9570	.76	.94	1.00	123,100	10,200	.79	.98	1.00						
67	5400	142,100	8180	.52	.63	.75	136,400	8720	.53	.65	.77	130,200	9390	.54	.66	.80	123,600	10,220	.55	.68	.83						
	6400	147,300	8260	.54	.66	.80	141,400	8820	.55	.67	.82	135,000	9520	.55	.69	.85	128,000	10,380	.57	.72	.89						
	7400	151,300	8310	.56	.69	.84	145,300	8890	.56	.71	.87	138,600	9620	.57	.73	.91	131,500	10,510	.59	.76	.94						
71	5400	149,000	8280	.40	.51	.61	143,500	8860	.40	.51	.62	137,500	9580	.40	.52	.63	130,900	10,490	.41	.53	.65						
	6400	154,100	8340	.41	.52	.64	148,500	8950	.40	.53	.65	142,300	9710	.41	.54	.67	135,400	10,670	.41	.55	.69						
	7400	158,200	8400	.41	.54	.66	152,400	9030	.41	.55	.68	146,000	9820	.41	.56	.70	139,000	10,810	.42	.57	.73						

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

**GCS16-1853 TOTAL COOLING CAPACITY (With Three Compressors Operating)**

Enter. Wet Bulb (°F)		Total Air Vol. (cfm)		Outdoor Air Temperature Entering Condenser Coil (°F)																							
				85						95						105						115					
				Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)						
						Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)						
		75	80	85			75	80	85			75	80	85			75	80	85								
63	5400	181,000	14,290	.69	.84	.99	171,200	15,470	.71	.87	1.00	159,600	16,860	.73	.91	1.00	149,400	18,680	.76	.95	1.00						
	6400	188,000	14,480	.72	.90	1.00	177,700	15,700	.75	.94	1.00	165,300	17,170	.78	.97	1.00	154,200	19,080	.81	1.00	1.00						
	7400	194,000	14,620	.76	.94	1.00	181,400	15,870	.79	.98	1.00	170,600	17,470	.82	1.00	1.00	161,000	19,550	.86	1.00	1.00						
67	5400	191,900	14,610	.54	.66	.80	182,100	15,900	.55	.68	.82	171,200	17,500	.56	.70	.86	160,300	19,490	.58	.72	.90						
	6400	198,800	14,800	.55	.69	.85	188,600	16,150	.57	.72	.88	178,100	17,840	.59	.74	.93	165,900	19,960	.60	.78	.97						
	7400	204,200	14,960	.57	.73	.91	193,700	16,360	.59	.76	.93	182,400	18,130	.61	.79	.98	170,400	20,310	.63	.83	1.00						
71	5400	202,600	14,910	.40	.52	.63	192,800	16,320	.41	.53	.65	182,200	18,110	.42	.55	.67	170,700	20,360	.42	.56	.70						
	6400	209,600	15,110	.41	.54	.67	199,500	16,600	.41	.55	.68	188,600	18,490	.42	.57	.71	176,500	20,860	.43	.59	.74						
	7400	215,100	15,270	.42	.56	.70	204,800	16,820	.42	.57	.72	193,500	18,780	.43	.59	.75	182,100	21,240	.44	.61	.79						

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



# RATINGS

NOTE To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 9.

## GCS16-2553 COOLING CAPACITY (With One Compressor Only Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																							
		65						75						85						95					
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)						
				75	80	85			75	80	85			75	80	85			75	80	85				
63	6000	113,700	6710	.59	.73	.85	110,000	7350	.60	.74	.86	105,700	8040	.61	.75	.88	101,300	8730	.62	.76	.90				
	7500	121,100	6830	.63	.77	.92	116,800	7500	.64	.79	.94	112,300	8200	.65	.80	.97	107,500	8920	.66	.82	.99				
	9000	126,800	6910	.67	.82	1.00	122,000	7610	.68	.84	1.00	117,000	8320	.70	.86	1.00	111,700	9060	.71	.88	1.00				
67	6000	120,400	6810	.46	.59	.70	116,300	7500	.47	.60	.71	112,000	8200	.47	.60	.72	107,200	8930	.48	.61	.74				
	7500	128,400	6930	.49	.61	.76	123,600	7640	.49	.62	.77	119,000	8370	.50	.63	.79	113,800	9120	.50	.65	.80				
	9000	133,900	7030	.51	.65	.81	128,900	7750	.51	.66	.83	123,800	8490	.52	.67	.85	118,200	9270	.53	.69	.87				
71	6000	127,300	6920	.35	.48	.58	122,800	7630	.35	.48	.58	118,200	8350	.35	.49	.59	113,500	9120	.35	.49	.60				
	7500	135,100	7050	.36	.49	.61	130,400	7770	.36	.50	.62	125,500	8530	.36	.50	.63	120,100	9320	.36	.51	.64				
	9000	140,700	7140	.37	.51	.65	135,600	7880	.37	.52	.66	130,200	8660	.37	.52	.68	124,500	9470	.37	.53	.69				

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

## GCS16-2553 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																							
		85						95						105						115					
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)						
				75	80	85			75	80	85			75	80	85			75	80	85				
63	6000	213,000	15,680	.68	.82	.95	204,300	17,030	.69	.84	.97	194,800	18,400	.70	.86	.99	184,800	19,750	.71	.89	1.00				
	7500	224,100	15,960	.72	.89	1.00	214,100	17,340	.74	.91	1.00	203,800	18,750	.75	.94	1.00	192,800	20,130	.77	.96	1.00				
	9000	231,500	16,170	.77	.95	1.00	219,400	17,520	.79	.98	1.00	210,000	18,970	.81	.99	1.00	198,800	20,460	.83	1.00	1.00				
67	6000	225,400	16,000	.53	.67	.80	215,800	17,410	.54	.68	.81	206,100	18,850	.55	.69	.83	195,800	20,310	.56	.71	.85				
	7500	236,800	16,300	.56	.71	.86	226,500	17,740	.57	.72	.88	215,700	19,220	.58	.74	.90	204,500	20,720	.59	.76	.92				
	9000	244,300	16,510	.59	.75	.93	233,400	17,980	.60	.77	.95	222,100	19,490	.61	.79	.97	210,400	21,030	.62	.82	1.00				
71	6000	237,400	16,330	.40	.53	.66	227,500	17,790	.40	.54	.67	217,300	19,300	.41	.54	.68	206,500	20,840	.41	.55	.70				
	7500	248,700	16,620	.41	.56	.71	238,100	18,120	.42	.56	.72	227,000	19,680	.42	.58	.73	215,400	21,270	.42	.59	.75				
	9000	256,400	16,830	.42	.58	.75	245,400	18,370	.43	.59	.77	233,500	19,960	.43	.61	.78	221,200	21,580	.44	.62	.80				

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

## GCS16-2753 COOLING CAPACITY (With One Compressor Only Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																							
		65						75						85						95					
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)						
				75	80	85			75	80	85			75	80	85			75	80	85				
63	7000	126,100	8270	.62	.75	.86	121,300	8970	.63	.76	.87	116,000	9740	.64	.77	.89	110,600	10,550	.65	.79	.91				
	8500	133,500	8420	.65	.78	.92	128,300	9140	.66	.79	.93	122,300	9920	.68	.81	.96	116,800	10,770	.69	.83	.98				
	10,000	139,200	8540	.69	.81	.97	133,200	9270	.70	.83	1.00	127,300	10,070	.71	.85	1.00	120,900	10,920	.73	.87	1.00				
67	7000	133,500	8420	.49	.62	.73	127,900	9150	.49	.63	.74	122,600	9940	.50	.64	.75	117,400	10,800	.50	.64	.77				
	8500	141,100	8570	.51	.64	.77	135,500	9320	.51	.65	.78	129,700	10,140	.52	.66	.80	123,900	11,010	.53	.67	.82				
	10,000	146,700	8680	.53	.67	.82	140,800	9450	.53	.68	.83	134,600	10,280	.54	.69	.85	128,700	11,160	.55	.70	.87				
71	7000	140,600	8560	.36	.51	.61	135,100	9320	.37	.51	.61	129,600	10,140	.37	.52	.62	123,900	11,010	.37	.52	.63				
	8500	148,400	8700	.37	.52	.64	142,600	9490	.37	.52	.65	136,700	10,330	.38	.53	.66	130,800	11,220	.38	.54	.67				
	10,000	154,100	8820	.38	.53	.67	148,000	9600	.38	.54	.68	141,900	10,470	.39	.55	.69	135,700	11,390	.39	.56	.71				

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

## GCS16-2753 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																							
		85						95						105						115					
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb (°F)						
				75	80	85			75	80	85			75	80	85			75	80	85				
63	7000	243,200	19,930	.69	.83	.95	232,300	21,610	.70	.85	.97	221,800	23,390	.71	.87	.99	210,800	25,220	.73	.89	1.00				
	8500	253,900	20,250	.73	.88	1.00	242,400	21,970	.74	.90	1.00	231,100	23,770	.76	.93	1.00	219,200	26,640	.77	.95	1.00				
	10,000	261,500	20,490	.77	.93	1.00	249,500	22,220	.79	.96	1.00	235,800	23,970	.81	.98	1.00	224,800	25,900	.82	1.00	1.00				
67	7000	256,800	20,350	.54	.68	.81	245,700	22,090	.55	.69	.82	234,800	23,940	.56	.70	.84	223,800	25,860	.56	.72	.85				
	8500	267,900	20,660	.57	.71	.86	256,300	22,440	.57	.73	.88	245,000	24,310	.58	.74	.89	232,700	26,270	.59	.76	.92				
	10,000	275,900	20,880	.59	.75	.91	263,700	22,690	.60	.77	.93	251,400	24,600	.61	.78	.96	239,300	26,580	.62	.81	.98				
71	7000	270,300	20,730	.41	.54	.68	258,900	22,540	.41	.55	.69	247,600	24,450	.41	.56	.70	236,300	26,450	.42	.56	.71				
	8500	281,400	21,020	.42	.56	.71	269,400	22,880	.42	.57	.73	257,600	24,820	.42	.58	.74	245,500	26,850	.43	.59	.75				
	10,000	289,500	21,250	.43	.58	.75	277,000	23,110	.43	.60	.77	264,700	25,090	.43	.61	.78	252,200	27,150	.44	.62	.80				

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

## RATINGS

NOTE — To determine Sensible Capacity, Leaving Wet and Dry Bulb temperatures not shown in the tables, see Miscellaneous Engineering Data section, page 9.

### GCS16-3003 COOLING CAPACITY (With One Compressor Only Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																			
		65			75			85			95										
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)							
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)							
75	80	85	75	80	85	75	80	85	75	80	85										
63	8500	152,900	9740	.63	.76	.90	147,400	10,640	.64	.78	.92	141,900	11,570	.65	.80	.95	136,300	12,510	.66	.81	.97
	10,000	158,500	9880	.65	.81	.96	152,800	10,800	.67	.82	.98	146,900	11,730	.68	.84	1.00	140,900	12,700	.69	.87	1.00
	11,500	163,000	9980	.68	.85	1.00	156,900	10,910	.69	.87	1.00	150,800	11,860	.71	.89	1.00	144,600	12,840	.73	.92	1.00
67	8500	160,900	9930	.50	.61	.72	155,400	10,860	.50	.61	.74	149,700	11,830	.51	.62	.75	143,700	12,810	.51	.63	.77
	10,000	166,600	10,070	.51	.63	.77	160,900	11,020	.52	.64	.78	154,700	12,000	.52	.65	.80	148,500	13,000	.53	.67	.82
	11,500	171,000	10,170	.53	.65	.81	165,100	11,140	.53	.67	.83	158,700	12,130	.54	.68	.85	152,200	13,160	.55	.70	.88
71	8500	169,100	10,120	.38	.48	.58	163,500	11,090	.38	.49	.59	157,300	12,090	.38	.49	.60	151,100	13,110	.38	.50	.61
	10,000	174,800	10,260	.38	.50	.61	168,700	11,230	.38	.50	.62	162,400	12,250	.38	.51	.63	155,700	13,300	.39	.52	.64
	11,500	179,200	10,360	.38	.51	.63	172,900	11,350	.39	.52	.64	166,200	12,390	.39	.53	.66	159,400	13,450	.39	.54	.67

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

### GCS16-3003 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Enter. Wet Bulb (°F)	Total Air Vol. (cfm)	Outdoor Air Temperature Entering Condenser Coil (°F)																			
		85			95			105			115										
		Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)			Total Cool. Cap. (Btuh)	Comp. Motor Watts Input	Sensible To Total Ratio (S/T)							
				Dry Bulb (°F)					Dry Bulb (°F)					Dry Bulb (°F)							
75	80	85	75	80	85	75	80	85	75	80	85										
63	8500	293,400	24,500	.72	.85	.97	281,800	26,490	.73	.87	.99	269,300	28,490	.75	.89	1.00	256,200	30,450	.76	.91	1.00
	10,000	303,700	24,850	.75	.89	1.00	291,300	26,890	.76	.91	1.00	278,000	28,920	.78	.93	1.00	264,300	30,920	.80	.96	1.00
	11,500	311,700	25,120	.78	.93	1.00	298,900	27,190	.79	.95	1.00	283,300	29,170	.81	.98	1.00	268,300	31,100	.83	.99	1.00
67	8500	309,400	25,050	.57	.70	.82	297,100	27,130	.58	.71	.83	284,200	29,230	.58	.72	.85	270,600	31,330	.59	.74	.87
	10,000	319,800	25,410	.59	.72	.86	306,900	27,540	.59	.74	.87	293,100	29,690	.60	.75	.90	278,900	31,830	.61	.77	.92
	11,500	328,100	25,690	.60	.75	.90	314,600	27,860	.61	.77	.92	300,000	30,040	.62	.79	.94	285,300	32,220	.64	.81	.97
71	8500	325,200	25,590	.42	.55	.67	312,300	27,760	.43	.56	.68	298,800	29,970	.43	.57	.69	284,700	32,180	.43	.58	.71
	10,000	335,700	25,950	.43	.57	.70	321,900	28,170	.43	.58	.71	307,600	30,430	.44	.59	.73	292,600	32,690	.44	.60	.75
	11,500	343,500	26,230	.43	.59	.73	329,500	28,490	.44	.60	.74	314,500	30,790	.44	.61	.76	299,000	33,090	.45	.62	.78

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

## BLOWER DATA

### GCS16-953 BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																			
	.20		.40		.60		.70		.80		.90		1.00		1.10		1.30		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2400	---	---	---	---	860	.95	905	1.05	955	1.55	1000	1.25	1050	1.40	1100	1.55	1195	1.95	1285	2.25
2600	---	---	---	---	885	1.10	930	1.20	970	1.30	1015	1.40	1060	1.55	1105	1.70	1200	2.15	---	---
2800	---	---	830	1.05	910	1.25	955	1.35	995	1.45	1035	1.60	1075	1.70	1115	1.85	1210	2.25	---	---
3000	---	---	860	1.20	945	1.45	980	1.55	1020	1.65	1060	1.80	1095	1.90	1135	2.05	---	---	---	---
3200	835	1.20	905	1.40	975	1.60	1010	1.75	1050	1.90	1085	2.00	---	---	---	---	---	---	---	---
3400	880	1.40	945	1.60	1010	1.85	1045	2.00	1080	2.10	---	---	---	---	---	---	---	---	---	---
3600	920	1.65	985	1.85	1050	2.10	1080	2.25	---	---	---	---	---	---	---	---	---	---	---	---
3800	965	1.90	1025	2.15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 23 for Accessory Air Resistance data.

**BLOWER DATA**

**GCS16-1353 BLOWER PERFORMANCE**

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																			
	.20		.40		.60		.70		.80		.90		1.00		1.10		1.30		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3600	----	----	672	1.14	740	1.36	772	1.47	802	1.60	831	1.74	860	1.87	887	2.00	940	2.30	985	2.60
3800	----	----	690	1.27	760	1.48	790	1.64	820	1.78	850	1.93	878	2.06	905	2.20	950	2.46	994	2.76
4000	642	1.18	715	1.43	778	1.67	809	1.81	838	1.95	866	2.09	895	2.24	920	2.38	968	2.66	1013	2.96
4200	670	1.35	736	1.50	798	1.87	828	2.00	856	2.13	885	2.28	913	2.43	938	2.56	984	2.86	1030	3.19
4400	693	1.52	760	1.79	821	2.06	850	2.29	878	2.36	905	2.50	930	2.63	955	2.77	1003	3.08	----	----
4600	718	1.70	785	2.00	843	2.29	872	2.44	900	2.59	923	2.71	948	2.84	974	3.00	1021	3.32	----	----
4800	747	1.93	807	2.22	865	2.41	892	2.66	918	2.82	940	2.93	970	3.09	995	3.25	----	----	----	----
5000	772	2.16	830	2.46	887	2.76	915	2.92	940	3.07	965	3.24	989	3.43	----	----	----	----	----	----
5200	800	2.41	860	2.75	915	2.92	940	3.22	965	3.42	----	----	----	----	----	----	----	----	----	----

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 23 for Accessory Air Resistance data.

NOTE — Data in shaded area denotes optional 3 hp drive kit.

**GCS16-1603 BLOWER PERFORMANCE**

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																			
	.20		.40		.60		.70		.80		.90		1.00		1.10		1.30		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4200	----	----	750	1.67	810	1.91	840	2.05	870	2.17	900	2.31	930	2.45	955	2.60	1010	2.90	1045	3.14
4400	710	1.59	770	1.83	830	2.10	860	2.24	890	2.39	915	2.51	945	2.67	970	2.83	1025	3.12	1060	3.39
4600	735	1.78	795	2.13	855	2.33	880	2.45	910	2.60	935	2.75	960	2.89	990	3.06	1040	3.38	1075	3.62
4800	760	2.00	820	2.27	875	2.54	905	2.70	930	2.85	955	3.01	980	3.26	1010	3.33	1055	3.63	1090	3.87
5000	790	2.26	845	2.53	900	2.80	925	2.96	950	3.11	975	3.27	1000	3.41	1025	3.58	1075	3.94	1110	4.16
5200	815	2.50	870	2.80	920	3.07	950	3.25	975	3.42	1000	3.56	1025	3.75	1045	3.88	1095	4.23	1125	4.46
5400	840	2.79	895	3.07	950	3.41	970	3.55	995	3.70	1020	3.87	1045	4.09	1070	4.22	1110	4.53	1145	4.81
5600	865	3.08	920	3.39	970	3.72	995	3.88	1020	4.05	1045	4.22	1065	4.37	1090	4.57	1130	4.89	1165	5.16
5800	895	3.38	945	3.73	995	4.05	1020	4.25	1045	4.42	1065	4.57	1090	4.76	1110	4.93	1150	5.25	1185	5.59

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 23 for Accessory Air Resistance data.

NOTE — Data in shaded area requires field furnished motor and drive.

# BLOWER DATA

## GCS16-1853-235 BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																			
	.20		.40		.60		.70		.80		.90		1.00		1.10		1.30		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	520	1.50	580	1.75	640	2.00	670	2.30	690	2.45	715	2.65	745	2.75	770	2.95	820	3.15	865	3.45
5200	540	1.60	590	1.90	650	2.30	680	2.45	705	2.60	725	2.75	755	2.90	780	3.20	830	3.35	875	3.55
5400	550	1.70	605	2.00	665	2.45	690	2.65	710	2.75	735	2.85	760	3.05	790	3.30	840	3.50	885	3.75
5600	565	1.80	615	2.25	675	2.60	700	2.85	720	2.90	745	3.10	770	3.20	800	3.40	850	3.65	890	3.95
5800	580	2.10	625	2.40	685	2.80	710	3.00	730	3.10	760	3.25	780	3.40	810	3.55	855	3.75	900	4.05
6000	600	2.30	650	2.65	695	3.05	720	3.20	745	3.35	770	3.45	795	3.60	820	3.75	870	4.05	910	4.25
6200	610	2.45	660	2.85	705	3.25	730	3.40	755	3.50	780	3.65	805	3.85	830	3.95	875	4.30	915	4.75
6400	625	2.70	675	3.15	715	3.45	740	3.60	765	3.70	790	3.95	815	4.00	840	4.15	885	4.45	930	4.90
6600	640	2.95	690	3.45	730	3.65	755	3.75	775	3.95	805	4.10	825	4.25	850	4.40	895	4.70	935	5.10
6800	655	3.10	700	3.65	750	3.90	765	4.00	790	4.20	815	4.35	835	4.45	860	4.65	905	4.95	945	5.35
7000	670	3.50	710	3.85	755	4.10	780	4.35	800	4.45	825	4.65	845	4.75	870	4.95	910	5.25	-----	-----
7200	685	3.60	735	3.90	770	4.45	790	4.60	815	4.75	835	4.90	860	5.10	880	5.25	925	5.65	-----	-----
7400	700	3.80	750	4.15	780	4.55	805	4.65	825	4.85	850	5.00	875	5.25	890	5.60	-----	-----	-----	-----
7600	710	4.00	760	4.30	790	4.65	815	4.80	835	5.00	850	5.25	880	5.50	-----	-----	-----	-----	-----	-----

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 23 for Accessory Air Resistance data.

NOTE — Data in shaded area denotes optional 5 hp drive kit.

## GCS16-1853-330 BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																			
	.20		.40		.60		.70		.80		.90		1.00		1.10		1.30		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5200	580	1.75	620	1.95	680	2.40	705	2.55	725	2.70	750	2.85	775	3.00	795	3.30	840	3.45	880	3.65
5400	590	1.90	640	2.15	695	2.55	715	2.75	740	2.85	765	2.95	785	3.10	810	3.35	850	3.55	890	3.80
5600	605	2.00	655	2.35	710	2.75	730	2.90	755	2.95	775	3.15	795	3.25	815	3.45	860	3.70	900	4.00
5800	615	2.20	670	2.50	720	2.90	740	3.10	765	3.15	785	3.30	810	3.50	830	3.60	870	3.80	910	4.10
6000	630	2.35	690	2.70	730	3.10	755	3.25	775	3.40	795	3.60	820	3.65	840	3.80	880	4.10	920	4.30
6200	650	2.55	705	2.95	750	3.35	770	3.50	790	3.55	810	3.75	830	3.90	850	4.00	890	4.35	930	4.80
6400	670	2.75	720	3.25	760	3.50	780	3.65	800	3.75	820	4.00	845	4.10	865	4.20	900	4.50	940	4.95
6600	690	3.15	730	3.55	775	3.75	795	3.85	810	4.05	835	4.15	855	4.30	875	4.45	910	4.75	950	5.15
6800	705	3.20	750	3.75	790	4.00	805	4.10	825	4.30	845	4.45	865	4.55	885	4.70	925	5.05	965	5.45
7000	720	3.60	760	3.95	800	4.30	820	4.45	840	4.55	860	4.75	880	4.95	895	5.05	935	5.35	-----	-----
7200	740	3.85	775	4.10	810	4.50	830	4.65	850	4.80	870	4.95	890	5.05	905	5.35	945	5.70	-----	-----
7400	755	3.95	790	4.25	825	4.65	845	4.75	865	4.90	885	5.15	900	5.35	930	5.65	-----	-----	-----	-----
7600	765	4.20	800	4.40	830	4.80	850	4.90	870	5.15	890	5.40	905	5.60	-----	-----	-----	-----	-----	-----

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See Page 23 for Accessory Air Resistance data.

NOTE — Data in shaded area denotes optional 5 hp drive kit.

# BLOWER DATA

## GCS16-2553-235, GCS16-2753-235 & GCS16-3003-235 BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																		
	.30	.40	.50	.60	.70	.80	.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	
	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP
6000	445 1.45	470 1.60	490 1.70	515 1.85	540 2.05	560 2.15	585 2.35	605 2.50	625 2.65	645 2.80	665 2.95	685 3.15	700 3.25	720 3.45	735 3.55	755 3.75	770 3.90	785 4.05	
6250	455 1.55	480 1.75	500 1.85	525 2.05	550 2.20	570 2.35	595 2.55	615 2.70	635 2.85	655 3.05	670 3.15	690 3.35	710 3.50	725 3.65	745 3.85	760 4.00	775 4.10	790 4.25	
6500	465 1.70	490 1.90	510 2.00	535 2.20	560 2.40	580 2.55	600 2.70	620 2.85	640 3.05	660 3.20	680 3.40	700 3.60	715 3.70	735 3.90	750 4.05	765 4.20	780 4.35	800 4.60	
6750	475 1.85	500 2.05	520 2.20	545 2.40	570 2.60	590 2.75	610 2.90	630 3.10	650 3.25	670 3.45	685 3.60	705 3.80	725 4.00	740 4.15	755 4.30	775 4.50	790 4.65	805 4.85	
7000	485 2.00	510 2.20	530 2.35	555 2.55	575 2.75	600 2.95	620 3.15	640 3.30	660 3.50	675 3.65	695 3.85	715 4.05	730 4.20	750 4.45	765 4.60	780 4.75	795 4.95	810 5.10	
7250	495 2.20	520 2.40	545 2.60	565 2.75	585 2.95	610 3.15	630 3.35	650 3.55	665 3.70	685 3.90	705 4.10	720 4.30	740 4.50	755 4.65	770 4.85	790 5.05	805 5.25	820 5.45	
7500	505 2.35	530 2.55	555 2.80	575 2.95	600 3.20	620 3.40	640 3.60	655 3.75	675 3.95	695 4.20	710 4.35	730 4.55	745 4.75	765 5.00	780 5.15	795 5.35	810 5.55	825 5.70	
7750	520 2.60	545 2.80	565 3.00	585 3.20	610 3.45	630 3.65	650 3.85	665 4.00	685 4.25	705 4.45	720 4.65	740 4.85	755 5.05	770 5.25	785 5.40	805 5.70	820 5.85	835 6.05	
8000	530 2.80	555 3.00	575 3.20	600 3.45	620 3.70	640 3.90	660 4.10	675 4.30	695 4.50	710 4.70	730 4.95	745 5.10	765 5.35	780 5.55	795 5.75	810 5.95	825 6.15	840 6.35	
8250	545 3.05	565 3.25	590 3.50	610 3.70	630 3.95	650 4.15	665 4.35	685 4.55	705 4.80	720 5.00	740 5.25	755 5.45	770 5.65	790 5.90	805 6.10	820 6.30	835 6.55	850 6.75	
8500	555 3.25	580 3.50	600 3.75	620 3.95	640 4.20	660 4.45	675 4.60	695 4.85	715 5.10	730 5.30	750 5.55	765 5.75	780 6.00	795 6.20	810 6.40	825 6.60	840 6.85	855 7.05	
8750	570 3.55	590 3.75	610 4.00	630 4.20	650 4.45	670 4.70	690 4.95	705 5.15	725 5.40	740 5.65	755 5.85	775 6.10	790 6.35	805 6.55	820 6.75	835 7.00	850 7.25	865 7.45	
9000	580 3.75	605 4.05	625 4.30	645 4.55	660 4.75	680 5.00	700 5.25	715 5.45	735 5.75	750 5.95	765 6.20	785 6.45	800 6.70	815 6.95	830 7.15	845 7.40	860 7.65	875 7.90	
9250	595 4.10	615 4.35	635 4.60	655 4.85	675 5.10	690 5.30	710 5.60	725 5.80	745 6.10	760 6.30	775 6.55	790 6.75	810 7.10	825 7.30	840 7.55	855 7.80	865 7.95	880 8.25	
9500	605 4.35	625 4.60	645 4.85	665 5.15	685 5.40	700 5.65	720 5.90	735 6.15	755 6.45	770 6.65	785 6.90	800 7.15	815 7.40	830 7.65	845 7.90	860 8.15	875 8.40	890 8.65	
9750	620 4.70	640 4.95	660 5.25	675 5.45	695 5.75	715 6.05	730 6.25	745 6.50	765 6.80	780 7.05	795 7.30	810 7.55	825 7.80	840 8.05	855 8.30	870 8.60	885 8.85	900 9.10	
*10,000	630 5.00	650 5.25	670 5.55	690 5.85	705 6.05	725 6.40	740 6.60	760 6.95	775 7.20	790 7.45	805 7.70	820 7.95	835 8.20	850 8.50	865 8.75	880 9.00	895 9.30	910 9.60	
10,250	640 5.30	660 5.60	680 6.00	705 6.20	720 6.50	740 6.80	755 7.15	770 7.35	785 7.70	805 7.85	820 8.20	835 8.35	850 8.80	860 9.00	875 9.30	895 9.60	905 9.80	920 10.10	
10,500	655 5.75	680 6.20	700 6.40	715 6.65	730 6.90	750 7.30	765 7.60	780 7.90	800 8.20	810 8.35	835 8.85	845 9.00	860 9.25	875 9.60	890 9.90	905 10.15	950 10.50	930 10.75	
10,750	680 6.30	700 6.70	710 6.80	735 7.30	750 7.65	760 7.75	775 8.05	795 8.50	810 8.70	825 9.00	845 9.35	855 9.60	875 9.95	885 10.20	900 10.50	915 10.80	930 11.20	940 11.50	
11,000	700 6.90	715 7.15	730 7.70	745 7.80	760 8.10	775 8.35	790 8.65	805 8.95	825 9.25	840 9.60	855 9.85	865 10.25	885 10.50	895 10.80	910 11.10	925 11.50	----	----	
11,250	710 7.75	730 7.65	745 8.10	755 8.30	770 8.50	785 8.80	805 9.20	820 9.45	840 10.00	850 10.10	865 10.40	880 10.70	895 11.15	910 11.45	----	----	----	----	
11,500	730 8.10	745 8.40	755 8.55	775 8.80	785 9.00	805 9.50	820 9.80	840 10.30	850 10.45	860 10.60	875 11.00	890 11.40	----	----	----	----	----	----	
11,750	745 8.60	755 8.80	770 9.00	785 9.25	800 9.70	815 10.00	840 10.50	850 10.75	860 10.90	875 11.35	----	----	----	----	----	----	----	----	
12,000	755 9.05	775 9.35	785 9.65	800 10.00	810 10.15	830 10.70	850 11.05	860 11.30	875 11.50	----	----	----	----	----	----	----	----	----	
12,250	775 9.70	790 10.05	800 10.30	810 10.50	830 10.85	845 11.30	860 11.50	----	----	----	----	----	----	----	----	----	----	----	
*12,500	790 10.40	800 10.55	810 11.00	840 11.00	850 11.50	----	----	----	----	----	----	----	----	----	----	----	----	----	

NOTE — All data is measured external to the unit with dry coil and air filters in place. See Page 23 for Accessory Air Resistance data.

NOTE — Maximum air volume for GCS16-2553 and GCS16-2753 is 10,000 cfm. Maximum air volume for GCS16-3003 is 12,500 cfm.

Light shaded area denotes optional 7-1/2 hp drive kit for GCS16-2553 and GCS16-2753 units.

Dark shaded area denotes optional 10 hp drive kit for GCS16-3003 units.

# BLOWER DATA

## GCS16-2553-470, GCS16-2753-470 & GCS16-3003-470 BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge																	
	.30	.40	.50	.60	.70	.80	.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00
	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP
6000	450 1.50	470 1.60	495 1.75	520 1.90	545 2.10	570 2.25	590 2.45	615 2.65	635 2.80	655 3.00	675 3.20	695 3.45	715 3.65	730 3.85	750 4.05	765 4.25	785 4.55	800 4.75
6250	460 1.60	480 1.75	505 1.90	530 2.05	555 2.25	580 2.45	600 2.60	620 2.80	640 3.00	660 3.15	680 3.40	700 3.60	720 3.85	740 4.05	755 4.25	775 4.50	790 4.70	805 4.95
6500	470 1.75	495 1.90	515 2.05	540 2.25	565 2.45	585 2.60	610 2.80	630 3.00	650 3.20	670 3.40	690 3.60	710 3.85	725 4.00	745 4.25	760 4.45	780 4.70	795 4.90	815 5.20
6750	480 1.90	505 2.10	525 2.25	550 2.40	575 2.60	595 2.80	615 3.00	640 3.20	660 3.40	675 3.55	695 3.80	715 4.05	735 4.25	750 4.45	770 4.70	785 4.90	805 5.20	820 5.45
7000	490 2.10	515 2.25	540 2.45	560 2.60	585 2.85	605 3.00	625 3.20	645 3.40	665 3.60	685 3.80	705 4.05	725 4.30	740 4.45	760 4.75	775 4.95	790 5.15	810 5.45	825 5.65
7250	500 2.25	525 2.45	550 2.65	570 2.80	595 3.05	615 3.25	635 3.40	655 3.65	675 3.85	695 4.05	710 4.25	730 4.50	750 4.75	765 4.95	785 5.20	800 5.45	815 5.65	830 5.90
7500	515 2.50	540 2.70	560 2.85	580 3.05	605 3.25	625 3.45	645 3.65	665 3.90	685 4.10	705 4.35	720 4.50	740 4.75	755 4.95	775 5.25	790 5.45	805 5.70	825 6.00	840 6.20
7750	525 2.70	550 2.90	570 3.10	595 3.30	615 3.50	635 3.70	655 3.90	675 4.15	695 4.35	710 4.55	730 4.80	745 5.00	765 5.25	780 5.50	800 5.75	815 6.00	830 6.25	845 6.50
8000	540 2.95	560 3.10	585 3.35	605 3.55	625 3.75	645 3.95	665 4.20	685 4.40	700 4.60	720 4.85	740 5.10	755 5.30	770 5.50	790 5.80	805 6.05	820 6.25	835 6.50	855 6.85
8250	550 3.15	575 3.40	595 3.60	615 3.80	635 4.00	655 4.25	675 4.45	695 4.70	710 4.90	730 5.15	745 5.35	765 5.60	780 5.85	795 6.05	815 6.35	830 6.60	845 6.85	860 7.10
8500	565 3.45	585 3.65	605 3.85	625 4.05	645 4.30	665 4.50	685 4.75	705 5.00	720 5.20	740 5.45	755 5.65	775 5.95	790 6.15	805 6.40	820 6.65	835 6.90	855 7.20	870 7.50
8750	575 3.70	600 3.95	620 4.15	640 4.40	660 4.60	675 4.80	695 5.05	715 5.30	730 5.50	750 5.80	765 6.00	780 6.20	800 6.55	815 6.75	830 7.00	845 7.25	860 7.50	875 7.80
9000	590 4.00	610 4.25	630 4.45	650 4.70	670 4.90	690 5.15	705 5.35	725 5.65	740 5.85	760 6.10	775 6.35	790 6.60	805 6.80	825 7.15	840 7.40	855 7.65	870 7.90	885 8.20
9250	605 4.35	625 4.55	645 4.80	660 5.00	680 5.25	700 5.50	715 5.70	735 5.95	750 6.20	770 6.50	785 6.70	800 6.95	815 7.20	830 7.45	850 7.80	865 8.05	880 8.35	890 8.50
9500	615 4.65	635 4.85	655 5.10	675 5.35	690 5.55	710 5.80	725 6.05	745 6.30	760 6.55	780 6.85	795 7.10	810 7.35	825 7.60	840 7.85	855 8.10	870 8.40	885 8.65	900 8.95
9750	630 5.00	650 5.25	665 5.45	685 5.70	705 5.95	720 6.15	740 6.45	755 6.70	770 6.90	790 7.25	805 7.50	820 7.75	835 8.00	850 8.25	865 8.55	880 8.80	895 9.10	910 9.40
*10,000	640 5.30	660 5.55	680 5.85	700 6.10	715 6.30	730 6.55	750 6.85	765 7.05	780 7.30	800 7.65	815 7.90	830 8.15	845 8.40	860 8.70	875 8.95	890 9.25	905 9.55	920 9.85
10,250	655 5.70	675 5.95	690 6.20	710 6.45	725 6.70	745 7.00	760 7.20	775 7.45	795 7.80	810 8.05	825 8.30	840 8.55	855 8.85	870 9.15	885 9.40	900 9.70	915 10.05	925 10.25
10,500	670 6.10	685 6.35	705 6.60	720 6.85	740 7.15	755 7.40	770 7.60	790 7.95	805 8.20	820 8.45	835 8.75	850 9.00	865 9.30	880 9.60	895 9.90	910 10.20	920 10.40	935 10.75
10,750	680 6.50	700 6.75	715 7.00	735 7.30	750 7.55	765 7.80	785 8.10	800 8.40	815 8.65	830 8.90	845 9.20	860 9.50	875 9.75	890 10.05	905 10.40	920 10.70	930 10.90	945 11.25
11,000	695 6.95	715 7.25	730 7.45	745 7.70	765 8.05	780 8.30	795 8.55	810 8.80	825 9.10	840 9.35	855 9.65	870 9.95	885 10.25	900 10.55	915 10.90	930 11.20	940 11.45	----
11,250	710 7.40	725 7.65	745 7.95	760 8.20	775 8.45	790 8.75	805 9.00	820 9.30	835 9.55	855 9.95	865 10.15	880 10.45	895 10.75	910 11.10	925 11.40	----	----	----
11,500	720 7.80	740 8.15	755 8.40	770 8.65	790 9.00	805 9.30	820 9.55	835 9.85	850 10.15	865 10.45	880 10.75	890 10.95	905 11.30	----	----	----	----	----
11,750	735 8.35	750 8.60	770 8.95	785 9.20	800 9.45	815 9.75	830 10.05	845 10.35	860 10.65	875 10.95	890 11.25	----	----	----	----	----	----	----
12,000	750 8.85	765 9.10	780 9.40	795 9.65	810 9.95	830 10.35	845 10.65	855 10.85	870 11.15	885 11.50	----	----	----	----	----	----	----	----
12,250	765 9.40	780 9.70	795 9.95	810 10.25	825 10.55	840 10.85	855 11.15	870 11.50	----	----	----	----	----	----	----	----	----	----
*12,500	775 9.90	790 10.20	810 10.55	825 10.85	840 11.20	850 11.40	----	----	----	----	----	----	----	----	----	----	----	----

NOTE — All data is measured external to the unit with dry coil and air filters in place. See Page 23 for Accessory Air Resistance data.

NOTE — Maximum air volume for GCS16-2553 and GCS16-2753 is 10,000 cfm. Maximum air volume for GCS16-3003 is 12,500 cfm.

Light shaded area denotes optional 7-1/2 hp drive kit for GCS16-2553 and GCS16-2753 units.

Dark shaded area denotes optional 10 hp drive kit for GCS16-3003 units.

**BLOWER DATA**

**ACCESSORY AIR RESISTANCE**

Unit Model No.	Air Volume (cfm)	Total Resistance (inches water gauge)						
		Wet Evaporator Coil	REMD16M Down-flo Economizer	EMDH16M Horizontal Economizer	RTD11 Step-Down Diffuser			FD11 Flush Diffuser
					2 Ends Open	1 Side 2 Ends Open	All Ends & Sides Open	
GCS16-953	2400	.12	.03	.03	.21	.18	.15	.14
	2600	.13	.04	.04	.24	.21	.18	.17
	2800	.14	.04	.04	.27	.24	.21	.20
	3000	.16	.05	.05	.32	.29	.25	.25
	3200	.18	.05	.05	.41	.37	.32	.31
	3400	.19	.06	.06	.50	.45	.39	.37
	3600	.21	.06	.06	.61	.54	.48	.44
	3800	.23	.07	.07	.73	.63	.57	.51
GCS16-1353	3600	.12	.03	.03	.36	.28	.23	.15
	3800	.13	.04	.04	.40	.32	.26	.18
	4000	.14	.04	.04	.44	.36	.29	.21
	4200	.15	.05	.05	.49	.40	.33	.24
	4400	.16	.05	.05	.54	.44	.37	.27
	4600	.17	.06	.06	.60	.49	.42	.31
	4800	.18	.07	.07	.65	.53	.46	.35
	5000	.19	.09	.09	.69	.58	.50	.39
	5200	.20	.10	.10	.75	.62	.54	.43
GCS16-1603	4200	.10	.06	.06	.22	.19	.16	.10
	4400	.11	.07	.07	.28	.24	.20	.12
	4600	.12	.07	.07	.34	.29	.24	.15
	4800	.13	.08	.08	.40	.34	.29	.19
	5000	.14	.08	.08	.46	.39	.34	.23
	5200	.15	.09	.09	.52	.44	.39	.27
	5400	.16	.10	.10	.58	.49	.43	.31
	5600	.17	.12	.12	.64	.54	.47	.35
5800	.18	.13	.13	.70	.59	.51	.39	
GCS16-1853	5000	.07	.11	----	.51	.44	.39	.27
	5200	.08	.12	----	.56	.48	.42	.30
	5400	.09	.13	----	.61	.52	.45	.33
	5600	.10	.14	----	.66	.56	.48	.36
	5800	.11	.15	----	.71	.59	.51	.39
	6000	.12	.16	----	.76	.63	.55	.42
	6200	.13	.17	----	.80	.68	.59	.46
	6400	.14	.18	----	.86	.72	.63	.50
	6600	.15	.20	----	.92	.77	.67	.54
	6800	.16	.22	----	.99	.83	.72	.58
	7000	.17	.23	----	1.03	.87	.76	.62
	7200	.18	.24	----	1.09	.92	.80	.66
7400	.19	.25	----	1.15	.97	.84	.70	
7600	.20	.26	----	1.20	1.02	.88	.74	
GCS16-2553 GCS16-2753 GCS16-3003	6000	.06	.01	----	.36	.31	.27	.29
	6500	.07	.02	----	.42	.36	.31	.34
	7000	.08	.02	----	.49	.41	.36	.40
	7500	.09	.04	----	.51	.46	.41	.45
	8000	.10	.06	----	.59	.49	.43	.50
	8500	.11	.08	----	.69	.58	.50	.57
	9000	.12	.10	----	.79	.67	.58	.66
	9500	.13	.12	----	.89	.75	.65	.74
10,000	.15	.14	----	1.00	.84	.73	.81	

**BLOWER DATA**

**PED16-185 & PED16-300  
POWER EXHAUST FANS PERFORMANCE**

Model No.	Air Volume (cfm Exhausted)	Return Air System Static Pressure (Inches Water Gauge)
PED16-185	4200	0
	3800	.05
	3500	.10
	3200	.15
	2700	.20
	2200	.25
PED16-300	6300	0
	5750	.05
	5200	.10
	4625	.15
	4050	.20

**CEILING DIFFUSER AIR THROW DATA**

Model No.	Air Volume (cfm)	*Effective Throw Range (feet)	
		RTD11 Step-Down	FD11 Flush
GCS16-953	3000	27 — 33	25 — 30
	3375	30 — 37	28 — 34
	3750	34 — 41	31 — 38
GCS16-1353	4400	34 — 42	32 — 40
	4950	38 — 47	36 — 45
	5500	43 — 52	40 — 50
GCS16-1603	4200	39 — 46	40 — 48
	5000	41 — 50	43 — 52
	5800	43 — 52	45 — 54
GCS16-1853	6000	45 — 55	48 — 55
	6750	47 — 56	50 — 58
	7500	49 — 58	55 — 66
GCS16-2553 GCS16-2753 GCS16-3003	8000	39 — 44	53 — 62
	9000	47 — 56	55 — 64
	10,000	49 — 58	57 — 67

\* 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. per minute. Four sides open.



## GUIDE SPECIFICATIONS

**Prepared for the guidance of architects, consulting engineers and mechanical contractors.**

**General** — Furnish and install a single package combination air to air DX mechanical cooling system 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 United States.

The installed weight shall not be more than . . . . . lbs. Entire unit shall have a width of not more than . . . . . inches, a depth of not more than . . . . . inches and an overall height of not more than . . . . . inches. The equipment shall be shipped completely factory assembled, precharged, piped and wired internally ready for field connections. In addition, manufacturer shall test operate system at the factory before shipment.

**Air Distribution** — Equipment shall be capable of bottom or side (horizontal) handling of conditioned air. All air distribution ducts shall be fiberglass or . . . . . ga. galvanized steel insulated with . . . . . inch thick . . . . . lb. density fiberglass or equivalent.

**Approvals** — All electrical components shall have U.L. Listing. All wiring shall be in compliance with NEC.

**Equipment Warranty** — Heat exchangers have a limited warranty for a full ten years. Compressors have a limited warranty for a full five years. All other components have a limited warranty for one year. Refer to the Lennox Equipment Limited Warranty certificate included with the unit for details.

**Cooling System** — The total certified cooling capacity shall not be less than . . . . . Btuh with an evaporator air volume of . . . . . cfm, an entering wet bulb air temperature of . . . . . °F, an entering dry bulb air temperature of . . . . . °F and a condenser entering temperature of . . . . . °F. The compressor power input shall not exceed . . . . . kw at these conditions.

The coils shall be non-ferrous construction with aluminum fins mechanically bonded to durable copper tubes. Coils shall be pressure leak tested. Coil face area shall be not less than . . . . . sq. ft. (evaporator) and . . . . . sq. ft. (condenser).

Multiple compressors shall be resiliently mounted, have overload protection; compressor monitor and crankcase heater. GCS16-1353, -1603 (2nd stage only) and -1853 units shall have internal pressure relief. The refrigeration system shall have suction and liquid line service gauge ports, high pressure switches, loss of charge switches, thermometer well, driers, freestat and full refrigerant charge. GCS16-2553, -2753 & -3003 shall have suction and liquid line service valves. Control option available shall consist of low ambient control and timed-off control. Shall be rated in accordance with ARI Standard 210/240-89 or 360-86.

**Heating System** — The heating capacity output shall be . . . . . Btuh with a gas input of . . . . . Btuh.

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 centrifugal switch on induced draft blower. Unit shall be available for use with LPG as an option. Complete service access shall be provided for controls and wiring. Shall be A.G.A. design certified for outdoor installation.

**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. Shall have peep hole with cover for flame viewing of burners. Evaporator coil condensate drain extended outside cabinet shall be provided. Lifting brackets shall be provided for rigging.

**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. Blower shall be capable of delivering . . . . . cfm at an external static pressure of . . . . . inches water gauge requiring . . . . . bhp and . . . . . rpm.

**Condenser Fan(s)** — Direct drive propeller type condenser fan(s) shall discharge vertically and be direct driven by a . . . . . hp motor. Fan motor shall be permanently lubricated and inherently protected. Fan(s) shall have a safety guard.

**Air Filters** — Disposable filters furnished shall have not less than . . . . . sq. ft. of free area.

## OPTIONAL ACCESSORIES

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

**Economizer Damper Section** — Furnish and install complete with recirculated air dampers, outside air dampers, air filters, damper actuator and controls. Low leakage dampers shall ride in nylon bearings. The economizer section shall provide for the introduction of 100% outdoor air for minimum ventilation and free cooling. REMD16M-185 & -300 shall include gravity exhaust air dampers. Integrated economizer cycle shall allow compressors to cycle for dehumidification and additional cooling, as needed, with 100% outdoor air intake. Damper actuator shall be 24 volt, fully modulating spring return. Controls shall include fixed 55° F mixed air controller, damper actuator, adjustable outdoor air minimum position switch and solid-state adjustable outdoor air enthalpy control. Cabinet shall be galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal. Control option shall consist of differential enthalpy control (return air sensor).

**Gravity Exhaust Dampers** — Optional pressure operated dampers shall be available for field installation in economizer damper section. Neoprene coated fiberglass dampers shall prevent blow-back and outdoor air infiltration during off cycle. Shall be equipped with rain-hoods and bird screen. Shall be furnished with REMD16M-185 & -300

**Power Exhaust Fans** — Shall be available for GCS16-1853, -2553, -2753 & -3003 with REMD16M economizer installed in the down-flo position only. Direct drive propeller type fans shall exhaust air through exhaust dampers. Motors shall be overload protected. Fans shall install in-between the unit and exhaust dampers.

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

**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.

**Bottom Power Entry Kit** — Optional kit for GCS16-953 & 1353 shall provide bottom power entry to the unit within the confines of the roof mounting frame. Shall be furnished with GCS16-1603, -1853, -2553, -2753 & -3003 units.

**Ceiling Diffusers** — Furnish and install a (flush or step-down) optional combination ceiling supply and return air diffuser. It shall be capable of not less than . . . . . ft. radius of effective throw. Supply and return transitions shall be available, for field installation in the roof mounting frame, to provide duct connection to the diffuser.

**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.

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

**Remote Switching Status Panel** — Shall be available for installation within the conditioned area to control and observe equipment operation. The panel shall include signal lights for Cool Mode, Heat Mode, Compressor 1, Compressor 2, No Heat and Filter. System selector switch and fan switch shall provide operational mode and blower operation. After hours timer switch shall override night setback controls and provide normal operation for time period set.

# UNIT DIMENSIONS (inches)

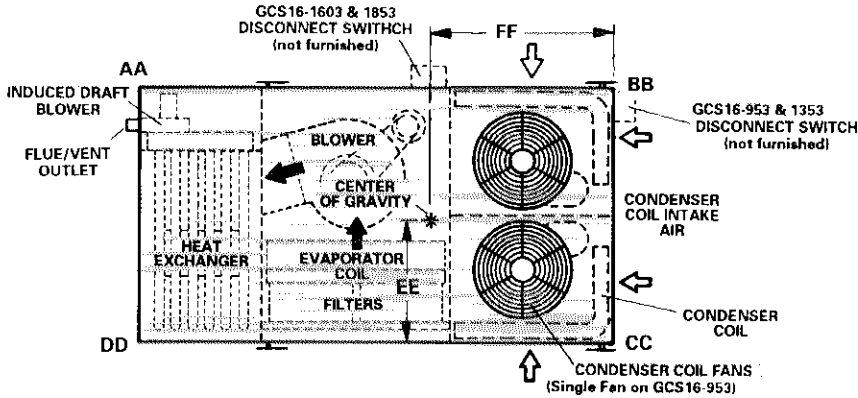
GCS16-953, -1353, -1603 & -1853 (-235 Size Shown)

## CORNER WEIGHTS (lbs.)

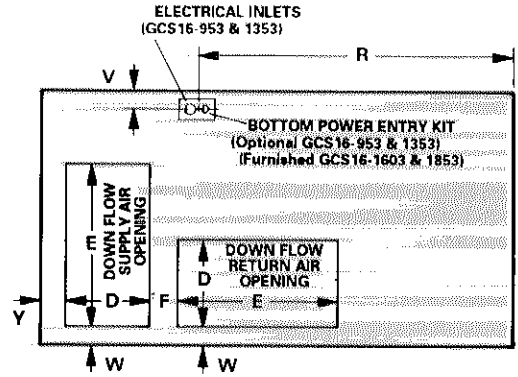
Model No.	AA	BB	CC	DD
GCS16-953	236	283	194	162
GCS16-1353	255	345	287	213
GCS16-1603	285	394	353	256
GCS16-1853	419	552	435	329

## CENTER OF GRAVITY (in.)

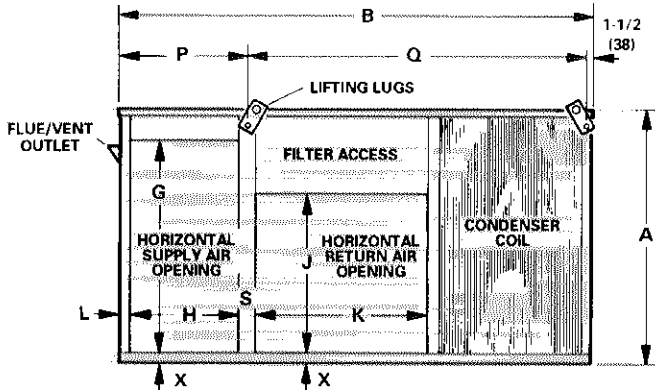
Model No.	EE	FF
GCS16-953	28-1/2	40
GCS16-1353	32-3/4	40
GCS16-1603	31-5/8	42-3/8
GCS16-1853	38	50



TOP VIEW

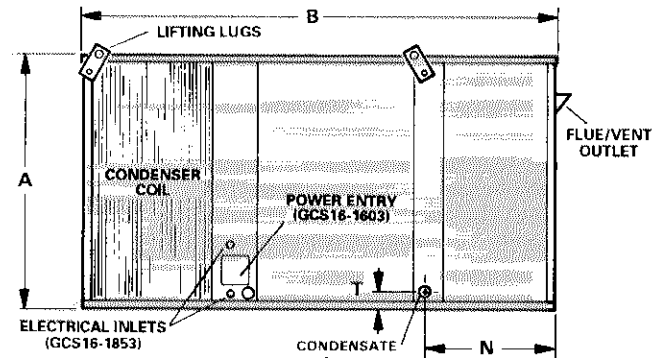


TOP VIEW BASE SECTION

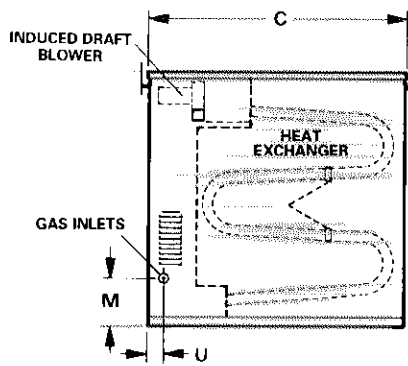


BACK VIEW

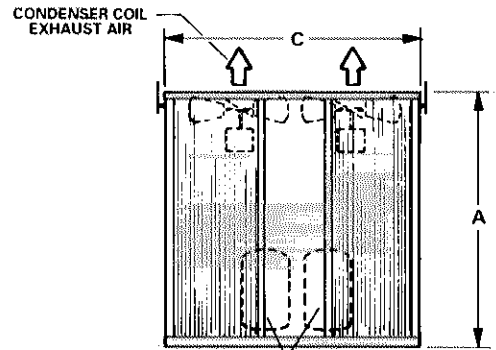
With HORIZONTAL SUPPLY & RETURN AIR OPENINGS



FRONT VIEW



HEAT SECTION END VIEW



CONDENSER SECTION END VIEW

Model No.	A	B	C	D	E	F	G	H	J	K	L
GCS16-953	39	88-1/2	48	16-1/2	30-3/8	5-5/8	32-1/8	19-7/16	24-5/8	33	1-5/8
GCS16-1353	46	94	60	24	30-3/8	4-7/16	39-1/8	25-1/4	31-5/8	33	2
GCS16-1603	46	102	60	24	38	4-7/16	39-1/8	25-1/4	31-5/8	41	2
GCS16-1853	51-1/2	116	68	24-1/2	44	5-5/8	41-1/2	25-3/4	32-3/4	50-1/8	2

Model No.	M	N	P	Q	R	S	T	U	V	W	X	Y
GCS16-953	9-3/4	25-1/16	22-1/8	64-7/8	53-1/2	2-3/4	2-3/8	2-7/8	4-3/16	3-1/16	1-1/2	3-1/16
GCS16-1353	14	31-3/16	28-1/2	64	53-1/2	2-3/4	2-3/8	2-7/8	4-3/16	3-1/16	1-1/2	3-1/16
GCS16-1603	14	31-3/16	28-1/2	72	25-1/2	2-3/4	2-3/8	2-7/8	4-3/16	3-1/16	1-1/2	3-1/16
GCS16-1853	15-1/2	33-1/2	33	81-1/2	36	4-1/4	4	4	7-1/4	5	3	4-1/16

**UNIT DIMENSIONS (inches)**

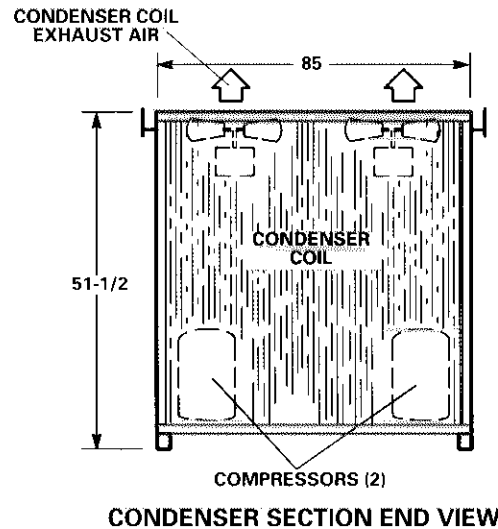
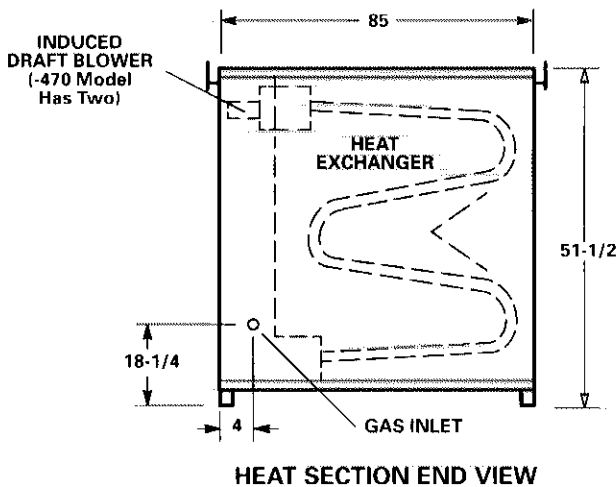
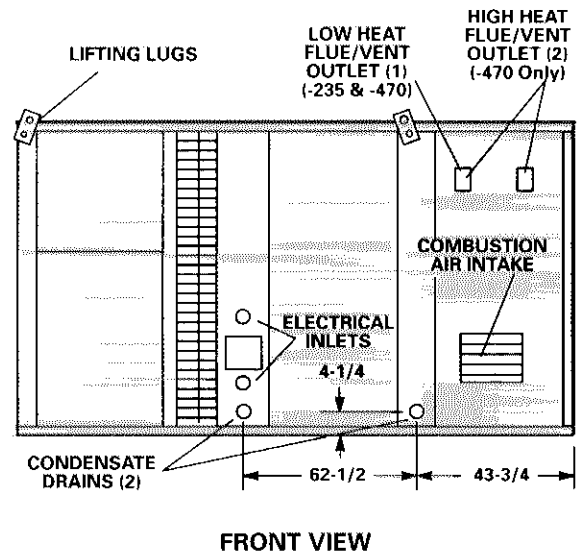
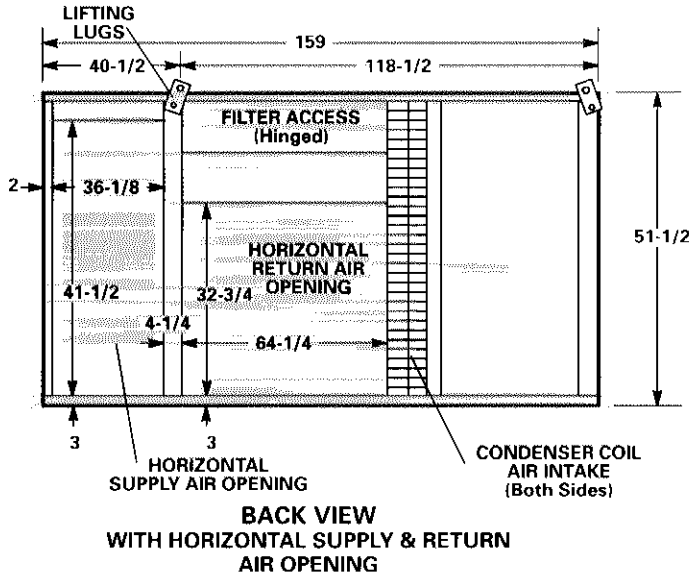
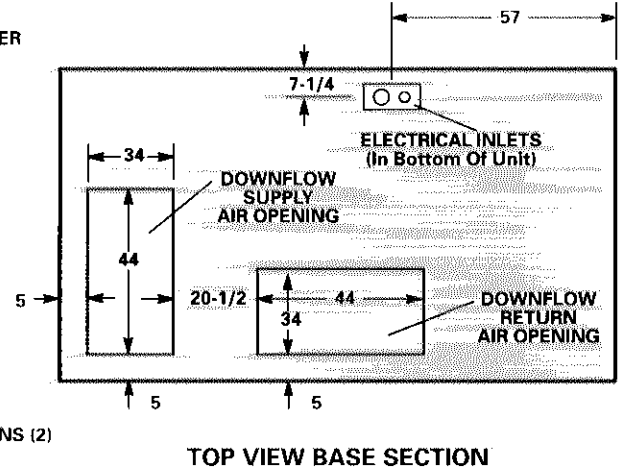
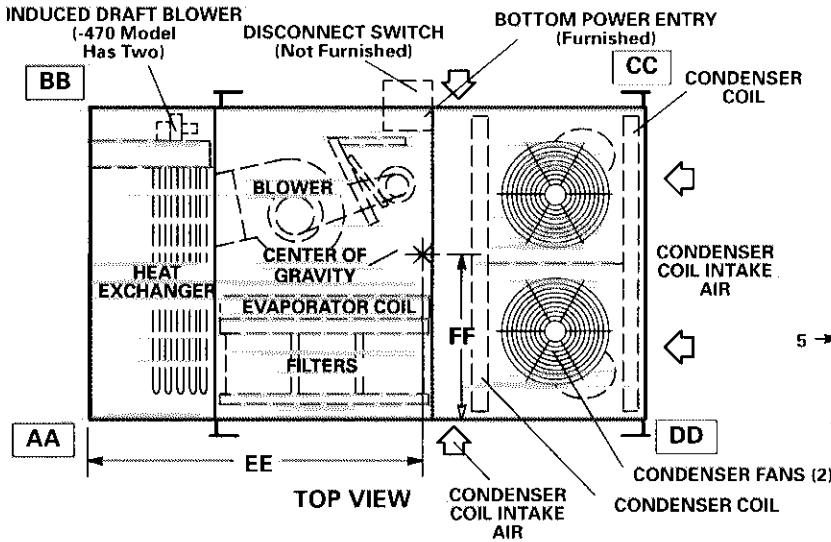
GCS16-2553-2753-3003  
(-235 Size Shown)

**CORNER WEIGHTS (lbs.)**

Model No.	AA	BB	CC	DD
GCS16-2553	465	532	755	659
GCS16-2753				
GCS16-3003-235	529	639	893	739
GCS16-3003-470	567	684	957	792

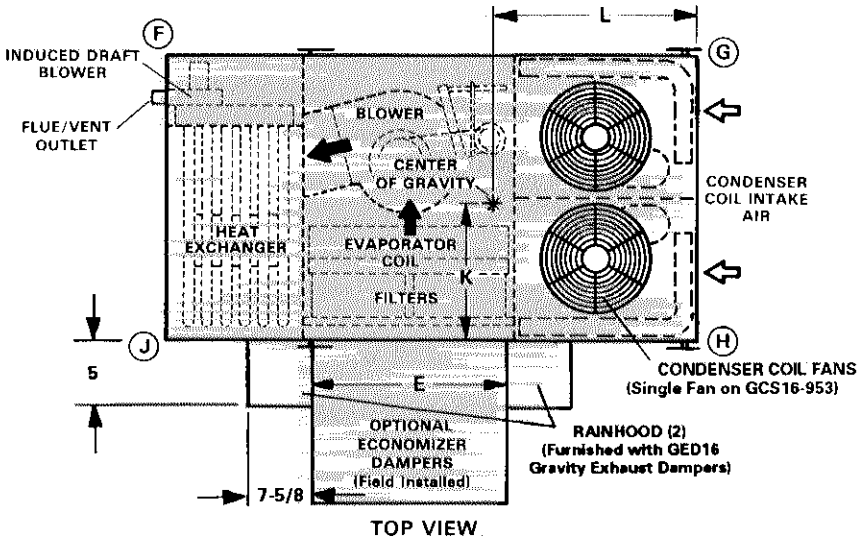
**CENTER OF GRAVITY (in.)**

Model No.	EE	FF
GCS16-2553	93-1/4	45-3/8
GCS16-2753		
GCS16-3003-235	92-3/4	46-1/2
GCS16-3003-470		



**ACCESSORY DIMENSIONS (inches)**

**GCS16-953, -1353 & -1603 UNITS WITH REMD16M ECONOMIZER DAMPER SECTION AND RMF16 ROOF MOUNTING FRAME**

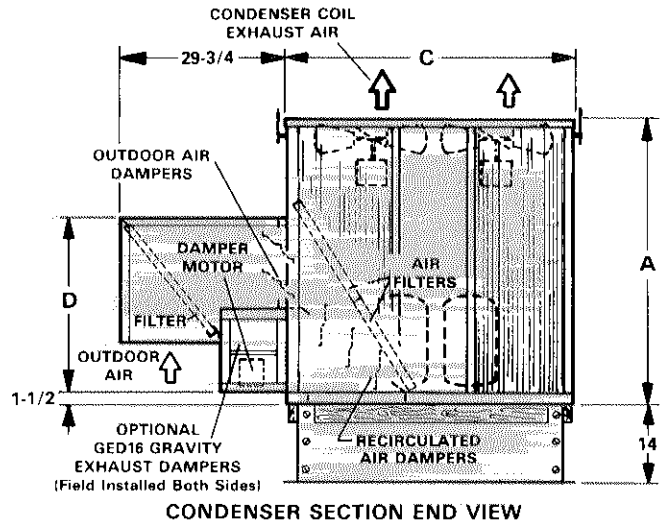
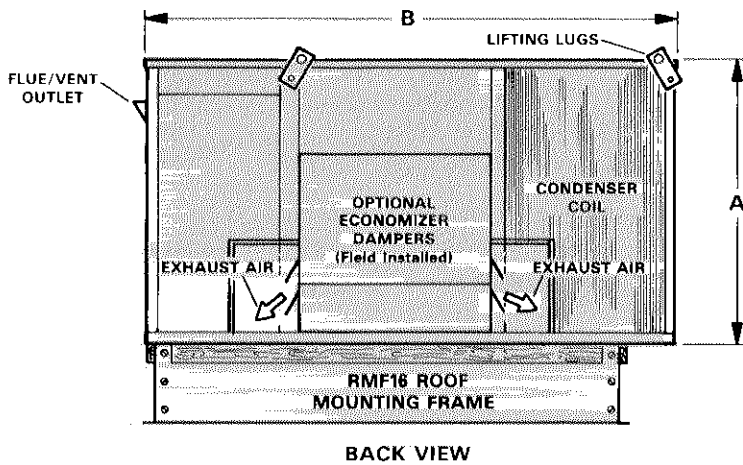


**CORNER WEIGHT (lbs.)**

Model No.	F	G	H	J
GCS16-953	256	295	295	256
GCS16-1353	274	313	404	354
GCS16-1603	320	415	459	353

**CENTER OF GRAVITY (in.)**

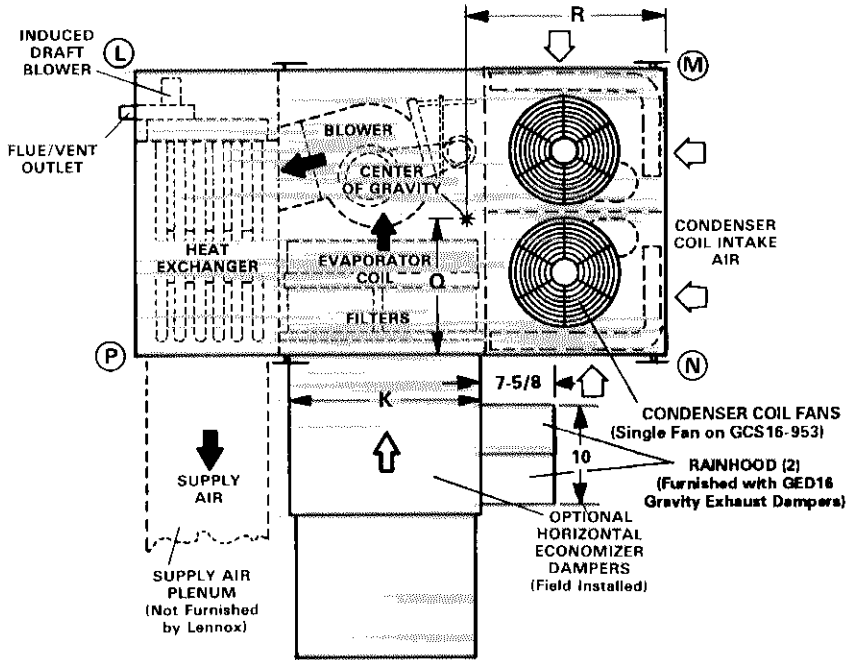
Model No.	K	L
GCS16-953	24	41
GCS16-1353	28	41
GCS16-1603	28-1/2	44-3/8



Model No.	A	B	C	D	E
GCS16-953	39	88-1/2	48	28-9/16	32-9/16
GCS16-1353	46	94	60	34-9/16	32-9/16
GCS16-1603	46	102	60	34-9/16	40-9/16

**ACCESSORY DIMENSIONS (inches)**

**GCS16-953, -1353 & -1603 UNITS WITH  
EMDH16 HORIZONTAL ECONOMIZER DAMPER SECTION**



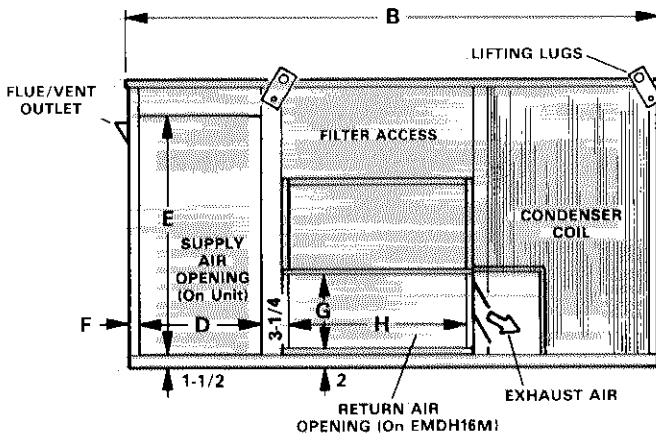
**TOP VIEW**

**CORNER WEIGHT (lbs.)**

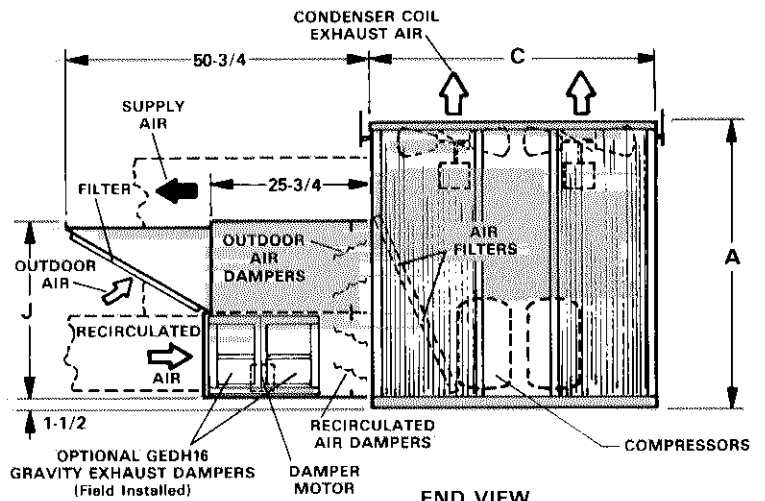
Model No.	L	M	N	P
GCS16-953	233	264	265	234
GCS16-1353	251	325	374	287
GCS16-1603	282	375	444	333

**CENTER OF GRAVITY (in.)**

Model No.	Q	R
GCS16-953	24	41
GCS16-1353	27	41
GCS16-1603	27-1/2	43-3/4



**BACK VIEW**

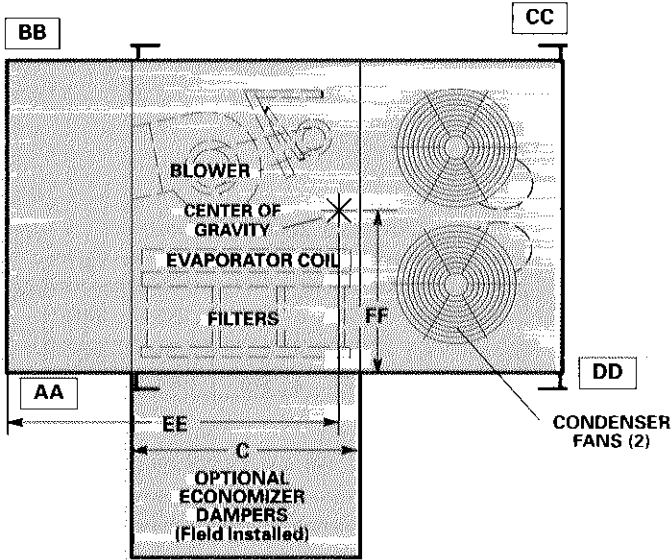


**END VIEW**

Model No.	A	B	C	D	E	F	G	H	J	K
GCS16-953	39	88-1/2	48	19-7/16	32-1/8	1-5/8	13-1/4	31-1/2	28-3/4	32-9/16
GCS16-1353	46	94	60	25-1/4	39-1/8	2	19-1/4	31-1/2	34-3/4	32-9/16
GCS16-1603	46	102	60	25-1/4	39-1/8	2	19-1/4	39-1/2	34-3/4	40-9/16

**ACCESSORY DIMENSIONS (inches)**

**GCS16-1853, -2553, -2753 & -3003 UNIT  
WITH REMD16M ECONOMIZER DAMPER SECTION AND RMF16 ROOF MOUNTING FRAME  
(DOWN-FLOW APPLICATION)**

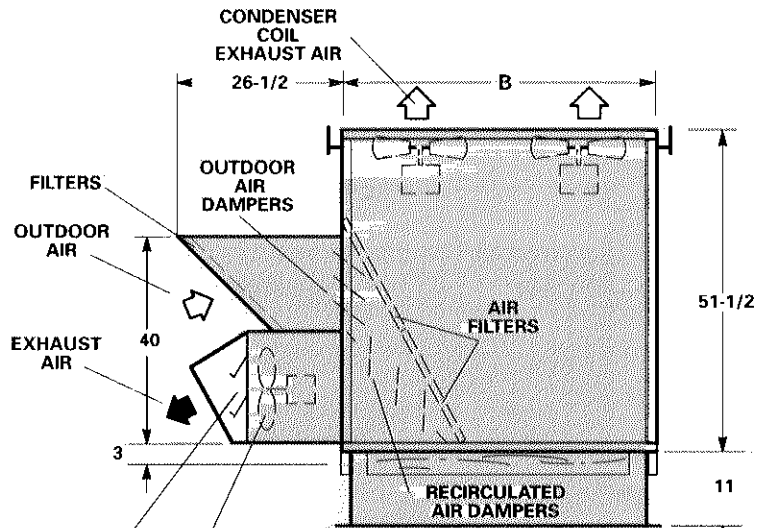
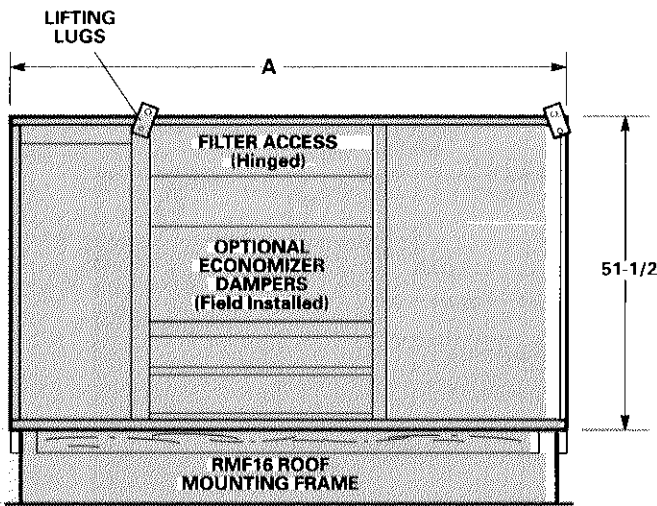


**CORNER WEIGHTS (lbs.)**

Model No.	AA	BB	CC	DD
GCS16-1853	444	424	555	526
GCS16-2553	609	588	787	815
GCS16-2753	609	588	787	815
GCS16-3003-235	691	693	916	900
GCS16-3003-470	724	737	973	956

**CENTER OF GRAVITY (in.)**

Model No.	EE	FF
GCS16-1853	65	33
GCS16-2553	91	41-3/4
GCS16-2753	91	41-3/4
GCS16-3003	90-1/2	42-7/8



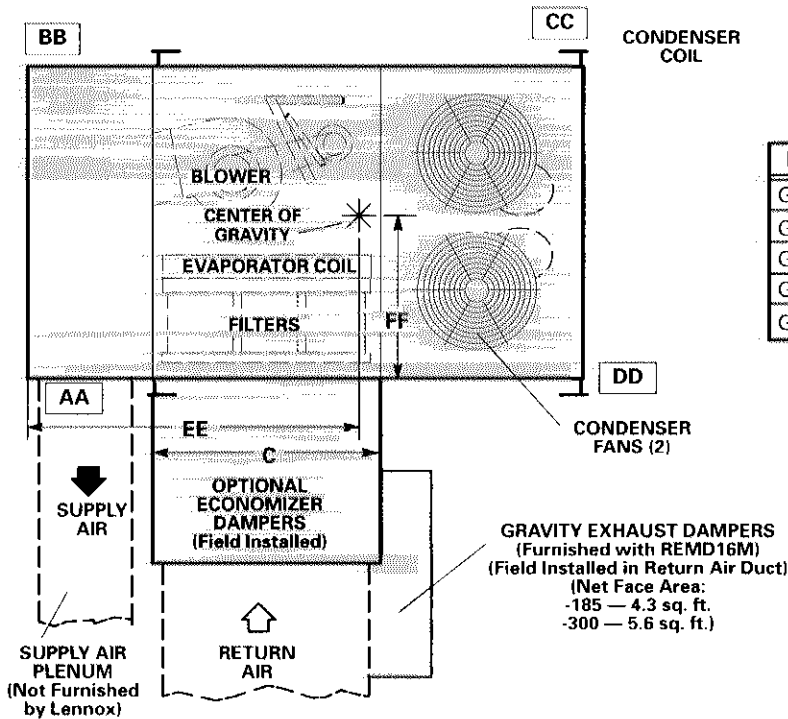
**GRAVITY EXHAUST DAMPERS**  
(Furnished With REMD16M)  
(Net face Area:  
-185 — 4.3 sq. ft.  
-300 — 5.6 sq. ft.)

**OPTIONAL PED16 POWER EXHAUST FANS**  
(PED16-185 has two fans)  
(PED16-300 has three fans)

Model No.	A	B	C
GCS16-1853	116	68	50-3/4
GCS16-2553	159	85	64-1/2
GCS16-2753			
GCS16-3003			

**ACCESSORY DIMENSIONS (inches)**

**GCS16-1853, -2553, -2753 & -3003 UNIT  
WITH REMD16M ECONOMIZER DAMPER SECTION  
(HORIZONTAL APPLICATION)**



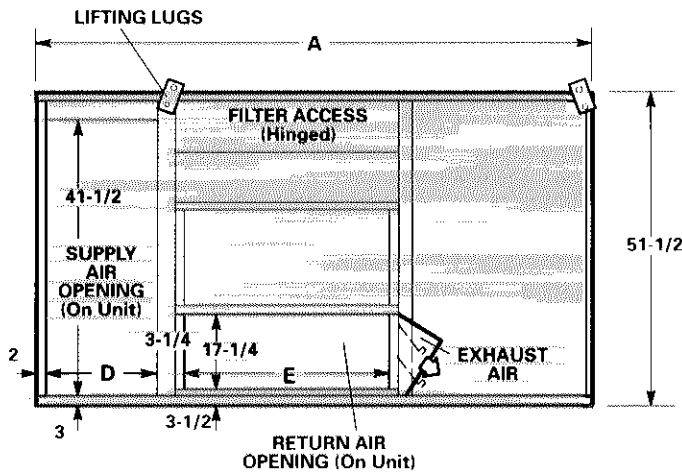
**CORNER WEIGHTS (lbs.)**

Model No.	AA	BB	CC	DD
GCS16-1853	436	406	538	516
GCS16-2553	564	544	742	769
GCS16-2753	564	544	742	769
GCS16-3003-235	636	647	871	856
GCS16-3003-470	678	690	929	913

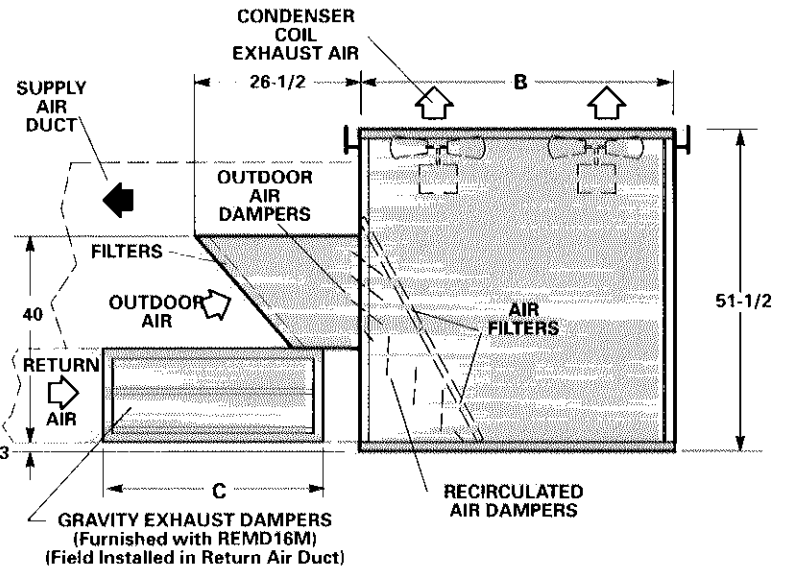
**CENTER OF GRAVITY (in.)**

Model No.	EE	FF
GCS16-1853	65	33
GCS16-2553	91	41-3/4
GCS16-2753	91	41-3/4
GCS16-3003	91-1/4	42-7/8

**TOP VIEW**



**BACK VIEW**

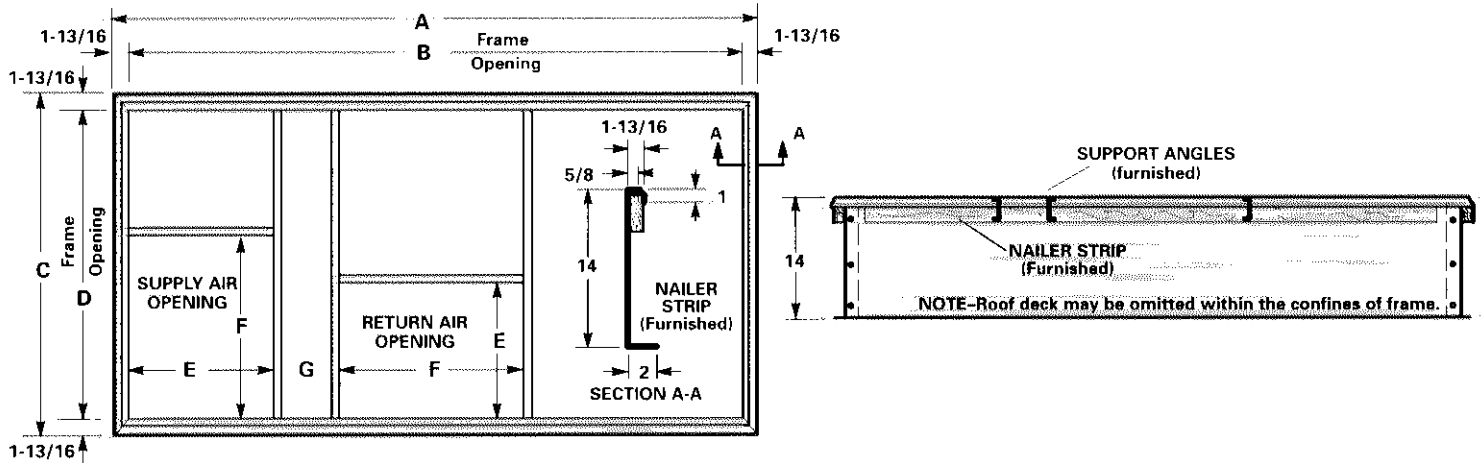


**CONDENSER SECTION END VIEW**

Model No.	A	B	C	D	E
GCS16-1853	116	68	50-3/4	25-3/4	50
GCS16-2553	159	85	64-1/2	36-1/8	64-1/4
GCS16-2753					
GCS16-3003					

**ACCESSORY DIMENSIONS (inches)**

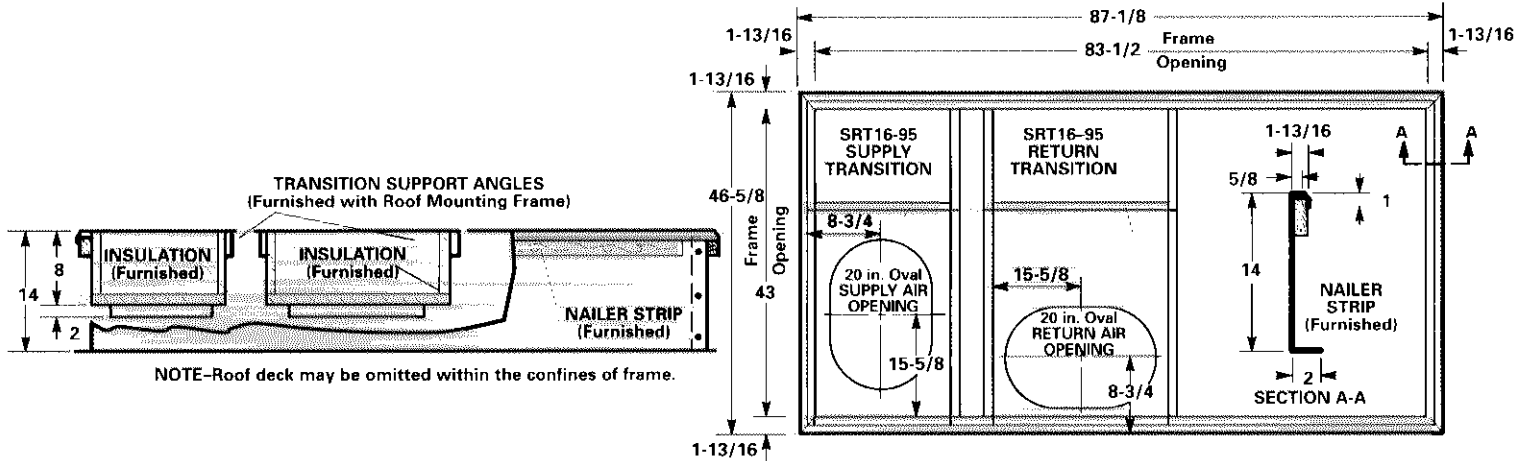
**RMF16 SERIES ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING**



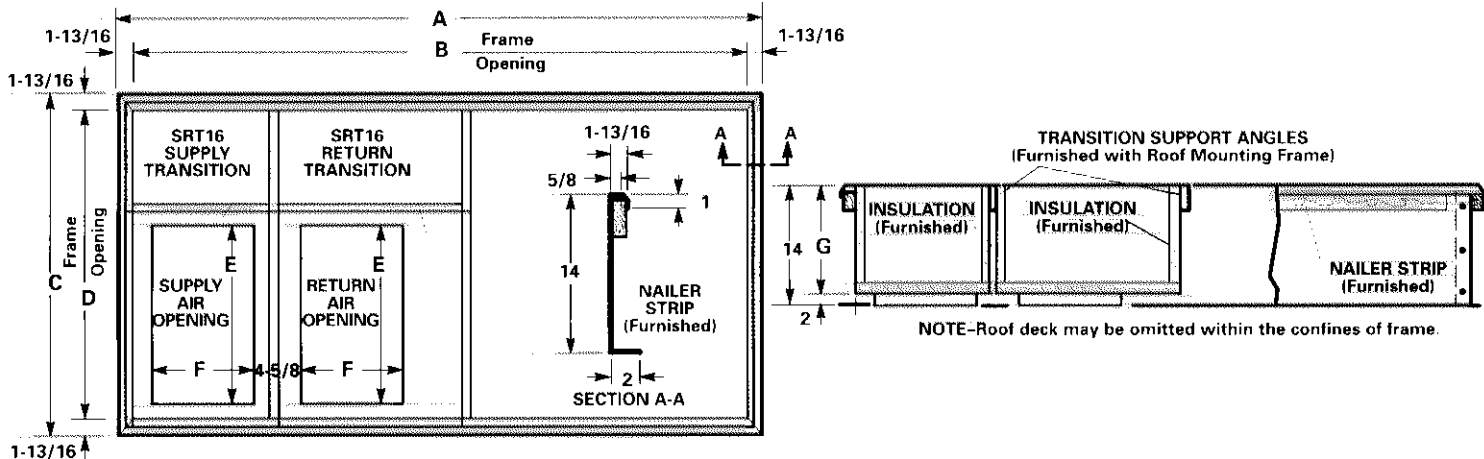
Model No.	A	B	C	D	E	F	G
RMF16-95	87-1/8	83-1/2	46-5/8	43	17-15/16	31-1/2	4
RMF16-135/160	92-1/2	88-7/8	58-1/2	54-7/8	25-1/4	*	3-3/16
RMF16-185	111-3/4	108-1/8	63-7/8	60-1/4	26	45-1/2	4-3/8
RMF16-300	156-5/16	152-11/16	80-7/8	77-1/4	36	46	18

\*31 1/2 inches for -1353 units. 39-1/2 inches for -1603 units.

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



**RMF16-135/160, -185 & -300 ROOF MOUNTING FRAMES WITH SRT16  
SUPPLY AND RETURN AIR TRANSITIONS FOR FD11 & RTD11 CEILING DIFFUSERS**



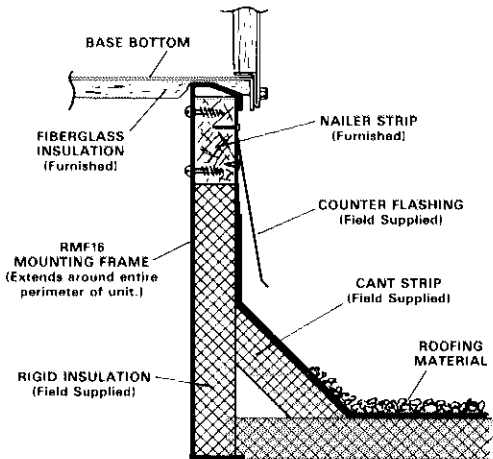
Model No.	A	B	C	D	E	F	G
RMF16-135/160	92-1/2	88-7/8	58-1/2	54-7/8	*	18	8
RMF16-185	111-3/4	108-1/8	63-7/8	60-1/4	36	18	12
RMF16-300	156-5/16	152-11/16	80-7/8	77-1/4	48	24	12

\*28 inches for SRT16 135 Transition. 36 inches for SRT16-160 Transition.



**ACCESSORY DIMENSIONS (inches)**

**TYPICAL FLASHING DETAIL FOR RMF16 ROOF MOUNTING FRAME**

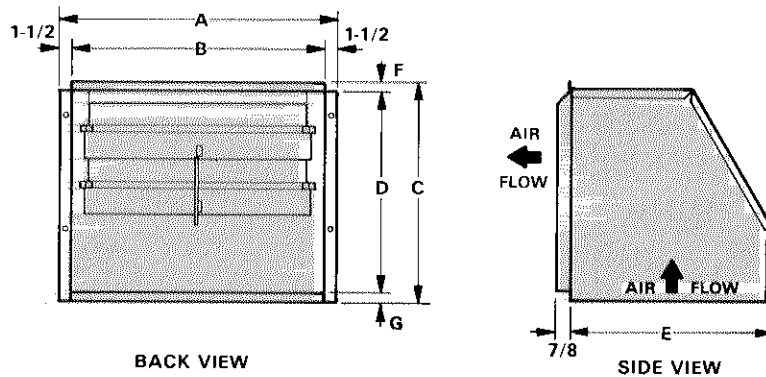


**ROOF MOUNTING FRAME SPECIFICATIONS**

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

Roof Mounting Frame	RMF16-95 thru -300
*Frame moment of inertia (I) (in. <sup>4</sup> )	42
*Frame section modulus $\frac{I}{C}$ (in. <sup>3</sup> )	5.8
Mounting frame weight (lb/foot of length)	5.5
Mounting frame design strength (psi)	20,000

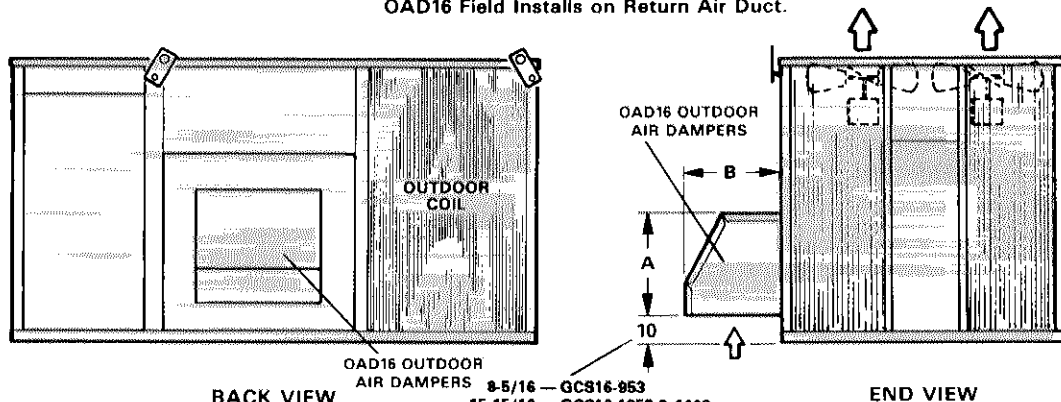
**OAD16 OUTDOOR AIR DAMPER SECTION**



Model No.	A	B	C	D	E	F	G
OAD16-95 OAD16-135 OAD16-160	24	21	18-1/2	17-1/8	17-1/8	3/4	5/8
OAD16-185 OAD16-300	33	30	28-3/8	27	22-1/4	3/4	5/8
	33	30	34-5/8	33-1/4	34-1/4	1/2	1/2

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

**NOTE** – For Horizontal (side) Supply and Return Air  
OAD16 Field Installs on Return Air Duct.



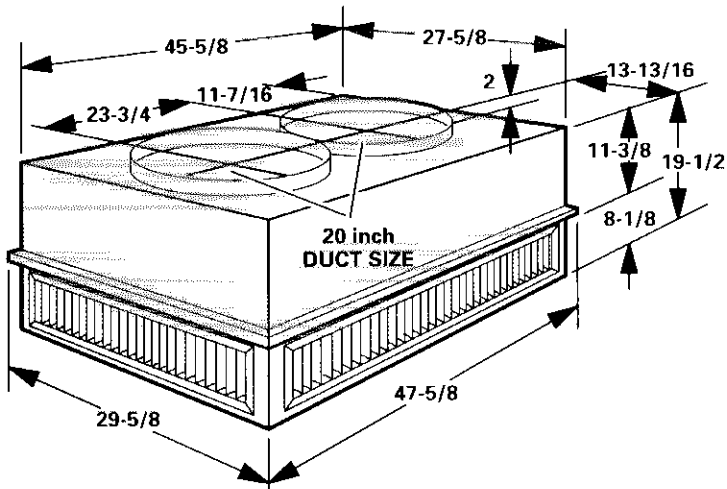
8-5/16 – GCS16-953  
15-15/16 – GCS16-1353 & 1603  
10 – GCS16-1853  
5 – GCS16-2553, 2753 & 3003

Model No.	A	B
OAD16-95 OAD16-135 OAD16-160	17-1/8	17-1/8
OAD16-185 OAD16-300	27	22-1/4
	33-1/4	24-1/4

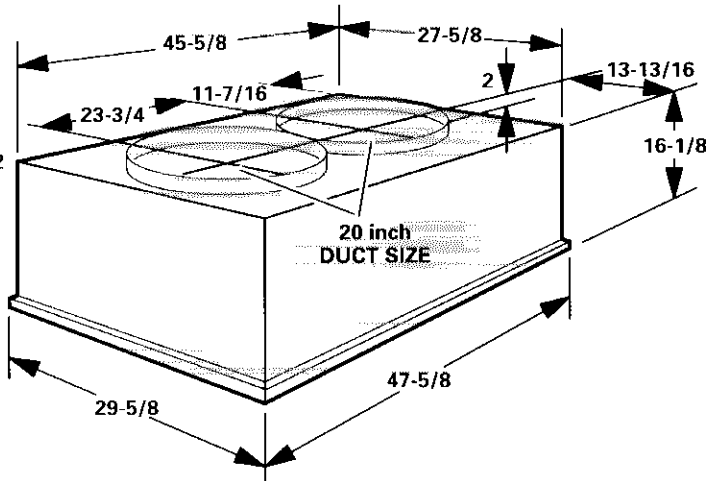
**ACCESSORY DIMENSIONS (inches)**

**COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS**

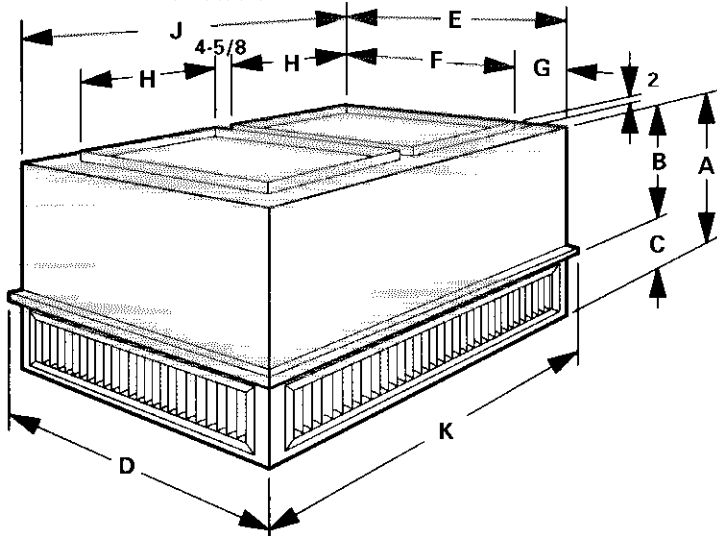
**RTD11-95 STEP-DOWN CEILING DIFFUSER**



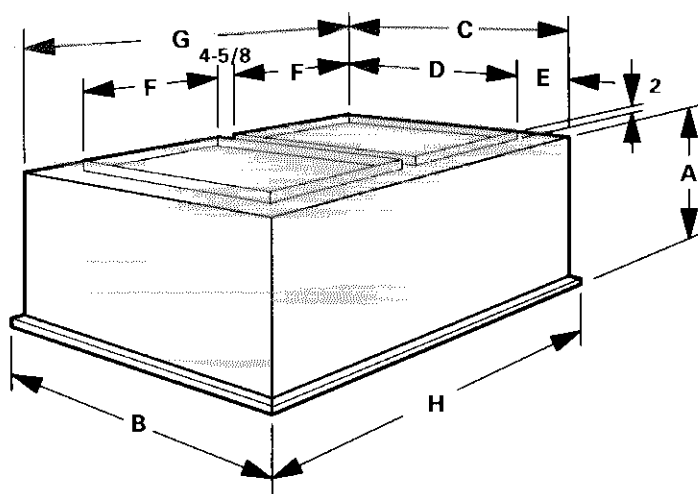
**FD11-95 FLUSH CEILING DIFFUSER**



**RTD11-135, RTD11-185 & RTD11-275 STEP-DOWN CEILING DIFFUSER**



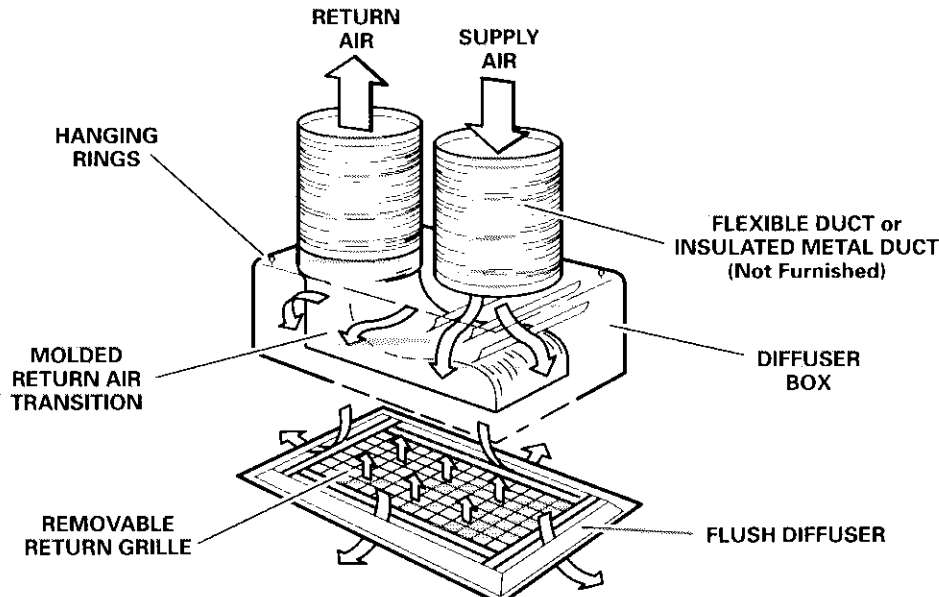
**FD11-135, FD11-185 & FD11-275 FLUSH CEILING DIFFUSER**



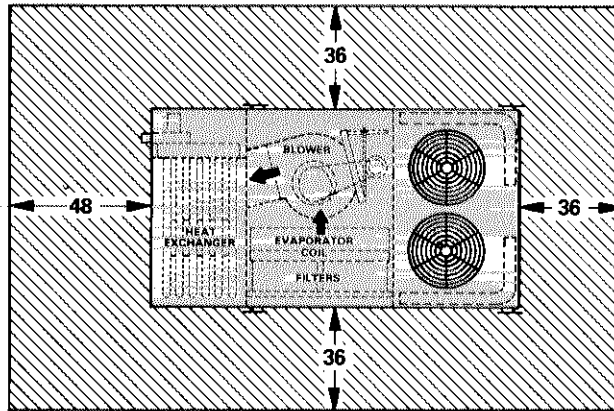
Model No.	A	B	C	D	E	F	G	H	J	K
RTD11-135	28	18 7/8	9 1/8	35-5/8	33-5/8	28	2-13/16	18	45-5/8	47 5/8
RTD11-185	34	23-7/8	10-1/8	47-5/8	45-5/8	36	4-13/16	18	45 5/8	47-5/8
RTD11-275	40	28 7/8	11 1/8	59 5/8	57 7/8	48	4 13/16	24	57-5/8	59-5/8

Model No.	A	B	C	D	E	F	G	H
FD11-135	24 1/8	35 5/8	33-5/8	28	2-13/16	18	45-5/8	47-5/8
FD11-185	30-1/8	47-5/8	45-5/8	36	4-13/16	18	45-5/8	47-5/8
FD11-275	36 1/8	59-5/8	57-5/8	48	4-13/16	24	57-5/8	59-5/8

**DIFFUSER AIR PATTERN**



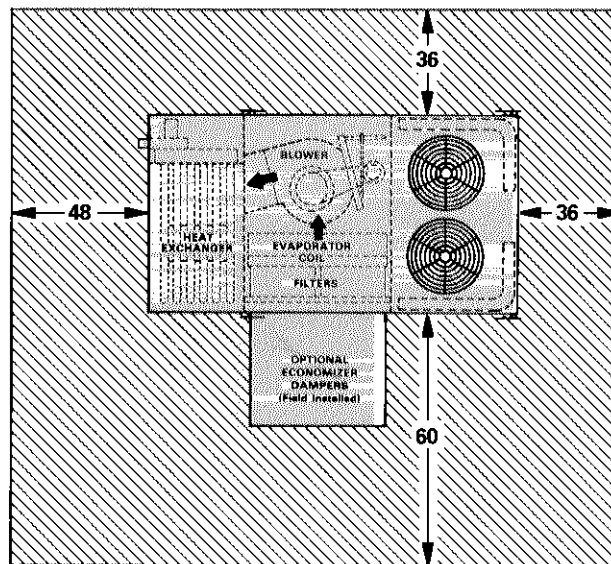
**GCS16 BASIC UNIT**



**NOTE – Top Clearance Unobstructed.**

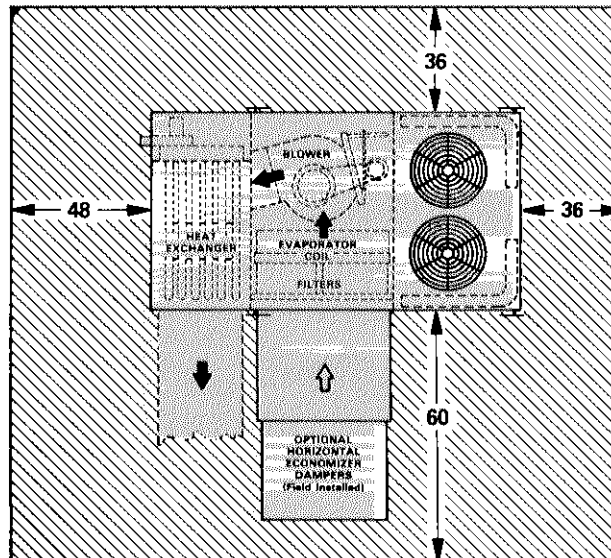
**NOTE – Entire perimeter of unit requires support when elevated above mounting surface.**

**GCS16 UNIT WITH REMD16M  
ECONOMIZER DAMPER SECTION**



**NOTE – Top Clearance Unobstructed.**

**GCS16 UNIT WITH EMDH16M HORIZONTAL ECONOMIZER  
DAMPER SECTION**



**NOTE – Top Clearance Unobstructed.**