LENNOX®

ENGINEERING DATA

COOLING & GAS HEAT

EPIC™ SERIES

GCS24

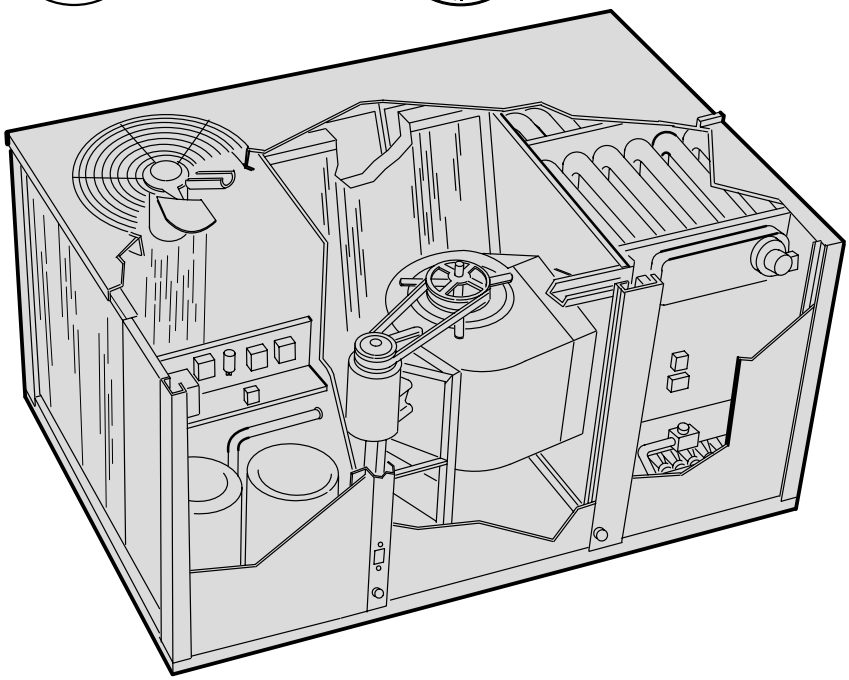
(7.5 Ton)
(26.4 kW)

GCS24-953 PACKAGED UNITS
COOLING & GAS HEAT

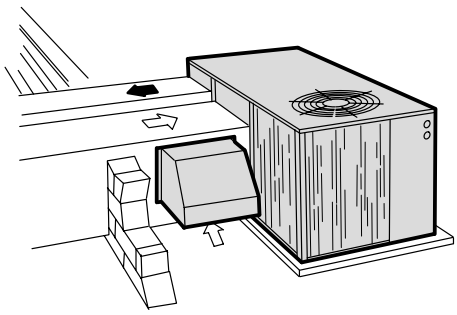
***88,000 Btuh (25.8 kW) Cooling Capacity**
126,000 to 200,000 Btuh (36.9 to 58.6 kW) Input Heating Capacity

***ARI Standard Ratings**

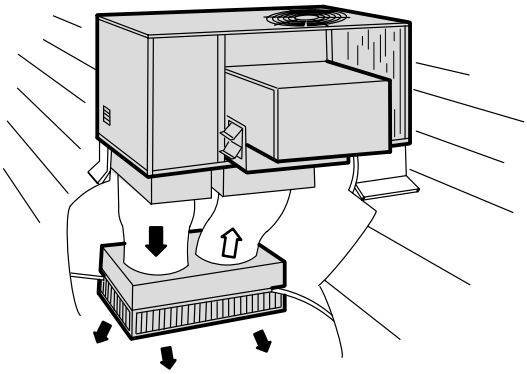
Bulletin No. 210028
December 1996
Supersedes July 1995



Typical Applications



Horizontal (Side) Supply and Return Air
Installation with OAD24 Outdoor Air Dampers.



Down-Flow Supply and Return Air Installation
With RMF16 Roof Mounting Frame, REMD24 Economizer
and RTD11 Ceiling Diffuser.

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♁ The maple leaf symbol in this bulletin denotes Canadian only usage where applicable

NOTE — Due to Lennox' ongoing committment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.

FEATURES

Item	GCS24-953
Air Flow Choice — Bottom (down-flow) or horizontal (side) supply and return air	Std.
Approvals — A.G.A./C.G.A. certified as combination heating/ cooling unit for outdoor installation, bonded for grounding to meet safety standards for servicing required by A.G.A./C.G.A. and National and Canadian Electrical Codes	Std.
ARI Standard 210/240-94 Certified	Std.
Sound Rating — Tested in accordance with conditions included in ARI 270	Std.
Bottom Power Entry	[1] Opt.
Cabinet — Heavy gauge galvanized steel, fully insulated, powdered enamel paint finish, large removeable access panels, electrical inlets in cabinet base and condenser section, hinged control box with factory installed controls low voltage terminal strip, unit lifting brackets	Std.
Coil Construction (Evaporator and Condenser) — Copper tube construction, ripple-edged enhanced aluminum fins, flared shoulder tubing connections, silver soldered construction, factory tested, evaporator coil face split with separate circuits, evaporator coil drain connection outside of unit cabinet.	Std.
Compressors — Reciprocating type, hermetically sealed, suction cooled, overload protected	Std.
Compressor Crankcase Heaters	Std.
Compressor Monitor (Non–Adjustable) – Prevents operation when outdoor temperature is below 40°F (4°C)	Std.
Condenser Coils — Formed coil construction	Std.
Condenser Fans — Low sound operating levels, PVC coated fan guard furnished	Std.
Condenser Fan Motors — Overload protected, permanently lubricated, ball bearings	Std.
Control Box — Hinged for easy access, factory installed	[2] Opt.
Corrosion Protection — Phenolic epoxy coating applied to condenser coil only (with painted base section) or to both condenser and evaporator coils (with painted condenser and evaporator base section and painted blower housings), factory applied	[3] Opt.
Disconnect — Factory installed	[2] Opt.
Fan and Limit Controls — Factory installed, 90 second fan time delay, dual limit controls (primary and secondary) with fixed temperature setting	Std.
Filters — Disposable 2 inch (51 mm) pleated, filter rack will accept 1 inch (25 mm) thick filters	Std.
Filter Access — Hinged filter door with quarter turn fasteners	Std.
Heat Exchanger — Tubular construction, aluminized steel, life cycle tested	Std.
Heating System — Aluminized Steel inshot burners, direct spark ignition, electronic flame sensor, redundant automatic dual gas valve with manual shut-off, induced draft blower, flame rollout switch, peep hole for flame viewing	Std.
Low Ambient Controls — Allows unit operation down to 30°F (–1°C)	[1] Opt.
Refrigeration System — Consists of: compressors, condenser coil and direct drive fan(s), evaporator coil and belt drive blower, expansion valves, high capacity driers, thermometer wells, high pressure switches, low pressure switches, full refrigerant charge, freezestat (prevents coil freeze-up during low ambient operation), independent refrigerant circuits (allows staging)	Std.
Service Outlets (2) — Factory installed, 115v ground fault circuit interrupter (GFCI) type	[2] Opt.
Supply Air Blower — Belt drive, forward curved blades with double inlet, blower wheel statically and dynamically balanced, permanently lubricated sleeve bearings, adjustable pulley (allows speed change)	Std.
Supply Air Motor — Overload protected, equipped with ball bearings	Std.
Warranty — Limited ten years heat exchanger, limited five years compressors, one year all other covered components, see limited warranty certificate included with unit for details	Std.

Std.= Standard with unit.
Opt.= Optional
[1] Available for field installation, see Optional Field Installed Accessories tables. Also part of factory installed Electrical Convenience Package, see Factory Installed Options tables.
[2] Available as part of factory installed Electrical Convenience Package, see Optional Factory Installed Options tables.
[3] Available factory installed Corrosion Protection Package, see Optional Factory Installed Options table.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Item	GCS24-953
✧ **Cold Weather Kit** – Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below –40°F(–40°C). C.G.A. certified to allow operation of unit down to –60°F (–50°C)	Opt.
Control System — Electro-mechanical Thermostat	Opt.
Control System — W973	Opt.
Control System — T7300 Thermostat	Opt.
Control System — W7400	Opt.
Control System — T8600 and T8621 Thermostat	Opt.
Differential Enthalpy Control — For use with economizer dampers, solid-state return air sensor allows selection between outdoor air and return air (whichever has lowest enthalpy)	Opt.
Diffusers (Step-Down) — Aluminum grilles, double deflection louvers, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), adapts to T-bar ceiling grids or plaster ceilings	RTD11-95
Diffusers (Flush) — Aluminum grilles, fixed blade louvers, large center grille, insulated diffuser box with flanges, hanging rings furnished, interior transition (even air flow), internally sealed (prevents recirculation), adapts to T-bar ceiling grids or plaster ceilings	FD11-95
Transitions (Supply and Return) — Used with diffusers, installs in roof mounting frame, galvanized steel construction, flanges furnished for duct connection, fully insulated	SRT16-95
Economizer Dampers — Mechanically linked recirculated air and outdoor air dampers, plug-in connections to unit, nylon bearings, stainless steel seals (outdoor dampers), 24 volt fully modulating spring return damper motor, adjustable minimum damper position switch, mixed air controller, solid-state adjustable outdoor air enthalpy control, 0 to 100% outdoor air adjustable	[1] Opt.
Economizer Dampers (Down-Flow) — Cleanable aluminum mesh frame filter furnished, gravity exhaust air dampers furnished, fresh air and exhaust air hoods furnished for field installation, powdered enamel paint finish	[1] REMD24M-95
Economizer Dampers (Horizontal) — Two cleanable polyurethane frame filters furnished, galvanized steel cabinet, flanged air openings on return air section, outdoor air hood shipped separately, powdered enamel paint finish, fully insulated, requires optional Horizontal Supply and Return Air Kit for duct connection NOTE — Installation requires field modification to filter access door	EMDH16M-95
Economizer Gravity Exhaust Dampers (Horizontal) — For use with EMDH16 horizontal economizer damper sections, two neoprene coated fiberglass dampers furnished, rainhoods furnished, bird screen furnished	GED16-95/135/160
Horizontal Supply and Return Air Kit — Provides duct connection to unit, flanges furnished, hardware furnished, two filler panels furnished for unused air openings, filter access panel furnished	Opt.
LPG/Propane Kits	Opt.
Outdoor Air Damper Section — Linked mechanical dampers, interchangeable unit panel furnished (down-flow applications), two-piece cabinet (control access), cleanable polyurethane frame type filter furnished, 0 to 25% (fixed) outdoor air adjustable, manual or automatic operation (kit required for automatic operation), installs on unit for down-flow applications, installs in return air duct for horizontal applications	OAD24-95
Outdoor Air Damper Automatic Damper Kit — 3 position damper actuator, plug-in connection	Opt.
Roof Mounting Frame — Nailer strip furnished, mates to unit, U.S. National Roofing Contractors Approved, shipped knocked down	RMF16-95
Smoke Detector — Photoelectric type, factory installed in return air section	[2] Opt.
Timed-Off Control — Prevents compressor short-cycling, contains two controls	Opt.

Opt.= Optional. See Optional Field Installed Accessories tables for ordering information.
[1] Available for field installation, see Field Installed Accessories tables. Also available as factory installed Economizer Package, see Factory Installed Options tables.
[2] Available factory installed Smoke Detector Package, see Factory Installed Options tables.

OPTIONAL TEMPERATURE CONTROL SYSTEMS (See Flow Charts on Pages 6 and 7)

System and Component Description	Catalog No.
ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM	—
Thermostat — Two stage heat & two stage cool with dual temperature levers, subbase choice	**13F06**
Subbase — Manual system switch (Off-Heat-Auto-Cool), fan switch (Auto-On)	**13F17**
Subbase — Non-switching	**13F16**
Night Setback Operation — Order components below	—
Heating Thermostat — Single stage heat	**13F12**
Subbase — Non-switching	**13F16**
Nite Kit — Required if economizer is not used, contains plug-in relay, overrides operation of day thermostat	**39G74**
Time Clock — 7 day operation, indicates day and night periods, 2 hour increments, battery back-up	**See Price Book for Selection**
Time Clock — 24 hour night setback operation, 15 minute increments, battery back-up	**See Price Book for Selection**
Warm Up Kit — Holds economizer dampers closed during night heating operation and morning warm-up	**39G77**
Cycle Control (Required) — Plug-in connections, provides timed-on and off function, prevents compressor short cycling	**42H51**
W973 CONTROL SYSTEM	—
Logic Panel/Discharge Sensor/Plug-in Relay — Panel controls operation of economizer and stages of heating and cooling in response to signals from thermostat, balances conditioned space thermostat demand against system output, system output measured by discharge sensor (furnished), combined demand and output signals determine economizer damper position and number of cooling or heating stages required, logic panel may be installed in unit or remotely located, W973 Plug-in Relay (furnished) adapts control system to unit	**39G76**
Thermostat — Dual setpoint, separate heating-cooling levers, locking setpoints, integral sensor	**25C52**
Subbase — Switching with system selector switch (Heat-Auto-Off-Cool), fan switch (Auto-On)	**58C93**
Transmitter — Dual setpoint, separate heating-cooling levers, locking setpoints, requires sensor	**25C51**
Subbase — Switching with system selector switch (Heat-Auto-Off-Cool), fan switch (Auto-On)	**58C93**
Sensor — Room temperature	**58C92**
Sensor — Return air temperature	**27C40**
Time Clock — 7 day operation, indicates day and night periods, 2 hour increments, battery back-up	**See Price Book for Selection**
Time Clock — 24 hour night setback operation, 15 minute increments, battery back-up	**See Price Book for Selection**
Warm Up Kit — Holds economizer dampers closed during night heating operation and morning warm-up	**39G77**
T7300 THERMOSTAT CONTROL SYSTEM	—
Thermostat — Programmable, internal or optional remote temperature sensing (sensor required), touch sensitive keyboard, automatic switching, °F or °C readout, no anticipator, droop/no droop selection, indicator LED's, hour/day programming, override capabilities, time and operational mode readout, stage status indicators, battery back-up, subbase choice	**81G59**
Subbase — Selectable staging up to two stage heat & two stage cool, manual system switch (Heat-Off-Auto-Cool), fan switch (Auto-On), indicator LED's, auxiliary relay output for economizer operation	**81G60**
Subbase — Selectable staging up to three stage heat & two stage cool, manual system switch (Auto-Cool-Off-Heat-Emergency Heat) (heat pump only), fan switch (Auto-On), indicator LED's, auxiliary relay output for economizer operation	**13H76**
Sensor — Room temperature	**58C92**
Sensor — Room temperature with 3 hour override and setpoint adjustment	**86G67**
Sensor — Return air temperature	**27C40**

OPTIONAL TEMPERATURE CONTROL SYSTEMS (See Flow Charts on Pages 6 and 7)

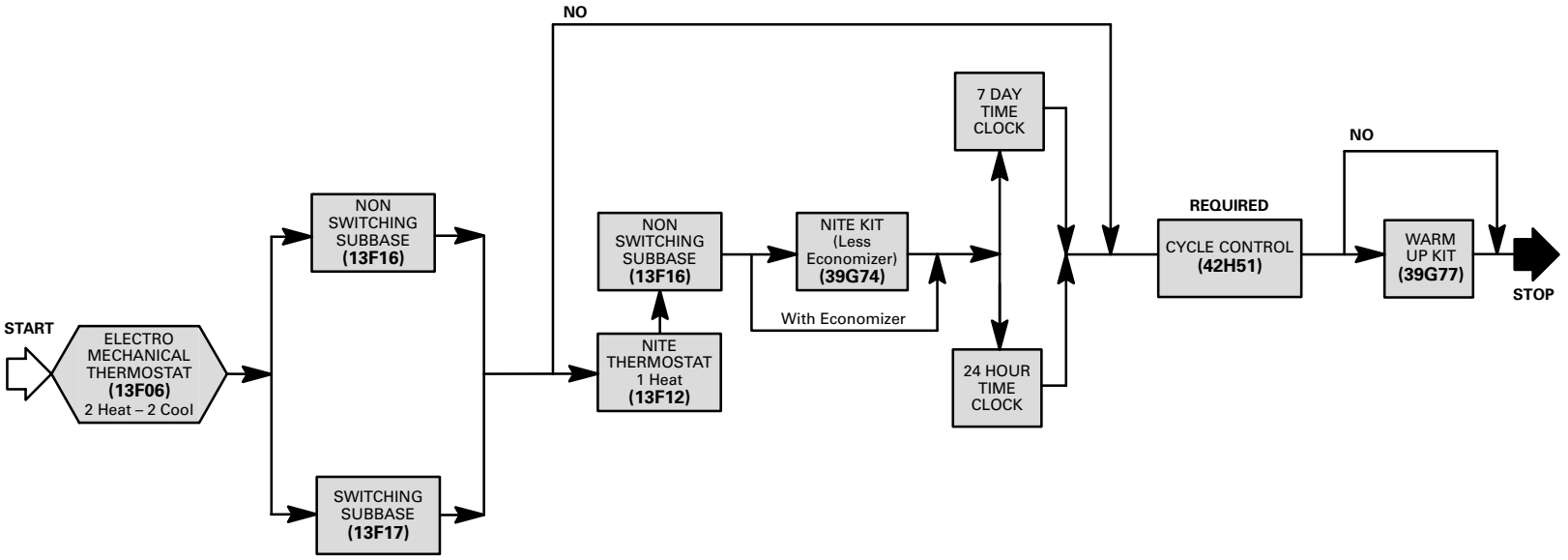
System and Component Description	Catalog No.
W7400 CONTROL SYSTEM	—
Control Module/Plug-in Relay — Module controls operation of economizer and stages of heating and cooling, setpoint/space temperature sensor and time-of-day signals control unit operation, module balances space temperature signal against stages operating to determine system output, system output is measured and updated by monitoring actual space temperature deviation from setpoint and rate of change of space temperature, module may be installed in unit or remotely located, plug-in relay (furnished) provides set points for economizer and DX cooling, choice of thermostats	**74G11**
Thermostat — Room thermostat with integral sensor, touch sensitive keyboard, automatic switching, no anticipator, zero droop, indicator lights, hour/day programming, override capabilities, time readout, stage status indicators, battery back-up, wiring wallplate	**36G62 (°F) or♲36G63 (°C)**
Thermostat — Remote thermostat (sensor required), touch sensitive keyboard, automatic switching, no anticipator, zero droop, indicator lights, hour/day programming, override capabilities, time readout, stage status indicators, battery back-up, wiring wallplate	**36G64 (°F) or♲36G65 (°C)**
Sensor — Room temperature	**58C92**
Sensor — Return air temperature	**27C40**
T8600 and T8621 THERMOSTAT CONTROL SYSTEMS	—
Thermostats — Built-in time delays, system switch (Heat-Off-Cool-Auto), fan switch (Auto-On), touch sensitive keyboard, LCD display (Time-Day-Status-Temperature readout in °F or °C), four different time and temperature settings per day, T8621 has switching subbase and one LED (system "On"), T8600 has wiring wall plate and two LED's (Energy Savings and system "On"), both have instant override capabilities for skipping current program, running previous program, temporarily raising or lowering temperature for current program or overriding program indefinitely, three "AAA" battery back-up, see below for additional descriptions ♲ **T8600C1055** .... **71E91** .... Manual changeover, 1 htg./1 clg. 5-1-1 day programming **T8600D1079** .... **27H31** ..... Auto changeover, 1 htg./1 clg. 5-1-1 day programming ♲ **T8621A7010** .... **75E25** ..... Auto changeover, 1 htg./1 clg. 7 day programming **T8621D7055** .... **27H29** ..... Auto changeover, 2 htg./2 clg. 7 day programming	See left for catalog numbers
Warm Up Kit — Holds economizer dampers closed during night heating operation and morning warm-up	**39G77**

LOGIC CONTROLS PACKAGE (Factory Installed Option)

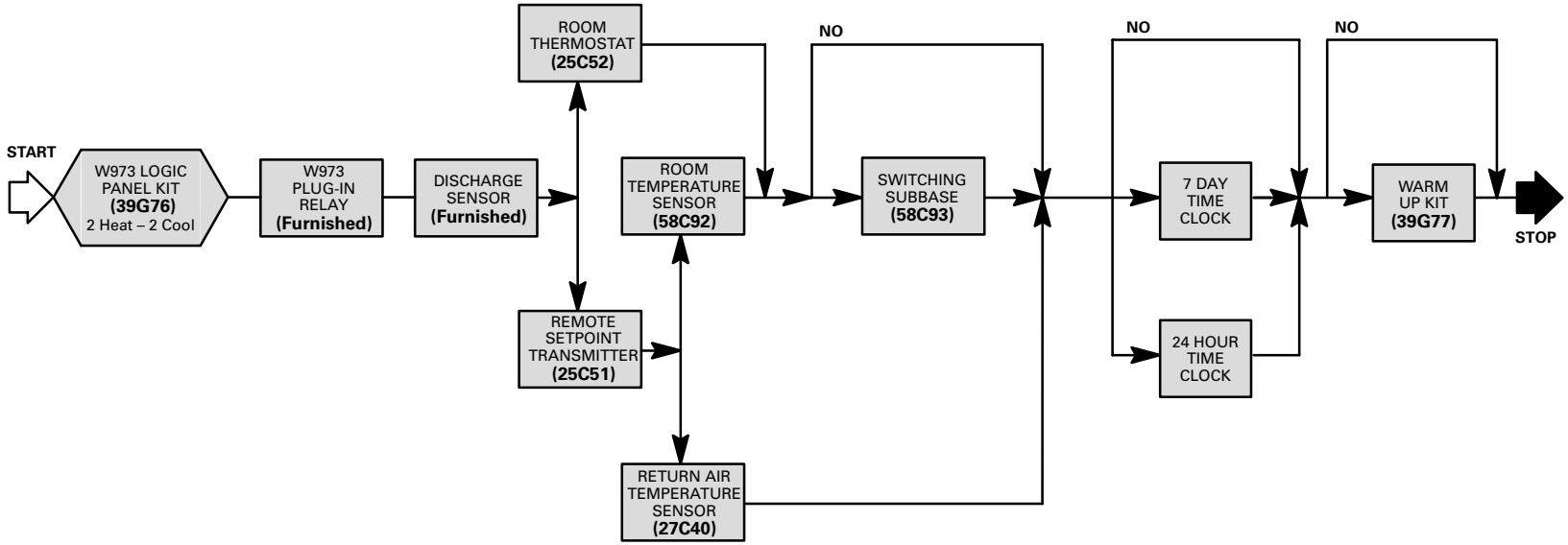
Component Description	Catalog No.
ETM Electronic Thermostat Module — Factory installed control monitors unit operation from different sensors factory installed in unit, has outputs for 2 stage heat/2 stage cool, automatic or continuous blower operation, economizer damper operation and night setback, features: day/occupied mode with low enthalpy (outdoor air damper open), high enthalpy (outdoor air damper closed) or night/unoccupied mode (outdoor air damper closed), ETM allows units to be "daisy chained" together (up to 31 units) to be operated from one central location with an "executive" type control processor (onsite or offsite), built-in time delays, built-in unit operating defaults, diagnostic LED's indicate various operating functions, surge suppression protects ETM against lightning or voltage spikes	Factory Installed In Unit
Return Air Sensor — Provides input to ETM module to determine heating or cooling operation and number of stages required	Factory Installed In Unit
Blower Proving Switch — Monitors blower operation, locks out unit in case of blower failure, sends signal to ETM module for alarm	Factory Installed In Unit
Dirty Filter Switch — Senses static pressure increase indicating a dirty filter condition	Factory Installed In Unit
Discharge Air Monitor — Senses leaving air temperature for monitoring unit operation	Factory Installed In Unit
Room Temperature Sensor — Provides input to ETM module to determine heating or cooling operation and number of stages required (ordered separately)	**97H53**
Night Setback Override Switch — Allows momentary override of night setback during unoccupied mode	Field Furnished

TEMPERATURE CONTROL SELECTION FLOWCHARTS

OPTIONAL ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM

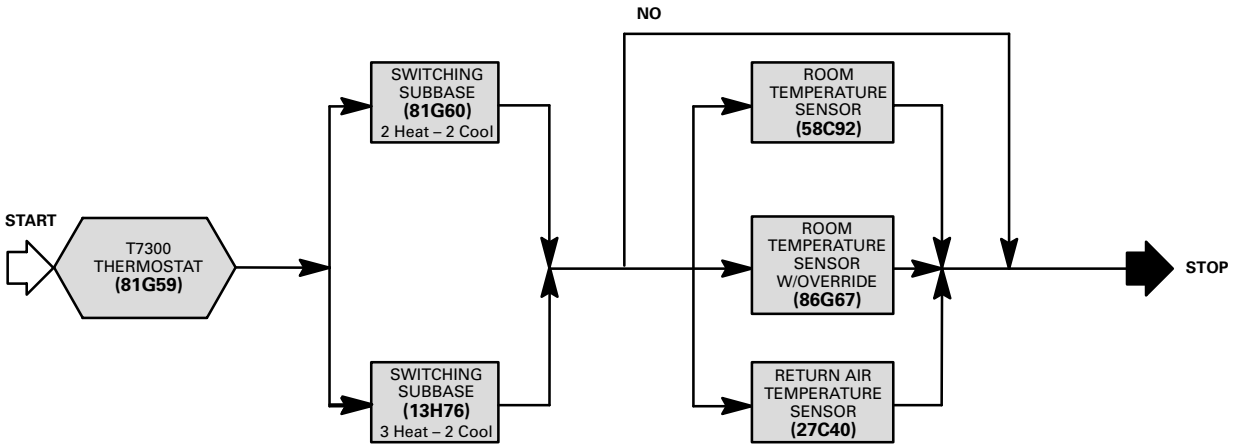


OPTIONAL W973 CONTROL SYSTEM

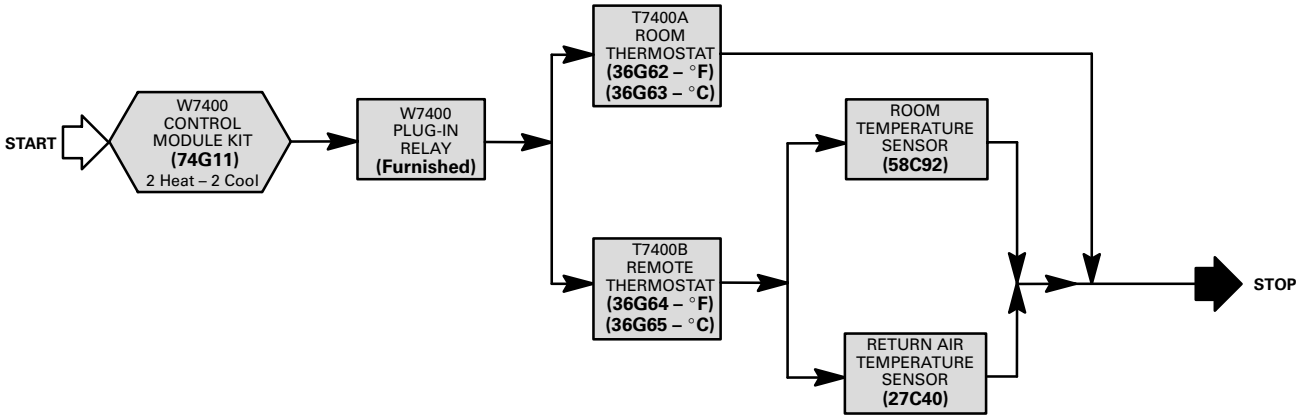


TEMPERATURE CONTROL SELECTION FLOWCHARTS

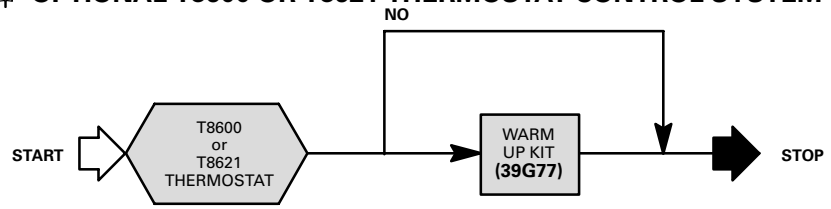
OPTIONAL T7300 CONTROL SYSTEM



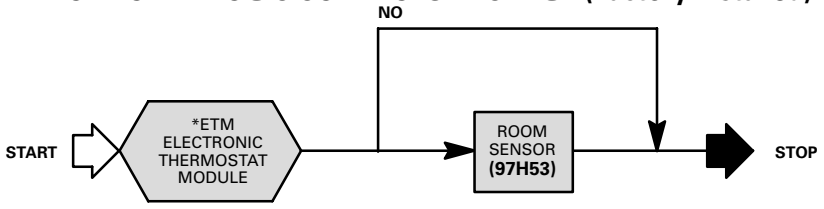
OPTIONAL W7400 CONTROL SYSTEM



OPTIONAL T8600 OR T8621 THERMOSTAT CONTROL SYSTEM



OPTIONAL LOGIC CONTROLS PACKAGE (Factory Installed)



*Includes Return Air Sensor, Blower Proving Switch, Dirty Filter Switch and Discharge Air Monitor factory installed in unit.

SPECIFICATIONS — GCS24-953

Model No.			GCS24-953
Cooling Ratings	Gross cooling capacity — Btuh (kW)		92,800 (27.2)
	★Total cooling capacity — Btuh (kW)		88,000 (25.8)
	★Total unit watts		8800
	★EER (Btuh/Watts)		10.0
	★Integrated Part Load Value		10.0
	*Sound Rating Number (db)		86
Refrigerant Charge (HCFC-22)	Circuit 1		6 lbs. 0 oz. (2.72 kg)
	Circuit 2		6 lbs. 0 oz. (2.72 kg)
Evaporator Blower and Drive Selection	Blower wheel nominal dia. x width — in. (mm)		12 x 12 (305 x 305)
	Factory Installed [1] Drives	Nominal motor hp (W)	2 (1492)
		Maximum usable hp (W)	2.30 (1716)
		Voltage & phase	208/230/460v or 575v-3ph
		RPM range	740 — 1010
Evaporator Coil	Net face area — sq. ft. (m^2)		7.75 (0.72)
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 3
	Fins per inch (m)		14 (551)
	Expansion device type		Thermostatic Expansion Valve
	Drain connection size mpt — in. (mm) PVC		1 (25.4)
Condenser Coil	Net face area — sq. ft. (m^2)		15.67 (1.46)
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 2
	Fins per inch (m)		20 (787)
Condenser Fan	Diameter — in. (mm) & No. of blades		(1) 24 (610) — 4
	Air volume — cfm (L/s)		5150 (2430)
	Motor horsepower (W)		(1) 3/4 (560)
	Motor rpm		1075
	Motor watts		650
Sea Level Two Stage Heating Capacity	Input (low) — Btuh (kW) Natural Gas/LPG–Propane		126,000 (36.9)/126,000 (36.9)
	Output (low) — Btuh (kW) Natural Gas/LPG–Propane		98,000 (28.7)/98,000 (28.7)
	Input (High) — Btuh (kW) Natural Gas/LPG–Propane		200,000 (58.6)/175,000 (51.3)
	Output (High) — Btuh (kW) Natural Gas/LPG–Propane		160,000 (46.9)/142,600 (41.8)
	A.G.A./C.G.A. Thermal Efficiency Natural Gas/LPG–Propane		80%/81.5%
♔ High Altitude Two Stage Heating Capacity	Input (low) — Btuh (kW) Natural Gas/LPG–Propane		126,000 (36.9)/126,000 (36.9)
	Output (low) — Btuh (kW) Natural Gas/LPG–Propane		98,000 (28.7)/98,000 (28.7)
	Input (High) — Btuh (kW) Natural Gas/LPG–Propane		192,000 (56.3)/175,000 (51.3)
	Output (High) — Btuh (kW) Natural Gas/LPG–Propane		153,600 (45.0)/142,600 (41.8)
	C.G.A. Thermal Efficiency Natural Gas/LPG–Propane		80%/81.5%
Gas Supply Connections fpt — in. (mm)Natural and LPG/Propane			3/4 (19)
Recommended Gas Supply Pressure — wc. in. (kPa)		Natural	7 (1.7)
		LPG/Propane	11 (2.7)
Filters (furnished)	Type of filter		Disposable, pleated
	No. & size — in. (mm)		(4) 16 x 20 x 2 (406 x 508 x 51)
Net weight of basic unit — lbs. (kg)			875 (397)
Shipping weight of basic unit — lbs. (kg) (1 Package)			1060 (481)
Electrical characteristics			208/230v, 460v or 575v — 60 hertz — 3 phase

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

★Rated in accordance with ARI Standard 210/240; 95°F (35°F) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air. Integrated Part Load Value rated at 80°F (27°C) outdoor air temperature.

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

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

OPTIONAL FIELD INSTALLED ACCESSORIES — GCS24-953

Unit Model No.			GCS24-953
LPG/Propane Conversion Kit			LB-55755DA **(32G88)**
♢ Cold Weather Kit			**65C03**
Roof Mounting Frame — (Net Weight)			RMF16-95 (107 lbs.) (49 kg)
Down-Flow Economizer Dampers with Gravity Exhaust	Model No. (Net Weight)		REMD24M-95 (60 lbs.) (27 kg)
	Net face area		2.1 sq. ft. (0.20 m^2)
	No. & size of filters	in.	(1) 32-1/4 x 16-1/2 x 1
		mm	(1) 819 x 419 x 25
Horizontal Economizer Dampers	Model No. (Net Weight)		EMDH16M-95 (120 lbs.) (54 kg)
	No. & size of filters	in.	(2) 16 x 25 x 1
		mm	(2) 406 x 635 x 25
Exhaust Dampers — (Net Weight) — Net Face Area			GED16-95/135/160 (5 lbs.) (2 kg) — 0.43 sq. ft. (0.04 m^2) used with EMDH16
Differential Enthalpy Control			**54G44**
Horizontal Supply and Return Air Kit — (Net Weight)			LB-55756BA **(34G71)** (30 lbs.) (14 kg)
Bottom Power Entry Kit — (Net Weight)			LB-55757CA **(34G70)** (12 lbs.) (5 kg)
Ceiling Supply and Return Air Diffusers (Net Weight)		Step-Down	RTD11-95 (125 lbs.) (57 kg)
		Flush	FD11-95 (95 lbs.) (43 kg)
		Transition	SRT16-95 (38 lbs.) (17 kg)
Outdoor Air Dampers	Model No. (Net Weight)		OAD24-95 (41 lbs.) (19 kg)
	No. & size of filters — in. (mm)		(1) 16 x 20 x 1 (406 x 508 x 25)
Automatic Damper Kit — (Net Weight)			**35G21** (7 lbs.) (3 kg)
Timed-Off Control Kit (2) LB-50709BA			**40G20**
Low Ambient Control Kit			LB-57113BG **(15J80)**

HIGH ALTITUDE DERATE

A.G.A. certified units must be derated when installed at an elevation of more than 2000 feet (610 m) above sea level. If unit is installed at an altitude higher than 2000 feet (610 m), the unit must be derated 4% for every 1000 feet (305 m) above sea level. Thus, at an altitude of 4000 feet (1210 m), the unit would require a derate of 16%.

♢C.G.A. certified units must be derated when installed at an elevation of more than 2000 feet (610 m) above sea level. If unit is installed at an altitude higher than 2000 feet (610 m), the unit must be derated 10% for elevations between 2000 feet and 4500 feet (610 m and 1370 m) above sea level.

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

FACTORY INSTALLED OPTIONS SELECTION

GCS24-953

Packaged Unit Model No.	Voltage Selection 3 phase 60hz	Electrical Convenience Package (D)	Economizer Package (E) or (G)	Smoke Detector Package (S)	Corrosion Protection Package (T) or (U)	Logic Controls Package (L)
GCS24-953 Basic unit includes: –2 hp (1492W) Blower Motor –200,000 Btuh (58.6 kW) Gas Heating Input –Hinged Filter Access	208/230v 460V 575v	Unit Disconnect, Bottom Power Entry and Low Ambient Controls Installed and Wired. Dual 115v GFCI Service Outlets, (Field Wired) Hinged Control Box Panel	Down-Flow Economizer With Gravity Exhaust Installed and Wired **(E)** Enthalpy Controlled or **(G)** Globally Controlled	Photoelectric Smoke Detector Installed and Wired In Return Air Section	Corrosion Resistant Coating Applied To Both Condenser And Evaporator Coils With Painted Base in Condensing And Evaporator Sections And Painted Blower Housing **(U)** Or Condenser Coil Only With Painted Base Condensing Section**(T)**	Controls for Logic control system factory installed

W973 CONTROL SYSTEM

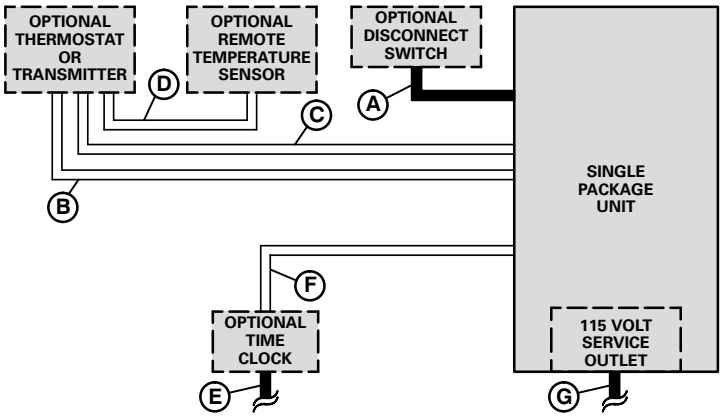
A — Three wire power (See Electrical Data Table)
B — Seven wire low voltage — DC only
C — Two wire low voltage — AC only — with switching subbase
D — Two wire low voltage — DC only
E — Two wire power
F — Two wire low voltage — AC only
G — Two wire power (115 volt)

AC — Alternating current
DC — Direct current

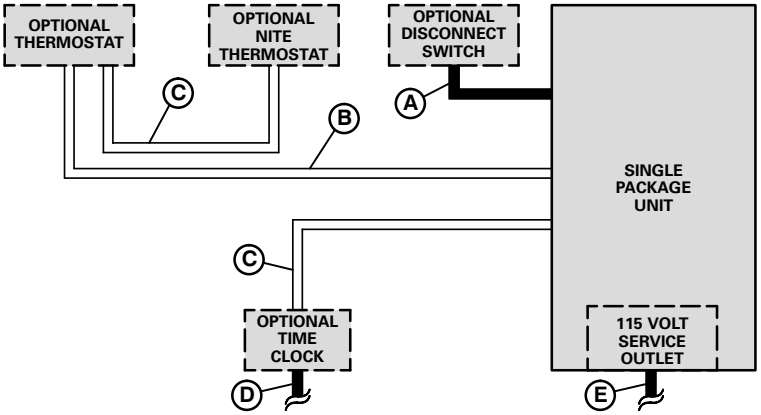
NOTE — Run separate harness for AC and DC. AC voltage interferes with DC signals.

— Field wiring not furnished —

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



ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM



A — Three wire power (See Electrical Data Table)
B — Six wire low voltage
C — Two wire low voltage
D — Two wire power
E — Two wire power (115 volt)

— Field wiring not furnished —

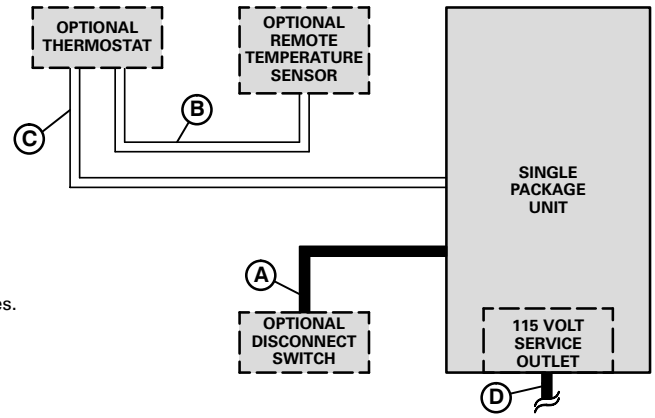
NOTE — All wiring must conform to NEC or CEC and local electrical codes.

W7400 CONTROL SYSTEM

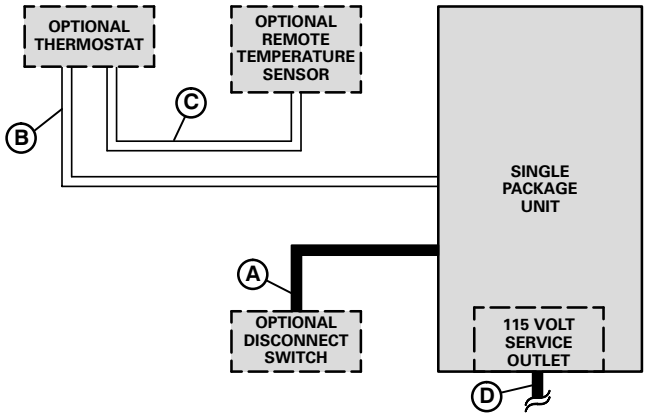
A — Three wire power (See Electrical Data Table)
B — Two wire low voltage
C — Four wire low voltage
D — Two wire power (115 volt)

— Field wiring not furnished —

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



T8600 OR T8621 THERMOSTAT OR 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 — Two wire power (115 volt)

— Field wiring not furnished —

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

ELECTRICAL DATA — GCS24-953

Model No.			GCS24-953		
Line voltage data — 60 Hz — 3 phase			208/230v	460v	575v
Compressors (2)	Rated load amps — each (total)		14.1 (28.2)	7.1 (14.2)	5.8 (11.6)
	Locked rotor amps — each (total)		130 (260.0)	64 (128.0)	52 (104.0)
Condenser Fan Motor	Full load amps		3.7	1.9	1.6
	Locked rotor amps		7.3	3.7	2.9
Evaporator Blower Motor	Motor Output	hp	2	2	2
		W	1492	1492	1492
	Full load amps		7.5	3.7	2.7
	Locked rotor amps		41.0	20.4	16.2
▶Recommended maximum fuse or circuit breaker size (amps)			50	25	20
Service Outlets (2) 115 volt GFCI (amp rating)			20	20	20
†Minimum Circuit Ampacity			43.0	22.0	18
Unit power factor			.88	.88	.88

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

RATINGS

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

GCS24-953 COOLING CAPACITY (With One Compressor Only Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																					
			65°F (18°C)						75°F (24°C)						85°F (29°C)						95°F (35°C)					
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	cfm	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	1180	2500	14.3	48,900	2800	.72	.84	.96	13.8	47,000	3060	.73	.86	.97	13.2	45,000	3330	.74	.88	.99	12.6	43,000	3600	.75	.89	1.00
	1415	3000	14.8	50,600	2810	.75	.89	1.00	14.2	48,500	3080	.76	.91	1.00	13.6	46,500	3350	.78	.93	1.00	13.0	44,500	3630	.80	.95	1.00
	1650	3500	15.2	51,900	2820	.79	.94	1.00	14.6	49,900	3090	.80	.95	1.00	14.0	47,800	3370	.82	.97	1.00	13.4	45,800	3660	.84	.99	1.00
67°F (19.4°C)	1180	2500	15.3	52,300	2820	.56	.69	.81	14.7	50,200	3090	.57	.70	.82	14.1	48,100	3380	.58	.71	.84	13.5	46,000	3660	.58	.72	.86
	1415	3000	15.8	53,900	2830	.58	.72	.86	15.1	51,700	3110	.59	.74	.88	14.5	49,500	3390	.60	.75	.89	13.8	47,200	3680	.61	.77	.91
	1650	3500	16.1	55,000	2830	.60	.76	.90	15.5	52,800	3110	.61	.78	.92	14.8	50,500	3410	.62	.79	.94	14.1	48,200	3700	.64	.81	.96
71°F (21.7°C)	1180	2500	16.4	56,100	2840	.43	.54	.66	15.8	53,900	3120	.43	.55	.67	15.1	51,700	3420	.43	.56	.68	14.5	49,500	3720	.43	.57	.70
	1415	3000	16.9	57,600	2840	.43	.57	.70	16.2	55,300	3130	.44	.57	.71	15.5	53,000	3430	.44	.58	.73	14.9	50,700	3740	.44	.59	.74
	1650	3500	17.2	58,800	2840	.44	.59	.74	16.5	56,400	3140	.45	.60	.75	15.8	54,000	3440	.45	.61	.77	15.1	51,700	3760	.45	.62	.79

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

GCS24-953 TOTAL COOLING CAPACITY (With Both Compressors Operating)

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																					
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) Dry Bulb		
	L/s	cfm	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C	kW	Btuh		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17.2°C)	1180	2500	26.8	91,300	6570	.71	.86	.98	25.1	85,500	6990	.73	.88	1.00	22.5	76,900	7390	.77	.91	1.00	21.5	73,300	7890	.78	.93	1.00
	1415	3000	27.6	94,100	6650	.75	.92	1.00	25.8	88,200	7090	.78	.94	1.00	23.3	79,400	7510	.82	.97	1.00	22.2	75,800	8030	.84	.98	1.00
	1650	3500	28.3	96,600	6740	.80	.97	1.00	26.6	90,700	7190	.83	.99	1.00	24.0	81,800	7630	.86	1.00	1.00	22.9	78,300	8170	.88	1.00	1.00
67°F (19.4°C)	1180	2500	28.4	96,800	6740	.55	.69	.82	26.5	90,600	7180	.57	.71	.85	23.9	81,500	7610	.59	.74	.88	22.7	77,600	8130	.60	.76	.90
	1415	3000	29.1	99,200	6820	.58	.73	.89	27.2	92,800	7270	.60	.76	.91	24.4	83,400	7700	.62	.79	.94	23.3	79,400	8230	.63	.81	.96
	1650	3500	29.6	101,000	6880	.61	.78	.94	27.7	94,500	7340	.63	.81	.96	24.9	85,000	7780	.65	.84	.98	23.7	80,900	8320	.67	.86	1.00
71°F (21.7°C)	1180	2500	30.2	103,100	6950	.41	.54	.66	28.3	96,600	7420	.42	.55	.69	25.5	86,900	7870	.43	.58	.72	24.3	82,900	8420	.44	.59	.73
	1415	3000	30.9	105,300	7020	.42	.57	.71	28.9	98,600	7500	.43	.59	.74	26.0	88,700	7960	.45	.61	.77	24.8	84,500	8520	.45	.62	.79
	1650	3500	31.3	106,900	7080	.43	.59	.75	29.3	100,100	7560	.44	.62	.79	26.4	90,000	8030	.46	.64	.82	25.1	85,700	8590	.46	.66	.84

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

BLOWER DATA

GCS24-953 BLOWER PERFORMANCE

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)									
	.20 (50)	.40 (75)	.50 (125)	.70 (175)	.80 (200)	.90 (225)	1.00 (250)	1.10 (275)	1.30 (325)	1.50 (375)
	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)	RPM BHP (kW)
2400 (1135)	---- ----	---- ----	810 0.85 (0.63)	905 1.05 (0.78)	955 1.15 (1.16)	1000 1.25 (0.93)	1050 1.40 (1.04)	1100 1.55 (1.16)	1195 1.95 (1.45)	1285 2.25 (1.68)
2600 (1225)	---- ----	---- ----	840 1.00 (0.75)	930 1.20 (0.90)	970 1.30 (0.97)	1015 1.40 (1.04)	1060 1.55 (1.16)	1105 1.70 (1.27)	1200 2.15 (1.60)	---- ----
2800 (1320)	---- ----	830 1.05 (0.78)	870 1.15 (0.86)	955 1.35 (1.00)	995 1.45 (1.08)	1035 1.60 (1.19)	1075 1.70 (1.27)	1115 1.85 (1.38)	1210 2.25 (3.78)	---- ----
3000 (1415)	---- ----	860 1.20 (0.90)	905 1.30 (0.97)	980 1.55 (1.16)	1020 1.65 (1.23)	1060 1.80 (1.34)	1095 1.90 (1.42)	1135 2.05 (1.53)	---- ----	---- ----
3200 (1510)	835 1.20 (0.90)	905 1.40 (1.04)	940 1.50 (1.12)	1010 1.75 (1.31)	1050 1.90 (1.42)	1085 2.00 (1.49)	---- ----	---- ----	---- ----	---- ----
3400 (1605)	880 1.40 (1.04)	945 1.60 (1.19)	980 1.75 (1.31)	1045 2.00 (1.49)	1080 2.10 (1.57)	---- ----	---- ----	---- ----	---- ----	---- ----
3600 (1700)	920 1.65 (1.23)	985 1.85 (1.38)	1015 2.00 (1.49)	1080 2.25 (1.68)	---- ----	---- ----	---- ----	---- ----	---- ----	---- ----
3800 (1795)	965 1.90 (1.41)	1025 2.15 (1.60)	---- ----	---- ----	---- ----	---- ----	---- ----	---- ----	---- ----	---- ----

NOTE — All data is measured external to the unit with dry coil and with the air filters in place. See below for Accessory Air Resistance data.
NOTE — In Canada, maximum usable motor output is 2 hp (1.49 kW).

BLOWER DATA

ACCESSORY AIR RESISTANCE

Unit Model No.	Air Volume		Total Resistance — inches water gauge (Pa)						
			Wet Evaporator Coil	REMD Down-Flow Economizer	EMDH16M Horizontal Economizer	RTD11 Step-Down Diffuser			FD11 Flush Diffuser
	cfm	L/s				2 Ends Open	1 Side 2 Ends Open	All Ends & Sides Open	
GCS24-953	2400	1185	.12 (30)	.25 (62)	.03 (7)	.21 (52)	.18 (45)	.15 (37)	.14 (35)
	2600	1225	.13 (32)	.31 (77)	.04 (10)	.24 (60)	.21 (52)	.18 (45)	.17 (42)
	2800	1320	.14 (35)	.37 (92)	.04 (10)	.27 (67)	.24 (60)	.21 (52)	.20 (50)
	3000	1415	.16 (40)	.43 (107)	.05 (12)	.32 (80)	.29 (72)	.25 (62)	.25 (62)
	3200	1510	.18 (45)	.50 (124)	.05 (12)	.41 (102)	.37 (92)	.32 (80)	.31 (77)
	3400	1605	.19 (47)	.53 (132)	.06 (15)	.50 (124)	.45 (112)	.39 (97)	.37 (92)
	3600	1700	.21 (52)	.55 (137)	.06 (15)	.61 (152)	.54 (134)	.48 (119)	.44 (109)
	3800	1795	.23 (57)	.60 (149)	.07 (17)	.73 (182)	.63 (157)	.57 (142)	.51 (127)

CEILING DIFFUSER AIR THROW DATA

Model No.	Air Volume		[1] Effective Throw Range			
			RTD11 Step-Down		FD11 Flush	
	cfm	L/s	ft.	m	ft.	m
GCS24-953	3000	1415	27 — 33	8 — 10	25 — 30	8 — 9
	3375	1595	30 — 37	9 — 11	28 — 34	9 — 10
	3750	1770	34 — 41	10 — 12	31 — 38	9 — 12

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

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 U.S. and Canada.*

The installed weight shall not be more than . . . . . lbs. (kg) Entire unit shall have a width of not more than . . . . . inches (mm), a depth of not more than . . . . . inches (mm) and an overall height of not more than . . . . . .inches (mm). 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 (down-flow) or side (horizontal) handling of conditioned air. All air distribution ducts shall be fiberglass or . . . . . ga. galvanized steel insulated with . . . . . inch (mm) thick . . . . . lb./ft.^{3} (kg/m^3) density fiberglass or equivalent.*

Approvals — *All electrical components shall have U.L. and C.S.A. Listing. All wiring shall be in compliance with NEC and CEC.*

Equipment Warranty — *Heat exchangers shall 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 (kW) with an evaporator air volume of . . . . . cfm (L/s), an entering wet bulb air temperature of . . . . . ° F (° C), an entering dry bulb air temperature of . . . . . ° F (° C) and a condenser entering temperature of . . . . . ° F (° C). 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. (m^2) (evaporator) and . . . . . .sq. ft. (m^2) (condenser). Condenser coil shall be formed coil construction.

Compressors shall be resiliently mounted, have overload protection and crankcase heaters. The refrigeration system shall have suction and liquid line service gauge ports, high pressure switches, low pressure switches, thermometer wells, driers, freezestat and full refrigerant charge. Control option available shall consist of low ambient controls and timed-off control. Shall be rated in accordance with ARI Standard 210/240-94.

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

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/propane as an option. Complete service access shall be provided for controls and wiring. Shall be A.G.A./C.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. Bottom power entry shall be optional. Optional hinged control box panel shall be available.*

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 sleeve 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 with ball bearings. Blower shall be capable of delivering . . . . . cfm (L/s) at an external static pressure of . . . . . .inches water gauge (Pa) requiring . . . . . bhp (W) and . . . . . rpm.*

Condenser Fan(s) — *Direct drive propeller type condenser fan(s) shall discharge vertically and be direct driven by a . . . . . hp (W) motor. Fan motor shall have ball bearings and 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. (m^2) 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. RMF16 frame shall be approved by U.S. 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. Down-flow economizer shall have gravity exhaust. The economizer section shall provide for the introduction of 100% outdoor air for minimum ventilation and free cooling. 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 (13° C) mixed air controller, damper actuator, adjustable 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). Down-flow economizer shall be available for factory or field installation.*

Gravity Exhaust Dampers — *Optional pressure operated dampers shall be available for field installation in EMDH16 horizontal economizer damper section. Neoprene coated fiberglass dampers shall prevent blow-back and outdoor air infiltration during off cycle. Shall be equipped with rainhoods and bird screen. Shall be furnished with down-flow economizer.*

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.*

Ceiling Diffusers — *Furnish and install a (flush or stepdown) optional combination ceiling supply and return air diffuser. It shall be capable of not less than . . . . . ft. (m) 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.*

Disconnect Package — *Furnish and factory install package that includes unit disconnect, dual 115 volt GFCI type service outlets, bottom power entry, low ambient controls and hinged control box panel.*

Smoke Detector Package — *Furnish and factory install photoelectric type smoke detector in return air section.*

Corrosion Protection Package — *Furnish and factory apply phenolic epoxy coating to condenser and evaporator coils with painted condensing and evaporator base sections and painted blower housings or apply only to condenser coil with painted condensing section base.*

Logic Controls Package — *Furnish and factory install a selection of controls to automatically operate the mechanical equipment through the heating or cooling and ventilating cycles as required.*

UNIT DIMENSIONS — inches (mm)

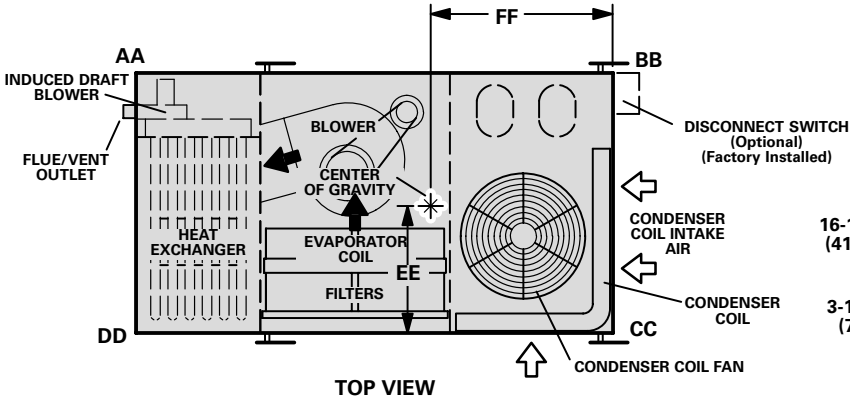
GCS24-953 BASIC UNIT

CORNER WEIGHTS — lbs. (kg)

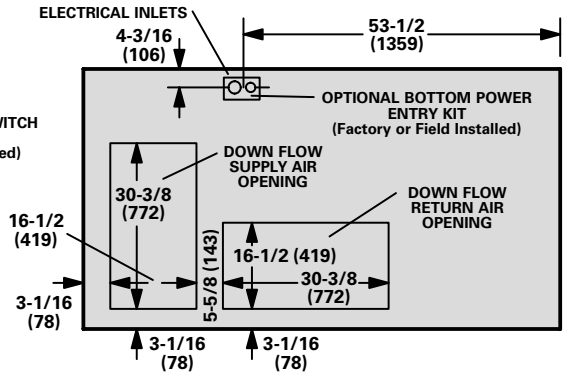
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS24-953	236	107	283	128	194	88	162	69

CENTER OF GRAVITY — inches (mm)

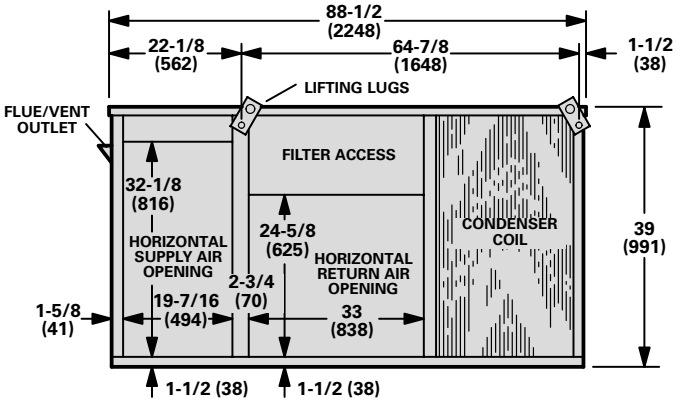
Model Number	EE		FF	
	inch	mm	inch	mm
GCS24-953	28-1/2	724	40	1016



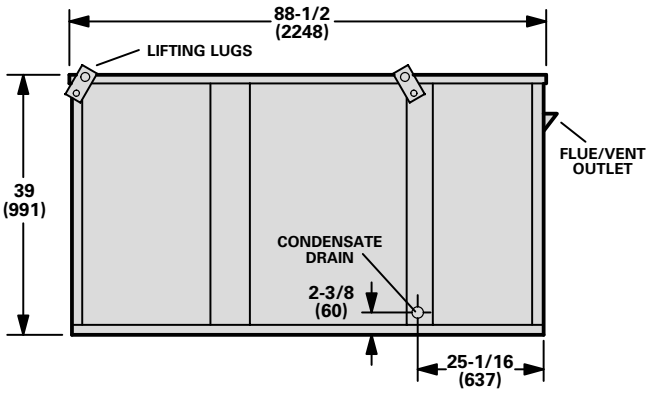
TOP VIEW



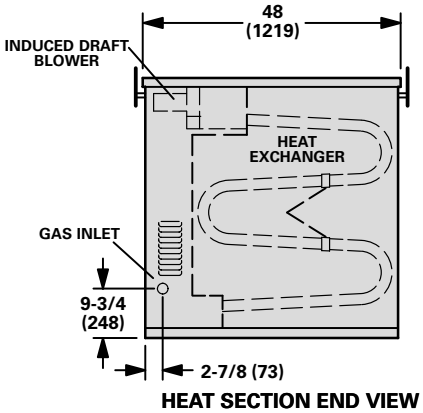
TOP VIEW BASE SECTION



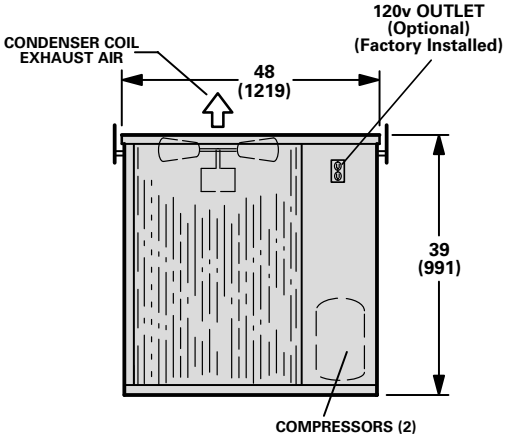
BACK VIEW
WITH HORIZONTAL SUPPLY & RETURN AIR OPENING



FRONT VIEW



HEAT SECTION END VIEW



CONDENSER SECTION END VIEW

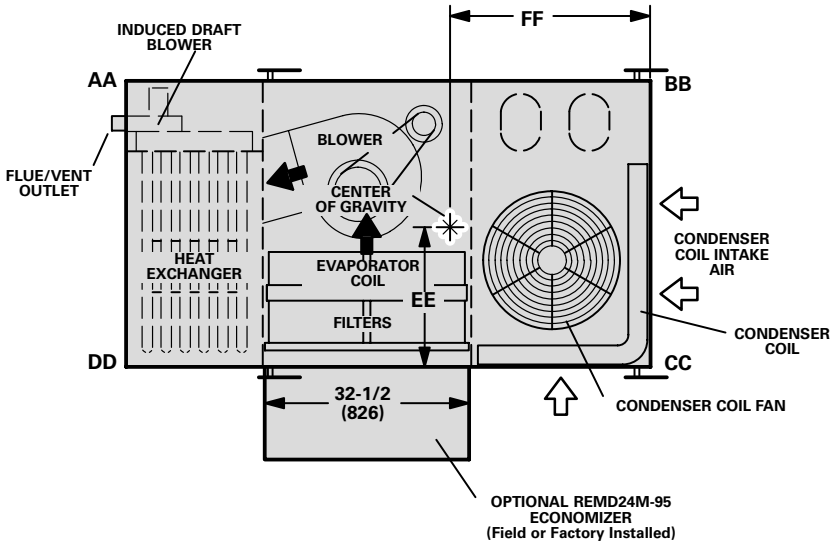
GCS24-953 UNIT WITH REMD24M-95 ECONOMIZER DAMPER SECTION AND RMF16-95 ROOF MOUNTING FRAME

CORNER WEIGHTS — lbs. (kg)

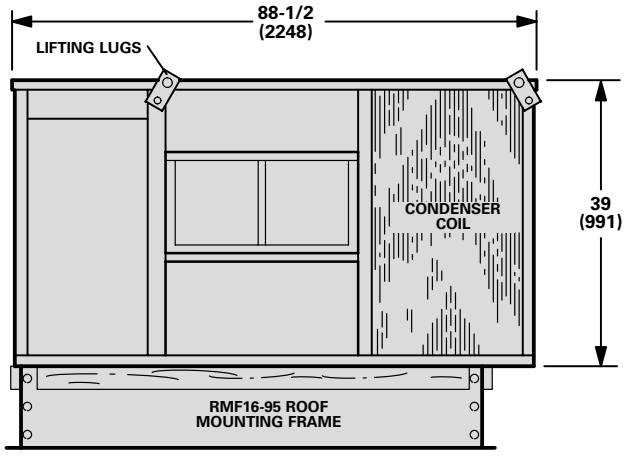
Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS24-953	268	122	318	144	247	112	208	94

CENTER OF GRAVITY — inches (mm)

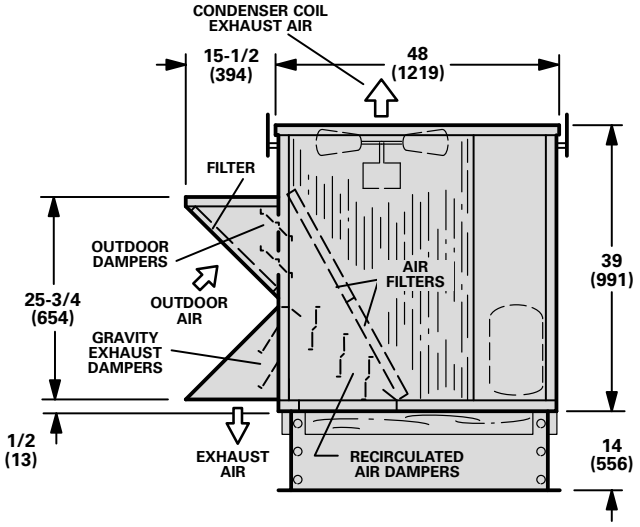
Model Number	EE		FF	
	inch	mm	inch	mm
GCS24-953	27	686	40-1/2	1029



TOP VIEW



BACK VIEW



CONDENSER SECTION END VIEW

ACCESSORY DIMENSIONS — inches (mm)

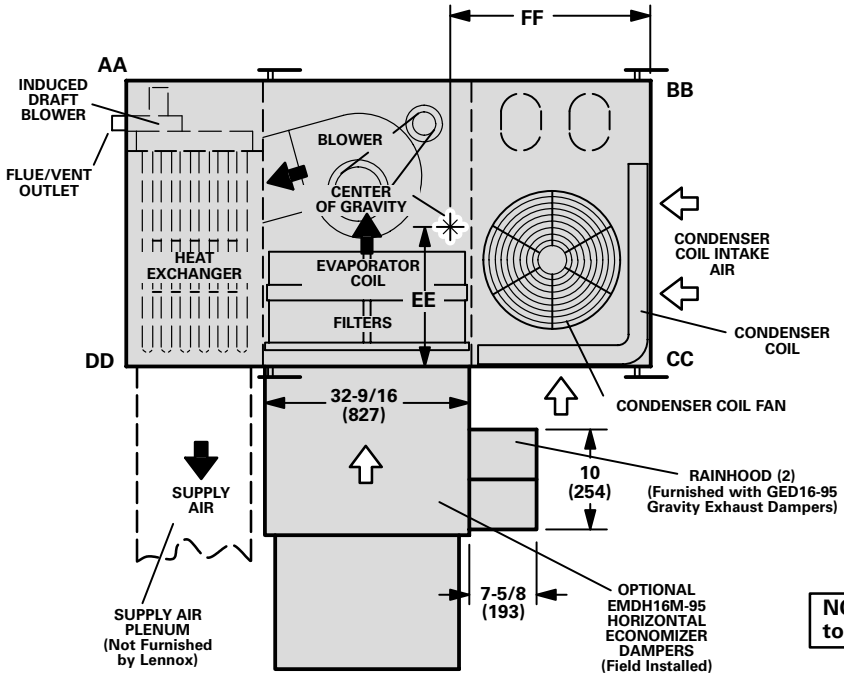
GCS24-953 UNIT WITH EMDH16M-95 HORIZONTAL ECONOMIZER DAMPER SECTION

CORNER WEIGHTS — lbs. (kg)

Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS24-953	235	107	273	124	261	118	226	103

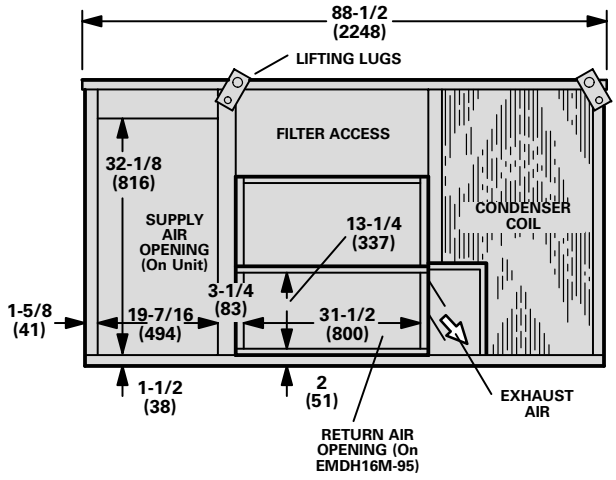
CENTER OF GRAVITY — inches (mm)

Model Number	EE		FF	
	inch	mm	inch	mm
GCS24-953	24-1/2	622	41	1041

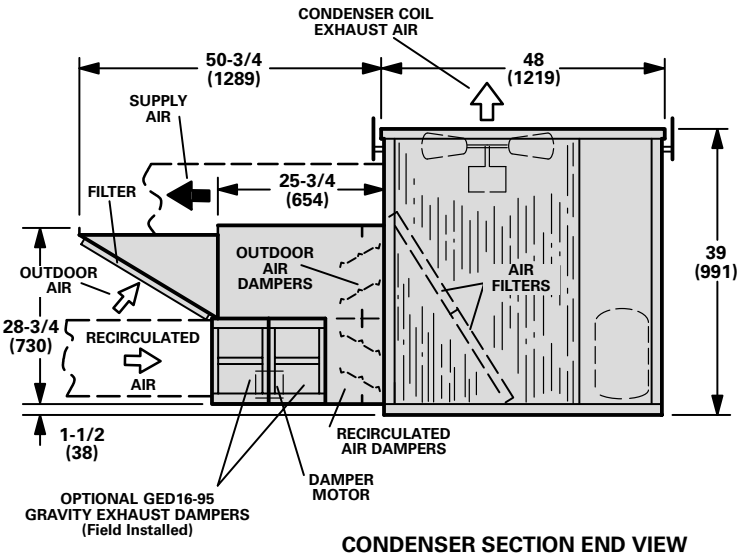


TOP VIEW

NOTE — EMDH16M requires field modification to GCS24 filter access door for proper fit.



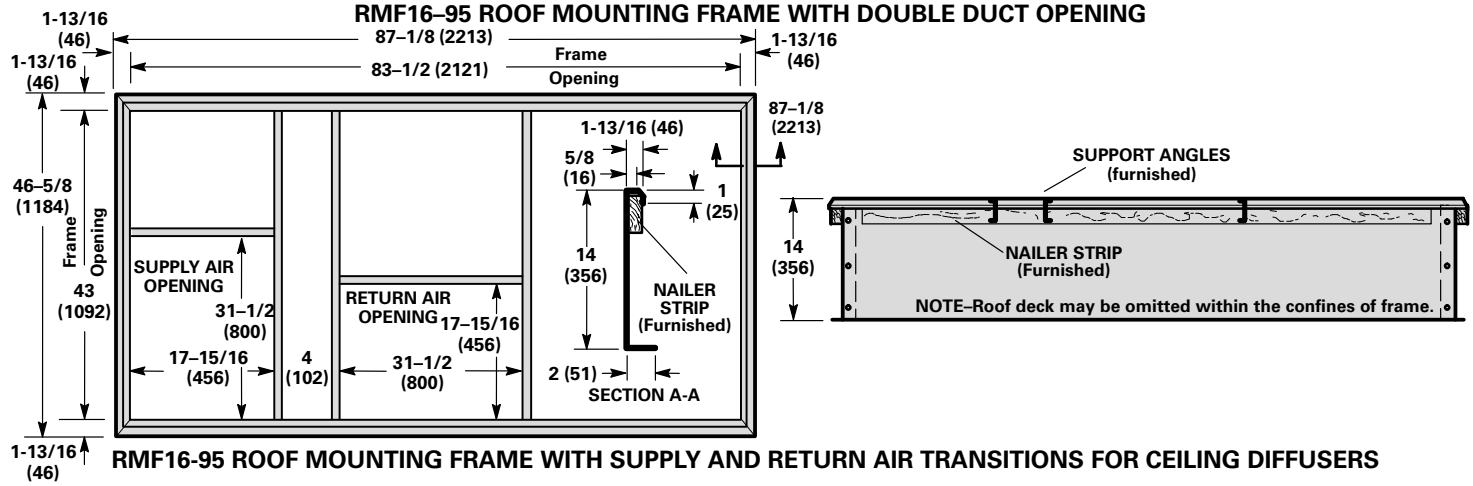
BACK VIEW



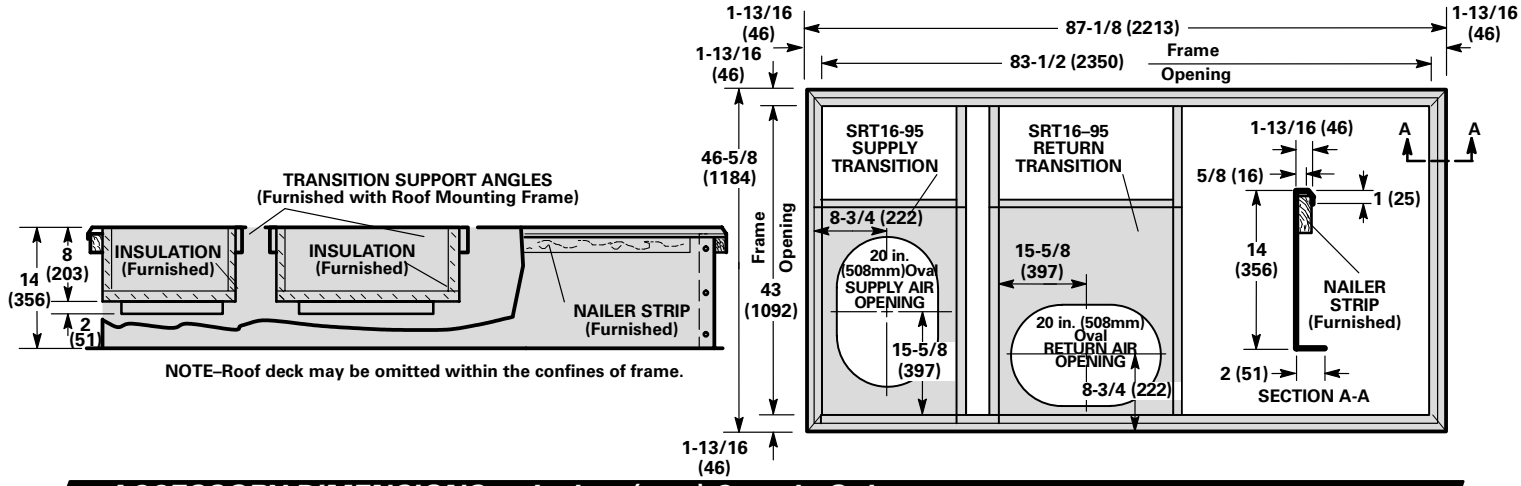
CONDENSER SECTION END VIEW

ACCESSORY DIMENSIONS — inches (mm) U.S. Only

RMF16–95 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING

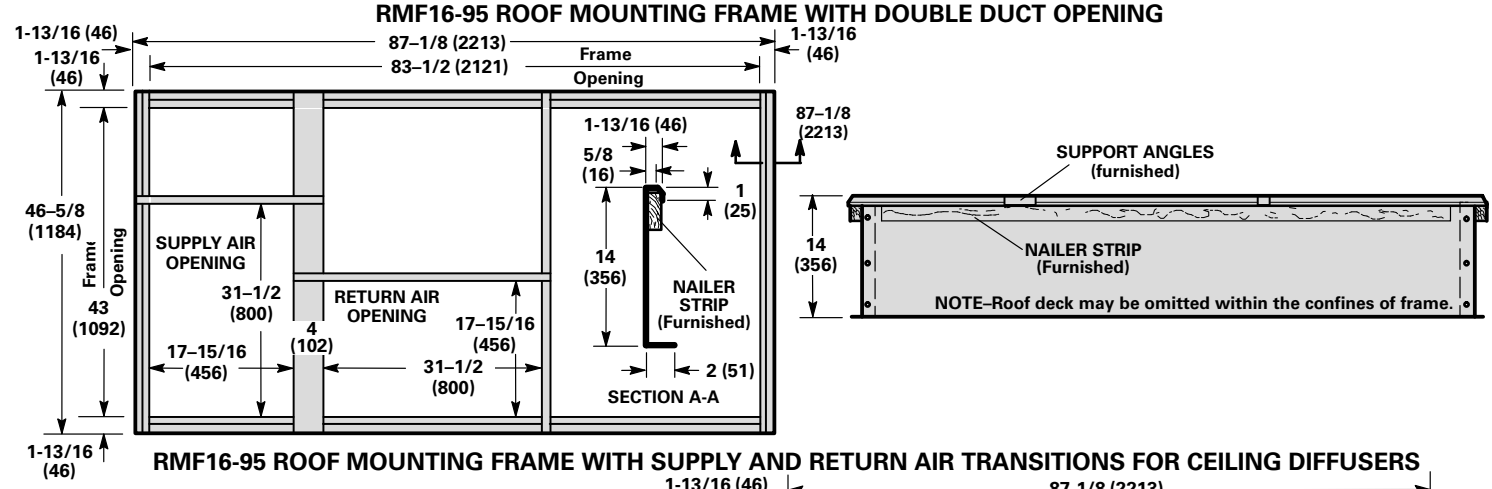


RMF16-95 ROOF MOUNTING FRAME WITH SUPPLY AND RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

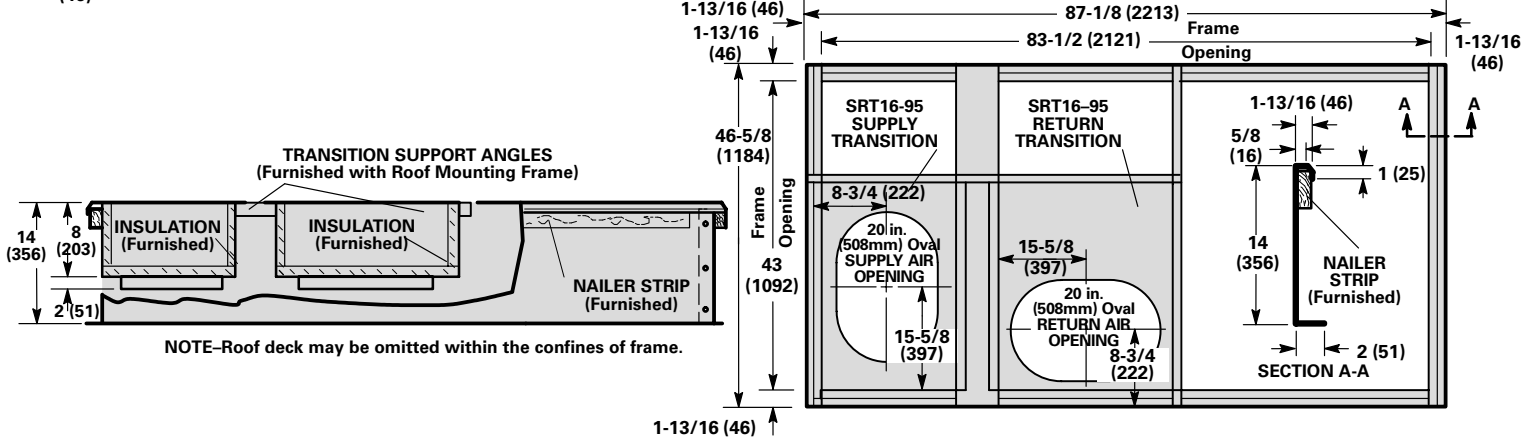


ACCESSORY DIMENSIONS — inches (mm) Canada Only

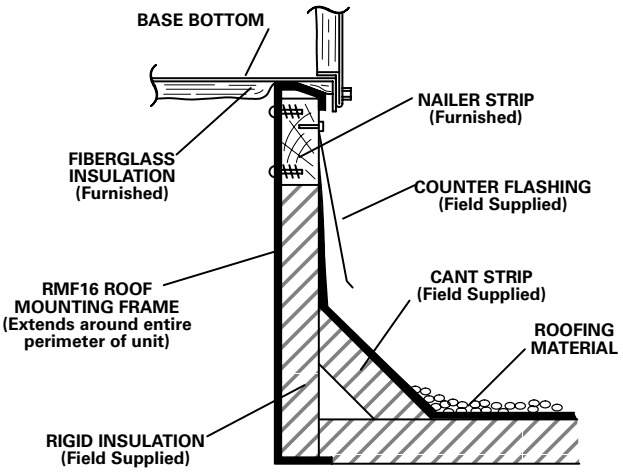
RMF16-95 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING



RMF16-95 ROOF MOUNTING FRAME WITH SUPPLY AND RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS



TYPICAL FLASHING DETAIL FOR RMF16 ROOF MOUNTING FRAME



ROOF MOUNTING FRAME SPECIFICATIONS

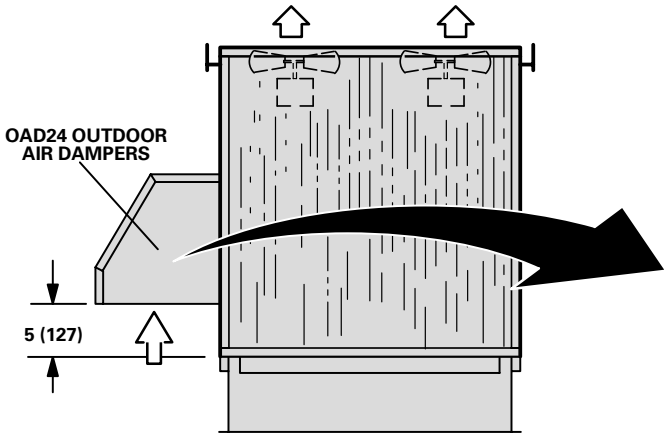
Roof Mounting frame is rigid enough to be spanned over its entire length or cantilevered if supported on both sides of center of gravity.

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

*Includes both sides of frame.

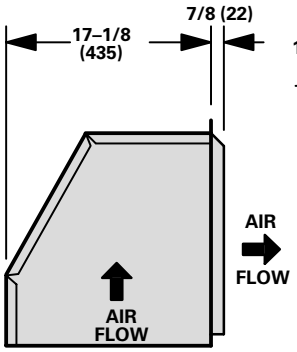
GCS24 UNIT WITH OAD24 OUTDOOR AIR DAMPER SECTION DOWN-FLOW SUPPLY AND RETURN AIR

NOTE — For Horizontal (Side) Supply And Return Air, OAD24 Field Installs on Return Air Duct

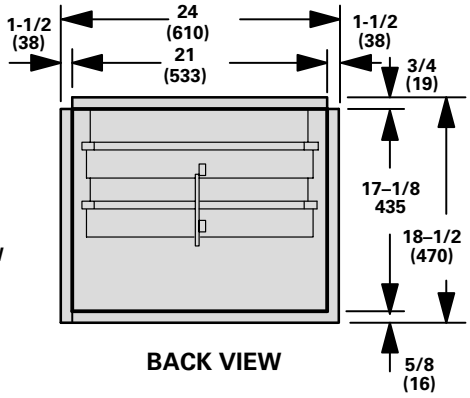


END VIEW

OAD24 OUTDOOR AIR DAMPER SECTION



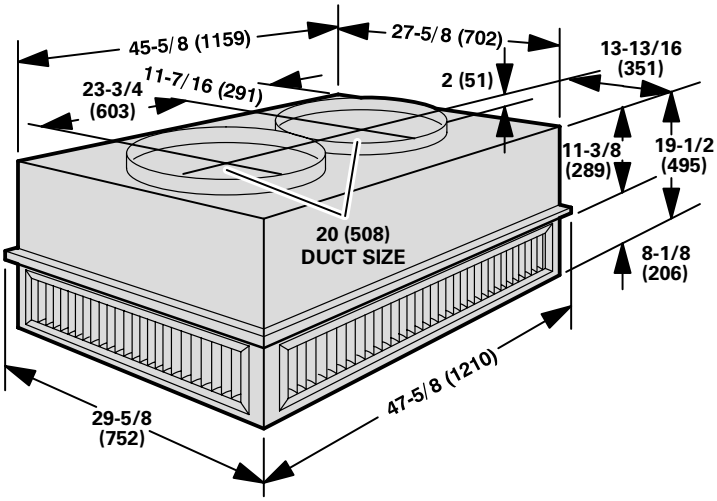
SIDE VIEW



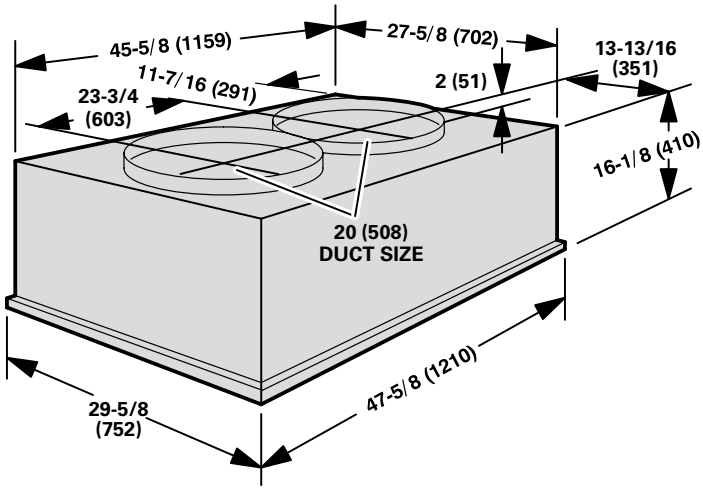
BACK VIEW

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

RTD11-95 STEP-DOWN CEILING DIFFUSER

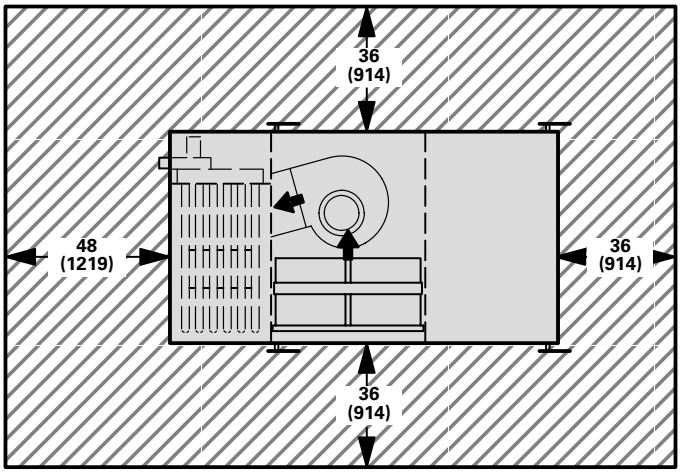


FD11-95 FLUSH CEILING DIFFUSER



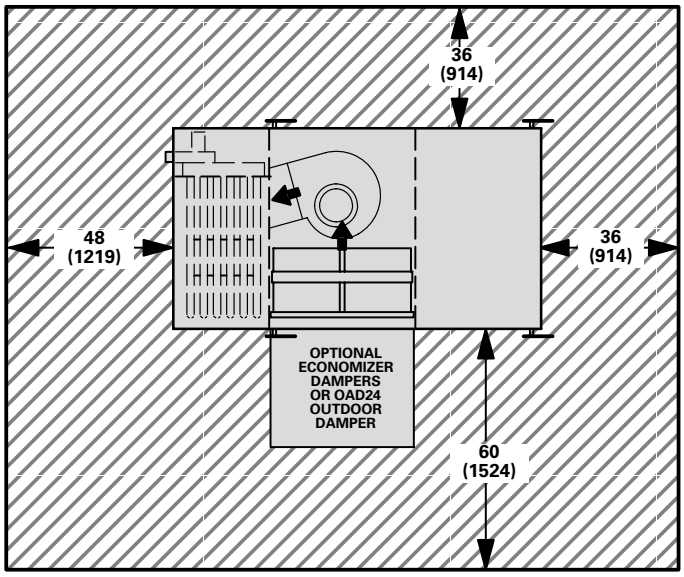
INSTALLATION CLEARANCES — inches (mm)

GCS24 BASIC UNIT



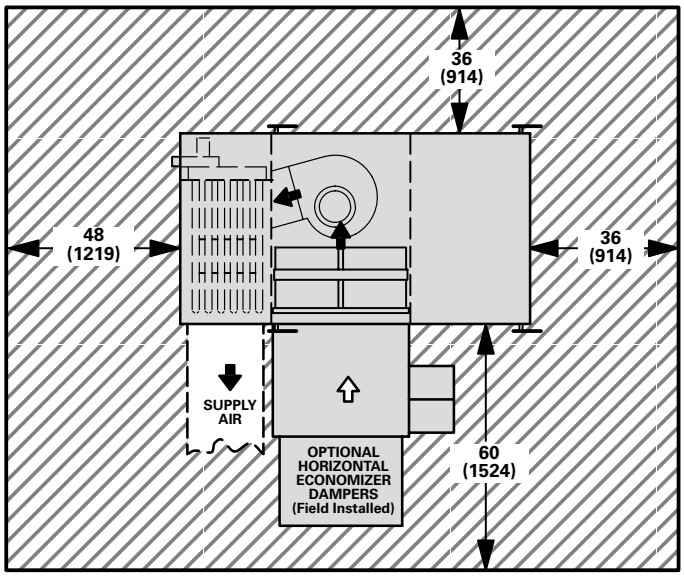
NOTE — Top Clearance Unobstructed.
NOTE — Entire perimeter of unit requires support when elevated above mounting surface.

GCS24 UNIT WITH REMD24M ECONOMIZER DAMPER SECTION OR OAD24 OUTDOOR AIR DAMPER SECTION



NOTE — Top Clearance Unobstructed.

GCS24 UNIT WITH EMDH16M HORIZONTAL ECONOMIZER DAMPER SECTION



NOTE — Top Clearance Unobstructed.