LENNOX®
ENGINEERING DATA

EPIC™ SERIES

GCS24

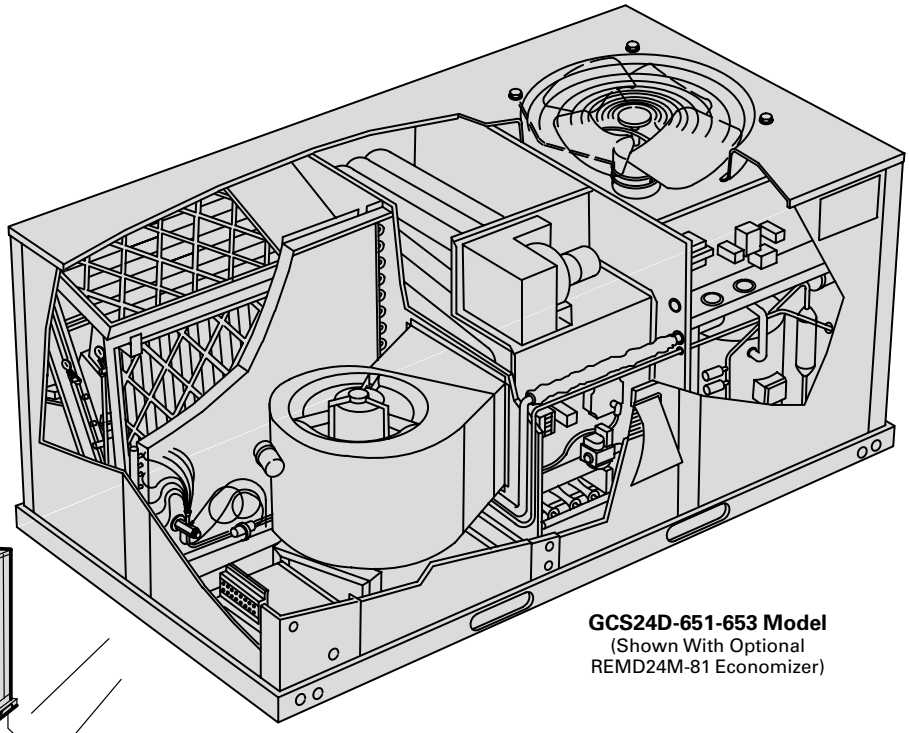
(5 and 6 Ton)
(17.6 to 21.1 kW)

GCS24D-651-653 , GCS24-653 AND GCS24-813 PACKAGED UNITS COOLING & GAS HEAT

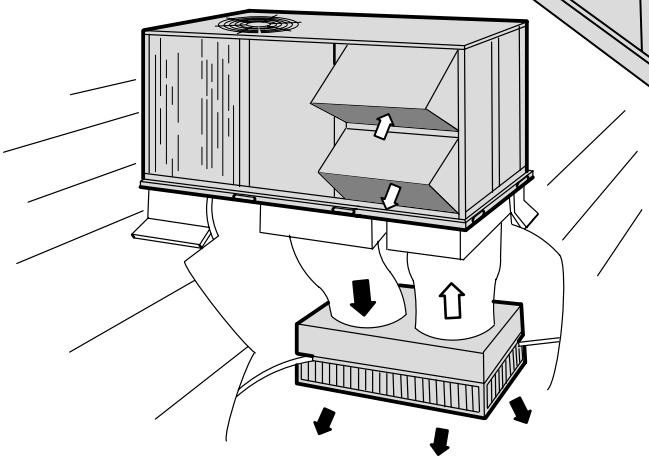
***58,000 and 73,000 Btuh (17.0 to 21.4 kW) Cooling Capacity**
78,000 to 130,000 Btuh (22.9 to 38.1 kW) Input Heating Capacity

***ARI Standard Ratings**

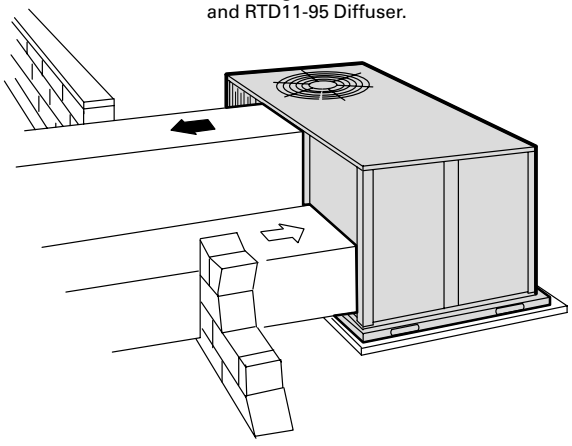
Bulletin No. 210035
April 1995
Supersedes July 1994



GCS24D-651-653 Model
(Shown With Optional
REMD24M-81 Economizer)



Down-Flo Supply and Return Air Installation
With RMF24 Roof Mounting Frame, REMD24M Economizer
and RTD11-95 Diffuser.



Horizontal (Side) Supply and Return Air Installation.

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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	GCS24D-651-653	GCS24-653	GCS24-813
Air Flow Choice — Bottom (down-flow) or horizontal (side) supply and return air	Standard	Standard	Standard
Approvals — A.G.A./C.G.A. certified as combination heating/cooling unit for outdoor installation, U.L. and C.G.A. listed, components bonded for grounding to meet safety standards for servicing required by U.L., C.G.A. and National and Canadian Electrical Codes, meet California Nitrogen Oxides (NO_x) standards and California Seasonal Energy Requirements	Standard	Standard	Standard
ARI Standard 210/240-89 Certified Ratings	Standard	Standard	Standard
Bottom Power Entry	Standard	Standard	Standard
Cabinet — Heavy gauge galvanized steel, base section and cabinet panels fully insulated, powdered enamel paint finish, large removeable access panels, electrical inlets in cabinet base and blower section cabinet panel, combustion air intake and exhaust hoods furnished, unit lifting holes in base rails	Standard	Standard	Standard
Coil Construction (Evaporator and Condenser) — Copper tube construction, ripple-edged enhanced aluminum fins, flared shoulder tubing connections, silver soldered construction, factory tested, evaporator coil features rifled tubing, evaporator coil drain connection flush with unit cabinet, sloped drain pan for positive drainage	Standard	Standard	Standard
Compressors — Reciprocating type, hermetically sealed, suction cooled, overload protected, resiliently mounted	Standard	Standard	Standard
Compressor Crankcase Heaters	Standard	Standard	Standard
Condenser Coil — Formed coil construction	Standard	Standard	Standard
Condenser Fan — Low sound operating levels, PVC coated fan guard furnished	Standard	Standard	Standard
Condenser Fan Motor — Overload protected, permanently lubricated, ball bearings	Standard	Standard	Standard
Control Box — Control box with factory installed controls conveniently located, 24 volt control transformer with fuse, low voltage terminal strip	Standard	Standard	Standard
Control Box Panel — Hinged for easy access	Standard	Standard	Standard
Filters — Disposable 2 inch (51 mm) pleated, commercial grade	Standard	Standard	Standard
Filter Access — Hinged filter door with quarter turn fasteners	Standard	Standard	Standard
Fan and Limit Controls — Factory installed, 90 second fan time delay, dual limit controls (primary and secondary) with fixed temperature setting	Standard	Standard	Standard
Heat Exchanger — Tubular construction, aluminized steel, compact size, life cycle tested	Standard	Standard	Standard
Heating System — Aluminized steel inshot burners, direct spark ignition, electronic flame sensor, redundant automatic dual gas valve with manual shut-off and pressure regulation, 95/130 models have two stage heating operation, induced draft blower with blower proving switch, flame rollout switch, peep hole for flame viewing	Standard	Standard	Standard
Refrigeration System — Consists of: compressor, condenser coil and direct drive fan, evaporator coil and direct drive or belt drive blower, expansion valve, high capacity drier, thermometer well, high pressure switch, loss of charge switch, full refrigerant charge, suction and liquid line service gauge ports, freezestat (prevents coil freeze-up during low ambient operation)	Standard	Standard	Standard
Supply Air Blower — Direct drive, multi-speed motor, blower wheel statically and dynamically balanced, sleeve bearings with oiler ports	Standard	—	—
Supply Air Blower — Belt drive, forward curved blades with double inlet, blower wheel statically and dynamically balanced, permanently lubricated ball bearings, swing-out motor mount, adjustable pulley (allows speed change)	—	Standard	Standard
Supply Air Motor (Belt Drive) — Overload protected, equipped with ball bearings	Standard	Standard	Standard
Warranty — Limited ten years heat exchanger, limited five years compressor, limited one year all other components, see limited warranty certificate included with unit for details	Standard	Standard	Standard

OPTIONAL FACTORY INSTALLED ACCESSORIES

Item	GCS24D-651-653	GCS24-653	GCS24-813
Corrosion Protection — Phenolic epoxy coating applied to condenser coil only (with painted base section) or to both condenser and evaporator coil (with painted condenser and evaporator base section and painted blower housing), factory applied	*Factory	*Factory	*Factory
Disconnect	*Factory	*Factory	*Factory
Service Outlets (2) — Factory installed, 120v ground fault circuit interrupter (GFCI) type	*Factory	*Factory	*Factory
Smoke Detector — Photoelectric type, factory installed in return air section	*Factory	*Factory	*Factory

*See Factory Installed Options tables.

OPTIONAL FACTORY OR FIELD INSTALLED ACCESSORIES

Item	GCS24D-651-653	GCS24-653	GCS24-813
Economizer Dampers (Down-Flow or Horizontal) — Mechanically linked recirculated air and outdoor air dampers, plug-in connections to unit, nylon bearings, stainless steel seals (outdoor dampers), 24 volt fully modulating spring return damper motor, adjustable minimum damper position switch, mixed air controller, solid-state adjustable outdoor air enthalpy control, 0 to 100% outdoor air adjustable, cleanable aluminum mesh frame filter furnished, fresh air hood and exhaust air hood with gravity exhaust dampers furnished for field installation, powdered enamel paint finish, exhaust dampers field install in return air duct for horizontal applications		†REMD24M-81	
Low Ambient Controls — Allows unit cooling operation down to 30°F (–1°C). NOTE — Unit operates down to 45°F (7.2°C) without controls		†Factory or Field Installed	
Outdoor Air Damper Section (Manual) — Linked mechanical dampers, interchangeable unit panel with lower filler panel furnished to replace return air access panel, 0 to 25% (fixed) outdoor air adjustable		†OAD24-81	

†See Optional Field Installed Accessories tables. Also see Factory Installed Options tables.

OPTIONAL FILED INSTALLED ACCESSORIES (Must Be Ordered Extra)

Item	GCS24D-651-653	GCS24-653	GCS24-813
♔ **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)	Optional	Optional	Optional
Control System — Electro-mechanical Thermostat	Optional	Optional	Optional
Control System — W973	Optional	Optional	Optional
Control System — T7300 Thermostat	Optional	Optional	Optional
Control System — W7400	Optional	Optional	Optional
♔ **Control System** — T8600 and T8621 Thermostat	Optional	Optional	Optional
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)	Optional	Optional	Optional
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		SRT24-81	
LPG/Propane Kits	Optional	Optional	Optional
Horizontal Supply and Return Air Kit — Provides duct connection to unit, flanges furnished, hardware furnished, two covers furnished for unused air openings, filter access panel furnished		HDK24-81	
Outdoor Air Damper Section (Automatic) — Linked mechanical dampers, interchangeable unit panel with lower filler panel furnished to replace return air access panel, damper motor with thumbwheel for adjusting fresh air amount desired		OAD24M-81	
Roof Mounting Frame — Nailer strip furnished, mates to unit, U.S. National Roofing Contractors Approved, shipped knocked down		RMF24-81	
Timed-Off Control — Prevents compressor short-cycling	Optional	Optional	Optional

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.

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**
Status Panel — SP11 (see next page for complete description)	**12F83**
Switching Status Panel — SSP11 (see next page for complete description)	**12F84**
SSP11 Relay Kit — Required for switching functions of SSP11	**41G39**
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**
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**
Status Panel — SP11 (see next page for complete description)	**12F83**
Switching Status Panel — SSP11 (see next page for complete description)	**12F84**
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**
Status Panel — SP11 (see next page for complete description)	**12F83**

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**
Status Panel — SP11 (see next page for complete description)	**12F83**
♁ 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** ... 1 htg./1 clg. 5-1-1 day programming, manual changeover **T8600D1079 .... 27H31** ... 1 htg./1 clg. 5-1-1 day programming, auto changeover **T8621A7010 .... 75E25** ... 1 htg./1 clg. 7 day programming, auto changeover **T8621D7055 .... 27H29** ... 2 htg./2 clg. 7 day programming, auto changeover	See left for catalog numbers
Status Panel — SP11 (see next page for complete description)	**12F83**
Warm Up Kit — Holds economizer dampers closed during night heating operation and morning warm-up	**39G77**

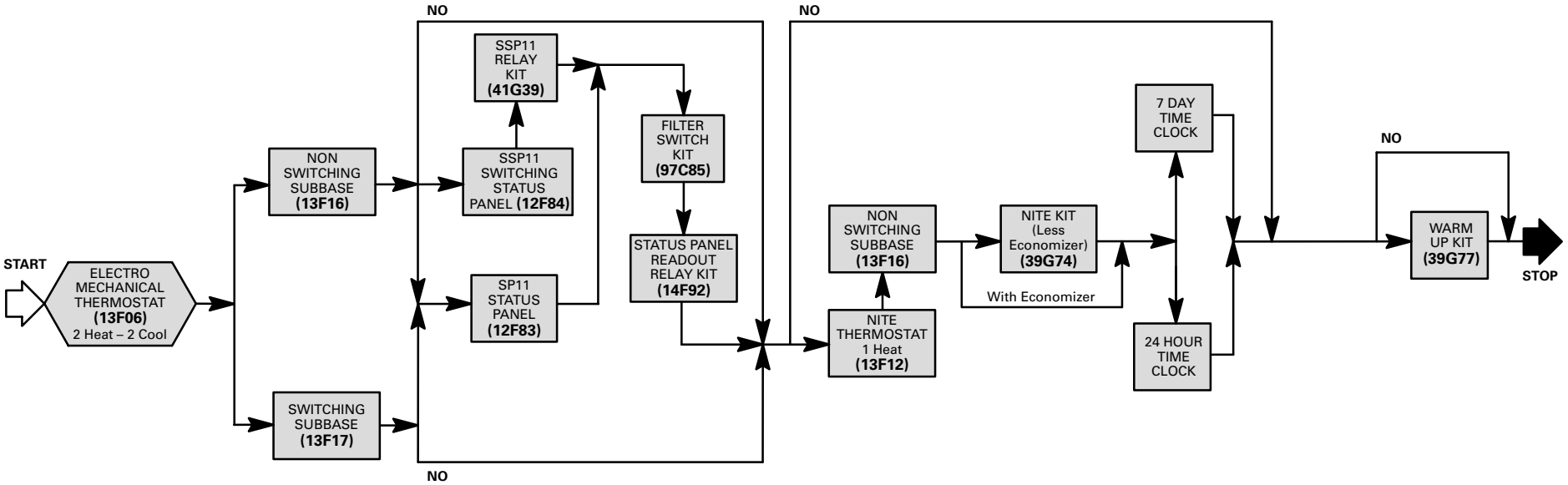
STATUS PANELS AND CONTROLS

Component Description	Catalog No.
SP11 Status Panel — Signal lights "Cool Mode" "Heat Mode" "Compressor 1" "Compressor 2" "No Heat" and "Filter", Cool Mode light green when lit indicates economizer operation or DX cooling operation for units without economizer, Heat Mode light green when lit indicates heating operation, Compressor 1 and Compressor 2 lights green when operating and turn red if compressor malfunction occurs, No Heat and Filter lights are red when lit indicating service is needed	**12F83**
SSP11 Switching Status Panel — Signal lights "Cool Mode" "Heat Mode" "Compressor 1" "Compressor 2" "No Heat" and "Filter", Cool Mode light green when lit indicates economizer operation or DX cooling operation for units without economizer, Heat Mode light green when lit indicates heating operation, Compressor 1 and Compressor 2 lights green when operating and turn red if compressor malfunction occurs, No Heat and Filter lights are red when lit indicating service is needed, system selector switch (Off-Heat-Auto-Cool-Emergency Heat) (heat pump only), fan switch (Auto-On), after hours timer (0 to 12 hours) with push button overrides night setback operation for normal system operation	**12F84**
Filter Switch Kit — Required for operation of Filter Light	**97C85**
Status Panel Readout Relay Kit — Required to interface panel with unit operation	**14F92**

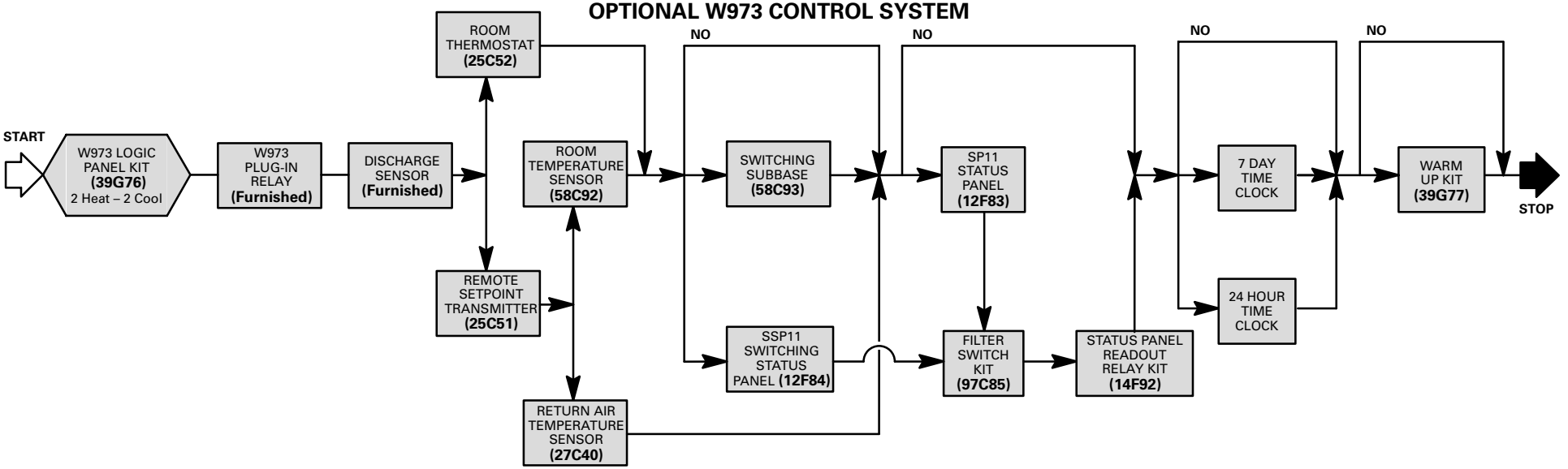
LOGIC CONTROLS PACKAGE (Factory Installed Option)

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" control processor (on-site or off-site), 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

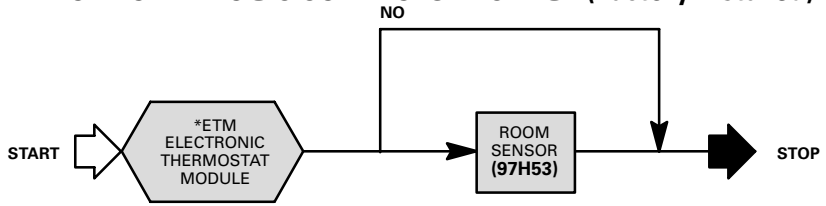
OPTIONAL ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM



OPTIONAL W973 CONTROL SYSTEM

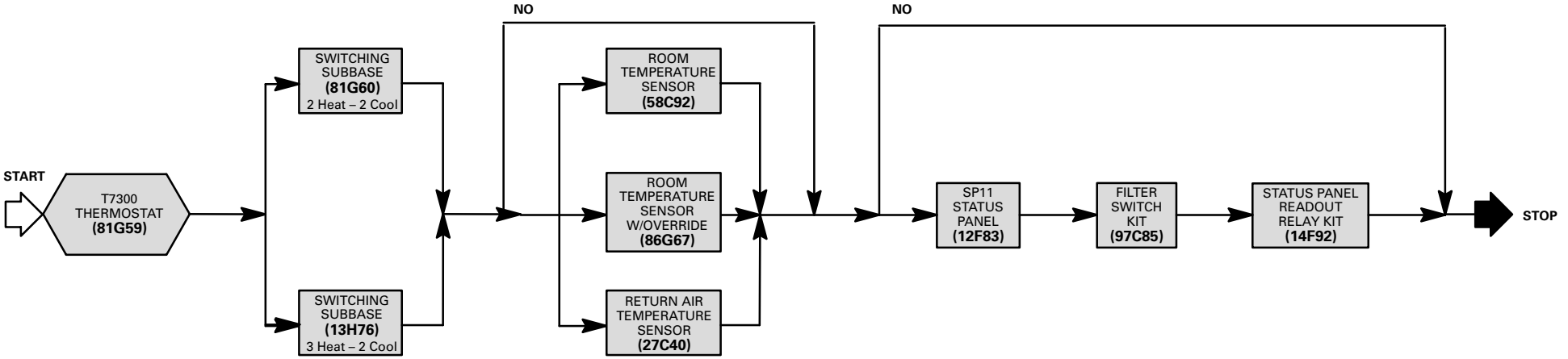


OPTIONAL LOGIC CONTROLS PACKAGE (Factory Installed)

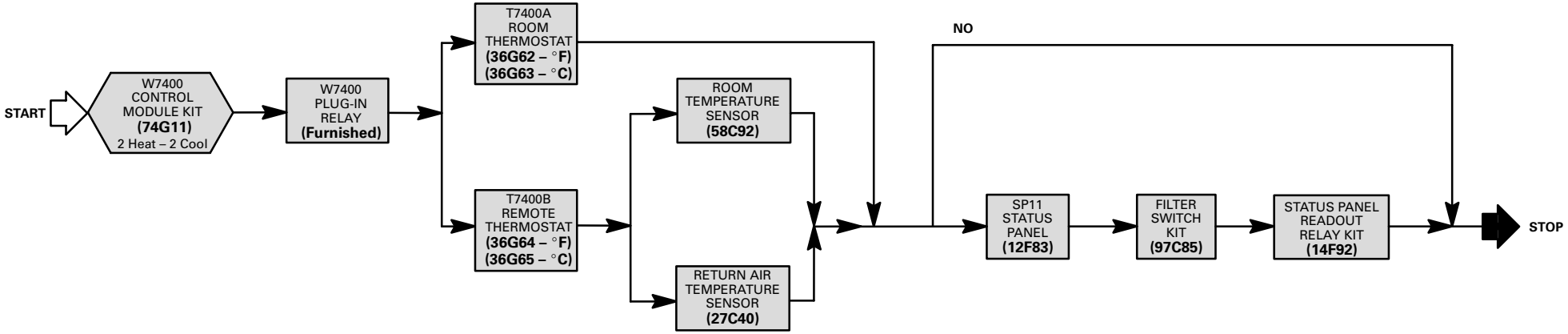


*Includes Return Air Sensor, Blower Proving Switch, Dirty Filter Switch and Discharge Air Monitor factory installed in unit.

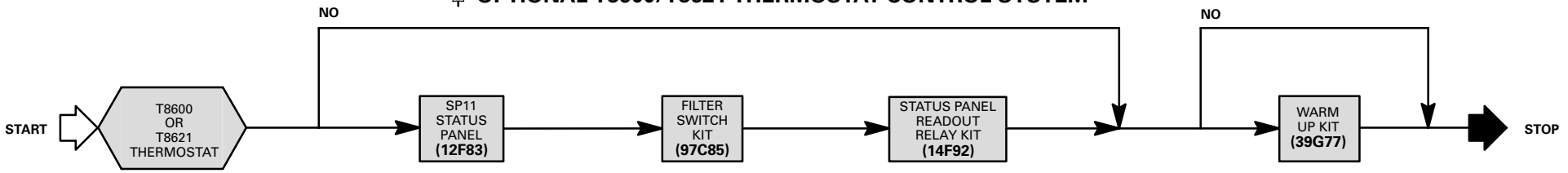
OPTIONAL T7300 CONTROL SYSTEM



OPTIONAL W7400 CONTROL SYSTEM



OPTIONAL T8600/T8621 THERMOSTAT CONTROL SYSTEM



SPECIFICATIONS — GCS24D-651-653-78 & GCS24-653-78

Model No.			GCS24D-651-653-78 Direct Drive	GCS24-653-78 Belt Drive
Cooling Ratings	Gross cooling capacity — Btuh (kW)		61,000 (18.9)	
	*Net cooling capacity — Btuh (kW)		58,000 (17.0)	
	*Total unit watts		6520	
	*SEER (Btuh/Watt)		10.0	
	EER (Btuh/Watt)		8.9	
	★Sound Rating Number (bels)		8.6	
Heating Ratings	Sea Level One Stage Heating Capacity (Natural Gas)	Input/Output — Btuh (kW)	78,000 (22.9) / 62,400 (18.3)	
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%	
	Sea Level One Stage Heating Capacity (●LPG/Propane)	Input/Output — Btuh (kW)	78,000 (22.9) / 62,400 (18.3)	
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%	
Refrigerant (HCFC-22) Charge			8 lbs. 12 oz. (3.97 kg)	
Evaporator Blower and Drive Selection	Blower wheel nom. dia. x width — in. (mm)		11-1/2 x 9 (292 x 229)	12 x 12 (305 x 305)
	**Factory Installed Drives	Nominal motor horsepower (W)	.75 (560)	1.5 (1120)
		Max. usable horsepower (W)	- - - -	1.72 (1280)
		Voltage & phase	208/230v-1 or 3 ph or 460v-3ph	208/230v or 460v-3 ph
		RPM range	direct drive	835 — 1135
Evaporator Coil	Net face area — sq. ft. (m^2)		6.25 (0.58)	
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 2	
	Fins per inch (m)		15 (591)	
	Expansion device type		Thermostatic Expansion Valve	
	Drain connection (No. & size) — in. (mm) fpt		(1) 3/4 (19)	
Condenser Coil	Net face area — sq. ft. (m^2)		12.9 (1.20)	
	Tube diameter — in.(mm) & No. of rows		3/8 (9.5) — 2	
	Fins per inch (m)		20 (787)	
Condenser Fan	(No.) Diameter — in.(mm) & No. of blades		(1) 24 (610) — 3	
	Air volume — cfm (L/s)		4200 (1980)	
	Motor horsepower (W)		1/3 (224)	
	Motor rpm		1075	
	Motor watts		460	
Gas Supply Connections fpt — in. (mm) Natural Gas or ●LPG/Propane			1/2 (12.7)	
Recommended Gas Supply Pressure — wc. in. (kPa)		Natural Gas	7 (1.7)	
		●LPG/Propane	11 (2.7)	
Filters (furnished)	Type of filter		Pleated Disposable	
	No. & size — in. (mm)		(4) 12 x 24 x 2 (305 x 610 x 51)	
Net weight of basic unit — lbs. (kg)			672 (305)	711 (323)
Shipping weight of basic unit — lbs. (kg) (1 Package)			772 (351)	811 (369)
Electrical characteristics			208/230v-1 or 3 ph or 460v-3ph	208/230v or 460v-3ph

★ Sound Rating Number in accordance with ARI Standard 270.

* Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.

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

** Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. In Canada, nominal motor output is also maximum usable motor output.

●For LPG/Propane units a field installed kit is required and must be ordered extra. See Optional Accessories table.

SPECIFICATIONS — GCS24D-651-653-130 & GCS24-653-130

Model No.			GCS24D-651-653-130 Direct Drive	GCS24-653-130 Belt Drive
Cooling Ratings	Gross cooling capacity — Btuh (kW)		61,000 (18.9)	
	*Net cooling capacity — Btuh (kW)		58,000 (17.0)	
	*Total unit watts		6520	
	*SEER (Btuh/Watt)		10.0	
	EER (Btuh/Watt)		8.9	
	★Sound Rating Number (bels)		8.6	
Heating Ratings	Sea Level One Stage Heating Capacity (Natural Gas)	Input/Output — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)	
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%	
	Sea Level One Stage Heating Capacity (●LPG/Propane)	Input/Output — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)	
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%	
Refrigerant (HCFC-22) Charge			8 lbs. 12 oz. (3.97 kg)	
Evaporator Blower and Drive Selection	Blower wheel nom. dia. x width — in. (mm)		11-1/2 x 9 (292 x 229)	12 x 12 (305 x 305)
	**Factory Installed Drives	Nominal motor horsepower (W)	.75 (560)	1.5 (1120)
		Max. usable horsepower (W)	- - - -	1.72 (1280)
		Voltage & phase	208/230v-1 or 3 ph or 460V-3ph	208/230v or 460v-3 ph
		RPM range	direct drive	835 — 1135
Evaporator Coil	Net face area — sq. ft. (m^2)		6.25 (0.58)	
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 2	
	Fins per inch (m)		15 (591)	
	Expansion device type		Thermostatic Expansion Valve	
	Drain connection (No. & size) — in. (mm) fpt		(1) 3/4 (19)	
Condenser Coil	Net face area — sq. ft. (m^2)		12.9 (1.20)	
	Tube diameter — in.(mm) & No. of rows		3/8 (9.5) — 2	
	Fins per inch (m)		20 (787)	
Condenser Fan	(No.) Diameter — in.(mm) & No. of blades		(1) 24 (610) — 3	
	Air volume — cfm (L/s)		4200 (1980)	
	Motor horsepower (W)		1/3 (224)	
	Motor rpm		1075	
	Motor watts		460	
Gas Supply Connections fpt — in. (mm) Natural Gas or ●LPG/Propane			1/2 (12.7)	
Recommended Gas Supply Pressure — wc. in. (kPa)		Natural Gas	7 (1.7)	
		●LPG/Propane	11 (2.7)	
Filters (furnished)	Type of filter		Pleated Disposable	
	No. & size — in. (mm)		(4) 12 x 24 x 2 (305 x 610 x 51)	
Net weight of basic unit — lbs. (kg)			697 (317)	736 (334)
Shipping weight of basic unit — lbs. (kg) (1 Package)			797 (362)	836 (379)
Electrical characteristics			208/230v-1 or 3 ph or 460v-3ph	208/230v or 460v-3ph

★ Sound Rating Number in accordance with ARI Standard 270.
* Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.
NOTE — ARI capacity is net and includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.
** Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. In Canada, nominal motor output is also maximum usable motor output.
●For LPG/Propane units a field installed kit is required and must be ordered extra. See Optional Accessories table.

SPECIFICATIONS — ♔GCS24D-651-653-95/130 & ♔GCS24-653-95/130

Model No.			♔ GCS24D-651-653-95/130 Direct Drive	♔ GCS24-653-95/130 Belt Drive
Cooling Ratings	Gross cooling capacity — Btuh (kW)		61,000 (18.9)	
	*Net cooling capacity — Btuh (kW)		58,000 (17.0)	
	*Total unit watts		6520	
	*SEER (Btuh/Watt)		10.0	
	EER (Btuh/Watt)		8.9	
	★Sound Rating Number (bels)		8.6	
Heating Ratings	Sea Level Two Stage Heating Capacity (Natural Gas)	Input/Output (low) — Btuh (kW)	95,000 (28.8) / 75,000 (22.0)	
		Input/Output (high) — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)	
		C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%	
	Sea Level Two Stage Heating Capacity (●LPG/Propane)	Input/Output (low) — Btuh (kW)	95,000 (27.8) / 75,000 (22.0)	
		Input/Output (high) — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)	
		C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%	
	High Altitude Two Stage Heating Capacity (Natural Gas)	Input/Output (low) — Btuh (kW)	95,000 (27.8) / 75,000 (22.0)	
		Input/Output (high) — Btuh (kW)	117,000 (34.3) / 94,000 (27.5)	
		C.G.A. Thermal Efficiency	80.0%	
	High Altitude Two Stage Heating Capacity (●LPG/Propane)	Input/Output (low) — Btuh (kW)	95,000 (27.8) / 75,000 (22.0)	
		Input/Output (high) — Btuh (kW)	117,000 (34.3) / 94,000 (27.5)	
		C.G.A. Thermal Efficiency	80.0%	
Refrigerant (HCFC-22) Charge			8 lbs. 12 oz. (3.97 kg)	
Evaporator Blower and Drive Selection	Blower wheel nom. dia. x width — in. (mm)		11-1/2 x 9 (292 x 229)	12 x 12 (305 x 305)
	**Factory Installed Drives	Nominal motor horsepower (W)	.75 (560)	1.5 (1120)
		Max. usable horsepower (W)	- - - -	1.72 (1280)
		Voltage & phase	208/230v-1 or 3 ph or 575V-3ph	208/230v or 575v-3 ph
		RPM range	direct drive	835 — 1135
Evaporator Coil	Net face area — sq. ft. (m^2)		6.25 (0.58)	
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 2	
	Fins per inch (m)		15 (591)	
	Expansion device type		Thermostatic Expansion Valve	
	Drain connection (No. & size) — in. (mm) fpt		(1) 3/4 (19)	
Condenser Coil	Net face area — sq. ft. (m^2)		12.9 (1.20)	
	Tube diameter — in.(mm) & No. of rows		3/8 (9.5) — 2	
	Fins per inch (m)		20 (787)	
Condenser Fan	(No.) Diameter — in.(mm) & No. of blades		(1) 24 (610) — 3	
	Air volume — cfm (L/s)		4200 (1980)	
	Motor horsepower (W)		1/3 (224)	
	Motor rpm		1075	
	Motor watts		460	
Gas Supply Connections fpt — in. (mm) Natural Gas or ●LPG/Propane			1/2 (12.7)	
Recommended Gas Supply Pressure — wc. in. (kPa)		Natural Gas	7 (1.7)	
		●LPG/Propane	11 (2.7)	
Filters (furnished)	Type of filter		Pleated Disposable	
	No. & size — in. (mm)		(4) 12 x 24 x 2 (305 x 610 x 51)	
Net weight of basic unit — lbs. (kg)			697 (317)	736 (334)
Shipping weight of basic unit — lbs. (kg) (1 Package)			797 (362)	836 (379)
Electrical characteristics			208/230v-1 or 3 ph or 575v-3ph	208/230v or 575v-3ph

★ Sound Rating Number in accordance with ARI Standard 270.
* Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.
NOTE — ARI capacity is net and includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.
** Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. In Canada, nominal motor output is also maximum usable motor output.
●For LPG/Propane units a field installed kit is required and must be ordered extra. See Optional Accessories table.
♔Canada only — Not available in the U.S.

SPECIFICATIONS — GCS24-813-78

Model No.			GCS24-813-78 Belt Drive
Cooling Ratings	Gross cooling capacity — Btuh (kW)		76,000 (22.3)
	*Net cooling capacity — Btuh (kW)		73,000 (21.4)
	*Total unit watts		7680
	*EER (Btuh/Watt)		9.5
	★Sound Rating Number (bels)		8.6
Heating Ratings	Sea Level One Stage Heating Capacity (Natural Gas)	Input/Output — Btuh (kW)	78,000 (22.9) / 62,400 (18.3)
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%
	Sea Level One Stage Heating Capacity (●LPG/Propane)	Input/Output — Btuh (kW)	78,000 (22.9) / 62,400 (18.3)
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%
Refrigerant (HCFC-22) Charge			10 lbs. 0 oz. (4.54 kg)
Evaporator Blower and Drive Selection	Blower wheel nom. diameter x width — in. (mm)		12 x 12 (305 x 305)
	**Factory Installed Drives	Nominal motor horsepower (W)	1.5 (1120)
		Max. usable horsepower (W)	1.72 (1280)
		Voltage & phase	208/230v or 460v-3ph
		RPM range	835 — 1135
Evaporator Coil	Net face area — sq. ft. (m^2)		6.25 (0.58)
	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 (No. & size) — in. (mm) fpt		(1) 3/4 (19)
Condenser Coil	Net face area — sq. ft. (m^2)		12.9 (1.20)
	Tube diameter — in.(mm) & No. of rows		3/8 (9.5) — 2
	Fins per inch (m)		20 (787)
Condenser Fan	(No.) Diameter — in.(mm) & No. of blades		(1) 24 (610) — 4
	Air volume — cfm (L/s)		4500 (2125)
	Motor horsepower (W)		1/2 (373)
	Motor rpm		1075
	Motor watts		500
Gas Supply Connections fpt — in. (mm) Natural Gas or ●LPG/Propane			1/2 (12.7)
Recommended Gas Supply Pressure — wc. in. (kPa)		Natural Gas	7 (1.7)
		●LPG/Propane	11 (2.7)
Filters (furnished)	Type of filter		Pleated Disposable
	No. & size — in. (mm)		(4) 12 x 24 x 2 (305 x 610 x 51)
Net weight of basic unit — lbs. (kg)			734 (333)
Shipping weight of basic unit — lbs. (kg) (1 Package)			834 (378)
Electrical characteristics			208/230v or 460v-3ph

★ Sound Rating Number in accordance with ARI Standard 270.

* Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.

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

** Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. In Canada, nominal motor output is also maximum usable motor output.

●For LPG/Propane units a field installed kit is required and must be ordered extra. See Optional Accessories table.

SPECIFICATIONS — GCS24-813-130

Model No.			GCS24-813-130 Belt Drive
Cooling Ratings	Gross cooling capacity — Btuh (kW)		76,000 (22.3)
	*Net cooling capacity — Btuh (kW)		73,000 (21.4)
	*Total unit watts		7680
	*EER (Btuh/Watt)		9.5
	★Sound Rating Number (bels)		8.6
Heating Ratings	Sea Level One Stage Heating Capacity (Natural Gas)	Input/Output — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%
	Sea Level One Stage Heating Capacity (●LPG/Propane)	Input/Output — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)
		A.G.A./C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%
Refrigerant (HCFC-22) Charge			10 lbs. 0 oz. (5.54 kg)
Evaporator Blower and Drive Selection	Blower wheel nom. diameter x width — in. (mm)		12 x 12 (305 x 305)
	**Factory Installed Drives	Nominal motor horsepower (W)	1.5 (1120)
		Max. usable horsepower (W)	1.72 (1280)
		Voltage & phase	208/230v or 460v-3ph
		RPM range	835 — 1135
Evaporator Coil	Net face area — sq. ft. (m^2)		6.25 (0.58)
	Tube diameter — in. (mm) & No. of rows		3/8 (9.5) — 3
	Fins per inch (m)		14 (551)
	Expansion device type		Thermal Expansion Valve
	Drain connection (No. & size) — in. (mm) fpt		(1) 3/4 (19)
Condenser Coil	Net face area — sq. ft. (m^2)		12.9 (1.20)
	Tube diameter — in.(mm) & No. of rows		3/8 (9.5) — 2
	Fins per inch (m)		20 (787)
Condenser Fan	(No.) Diameter — in.(mm) & No. of blades		(1) 24 (610) — 4
	Air volume — cfm (L/s)		4500 (2125)
	Motor horsepower (W)		1/2 (373)
	Motor rpm		1075
	Motor watts		500
Gas Supply Connections fpt — in. (mm) Natural Gas or ●LPG/Propane			1/2 (12.7)
Recommended Gas Supply Pressure — wc. in. (kPa)		Natural Gas	7 (1.7)
		●LPG/Propane	11 (2.7)
Filters (furnished)	Type of filter		Pleated Disposable
	No. & size — in. (mm)		(4) 12 x 24 x 2 (305 x 610 x 51)
Net weight of basic unit — lbs. (kg)			759 (344)
Shipping weight of basic unit — lbs. (kg) (1 Package)			859 (390)
Electrical characteristics			208/230v or 460v-3ph

★ Sound Rating Number in accordance with ARI Standard 270.
* Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.
NOTE — ARI capacity is net and includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.
** Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. In Canada, nominal motor output is also maximum usable motor output.
●For LPG/Propane units a field installed kit is required and must be ordered extra. See Optional Accessories table.

SPECIFICATIONS — ♔GCS24-813-95/130

Model No.			♔ GCS24-813-95/130 Belt Drive
Cooling Ratings	Gross cooling capacity — Btuh (kW)		76,000 (22.3)
	*Net cooling capacity — Btuh (kW)		73,000 (21.4)
	*Total unit watts		7680
	*EER (Btuh/Watt)		9.5
	★Sound Rating Number (bels)		8.6
Heating Ratings	Sea Level Two Stage Heating Capacity (Natural Gas)	Input/Output (low) — Btuh (kW)	95,000 (27.8) / 75,000 (22.0)
		Input/Output (high) — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)
		C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%
	Sea Level Two Stage Heating Capacity (●LPG/Propane)	Input/Output (low) — Btuh (kW)	95,000 (27.8) / 75,000 (22.0)
		Input/Output (high) — Btuh (kW)	130,000 (38.1) / 104,000 (30.5)
		C.G.A. Thermal Efficiency / AFUE	80.0% / 78.0%
	High Altitude Two Stage Heating Capacity (Natural Gas)	Input/Output (low) — Btuh (kW)	95,000 (27.8) / 75,000 (22.0)
		Input/Output (high) — Btuh (kW)	117,000 (34.3) / 94,000 (27.5)
		C.G.A. Thermal Efficiency	80.0%
	High Altitude Two Stage Heating Capacity (●LPG/Propane)	Input/Output (low) — Btuh (kW)	95,000 (27.8) / 75,000 (22.0)
		Input/Output (high) — Btuh (kW)	117,000 (34.3) / 94,000 (27.5)
		C.G.A. Thermal Efficiency	80.0%
Refrigerant (HCFC-22) Charge			10 lbs. 0 oz. (4.54 kg)
Evaporator Blower and Drive Selection	Blower wheel nom. diameter x width — in. (mm)		12 x 12 (305 x 305)
	**Factory Installed Drives	Nominal motor horsepower (W)	1.5 (1120)
		Max. usable horsepower (W)	1.72 (1280)
		Voltage & phase	208/230v or 575v-3ph
		RPM range	835 — 1135
Evaporator Coil	Net face area — sq. ft. (m^2)		6.25 (0.58)
	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 (No. & size) — in. (mm) fpt		(1) 3/4 (19)
Condenser Coil	Net face area — sq. ft. (m^2)		12.9 (1.20)
	Tube diameter — in.(mm) & No. of rows		3/8 (9.5) — 2
	Fins per inch (m)		20 (787)
Condenser Fan	(No.) Diameter — in.(mm) & No. of blades		(1) 24 (610) — 4
	Air volume — cfm (L/s)		4500 (2125)
	Motor horsepower (W)		1/2 (373)
	Motor rpm		1075
	Motor watts		500
Gas Supply Connections fpt — in. (mm) Natural Gas or ●LPG/Propane			1/2 (12.7)
Recommended Gas Supply Pressure — wc. in. (kPa)		Natural Gas	7 (1.7)
		●LPG/Propane	11 (2.7)
Filters (furnished)	Type of filter		Pleated Disposable
	No. & size — in. (mm)		(4) 12 x 24 x 2 (305 x 610 x 51)
Net weight of basic unit — lbs. (kg)			759 (344)
Shipping weight of basic unit — lbs. (kg) (1 Package)			859 (390)
Electrical characteristics			208/230v or 575v-3ph

★ Sound Rating Number in accordance with ARI Standard 270.
* Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering evaporator air.
NOTE — ARI capacity is net and includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.
** Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. In Canada, nominal motor output is also maximum usable motor output.
●For LPG/Propane units a field installed kit is required and must be ordered extra. See Optional Accessories table.
♔ Canada only — Not available in the U.S.

OPTIONAL FIELD INSTALLED ACCESSORIES — (Must Be Ordered Extra)

Unit Model No.		GCS24D-651-653 GCS24-653	GCS24-813
LPG/Propane Conversion Kit		1 stage LB-65829A **(45J23)** / 2 stage LB-65825A **(45J24)**	
✧ Cold Weather Kit		**65C03**	
Roof Mounting Frame — Net Weight		RMF24-81 **(45J19)** ✧**(59J47)** (100 lbs. (45 kg)	
Ceiling Supply and Return Air Diffusers Net Weight Lbs. (kg)	Step-Down	RTD11-95 **(29G04)** (88 lbs.) (40 kg)	
	Flush	FD11-95 **(29G08)** (75 lbs.) (34 kg)	
	Transition	SRT24-81 **(48J27)** (28 lbs.) (13 kg)	
Horizontal Supply and Return Air Kit — Net Weight		HDK24-81 **(45J25)** (20 lbs.) (9 kg)	
Economizer Dampers With Exhaust Dampers	Model Number — Net Weight	REMD24M-81 **(45J20)** (68 lbs.) (31 kg)	
	No. & size of filters — in. (mm)	(1) 16 x 25 x 1 (406 x 635 x 25)	
	Exhaust Dampers Net Face Area	2.5 sq. ft. (0.23 m^2)	
Differential Enthalpy Control		**54G44**	
Manual Outdoor Air Dampers — Net Weight		OAD24-81 **(45J21)** (18 lbs.) (8 kg)	
Automatic Outdoor Air Dampers — Net Weight		OAD24M-81 **(45J22)** (24 lbs.) (11 kg)	
Low Ambient Control Kit		LB-57113BC **(24H77)**	
Timed-Off Control		LB-50709BA **(32F21)**	

ELECTRICAL DATA — GCS24D-651-653 & GCS24-653

Model No.			GCS24D-651-653				GCS24-653		
Line voltage data — 60 Hz			208/230v 1 phase	208/230v 3 phase	460v 3 phase	575v 3 phase	208/230v 3 phase	460v 3 phase	575v 3 phase
Compressor	Rated load amps		27.0	16.7	8.6	6.1	16.7	8.6	6.1
	Locked rotor amps		141	110	55	44	110	55	44
Condenser Fan Motor	Full load amps		2.3	2.3	1.1	††1.1	2.3	1.1	1.2
	Locked rotor amps		4.5	4.5	2.2	†† 2.2	4.5	2.2	2.9
Evaporator Blower Motor	Motor Output	hp	3/4	3/4	3/4	3/4	1-1/2	1-1/2	1-1/2
		W	560	560	560	560	1120	1120	1120
	Full load amps		4.6	4.6	2.3	†† 2.3	5.7	2.8	2.4
	Locked rotor amps		10.0	10.0	5.4	†† 5.4	40.0	20.0	15.0
†Rec. max. fuse or cir. brkr. size (amps)			60	40	20	15	45	20	15
*Minimum Circuit Ampacity			41.0	28.0	15.0	12.0	29.0	15.0	12.0
Unit Power Factor			.98	.85	.86	.88	.85	.86	.88

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.
†† Motors are rated at 460v. Full load amps shown are for stepdown transformer output.
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 (U.S. only).

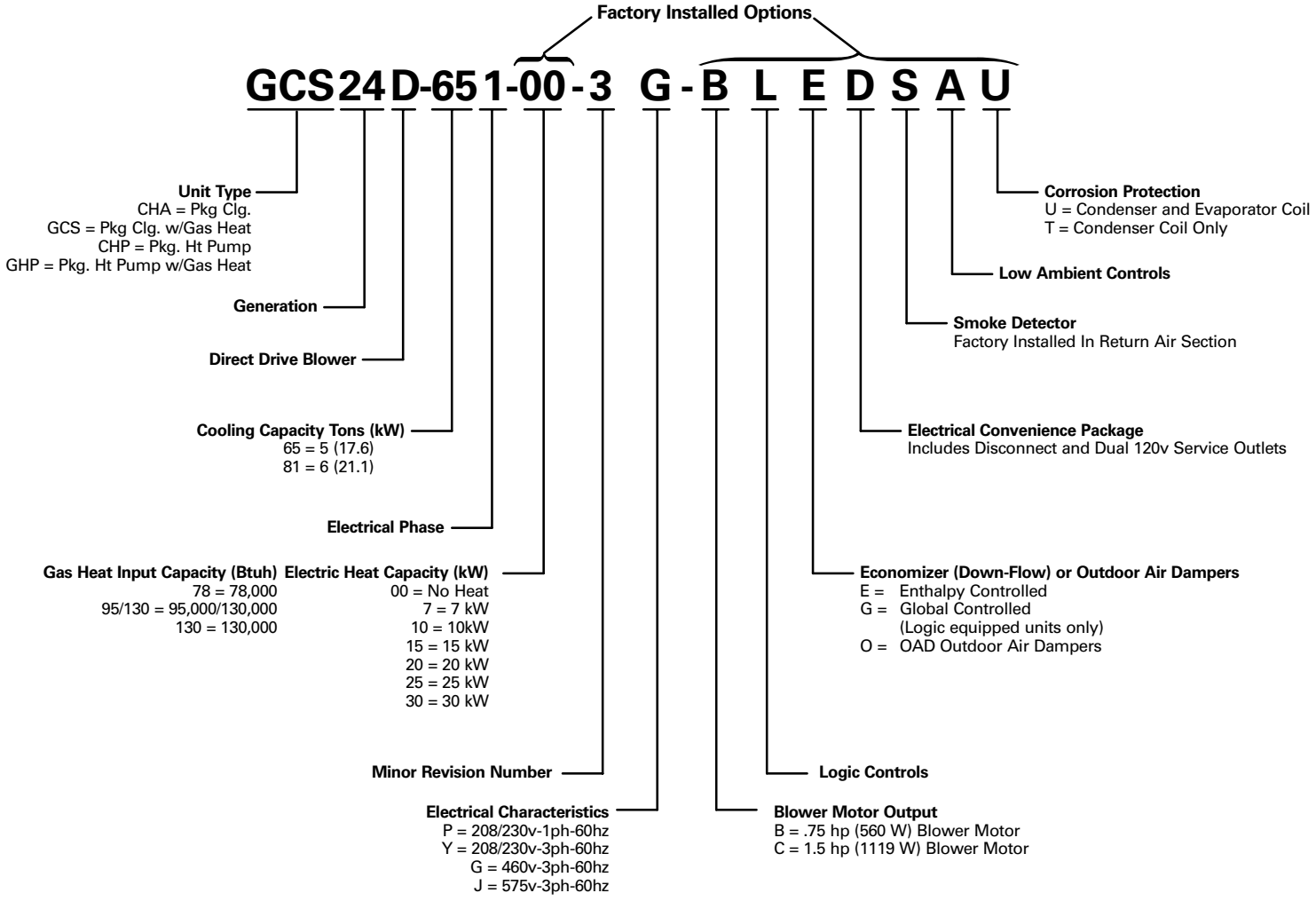
ELECTRICAL DATA — GCS24-813

Model No.			GCS24-813		
Line voltage data — 60 Hz			208/230v 3 phase	460v 3 phase	575v 3 phase
Compressor	Rated load amps		20.8	8.2	6.5
	Locked rotor amps		142	72	58
Condenser Fan Motor	Full load amps		3.0	1.5	1.2
	Locked rotor amps		5.8	3.0	2.9
Evaporator Blower Motor	Motor Output	hp	1-1/2	1-1/2	1-1/2
		W	1120	1120	1120
	Full load amps		5.7	2.8	2.4
	Locked rotor amps		40.0	20.0	15.0
Rec. max. fuse size (amps)			50	20	15
*Minimum Circuit Ampacity			35.0	15.0	12.0
Unit Power Factor			.85	.85	.86

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.
NOTE — Extremes of operating range are plus and minus 10 % of line voltage.

MODEL NUMBER IDENTIFICATION

NOTE — See Factory Installed Options Selection on This page and Next Page For Complete Description Of Available Accessories.
NOTE — This example shows all possible combinations available.



FACTORY INSTALLED OPTIONS SELECTION

GCS24D-651-653 AND GCS24-653

Packaged Unit Model No.	Voltage Selection 1 or 3 phase 60hz	Gas Heat Btuh (kW) (Select One)	Electrical Convenience Package (D)	Low Ambient Controls (A)
GCS24D-651-653 Basic unit includes: –.75 hp (560W) Blower Motor –Hinged Control Box –Hinged Filter Access –Bottom Power Entry	208/230v	78,000 (22.9), 130,000 (38.1) or ◆ 95,000/130,000 (28.8/38.1)	Unit Disconnect Installed and Wired. Dual 120v GFCI Service Outlets, (Field Wired)	Low Ambient Controls (Down to 30°F (–1.1°C) Operation) Installed and Wired
GCS24-653 Basic unit includes: –1.5 hp (1119W) Blower Motor –Hinged Control Box –Hinged Filter Access –Bottom Power Entry	460V	78,000 (22.9), 130,000 (38.1)		
	575v	◆ 95,000/130,000 (28.8/38.1)		

GCS24D-651-653 AND GCS24-653 (Continued)

Packaged Unit Model No.	Outdoor Air Damper (O)	Economizer Package (E) or (G)	Smoke Detector Package (S)	Corrosion Protection Package (T) or (U)
GCS24D-651-653 Basic unit includes: –.75 hp (560W) Blower Motor –Hinged Control Box –Hinged Filter Access –Bottom Power Entry **GCS24-653** Basic unit includes: –1.5 hp (1119W) Blower Motor –Hinged Control Box –Hinged Filter Access –Bottom Power Entry	Linked Damper Assembly and Outdoor Air Hood Installed	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 Coil With Painted Base in Condensing And Evaporator Section And Painted Blower Housing **(U)** Or Condenser Coil Only With Painted Base Condensing Section**(T)**

GCS24-813

Packaged Unit Model No.	Voltage Selection 3 phase 60hz	Gas Heat Btuh (kW) (Select One)	Electrical Convenience Package (D)	Low Ambient Controls (A)
GCS24-813 Basic unit includes: –1.5 hp (1119W) Blower Motor –Hinged Control Box –Hinged Filter Access –Bottom Power Entry	208/230v	78,000 (22.9), 130,000 (38.1) or ♢ 95,000/130,000 (28.8/38.1)	Unit Disconnect Installed and Wired. Dual 120v GFCI Service Outlets, (Field Wired)	Low Ambient Controls (Down to 30°F (–1.1°C) Operation) Installed and Wired
	460V	78,000 (22.9), 130,000 (38.1)		
	575v	♢ 95,000/130,000 (28.8/38.1)		

GCS24-813 (Continued)

Packaged Unit Model No.	Outdoor Air Damper (O)	Economizer Package (E) or (G)	Smoke Detector Package (S)	Corrosion Protection Package (T) or (U)
GCS24-813 Basic unit includes: –1.5 hp (1119W) Blower Motor –Hinged Control Box –Hinged Filter Access –Bottom Power Entry	Linked Damper Assembly and Outdoor Air Hood Installed	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 Coil With Painted Base in Condensing And Evaporator Section And Painted Blower Housing **(U)** Or Condenser Coil Only With Painted Base Condensing Section**(T)**

All MODELS

Packaged Unit Model No.	Logic Controls Package (L)
All Models	Controls for Logic control system factory installed

W973 CONTROL SYSTEM

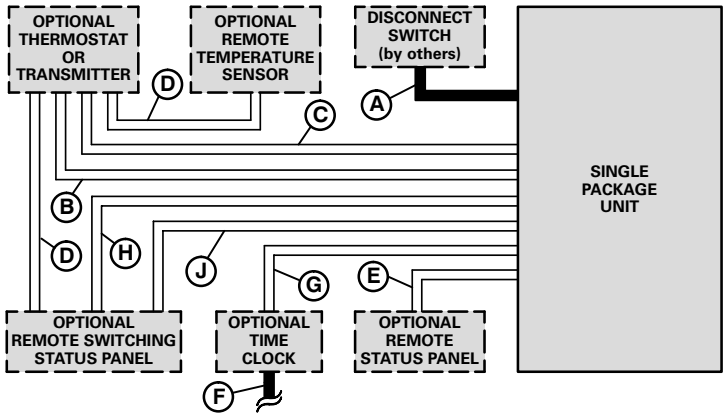
A — Two or Three wire power (See Electrical Data Table)
B — Seven wire low voltage — DC only
— Five wire low voltage — DC only — with SSP11 Switching Status Panel
— Seven wire low voltage — DC only — with switching subbase
C — Two wire low voltage — AC only — with switching subbase
D — Two wire low voltage — 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

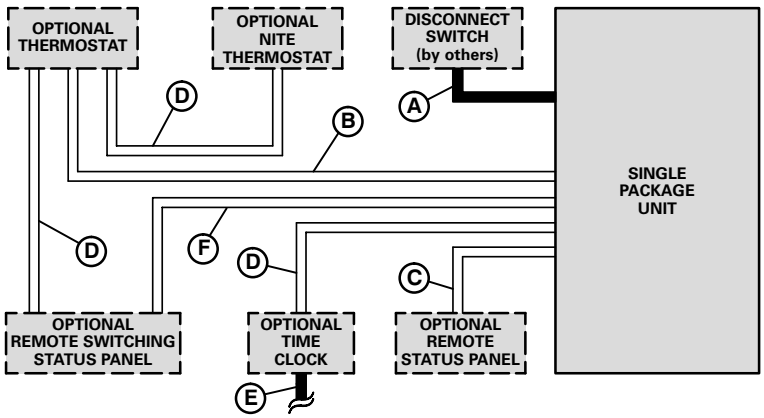
NOTE — Run separate harness for AC and DC. AC voltage interferes with DC signals.

— Field wiring not furnished —

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



ELECTRO-MECHANICAL THERMOSTAT CONTROL SYSTEM



A — Two or 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 —

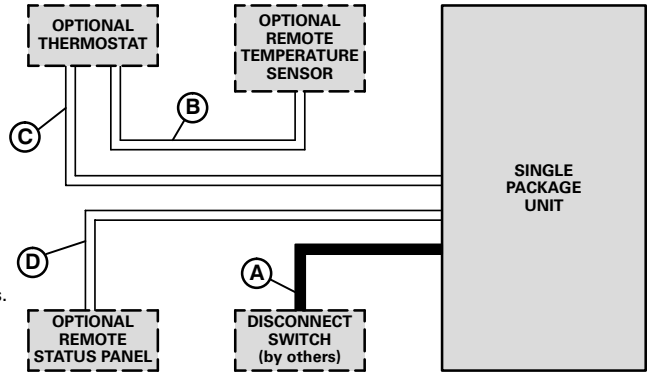
NOTE — All wiring must conform to NEC or CEC and local electrical codes.

W7400 CONTROL SYSTEM

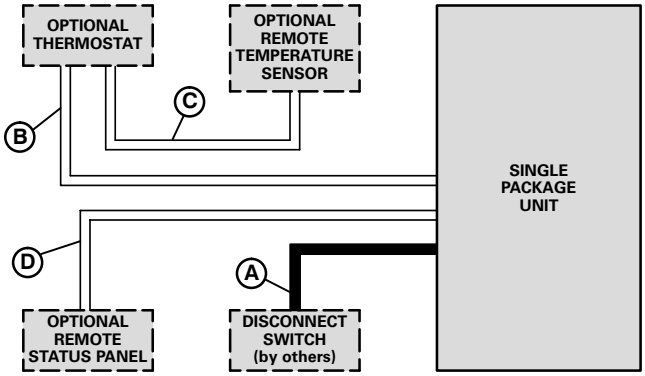
A — Two or Three wire power (See Electrical Data Table)
B — Two wire low voltage
C — Four wire low voltage
D — Nine wire low voltage

— Field wiring not furnished —

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



T7300, T8600 OR T8621 THERMOSTAT CONTROL SYSTEM



A — Two or Three wire power (See Electrical Data Table)
B — Nine wire low voltage
C — Two wire low voltage
— Seven wire low voltage (T7300 Room Sensor with Override)
D — Nine wire low voltage

— Field wiring not furnished —

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

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(D)-651-653 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																					
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) 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)	825	1750	17.3	59,200	4840	.72	.86	.98	16.6	56,500	5190	.73	.88	1.00	15.8	53,800	5610	.74	.90	1.00	14.9	50,800	6140	.76	.93	1.00
	945	2000	17.9	61,000	4900	.74	.90	1.00	17.1	58,300	5260	.76	.92	1.00	16.2	55,300	5690	.77	.94	1.00	15.3	52,200	6220	.79	.98	1.00
	1060	2250	18.3	62,500	4940	.77	.93	1.00	17.5	59,800	5300	.79	.95	1.00	16.5	56,300	5730	.81	.98	1.00	15.6	53,300	6280	.83	1.00	1.00
67°F (19.4°C)	825	1750	18.2	62,100	4920	.56	.71	.84	17.4	59,400	5290	.57	.72	.85	16.6	56,500	5740	.58	.74	.87	15.7	53,500	6300	.59	.75	.89
	945	2000	18.8	64,100	4980	.58	.73	.88	17.9	61,200	5360	.59	.75	.89	17.1	58,200	5820	.60	.76	.91	16.1	55,000	6390	.61	.78	.94
	1060	2250	19.3	65,700	5030	.60	.76	.91	18.4	62,700	5420	.61	.77	.93	17.5	59,600	5890	.62	.79	.95	16.5	56,200	6460	.63	.81	.98
71°F (21.7°C)	825	1750	19.0	64,900	5000	.42	.56	.70	18.2	62,000	5390	.42	.57	.72	17.3	59,100	5870	.43	.58	.73	16.4	55,900	6440	.43	.59	.74
	945	2000	19.6	66,900	5060	.43	.58	.73	18.7	63,900	5460	.43	.59	.74	17.8	60,800	5950	.44	.60	.76	16.9	57,500	6540	.44	.61	.78
	1060	2250	20.1	68,600	5110	.44	.60	.76	19.2	65,500	5520	.44	.61	.77	18.2	62,200	6010	.44	.62	.79	17.2	58,800	6620	.45	.63	.81

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

GCS24-813 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Condenser Coil																					
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Compressor Motor Watts Input	Sensible To Total Ratio (S/T) 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)	945	2000	21.2	72,300	5740	.71	.86	.98	20.2	68,900	6260	.72	.87	1.00	19.2	65,600	6800	.74	.90	1.00	18.3	62,300	7360	.75	.92	1.00
	1130	2400	22.1	75,400	5820	.75	.90	1.00	21.0	71,800	6350	.77	.93	1.00	19.9	67,800	6890	.78	.95	1.00	18.9	64,500	7460	.80	.98	1.00
	1320	2800	22.7	77,400	5870	.79	.95	1.00	21.7	73,900	6400	.81	.97	1.00	20.5	69,900	6960	.83	1.00	1.00	19.5	66,600	7540	.84	1.00	1.00
67°F (19.4°C)	945	2000	22.4	76,500	5850	.56	.70	.83	21.4	73,000	6380	.57	.71	.85	20.4	69,600	6950	.58	.73	.86	19.4	66,100	7530	.58	.74	.88
	1130	2400	23.4	79,700	5910	.58	.73	.88	22.3	76,100	6460	.59	.75	.90	21.2	72,300	7040	.60	.77	.92	20.1	68,700	7640	.61	.79	.94
	1320	2800	24.1	82,100	5960	.61	.77	.93	22.9	78,200	6530	.62	.79	.95	21.8	74,300	7120	.63	.81	.98	20.7	70,600	7720	.64	.83	1.00
71°F (21.7°C)	945	2000	23.6	80,500	5930	.42	.56	.70	22.5	76,900	6490	.42	.57	.71	21.5	73,300	7080	.43	.58	.72	20.5	69,800	7690	.43	.59	.73
	1130	2400	24.6	83,800	6000	.43	.58	.73	23.5	80,100	6570	.43	.59	.75	22.3	76,200	7170	.44	.60	.76	21.2	72,500	7790	.44	.61	.78
	1320	2800	25.3	86,200	6050	.44	.60	.77	24.1	82,200	6630	.44	.62	.79	22.9	78,300	7240	.45	.63	.80	21.8	74,400	7870	.45	.64	.82

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

BLOWER DATA

GCS24D-651-653 BLOWER PERFORMANCE @ 208 VOLTS (With Down-Flo Supply and Return Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2530	1195	2265	1070	1970	930	1720	810	1440	680
.10	25	2495	1175	2235	1055	1945	920	1700	800	1430	675
.20	50	2450	1155	2200	1040	1915	905	1670	790	1415	670
.30	75	2405	1135	2160	1020	1880	890	1640	775	- - - -	- - - -
.40	100	2355	1110	2115	1000	1840	870	1605	755	- - - -	- - - -
.50	125	2300	1085	2065	975	1795	845	1565	740	- - - -	- - - -
.60	150	2235	1055	2010	950	1745	825	1515	715	- - - -	- - - -
.70	175	2165	1020	1945	920	1690	800	1460	690	- - - -	- - - -
.80	200	2090	985	1875	885	1620	765	1400	660	- - - -	- - - -
.90	225	2000	945	1790	845	1550	730	- - - -	- - - -	- - - -	- - - -
1.00	250	1895	895	1695	800	1460	690	- - - -	- - - -	- - - -	- - - -
1.10	275	1770	835	1580	745	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
1.20	300	1620	765	1440	680	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -

NOTE — All air data is measured external to unit with dry coil and 2 inch (51 mm) filters. See Page 19 for Accessory Air Resistance Table.

GCS24D-651-653 BLOWER PERFORMANCE @ 230 VOLTS
(With Down-Flo Supply and Return Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds									
		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2750	1300	2500	1180	2245	1060	1955	925	1630	770
.10	25	2705	1275	2470	1165	2215	1045	1925	910	1600	755
.20	50	2650	1250	2430	1145	2180	1030	1890	890	1570	740
.30	75	2585	1220	2390	1130	2140	1010	1850	875	1535	725
.40	100	2535	1195	2340	1105	2100	990	1810	855	1500	710
.50	125	2475	1170	2290	1080	2050	965	1760	830	1455	685
.60	150	2405	1135	2225	1050	1995	940	1705	805	1405	665
.70	175	2330	1100	2155	1015	1930	910	1640	775	- - - -	- - - -
.80	200	2245	1060	2075	980	1865	880	1575	745	- - - -	- - - -
.90	225	2155	1015	1975	930	1780	840	1495	705	- - - -	- - - -
1.00	250	2050	965	1860	880	1690	800	1405	665	- - - -	- - - -
1.10	275	1935	915	1720	810	1585	750	- - - -	- - - -	- - - -	- - - -
1.20	300	1805	850	1560	735	1450	685	- - - -	- - - -	- - - -	- - - -

NOTE — All air data is measured external to unit with dry coil and 2 inch (51 mm) filters. See below for Accessory Air Resistance Table.

GCS24D-651-653 BLOWER PERFORMANCE @ 460/575 VOLTS
(With Down-Flo Supply and Return Air Openings)

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2820	1330	2460	1160	1975	930
.10	25	2770	1305	2430	1145	1950	920
.20	50	2720	1285	2395	1130	1920	905
.30	75	2670	1260	2345	1105	1885	890
.40	100	2610	1230	2310	1090	1845	870
.50	125	2545	1200	2260	1065	1800	850
.60	150	2475	1170	2200	1040	1755	830
.70	175	2400	1130	2140	1010	1700	800
.80	200	2315	1090	2065	975	1635	770
.90	225	2220	1045	1980	935	1565	740
1.00	250	2115	1000	1880	885	1480	700
1.10	275	2000	945	1760	830	- - - -	- - - -
1.20	300	1860	875	1615	760	- - - -	- - - -

NOTE — All air data is measured external to unit with dry coil and 2 inch (51 mm) filters. See below for Accessory Air Resistance Table.

ACCESSORY AIR RESISTANCE

Air Volume		Total Resistance — inches water gauge (Pa)					
				RTD11 Step-Down Diffuser			
cfm	L/s	Wet Evaporator Coil	REMD24M Down-flo Economizer	2 Ends Open	1 Side 2 Ends Open	All Ends & Sides Open	FD11 Flush Diffuser
1800	850	.06 (15)	.11 (27)	.13 (32)	.11 (27)	.09 (22)	.09 (22)
2000	945	.07 (17)	.12 (30)	.15 (37)	.13 (32)	.11 (27)	.10 (25)
2200	1040	.09 (22)	.14 (35)	.18 (45)	.15 (37)	.12 (30)	.12 (30)
2400	1135	.11 (27)	.16 (40)	.21 (52)	.18 (45)	.15 (37)	.14 (35)
2600	1225	.13 (32)	.18 (45)	.24 (60)	.21 (52)	.18 (45)	.17 (42)
2800	1320	.16 (40)	.20 (50)	.27 (67)	.24 (60)	.21 (52)	.20 (50)
3000	1415	.20 (50)	.23 (57)	.32 (80)	.29 (72)	.25 (62)	.25 (62)

BLOWER DATA — GCS24-653 AND GCS24-813

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)																	
	.10 (25)		.20 (50)		.30 (75)		.40 (100)		.50 (125)		.60 (150)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)		1.10 (275)		1.20 (300)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
1600 (755)	540	0.20 (0.15)	585	0.25 (0.19)	635	0.30 (0.22)	685	0.35 (0.26)	735	0.40 (0.30)	780	0.45 (0.34)	825	0.55 (0.41)	850	0.60 (0.45)	910	0.65 (0.48)	955	0.75 (0.56)	990	0.80 (0.60)	1030	0.90 (0.67)
1700 (800)	560	0.25 (0.19)	605	0.30 (0.22)	655	0.35 (0.26)	700	0.40 (0.30)	750	0.45 (0.34)	795	0.50 (0.37)	840	0.60 (0.45)	880	0.65 (0.48)	920	0.70 (0.52)	960	0.80 (0.60)	1000	0.85 (0.63)	1040	0.95 (0.71)
1800 (850)	580	0.30 (0.22)	625	0.35 (0.26)	675	0.40 (0.30)	720	0.45 (0.34)	765	0.50 (0.37)	810	0.55 (0.41)	855	0.65 (0.48)	895	0.70 (0.52)	935	0.80 (0.60)	975	0.85 (0.63)	1010	0.95 (0.71)	1050	1.00 (0.75)
1900 (895)	605	0.35 (0.26)	650	0.40 (0.30)	695	0.45 (0.34)	740	0.50 (0.37)	785	0.55 (0.41)	825	0.60 (0.45)	870	0.70 (0.52)	910	0.75 (0.56)	945	0.85 (0.63)	985	0.90 (0.67)	1020	1.00 (0.75)	1060	1.10 (0.82)
2000 (945)	625	0.40 (0.30)	670	0.45 (0.34)	715	0.50 (0.37)	760	0.55 (0.41)	805	0.60 (0.45)	845	0.70 (0.52)	885	0.75 (0.56)	925	0.85 (0.63)	960	0.90 (0.67)	1000	1.00 (0.75)	1035	1.05 (0.78)	1070	1.15 (0.88)
2100 (990)	650	0.45 (0.34)	695	0.50 (0.37)	740	0.55 (0.41)	780	0.60 (0.45)	820	0.65 (0.48)	860	0.75 (0.56)	900	0.80 (0.60)	940	0.90 (0.67)	975	0.95 (0.71)	1010	1.05 (0.78)	1045	1.10 (0.82)	1080	1.20 (0.90)
2200 (1040)	675	0.50 (0.37)	720	0.55 (0.41)	760	0.60 (0.45)	805	0.70 (0.52)	845	0.75 (0.56)	880	0.80 (0.60)	920	0.90 (0.67)	955	0.95 (0.71)	990	1.05 (0.78)	1025	1.10 (0.82)	1060	1.20 (0.90)	1095	1.30 (0.97)
2300 (1085)	700	0.55 (0.41)	745	0.60 (0.45)	785	0.70 (0.52)	825	0.75 (0.56)	865	0.80 (0.60)	900	0.90 (0.67)	935	0.95 (0.71)	975	1.05 (0.78)	1010	1.10 (0.82)	1040	1.20 (0.90)	1075	1.30 (0.97)	1110	1.40 (1.04)
2400 (1130)	730	0.60 (0.45)	770	0.70 (0.52)	810	0.75 (0.56)	845	0.80 (0.60)	885	0.90 (0.67)	920	0.95 (0.71)	955	1.05 (0.78)	990	1.10 (0.82)	1025	1.20 (0.90)	1060	1.30 (0.97)	1090	1.35 (1.01)	1125	1.45 (1.08)
2500 (1180)	755	0.70 (0.52)	795	0.75 (0.56)	835	0.85 (0.63)	870	0.90 (0.67)	905	1.00 (0.75)	940	1.05 (0.78)	975	1.15 (0.88)	1010	1.20 (0.90)	1045	1.30 (0.97)	1075	1.40 (1.04)	1110	1.50 (1.12)	1140	1.55 (1.16)
2600 (1225)	780	0.75 (0.56)	820	0.85 (0.63)	855	0.90 (0.67)	895	1.00 (0.75)	930	1.05 (0.78)	965	1.15 (0.88)	995	1.20 (0.90)	1030	1.30 (0.97)	1060	1.40 (1.04)	1095	1.50 (1.12)	1125	1.55 (1.16)	1155	1.65 (1.23)
2700 (1275)	810	0.85 (0.63)	845	0.95 (0.71)	880	1.00 (0.75)	915	1.10 (0.82)	950	1.15 (0.88)	985	1.25 (0.93)	1015	1.30 (0.97)	1050	1.40 (1.04)	1080	1.50 (1.12)	1110	1.60 (1.19)	1140	1.65 (1.23)	1170	1.75 (1.31)
2800 (1320)	835	0.95 (0.71)	870	1.05 (0.78)	905	1.10 (0.82)	940	1.20 (0.90)	975	1.25 (0.93)	1005	1.35 (1.01)	1040	1.45 (1.08)	1070	1.50 (1.12)	1100	1.60 (1.19)	1130	1.70 (1.27)	1160	1.80 (1.34)	1190	1.90 (1.42)
2900 (1370)	865	1.05 (0.78)	900	1.15 (0.88)	930	1.20 (0.90)	965	1.30 (0.97)	995	1.35 (1.01)	1030	1.45 (1.08)	1060	1.55 (1.16)	1090	1.65 (1.23)	1120	1.75 (1.31)	1150	1.80 (1.34)	1180	1.90 (1.42)	1210	2.00 (1.49)
3000 (1415)	890	1.15 (0.88)	925	1.25 (0.93)	960	1.35 (1.01)	990	1.40 (1.04)	1020	1.50 (1.12)	1050	1.60 (1.19)	1080	1.65 (1.23)	1110	1.75 (1.31)	1140	1.85 (1.38)	1170	1.95 (1.45)	1200	2.05 (1.53)	1230	2.15 (1.60)

NOTE — All data is measured external to the unit with dry coil and 2 inch (51 mm) air filters in place. See Page 19 for Accessory Air Resistance data

NOTE — Shaded area denote field furnished drive. (1vp sheave and/or 2 hp (1.49 kW) motor.)

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 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 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 enhanced fins mechanically bonded to copper rifled 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). Sloped drain pan shall provide positive drainage of condensate.

Compressor shall be resiliently mounted and have overload protection. All models shall have crankcase heater. The refrigeration system shall have suction and liquid line service gauge ports, high pressure switch, loss of charge switch, expansion valve, thermometer well, drier, freezestat and full refrigerant charge. Control option available shall consist of low ambient control (factory or field installed) and timed-off control. Shall be rated in accordance with ARI Standard 210/240-89, DOE (under 65,000 Btuh (19.0 kW) and California Energy Standards.

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 control(s), automatic redundant gas valve and blower prove switch on induced draft blower. Two stage Canadian only models shall have dual gas valve with staging control. Unit shall be available for use with LPG/propane as an option. Complete service access shall be provided for controls and wiring. Shall be U.L. and 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 entry in bottom and side of unit. Shall have peep hole with cover for flame viewing of burners. Evaporator coil condensate drain extended outside cabinet shall be provided. Lifting holes shall be provided for rigging.*

Service Access — *All components, wiring and inspection areas shall be completely accessible through removable panels. Condenser compartment wall shall have access holes for service gauge line pass-through.*

Supply Air Blower (GCS24D Models) — *Centrifugal supply air blower shall be driven by a multi-speed direct drive motor with sleeve bearings and be capable of delivering . . . . . cfm (L/s) at an external static pressure of . . . . . inches water gauge (Pa) requiring not more than . . . . . bhp (W) and . . . . . rpm. Blower shall be statically and dynamically balanced.*

Supply Air Blower (GCS24-650 & -813 Models) — *Centrifugal supply air blower shall have permanently lubricated ball bearings and adjustable belt drive. Swing out motor mount base shall permit ease of motor changeover and blower wheel and indoor coil cleaning. Blower wheel shall be statically and dynamically balanced. Blower shall be capable of delivering . . . . . cfm (L/s) at an external static pressure of . . . . . inches water gauge (Pa) requiring not more than . . . . . bhp (W) and . . . . . rpm.*

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

Air Filters — *Disposable filters furnished shall have not less than . . . . . .sq. ft. (m^2) of free area.*

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

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 design shall be approved by U.S. National Roofing Contractors Association.*

Supply and Return Air Transitions — *Supply and return transitions shall be available, for field installation in the roof mounting frame, to facilitate duct connection to the diffuser.*

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.*

Economizer Dampers *— Furnish and install complete with controls an air mixing damper assembly including outdoor air and recirculated air dampers. The assembly shall provide for the introduction of outside air for minimum ventilation and free cooling. Damper motor shall be 24 volt fully modulating spring return. Controls shall include electronic discharge air sensor, minimum position potentiometer, and solid-state adjustable enthalpy control. Control option available shall consist of differential enthalpy control (return air sensor). Economizer shall include pressure operated gravity exhaust dampers. Damper blades shall ride in nylon bearings and be gasketed for tight seal and quiet operation. Exhaust dampers shall install in return air duct for horizontal applications. Economizer shall be available for factory or field installation.*

Outdoor Air Damper Section *— Optional outdoor dampers shall be available to provide outdoor air requirements of up to 25%. Damper section factory or field installs on unit cabinet. Shall be equipped with outdoor air hood with bird screen protection. Shall be available for manual or motorized operation.*

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.*

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 (not used), 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 (not used), 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.*

Disconnect Package — *Furnish and factory install package that includes unit disconnect and dual 120 volt GFCI type service outlets*

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 housing or apply only to condenser coil with painted condensing section base.*

DIMENSIONS — inches (mm)

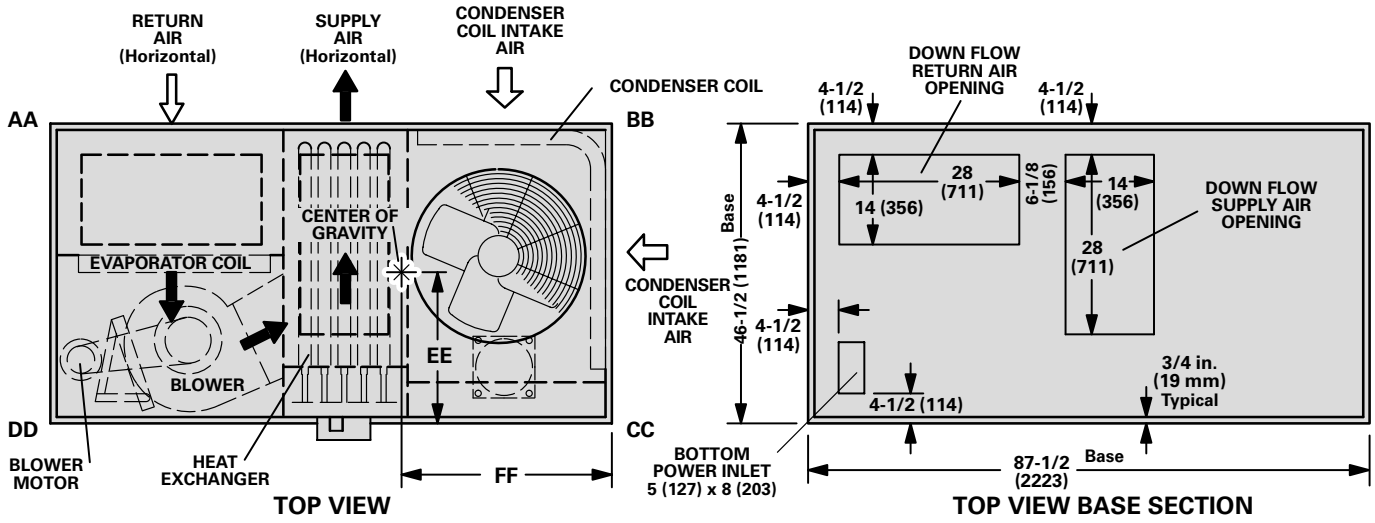
GCS24 BASIC UNIT
(GCS24-813 Model Shown)

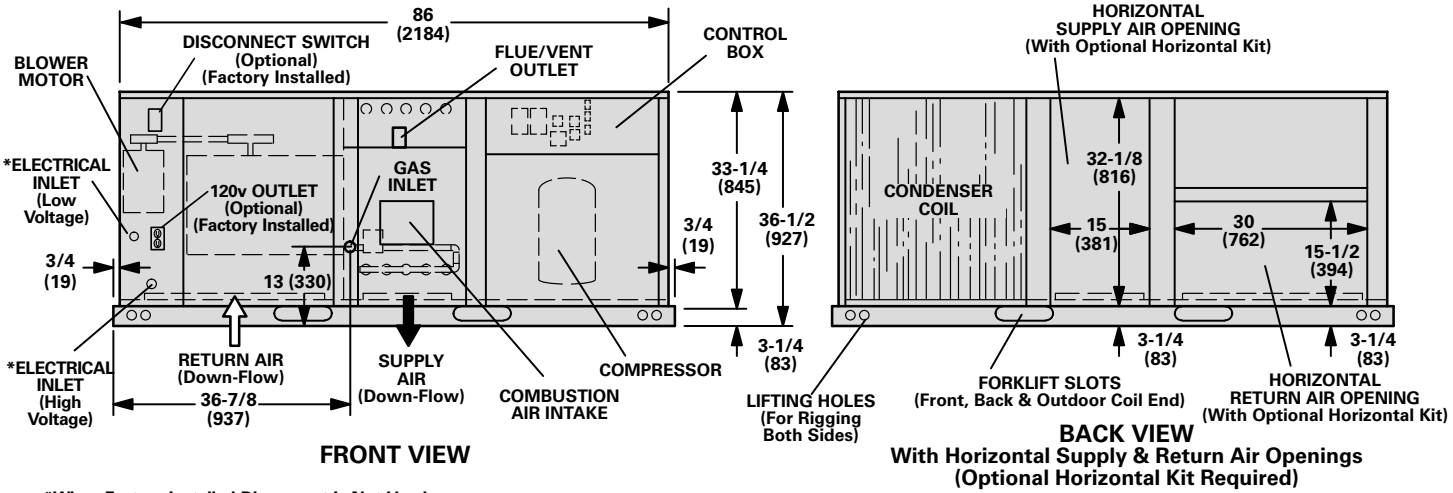
CORNER WEIGHTS — lbs. (kg)

Model No.	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS24(D)-650	140	64	151	68	231	105	214	97
GCS24-813	145	66	156	71	237	108	221	100

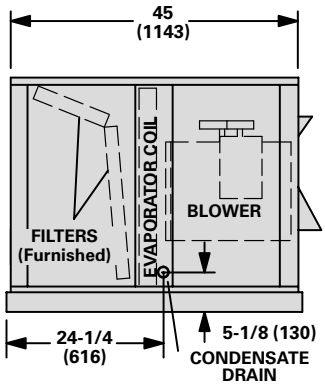
CENTER OF GRAVITY — in. (mm)

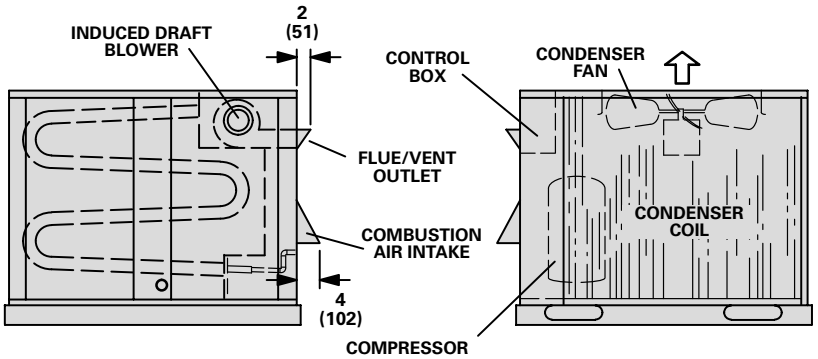
Model No.	EE		FF	
	in.	mm	in.	mm
GCS24(D)-650	18-1/2	470	43	1092
GCS24-813	18-1/2	470	42	1067





*When Factory Installed Disconnect Is Not Used.





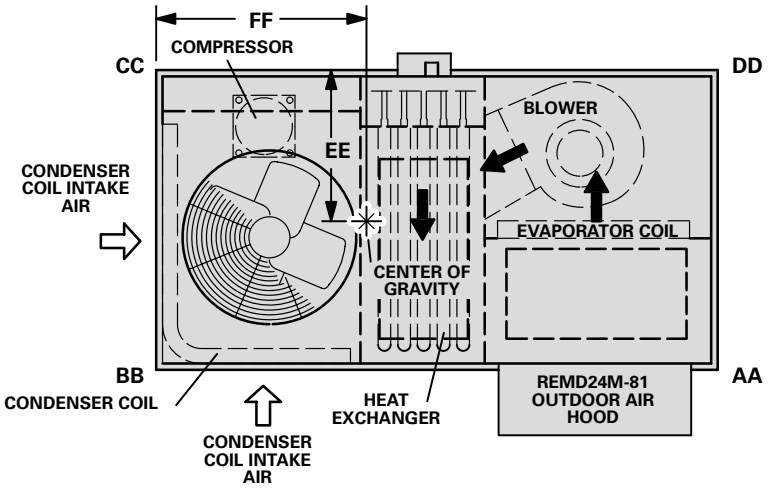
GCS24 UNITS WITH REMD24M-81 ECONOMIZER DAMPER SECTION AND RMF24-81 ROOF MOUNTING FRAME (DOWN-FLOW APPLICATION)

CORNER WEIGHTS — lbs. (kg)

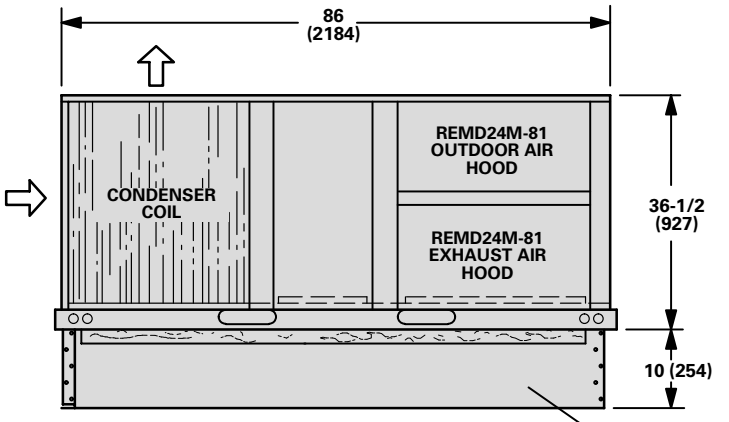
Model No.	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS24(D)-650	160	73	163	74	239	108	230	104
GCS24-813	165	75	168	76	246	112	236	107

CENTER OF GRAVITY — in. (mm)

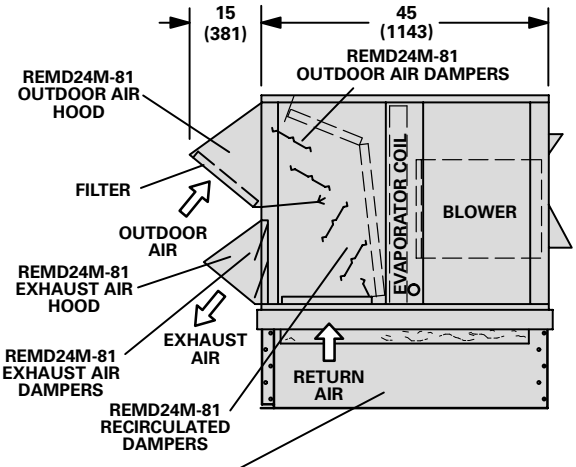
Model No.	EE		FF	
	in.	mm	in.	mm
GCS24(D)-650	19	483	43-1/2	1105
GCS24-813	19	483	42-1/2	1080



TOP VIEW



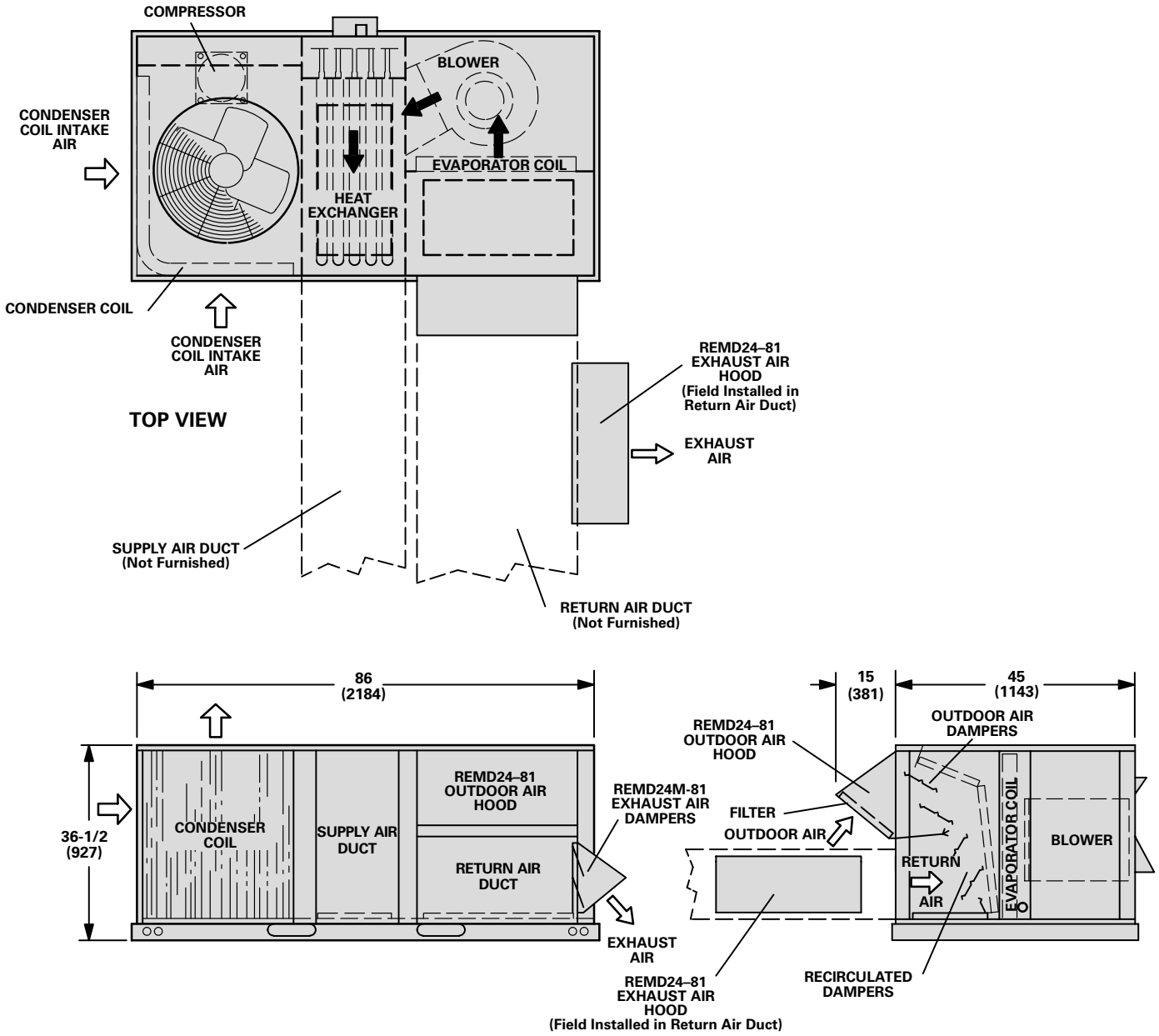
BACK VIEW



LEFT SIDE VIEW

RMF24-81 ROOF MOUNTING FRAME

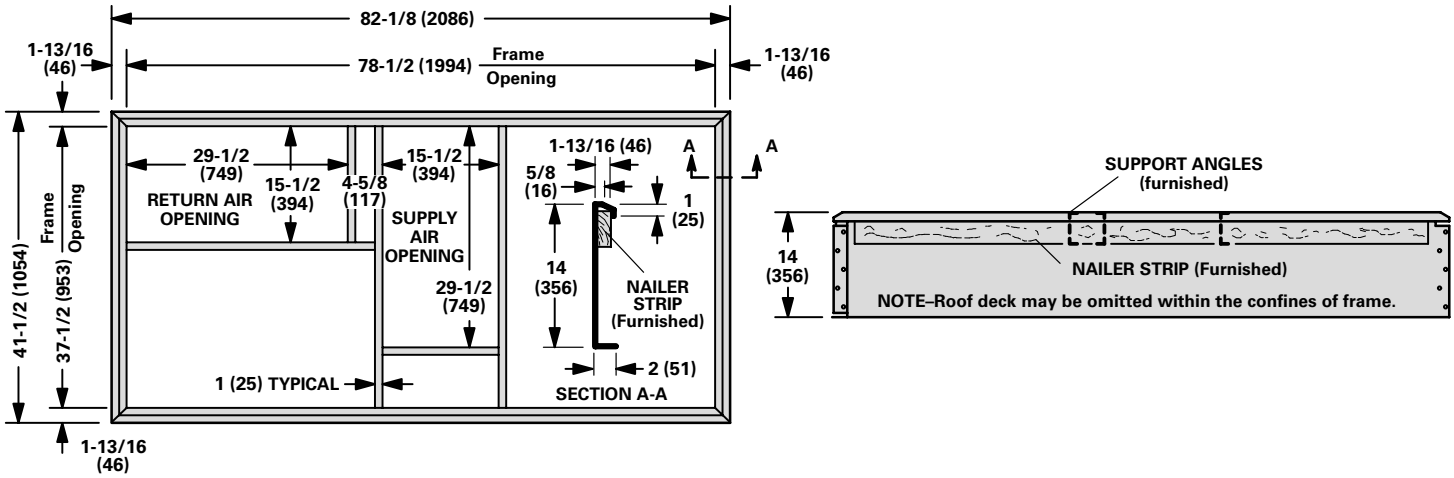
GCS24 UNITS WITH REMD24M-81 ECONOMIZER DAMPER SECTION (HORIZONTAL APPLICATION)



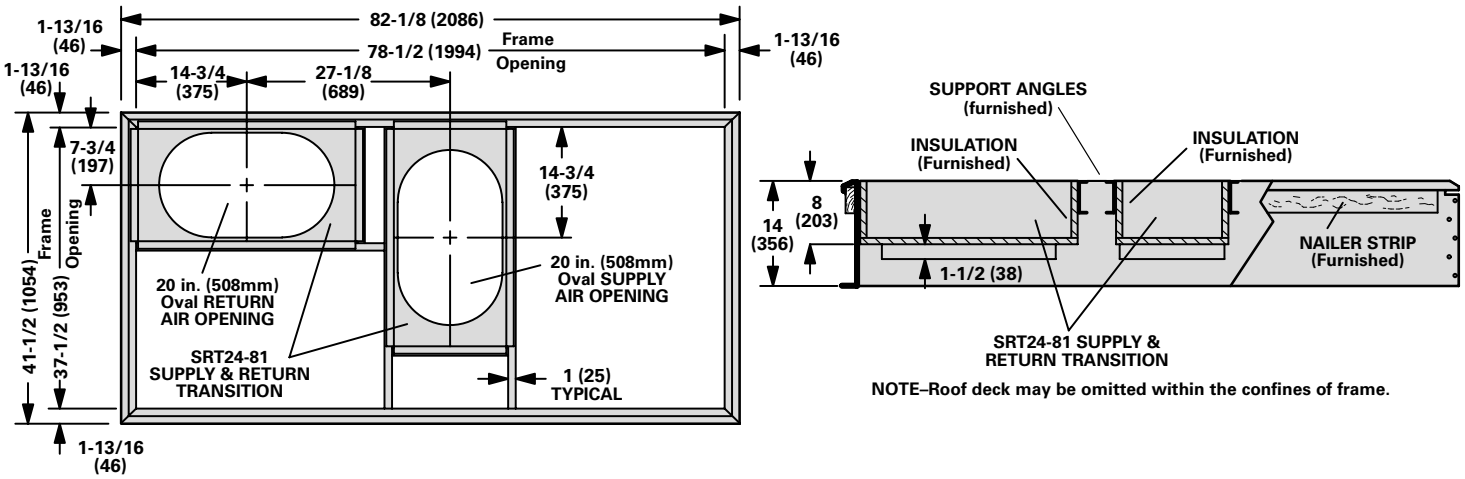
BACK VIEW
With Horizontal Supply & Return Air Openings

LEFT SIDE VIEW

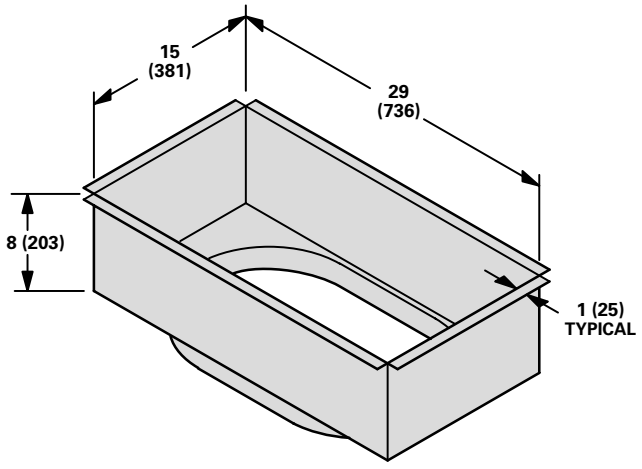
RMF24-81 ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING



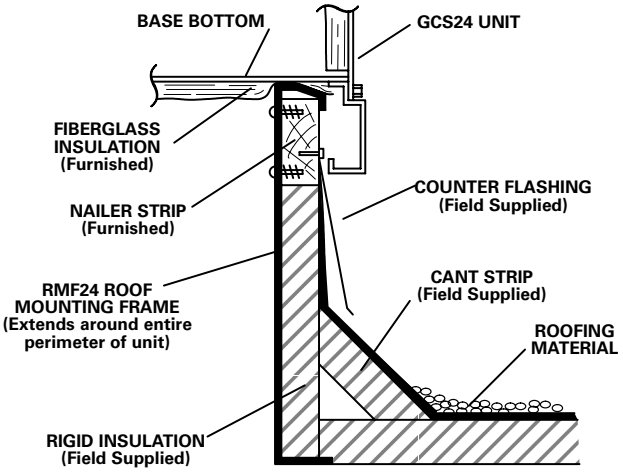
RMF24-81 ROOF MOUNTING FRAME WITH SRT24-81 SUPPLY AND RETURN TRANSITIONS FOR FD11-95 & RTD11-95 CEILING DIFFUSERS



SRT24-81 CEILING SUPPLY AND RETURN AIR TRANSITION

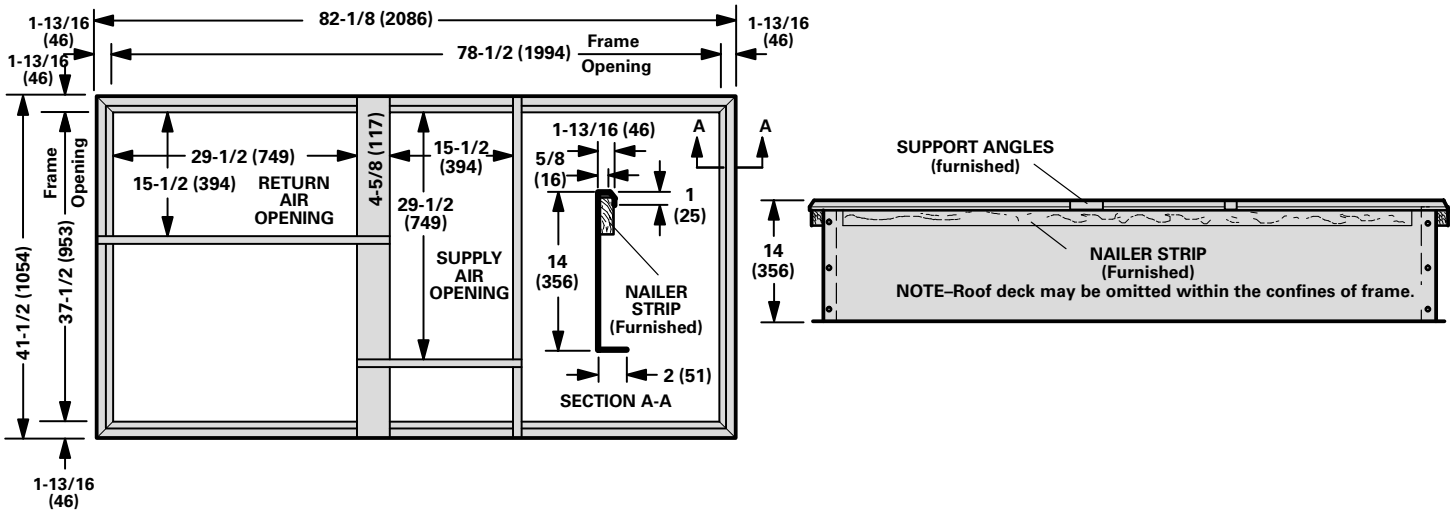


TYPICAL FLASHING DETAIL FOR RMF24 ROOF MOUNTING FRAME

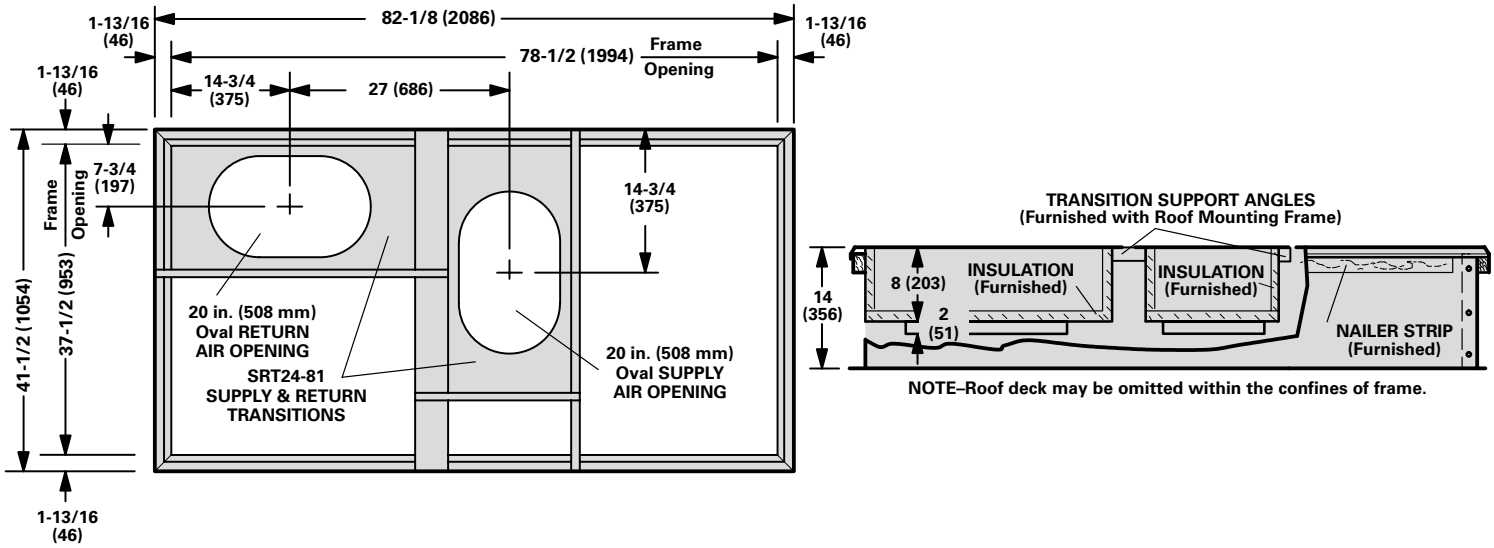


ACCESSORY DIMENSIONS — inches (mm) CANADA ONLY

RMF24-81 SERIES ROOF MOUNTING FRAME WITH DOUBLE DUCT OPENING

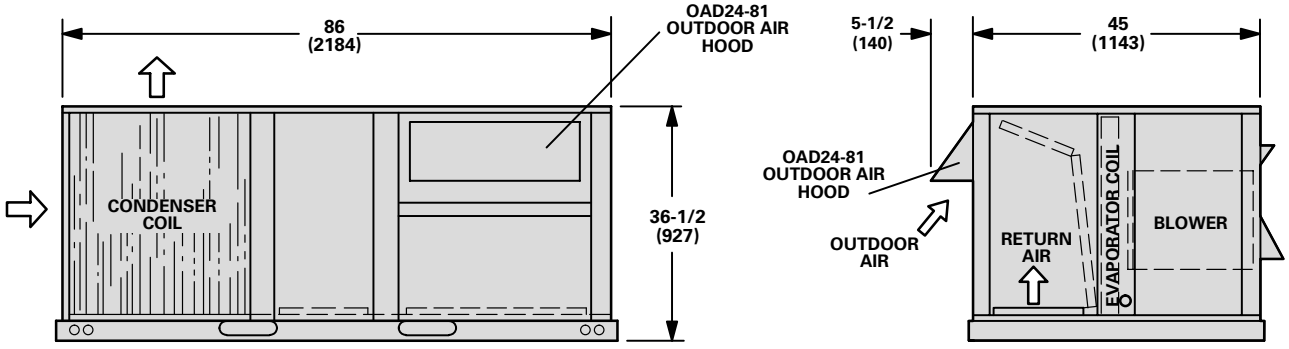


RMF24-81 ROOF MOUNTING FRAMES WITH SRT24-81 SUPPLY AND RETURN AIR TRANSITIONS FOR FD11–95 & RTD11-95 CEILING DIFFUSERS



ACCESSORY DIMENSIONS — inches (mm)

GCS24 UNIT WITH OAD24 OUTDOOR DAMPER SECTION
(For Down-Flo or Horizontal Supply and Return Air Applications)

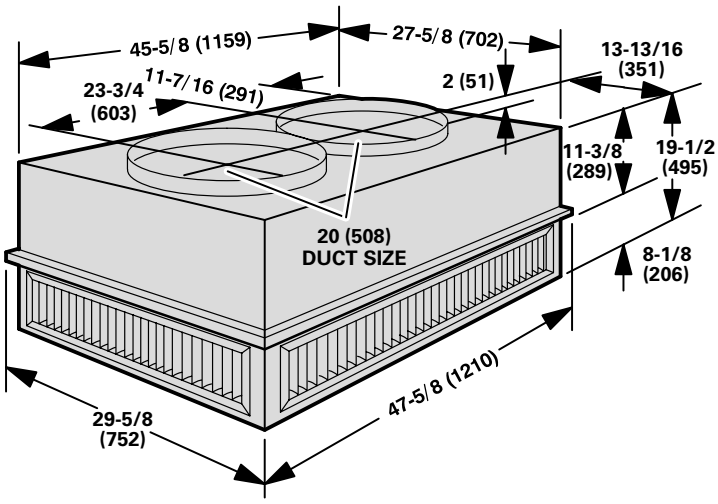


BACK VIEW

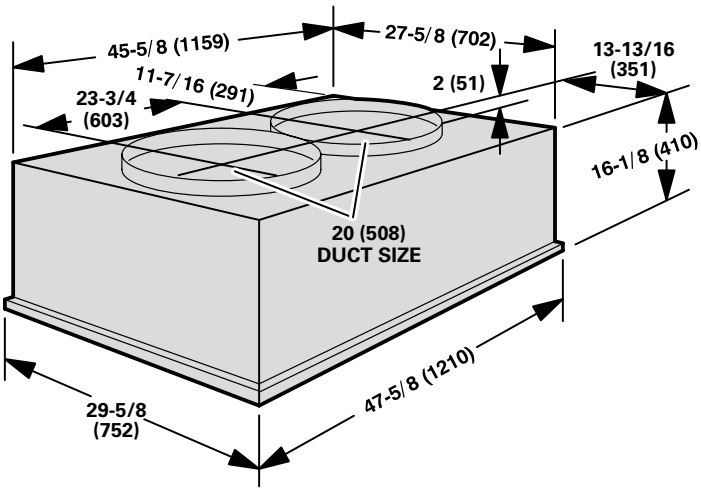
LEFT SIDE VIEW

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

RTD11-95 STEP-DOWN CEILING DIFFUSER

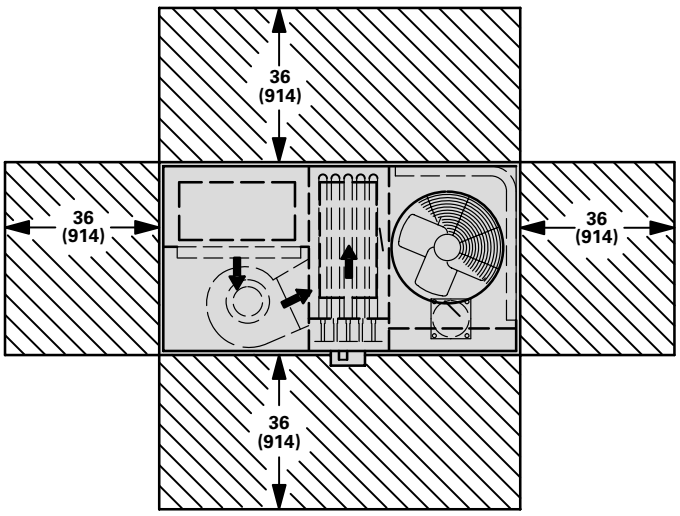


FD11-95 FLUSH CEILING DIFFUSER



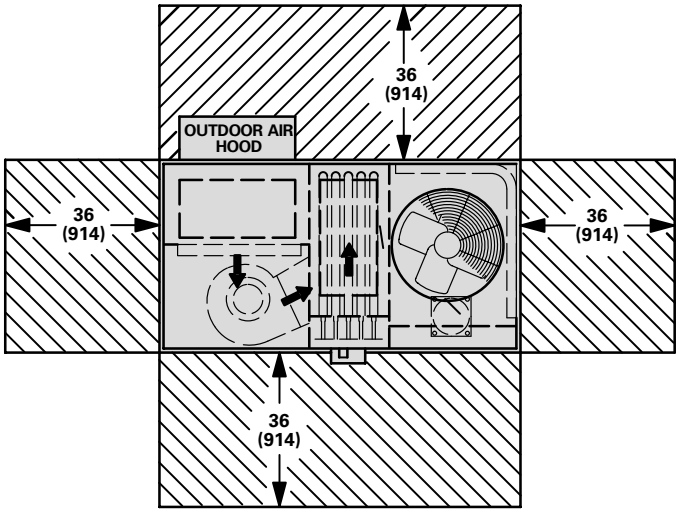
INSTALLATION CLEARANCES — inches (mm)

GCS24 BASIC UNIT



NOTE—Top Clearance Unobstructed.

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



NOTE—Top Clearance Unobstructed.