

EMI Ductless

Comfort Where It Counts.

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An ISO 9001-2000 Certified Company



CACG/CAHG CACH/CAHH

R-410A High-Efficiency Ductless Split System
Cassette Air Handlers

Straight cool / Heat pump nominal capacities			
CAHG09 CAHH09	CAHG12 CAHH12	CAHG24 CAHH24	Units
9,000	12,000	18,000 - 24,000	Btuh
2.6	3.5	5.3 - 7.0	kW
Straight cooling only — nominal capacity			
CACG 36 & CACH 36			Units
30,000 / 36,000			Btuh
8.8 / 10.5			kW

Specifications and Performance

(with EMI condensers)



CAHH12

NOTICE

EMI air handlers and condensers are backed by EMI and ECR International and are tested, rated and certified in accordance with ARI Standard 210/240 and UL-1995. Due to ongoing product development, product designs and specifications may change without notice. Please contact the factory for more information.

CACG/CAHG/CACH/CAHH Air Handlers — Product Description

Product description

- The EMI Cassette Air handlers are available in three cabinet sizes with four output capacities from 9,000–24,000 Btuh, and two cooling only capacities from 30,000–36,000 Btuh.
- Key features include a condensate pump with safety switch and a 36" (0.9 m) lift (measured from the base or bottom of the unit), fresh air inlet and branch duct knockouts, and motorized air vanes (models 24 and 36 only).
- Electric heat is a factory-installed option **ONLY** (there are no field installed electric heat kits available).
- The cassette air handler accepts a 24 volt thermostat control (thermostat not included).
- Designed for low noise levels, easy installation and maintenance and a slim line fascia, all ensure minimum intrusion into the conditioned environment.
- These cassette air handlers produce system SEER's meeting or exceeding 13 when matched with EMI outdoor units:
 - Single-zone condensing units —
 - S1CG/S1HG 9,000-24,000 Btuh and S1CG 30,000-36,000 Btuh.
- All EMI air handlers are backed by Enviromaster International LLC and are tested, rated, and certified in accordance with ARI standards 210/240 and UL 1995.



- Four plastic air vanes, motor driven with auto sweep or fixed position stop setting on models 24 and 36. Models 09–12 are equipped with manually-adjusted air vanes.

Coil

- Coil is seamless, copper tubing, arranged in staggered configuration, with enhanced aluminum fins, tested to 600 psig.
- The tubes are mechanically expanded for secure bonding to fin shoulder.

Refrigeration Circuit

- Units are equipped with a serviceable fixed orifice expansion device and use R-410A refrigerant only.

Controls and components (Factory-installed or supplied)

- Connections for 24V remote thermostat.
- Custom control board featuring programmability, configuration, and multiple modes of operation. (CACH/CAHH only)
- Controls also feature anti-short-cycle timer, post purge fan relay, and an on-board 30-amp electric heat relay.
- Condensate pump with 36" (0.9 m) lift (measured from base of unit).
- 24V Transformer.

Optional equipment

CACG/CAHG units

- "G" units require a remote thermostat for operation. They do not include an onboard controller.

CACH/CAHH units

- "H" units include an on-board microprocessor controller with infrared remote.
- The remote is required to adjust settings and configure the controller.
- Also included is a bank of DIP switches for setting operating behavior. These can be used to select operation by the on-board controller or by a remote thermostat.
- When operated by remote thermostat, the controller offers limited options.

Materials of Construction

- Galvanized steel cabinet with fire-resistant thermal and acoustic foam insulation.
- Light grey high-impact ABS fascia.
- Expanded polystyrene drain pan with a tough, fire-retardant thermoplastic liner.

Air Systems

- Fans are backward-curved impeller centrifugal design; dynamically and statically balanced; and mounted on integral mounting rails.
- Single-fan models 09, 12 & 24 are designed with fire-retardant plastic or aluminum impellers.
- Twin-fan model 36 is designed with fire-retardant plastic impellers.
- Motors are multispeed, enclosed type with thermal protection and sealed lifetime bearings.
- Permanent, washable filter (user accessible).
- Branch duct knockouts on three sides for remote discharge locations (using no more than two non-adjacent sides).
- Fresh air intake capability on three sides of cabinet (only two on models 09–12).

Optional equipment

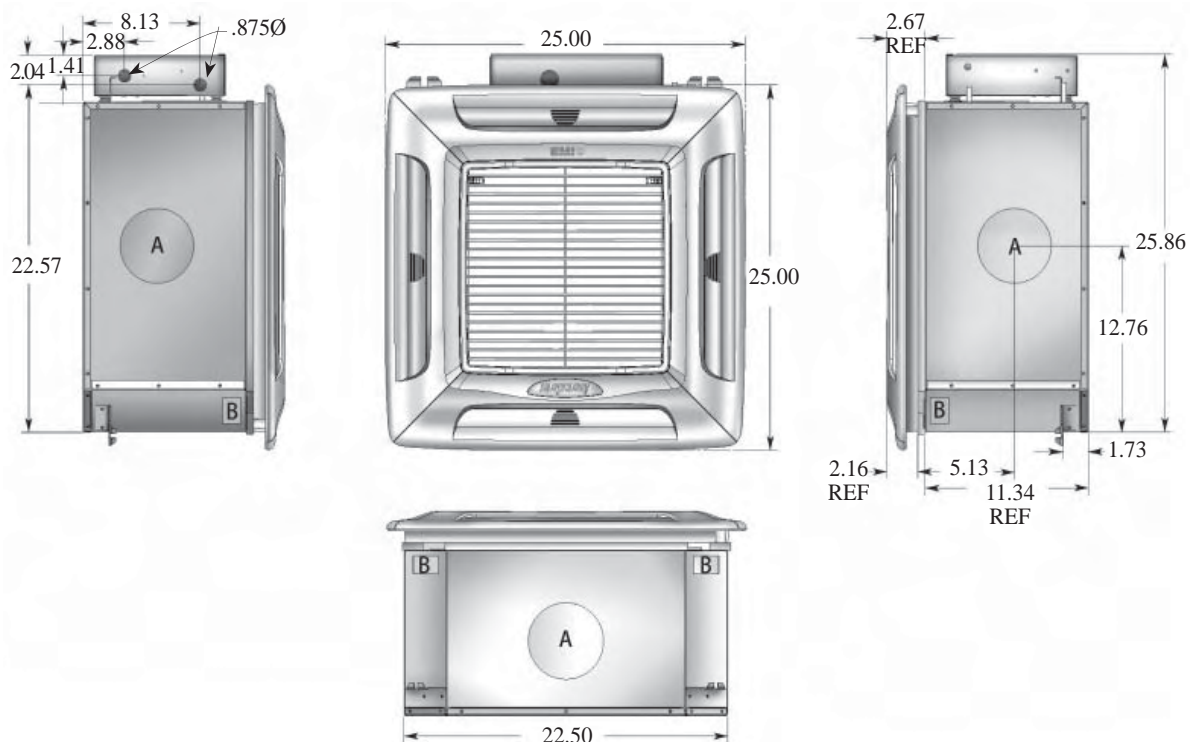
- 24V remote thermostat.
- Electric Heat (@ 230V)
 - 1.5 kW — models 09–12.
 - 3 kW — model 24.
 - 5 kW — model 36.

Installer-supplied Items

- Low voltage wiring (18 AWG required).
- High voltage power supply wiring.
- Mounting screws and fasteners.
- Condensate piping.
- Refrigerant piping (if not supplied).
- Refrigerant (for interconnect charge).
- Electrical Disconnect

Table 1 Discharge air speed and flow @ 230 VAC / Sound values

Model	High speed CFM (l/s)	Low speed CFM (l/s)	Coil	Observed sound values (dBA) Fan Hi/Lo
09–12	380 (180)	335 (158)	Dry	41 / 39
18–24	700 (330)	620 (293)	Dry	44 / 42
36	1,300 (614)	1,160 (548)	Dry	51 / 49

CACG/CAHG/CACH/CAHH Air Handlers — Product Description *(continued)*
Figure 1 CAHG/CAHH ductless air handlers — dimensions, openings and knockouts


Note: All dimensions in inches.

Cassette 09,12

	FEATURE	QTY.	SIZE
A	Optional Discharge Knockout	3	5¼" Ø
B	Fresh Air Inlet Knockout	2	1¼" x 2½"
C	Condensate Discharge	1	½" Ø
D	Suction	1	½" Ø
E	Liquid	1	¼" Ø
F	Condensate Pump Access	1	-

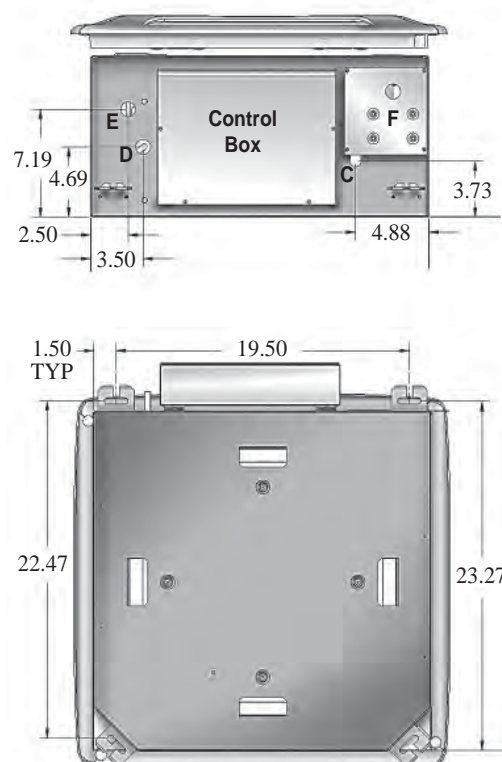
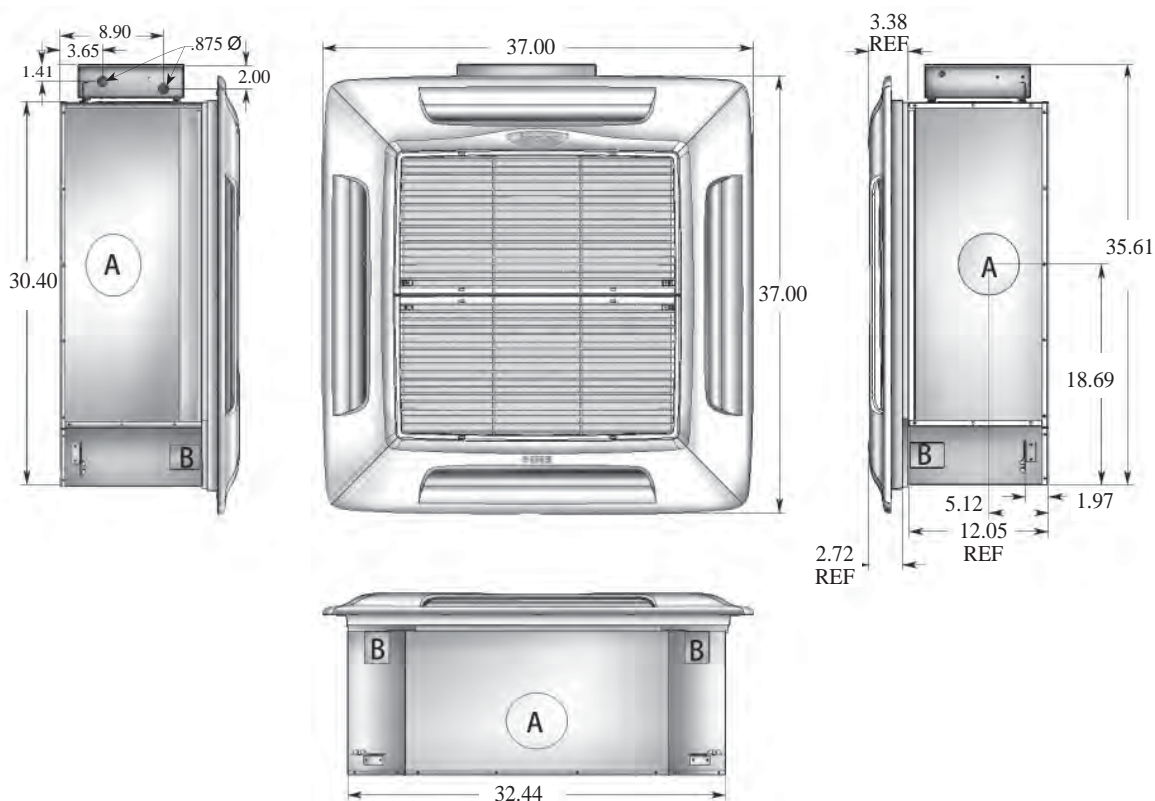


Figure 2 CAHG/CAHH ductless air handlers — dimensions, openings and knockouts


Note: All dimensions in inches.

Cassette 24

FEATURE	QTY.	SIZE
A Optional Discharge Knockout	3	5¼" Ø
B Fresh Air Inlet Knockout	3	3 x 3"
C Condensate Discharge	1	½" Ø
D Suction	1	¾" Ø*
E Liquid	1	⅜" Ø
F Condensate Pump Access	1	-

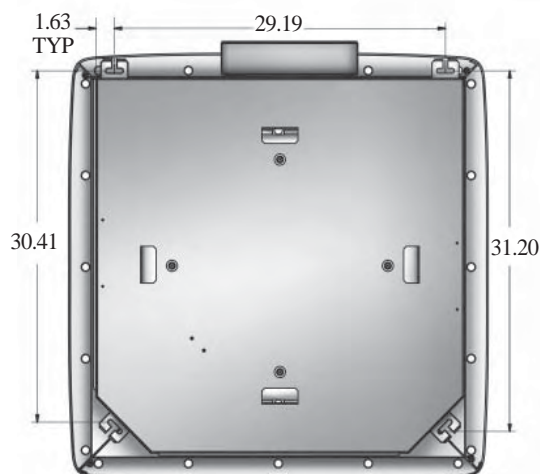
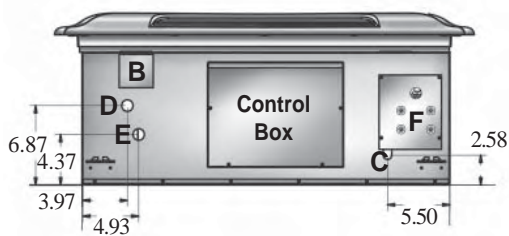
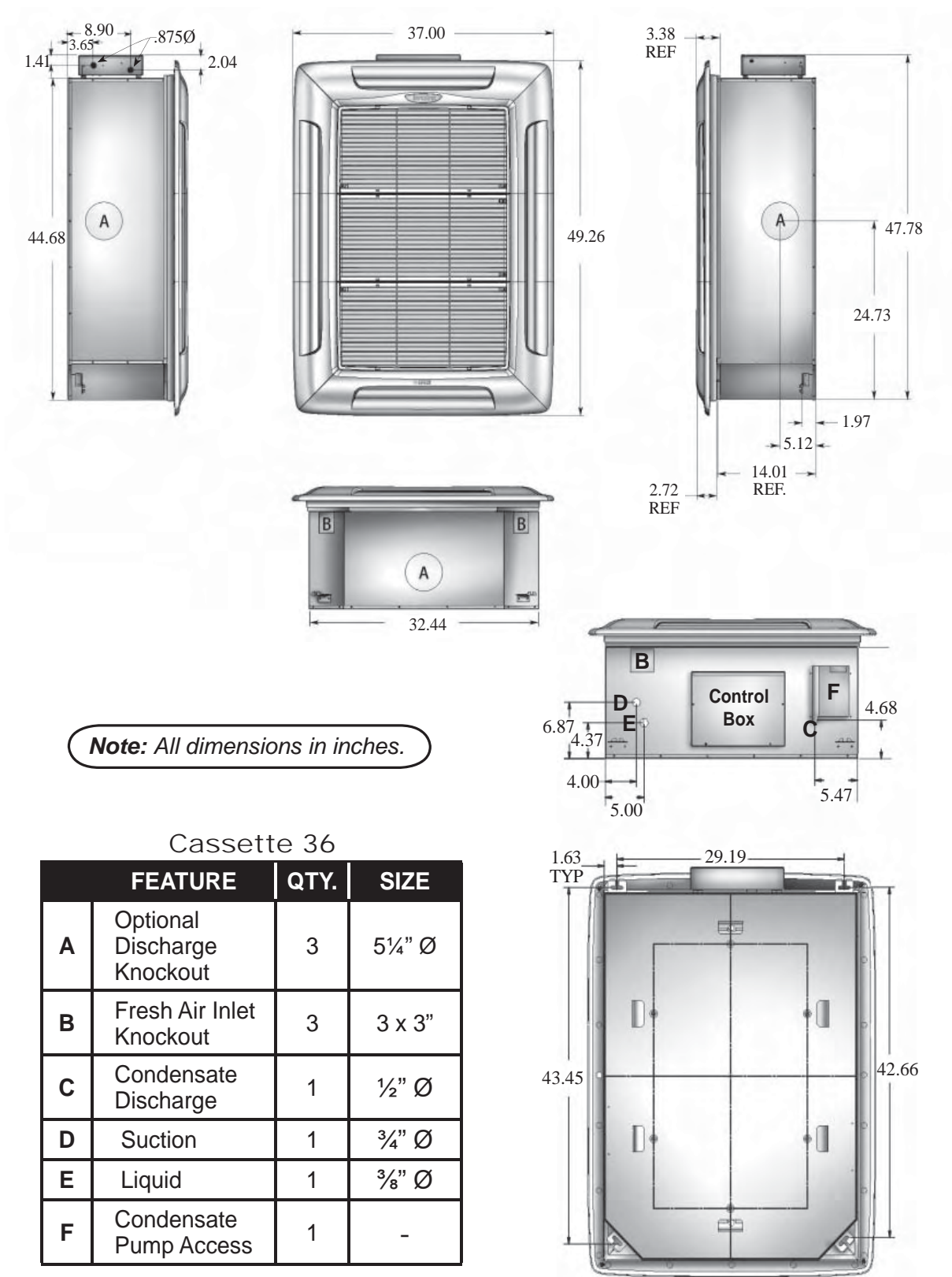


Figure 3 CACG/CACH ductless air handlers — dimensions, openings and knockouts


CACG/CAHG/CACH/CAHH Air Handlers with S1CG/S1HG Condensers

S1CG/S1HG/S2CG/S2HG — description

The S1CG/S1HG and S2CG/S2HG condensing units are air-cooled, vertically-arranged side-discharge, high-efficiency units designed specifically to meet or exceed a 13 SEER rating.

- The S1CG Models 9,000-36,000 Btuh and S1HG Models 9,000-24,000 Btuh condensing units will provide cooling and heating for a single evaporator.
- The S2CG/S2HG 18,000 (99), 21,000 (92) and 24,000 (22) Btuh capacity condensing units will provide cooling and heating for two evaporators.
- The S1CG/S1HG, S2CG/S2HG are quiet units that can be recommended for both commercial and residential applications.

NOTICE

When specifying heat pump(s), it is recommended that the matching indoor unit(s) be equipped with electric heat.

Features

- Installation of the S1CG/S1HG and S2CG/S2HG condensing units is simplified by a 24v control interconnection from the evaporator.
- Multiple units can be lined up in close proximity to an exterior wall.
- Service valves are recessed to reduce tampering.
- All 9,000–12,000 Btuh units are equipped with a an oversized suction accumulator with surge baffles and enhanced oil management and a factory-installed solid core filter drier.
- A factory-installed crankcase heater is standard on S1HG 9,000-12,000 Btuh (thermostatically-controlled) and S2HG models, and is available as optional equipment on other models.

Controls and components (Factory-installed or supplied)

- Compressor and fan motor contactor
- Run capacitor
- Low voltage terminal connections
- High pressure switch with manual external reset
- Heat pump hard start
- Cooling operation down to 60° F (15.6° C) standard on all units
- Models 9,000-12,000 Btuh only:
 - Large capacity suction accumulator
 - Solid-core filter drier

Thermostatically-controlled crankcase heater

- This feature energizes the crankcase heater only when needed, saving unnecessary power usage and increasing overall system efficiency.

System options

- Corrosion-resistant coil options (sea coast and harsh environment usage):
 - Copper fin/copper tube condenser coil
 - Coated aluminum fin/copper tube condenser coil
- Low Ambient controls for cooling operation down to 0° F (-18° C)
 - Optional field-installed kits, when specified, for cooling operation down to 0°F, S2HG cooling operation only available down to 32°F(0°C) — kits include louvers/wind baffle, crankcase heater, and/or fan cycle switch, and installation instructions
- Models S1CG 9,000-12,000 Btuh only:
 - 115v (single-zone only — S1CG or S1HG)
 - Field-installed thermostatically-controlled crankcase heater for heat pump units (S1HG or S2CG)

Installer-supplied items

- Power wiring.
- Low-voltage wiring (18 AWG minimum).
- Secure mounting pad or foundation.
- Refrigerant piping (if not purchased from EMI).
- High-voltage disconnect.
- Refrigerant for charging interconnect piping.

Table 2 Dimensional data, sound data and shipping weights

Model	Size Btu	Unit dimensions Inches (mm)			Sound level dBA	Shipping weight Lbs (kg)
		A	B	C		
S1CG/S1HG9	9,000	24 (610)	15 (381)	36 (914)	59	98 (44.5)
S1CG/S1HG2	12,000	24 (610)	15 (381)	36 (914)	59	98 (44.5)
S1CG/S1HG8	18,000	32 (813)	15 (381)	36 (914)	62	156 (70.9)
S1CG/S1HG4	24,000	32 (813)	15 (381)	40 (1016)	63	156 (70.9)
S1CG3	30,000	38 (965)	15 (381)	44 (1118)	68	210 (95.5)
S2CG	18,000/21,000/24,000	38 (965)	15 (381)	44 (1118)	68	197 (89.6)
S2HG	18,000/21,000/24,000	38 (965)	15 (381)	44 (1118)	68	197 (89.6)
S1CG6	36,000	38 (965)	15 (381)	48 (1219)	68	210 (95.5)

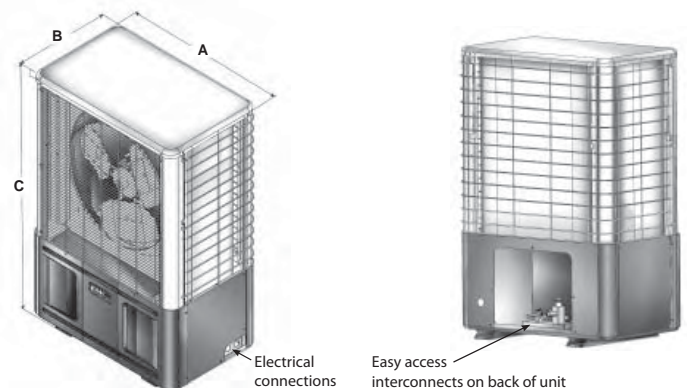
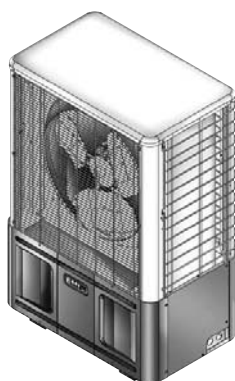


Table 3 Cooling Operational Ranges

Unit	Voltage	Accessories Part Numbers (Quantity) Required *** Order ALL Kits Listed Under the Operational Range ***			
		Operational Range			
		32° to 115° F (0 to 46° C)	0° to 115° F (-18 to 46° C)		
		Crankcase Heater Kit	Crankcase Heater Kit	Fan Cycle Switch Kit	Architectural Louver/Hail Guard/Wind Baffle Kit
S1CG9000	115	550002072 (1)	550002072 (1)	550002074 (1)	
S1CG2000	208/230	550002073 (1)	550002073 (1)	550002074 (1)	550001577 (1)
S1CG8000	208/230	N/R	N/R	550002074 (1)	550001578 (1)
S1CG4000	208/230	N/R	N/R	550002074 (1)	550001602 (1)
S1CG3000	208/230	N/R	N/R	550002074 (1)	550001580 (1)
S2CG	208/230	550002073 (2)	550002073 (2)	550002074 (2)	550001580 (1)
S2HG	208/230	N/R	N/R	N/R	550001580 (1)
S1CG6000	208/230	N/R	N/R	550002074 (1)	550001581 (1)
S1HG9000	115	N/R	N/R	550002074 (1)	550001577 (1)
S1HG2000	208/230	N/R	N/R	550002074 (1)	550001577 (1)
S1HG8000	208/230	N/R	N/R	550002074 (1)	550001578 (1)
S1HG4000	208/230	N/R	N/R	550002074 (1)	550001602 (1)

Note: N/R - Not Required

CACG/CAHG/CACH/CAHH Air Handlers with S1CG/S1HG Condensers (continued)

S1CG/S1HG
Side Discharge

CACG/CAHG/CACH/CAHH

Table 4 Performance — cooling system with Cassette units

Condenser	Air Handlers	Btuh (Kw)	SEER	SHR	EER	Ref.
S1CG9000	CAH_09	9,000 (2.6)	13.0	0.77	11.8	R-410A
S1CG2000	CAH_12	12,000 (3.5)	13.0	0.67	11.5	R-410A
S1CG8000	CAH_24	18,000 (5.3)	13.0	0.75	11.9	R-410A
S1CG4000	CAH_24	24,000 (7.0)	13.0	0.69	11.9	R-410A
S1CG3000	CAH_30	30,000 (8.7)	13.0	0.77	11.9	R-410A
S1CG6000	CAH_36	36,000 (10.4)	13.0	0.72	11.5	R-410A

Table 5 Performance — heat pump system with Cassette units

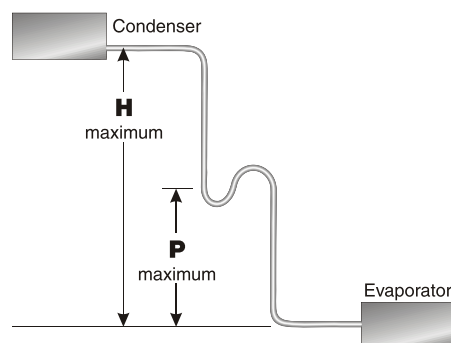
Heat Pump	Air Handlers	Cooling Btuh (Kw)	Heating Btuh (Kw)	SEER	HSPF	SHR	EER	COP	Ref.
S1HG9000	CAH_09	9,000 (2.6)	8,200 (2.4)	13.0	7.7	0.72	11.8	3.2	R-410A
S1HG2000	CAH_12	12,000 (3.5)	10,600 (3.1)	13.0	7.7	0.66	11.5	3.1	R-410A
S1HG8000	CAH_24	18,000 (5.3)	16,400 (4.7)	13.0	7.7	0.76	12.1	3.4	R-410A
S1HG4000	CAH_24	24,000 (7.0)	20,400 (5.9)	13.0	7.7	0.69	12.0	3.3	R-410A

Table 6 CAC_/CAH_ interconnecting line sizes

Capacity	Max. Equivalent Length	Max. Lift	Max. Trap Height	Liquid Line	Suction Line	Condensate Line
		"H"	"P"	O.D.	O.D.	I.D.
9,000	50'	20'	15'	1/4"	1/2"	1/2"
12,000	(15 m)	(6 m)	(5 m)	1/4"	1/2"	1/2"
18,000	100' (30 m)	35' (11 m)	20' (6 m)	3/8"	5/8" *	1/2"
24,000				3/8"	3/4"	1/2"
30,000				3/8"	3/4"	1/2"

* Must push down to 5/8" interconnect for 18K system

* Must bush down to 5/8" interconnect for 18K system



CACG/CAHG Air Handlers with T2CG, T3CG or T4CG Condensers

T2CG, T3CG or T4CG — description

EMI offers the finest 13 SEER high capacity multi-zone outdoor unit in the ductless split market. These top-discharge high-capacity condensing units allow the installation of up to four circuits from a single outside location when space or aesthetic requirements limit the use of locations. Each zone is independent and no mixing of refrigerant is required.

Features

- Compressors — Hermetically-sealed high-efficiency rotary or reciprocating types, depending on zone loads. Motors are PSC type with inherent overload protection. Compressors are installed on resilient mountings.
- All 9,000 Btuh units are equipped with a Duratec Performance Package that includes an oversized suction accumulator with surge baffles and enhanced oil management and a factory-installed solid core filter drier.
- Cabinet - Fabricated of G90U galvaneal steel, finished with corrosion inhibiting, polyester, powder coated paint (2,000 hr. salt spray tested). Fan Guard — Black vinyl coated. Cabinet Color — Light gray & black.
- Refrigeration Circuit — The T2C, T3C, and T4C are delivered with pre-charged refrigerant (R410A) for the condenser coils and evaporators. Charging of the field-installed piping is required. Unit refrigeration valves are solid brass, for sweat connection. Solid core filter driers are factory installed on all models with rotary compressors.
- Condenser Coil — The condenser coils are tested to 600 psig and are constructed of seamless copper tubing, arranged in staggered configuration, with enhanced aluminum fins. The tubes are mechanically expanded for secure bonding to fin shoulder.
- Condenser Fan/Motor — The condenser fan is a large diameter, high efficiency, three or four blade (depending on capacity) aluminum propeller type, directly connected to the totally enclosed, PSC motor. The motor is fitted with internal thermal protection. These multi-zone units are a draw-through air flow design.

Controls and components (Factory-installed or supplied)

- Compressor and fan motor contactor
- Run capacitor
- Low voltage terminal connections
- High pressure switch with manual external reset
- Cooling operation down to 60° F (15.6° C) standard on all units
- Models 9,000-12,000 Btuh only:
 - Large capacity suction accumulator
 - Solid-core filter drier

System options

- Corrosion-resistant coil options (sea coast and harsh environment usage):
 - Copper fin/copper tube condenser coil.
 - Coated aluminum fin/copper tube condenser coil.
- Low Ambient controls for cooling operation down to 0° F (standard equipment can operate down to 32°F)
 - Optional field-installed kit, when specified, for cooling operation down to 0°F — kit includes control, louvers and wind baffle plus installation instructions.
 - Low Ambient controls for operation down to 0° F (consult factory for availability)
- Hard-start assist.

Installer-supplied items

- Power wiring.
- Low-voltage wiring (18 awg minimum).
- Secure mounting pad or foundation.
- Refrigerant piping (if not purchased from EMI).
- High-voltage disconnect.
- Refrigerant for charging interconnect piping.

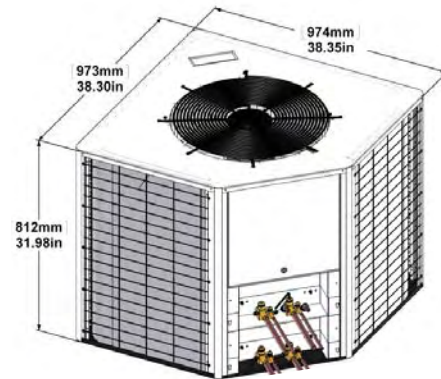


Table 7 Dimensional data, sound data and shipping weights

Model	Size	Sound level dBA	Shipping weight	
			Lbs	kg
T2CG	2400	70	325	147
T2CG	4400	70	325	147
T2CG	8800	70	325	147
T2CG	9800	70	325	147
T3CG	2240	70	325	147
T3CG	9980	70	325	147
T3CG	9990, 2220, 9920	70	325	147
T4CG	2222, 9922, 9992, 9999	70	325	147

Table 8 Operational Ranges

Unit	Size	Accessories Part Numbers (Quantity) Required *** Order ALL Kits Listed Under the Operational Range ***			
		Operational Range			
		32° to 115° F (0 to 46° C)	0° to 115° F (-18 to 46° C)		
		Crankcase Heater Kit	Crankcase Heater Kit	Fan Cycle Switch Kit	Architectural Louver/Hail Guard/ Wind Baffle Kit
T2CG	2400, 9800	550002073 (1)	550002073 (1)	550002074 (2)	550002057
T2CG	4400, 8800	N/R	N/R	550002074 (2)	550002057
T3CG	2240, 9980	550002073 (2)	550002073 (2)	550002074 (3)	550002057
T3CG	9990, 2220, 9920	550002073 (3)	550002073 (3)	550002074 (3)	550002057
T4CG	2222, 9922, 9992, 9999	550002073 (4)	550002073 (4)	550002074 (4)	550002057

Note: N/R - Not Required



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CACG/CAHG CACH/CAHH

R-410A High-Efficiency Ductless Split System Cassette
Air Handlers with EMI condensers

Straight cool / Heat pump nominal capacities			
CAHG09 CAHH09	CAHG12 CAHH12	CAHG24 CAHH24	Units
9,000	12,000	18,000 - 24,000	Btuh
2.6	3.5	5.3 - 7.0	kW
Straight cooling only — nominal capacity			
CACG 36 & CACH 36			Units
30,000 / 36,000			Btuh
8.8 / 10.5			kW

Engineering Submittal

Job Name:

Location:

Customer:

Project Engineer:

Project Architect:

General Contractor:

Submitted by:

For: Reference [] Approval []

Date:

NOTICE

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P/N 240007992, Rev. F [03/19/2010]

Please fill in the boxes below to specify the air handler units' codings

Selection 1

Quantity required:

C	A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Selection 2

Quantity required:

C	A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Type [**CA** = cassette air handler]

Operation [**C** = cooling—DX]
[**H** = heat pump (CA09–24 only)]

Revision [**G** = R-410A refrigerant | wall thermostat]
[**H** = R-410A refrigerant | infrared control / wall thermostat]

Capacity [**09** = 9,000 Btuh]
[**12** = 12,000 Btuh]
[**24** = 18 / 24,000 Btuh]
[**36** = 30 / 36,000 Btuh (cooling only)]

Auxiliary heat:

[**0** = no auxiliary heat]
[**1** = 1.5 kw — CAHG/CAHH 09-12 only]
[**3** = 3 kw — CAHG/CAHH 24 only]
[**5** = 5 kw — CACG/CACH 36 only]

Voltage [**D** = 208/230 VAC]

EXAMPLES

C	A	C	G	3	6	D	5
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Cooling application | Wall thermostat |
30 / 36,000 Btuh capacity | 208/230 VAC | 5 kw auxiliary heat

C	A	H	H	2	4	D	3
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Heat pump application | Infrared control |
18 / 24,000 Btuh capacity | 208/230 VAC | 3 kw auxiliary heat

Please check the boxes below to specify optional field-installed accessories

<input type="checkbox"/>	Remote thermostat for air handler	<input type="checkbox"/>	Refrigerant line set, 10-feet
<input type="checkbox"/>	Wind baffle / hail guard, architectural louver kit (required for cooling operation to 0°F (-18°C))	<input type="checkbox"/>	Refrigerant line set, 25-feet
<input type="checkbox"/>	Crankcase Heater (S1CG 9,000 - 12,000 Btuh only) required for cooling operating below 60°F (15°C)	<input type="checkbox"/>	Refrigerant line set, 50-feet
<input type="checkbox"/>	Fan Cycle Switch (required for cooling operation below 32°F (0°C))	<input type="checkbox"/>	Hard Start Kit (S1C only)

Please fill in the boxes below to specify the condenser unit coding

Type [**S** = side discharge]
 [**T** = top discharge]

Number of zones [**1** or **2**]

Cooling [**C**] or heat pump [**H**]

Revision (Revision G is R-410A)

Capacity
 Zone 1
 Zone 2
 Zone 3
 Zone 4

Voltage [**A** = 115 VAC (S1C/H 9,000-12,000 Btuh only)]
 [**D** = 208/230 VAC (optional on 09-12 S1C/H; mandatory on all other units)]

Control [**0** = Low volt (ALL S/C units)]
 [**1** = 32°F Low ambient (ALL heat pump units)]

Coil [**0** = Aluminum/copper, std]
 [**1** = Copper/copper]
 [**2** = Coated]

Quantity required:

Capacity code	
Individual zone capacity	
Code	Capacity Btuh
0	Empty zone
9	9,000
2	12,000
8	18,000
4	24,000
3	30,000 *
6	36,000 *

* Straight cooling units ONLY

Max total capacity	
Multi-zone units	
(S) 2 zones	24,000 Btuh max total
(T) 4 zones	48,000 Btuh max total

Available Units			
(S)	Description	(T)	Description
Capacity codes	(Max combined capacity = 24,000 Btuh)	Capacity code	(Maximum combined capacity = 48,000 Btuh)
9000	One zone 9,000 Btuh	2400	Two zones 12,000 / 24,000 Btuh
2000	One zone 12,000 Btuh	4400	Two zones 24,000 / 24,000 Btuh
8000	One zone 18,000 Btuh	8800	Two zones 18,000 / 18,000 Btuh
4000	One zone 24,000 Btuh	9800	Two zones 9,000 / 18,000 Btuh
3000 *	One zone 30,000 Btuh	2220	Three zones 12,000 / 12,000 / 12,000 Btuh
6000 *	One zone 36,000 Btuh	2240	Three zones 12,000 / 12,000 / 24,000 Btuh
9900	Two zones 9,000 / 9,000 Btuh	9920	Three zones 9,000 / 9,000 / 12,000 Btuh
9200	Two zones 9,000 / 12,000 Btuh	9980	Three zones 9,000 / 9,000 / 18,000 Btuh
2200	Two zones 12,000 / 12,000 Btuh	9990	Three zones 9,000 / 9,000 / 9,000 Btuh
* Available in straight cooling units ONLY		9999	Four zones 9,000 / 9,000 / 9,000 / 9,000 Btuh
		9922	Four zones 9,000 / 9,000 / 12,000 / 12,000 Btuh
		2222	Four zones 12,000 / 12,000 / 12,000 / 12,000 Btuh

EXAMPLES

S 1 C G 8 0 0 0 D 0 1

Side discharge | one zone | cooling only | rev. G | 18,000 Btuh | 208/230 V | standard low volt control | copper fin, copper coil

T 2 H G 9 8 0 0 D 1 2

Top discharge | two zones | heat pump | rev. G | 9,000 / 18,000 Btuh | 208/230 V | 32°F Low ambient control | coated exchanger

S 2 H G 9 2 0 0 D 1 0

Side discharge | two zones | heat pump | rev. G | 9,000 / 12,000 Btuh | 208/230 V | 32°F Low ambient control | aluminum fin, copper coil

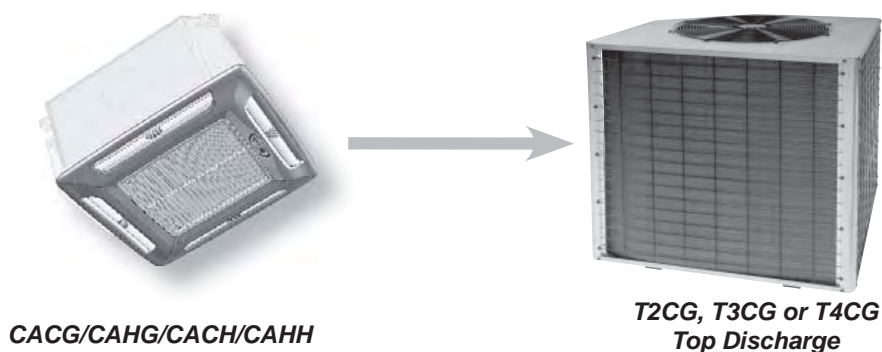
T 4 C G 9 9 2 2 D 0 0

Top discharge | four zones | cooling only | rev. G | 9,000 / 9,000 / 12,000 / 12,000 Btuh | 208/230 V | standard low volt control | aluminum fin, copper coil

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An ISO 9001-2000 Certified Company

CACG/CAHG Air Handlers with T2CG, T3CG or T4CG Condensers *(continued)*

Table 9 Straight cool systems with cassette units (___ = G or H)

Condenser	Cassette	Cooling Btuh	SEER	SHR	EER	Ref.
T2CG2400*	CAH_24	35,800	13.0	0.69	11.5	410A
T2CG4400*	CAH_24	47,600	13.0	0.67	11.5	410A
T2CG9800**	CAH_24	27,000	13.0	0.76	11.5	410A
T2CG8800**	CAH_24	36,000	13.0	0.74	11.5	410A
T3CG9980**	CAH_24	36,000	13.0	0.76	11.5	410A
T3CG2240*	CAH_24	47,800	13.0	0.71	11.5	410A

*24,000 Btu zone matched with CAH_ only

**18,000 Btu zone matched with CAH_ only

Table 10 CAC_/CAH_ interconnecting line sizes

Model/ Zone	Max. Length	Max. Lift	Max. Trap Height	Liquid Line	Suction Line	Condensate Line	Model/ Zone	Max. Length	Max. Lift	Max. Trap Height	Liquid Line	Suction Line	Condensate Line
		"H"	"P"	O.D.	O.D.	I.D.					O.D.	O.D.	I.D.
09	50'	20'	15'	1/4"	1/2"	1/2"	18				3/8"	5/8"	1/2"
12	(15 m)	(6 m)	(5 m)	1/4"	1/2"	1/2"	24				3/8"	3/4"	1/2"
							30	100'	35'	20'	3/8"	3/4"	1/2"
							36	(30 m)	(11 m)	(6 m)	3/8"	3/4"	1/2"

CACG/CAHG Air Handlers with T2HG, T3HG or T4HG Condensers

T2HG, T3HG or T4HG — description

EMI offers the finest multi-zone heat pump outdoor units in the ductless split market, the T series (T2HB, T3HB & T4HB) condensing units. These units allow the installation of two or more circuits from a single outside location, ideal for when space or aesthetic requirements limit the use of the number of cabinets outdoors. Each zone is independent so no mixing of refrigerant occurs.

NOTICE

When specifying heat pump(s), it is recommended that the matching indoor unit(s) be equipped with electric heat.

Features

- Compressors — Hermetically-sealed high-efficiency rotary or reciprocating types, depending on zone loads. Motors are PSC type with inherent overload protection. Compressors are installed on resilient mountings.
- All 9,000-12,000 Btuh units are equipped with a Duratec Performance Package that includes an oversized suction accumulator with surge baffles and enhanced oil management and a factory-installed solid core filter drier.
- Cabinet - Fabricated of G90U galvaneal steel, finished with corrosion inhibiting, polyester, powder coated paint (2,000 hr. salt spray tested). Fan Guard — Black vinyl coated. Cabinet Color — Light gray & black.
- Refrigeration Circuit — The T2C, T3C, and T4C are delivered with pre-charged refrigerant (R410A) for the condenser coils and evaporators. Charging of the field-installed piping is required. Unit refrigeration valves are solid brass, for sweat connection. Solid core filter driers are factory installed on all models with rotary compressors.
- Condenser Coil — The condenser coils are tested to 600 psig and are constructed of seamless copper tubing, arranged in staggered configuration, with enhanced aluminum fins. The tubes are mechanically expanded for secure bonding to fin shoulder.
- Condenser Fan/Motor — The condenser fan is a large diameter, high efficiency, three or four blade (depending on capacity) aluminum propeller type, directly connected to the totally enclosed, PSC motor. The motor is fitted with internal thermal protection. These multi-zone units are a draw-through air flow design.
- All 18,000 and 24,000 Btuh circuit units include a solid core filter drier and high pressure limit switch. The 18,000 Btuh circuits also include a large capacity suction accumulator with surge baffles and enhanced oil management.

Controls and components (factory installed and supplied)

- Compressor and fan motor contactor
- Run capacitor
- Low voltage terminal connections
- High pressure switch with manual external reset
- Heat pump hard start
- Cooling operation down to 32° F (0° C) standard on all units
- Cooling operation only available down to 32° F (0° C)
- Models 9,000-12,000 Btuh only:
 - Large capacity suction accumulator
 - Solid-core filter drier

Thermostatically-controlled crankcase heater

- This feature energizes the crankcase heater only when needed, saving unnecessary power usage and increasing overall system efficiency.

System options

- Corrosion-resistant coil options (sea coast and harsh environment usage):
 - Copper fin/copper tube condenser coil.
 - Coated aluminum fin/copper tube condenser coil.
- Wind baffles — louvers.

Installer-supplied items

- Power wiring.
- Low-voltage wiring (18 awg minimum).
- Secure mounting pad or foundation.
- Refrigerant piping (if not purchased from EMI).
- High-voltage disconnect.
- Refrigerant for charging interconnect piping.

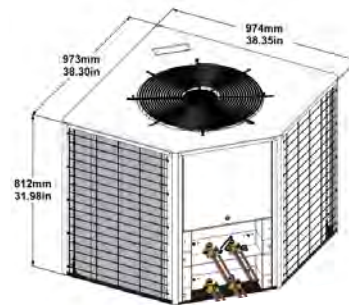


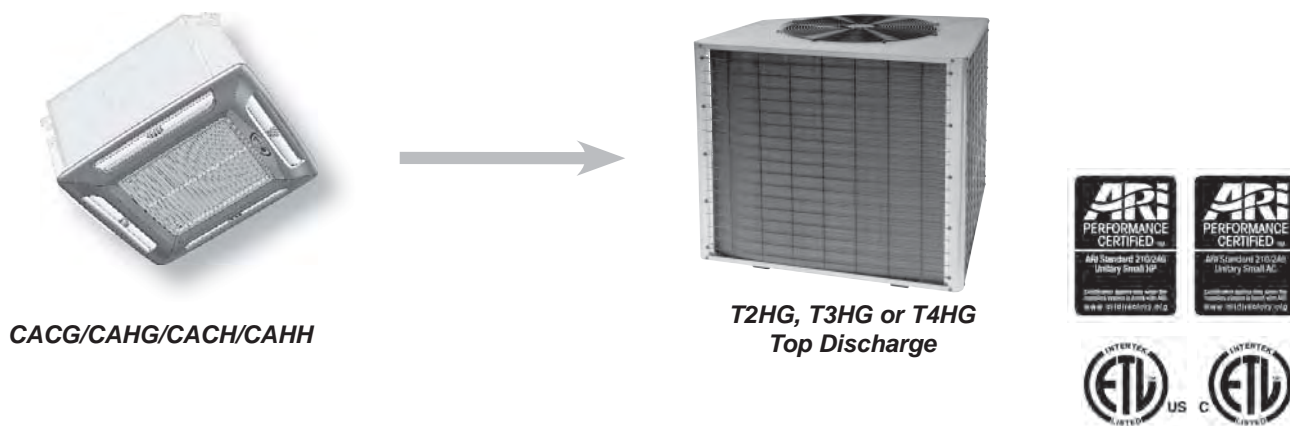
Table 15 Dimensional data, sound data and shipping weights

Model	Size	Sound level dBA	Shipping weight	
			Lbs	kg
T2HG	2400	70	325	147
T2HG	4400	70	325	147
T2HG	8800	70	325	147
T2HG	9800	70	325	147
T3HG	2240	70	325	147
T3HG	9980	70	325	147
T3HG	9990, 2220, 9920	70	325	147
T4HG	2222, 9922, 9992, 9999	70	325	147

Table 16 Cooling Operational Ranges

Unit	Size	Accessories Part Numbers (Quantity) Required *** Order ALL Kits Listed Under the Operational Range ***			
		Operational Range			
		32° to 115° F (0 to 46° C)	0° to 115° F (-18 to 46° C)		
		Crankcase Heater Kit	Crankcase Heater Kit	Fan Cycle Switch Kit	Architectural Louver/Hail Guard/ Wind Baffle Kit
T2HG	2400, 9800	N/R	N/R	N/R	550002057
T2HG	4400, 8800	N/R	N/R	N/R	550002057
T3HG	2240, 9980	N/R	N/R	N/R	550002057
T3HG	9990, 2220, 9920	N/R	N/R	N/R	550002057
T4CG	2222, 9922, 9992, 9999	N/R	N/R	N/R	550002057

Note: N/R - Not Required

CACG/CAHG Air Handlers with T2HG, T3HG or T4HG Condensers (continued)

Table 17 Heat pump systems with cassette units (___ = G or H)

Condenser	Cassette	Cooling Btuh	Heating Btuh	SEER	HSPF	SHR	EER	COP	Ref.
T2HG2400*	CAH_24	35,800	32,400	13.0	7.7	0.69	11.5	3.2	410A
T2HG4400*	CAH_24	47,500	44,000	13.0	7.7	0.67	11.5	3.1	410A
T2HG9800**	CAH_24	27,000	25,000	13.0	7.7	0.76	11.5	3.4	410A
T2HG8800**	CAH_24	36,000	33,000	13.0	7.7	0.74	11.5	3.4	410A
T3HG9980**	CAH_24	36,000	33,500	13.0	7.7	0.76	11.5	3.4	410A
T3HG2240*	CAH_24	47,800	42,800	13.0	7.7	0.71	11.5	3.1	410A

*24,000 Btu zone matched with CAH_ only

**18,000 Btu zone matched with CAH_ only

Table 18 CAC_/CAH_ Interconnecting line sizes

Model/ Zone	Max. Length	Max. Lift	Max. Trap Height	Liquid Line	Suction Line	Condensate Line	Model/ Zone	Max. Length	Max. Lift	Max. Trap Height	Liquid Line	Suction Line	Condensate Line
		"H"	"P"	O.D.	O.D.	I.D.			"H"	"P"	O.D.	O.D.	I.D.
09	50'	20'	15'	1/4"	1/2"	1/2"	18				3/8"	5/8"	1/2"
12	(15 m)	(6 m)	(5 m)	1/4"	1/2"	1/2"	24				3/8"	3/4"	1/2"
							30	100'	35'	20'	3/8"	3/4"	1/2"
							36	(30 m)	(11 m)	(6 m)	3/8"	3/4"	1/2"

Electrical Specifications

NOTICE

Due to ongoing product development, designs, specifications, and performance are subject to change without notice. Please consult the factory for further information.

Table 19 Electrical specifications — CACG/CACH/CAHG/CAHH

MODEL	VOLTS/HZ/PH	FAN RLA	HP	HEATER K.W.	AMPS	TOTAL AMPS	MIN VOLT	M.C.A.	HACR BRKR
CAHG/HH 09	208/230/60/1	0.35	1/10	–	–	0.4	197	0.5	15
CAHG/HH 09	208/230/60/1	0.35	1/10	1.5	6.52	6.9	197	8.6	15
CAHG/HH 12	208/230/60/1	0.35	1/10	–	–	0.4	197	0.5	15
CAHG/HH 12	208/230/60/1	0.35	1/10	1.5	6.52	6.9	197	8.6	15
CAHG/HH 24	208/230/60/1	0.55	1/10	–	–	0.6	197	0.7	15
CAHG/HH 24	208/230/60/1	0.55	1/10	3	13.04	13.6	197	17	20
CACG/CH 36	208/230/60/1	0.5, 0.5	1/10, 1/10	–	–	1	197	1.2	15
CACG/CH 36	208/230/60/1	0.5, 0.5	1/10, 1/10	5	21.74	22.7	197	28.3	30

Table 20 Electrical specifications — S1CG/S1HG,S2CG/S2HG

Model #	Volts/HZ/PH	Fan Motor		Compressor				Total amps	Min volt	M.C.A.	HACR BRKR
				Circuit 1		Circuit 2					
		AMPS	HP	RLA	LRA	RLA	LRA				
S1CG9000A S1HG9000A	115/60/1	1.4	0.125	7.5	47	N/A		8.9	104	10.8	15
S1CG2000A S1HG2000A	115/60/1	1.4	0.125	9.9	53	N/A		11.3	104	13.8	20
S1CG9000D S1HG9000D	208/230/60/1	0.8	0.125	3.9	20	N/A		4.7	197	5.7	15
S1CG2000D S1HG2000D	208/230/60/1	0.8	0.125	5.2	27	N/A		6.0	197	7.3	15
S1CG8000D S1HG8000D	208/230/60/1	0.8	0.125	5.9	43	N/A		6.7	197	8.2	15
S1CG4000D S1HG4000D	208/230/60/1	0.8	0.125	8.0	43	N/A		8.8	197	10.8	15
S1CG3000D	208/230/60/1	1.8	0.330	11.6	74	N/A		13.4	197	16.3	25
S1CG6000D	208/230/60/1	1.8	0.330	11.5	79	N/A		13.3	197	16.2	25
S2CG2200D S2HG2200D	208/230/60/1	1.8	0.330	5.2	27	5.2	27	9.6	197	10.6	15
S2CG9200D S2HG9200D	208/230/60/1	1.8	0.330	3.9	20	5.2	27	10.9	197	12.2	15
S2CG9900D S2HG9900D	208/230/60/1	1.8	0.330	3.9	20	3.9	20	12.2	197	13.5	15
M.C.A. - minimum circuit amps											

M.C.A. - minimum circuit amps

Table 21 Electrical specifications — T2CG/T3CG/T4CG, T2HG/T3HG/T4HG

Model #	Volts/HZ/PH	Fan Motor		Compressor Zone-1		Compressor Zone-2		Compressor Zone-3		Compressor Zone-4		Total amps	Min volt	M.C.A.	HACR BRKR
		AMPS	HP	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA				
T2CG2400D	208/230/60/1	1.8	0.33	5.2	27	8.2	58.3					15.2		17.3	25
T2CG4400D	208/230/60/1	1.8	0.33	8.2	58.3	8.2	58.3					18.2	197	20.3	25
T2CG8800D	208/230/60/1	1.8	0.33	5.9	43	5.9	43					13.6	197	15.1	20
T2CG9800D	208/230/60/1	1.8	0.33	3.9	20	5.9	43					11.6	197	13.1	15
T3CG2220D	208/230/60/1	1.8	0.33	5.2	27	5.2	27	5.2	27			17.4	197	18.7	20
T3CG2240D	208/230/60/1	1.8	0.33	5.2	27	5.2	27	8.2	58.3			20.4	197	22.5	30
T3CG9920D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	5.2	27			14.8	197	16.1	20
T3CG9990D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	3.9	20			13.5	197	14.5	15
T3CG9980D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	5.9	43			15.5	197	17	20
T4CG2222D	208/230/60/1	1.8	0.33	5.2	27	5.2	27	5.2	27	5.2	27	22.6	197	23.9	25
T4CG9922D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	5.2	27	5.2	27	20	197	21.3	25
T4CG9992D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	3.9	20	5.2	27	18.7	197	20	25
T4CG9999D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	3.9	20	3.9	20	17.4	197	18.4	20
T2HG2400D	208/230/60/1	1.8	0.33	5.2	27	8.2	58.3					15.2	197	17.3	25
T2HG4400D	208/230/60/1	1.8	0.33	8.2	58.3	8.2	58.3					18.2	197	20.3	25
T2HG8800D	208/230/60/1	1.8	0.33	5.9	43	5.9	43					13.6	197	15.1	20
T2HG9800D	208/230/60/1	1.8	0.33	3.9	20	5.9	43					11.6	197	13.1	15
T3HG2220D	208/230/60/1	1.8	0.33	5.2	27	5.2	27	5.2	27			17.4	197	18.7	20
T3HG2240D	208/230/60/1	1.8	0.33	5.2	27	5.2	27	8.2	58.3			20.4	197	22.5	30
T3HG9920D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	5.2	27			14.8	197	16.1	20
T3HG9980D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	5.9	43			15.5	197	17	20
T3HG9990D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	3.9	20			13.5	197	14.5	15
T4HG2222D	208/230/60/1	1.8	0.33	5.2	27	5.2	27	5.2	27	5.2	27	22.6	197	23.9	25
T4HG9922D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	5.2	27	5.2	27	20	197	21.3	25
T4HG9992D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	3.9	20	5.2	27	18.7	197	20	25
T4HG9999D	208/230/60/1	1.8	0.33	3.9	20	3.9	20	3.9	20	3.9	20	17.4	197	18.4	20

M.C.A. - minimum circuit amps

Notes

Notes

EMI's Product Line

Indoor Units

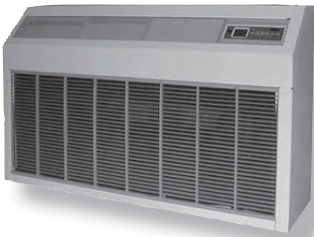
WLCG/WLHG
High Wall Air Handler



CACG/CAHG
Cassette Air Handler

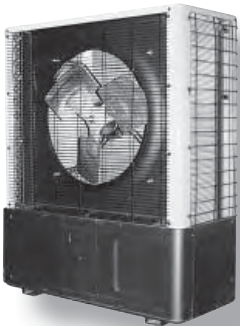


UNCG/UNHG
Universal Floor or Ceiling Air Handler



Outdoor Units

S2CG/S2HG Dual Zone
Side Discharge



S1CG/S1HG
Single Zone
Side Discharge

**T2CG/T2HG, T3CG/
T3HG, and
T4CG/T4HG 2, 3 and
4 Zone**
Top Discharge



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