

SPECIFICATIONS AND PERFORMANCE



Comfort Where It Counts.



Cassette 12 Model Shown

Heat Pump Nominal Circuit Capacities:
9,000 - 12,000 - 18,000 - 24,000 Btuh

Straight Cool Nominal Circuit Capacities:
30,000 - 36,000 Btuh

PRODUCT DESCRIPTION

The EMI AmericaSeries Cassette Air Handler is 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*, electric heat is a factory installed option ONLY (there are no field installed electric heat kits available), fresh air inlet and branch duct knockouts, and motorized air vanes (Cassette 24 & 36 only). 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 working environment.

Additionally, the CAHB/CACB models utilize an Infrared Hand Held Controller providing access to the programmability functions of the control.

Due to ongoing product development, all designs and specifications are subject to change without notice.

* Condensate pump lift measured from the base or bottom of the unit.

STANDARD FEATURES

Capacities/Efficiency - This American-made Cassette Air Handler produces system SEER's meeting or exceeding 13, when matched with EMI's S1CA/S1HA single zone or S2CA/S2HA dual zone side discharge, T2CA/T2HA, T3CA/T3HA, and T4CA/T4HA top discharge condensing units. Refer to specifications contained in this document.

CACA/CAHA & CACB/CAHB CASSETTE DUCTLESS SPLIT SYSTEM AIR HANDLER

P/N 240005843 Rev. 1.4 [01/08]

Materials of Construction - Galvanized steel cabinet with fire-resistant thermal and acoustic foam insulation and light grey high-impact ABS fascia. An 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, Cassette 12 & 24, designed with fire retardant plastic or aluminum impellers.
Twin Fan models, Cassette 36, 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 (2 on Cassette 12).
Four plastic air vanes; motor driven with auto sweep or fixed position stop setting on models Cassette 24 & 36 (models Cassette 12 equipped with manually adjusted air vanes).

Coil - Is seamless, rifled 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 R22 refrigerant only.

Controls and Components (factory installed or supplied):

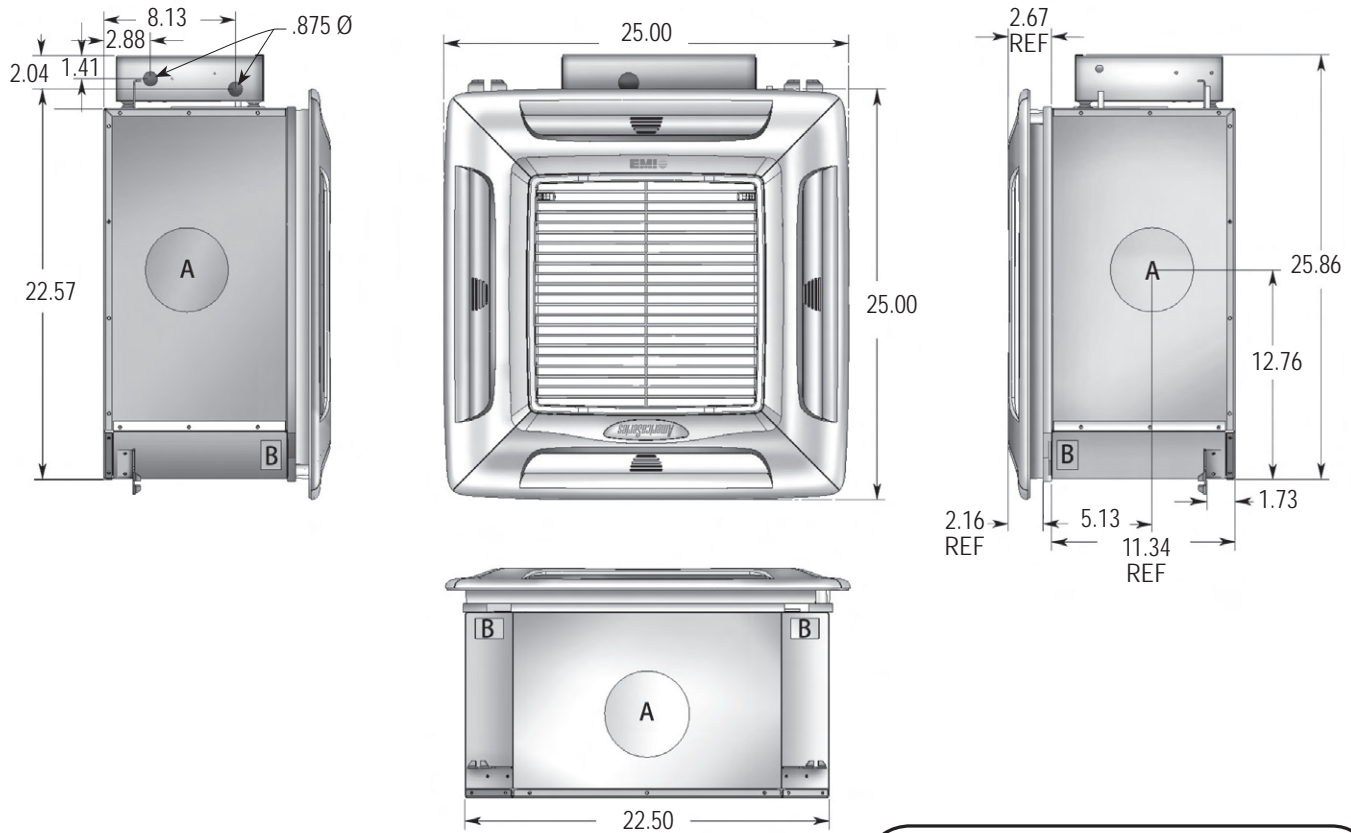
- Connections for 24V remote wall thermostat (All models)
Custom control board featuring 7-day, 4 event/day, programmability configuration, and multiple modes of operation (CACB & CAHB only)
Controls also feature anti-short cycle timer, post purge fan relay, and an on board 30 amp electric heat relay (All models)
Condensate Pump with 36" (0.9 m) lift measured from base of unit (All models)
Infrared Hand Held Controller (CACB/CAHB only)
24V / 40VA Transformer (All models)

System Options:

- 24V remote wall thermostat
Electric Heat (@ 230V), 1.5 kW (Cassette 12), 3 kW (Cassette 24) and 5 kW (Cassette 36)

CASSETTE DIMENSIONS

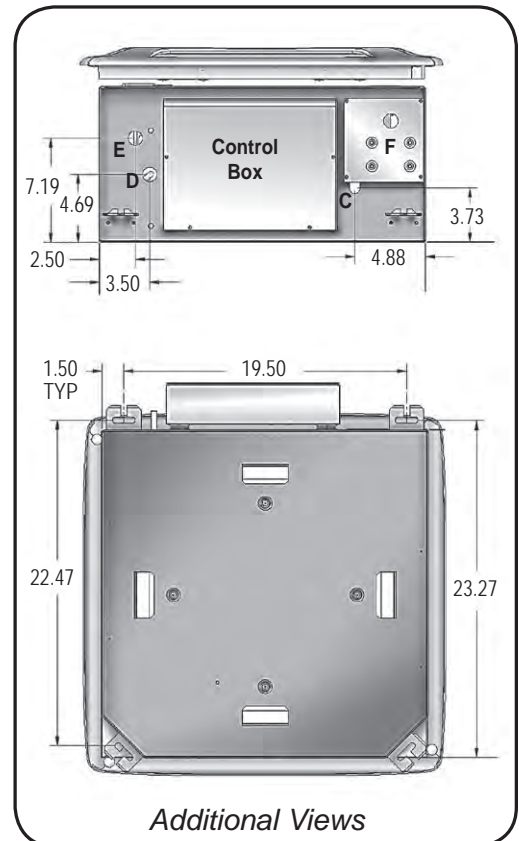
SMALL CABINET • Cassette 12 • 9,000 - 12,000 Btuh



Note: All dimensions in inches.

Cassette 12

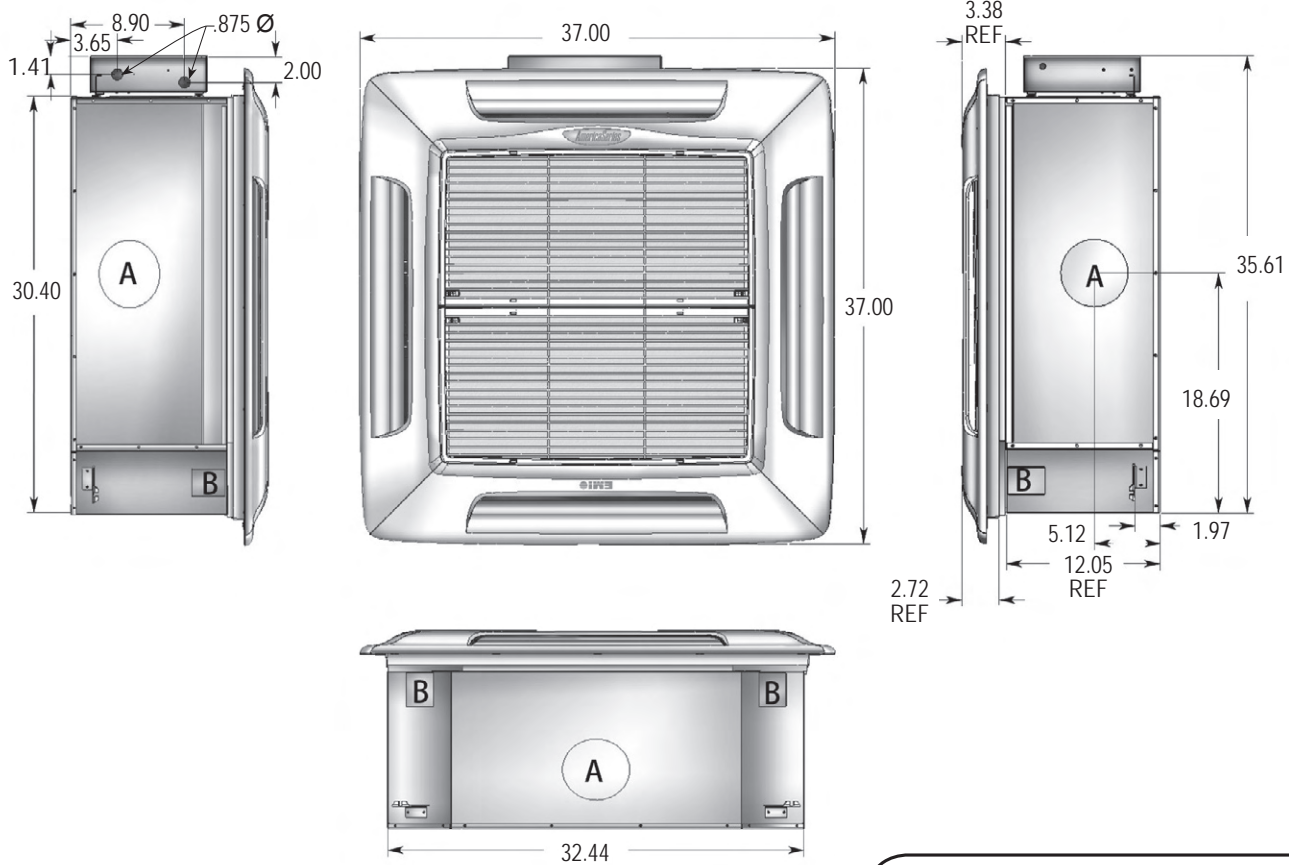
| FEATURE | QTY. | SIZE |
|--------------------------------------|------|-----------------|
| A Optional Discharge Knockout | 3 | 5/4" Ø |
| B Fresh Air Inlet Knockout | 2 | 1 1/4" x 2 1/2" |
| C Condensate Discharge | 1 | 1/2" Ø |
| D Suction | 1 | 1/2" Ø |
| E Liquid | 1 | 1/4" Ø |
| F Condensate Pump Access | 1 | - |



Additional Views

CASSETTE DIMENSIONS

MEDIUM CABINET • Cassette 24 • 18,000* - 24,000 Btuh

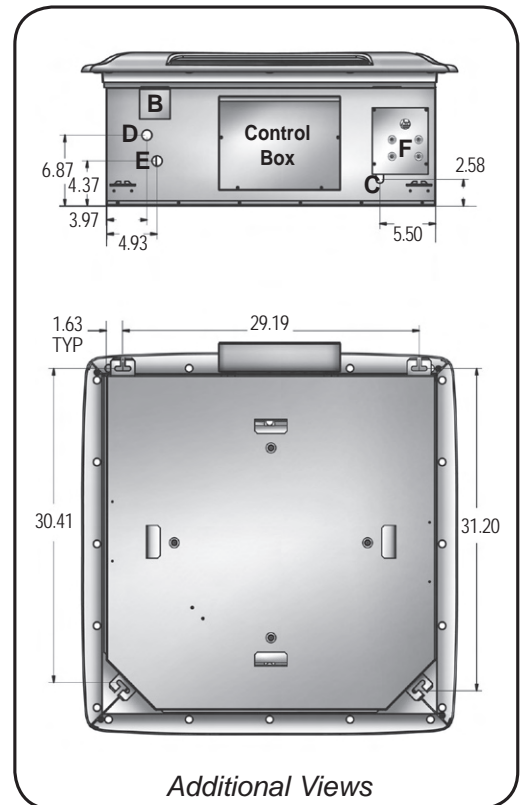


Note: All dimensions in inches.

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 | - |

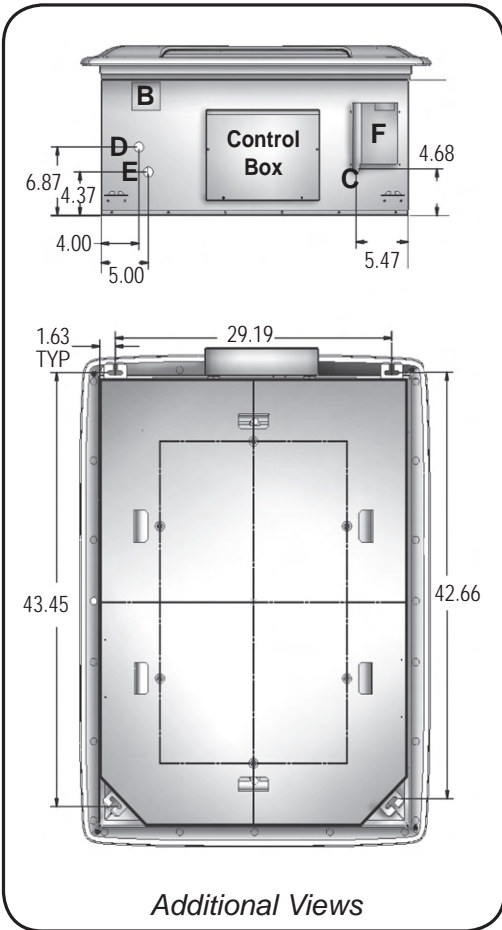
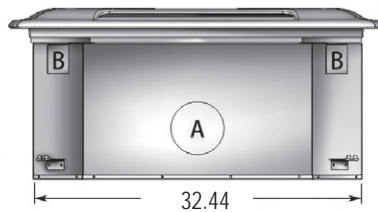
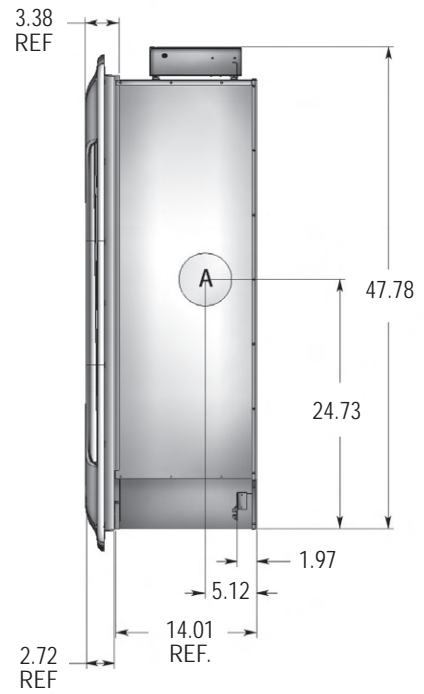
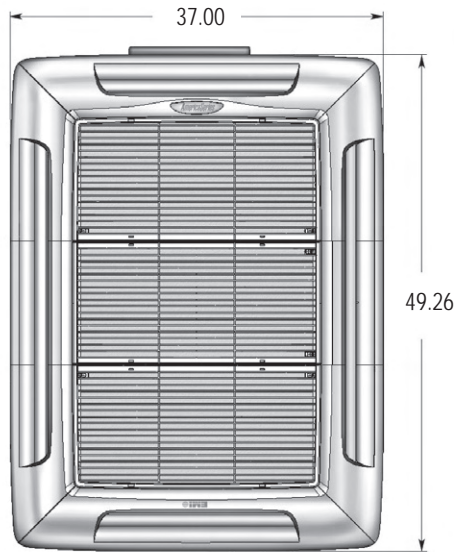
*18,000 Btuh must be bushed down to ¾"



Additional Views

CASSETTE DIMENSIONS

LARGE CABINET • Cassette 36 • 30,000 - 36,000 Btuh



Note: All dimensions in inches.

Cassette 36

| FEATURE | QTY. | SIZE |
|---------|------|---------|
| A | 3 | 5/4" Ø |
| B | 3 | 3" x 3" |
| C | 1 | 1/2" Ø |
| D | 1 | 3/4" Ø |
| E | 1 | 3/8" Ø |
| F | 1 | - |

ELECTRICAL SPECIFICATIONS AND PERFORMANCE DATA

NOTE: Due to EMI's ongoing product development program, all designs and specifications are subject to change without notice.

| CASSETTE ELECTRICAL SPECIFICATIONS | | | | | | | | | |
|------------------------------------|--------------|----------|------------|------------|-------|------------|----------|--------|-----------|
| Model # | Fan Motor | | | Elect Heat | | Total AMPS | Min Volt | M.C.A. | HACR BRKR |
| | Volts/HZ/PH | RLA | H.P. | kW | AMPS | | | | |
| CAH_12 | 208/230/60/1 | 0.35 | 1/10 | – | – | 0.4 | 197 | 0.5 | 15 |
| CAH_12 | 208/230/60/1 | 0.35 | 1/10 | 1.5 | 6.52 | 6.9 | 197 | 8.6 | 15 |
| CAH_24 | 208/230/60/1 | 0.55 | 1/8 | – | – | 0.6 | 197 | 0.7 | 15 |
| CAH_24 | 208/230/60/1 | 0.55 | 1/8 | 3 | 13.04 | 13.6 | 197 | 17.0 | 20 |
| CAC_36 | 208/230/60/1 | 0.5, 0.5 | 1/10, 1/10 | – | – | 1.0 | 197 | 1.2 | 15 |
| CAC_36 | 208/230/60/1 | 0.5, 0.5 | 1/10, 1/10 | 5 | 21.74 | 22.7 | 197 | 28.3 | 30 |

| DISCHARGE AIR VOLUME "Dry Coil" | | |
|------------------------------------|-----------------|-----------------|
| Model | High Speed CFM | Low Speed CFM |
| 12 | 380 (180 L/S) | 335 (158 L/S) |
| 24 | 700 (330 L/S) | 620 (293 L/S) |
| 36 | 1,300 (614 L/S) | 1,160 (548 L/S) |

| INDOOR SOUND LEVELS (dBA) | | |
|---------------------------|------------|-----------|
| Model | High Speed | Low Speed |
| 12 | 41 | 39 |
| 24 | 44 | 42 |
| 36 | 51 | 49 |

| SHIPPING WEIGHT | |
|-----------------|---------------|
| Model Size | Lbs. |
| 12 | 70 (31.8 kg) |
| 24 | 108 (49.1 kg) |
| 36 | 146 (66.4 kg) |

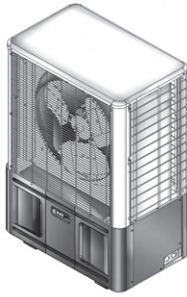
| CASSETTE TECHNICAL DATA | | | |
|-------------------------|-------------------|-----------|-----------|
| REFRIGERATION | 12 | 24 | 36 |
| Refrigerant Type | R22 | | |
| CONNECTIONS | 12 | 24 | 36 |
| Suction | 1/2" | 3/4"* | 3/4" |
| Liquid | 1/4" | 3/8" | 3/8" |
| Condensate Drain | 1/2" I.D. | 1/2" I.D. | 1/2" I.D. |
| Branch Duct | 5 1/4" Ø | 5 1/4" Ø | 5 1/4" Ø |
| Fresh Air Duct | 1 1/4 x 2 1/2" | 3" x 3" | 3" x 3" |
| FILTRATION | 12 | 24 | 36 |
| Type | Washable Mesh | | |
| Quantity | 1 | 2 | 3 |
| Efficiency | 80% | | |
| CONDENSATE PUMP | 12 | 24 | 36 |
| Maximum Head | 36" (0.9 m)** | | |
| Min. Flow Rate | 2.5 GPH (9.5 l/h) | | |

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

** Measured from bottom of unit.

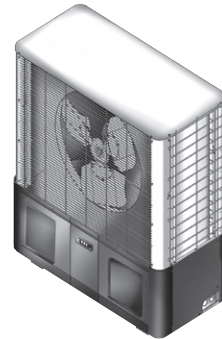
CASSETTE SYSTEM MATCHES

S1CA/S1HA
Side
Discharge



Cassette

S2CA/S2HA
Side
Discharge



NOTE: CAH_ refers to CAHA or CAHB
CAC_ refers to CACA or CACB

| COOLING SYSTEMS WITH CASSETTE UNITS | | | | | | |
|-------------------------------------|-----------|--------|------|------|------|------|
| Cassette | Condenser | Btuh | SEER | SHR | EER | Ref. |
| CAH_12 | S1CA9000 | 9,000 | 13.0 | 0.79 | 11.7 | R22 |
| CAH_12 | S1CA2000 | 11,800 | 13.0 | 0.72 | 12.2 | R22 |
| CAH_24 | S1CA8000 | 18,000 | 13.0 | 0.76 | 12.3 | R22 |
| CAH_24 | S1CA4000 | 23,000 | 13.0 | 0.67 | 11.8 | R22 |
| * CAC_36 | S1CA3000 | 30,000 | 14.0 | 0.82 | 12.0 | R22 |
| CAC_36 | S1CA6000 | 36,000 | 13.0 | 0.74 | 12.0 | R22 |

| SYSTEMS WITH HEAT PUMP CASSETTE UNITS | | | | | | | | | |
|---------------------------------------|-----------|--------------|--------------|------|------|------|------|-----|------|
| Cassette | Condenser | Cooling Btuh | Heating Btuh | SEER | HSPF | SHR | EER | COP | Ref. |
| CAH_12 | S1HA9000 | 9,000 | 8,000 | 13.0 | 7.7 | 0.80 | 11.6 | 3.3 | R22 |
| CAH_12 | S1HA2000 | 11,800 | 10,800 | 13.0 | 7.7 | 0.72 | 11.4 | 3.4 | R22 |
| CAH_24 | S1HA8000 | 18,000 | 15,000 | 13.0 | 7.7 | 0.78 | 12.0 | 3.3 | R22 |
| CAH_24 | S1HA4000 | 23,000 | 20,000 | 13.0 | 7.7 | 0.69 | 11.7 | 3.3 | R22 |

| COOLING SYSTEMS WITH S2CA SIDE DISCHARGE | | | | | | | |
|--|-----|-----------|--------|------|------|------|-----|
| Cassette | Qty | Condenser | Btuh | SEER | SHR | EER | Ref |
| CAH_12 | 2 | S2CA9900 | 17,600 | 13.0 | 0.81 | 11.3 | R22 |
| CAH_12 | 2 | S2CA2200 | 23,000 | 13.0 | 0.74 | 11.4 | R22 |
| CAH_12 | 2 | S2CA9200 | 20,400 | 13.0 | 0.77 | 11.4 | R22 |

| SYSTEM OPTIONS WITH S2HA SIDE DISCHARGE | | | | | | | | | |
|---|-----|-----------|--------------|--------------|------|------|------|-----|-----|
| Cassette | Qty | Condenser | Cooling Btuh | Heating Btuh | SEER | SHR | EER | COP | Ref |
| CAH_12 | 2 | S2HA9900 | 18,600 | 15,700 | 13.0 | 0.79 | 11.7 | 3.1 | R22 |
| CAH_12 | 2 | S2HA2200 | 22,600 | 20,000 | 13.0 | 0.75 | 11.6 | 3.1 | R22 |
| CAH_12 | 2 | S2HA9200 | 20,600 | 18,000 | 13.0 | 0.77 | 11.6 | 3.1 | R22 |

*** Important** - This system has been designed and manufactured to meet ENERGY STAR criteria for energy efficiency. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow the manufacturer's refrigerant charging and air flow instructions. **Failure to confirm proper charge and airflow may reduce energy efficiency and shorten equipment life.**

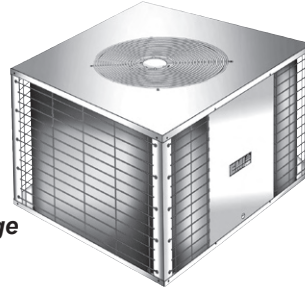


CASSETTE SYSTEM MATCHES



Cassette

**T2CA/T2HA, T3CA/T3HA,
T4CA/T4HA Top Discharge**



NOTE: CAH_ refers to CAHA or CAHB
CAC_ refers to CACA or CACB

| SYSTEM OPTIONS WITH T2CA TOP DISCHARGE | | | | | | | |
|--|-----|-----------|--------|------|------|------|------|
| Cassette(s) | Qty | Condenser | Btuh | SEER | SHR | EER | Ref. |
| CAH_24 | 2 | T2CA8800 | 34,000 | 13.0 | 0.79 | 11.4 | R22 |
| CAH_24 | 2 | T2CA4400 | 45,000 | 13.0 | 0.69 | 11.2 | R22 |
| CAH_12+CAH_24 | 1+1 | T2CA9800 | 26,400 | 13.0 | 0.82 | 11.4 | R22 |
| CAH_24 | 2 | T2CA8400 | 39,000 | 13.0 | 0.74 | 11.3 | R22 |
| CAH_12 + CAH_24 | 1+1 | T2CA2400 | 34,000 | 13.0 | 0.75 | 11.4 | R22 |

| SYSTEM OPTIONS WITH T2HA TOP DISCHARGE | | | | | | | | | |
|--|-----|-----------|--------------|--------------|------|------|------|-----|-----|
| Cassette | Qty | Condenser | Cooling Btuh | Heating Btuh | SEER | SHR | EER | COP | Ref |
| CAH_24 | 2 | T2HA8800 | 36,000 | 26,400 | 13.0 | 0.75 | 12.6 | 3.1 | R22 |
| CAH_24 | 2 | T2HA8400 | 42,000 | 32,600 | 13.0 | 0.71 | 12.4 | 3.1 | R22 |
| CAH_24 | 2 | T2HA4400 | 48,000 | 40,000 | 13.0 | 0.67 | 12.0 | 3.1 | R22 |
| CAH_12 + CAH_24 | 1+1 | T2HA9800 | 27,200 | 21,200 | 13.0 | 0.76 | 12.2 | 3.1 | R22 |
| CAH_12 + CAH_24 | 1+1 | T2HA2400 | 35,000 | 30,000 | 13.0 | 0.69 | 11.8 | 3.1 | R22 |

| SYSTEM OPTIONS WITH T3CA TOP DISCHARGE | | | | | | | |
|--|-------|-----------|--------|------|------|------|------|
| Cassette(s) | Qty | Condenser | Btuh | SEER | SHR | EER | Ref. |
| CAH_12 + CAH_24 | 2 + 1 | T3CA9940 | 40,000 | 13.0 | 0.82 | 11.3 | R22 |
| CAH_12 | 3 | T3CA9990 | 26,400 | 13.0 | 0.87 | 11.4 | R22 |
| CAH_12 | 3 | T3CA2220 | 34,400 | 13.0 | 0.76 | 11.4 | R22 |
| CAH_12 + CAH_24 | 2 + 1 | T3CA9280 | 37,800 | 13.0 | 0.80 | 11.3 | R22 |
| CAH_12 + CAH_24 | 2 + 1 | T3CA9240 | 42,500 | 13.0 | 0.79 | 11.3 | R22 |
| CAH_12 + CAH_24 | 2 + 1 | T3CA2280 | 40,500 | 13.0 | 0.76 | 11.2 | R22 |
| CAH_12 | 3 | T3CA9220 | 31,800 | 13.0 | 0.80 | 11.4 | R22 |
| CAH_12 | 3 | T3CA9920 | 29,000 | 13.0 | 0.83 | 11.4 | R22 |
| CAH_12 + CAH_24 | 2 + 1 | T3CA9980 | 35,200 | 13.0 | 0.83 | 11.4 | R22 |
| CAH_12 + CAH_24 | 2 + 1 | T3CA2240 | 45,500 | 13.0 | 0.75 | 11.2 | R22 |

CASSETTE SYSTEM MATCHES

NOTE: CAH_ refers to CAHA or CAHB
CAC_ refers to CACA or CACB

| SYSTEM OPTIONS WITH T3HA TOP DISCHARGE | | | | | | | | | |
|--|-----|-----------|--------------|--------------|------|------|------|-----|-----|
| Cassette | Qty | Condenser | Cooling Btuh | Heating Btuh | SEER | SHR | EER | COP | Ref |
| CAH_12 | 3 | T3HA9920 | 29,800 | 25,800 | 13.0 | 0.78 | 11.7 | 3.1 | R22 |
| CAH_12 + CAH_24 | 2+1 | T3HA9980 | 36,400 | 29,000 | 13.0 | 0.77 | 12.2 | 3.1 | R22 |
| CAH_12 + CAH_24 | 2+1 | T3HA9940 | 42,500 | 35,800 | 13.0 | 0.72 | 11.9 | 3.1 | R22 |
| CAH_12 | 3 | T3HA9220 | 31,800 | 27,800 | 13.0 | 0.76 | 11.6 | 3.1 | R22 |
| CAH_12 + CAH_24 | 2+1 | T3HA9280 | 38,500 | 31,000 | 13.0 | 0.75 | 12.1 | 3.1 | R22 |
| CAH_12 + CAH_24 | 2+1 | T3HA9240 | 44,500 | 37,800 | 13.0 | 0.71 | 11.8 | 3.1 | R22 |
| CAH_12 + CAH_24 | 2+1 | T3HA2280 | 40,500 | 33,200 | 13.0 | 0.75 | 12.0 | 3.1 | R22 |
| CAH_12 + CAH_24 | 2+1 | T3HA2240 | 46,500 | 40,000 | 13.0 | 0.71 | 11.8 | 3.1 | R22 |
| CAH_12 | 3 | T3HA2220 | 34,000 | 30,000 | 13.0 | 0.75 | 11.6 | 3.1 | R22 |

| SYSTEM OPTIONS WITH T4CA TOP DISCHARGE | | | | | | | |
|--|-----|-----------|--------|------|------|------|------|
| Cassette | Qty | Condenser | Btuh | SEER | SHR | EER | Ref. |
| CAH_12 | 4 | T4CA9999 | 35,200 | 13.0 | 0.87 | 11.4 | R22 |
| CAH_12 | 4 | T4CA2222 | 46,000 | 13.0 | 0.76 | 11.4 | R22 |
| CAH_12 | 4 | T4CA9222 | 43,000 | 13.0 | 0.77 | 11.4 | R22 |
| CAH_12 | 4 | T4CA9992 | 37,800 | 13.0 | 0.79 | 11.4 | R22 |
| CAH_12 | 4 | T4CA9922 | 40,500 | 13.0 | 0.82 | 11.4 | R22 |

| SYSTEM OPTIONS WITH T4HA TOP DISCHARGE | | | | | | | | | |
|--|-----|-----------|--------------|--------------|------|------|------|-----|-----|
| Cassette | Qty | Condenser | Cooling Btuh | Heating Btuh | SEER | SHR | EER | COP | Ref |
| CAH_12 | 4 | T4HA9999 | 37,200 | 31,800 | 13.0 | 0.80 | 11.9 | 3.2 | R22 |
| CAH_12 | 4 | T4HA9992 | 39,000 | 33,800 | 13.0 | 0.78 | 11.8 | 3.1 | R22 |
| CAH_12 | 4 | T4HA9922 | 41,000 | 35,800 | 13.0 | 0.77 | 11.7 | 3.1 | R22 |
| CAH_12 | 4 | T4HA9222 | 43,000 | 37,800 | 13.0 | 0.75 | 11.5 | 3.1 | R22 |
| CAH_12 | 4 | T4HA2222 | 45,000 | 40,000 | 13.0 | 0.75 | 11.6 | 3.1 | R22 |

