Industrial Climate Engineering™
An ACS Brand

# CEA1036A-1048A-1060A/ (3, 4 & 5 Ton)
# Counterflow Series
# Vertical Wall Mount Air Conditioners


CEA1060A

Intertek

Designed, Engineered & Assembled In the USA

## General Description

The Industrial Climate Engineering™ Counterflow Air Conditioner offers unique benefits in applications requiring low supply air outlet. Typical installations include computer rooms, electronic equipment shelters, and uninterrupted power supply (UPS) buildings. The ICE air conditioner is an energy and space saving unit designed to offer maximum indoor comfort without using outside ground space or indoor floor space. The unit can be easily mounted on an outside wall with the supply opening at or under floor level. Factory or field installed accessories can be used to meet specific requirements.

All models use non-ozone depleting R-410A refrigerant.

## Safety Listed

ICE Counterflow air conditioners are built to UL standard 1995, 4th edition and CAN/CSA C22.2, No. 236-11 Ed.4. The units are tested in accordance to the ANSI/AHRI 390 standard. CEA models are commercial units and not intended for residential use.

## Features and Benefits

**Factory-Built Bottom Supply Air Conditioner**
- *Space Saving Design Mounts on Outside Wall*
- *Supply Opening Can Be At or Under Floor Level*
- *Energy Saving and Safety Tested*

**Built-In Reliability**
- *High and Low Pressure Switch with Lockout*
- *Short Cycle Protection*
- *Dual Condensate Drains w/Internal Traps*
- *Factory Installed Circuit Breakers*
- *Dual Rainwater Drains from Condenser Section*

**Rugged Construction**
- *Copper Tube, Aluminum Fin Evaporator & Condenser Coil*
- *Optional Factory Installed Heaters On Discharge Side of Evaporator Coil*
- *Baked On Finish Over Galvanneal Steel*

## Advantages Over Field Modified Systems Include These Standard Features:

**Designed for Operation in Low Ambient Conditions**
- Low ambient control cycles condenser fan to regulate refrigerant pressures.
- Timed low pressure by-pass for start-up of A/C below 20ºF and down to 0ºF.

**High Efficiency**
- High Efficiency Compressor.
- Lanced fins and rifled tubing on many condenser and evaporator coils.

**Built-In Reliability**
- High and low pressure switches with lockout relay protects refrigerant circuit.
- Time delay/anti-short cycle timer.
- Dual condensate drains with internal traps.
- Two rainwater drains from condenser section to unit's base.
- Factory installed circuit breaker on all units.

**Ease of Installation**
- Built-in full length mounting flanges and sloped top minimize chance of water leaks.
- Compressor location on the isolated vented bottom shelf for shipping and mounting stability.

**Ease of Service**
- Service access valves are standard.
- Easy access to controls without disturbing indoor air flow - no ladder required.
- Front Control Panel allows easy access and complies with NEC clearance codes on redundant systems (two units side by side).
- All major components are readily accessible.

**Remote Alarm Capability**
- Dry contacts can be used for remote alarm or notification upon air conditioner lockout.

## Controllers and Thermostats

### ➤ Controllers

***CommStat 6 2/4 Telecom HVAC Controller*** ..... *P/N 70705*

***CommStat 6 4/8 Telecom HVAC Controller*** ..... *P/N S/12087-04*

***CommStat 6 6/12 Telecom HVAC Controller*** ..... *P/N S/12087-06*

The CommStat 6 is an HVAC controller, is available in three configurations, and is designed specifically for controlling up to six redundant air conditioners with two stage compressors in a telecommunications shelter or enclosure. The **CommStat 6 2/4** controls up to two single or two 2-stage air conditioners (4 Stages max.), the **CommStat 6 4/8** controls up to four single or four 2-stage air conditioners (8 Stages max.) and the **CommStat 6 6/12** controls up to six single or six 2-stage air conditioners (12 Stages max.)

The CommStat 6 has multiple configurable outputs for remote alarms or notification. The CommStat 6 is factory programmed with standard industry set points, but can be configured on site. Settings are retained indefinitely in the event of a power loss. See the CommStat 6 PDS for more details.

***CommStat 4 Telecom HVAC Controller*** ..... P/N *S/7846*


The CommStat 4 HVAC controller is designed specifically for controlling two redundant air conditioners or heat pumps with 2-Stage compressors. Seven outputs for remote alarms or notification. Status LED's indicate HEAT, COOL, POWER and the LEAD unit. An alarm LED flashes and the LCD screen displays any fault.

A CommStat 4 can be daisy chained with a second CommStat 4 for controlling up to four air conditioners in one shelter.

***CommStat3™ Lead/Lag Microprocessor Controller*** ..... *P/N S/04581*

Solid state controller designed to operate a fully or partially redundant air conditioning system. Ensures equal wear on both air conditioners while allowing the lag unit to assist upon demand. Lead/ lag changeover is factory set at 7 days, but is field programmable in 1/2 day increments from 1/2 to 7 days. The CommStat 3™ Controller has LED's to indicate status & function, digital display of temperature, a comfort override button for energy savings, five alarm relays, a built in temperature sensor and is fully programmable. See the CommStat 3 PDS for more details.

### ➤ Thermostats & Thermostat Guards

*Thermostat* ..... *P/N 50123*

Digital thermostat. 1 stage heat, 1 stage cool. 7 day programmable. Fan switch: Auto & On. Auto-change over. Keypad lockout. Non-volatile program memory.

*Thermostat Guard* ..... *P/N 50092*

Thermostat guard for use with the 50123 and 50107 thermostats.

*Digital Humidistat* ..... *P/N 51731*

To be used with units with hot gas or electric reheat. Programmable dehumidistat and ventilation controller. Permanent memory retention of set points. Humidity sensor can be field calibrated. High & low dehumidification set points. Outdoor temperature and humidity sensor included. °F or °C selectable.

## Accessories

➤ **Supply Grilles**

*30" x 10" (762 mm x 254 mm)* .....*P/N 80676*

➤ **Return Grilles**

For CEA1036-1048-1060

*30" x 16" (762 mm x 406 mm)* .....*P/N 80679*

➤ **Return Filter Grilles**

Used when filter must be changed from the interior.

***Note:*** Filter used in Return Filter Grille is 1" (25 mm) thick.

For CEA1036-1048-1060

*30" x 16" (762 mm x 406 mm)*.....*P/N 80673*

## Options

The Counterflow air conditioners were designed and are built to stringent requirements of the communications/electronic shelter. Applications occur that have special requirements. Numerous options are available for the air conditioners that meet these special needs.

➤ **Dehumidification**

Allows the electric heat to operate simultaneously with cooling. See Dehumidification Application Bulletin for details. Note: The electrical characteristics and requirements of air conditioners with the dehumidification option are different from standard air conditioners. Refer to the appropriate Summary Rating Charts for the electrical characteristics of units with Electric Reheat.

➤ **Extreme Duty Package**

The Extreme Duty Package allows selected ICE air conditioners to operate in extremely cold and hot ambient conditions. The Extreme Duty Package is always factory installed. Non-economizer air conditioners will operate from 0°F to 131°F (-18°C to 55°C). Economizer equipped air conditioners will operate from -40°F to 131°F (-40°C to 55°C).

➤ **Protective Coating Packages**

**Coated Coils:** Either the condenser or evaporator coil can be coated. For harsh conditions, e.g., power plants, paper mills or sites were the unit will be exposed to salt water, the coils should be coated. ***Note:*** Cooling capacity may be reduced by up to 5% on units with coated coils.

**Coastal Environmental Package:** This package includes:

- Corrosion resistant fasteners,
- Sealed or partially sealed condenser fan motor,
- Two layer epoxy/urethane applied to all exposed internal copper and metal in the in the condenser section, and
- A protective coating on the condenser coil.

**All Coat Package:** Includes the same features as the Coastal Environmental Package and adds an impregnated polyurethane on the evaporator coil and the two layer epoxy/urethane on all exterior and interior components and sheet metal.

**Note 1:** The insulated internal sheet metal and the internal control box are not coated.

**Note 2:** The corrosion prevention coating can not be applied to stainless steel.

➤ **Color**

Air conditioners are available in three different cabinet colors -the standard ICE beige, white, & gray. The standard cabinet's sides, top and front panels are constructed of 20 gauge painted steel. Contact your ICE representative for color chips. The cabinet can also be constructed of type 316 stainless steel. Two stainless steel cabinet constructions are available- the complete cabinet, including most internal sheet metal or only the exterior sheet metal.

➤ **Dirty Filter Indicator**

A factory installed option that measures the difference in pressure across the internal filter and illuminates an LED when the pressure exceeds the desired difference.

➤ **Phase Monitor**
Continuously measures the voltage of each of the three phases. The monitor separately senses low and high voltage, voltage unbalance including phase loss and phase reversal. A RED LED glows to indicate a fault. A GREEN indicator glows when all voltages are acceptable. Automatically resets when voltages and phases are within operating tolerances. Not required on 1ø units.

➤ **Thermal Expansion Valve**
Available on all air conditioners. Improves performance in hot ambient temperatures.

➤ **Compressor Sound Jacket**
To reduce sound of Compressor.

➤ **Lockable Disconnect Access Cover Plate**
The access plate to the service disconnect switch can be equipped with a lockable cover.

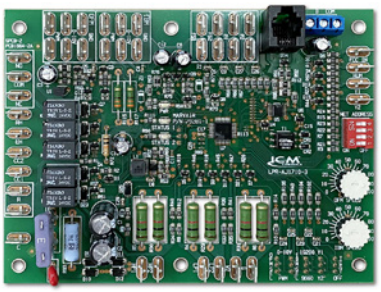
➤ **Desert Duty Package**
The Desert Duty package is designed for operation in hot climates including the American southwest and the Middle East in ambient temperatures up to 130°F (54°C). Standard features of the Desert Duty package include a thermal expansion valve and a sealed condenser fan motor.

## Controls

➤ **Electronic Control Board**
The exclusive Printed Circuit Board (PCB) in ICE air conditioners sets the standard for the industry in terms of flexibility, reliability, and performance. This UL certified component is engineered to optimize Heating, Cooling and Dehumidification operation while communicating valuable information to the end user.

**Special Features Include:**

- Improved HVAC System Reliability (built in sequence / timer functionality and simplified wiring)
- 2-Stage Compressor Operation
- Variable Speed Indoor Blower Control (Optimize Latent and Sensible Capacity)
- Built-in Remote Communication (Monitor and Control via MODBUS)
- Built-in Temperature Sensor (Operate without an External Thermostat)
- Alarm Status (Drastically Reduces Troubleshooting Time and System Downtime)
- LEDs Indicate Independent Refrigerant Circuit Status
- Lockout Contacts (Normally Open or Normally Closed)
- Alarms Communicated via MODBUS



# Model Identification

| Example | C | E | A | 1 | 0 | 3 | 6 | A | A | 0 | 5 | 0 | C | R | + | + | + | 1 | D | A | + | A | 2 | 1 | + | + | + | + | + | + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

| | | |
|---|---|---|
| **1** | Unit Designation/Family | **C** = Industrial Climate Engineering (ICE) |
| **2** | Energy Efficiency Ratio (EER) | **E** = Standard Efficiency |
| **3** | Refrigerant Type | **A** = R-410a |
| **4** | Compressor Type/Quantity | **1** = Single |
| **5**<br>**6**<br>**7** | Unit Capacity/Nominal Cooling (BTUH) | **036** = 36,000<br>**048** = 48,000<br>**060** = 60,000 |
| **8** | System Type | **A** = Air Conditioner |
| **9** | Power Supply (Volts-Hz-Phase) | **A** = 208/230-60-1<br>**C** = 208/230-60-3<br>**D** = 460-60-3 |
| **10**<br>**11**<br>**12** | Heat Designation @ Rated Voltage<br>**KW** = Kilowatt | **000** = No Heat **090** = 9KW<br>**040** = 4KW **100** = 10KW<br>**050** = 5KW **120** = 12KW<br>**060** = 6KW **150** = 15KW<br>**080** = 8KW |
| **13** | Ventilation Configuration | **A** = Solid Front Door |
| **14** | Dehumidification | **R** = Electric Reheat<br>**T** = Electric Reheat w/Humidity Control<br>**+** = None |
| **15** | Controls | **A** = Power Fail Alarm w/Additional Lockouts<br>**C** = 24V EMS Relay Kit<br>**D** = 24V EMS Relay Kit w/Factory Installed T-Stat<br>**E** = Factory Installed T-Stat<br>**+** = None |
| **16** | Operating Condition | **A** = Evaporator Freeze Sensor (EFS)<br>**C** = EFS w/Hot Gas Bypass<br>**M** = Extreme Duty w/Hard Start & EFS<br>**N** = Hard Start<br>**P** = Hard Start w/Low Ambient & CCH<br>**Q** = Hard Start w/Low Ambient & Fan Cycle Control (FCC)<br>**R** = Crank Case Heater (CCH)<br>**T** = Hard Start w/EFS<br>**U** = Hard Start w/Hot Gas Bypass<br>**V** = Hard Start w/Low Ambient & CCH & EFS<br>**W** = Low Ambient w/CCH<br>**X** = Hot Gas Bypass<br>**Y** = Low Ambient w/CCH & FCC<br>**Z** = Low Ambient w/CCH & EFS<br>**1** = Low Ambient w/FCC<br>**2** = Low Ambient w/FCC & EFS<br>**3** = CCH w/Hot Gas Bypass<br>**+** = None |
| **17** | Indoor Air Quality Features | **D** = Dry Bulb Sensor<br>**E** = Dry Bulb Sensor w/Dirty Filter<br>**G** = Dirty Filter Sensor<br>**+** = None |
| **18** | Air Flow | **3** = Bottom Supply/Top Return (Counter) |
| **19** | Compressor Location | **D** = Left Hand |
| **20** | Filter Option | **A** = 2" Pleated (MERV 8, AC/HP-C)<br>**C** = 2" Charcoal<br>**D** = MERV 11 High Filtration Package<br>**E** = MERV 13 High Filtration Package<br>**F** = Filter Access Through Return Air Grille<br>**W** = Aluminum Washable<br>**+** = None |
| **21** | Corrosion Protection | **A** = Condenser Coil Only<br>**C** = Evaporator Coil Only<br>**D** = Both Coils Condenser & Evaporator<br>**E** = All Coils Cond/Evap/Reheat<br>**F** = Coat All<br>**K** = Coastal Package<br>**+** = None<br>**$** = Special |
| **22**<br>**23** | Engineering Revision Level | A2 |
| **24** | Cabinet Color | **1** = Beige<br>**2** = Gray<br>**3** = Carlsbad Canyon<br>**4** = White<br>**5** = Stainless Steel Exterior<br>**6** = Dark Bronze<br>**7** = .050 Aluminum Stucco<br>**8** = Mesa Tan<br>**9** = Pebble Gray<br>**A** = Stainless Steel - Unit<br>**$** = Custom Color (Powder Coat) |
| **25** | Sound Attenuation | **2** = Compressor Blanket<br>**+** = None |
| **26** | Security Option | **A** = Lockable Access Plate/Tamper Proof<br>**+** = None |
| **27** | Fastener/Drain Pan Option | **A** = Stainless Steel Fasteners<br>**C** = Stainless Steel Drain Pan<br>**D** = Stainless Steel Fasteners & Drain Pan<br>**+** = None |
| **28** | Unused | **+** = None<br>**$** = Special |
| **29** | Unused | **+** = None<br>**$** = Special |
| **30** | Special Variation | **+** = None<br>**$** = Special Configuration Not Covered by Model Nomenclature |

**Note:** Not all options are available with all configurations. Contact your ICE sales representative for configuration details and feature compatibility.

## Efficiency and Capacity Ratings

| Model Number | CEA1036A | | | CEA1048A | | | CEA1048A | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | C | D | A | C | D | A | C | D |
| **Cooling BTUH[1]** | 34,000 | | | 44,500 | | | 51,000 | | |
| **Rated Air Flow (CFM[2])** | 1,200 | | | 1,650 | | | 1,650 | | |

[1]Cooling rated at 95°F (35°C) outdoor and 80°F DB/67° WB (26.5°C DB/19.5°C WB) return air
[2]CFM=Cubic Feet per Minute
Ratings are with no outside air. Performance will be affected by altitude.
Ratings are at 230 volts for 208/230 volt units ("A" & "C" models) and 460 volts for "D" models.
Operation of units at a different voltage from that of the rating point will affect performance and air flow.

## Sensible Total Heat Ratio @ 95°F (35°C) Outside Air DB

| Model Number | CEA1036A | | | CEA1048A | | | CEA1048A | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | C | D | A | C | D | A | C | D |
| **Total Capacity** | 34,000 | | | 44,500 | | | 51,000 | | |
| **Sensible Heat Ratio** | 0.67 | | | 0.76 | | | 0.70 | | |
| **Sensible Capacity** | 22,900 | | | 34,000 | | | 35,500 | | |
| **Rated Air Flow (CFM[1])** | 1,200 | | | 1,650 | | | 1,650 | | |

[1]CFM=Cubic Feet per Minute
Sensible heat ratios based upon outdoor air conditions of 95°F (35°C) and 80°F DB/67° WB (26.5°C DB/19.5°C WB) return air.

## Cooling Performance (BTUH) at Various Outdoor Temperatures

| Model Number | Outdoor Temperature | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 75°F 24°C | 80°F 26.5°C | 85°F 29°C | 90°F 32°C | 95°F 35°C | 100°F 38°C | 105°F 40.5°C | 110°F 43.3°C | 115°F 46°C | 120°F 48.9°C | 125°F 51.7°C | 130°F 54°C |
| **CEA1036A** | 39,440 | 38,080 | 36,720 | 35,360 | 34,000 | 32,640 | 31,280 | 29,920 | 28,560 | 27,200 | 25,840 | 24,480 |
| **CEA1048A** | 51,620 | 49,840 | 48,060 | 46,280 | 44,500 | 42,720 | 40,940 | 39,160 | 37,380 | 35,600 | 33,820 | 32,040 |
| **CEA1060A** | 59,160 | 57,120 | 55,080 | 53,040 | 51,000 | 48,960 | 46,920 | 44,880 | 42,840 | 40,800 | 38,760 | 36,720 |

Based upon return air conditions of 80°F DB/67° WB (26.5°C DB/19.5°C WB) at various outdoor temperatures.

## Electrical Characteristics - Compressor, Fan & Blower Motors

| BASIC MODEL | COMPRESSOR | | | OUTDOOR FAN MOTOR | | | | INDOOR BLOWER MOTOR (ECM) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | VOLTS-HZ-PH | RLA[1] | LRA[2] | RPM[3] | TYPE | FLA[4] | HP[5] | RPM[3] | FLA[4] | HP[5] |
| **CEA1036AA** | 208/230-60-1 | 17.9 | 112.0 | 825 | PSC | 2.8 | 1/3 | 1300 | 2.8 | 1/2 |
| **CEA1048AA** | 208/230-60-1 | 21.8 | 117.0 | 1300 | ECM | 2.8 | 1/2 | 1300 | 4.3 | 3/4 |
| **CEA1060AA** | 208/230-60-1 | 26.2 | 134.0 | 1300 | ECM | 2.8 | 1/2 | 1300 | 4.3 | 3/4 |
| **CEA1036AC** | 208/230-60-3 | 13.2 | 88.0 | 825 | PSC | 2.8 | 1/3 | 1300 | 2.8 | 1/2 |
| **CEA1048AC** | 208/230-60-3 | 13.7 | 83.1 | 1300 | ECM | 2.8 | 1/2 | 1300 | 4.3 | 3/4 |
| **CEA1060AC** | 208/230-60-3 | 15.6 | 110.0 | 1300 | ECM | 2.8 | 1/2 | 1300 | 4.3 | 3/4 |
| **CEA1036AD** | 460-60-3 | 6.0 | 44.0 | 825 | PSC | 2.8 | 1/3 | 1300 | 2.8 | 1/2 |
| **CEA1048AD** | 460-60-3 | 6.2 | 41.0 | 1300 | ECM | 2.8 | 1/2 | 1300 | 4.3 | 3/4 |
| **CEA1060AD** | 460-60-3 | 7.7 | 52.0 | 1300 | ECM | 2.8 | 1/2 | 1300 | 4.3 | 3/4 |

[1]RLA = Rated Load Amps [2]LRA = Locked Rotor Amps [3]RPM = Revolutions per Minute [4]FLA = Full Load Amps [5]HP = Horsepower
The 460 volt ("D") models will have a step down transformer for the 230 volt motors.

# Summary Electrical Ratings (Wire and Circuit Breaker Sizing)
# Ventilation Configurations:
## *No Outside Air ("A")*

| ELECTRIC HEAT | | 000 = None | | 040 = 4 kw | | 050 = 5 kw | | 060 = 6 kw | | 080 = 8 kw | | 090 = 9 kw | | 100 = 10 kw | | 120 = 12 kw | | 150 = 15 kw | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BASIC MODEL | VOLTS-HZ-PH | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | |
| | | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] |
| CEA1036AA | 208/230-60-1 | 28.0 | 45 | 28.0 | 45 | 28.8 | 45 | 34.1 | 45 | 44.4 | 45 | | | 54.9 | 60 | 65.3 | 70 | 80.9 | 90 |
| CEA1048AA | 208/230-60-1 | 34.4 | 50 | | | 34.4 | 50 | | | | | | | 56.4 | 60 | 66.8 | 70 | 82.4 | 90 |
| CEA1060AA | 208/230-60-1 | 39.9 | 60 | | | 39.9 | 60 | | | | | | | 56.4 | 60 | 66.8 | 70 | 82.4 | 90 |
| CEA1036AC | 208/230-60-3 | 22.1 | 35 | | | | | 22.1 | 35 | | | 30.0 | 35 | | | 38.9 | 40 | 47.9 | 50 |
| CEA1048AC | 208/230-60-3 | 24.2 | 35 | | | | | 24.2 | 35 | | | 31.5 | 40 | | | 40.4 | 45 | 49.4 | 50 |
| CEA1060AC | 208/230-60-3 | 26.6 | 40 | | | | | 26.6 | 40 | | | 31.5 | 40 | | | 40.4 | 45 | 49.4 | 50 |
| CEA1036AD | 460-60-3 | 10.3 | 15 | | | | | 10.3 | 15 | | | 14.9 | 15 | | | 19.4 | 20 | 23.9 | 25 |
| CEA1048AD | 460-60-3 | 11.3 | 15 | | | | | 11.3 | 15 | | | 15.7 | 20 | | | 20.2 | 25 | 24.7 | 25 |
| CEA1060AD | 460-60-3 | 13.2 | 20 | | | | | 13.2 | 20 | | | 15.7 | 20 | | | 20.2 | 25 | 24.7 | 25 |

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse Size [3]SPPE = Single Point Power Entry

MCA & MFS are calculated at 230 volts on the "A "& "C" models. The 460 volts "D" models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

# Summary Electrical Ratings (Wire and Circuit Breaker Sizing)
## with Electric Reheat ("R") and Ventilation Configurations:
## *No Outside Air ("A")*

| ELECTRIC HEAT | | 000 = None | | 040 = 4 kw | | 050 = 5 kw | | 060 = 6 kw | | 080 = 8 kw | | 090 = 9 kw | | 100 = 10 kw | | 120 = 12 kw | | 150 = 15 kw | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BASIC MODEL | VOLTS-HZ-PH | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | |
| | | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] |
| CEA1036AA | 208/230-60-1 | 28.0 | 45 | 48.9 | 50 | 54.0 | 60 | 59.3 | 60 | | | | | 80.1 | 90 | 90.5 | 100 | 106.1 | 110 |
| CEA1048AA | 208/230-60-1 | 34.4 | 50 | | | 60.4 | 70 | | | | | | | 86.5 | 90 | 96.9 | 100 | 112.5 | 120 |
| CEA1060AA | 208/230-60-1 | 39.9 | 60 | | | 65.9 | 70 | | | | | | | 92.0 | 100 | 102.4 | 110 | 118.0 | 120 |
| CEA1036AC | 208/230-60-3 | 22.1 | 35 | | | | | 40.1 | 45 | | | 49.2 | 50 | | | 58.2 | 60 | 67.2 | 70 |
| CEA1048AC | 208/230-60-3 | 24.2 | 35 | | | | | 42.2 | 45 | | | 51.3 | 60 | | | 60.3 | 70 | 69.3 | 70 |
| CEA1060AC | 208/230-60-3 | 26.6 | 40 | | | | | 44.6 | 45 | | | 53.7 | 60 | | | 62.7 | 70 | 71.7 | 80 |
| CEA1036AD | 460-60-3 | 10.3 | 15 | | | | | 19.3 | 20 | | | 23.8 | 25 | | | 28.3 | 30 | 32.8 | 35 |
| CEA1048AD | 460-60-3 | 11.3 | 15 | | | | | 20.3 | 25 | | | 24.8 | 25 | | | 29.3 | 30 | 33.8 | 35 |
| CEA1060AD | 460-60-3 | 13.2 | 20 | | | | | 22.2 | 25 | | | 26.7 | 30 | | | 31.2 | 35 | 35.7 | 40 |

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry

MCA & MFS are calculated at 230 volts on the "A" & "C" models. The 460 volts "D" models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

# Unit Load Amps
# Ventilation Configurations:
## *No Outside Air ("A")*

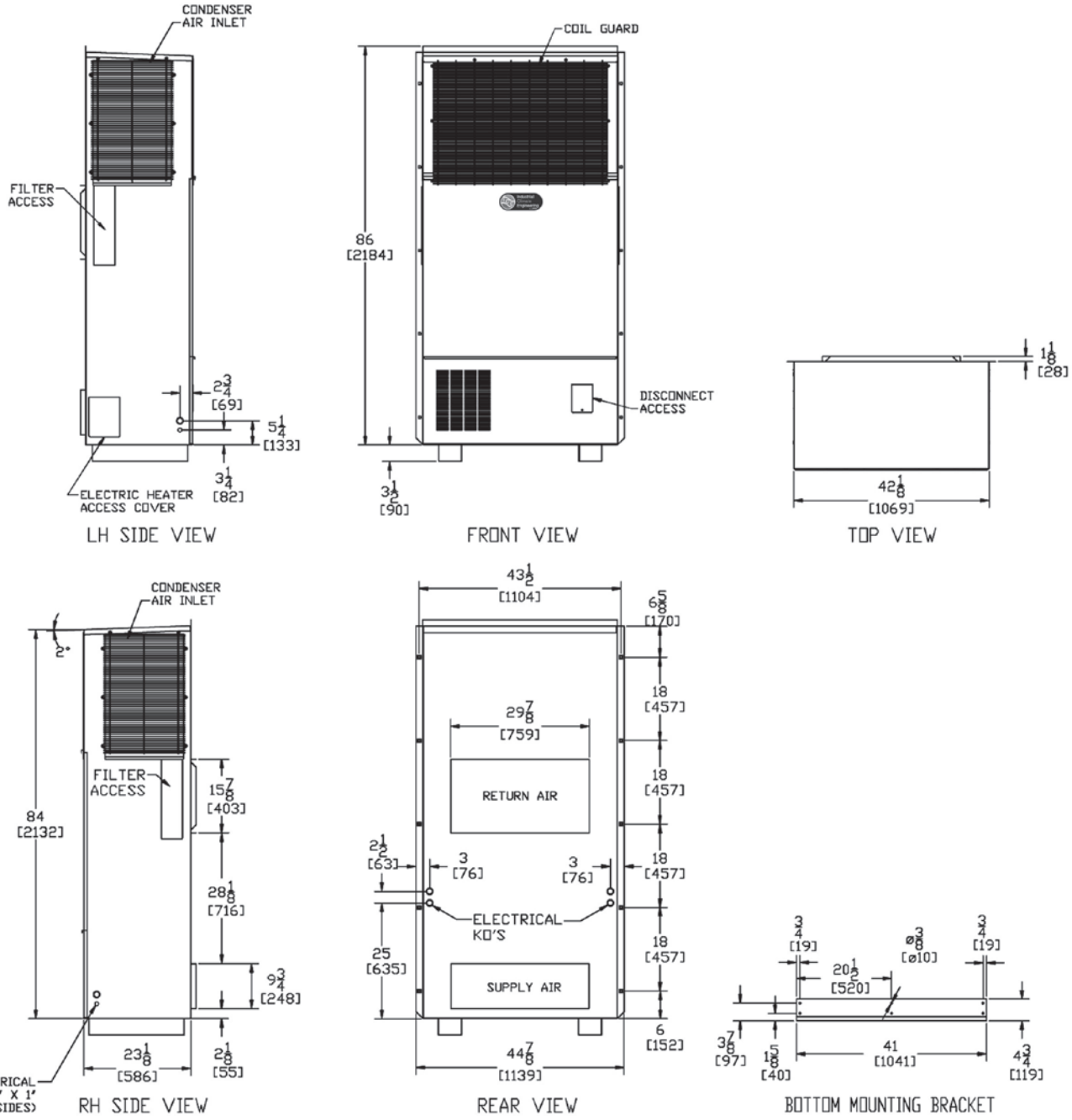
| BASIC MODEL NUMBER | VOLTS-HZ-PH | CURRENT AMPS | | LOAD OF RESISTIVE HEATING-ELEMENTS ONLY (AMPS) *(1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS* | | | | | | | | TOTAL MAXIMUM HEATING AMPS *INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AC[1] | IBM[2] | 04 kW | 05 kW | 06 kW | 08 kW | 09 kW | 10 kW | 12 kW | 15 kW | 04 Kw | 05 Kw | 06 Kw | 08 Kw | 09 Kw | 10 Kw | 12 Kw | 15 Kw |
| CEA1036AA | 208/230-60-1 | 22.6 | 2.8 | 16.7 | 20.8 | 25.0 | 33.3 | | 41.7 | 50.0 | 62.5 | 19.5 | 23.6 | 27.8 | 36.1 | | 44.5 | 52.8 | 65.3 |
| CEA1048AA | 208/230-60-1 | 28.9 | 4.3 | | 20.8 | | | | 41.7 | 50.0 | 62.5 | | 25.1 | | | | 46.0 | 54.3 | 66.8 |
| CEA1060AA | 208/230-60-1 | 33.3 | 4.3 | | 20.8 | | | | 41.7 | 50.0 | 62.5 | | 25.1 | | | | 46.0 | 54.3 | 66.8 |
| CEA1036AC | 208/230-60-3 | 18.8 | 2.8 | | | 14.4 | | 21.7 | | 28.9 | 36.1 | | | 17.2 | | 24.5 | | 31.7 | 38.9 |
| CEA1048AC | 208/230-60-3 | 20.8 | 4.3 | | | 14.4 | | 21.7 | | 28.9 | 36.1 | | | 18.7 | | 26.0 | | 33.2 | 40.4 |
| CEA1060AC | 208/230-60-3 | 22.7 | 4.3 | | | 14.4 | | 21.7 | | 28.9 | 36.1 | | | 18.7 | | 26.0 | | 33.2 | 40.4 |
| CEA1036AD | 460-60-3 | 8.8 | 1.4 | | | 7.2 | | 10.8 | | 14.4 | 18.0 | | | 8.6 | | 12.2 | | 15.8 | 19.4 |
| CEA1048AD | 460-60-3 | 9.8 | 2.2 | | | 7.2 | | 10.8 | | 14.4 | 18.0 | | | 9.4 | | 13.0 | | 16.6 | 20.2 |
| CEA1060AD | 460-60-3 | 11.3 | 2.2 | | | 7.2 | | 10.8 | | 14.4 | 18.0 | | | 9.4 | | 13.0 | | 16.6 | 20.2 |

AC[1] = Air Conditioner Unit Amps IBM[2] = Indoor Blower Motor

Heating kW is rated at 240 volts on the "A" & "C" models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the "D" models. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads.

Loads are not equally balanced on each phase and values shown are maximum phase loads.

## Dimensional Drawings - No Outside Air Configuration




## Weight

| MODEL | CEA1036A | CEA1048A | CEA1060A |
|---|---|---|---|
| POUNDS/KG | LBS/KG | LBS/KG | LBS/KG |
| UNITS WITH A FRESH AIR DAMPER | 540/245.5 | 545/248 | 550/250 |

## Return Air Filter Size

| INCHES | MM | PART NUMBER | FILTERS PER UNIT | MERV RATING | TYPE |
|---|---|---|---|---|---|
| 16 x 20 x 2 | 406 x 508 x 51 | 92347 | 2 | 7 | Pleated, Disposable |

## Notes

*Please consult the Industrial Climate Engineering website at www.acice.com for the latest product literature. Detailed dimensional data is available upon request. A complete warranty statement can be found in each product's Installation/Operation Manual, on our website. As part of the ICE continuous improvement program, specifications are subject to change without notice.*

Industrial Climate Engineering™ An ACS Brand

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Designed, Engineered & Assembled In the USA