

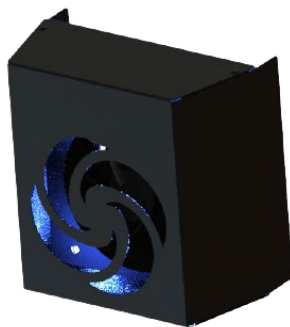
CRYSTAL CLEAN AIR™



Ionization Unit Installation Manual



Crystal Clean Air™ Ionization Unit BA-800 & BA-1000



Crystal Clean Air™ BA-350

Customer Support: 866-360-5675

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PROPRIETARY DATA NOTICE

This document, as well as all reports, illustrations, data, information, and other materials are the property of ©BSE, Inc.

Ⓢ *Do not throw away, destroy, or lose this manual.*

Please read carefully and store in a safe place for future reference. Content familiarity required for proper installation.

The instructions included in this manual must be followed to prevent product malfunction, property damage, injury, or death to the user or other people. Incorrect operation due to ignoring any instructions will cause harm or damage. A summary of safety precautions begins on page 4.





For more technical materials such as submittals, engineering data books please contact us.



Safety Instructions

The instructions below must be followed to prevent product malfunction, property damage, injury or death to the user or other people. Incorrect operation due to ignoring any instructions will cause harm or damage. The level of seriousness is classified by the symbols below.

Table of Symbols

 DANGER	<i>This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</i>
 WARNING	<i>This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</i>
 CAUTION	<i>This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.</i>
<i>Note:</i>	<i>This symbol Indicates situations that may result in equipment or property damage accidents only.</i>
	<i>This symbol indicates an action that must not be performed.</i>

Installation

DANGER

⊘ **Do not use or store flammable gas or combustibles near the unit.** There is risk of product failure, fire, explosion, and physical injury or death.

WARNING

⊘ **Do not install, remove the unit by yourself (customer). Ask an authorized technician to install the unit.**

Improper installation by the user may result in electric shock, physical injury.

For replacement of an installed unit, always contact a trained service provider.

⊘ **Do not install the unit using defective hanging, attaching, or mounting hardware.**

There is risk of physical injury or death.

Dispose the packing materials safely.

- *Packing materials, such as nails and other metal or wooden parts may cause puncture wounds or other injuries.*

Tear apart and throw away plastic packaging bags so that children may not play with them and risk suffocation and death.

⊘ **Do not install the unit in any location exposed to open flame or extreme heat.**

⊘ **Do not touch the unit with wet hands.**

There is risk of fire, electric shock, explosion, and physical injury or death.

Install the unit considering the potential for earthquakes.

Improper installation may cause the unit to fall, resulting in physical injury or death.

Safety Instructions

WIRING

⚠ DANGER

High voltage electricity is required to operate this system. Adhere to the National Electrical Codes and these instructions when wiring into a BAS.

Improper connections and inadequate grounding can cause accidental injury or death.

Turn the power off at the nearest disconnect before servicing the equipment.

Electric shock can cause physical injury or death.

Properly size all circuit breakers or fuses.

There is risk of fire, electric shock, explosion, physical injury or death.

⚠ WARNING

The information contained in this manual is intended for use by an industry-qualified, experienced, certified electrician familiar with the U.S. National Electric Code (NEC) who is equipped with the proper tools and test instruments.

Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury or death.

Ensure the unit is connected to a dedicated power source that provides adequate power.

If the power source capacity is inadequate or the electric work is not performed properly, it may result in fire, electric shock, physical injury, or death.

Refer to local, state, and federal codes, and use power wires of sufficient current capacity and rating.

Wires that are too small may generate heat and cause a fire.

Secure all field wiring connections with appropriate wire strain relief.

Improperly securing wires will create undue stress on equipment power lugs. Inadequate connections may generate heat, cause a fire and physical injury or death.

Properly tighten all power connections.

Loose wiring may overheat at connection points, causing a fire, physical injury or death.

OPERATION

⚠ DANGER

⊘ Do not block the inlet or outlet.

Unit may malfunction

⊘ Do not provide power to or operate the unit if it is flooded or submerged.

There is risk of fire, electric shock, physical injury, or death

⊘ Do not allow water, dirt, or animals to enter the unit.

⊘ Do not operate the unit with the panel(s) or protective cover(s) removed; keep fingers and clothing away from moving parts.

⊘ Do not open the inlet grille of the unit during operation. Removing or servicing the unit.

Periodically check power cable and connection for damage.

Use a dedicated power source for this product.

There is risk of fire, electric shock, physical injury, or death.

⊘ Do not operate the disconnect switch with wet hands.

There is risk of fire, electric shock, physical injury, or death.

Periodically verify the hanging bolts and other hardware securing the unit have not deteriorated.

If the unit falls from its installed location, it can cause property damage, product failure, physical injury, or death

Tools and Materials

Required Parts (factory provided)

Crystal Clean Air™ Ionization Unit BA-800/BA-1000

- Installation guide (One [1] Each)
- Variable Speed Controller
- Wireless Remote

Note: Hardware Not Supplied

Crystal Clean Air™ BA-350

- Installation guide (One [1] Each)
- Mounting plate (One [1] Each)

Note: Hardware Not Supplied

Required Materials for Max, Mini, and Micro (field provided)

- 4 Heavy duty screws for the type of wall and ceiling material

Tools To Consider for Installation (field provided)

- Level
- Screwdrivers
- Drill
- Stud detector
- Drill Bits
- Pencil

Crystal Clean Air Accessories

Crystal Clean Air BA-1000

External Dimensions (inches)

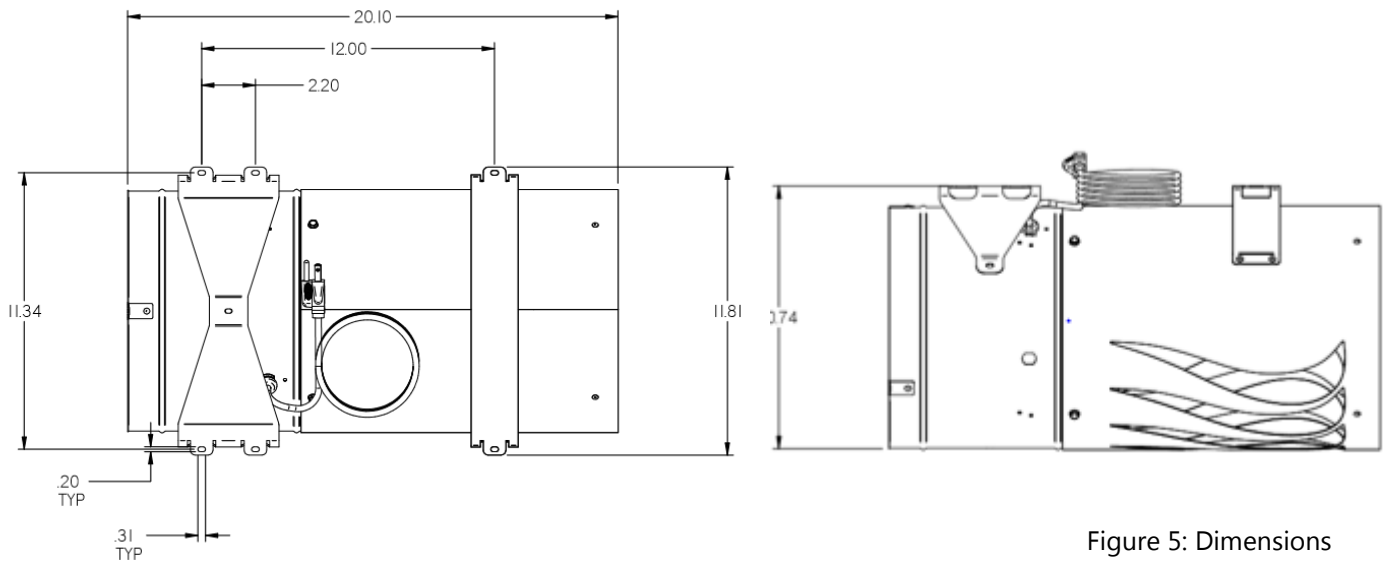


Figure 5: Dimensions

Crystal Clean Air BA-1000

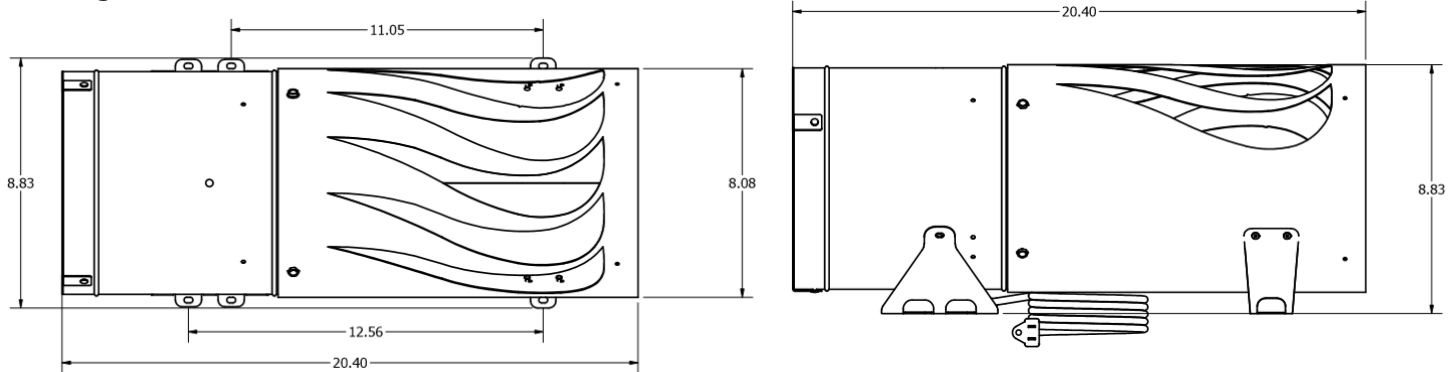


Figure 6: Dimensions

Crystal Clean Air BA-350

External Dimensions (inches)

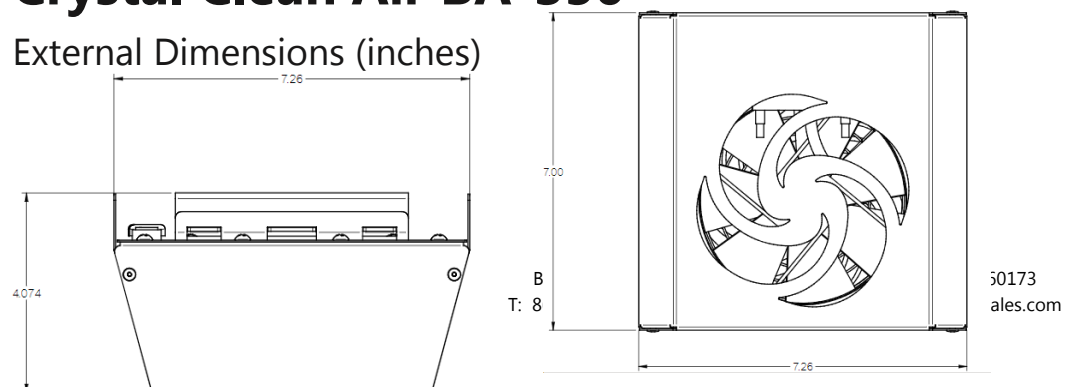


Figure 7: Dimensions

Ionization Placement & Clearance

Crystal Clean Air Ionization units should not be located near to air exhausting inlets of other HVAC equipment. Supply air outlets can be configured to aid the ionized air disbursement in a uniform manner. Ionizer should be oriented such that the outlet is slightly below any ceiling fans. Exhaust fan inlets or other return air points creating a negative pressure should not be within 10.5 times the diameter of the ionization unit. Proper systems orientation will provide an enhancement to the Indoor Air Quality (IAQ) and occupant comfort.

Required Clearances for Max

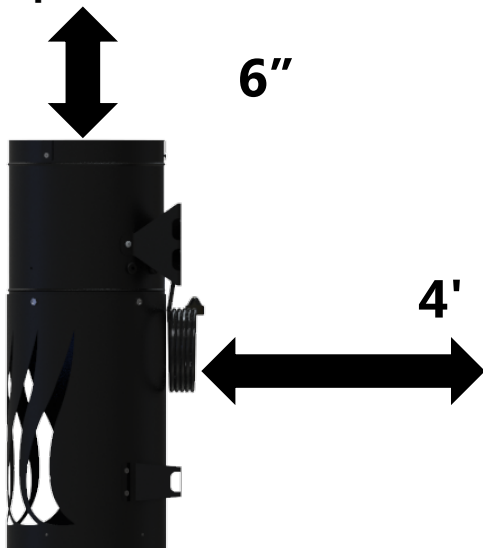


Figure 8: Installing Max Wall-Mounted.

Required Clearances for Max

Figure 9: Installing Max Ceiling-Mounted Required Clearances for Max Wall Mounted Unit

See the figure on the right for required clearance distances around an installed wall-mounted unit.

- There must be a minimum clearance of 6 inches from the top of the MAX unit to the ceiling.
- Clearance gap between any wall or enclosure and the left or right side of the unit must be greater than 4 feet.
- The base of the unit is recommended to be at least **7.0 feet** from the floor for adequate disbursement.
- The recommended height top is not to exceed **11 feet** from the floor.

Required Clearances for Max Ceiling Mounted Unit

See the figure on the right for required clearance and distances around Max ceiling-mounted unit.

- There must be placed slightly below any ceiling fans.
- The base of the unit must be at least **7.0 feet** from the floor for adequate disbursement.

GENERAL INSTALLATION GUIDELINES

- The recommended height top is not to exceed **11 feet** from the floor.

Ionization Placement & Clearance

BSE units should not be located near to air exhausting inlets of other HVAC equipment. Supply air outlets can be configured to aid the ionized air disbursement in a uniform manner. Ionizer should be oriented such that the outlet is slightly below any ceiling fans. Exhaust fan inlets or other return air points creating a negative pressure should not be within 4.5 times the width of the ionization unit. Proper systems orientation will provide an enhancement to the Indoor Air Quality (IAQ) and occupant comfort.

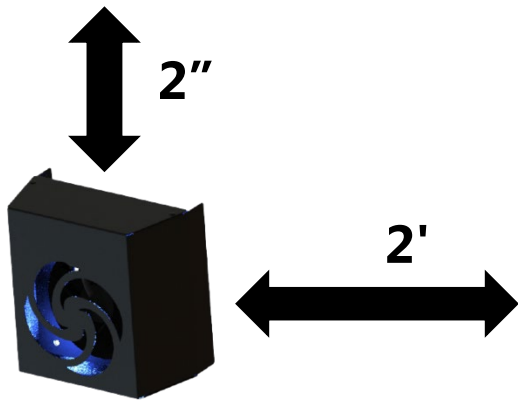


Figure 8: Installing BA-350.

Required Clearances for Mini

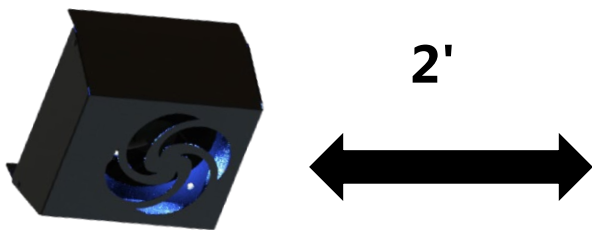


Figure 9: Installing BA-350.

Required Clearances for BA-350

See the figure on the left for required clearance distances around an installed Mini wall-mounted unit.

- There must be a minimum clearance of 2 inches from the top of the Mini unit to the ceiling.
- Clearance gap between any wall or enclosure and the left or right side of the unit must be greater than 2 feet.
- The base of the unit must be at least **7.0 feet** from the floor for adequate disbursement.
- The recommended height top is not to exceed **11 feet** from the floor.

Required Clearances for Max Ceiling Mounted Unit

See the figure on the right for required distances around Mini ceiling-mounted unit.

- There must be placed slightly below any ceiling fans.
- The base of the unit must be at least **7.0 feet** from the floor for adequate disbursement.

Inspection



GENERAL INSTALLATION GUIDELINES

Unpack and Inspect for Freight Damage

⚠ CAUTION

To help avoid injury to personnel and damage to the unit, do not lift the ionization unit by the slots.

Note:

Shipping information and net weights of the Crystal Clean Air Ionization units are listed in the General Data section.

Ⓞ *Do not unpack the unit and remove the protective materials until ready to install. Before unpacking, carefully move the packaged unit to a work area near the installation location.*

After opening, if the unit is damaged, repack the unit as it was shipped to you. **RETAIN ALL PACKING MATERIALS.** In general, freight damage claims will be denied if the original packing materials are not retained for the claims adjustor to inspect. Call your supervisor on how to proceed with filing a freight claim and to order a replacement unit.

Before opening the shipping container, check the container labeling to verify the unit received is the correct unit. Verify the unit capacity, type, and voltage. Refer to the Ionization Units Nomenclature in the General Data section.

1. Before opening the shipping container, verify you have the correct unit.
2. Place the box on a solid surface right side up.
3. Open the top of the box and fold back all of the flaps.
4. Remove the protective packing material and place to the side.
5. Check the unit nameplate data and model number. Verify the unit voltage, and capacities are correct before proceeding.
6. Locate and retain the factory-supplied parts, etc.
7. Carefully lift the unit and inspect for freight damage. Ⓞ **DO NOT** lift by the slots. If damage is found, repack the unit as it was received in the original container.
8. If the unit is undamaged, remove and retain the installation manual.

GENERAL INSTALLATION GUIDELINES

Installation BA-800/BA-1000

⚠WARNING

- *Mounting hardware must be securely installed to prevent the unit falling from its installation location. There is risk of injury or property damage from falling equipment.*
- *When choosing a location for the wall mount, be sure to take into consideration power outlets must be near the unit.*
- *Installation work must be performed by trained personnel and in accordance with all local or other applicable codes. There is risk of injury to personnel from incorrect installation.*

Note: *Select the location carefully. Unit must be anchored to a strong wall to prevent unnecessary vibration.*

Installation Instruction

1. Place the unit on the wall and mark the location of the four (4) holes.
2. Drill four (4) holes and drive the four (4) plastic anchors into each of the drilled holes.
3. Hold the unit in place as you drill the screws into the top left and right of the unit.
4. After the top of the unit is secure, attach the bottom with the remaining two (2) screws. Tighten all screws.
5. After the unit is anchored, test the installation by gently applying downward pressure with both hands and jiggling to be sure it is attached securely.
6. If the unit is loose, repeat the steps above and adjust the screws, as necessary. If the unit is secure, the installation is complete.
7. Plug in the cord into a power outlet and enjoy cleaner air!

GENERAL INSTALLATION GUIDELINES

Installation BA-350

⚠ WARNING

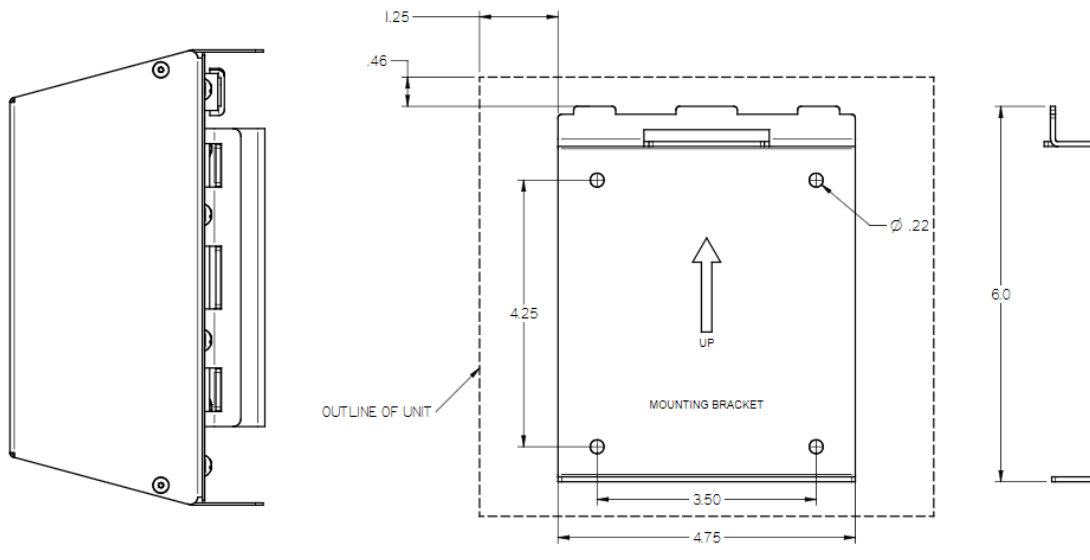
- Mounting hardware must be securely installed to prevent the unit falling from its installation location. There is risk of injury or property damage from falling equipment.
- When choosing a location for the wall mount, be sure to take into consideration power outlets must be near the unit.
- Installation work must be performed by trained personnel and in accordance with all local or other applicable codes. There is risk of injury to personnel from incorrect installation.

Note: Select the location carefully. Unit must be anchored to a strong wall to prevent unnecessary vibration.

Mounting the Installation Plate — BA-350

The mounting wall must be strong and solid enough to protect the unit from vibration. It must securely hold the installation plate and the weight of the unit.

1. Before installation of the plate, confirm the position the screws between unit and mounting plate.
2. Place the mounting plate and mark the location of the four (4) holes. To Ensure the unit is level, use a leveling tool. If mounting the unit on concrete, consider using anchor bolts.
3. Drill four (4) holes and drive the four (4) plastic anchors into each of the drilled holes.
4. After the mounting plate is secured, simply hang the unit on the mounting bracket.



5. After the unit is anchored, test the installation by gently applying downward pressure with both hands and jiggling to be sure it is attached securely.
6. If the unit is loose, repeat the steps above and adjust the screws as necessary. If the unit is secure, the installation is complete.
7. Plug in the cord into a power outlet and enjoy cleaner air!

GENERAL MAINTENANCE GUIDELINES

Maintenance

Virtually maintenance free – suggested maintenance includes spraying ionizer tips with canned air 1x yearly.

We strongly recommend running the unit for one-hour prior opening to the public.

