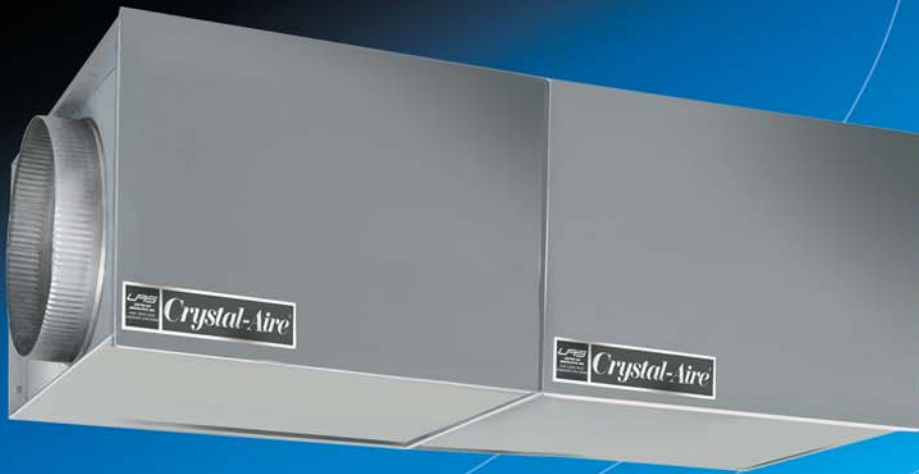




United Air Specialists, Inc.

a CLARCOR company

CRYSTAL-AIRE®



CONCEALED COMMERCIAL AIR CLEANERS

Clean air. It's what we do.™

CRYSTAL-AIRE®

A Customized CONCEPT IN Concealed AIR CLEANING.



Using a variety of accessories, Crystal-Aire can be adapted to most building configurations and can serve more than one area or room.

UNIQUE PROBLEM, UNIQUE SOLUTION

Indoor air quality problems are typically unique to each workplace. That's why United Air Specialists (UAS) offers Crystal-Aire, a concealed, modular air cleaning system. Flexible in design, this unit can be adapted to most building configurations and is able to serve more than one room at a time with multiple filtration options.

QUIET AND COST EFFECTIVE

Crystal-Aire causes less distraction, because it's barely visible and audible. Its modules are installed above the ceiling, so it operates more quietly than other large-capacity air cleaners. Using a variety of accessories, Crystal-Aire can be adapted to most building configurations and can serve more than one area or room. It is an effective system that assists with the problem of air mixing when smoking and non-smoking sections are adjacent.

In addition to providing an improved atmosphere for your guests, customers and employees, Crystal-Aire can help your business save money.

This concealed system reduces cleaning and housekeeping costs by minimizing contaminant build-up on walls, windows and furniture. And, instead of exhausting expensive heated or cooled air outdoors, Crystal-Aire recirculates cleaned air within a given space—resulting in a significant reduction in utility bills.

OUT OF SIGHT, OUT OF MIND!

Crystal-Aire concealed air cleaners specifically filter smoke, dust and other hazardous irritants such as bacteria and viruses from the air. Its modules are installed above the ceiling, virtually out of sight. Only the inlet and outlet grilles are visible, and depending on your business' layout, you have the flexibility to determine the placement of these grilles to ensure complete and efficient removal of harmful airborne particles.

A UAS Representative can assess your air quality situation to help determine which Crystal-Aire modules best meet your needs.



Clean air. It's what we do.™

HOW CRYSTAL-AIRE WORKS

Crystal-Aire concealed systems are an innovative concept in electronic air cleaners. Their flexibility enables these units to adapt to any situation or room configuration to effectively solve your particular air cleaning needs.

As shown below, dirty air is drawn into the Crystal-Aire system through waffle-shaped inlet grilles, or Return Air Assemblies, located in two different areas. The air flows

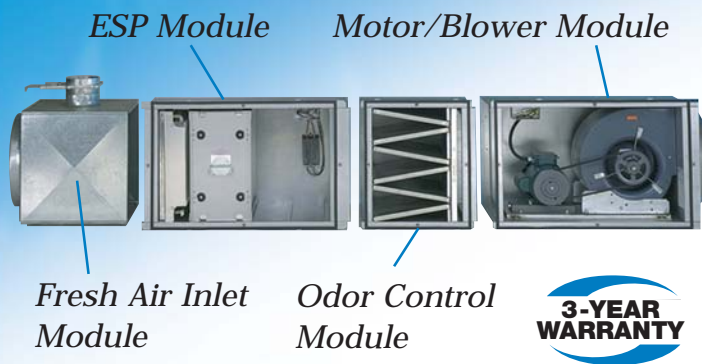
through Aluminized Flexible Ductwork and is directed to the unit via a Wye Connection. Once inside, many pollutants and harmful contaminants are filtered, and the discharged air is then released into different locations through louvered outlet grilles, or Supply Air Assemblies.



APPLICATIONS

- Animal shelters
- Bars
- Bingo halls
- Bowling alleys
- Cigar bars
- Conference rooms
- Dental labs
- Healthcare facilities
- Laboratories
- Offices
- Reception halls
- Recreational facilities
- Restaurants
- Schools
- Smoking areas

CHOOSE FROM A VARIETY OF MODULES



MODULE OPTIONS

All module cabinets are constructed with heavy-duty, 18-gauge galvanized steel for durability, and are also designed to interlock with one another. Each section offers easy access for routine maintenance and servicing, and adapter panels are available for connecting to standard ductwork or additional modules.

MOTOR/BLOWER MODULE

All Crystal-Aire systems require the Motor/Blower module. This quiet motor/blower draws air into an inlet grille, pushes it through aluminized flexible duct and other filtration modules and then sends it out of the outlet, or supply grille(s).

ELECTROSTATIC PRECIPITATION (ESP) MODULE

The ESP module is the most common section used with the motor/blower. It consists of a pre-filter, ionizer, collection cell, optional after-filter and power pack. Inside the ESP section, tobacco smoke, dust, pollen and other submicronic particles are captured much like a magnet. Large contaminants are trapped in the pre-filter, while submicronic particles receive a positive charge from the ionizer. The charged particles are then trapped on reusable collection plates and sent through an optional 6", 95% HEPA or carbon after-filter.

BAG FILTER MODULE

Instead of an ESP cleaner, some building codes specify the use of a "bag" or "box" filter. The Crystal-Aire Bag Filter module holds a disposable pre-filter and a pocketed

"bag" filter. As contaminated air passes through filter fibers, airborne particles are trapped on media fibers and eventually on other built-up contaminants, the result being an effective air cleaning mechanism. The Bag Filter module uses a red operation light, or pressure switch, to monitor loading of the filters.

BOX FILTER MODULE

Another alternative to the ESP cleaning system is a "box" filter. The Crystal-Aire Box Filter module operates similar to the Bag Filter described above and has comparable efficiencies. In this module, a HEPA or ASHRAE "box" filter is used in applications where extremely high efficiency or special duty is required. It consists of a disposable pre-filter, folder media filter mat mounted within a particle board frame and pressure switch to monitor filter loading.

ESP MODULE WITH GERMICIDAL ULTRAVIOLET (GUV) LAMPS

The GUV module combines electrostatic filtration and germicidal ultraviolet radiation to provide the optimum in effectiveness for removal of airborne dusts, pollen, bacteria, germs, viruses, molds and spores. Especially useful in healthcare facilities, this module offers the technology to kill viruses and deactivate bacteria and spores. And, the GUV lights require no biohazard handling of contaminated filters.

ODOR CONTROL MODULE

The Odor Control module, which typically follows the ESP, Bag or Box Filter section of a Crystal-Aire system, is used to combat strong, pervasive odors. This module is made up of six trays, which hold 18 lbs. of carbon or potassium permanganate, and a disposable after-filter to capture any carbon dust that might be entrained into the airstream.

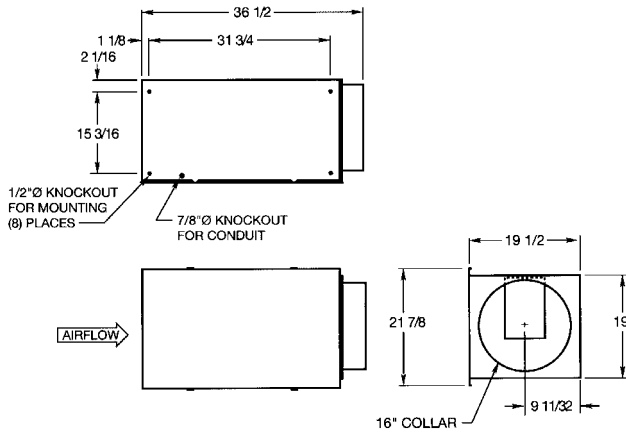
FRESH AIR INLET MODULE

The Fresh Air Inlet is a transition piece, or plenum, that delivers air from the outdoors, or another location in a building, to the filtration area.



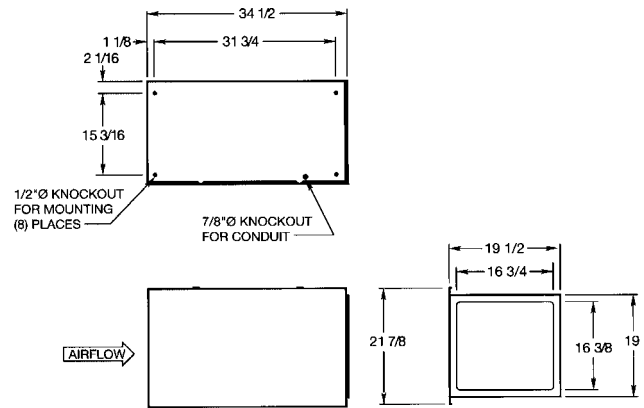
SPECIFICATIONS

MOTOR/BLOWER MODULE



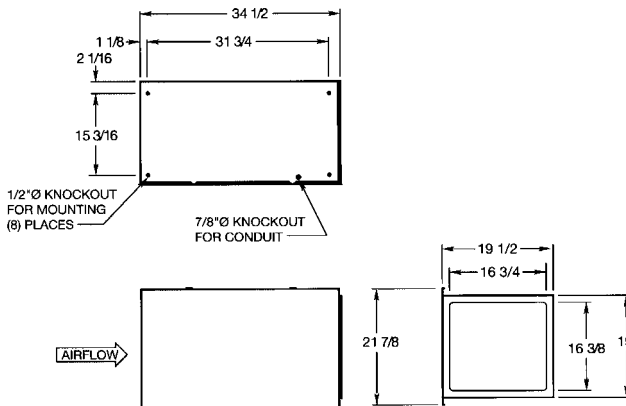
Electrical: 1 1/2 HP, 115/1/60, 14.5 amps
 1 1/2 HP, 230/1/60, 7.3 amps
 (2 HP option available)
 Weight: 135 lbs.

ESP MODULE



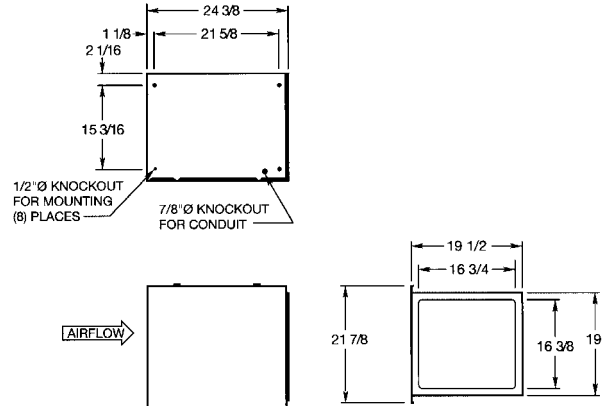
Electrical: 115/1/60, 0.25 amps
 Output: 12,000 VDC, 5.0 MA Max
 Weight: 88 lbs. Full; 53 lbs. Empty

BAG FILTER MODULE



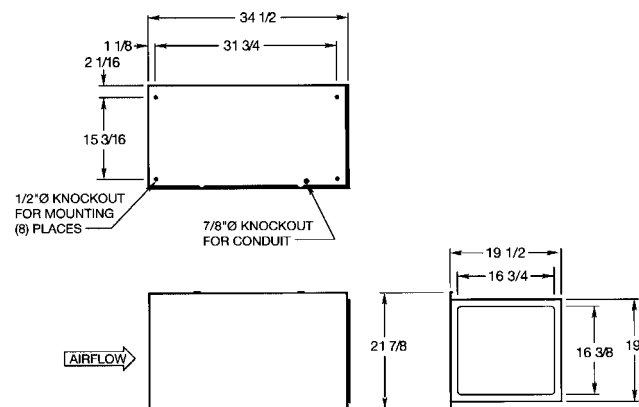
Weight: 61 lbs. Full; 53 lbs. Empty

BOX FILTER MODULE



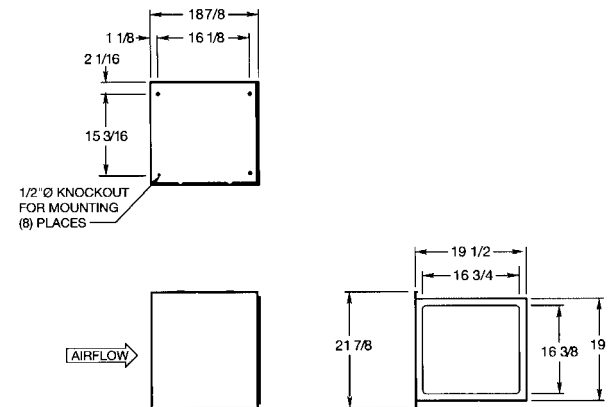
Weight: 65 lbs. Full; 42 lbs. Empty

ESP MODULE WITH GUV LAMPS



Electrical: 115/1/60, 2.0 amps
 Output: 48 UV watts with 1.4 amps
 Weight: 105 lbs.

ODOR CONTROL MODULE



Weight: 61 lbs. Full; 37 lbs. Empty

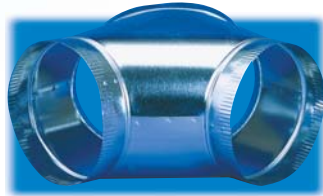
ACCESSORIES

WYE CONNECTION

The Wye Connection is a device used to direct air to more than one area of a room. This transition piece can accept sheet metal or flexible duct.

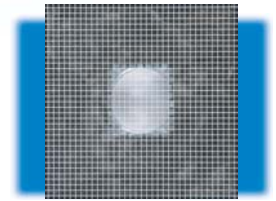
Available sizes include:

- 16" inlet with two 10" wye connections
- 16" inlet with three 8" wye connections
- 10" inlet with two 8" wye connections



RETURN AIR ASSEMBLY

Designed to draw air into the Crystal-Aire, the Return Air Assembly, or inlet grille, is made up of molded fiberglass plenum with scrim reinforced foil back and square-to-round collars. The molded white polystyrene eggcrate is 24" x 24" T-bar drop-in with 1/2" x 1/2" grid spacing.



- 24" x 24" T-bar (12" x 12" grille) with 8" elbow
- 24" x 24" T-bar (12" x 12" grille) with 10" elbow

ALUMINIZED FLEXIBLE DUCT

The Aluminized Flexible Duct allows users to channel air up to 25'. It is made of UL-listed aluminum polyester laminate with encapsulated galvanized steel wire, and can be compressed into just 32". Aluminized Flexible Duct is available in the

following sizes:

- 8" x 25'
- 10" x 25'
- 16" x 25'



SUPPLY AIR ASSEMBLY

The Supply Air Assembly, or outlet grille, recirculates clean air into the room. It features a white enamel finish to blend with the ceiling and adjustable louvers.



Supply Air Assemblies are available in these sizes:

- 24" x 24" T-bar (12" x 12" grille) with 8" elbow
- 24" x 24" T-bar (12" x 12" grille) with 10" elbow

REMOTE SWITCH ASSEMBLY

An optional accessory with Crystal-Aire Systems, the Remote Switch Assembly features a wall-mounted remote control with on/off switch and one or two indicator light(s).

The lights notify users when the unit needs to be serviced, and the number of lights is determined by which modules make up the system.



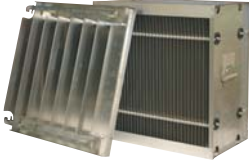



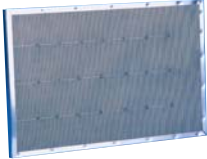


ADDITIONAL ACCESSORIES

- Activated carbon tray
- Adaptor plate with 16" collar
- Long wire ties
- Plenum supports



FILTER OPTIONS

Filter	Description	Module Availability				Nominal Dimensions (H x W x D in.)	Collection Area (sq. ft.)	Efficiency ASHRAE (52-76)
		ESP	Bag	Box	Odor Control			
1" Aluminum Mesh Prefilter 	<ul style="list-style-type: none"> Layered aluminum mesh screen Heavy-duty aluminum channel frame 	■	▲	▲	▲ (as after-filter)	18 ¹ / ₂ x 19 ¹ / ₄ x 7 ⁷ / ₈	2.5	n/a
1" Pleated Media Prefilter 	<ul style="list-style-type: none"> Pleated, non-woven reinforced cotton fiber media Heavy-duty fiberboard frame 	▲	■	■	■	18 ¹ / ₂ x 19 ¹ / ₄ x 7 ⁷ / ₈	5.5	35% ASHRAE
Collection Cell & Ionizer 	<ul style="list-style-type: none"> Aluminum construction Concealed insulators Stainless-steel contact points Tungsten wires 	■				17 ⁷ / ₈ x 18 ⁷ / ₁₆ x 10 ⁵ / ₁₆ (cell) 17 ¹⁵ / ₁₆ x 18 ⁷ / ₁₆ x 3 ³ / ₈ (ionizer)	140 n/a	95% ASHRAE n/a
Extended Surface Bag Filters 	<ul style="list-style-type: none"> Ultra-fine fiberglass media Galvanized steel header frame 		▲			18 ¹ / ₂ x 19 ¹ / ₄ x 22 18 ¹ / ₂ x 19 ¹ / ₄ x 22	37 37	65% ASHRAE 95% ASHRAE
Box Media Filters 	<ul style="list-style-type: none"> Waterproof glass media Particle board frame 	▲				18 ¹ / ₂ x 19 ¹ / ₄ x 5 ⁷ / ₈ 18 ¹ / ₂ x 19 ¹ / ₄ x 11 ¹ / ₂ 18 ¹ / ₂ x 19 ¹ / ₄ x 11 ¹ / ₂ 18 ¹ / ₂ x 19 ¹ / ₄ x 11 ¹ / ₂ 18 ¹ / ₂ x 19 ¹ / ₄ x 11 ¹ / ₂	49 67 94 113 113	95% HEPA* 95% ASHRAE 95% ASHRAE 95% HEPA* 99.9% HEPA*
Carbon Tray 	<ul style="list-style-type: none"> Six 3/4" trays of carbon in metal frame Six 3/4" trays of potassium in metal frame 				■ ▲	12 ⁵ / ₈ x 19 ¹ / ₄ x 3 ³ / ₄ (tray size) 12 ⁵ / ₈ x 19 ¹ / ₄ x 3 ³ / ₄ (tray size)	2.2 lbs. per tray 5 lbs. per tray	n/a n/a
Vee Bank Odor Filters 	<ul style="list-style-type: none"> 6" carbon vee bank cell Ten 1" carbon trays 	▲ ▲				18 ¹ / ₂ x 19 ¹ / ₄ x 5 ⁷ / ₈ 5 ¹ / ₄ x 18 ⁷ / ₈ x 1	50 lbs. 20 lbs.	n/a n/a

* Thermal DOP Federal Standard 209A

■ Standard

▲ Optional

AIR CLEANING SPECIALISTS, Inc.

11088 Gravois Industrial Court St. Louis, MO 63128

636-349-4400 (Fax): 636-349-0556

Toll Free: 800-878-5030

smokeeters.com

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