

ARES[®]

AIR REPLACEMENT ENGINEERED SYSTEMS

owner's manual

CEV - 6000 / CEV - 12000

12" RIGID MEDIA EVAPORATIVE COOLER AND MODULES



ARES Duct Furnaces meet the requirements for ANSI Z83.8b-2004 / CSA2.6b-2004

A Division of:

SPEC-AIR
Special Performance Engineering Capabilities

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CAUTION: Read all instructions carefully before starting installation.

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GENERAL INFORMATION

TO INSURE PROPER OPERATION AND MAINTENANCE OF ARES MAKE-UP AIR SYSTEM, PLEASE READ AND UNDERSTAND THIS MANUAL THOROUGHLY.

Where necessary, the following information will be indented and paraphrased.

NOTE: Information pertaining to special instructions regarding the care and use of the ARES Make-up Air System.

CAUTION: Information intended to indicate situations which may cause immediate or future damage to the ARES Make-up Air System.

WARNING: Advice against improper use or procedures which may result in bodily injury for which ARES will accept no responsibility.

All information illustrations and specifications contained in this manual are based on the latest product information available at the time of printing. ARES reserves the right to make changes at the time, without notice, in specifications and models and also to discontinue models. ARES also reserves the right to change any specifications or parts at any time without incurring any obligation to provide the same on models manufactured prior to date of such change.

The continuing accuracy of this manual cannot be guaranteed.

All illustrations used in this manual may not depict actual models or equipment and are intended as representative views for reference only.

Future supplement sheets will be added or deleted as necessary.

Prints or system details located in this manual are for instructional purposes only and do not represent actual or scale drawings.

ARES CEV Series Evaporative Cooler Specifications

1. Cabinetry shall be of 18 gauge die-formed 304 Stainless Steel.
2. Large Service lift out type access panels shall be provided on both sides of the unit for easy access to unit filters and evaporative cooling media.
3. Evaporative Media shall be 12" rigid media manufactured by Glacier-Cor®, or 12" GlasDek media manufactured by Munters Corporation.
4. Unit shall be sized not to exceed 600 fpm across the face area of the 12" media.
5. Evaporative Cooler shall be provided with the following standard features. A 304 Stainless Steel reservoir pan. A fractional voltage, thermally protected water pump. A removable manifold shall be constructed of schedule 40 PVC to include a water flow regulating valve, bleed-off tube, and removable caps at the end of the manifold for easy cleaning of the manifold at scheduled maintenance intervals. A brass water inlet valve with an adjustable water float to maintain a constant water level in the water reservoir.
6. The CEV Evaporative Cooling unit shall have a minimum cooling effectiveness of 94% at an airflow rate not exceeding 600 fpm.
7. The 304 Stainless Steel cabinet portions of the CEV Evaporative Cooler shall have a “rust through” warranty covering a period of 12 years from date of installation. This warranty shall pertain to all manufactured Stainless Steel parts of the CEV Evaporative Cooler, and is subject to reasonable expectations of scheduled routine maintenance per the manufacturer’s recommendations.

Evaporative Cooler Sizing Guidelines

Evaporative cooling is generally sized by two standards depending on the area to be effected by the airflow of the cooler. Generally these standards will be classified as “Space Cooling” or “Spot Cooling”. A practical method for determining the required evaporative cooler air supply is the employment of air change calculations. This calculation provides a determination of the amount of air per minute (cfm) required to change the air in a specified space per hour.

Excessive interior heat loads and humid conditions having low design wet bulb depressions will require more air changes and in turn a large quantity of air. It is important that an evaporative cooler not be undersized. Also, room air should never be circulated through the cooler, but all air from the evaporative cooler must be exhausted.

A “rule of thumb” for determining the number of air changes for a given space is:

$$\text{Minutes per air change} = \frac{\text{Design dry bulb} - \text{Wet bulb design}}{10}$$

As stated already this is a “rule of thumb” procedure for determining air change rates for a space. For more precise engineering information ASHRAE (American Society of Heating Refrigerating, and Air Conditioning Engineers) has developed data dealing with the needs of various kinds of spaces and air change requirements for specific applications. ARES recommends consultation with the ASHRAE Standards for Space Cooling, or a Mechanical Engineer if you are not certain of your space requirements.

“Spot Cooling” is cooling designed to target a specific area of 1 to 5 workers. This may be an area where there is a great deal of heat load resulting from a manufacturing process. While you are not concerned with cooling an entire space with this process, you will want to provide enough air in this specific area for air movement across the skin to facilitate natural evaporation of perspiration. A key ingredient to this method of cooling is to keep the discharge velocity of the air between 500 and 1000 FPMS, and the air should be discharged no more than 10 to 15 feet above upper body of the work areas targeted.

To best calculate an estimated dry bulb discharge air temperature, use the following formula.

KEY TO TERMS

- T2 = Leaving dry bulb
- T1 = Entering dry bulb
- T3 = Entering wet bulb
- E = Efficiency

$$T2 = T1 - (T1 - T3) (E)$$

Note: For areas of heavy heat loads, or high humidity you may need to increase the CFM by as much as 50%.

The ARES evaporative coolers reduce the dry bulb temperature of the inlet air or outside air 80% to 97% of the wet bulb depression. Efficiency is based on the velocity of the air across the media. Evaporative cooling is essentially adiabatic cooling, meaning no change in the total heat in the air; the wet bulb temperature will remain constant through the cooling process. The above formula will help determine the discharge dry bulb air temperature.

Rigid Media Technical Data

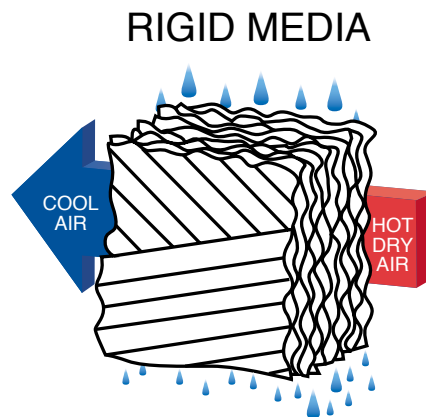
ABOUT RIGID MEDIA

“Rigid Media” is a generic term for CELdek[®] or GLASdek[®] media as manufactured by Munters Corp., and Glacier-Cor[®] media as manufactured by Glacier-Cor Corp. a division of Tenneco.

DESCRIPTION

The Rigid Media is a cellulose material impregnated with insoluble anti-rot salts and rigidifying saturants. The media incorporates an internal geometry of transverse 45 degree and 15 degree alternating flutes. The 45-degree flute carries the water to the face (air intake) side of the media while the 15-degree flute is aligned with the direction of airflow.

This flute arrangement is self-cleaning and increases cooling efficiency by causing air turbulence while air is traveling through the media. This media provides 123 square feet of evaporative surface per cubic foot of media. Efficiency of Glacier-Cor[®] media is about 95% at 500 feet per minute of face velocity in the 12" thick media. Life expectancy is dependent upon many factors, but normal life expectancy should range from 3 to 5 years when properly maintained and the water pH is between 6 and 8.



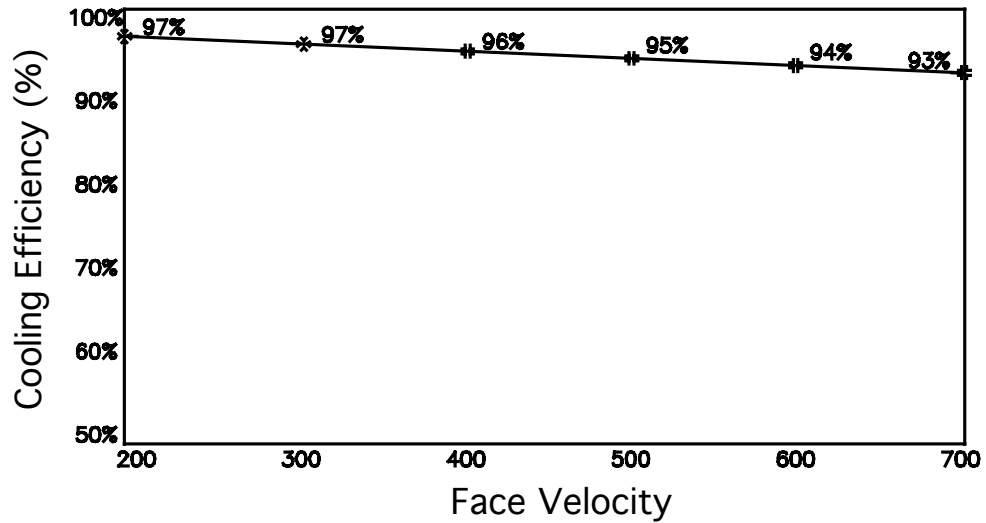
COOLING EFFICIENCY

Cooling efficiency is based on “saturation efficiency”, defined as the ability to transfer water vapor into the air stream. The two factors to be considered in determining the efficiency of the media are media thickness and airflow face velocity.

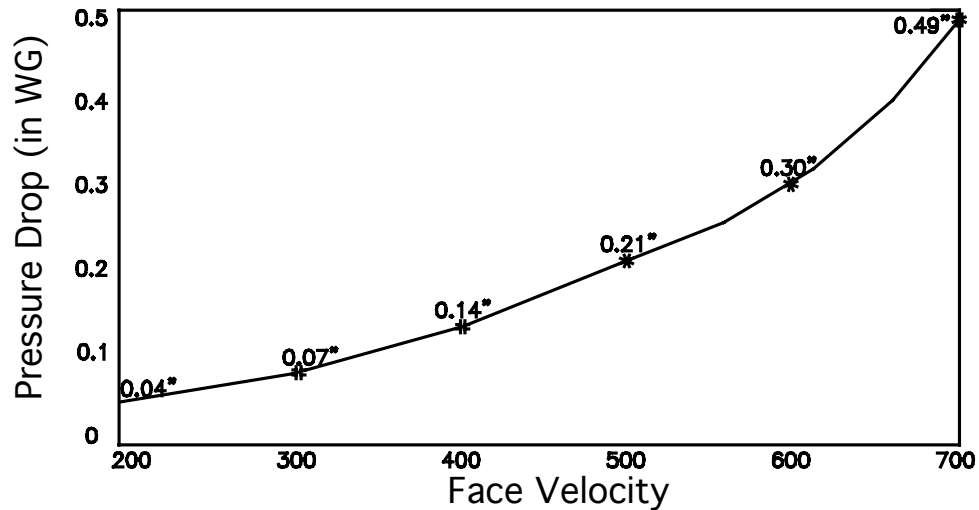
The following tables define the saturation efficiency by media thickness, and air flow face velocity. This data is based on performance information published by Glacier-Cor for their Super Saturation media.

RIGID MEDIA TECHNICAL DATA CHARTS

PAD COOLING EFFICIENCY



PRESSURE DROP ACROSS MEDIA



INITIAL STARTUP New Media

After installation of new media, or when starting a new ARES CEV 6000 / 12000 evaporative cooling system, some simple procedures will allow for maximum utilization of the evaporative cooling system.

Inspect for Air Leaks

To obtain the most efficient cooling available, it is important that all flows through the cooling media. Air will naturally take the path of least resistance, so it is important to make sure the media is properly installed. Make sure the media fits into the cabinet as designed. Make sure the doors are replaced properly to insure the proper flow of air through the cooler. Any air by-passing the media will dilute the cooled air with warm outside air. This will increase the temperature of the air being provided to the space.

Allow Break-In Period

New media has a slick surface and wets out more slowly than “aged” media. After installation it is recommended to run water continuously for one or two days over the media surface. This ages the media and allows the surface adhesion to permit faster wet-out.

Adding a small amount of surfactant to the water will speed up the wet-out of the new media. Spreader-sticker type agricultural surfactants are available through local supply houses and hardware stores. Be sure to follow label recommendations when adding these substances to the water in the sump.

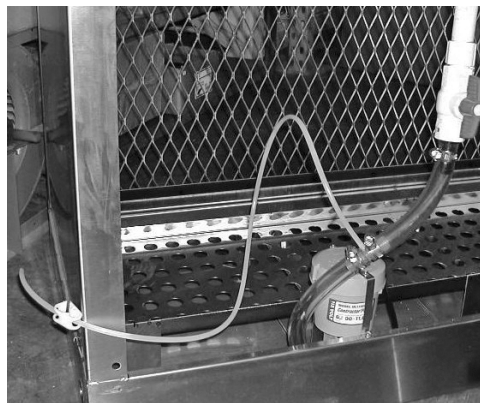
Check for Dry Streaks

Dry streaks on the media face indicate inconsistencies in the water distribution system. This may indicate a need for maintenance of the distribution manifold. Check for plugged, or restricted distribution holes in the manifold. For further information see the Maintenance section under “Manifold Maintenance”.

Adjust Water Bleed-off Rate

It is important that a constant quantity of water (bleed-off) is drained from the system during its operation. This prevents concentration of dissolved solids that may “plate-out” on the surface. Excessive accumulation of hardness deposits will restrict the free flow of air through the media.

For further discussion and information see the Maintenance section under Water Chemistry.



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Adjust Water Bleed-off Rate

It is important that a constant quantity of water (bleed-off) is drained from the system during its operation. This prevents concentration of dissolved solids that may “plate-out” on the surface. Excessive accumulation of hard water deposits will restrict the free flow of air through the media. For further discussion and information see the Maintenance section under Water Chemistry.

Splash Guard

Make sure the Splash Guard is installed in the correct location. In case there is a leak on the water inlet, the Splash Guard will deflect the water and prevent water carry over outside of the evaporative cooler.

Check for Fire Hazards

Make sure the media is clear from all fire hazards and any other source that could cause the media to light fire.

Check for Proper Support

Make sure the evaporative cooler is properly supported. On Direct Fired Units with evaporative cooling, please make sure proper support is added to the cooler to level the unit and prevent possible leaks.

NORMAL OPERATION

The Rigid Media provided with this unit is easy to use. The following information is supplied to help ensure the system providing optimum performance throughout seasonal usage.

Run the Pump Constantly

It is best to run the pump constantly during the cooling hours, unless the water source is very soft. Allowing the pump to cycle on and off for short duration's increases the rate at which the hardness deposits "plate out" on the media. Maintaining a minimum ratio of water recirculation helps control deposits.

Daily Shutdown

At the end of each day, allow the fan to run for 30 minutes or longer after the pump is shut down. This will help dry the media, which aids in preventing growth of bacteria or fungus that can foul filters, and distribution holes.

Proper Water Levels

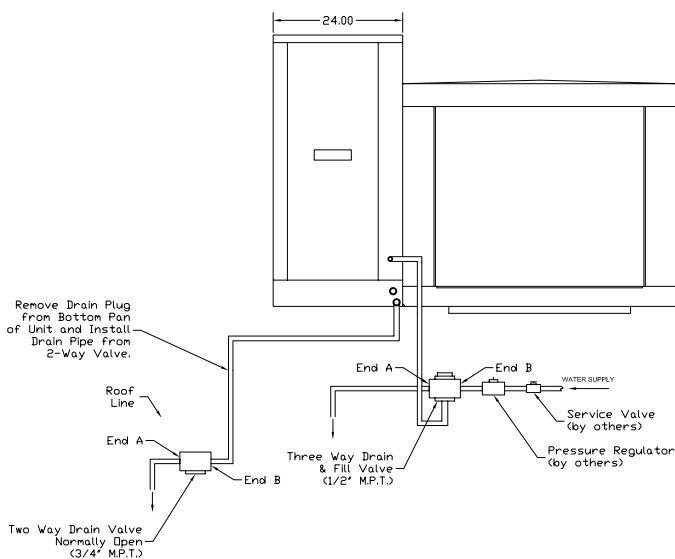
Do not over fill the system with water. If the water level is too high, the bottom of the media may sit in the water at all times and become waterlogged. This will threaten the media's self-supporting status, and shorten its life.

Maintain Bleed-off

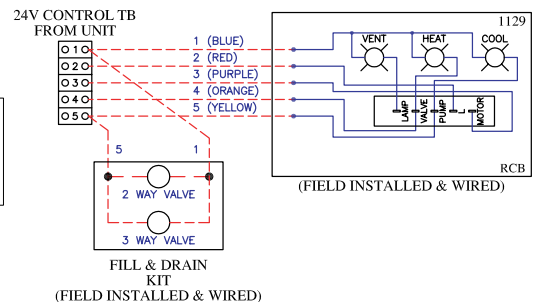
Periodically check for dry spots, and ensure that the bleed-off function is operational. Well-meaning personnel many times misinterpret dripping water as a leak and turn off the valve. Technicians and other employees of the end-user should be aware of the warning label mounted in the unit advising that the bleed-off must be maintained during system operation and the water dripping is normal.

One answer to salt buildup is Bleed-off rate. We recommend starting with a rate of 4.12 gallons per hour of Bleed-off for the CEV-6000 and a rate of 8.39 gallons per hour for the CEV-12000. This rate may be adjusted in the field depending on the quantity of buildup noted on the media through the cooling season. It is possible to control the amount of "salts" left behind and even remove some of the accumulation by increasing the Bleed-off rate, which increases the amount of fresh water being added into the system.

Optional Fill and Drain



FILL & DRAIN KIT WIRING SCHEMATIC



SEQUENCE OF OPERATION:

(Without Switching Relay)

- COOL** - 2 Way Drain Valve Closed (Fill Valve OPEN)
- VENT** - 2 Way Drain Valve Closed (Fill Valve OFF)
- HEAT** - 2 Way Drain Valve Closed (Fill Valve OFF)
- OFF** - 2 Way Drain Valve Open (Fill Valve OFF)

MAINTENANCE / WATER CHEMISTRY

Note:The relative quantities of minerals dissolved in a given sample will determine whether water is hard or soft.

Hard Water

Hard water contains a high amount of minerals, primarily calcium. A sample of water can contain only a specific maximum amount of dissolved solids in solution. If these concentrations increase beyond a certain level the excess minerals precipitate out as a solid material. An example of this mineral precipitate is the residue left in the bottom of a pot of water which has been allowed to boil for a prolonged period.

Evaporation in the Rigid Media concentrates the minerals in solution and causes a build up of calcium carbonate deposits. While these deposits are not harmful to the media pads, over time they will reduce the airflow through the media.

In most cases bleeding off a portion of the re-circulating water (3%-5%) and adding fresh water to compensate for bleed-off and evaporation will minimized the mineral precipitation and keep concentrations soluble.

Soft Water

Soft water contains low concentrations of dissolved solids in solution, and if used over extended periods of time they may leach the stiffening agents from the media. If the water source provides soft water, allow the minerals to concentrate by minimizing bleed-off (less than 1%) or eliminating bleed-off completely. If water is excessively soft, cycle the pumps off and on just to keep the media wet. It is not recommended that a water softener be added to the water supply of the cooler even if the water condition is hard. This may cause deposits of sodium chloride to appear on the media and cause damage and or clogging of the media.

Regardless of the type of water used the ideal final mineral concentration allows a slight white "frosting" to appear on the air entering face of the media over several months of operation.

pH Range

The Rigid evaporative media provides optimal long life if the pH of the re-circulating water is at the proper level. The pH level of re-circulating water should not be less than 6 nor greater than 9. Anytime the pH levels exceed these levels there will be degeneration and potential for media failure. Any wetting agents containing phosphonates or aromatic hydrocarbons are detrimental to pad life and must be avoided

SCALE / ALGAE / BACTERIA CONTROL

Note: This section covers scale, algae, and bacteria control both with chemicals and without chemicals. As a rule scale, algae, and bacteria will cause little damage to the media. However, if not controlled they can cause restricted airflow as well as plugged screens, distribution holes, and other problems.

Control Without Chemicals

Algae and Bacteria – Most organisms thrive in the presence of water, sunlight, and nutrients.

Water – Not allowing the media to dry out at the end of each day, or at least as often as possible, eliminates the moisture contributor. Consequently, organisms become flaky or powdery. When the system is started the next day the small dry flakes are washed out and trapped in the filter. Large flakes or deposits can be brushed or vacuumed from dry pads.

The drying of the pads can be accomplished by continuing to run the fan after the pump has shut off. The time to dry the media will vary according to weather conditions, pad condition, air velocity, and pad wetness. However, allowing the fan to run an average of 30 minutes after the pump has been shut off should be sufficient time.

Sunlight – To solve the sunlight problem, it is recommended to shade the media from direct sunlight. The ARES CEV units come standard with inlet filters, which will serve to shade the media from direct sunlight effects.

Nutrients –

- All nutrients and fertilizers should be kept away from the media.
- In greenhouse applications never allow liquid fertilizer to be sprayed on to the media.
- Most chemicals that contain phosphorus or phosphate compounds will promote organism growth. Caution should be used when adding these compounds to the sump to effect water quality.

Scale – Scale is best controlled by prevention rather than correction. If your water is at the upper range of the recommended pH range level, it will tend to build up scale on the face of the media. The most effective means for controlling scale is to ensure a proper amount of Bleed-off and an adequate supply of water flow on the media.

If scaling is a problem, a water analysis should be made to obtain a lasting solution. The water source for the media must be maintained with a pH level between 6 and 9. Silica levels must be kept below 150 PPM.

Control with Chemicals

There are numerous products and methods for the chemical control of organisms that create algae and bacteria and the by-products of water that produce scale. These products are readily available at most HVAC supply houses that sell evaporative cooling supplies. Caution should be used when adding these products to the water supply. Be sure the products being used are appropriate for the media in the cooler.

CLEANING INSTRUCTIONS

1. The reservoir pan should be drained and cleaned at least once every cooling season, and before every winter operation of the make-up air unit. If poor water conditions are prevalent more frequent cleanings may be required.

Remove the drain plug from the drain located on the side of the cooler. If the unit is equipped with a fill & drain kit, activate the 2-way valve to drain the water from the cooler sump.

Clean out all sediment, and debris from the sump pan.

Inspect pump inlet screen for sediment buildup. This can cause a restriction of water flow to the pump resulting in dry pads, or pump failure.

2. Inspect the inlet filters for cleaning or replacement minimally on a monthly basis. A scheduled preventative maintenance program will include the regular cleaning and changing of these filters. The frequency of filter change will be determined by the amount and type of contaminants in the surrounding air, and the amount of daily use the equipment is used.

You may access the filters of the CEV unit by removing either or both side panels. Carefully remove the tension brackets covering the access to the filters, and remove the filters from either side of the cooler.

The filters used in the CEV cooler are standard size and may be replaced with any brand or style the customer desires, or the application may require. ARES recommends replacement of the filters with 2" PowerGuard filters. These may be ordered from the ARES Service Department. The CEV-12000 requires 9 each 18 x 20 x 2 filters. The CEV-6000 requires 4 each 20 x 20 x 2 filters.

3. The cooling media should be inspected on a monthly basis for buildup of mineral deposits. In hard water areas, mineral salts will build up quickly. The 12" media can be cleaned of dirt and scale and restored to a usable condition with regular maintenance.

Gently clean the media with a hose and soft brush at the end of each season. If the media is substantially clogged with dirt and scale it should be completely immersed in clean water for a period of at least ten hours and gently hosed down. This should be all that is required to fully restore media that has been maintained with a proper Bleed-off program.

ARES does not recommend the use of any acid solutions to clean the media. If the preceding instructions do not restore the media to usable conditions, it is best to replace the media and faithfully follow the recommended annual maintenance / Bleed-off program.

4. The PVC manifold in the CEV cooler is designed for easy removal from the unit when the media has been removed from the unit. It is recommended that the manifold be removed annually for cleaning when the media is removed for maintenance.

Remove the clear distribution tube connecting the pump to the manifold by loosening the hose connector, and gently pulling it loose from the barbed connector.

Remove the barbed connector from the manifold "Water Flow Control Valve" by using an adjustable wrench.

At each end of the manifold a removable cap has been provided. Remove these using an adjustable wrench.

The male end of a standard water hose may be attached to the end of the manifold "Water Flow Control Valve". Turn the water on with adequate pressure to thoroughly flush the manifold assembly. Be sure to check all of the distribution holes for any buildup of mineral deposits or debris brought into the manifold by the pump. When replacing the caps at the end of the manifold and the barbed connector, be sure to use "Teflon" tape on the threads. This will lessen the likelihood of leaks, and aid in the easy removal of these parts when time for the next scheduled maintenance.

5. It is important before reassembling the media in the cooler to take a damp rag and clean any loose debris from the sump and the media tray. A part of good housekeeping should also include the removal of any dried scale, or mineral deposits from both interior and exterior stainless steel parts. Remember, "If it looks good, it works good".

CEV Evaporative Cooler Parts List

PART NO. DESCRIPTION

990078	UL 15000 CFM PUMP 115/1 (CEV-6000 / 12000)
990990	PVC MANIFOLD SCHED 40 (CEV-12000)
990995	PVC MANIFOLD SCHED 40 (CEV-6000)
O5930	GLACIER-COR MEDIA ASSEMBLY W/DISTRIBUTION PAD (CEV 6000)
O5935	GLACIER-COR MEDIA ASSEMBLY W/DISTRIBUTION PAD (CEV 12000)
O5940	GLASDEK MEDIA ASSEMBLY W/ DISTRIBUTION PAD (CEV 6000)
O5945	GLASDEK MEDIA ASSEMBLY W/ DISTRIBUTION PAD (CEV 12000)
986240	12" x 12" x 52-7/16" RIGID MEDIA (CEV-12000)
986245	12" x 2" x 30" DISTRIBUTION PAD (CEV-12000)
986250	12" x 10" x 40" RIGID MEDIA (CEV-6000)
986252	12" x 2" x 40" DISTRIBUTION PAD (CEV-6000)
986268	20" x 18" x 2" POWERGUARD FILTERS (CEV-12000)
986368	20" x 20" x 2" POWERGUARD FILTERS (CEV-6000)
988435	39" x 40.25" LOUVRES (CEV-6000)
988440	59" x 59" LOUVRES (CEV-12000)

Service and Ordering Information

1. ORDERING

For prompt and accurate handling of your order, always include: (See Owner's Registration Reference Sheet Page 15)

- a. Serial number on unit part
- b. Model number of unit
- c. Part number
- d. Part name
- e. Voltage
- f. Owner and property location
- g. Date installed (See Owner Registration in the back of this manual)

Shipment may be delayed without proper information.

If unit is in warranty, replacement part will be billed and shipped. Credit will be issued when the part in question is returned, inspected and found defective under normal usage (call the Service Department at ARES® for instructions).

2. TERMS AND CONDITIONS

Price changes: All prices will be shipped C.O.D. for customers without an open account.

Returns: Written authority must be obtained before returning any merchandise. All returned merchandise must be shipped prepaid and is subject to a handling charge.

Damaged merchandise: Notify the carrier in the event of damaged shipments, whether apparent at the time of delivery or concealed damage is discovered after unpacking. File your complaint with the carrier, not the factory. ARES' responsibility ceases when shipment is accepted by a reliable carrier for delivery.

Taxes: Any taxes or other government charge upon production, sale and/or shipment of merchandise sold hereunder, not imposed by Federal, State, or Municipal authorities, or hereafter becoming effective, shall be added to the price herein provided, and shall be paid by the buyer.

ALL SHIPMENTS F.O.B., ANTHONY, NEW MEXICO

TO ORDER PARTS OR OBTAIN SERVICE INFORMATION, CONTACT:

ARES®, A Division of Spec-Air
6850 McNutt Road,
Anthony, NM 88021
Phone: (800)-288-0892
Fax: (575)-589-2398

Limited Warranty

ARES CEV Series Evaporative Coolers

Model No. _____ Serial No. _____

Voltage _____ Date Installation completed _____

ARES extends this warranty to the original owner of this make-up air unit, providing it is installed according to factory instructions, the warranty card is completely filled out and returned to the factory, and the unit is used under normal conditions.

Length and Coverage of Warranty

The manufacturer will provide free replacement for any part which fails as a result of a defect in material or workmanship during the first year after the date of installation (or 18 months from date of shipment; whichever comes first). The cost of labor and transportation is not included in this offer. The heat coils only are warranted to be free from manufacturing defects under normal use and service for a period of three years following date of original installation. The factory will exchange the heat coil if it is received freight prepaid at the factory, 6850 McNutt Road, Anthony, NM 88021, and if found upon examination by the factory to be defective due to faulty material or factory workmanship. It is the responsibility of the owner to arrive at an agreement with a service organization to repair and/or supply the heat coil furnished by the manufacturer under this plan.

Optional evaporative cooling stainless steel pans and unit casings have a 12 year no rust through warranty.

Exemptions of Warranty Coverage

- A. The manufacturer is not responsible for any damage caused by a defect in material or workmanship. This includes, but is not limited to misuse, abuse, improper installation and transportation or handling damage.
- B. Where applicable, the manufacturer is not responsible for any consequential damage resulting from any malfunction.
- C. The manufacturer is not responsible for the cost of labor and transportation that may be required to replace the parts covered in Section 1 on this warranty.
- D. This packaged make-up air unit must be installed outdoors only. Indoor installation, alterations, disassembly of unit, or any rewiring other than factory recommended wiring voids this warranty.
- E. "Rust Warranty" does NOT cover "White Rust" resulting from dried calcium deposit build up on cabinet parts, or damage resulting from lack of regular, routine maintenance.

Obtaining Warranty Service

Please contact installing contractor, servicing contractor and/or the selling agency from whom you purchased the unit. If you cannot locate them, contact ARES®, 6850 McNutt Road, Anthony, NM 88021. Phone: 800-288-0892; fax: 575-589-2398 or by email at: aresinfo@specair.net.

What to do in case of unsatisfactory warranty service.

Please write the ARES® Service Department. Include your name, address and zip code, name of agency from whom unit was purchased, the model and serial number of the unit, date of purchase and a description of the problem.

Any warranty that may be implied from this purchase is hereby limited to the one year duration of this warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may be applied for you.

This warranty gives you specific legal rights, and you may also have rights which may vary from state to state.

Parts may be ordered from the ARES Service Dept. by contacting by phone at 800-288-0892. You may also contact us by fax at 575-589-2398 or by email at aresinfo@specair.net.

**OWNER REGISTRATION
REFERENCE SHEET**

For



**Packaged Make-up Air Units
(fill out at time of installation)**

DO NOT REMOVE FROM THIS MANUAL

Model No. _____ Serial No. _____

Customer's Name _____

Address _____

Installer's Name _____

Address _____

Installed at _____

Installation Date _____

Remarks _____

6850 McNutt Road, Anthony, NM 88021
Tel: (800)-288-0892 • (575)-589-6200 • Fax (575)-589-2398
Internet: www.specair.net • Email: aresinfo@specair.net

Warranty Registration

This sheet should be filled in and mailed to the factory within 15 days following installation.

Owner: _____
 Address: _____
 Phone: _____
 Installer: _____
 Address: _____
 Phone: _____
 In Service Date: _____

SUPPLY

Model: _____
 Serial No.: _____
 Belt Size: _____
 Drive Pulley Size: _____
 Wheel Pulley Size: _____
 Motor HP: _____
 Voltage: _____
 Phase: _____
 Fuse Size: _____
 Overload Setting: _____
 Motor Amps RTD: _____
 Actual: _____

Are belts aligned properly	Yes _____	No _____
Are set screws and locking collars tight	Yes _____	No _____
Unusual wheel alignment or vibration	Yes _____	No _____
Is heat exchanger working properly	Yes _____	No _____
Are Evap. pads working properly	Yes _____	No _____
Are unit bases properly installed	Yes _____	No _____
System operational without further adjustment	Yes _____	No _____

System requires following corrections: _____

System demonstrated to

System inspected by

ARES
6850 McNutt Road,
Anthony, NM 88021
ATTN: WARRANTY DEPT

Place
Postage
Here