



# BIOCLIMATIC

SIDE ACCESS HOUSING SYSTEM (SAH / USAH)

INSTALLATION, OPERATION

&

MAINTENANCE

MANUAL

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**BIOCLIMATIC**  
**SIDE ACCESS HOUSING SYSTEM**  
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## 1 INTRODUCTION

### 1.1 Disclaimer

These instructions are submitted with the implicit understanding that:

- 1.1.1 This manual is to guide the user of Bioclimatic equipment in the proper installation, operation and maintenance procedures to insure maximum equipment life with efficient operation.
- 1.1.2 The customer has assigned competent maintenance and operating personnel to the system described herein and will assume operational and maintenance responsibility upon start-up of the system.
- 1.1.3 The customer will read and thoroughly examine the foregoing instructions and will notify the seller of any points not fully understood, points of conflict or error.
- 1.1.4 The customer, in lieu of any notification to the contrary, has read and fully understands the operation of the System and is aware of the hazards of corrosion, abrasion and fire or explosion and shall take the necessary steps in the operation of equipment to control such hazards to the maximum extent possible.
- 1.1.5 Start-up assistance or field engineering service provided by Bioclimatic, or its authorized representative, shall in no way relieve the customer of responsibility for the proper operation of the System.

**IMPORTANT: Any modifications to the unit by unauthorized personnel will void ETL listing and factory warranty. The unit must be installed in accordance with the manufacturer instructions to preserve warranty and ETL label.**

### 1.2 Receiving

Products leaving the Bioclimatic factory are inspected and in satisfactory operating condition. All equipment should be thoroughly inspected when received. Although all units are firmly secured and palletized, rough handling in transit can cause breakage. Any shortage or damage should be reported at once to the transportation company. Note the damage on the Bill of Lading before signing for the shipment. **No equipment may be returned to Bioclimatic without written authorization. Returned equipment sent without authorization will be refused and returned to sender.**

All products are shipped F.O.B./EX Works Bioclimatic warehouse. Responsibility for all equipment passes to the Buyer at the time equipment is loaded onto the carrier's truck.

### 1.3 Handling

All equipment, whether assembled or otherwise must be handled with extreme care. The unit is in most cases shipped in one complete assembly on wooden pallets. The wooden pallet will facilitate equipment movement by lift truck without damage. Wooden pallets must be removed once the equipment is in its location. Before moving equipment, check overall height and width as well as any weight imbalances.

Handle equipment with care when removing pallets or moving equipment to prevent damage to special paints and surface coating. A small chip in the paint or coating will break the continuity of the surface treatment and destroy its protective value. Always touch-up scratched surfaces prior to installation and start-up.

The foundation for the equipment must be rigid and level. The equipment must be securely fastened to foundations prior to operation.

Install shims in any spaces between the equipment base and its foundation to insure the equipment weight is uniformly distributed. This uniform weight distribution is important to avoid excessive vibration, distortion and alignment of equipment.

### 1.4 Storage

When storing equipment, care must be taken to protect bearings, shafts, electrical connections, leads and finished surfaces from moisture, and contamination. Do not store outdoors for any length of time. Do not store any other material on top of equipment. Periodic inspections of the equipment should be made until it is ready to be put into service. Remove all filters from equipment when storing.

**NOTE: If equipment is not installed upon delivery, it must be stored in a weather-protected area.**

### 1.5 Warranty

THE SELLER WARRANTS THE EQUIPMENT AGAINST DEFECTIVE WORKMANSHIP AND MATERIAL FOR ONE (1) YEAR FROM DATE OF FACTORY SHIPMENT OR 15 MONTHS FROM COMMISSIONING, WHICHEVER OCCURS FIRST. IN THE FULFILLMENT OF ITS WARRANTY, THE SOLE OBLIGATION OF SELLER SHALL BE TO REPAIR OR REPLACE, AT ITS OPTION, F.O.B. ITS FACTORY, ANY PART OR PARTS WHICH ARE RETURNED F.O.B. ITS FACTORY, SHIPPING CHARGES PREPAID, AND WHICH AFTER INSPECTION BY SELLER ARE FOUND TO BE DEFECTIVE. BUYER SHALL NOTIFY SELLER OF DEFECT IN WRITING, PROMPTLY UPON DISCOVERY AND WITHIN THE WARRANTY PERIOD. THIS WARRANTY DOES NOT COVER DEFECTS CAUSED BY CORROSION OR NORMAL DETERIORATION; IT DOES NOT EXTEND TO CONSEQUENTIAL DAMAGE, LOSS OR DELAY ASSOCIATED WITH A WARRANTY DEFECT; AND IT DOES NOT COVER ANY COST OF LABOR, TRAVEL, OR OTHER EXPENSE ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS.

SELLER ASSUMES NO LIABILITY FOR PRODUCT LOSS OR OTHER CLAIMS WHATSOEVER ARISING OUT OF THE USE OR APPLICATION OF THE EQUIPMENT IN ANY OPERATIONS, WHETHER THE MACHINE IS USED ALONE OR IN CONJOINT USE WITH OTHER EQUIPMENT OR PROCESSES. NOTWITHSTANDING THE FOREGOING, SELLER'S WARRANTY OBLIGATIONS WITH RESPECT TO ANY ITEMS NOT MANUFACTURED BY SELLER SHALL NOT EXCEED THE OBLIGATIONS UNDERTAKEN BY THE MANUFACTURER THEREOF UNDER EXPRESS WARRANTY TO THE SELLER. THIS EXPRESS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF FITNESS OF THE MACHINE FOR ANY PARTICULAR PURPOSE.

THERE ARE NO OTHER REPRESENTATIONS, WARRANTY OF CONDITION IN ANY RESPECTS EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE IN CONTRACT OR TORT, OTHER THAN WHAT IS STATED ABOVE.

THE SELLER SHALL NOT BE HELD LIABLE IN ANY WAY FOR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED.

THIS WARRANTY WILL NOT APPLY IF THE SELLER'S EQUIPMENT HAS BEEN DAMAGED DUE TO IMPROPER INSTALLATION, ALTERATION, ABUSE OR MISUSE, ACCIDENT, FIRE, FLOOD OR ACT OF GOD. FURTHER, THIS WARRANTY WILL NOT APPLY IF REPAIRS, REPLACEMENTS, OR ALTERATIONS ARE MADE BY OTHERS WITHOUT THE SELLER'S PRIOR WRITTEN AUTHORIZATION.

IN THE EVENT THE STATE IN WHICH THE EQUIPMENT IS INSTALLED DOES NOT PERMIT THE LIMITATION OR EXCLUSION OF IMPLIED WARRANTIES OR CONDITIONS UNDER GIVEN CIRCUMSTANCES, THE PROVISIONS OF THIS WRITTEN WARRANTY ARE IN ADDITION TO AND NOT A MODIFICATION OF THE STATUTORY WARRANTIES AND OTHER RIGHTS AND REMEDIES PROVIDED BY SUCH LAWS.

**NOTE:**

“ANY MODIFICATION TO ORIGINAL EQUIPMENT BY ANY COMPANY OR PERSON OTHER THAN THE MANUFACTURER WILL SERVE TO CANCEL AND VOID ALL OF THE SELLER'S LIABILITY UNDER THE MANUFACTURER'S WARRANTY. ENCLOSURES CONTAINING ELECTRONIC COMPONENTS ARE NORMALLY SEALED BY THE MANUFACTURER TO PREVENT UNAUTHORIZED TAMPERING OR ADJUSTMENTS. ONLY AUTHORIZED SERVICE PROVIDES MAY BREAK SEALS TO COMPLETE CALIBRATION OR TO TROUBLE SHOOT THE UNIT. UNAUTHORIZED TAMPERING OR BREAKING SEALS WILL RELEASE THE SELLER FROM ANY FUTURE LIABILITY UNDER THE WARRANTY”

## 2 INSTALLATION

### 2.1 Initial Setup

- 2.1.1 All connecting duct work shall be supplied and installed by others in accordance with local codes.
- 2.1.2 A structural engineer should review installation drawings and load data to ensure that the building structure is capable of supporting the equipment.
- 2.1.3 Provide a rigid, level foundation for direct mounting of floor installed equipment. For suspended equipment, use threaded rod to support from structural members which are either factory supplied or approved. Do not support equipment directly from the sheet metal housing.
- 2.1.4 In the event the equipment is shipped in sections, assembly will be required at the job site. Prior to assembly, apply a uniform bead of silicone type adhesive to mating parts. This procedure is required to prevent air leakage or bypass during operation.
- 2.1.5 Provide a minimum of 30 inches (760mm) clearance on the hinged access panel side of all filter sections for filter servicing and replacement. For equipment with regulated Bi-polar Ionization units, the generator is normally installed outside of the air stream. In this case, provide a minimum of 24 inches (610mm) clearance from the generator to any hard surface. In the event, the tubes may be readily removed for service (via the access door) without removing the generator, provide a minimum clearance of 8 inches (205mm).

### 2.2 Electrical Connections

An electrical wiring diagram is included with these instructions.

**NOTE: Prior to installing any wiring, check the unit name plate for main power voltage, control voltage, transformer sizing and any fuse sizing. All field wiring must comply with National Electric Code and local requirements.**

Tighten all wiring lugs and terminal prior to connecting power to the unit, as they may loosen during transportation. Refer to the wiring diagram for proper wiring connections. Mount and wire any field installed components, do not jumper out or rewire any factory wiring without written authorization from Bioclimatic. (Violation will void warranty.) Pay particular attention to proper grounding of the unit.

### 2.3 Filter Installation

When installing filters, refer to the filter label located on the inside of the access doors. This label itemizes all filters in the unit and their arrangement.

**NOTE: Make sure that airflow arrow on the filter or module points in the direction of airflow through the unit.**

The filters should be installed in the reverse order as they appear on the filter label, that is, the final stage filter should be installed first and so on. Check the filter gaskets and seals to make sure that there is no air bypass.

### 2.3.1 Media Holding Modules (if applicable)

Fill the media holding modules as follows:

**NOTE: Gloves and a dust mask should be worn when handling gas filter media. See MSDS sheet for proper handling requirements.**

2.3.1.1 Remove the access panel from the module.

2.3.1.2 Fill the module approximately 1/3 full.

2.3.1.3 Gently vibrate the module in order to make the media settle.

2.3.1.4 Fill the module approximately 2/3 full and vibrate again.

2.3.1.5 Completely fill the module, making sure there are no voids in the media.

2.3.1.6 Replace the access panel.

After 48 to 72 hours of operation, it may be necessary to “top off” the modules because of possible media settlement.

Install the media holding modules and 2 in./50 mm pleated pre- or post filter carefully so there is no air bypass.

**NOTE: Unit should not be operated without filters in place because the lack of adequate static pressure will cause the motor to draw too much current and consequently burn out.**

### 2.3.2 Ionization Tube Installation (if applicable)

Install ionization tubes as follows:

2.3.2.1 Screw tubes into socket by holding the leaf spring clear of tube surface.

2.3.2.2 Turn tube into socket by the plastic base.

2.3.2.3 After tube contacts base, tighten an additional 1/8 to 1/4 turn. Do not use hand tools to tighten tubes, as they will damage the glass tubes.

- 2.3.2.4 Ensure leaf spring is in contact with outer mesh.
- 2.3.2.5 Close access door.

**NOTE: The ionization tubes are fragile – HANDLE WITH CARE.**

## 2.4 Belts, Drives and Bearings (if applicable)

Prior to starting the unit, tighten all set screws on the fan(s), sheaves and bearings where applicable. Set screws may loosen during shipment. Sheaves must be in line. Use a straight edge to verify.

### 2.4.1 General belt tension rules for V-Belt drives

**NOTE: Ideal tension is the lowest tension at which the belt will not slip under peak load conditions.**

- 2.4.1.1 Check tension frequently during the first 24 – 48 hours of operation. Over tensioning shortens belt and bearing life.
- 2.4.1.2 Keep belts free from foreign material that may cause slip.
- 2.4.1.3 Make V-Belt inspection on a periodic basis. Tension when slipping.

**NOTE: Never apply belt dressing, as this will damage the belt and cause early failure.**

## 2.5 Airflow and Static Pressure Adjustment (If Applicable)

An adjustable motor pulley is provided so that the air flow and external static pressure may be changed.

### 2.5.1 Adjustment Procedure

- 2.5.1.1 Remove drive belt.
- 2.5.1.2 Change blower speed by loosening the pulley set screw and rotating the front half of the pulley. Clockwise rotation will increase pulley diameter and increase blower speed. Counterclockwise rotation will decrease pulley diameter and decrease blower speed.
- 2.5.1.3 Tighten set screw and install drive belt.
- 2.5.1.4 Apply tension to drive belt by sliding the motor away from blower.
- 2.5.1.5 Check the tension in the drive belt by placing a straightedge across the top of the belt. Pull the belt down, noting the deflection from the straightedge. This deflection should be approximately 3/8 in. or 10 mm. The force applied to cause such a deflection should be approximately 1 pound or 0.5 kg.

**NOTE: It is extremely important to have the proper tension on the belt.**

Be certain that the pulleys are aligned as to avoid uneven and accelerated wear on the drive belt and non-uniform power delivery to the blower pulley.

2.5.1.6 Place a straightedge across the outside of both pulleys such that it contacts each pulley in two (2) places. If the straightedge does not contact each pulley in two (2) places, the pulleys are not properly aligned.

2.5.1.7 Adjust the pulleys until the straightedge contacts each pulley in two (2) places.

2.5.1.8 Tighten motor bolts.

**NOTE: It is extremely important that the pulleys are properly aligned.**

2.5.1.9 Check the actual motor current after pulley adjustment and with all filters in place to ensure full load amperage is not exceeded.

**NOTE: Do not operate the unit in excess of the motor's full load amperage rating.**

### 3 PHYSICAL DESCRIPTION

#### 3.1 Principal of Operation

The Side Access Housing System is designed for filtration of environmental air so as to control particulate and gaseous contaminants for new or retrofit HVAC applications. Please refer to the filter arrangement drawings for proper filter orientation.

#### 3.2 Prefilter Section

Prefilters are of the disposable type, using preformed pleated design with reinforced fabric media. Filters have a rated average efficiency of not less than 30% by ASHRAE Standard 52.2 test method, using atmospheric dust. Filters are listed Class 2 by Underwriters' Laboratories.

#### 3.3 Primary Filter Section

There are different types of primary particulate filters available in different efficiency ratings. The available space in the filter section will determine the filter type.

<u>Filter Type</u>	<u>Efficiency</u>
Bag Filter to 21 in./534 mm Deep	60%, 80%, 90%
Lofted Media in a cartridge frame	60%, 80%, 90%
Ultrafine Glass with Aluminum Separators	60%, 80%, 90%
Ultrafine Glass in Minipleat Configuration	60%, 80%, 90%
HEPA, HEPA Type	97%, 95% DOP

### 3.4 Bi-Polar Ionization

The Bi-polar ionization unit consists of a power generator, ionization tubes and power regulator.

The power generator produces line synchronized bi-polar ionization of an airstream whose flow is perpendicular to the axis of the tubes. Thus, depending upon the volume of air, its velocity, chemical and biological content, ionization is adjusted by means of local control to affect particle discharge density sufficient to produce the desired volumetric air purification. Each generator is equipped with an independent voltage regulator to control ionization voltage to the tubes. Externally, the power generator includes ionization tube sockets, spring contacts, fuse, fuse holder and indicator lamps.

The ionization tube consists of two electrodes, a glass tube and a plastic base with a male threaded connector. The external electrode is crimped around the glass tube by the manufacturer, and under no circumstances should it be removed from the tube. The glass tubing material is fragile and should be handled with care. Cracked or damaged glass will cause a system malfunction and require tube replacement.

The power regulator provides control of the output of the ionization tubes.

**NOTE: Ozone is a by-product of any ionization process. When installed and operated in accordance with manufacturer instructions, the Bioclimatic System will not generate ozone in excess of the safety standards specified by OSHA and FDA. In most cases, there will not be chemically detectable levels of ozone generated.**

### 3.5 Gas Filter Media Section

Refer to the included Material Safety Data Sheets for more information on the media that was supplied with your unit.

### 3.6 Differential Pressure Monitoring System (OPTIONAL)

This set of differential pressure gauges monitors the pressure drop across its respective filter bank. As the fibrous filter removes particulate contaminants from the air, it

loads, restricting the air flow through the filter. The pressure drop through the filters is monitored. When the maximum static pressure is reached, the filters must be replaced.

#### 4 START-UP INSPECTION

##### 4.1 General

Before starting the System, a complete inspection should be made to ensure that all the equipment is installed for safe and proper operation. It is particularly important that the system is free of all foreign objects. Be sure all access doors are securely closed.

The Differential Pressure Monitoring System (DPMS) includes magnahelic pressure differential gauges. At start-up:

- 4.1.1 Zero all gauges (with System Off).
- 4.1.2 Start the System and record all pressure readings. These are clean filter readings, and should be retained for future reference.

##### 4.2 General Inspection Check List

FILTERS		PANELS	
Complete filter installation	_____	Insulation intact	_____
Surface continuity between adjacent filters and seal surfaces.	_____	Fasteners secure	_____
Check filter maintenance	_____	Gaskets intact	_____
Gauges operational	_____	Casing leaks	_____
Wipe entire section clean	_____		
Check gauge tubing	_____		

##### 4.3 Bi-Polar Ionization Check List

Install ionization tubes into the generator by holding the spring contact clear of the tube's external electrode. Turn tube into the socket by its base until the male boss on the tube base contacts the socket base. Tighten no more than 1/4 turn after the tube contacts socket. DO NOT use hand tools. Release the spring contact. Use caution not to twist the spring contact during installation of the tubes.

- Check each generator's fuseholder for the presence of the properly rated fuse. \_\_\_\_\_
- Inspect tubes for damage \_\_\_\_\_
- All tubes properly installed \_\_\_\_\_
- Refer to calibration procedure for Remote Monitor or internally regulated Bi-polar Ionization unit. \_\_\_\_\_

#### 4.4 Electrical Connection and Power Up

Provide electrical connection to the system. All external wiring must be in accordance with National Electric Code and local requirements. Pay particular attention to proper grounding of the system. After checking that all filters are in place, input electrical power is correct, and all electrical connections are in accordance with the National Electric Code and local code requirements, energize the unit. The current being supplied to the unit should be checked after powering up the unit. It should not exceed the full load amperage.

### 5 OPERATION & MAINTENANCE OF UNIT

#### 5.1 General

The initial set of particulate filters is included and shipped with the unit. The gas filter media is transported in 1 cu.ft. (28.3 liter) sealed containers. Once all the duct work is installed, and just before starting up the system, the unit should be filled with the gas filter media using the procedure in section 2.3. The gas filter media is supplied by Bioclimatic and installed by others.

#### 5.2 Filter Change Light Adjustment (If applicable)

**CAUTION: Disconnect all power before opening doors for service or maintenance. Observe routine safety precautions when servicing the unit.**

The particulate and gas phase filtration require periodic maintenance in order to ensure satisfactory system performance over an extended period. The filter change light indicates the need to replace fibrous filters. The differential pressure switch, which activates the filter change light is preset at the factory to light when a static pressure increase of approximately 1 in. WC (249 Pa) occurs.

It is possible to calibrate the static pressure differential, which illuminates the filter change light as follows:

##### 5.2.1 Calibration Procedure for Air Differential Switch

- 5.2.1.1 Remove the access panel closest to the air supply side for access to the adjustment screw.
- 5.2.1.2 Turn the unit on with clean filters installed.
- 5.2.1.3 Cover approximately 67% of the return grille with cardboard. This corresponds to the initial factory setting of 1 in. WC (249 Pa). The light should illuminate.

**NOTE: For more time between filter changes (less air flow), cover more of the opening and for less time between changes (more air flow), cover less of the opening.**

5.2.1.4 Turn the adjustment screw clockwise using a standard screwdriver until the light goes off; Or, turn the adjustment screw counterclockwise until the light comes on.

### 5.3 Filter Maintenance

Filters must be replaced as the dust and dirt that collects on the filter media causes the resistance to airflow to exceed the capabilities of the system's blower.

A filter will require replacement before the trapped dust "unloads", into the system. This condition may be determined in advance by checking the maximum rated pressure differential as published by the filter manufacturer and setting gauges or filter alarms for approximately 75% of the rated value.

### 5.4 Particulate Filters

Changing dirty filters must be performed periodically. Filter change out will depend on local conditions and can be determined only by inspection of the filter gauges and the filters. Check filters and gauges weekly until the maintenance interval is established. When the interval is determined, establish a filter replacement program.

It is important to use high quality filters with the same specifications as those provided with the unit. The filter label affixed on the inside of the access panel lists the part number of the filters supplied with the unit. Contact your local representative for the specifications of the proper replacement filters for your unit.

When changing filters, the following procedure must be followed:

- 5.4.1 Turn off fan and lock in OFF position.
- 5.4.2 Unlatch access panels and inspect gasketing. (Replace damaged or worn gasketing.)
- 5.4.3 Remove the used filters.
- 5.4.4 Vacuum, or wipe clean the holding frames.
- 5.4.5 Remove the new filters from their carton and install in accordance with the manufacturer's instructions.

Do not install damaged filters or those that appear to be defective.

Periodic filter replacement will result in proper airflow, filtration and system performance.

## 5.5 Ionization Tubes

The ionization tubes must be washed on a periodic basis to ensure operating efficiency. At minimum, they should be washed any time that the primary filter is serviced, but in no case longer than one year. The tubes can be washed using the following procedure:

**IMPORTANT: Make sure all power to the unit is disconnected before performing this or any maintenance procedure.**

5.5.1 Remove the tubes from the unit by lifting the leaf spring from the surface of the tube and unscrew each tube. Hold tube by its plastic base while removing.

5.5.2 Clean tubes with a solution of warm water and non-abrasive detergent. A soft nylon brush may be used to remove embedded material within the external electrode.

**NOTE: Do not attempt to remove the tube's outer electrode.**

5.5.3 Rinse with clean water after washing.

5.5.4 Replace ionization tubes only after they are completely dry. Pay special attention to removing moisture from the polycarbonate base.

5.5.5 Screw tube into socket by holding the leaf spring clear of tube surface. Turn tube into socket by the plastic base. After tube contacts base, tighten an additional 1/8 to 1/4 turn.

**NOTE: Do not use hand tools to tighten tubes, as they will damage the glass tubes.**

5.5.6 Make sure that the leaf spring is in contact with tube surface.

**REMEMBER: The tubes are fragile - Handle With Care.**

## 5.6 Gas Filter Media

The life of the media will vary depending on the contaminants present and their concentration. A predetermined schedule for media change-outs is NOT recommended since it may result in establishing an incorrect maintenance schedule. In order to obtain the maximum operating time from the gas filtration media, Bioclimatic offers a Laboratory Service to inform the customer of the remaining media life and the correct time to change the media.

### 5.6.1 Special Precautions for Handling Gas Filtration Media

#### 5.6.1.1 Inhalation

A well ventilated work area is suggested for changing the media, since dusting from fresh pellets results due to handling abrasion. In closed unventilated spaces, dust masks, such as the 3M No. 8500 are strongly recommended. Avoid direct inhalation of media dust. Refer to Material Safety Data Sheets.

#### 5.6.1.2 Water

DO NOT expose the Gas Filtration Media pellets to water or moisture since this will cause leaching of permanganate or other impregnate. Exposure of permanganate solution to the skin will stain but will not burn or blister. The staining condition is temporary. This staining may be neutralized by washing in a solution of sodium bisulfide.

#### 5.6.1.3 Eye Contact

If the event that the eyes or other sensitive areas are exposed to media dust, flush thoroughly with water and seek treatment from a physician, for exposure to abrasive dusts. Refer to Material Safety Data Sheets.

#### 5.6.1.4 Laboratory Service (Media Life Analysis)

Laboratory Service is a support system offered to our customers, free of charge. This service will ensure timely media change out for cost effective and efficient system operation.

##### Media Sampling Procedure

- 5.6.1.4.1 Remove module from filter bank. (Tag module as "Test" module). Empty contents of module into a box.
- 5.6.1.4.2 Take four separate one cup samples from different areas of box.
- 5.6.1.4.3 Place samples of media into a clean container.
- 5.6.1.4.4 Mix contents thoroughly.
- 5.6.1.4.5 Fill a plastic lined sample bag from the prepared media sample. Label bag. Refill and reinstall module. Sample bags can be obtained from Bioclimatic.
- 5.6.1.4.6 Enter the date on the media sampling label located on the inside of the housing door.
- 5.6.1.4.7 Label the sample bag and ship to:  
Bioclimatic, Inc.  
600 Delran Parkway, Suite D

Delran, NJ 08075  
Attn: Laboratory Supervisor

#### 5.6.1.5 Filling the modules

**NOTE: Please read the included MSDS sheets before filling the media modules. Gloves and a dust mask should be worn when handling media. See MSDS sheet for proper handling requirements.**

Fill with the gas filter media using the procedure outlined in section 2.3.1.

Prior to installation, blow out modules to remove excessive dust. Check modules for voids.

**NOTE: If the module is not blown out, excessive dust will be released into the air when the system is started. This will require that the postfilter be replaced after only a few minutes of operation due to excessive pressure loss.**

After 48 to 72 hours of operation, it may be necessary to "top off" the modules because of possible media settlement. Media settlement results in air bypass and loss of efficiency.

#### 5.6.2 Disposal

Dispose of in accordance with federal, state and local regulations.

#### 5.7 Motor Pulley Belt Replacement (If applicable)

5.7.1 Place belt around pulleys.

5.7.2 Apply tension to drive belt by sliding the motor away from blower.

5.7.3 Check the tension in the drive belt by placing a straightedge across the top of the belt. Pull the belt down, noting the deflection from the straightedge. This deflection should be approximately 3/8 in. or 10 mm. The force applied to cause such a deflection should be approximately 1 pound or 0.5 kg.

**NOTE: It is extremely important to have the proper tension on the belt.**

Be certain that the pulleys are aligned as to avoid uneven and accelerated wear on the drive belt and non-uniform power delivery to the blower pulley.

- 5.7.4 Place a straightedge across the outside of both pulleys such that it contacts each pulley in two (2) places. If the straightedge does not contact each pulley in two (2) places, the pulleys are not properly aligned.
- 5.7.5 Adjust the pulleys until the straightedge contacts each pulley in two (2) places.
- 5.7.6 Tighten motor bolts.

**NOTE: It is extremely important that the pulleys are properly aligned.**

Check the actual motor current after pulley adjustment and with all filters in place to ensure full load amperage is not exceeded.

## 5.8 Maintenance of Gauges

The gauges used are magnahelic, high accuracy differential type pressure gauges. While being a sealed, sturdy component, they should be treated with care. They should not be subjected to vibration at anytime. The lenses are made of molded plastic and may be cleaned using water and a mild detergent. **DO NOT** clean with a dry cloth because this procedure will scratch the surface of the gauge.

## 5.9 Gasket Replacement

After a period of operation, the gasketing on the unit may need to be replaced. It is important to replace it only with **closed cell neoprene gasketing**. Do not use rubber gasketing, as it is not suitable for use in this application.