



# Корпусная система с боковым доступом

## Очистка воздуха для централизованных систем

### Очистка от газов и частиц

Очистка воздуха в помещении это довольно важный процесс для многих задач. Различные загрязнители, такие как кислоты, токсичные газы, летучие органические вещества, неприятные запахи и микроскопические частицы присутствуют почти в каждом помещении. Эти загрязнители должны устраняться из воздуха для защиты чувствительной электроники/электрики, избавления от вредных последствий и обеспечения приемлемого для людей качества воздуха в помещениях. Корпус с боковым доступом, модель SAH, является многофункциональной, высокомошной системой очистки воздуха от газов и частиц, спроектированной для удаления загрязнителей появляющихся практически на всех производствах, в различных коммерческих и государственных заведениях.



Модель USAH 304

Конструкция с двойной стенкой

reduced with the use of the Bioclimatic Side Access Housing, thus reducing HVAC equipment size and operating costs.

### CRITICAL ENVIRONMENTS

#### **Corrosion Protection**

Delicate electronic and process control equipment require an operating environment free of corrosive gas contaminants such as hydrogen sulfide, sulfur dioxide, and chlorine. These compounds contribute to both HARD and SOFT corrosion. HARD corrosion leads to physical deterioration and material destruction of component equipment. SOFT corrosion consists of the formation of non-conducting layers of oxide films on exposed metal surfaces which cause sporadic electrical interruptions. These interruptions produce minor computing or controlling errors resulting in a decrease of overall system reliability. Bioclimatic's Side Access Housing Systems provide an effective means to control corrosive gaseous contaminants with the addition of high efficiency filtration in existing HVAC systems. For assistance in designing a gas phase purification system for corrosion protection, refer to the Design Manual, Design Section, Tab 3 in the Engineering Catalog.

#### **Museums & Archive Storage**

Bioclimatic's Side Access Housings are utilized in the preservation of historical documents, treasured artifacts and artwork. Using a combination of gas filter medium, concentrations of the most problematic gas phase contaminants can be effectively controlled. These contaminants cause the deterioration of paper, canvas, and other base materials thus reducing valuable archives to dust. The value and integrity of such archives are protected with the use of the Side Access Housing System.

### INDOOR AIR QUALITY

Our Bi-polar ionization and family of gas filter media are highly effective for indoor air quality applications to control airborne contaminants generated from human activity, smoking, office equipment, furnishings, construction materials and external sources. It is imperative that the proper gas and particulate phase filter components be used for any given application. When designing and specifying a unit, please refer to the Design Section, Tab 3, within the Engineering Catalog or consult one of our application engineers for assistance in choosing the proper components for your application.

Proper utilization of gas filter media and Bi-polar ionization will permit efficient use of ventilation air and maintain acceptable indoor air quality in accordance with ASHRAE Standard 62.1. In many cases, ventilation air may be

## UNIT CONFIGURATION

### **Construction**

The Side Access Housing may be manufactured in either single or double wall construction. The standard single wall is constructed from 16 gauge galvanized steel with 14 gauge optional. Double wall units are constructed from an extruded aluminum tubular frame and one or two inch insulated panels. For special applications, units may be constructed from 316/304 stainless steel or 3003H14 Aluminum. Weatherproofing including R13 insulation, rain hood, pitched roof and rain gutter features are available for outdoor installations.

### **Bi-polar ionization**

Bi-polar Ionization is one of the primary features in a Side Access Housing. The system consists of ion tubes, a power supply and controls. The Bi-polar Ionization process will arrest the growth of microbial contaminants within the air handling unit and ventilation ductwork. It will also control many types of odors and gas phase contaminants. When used in conjunction with gas phase filter media, media life may be extended. In addition, Bi-polar ionization will reduce static electricity in the space and increase the effectiveness of existing particle filters.

Bipolar Ion tubes consist of an inner electrode, a glass dielectric and a stainless steel mesh outer cover. As air passes through the ion field or "plasma" around the ion tube, entrained contaminants are neutralized and rendered ineffective.

### **UV "C" Sterilization**

UV "C" has been proven to kill virtually any microorganism. Power supplies and spectral high output lamps are electronically matched to provide the highest output while maintaining the longest life.

### **Gas Phase Filter Media**

Gas phase filter media is commonly used within the Side Access Housing for industrial and commercial applications. In industrial applications, our BIO-SORB and BIO-CARB series of gas phase filter media are used to control a wide variety of gaseous contaminants such as sulfur oxides, hydrogen sulfide, and chlorine. These chemicals are generated in various industrial processes and attack sensitive electronic process equipment. In commercial applications, the media is used to eliminate malodorous gases and pollutants which are irritants and affect people's health and well-being.

In order to insure removal of gas phase contaminants, they must be exposed to the controlling media for the proper amount of time. A long contact period (or residence time) provides the necessary interaction between the chemical media and the contaminant. This permits the media to remove and react with the gas contaminant. The Side Access Housing is designed to hold large volumes of media thus maximizing residence time and capacity for a given chemical's removal. The chemical media removes the offending contaminant by either the process of adsorption (a surface phenomenon) or by chemisorption (a chemical reaction) or a combination of both.

The most common types of Gas Phase Filter Media include:

- **BS-100XL** – Activated alumina impregnated with potassium permanganate.
- **BS-135XL** – 50% blend by volume of impregnated alumina & extruded coal based activated carbon.
- **BC-300** – Coal based activated carbon.
- **BC-700B** – Coal based activated carbon impregnated with phosphoric acid.
- **BC-900** – Coal based activated carbon impregnated with potassium hydroxide.
- **BC-900XL** – Wood based activated carbon impregnated with alkali chemicals

The gas phase filter media is contained in media holding modules supported by extruded aluminum tracking. The holding modules are designed in a packed bed "V" configuration to permit uniform airflow through the bed without bypass. Media modules are available in a refillable version made from an epoxy coated steel or in a plastic disposable version filled with different types of media.

### **Particulate Filtration**

Various types of fibrous particulate filters may be utilized in the SAH unit including:

- MERV 6-10 (30% - 50% DS) Prefilters
- MERV 11-14 (60%- 95% DS) High Efficiency Filters
- Polarized Media Filters, High Efficiency
- 95% DOP HEPA Type Filters
- 99.97, 99.99% & up HEPA Filters

Note: All Filters are available either UL 900, Class 1 or 2 except Polarized Media Filters.

### **Polarized Media Filters**

Polarized media filters induce a polarized electric field onto synthetic filaments within the filter pack. When entrained particulates pass through the filter media pack, the smallest of particles (to 0.01 microns) collect on the fiberglass filaments. When HEPA type filters are required and there is insufficient available static pressure, the Polarized Media Filter will provide similar performance at a lower cost.

## APPLICATIONS

The Side Access Housing system has been widely used in many environments to control gas and particle phase contaminants. Successful applications include:

Office Buildings	Outdoor air Treatment
Airport Terminals	Laboratories
Convention Centers	Animal Holding Rooms
Indoor Sports Arenas	Medical Schools
Museums & Archives	Process Control Rooms
Educational Facilities	Graphic Arts
Hospitals	Pharmaceutical

**TABLE 1 - Side Access Housing System Capacity**

Nominal Height Designation (ft)	Nominal Width Designation (ft)											2.5 m/s at 500 fpm 1.25 m/s at 250 fpm
	02	03	04	05	06	07	08	09	10	12		
	02	04	06	08	10	12	14 <sub>a</sub>	16 <sub>a</sub>	18 <sub>a</sub>	20 <sub>a</sub>	24 <sub>a</sub>	
1	500	1,000	1,500	2,000 <sub>d</sub>		3,000 <sub>d</sub>						
2	1,000	2,000	3,000	4,000	5,000 <sub>d</sub>	6,000 <sub>d</sub>	7,000 <sub>d</sub>	8,000 <sub>d</sub>	9,000 <sub>d</sub>			
3	1,500	3,000	4,500 <sub>c</sub>	6,000	7,500 <sub>c</sub>	9,000		12,000 <sub>d</sub>		15,000 <sub>d</sub>		
4	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000		
5	2,500	5,000	7,500 <sub>c</sub>	10,000	12,500 <sub>c</sub>	15,000	17,500 <sub>c</sub>	20,000	22,500 <sub>c</sub>	25,000		
6	3,000	6,000	9,000	12,000	15,000	18,000	21,000	24,000	27,000	30,000	36,000	
7	3,500	7,000	10,500 <sub>c</sub>	14,000	17,500 <sub>c</sub>	21,000	24,500 <sub>c</sub>	28,000	31,500 <sub>c</sub>	35,000	42,000	
8	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	48,000	
9	4,500	9,000	13,500 <sub>c</sub>	18,000	22,500 <sub>c</sub>	27,000	31,500 <sub>c</sub>	36,000	40,500 <sub>c</sub>	45,000	54,000	
10		10,000	15,000	20,000	25,000	30,000	35,000	40,000	45,000	50,000	60,000	
12 <sub>b</sub>			18,000	24,000	30,000	36,000	42,000	48,000	54,000	60,000	72,000	

- Notes: a. Fabricated in two sections.  
 b. Fabricated in two or more sections for housings 8 ft. wide and larger.  
 c. The given capacity is only available at 250 fpm for this size unit.  
 d. The given capacity is only available at 500 fpm for this size unit.  
 e. Except as noted above, all housings higher than 10 ft. or wider than 12 ft. will be fabricated in a minimum of two sections.  
 f. Consult sales department for custom sizes.

**TABLE 2 - Depth in Direction of Airflow For Various Sections**

Section Contents:	Section Abbr.	Nominal Depth in.	cm
2 in. (50 mm) Pleated filter	P2	7	18
<b>2 in. (50 mm) Pleated filter with:</b>			
6 in. (150 mm) rigid filter (single header)	P8	15	38
12 in. (305 mm) rigid filter (single header)	P14	21	54
<b>4 in. (100 mm) Pleated or high efficiency extended surface</b>			
6 in. (150 mm) rigid filter (single header)	R6	12	31
12 in. (305 mm) rigid filter (single header)	R12	19	49
12 in. (292 mm) HEPA filter	H12	29	74
<b>2 in. (50 mm) Pleated filter with:</b>			
Bag filter to 22 in (560 mm)	B24	30	76
Bag filter to 30 in. (762 mm)	B30	38	97
Bag filter to 36 in. (915 mm)	B36	44	112
<b>Bi-polar Ionization or UVC with:</b>			
Side Service Slide Rack Assembly	I14	14	36
Front/Rear Service Rack Assembly	I 36	36	92
<b>2 in. (50 mm) Pleated filter with:</b>			
<i>One Stage of Gas Filter Media</i>			
BI/BD-12D Media Holding Modules	C12	23	59
BI/BD-18 Media Holding Modules	C18	29	74
<i>Two Stages of Gas Filter Media</i>			
BI/BD-12D Media Holding Modules	D24	46	117
BI/BD-18 Media Holding Modules	D36	57	145
<i>Three Stages of Gas Filter Media</i>			
BI/BD-12D Media Holding Modules	E36	59	150
BI/BD-18 Media Holding Modules	E54	86	219
<b>Single inlet, single width, air foil wheel, direct drive</b>			
Motor-blower assembly on unitary base	F24	24	61
Motor-blower assembly on unitary base	F36	36	91
Motor-blower assembly on unitary base	F48	48	122

- Notes:  
 1. To obtain total depth, add depth dimension for each section.  
 2. For double wall housings with multiple sections, add 2 in. to each section for doors, supports, etc.  
 3. All dimensional data is intended for informational purposes only. Actual dimensions may vary depending on arrangement of filter sections. Precise dimensions are only given on submission of engineering drawings.  
 4. All metric dimensions are rounded to the nearest centimeter.

**TABLE 3 - Plenum Dimensions for Single Wall Construction**

Nominal Dimension (ft)	Actual Height (OD)		Actual Width (OD)	
	in	cm	in	cm
1	15	38	NA	NA
2	27	69	26	66
3	39	99	38	97
4	51	130	50	127
5	63	160	62	158
6	75	191	73	186
7	87	221	85	216
8	99	252	97	247
9	110	280	109	277
10	123	312	121	307

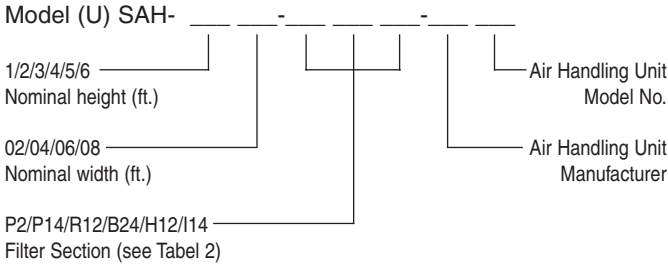
- Notes:  
 1. For double wall, add 4 inches to the height and 3 inches to the width.  
 2. Dimensions do not include structural base.  
 3. Housings may be built with one even and one odd dimension.

**DESIGN PROCEDURE**

- By reviewing the contaminants present in the application, determine the filtration components required for the Side Access Housing System (i.e. Bi-polar ionization, Gas Filter Media, and Particulate Filters). Refer to Section 3 in the Engineering Catalog for assistance.
- Knowing the required air volume capacity, choose the SAH dimensions from Table 1. Note that the maximum filter face velocity is 500 fpm.
- Length of the SAH in the direction of airflow may be determined using Table 2.
- Unit height and width may be determined from Table 3.
- Select Remote Monitor (if Bi-polar ionization is included).
- Select quantity of air differential pressure gauges required to indicate particulate filter condition.
- Select optional features including weatherproofing, double wall construction and insulation.

# SIDE ACCESS HOUSING MODEL SAH

## NOMENCLATURE:



## OPTIONAL FEATURES:

### Slide Rack Assembly

Bi-polar Ion generators mounted to an Aluminum angle frame. Polyethylene guides and a single point, quick disconnect electrical fitting permit lateral movement of assembly from SAH. In its fully extended position, the slide rack assembly is self supporting which permits service or repair of Ion Generators outside of the Side Access Housing.

Walk-in Access for front or rear filter or Bi-polar Ion Generator service. Galvanized steel, fiberglass grating or aluminum diamond plate with channel reinforcement is available for housings higher than four feet (1.2 m).

Bi-polar Ion generators mounted to a stationary Aluminum angle frame with vertical supports. Ion Generators are connected electrically with quick disconnect fittings and provide a single point wiring connection.

Modular media module frames or V-bank cells to hold Polarized Media filters for upstream or downstream service.

### Blower or Fan

Single-inlet, single-width Backward inclined, air foil wheel, direct drive on unitary base with vibration isolation. Other fan selections are available.

### Dampers

Manual or control with operators from galvanized steel, aluminum or stainless steel.

### Insulation

#### Single Wall – SAH Series

One (1) in./25 mm 1.5 lb/sq. ft. or 3.0 lb/sq. ft. fiberglass foil faced insulation. Other insulation materials available on request.

## Size Description to match an Air Handling Unit:

Insert Manufacturer abbreviation followed by AHU model number.

<u>Manufacturer</u>	<u>Abbreviation</u>
Carrier	C
McQuay	MQ
Trane	MCC
York	Y

- Notes: 1.) Model SAH Standard, Single Wall construction  
2.) Model USAH Double Wall construction  
3.) Filter sections available for installation within any custom air handling unit.

### Double Wall - USAH Series

One (1) or two (2) in (25/50 mm) R6/R13 foam-in-place urethane insulation.

### Air Differential Pressure Gauge

Digital or Analog Magnehelic type gauge. Manometer and other types are optional.

### Rain Hood

Rain Hood with bird screen in galvanized steel, aluminum or 304/316 stainless steel.

### Weatherproofing

Pitched roof and rain gutter over doors. Capped roof seams for large housings

### Special Flange (Single Wall construction)

Variable width flanges turned in or out to match AHU, mixing box or duct.

### Base

Structural Aluminum channel base for floor or hanging installation of Side Access Housing and to provide additional rigidity of the housing. Base heights are available from 3 to 8 in. (75 – 200 mm).

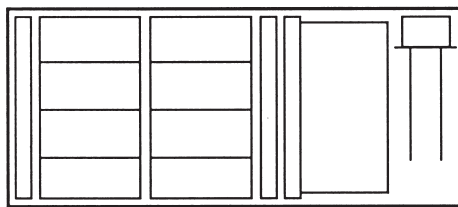
### Gas Phase Filter Media

Various substrate raw materials, impregnated or virgin for adsorption, chemisorption or neutralization applications. Refer to Gas Filter Media Product Data, specifications and application characteristics.

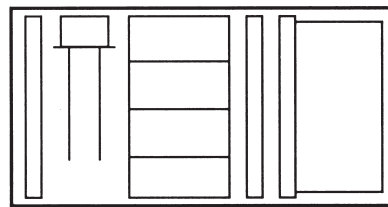
### Epoxy Coating / Polyurethane Finish

Epoxy coating alone or with polyurethane enamel applied to cold rolled, galvanized steel or welded steel construction.

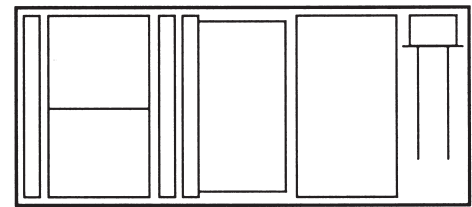
## TYPICAL SECTION ARRANGEMENTS



**D36 P14 I14**  
**RECIRCULATION UNIT**



**P2 I14 C18 R12**  
**MAKE UP AIR UNIT**



**C12 P14 H12 I14**  
**COMBINATION OF MULTIPLE FEATURES**

## SPECIFICATIONS

### STANDARD DESIGN (MODEL SAH)

Bioclimatic Side Access Housings may be of horizontal or vertical design. The housings are fabricated of no less than 16 gauge steel and will include access doors for maintenance and service. Housings 72 inches or larger in width will contain doors on both sides. Components are assembled with steel rivets and TEK fasteners. All metal to metal components are sealed with a silicone sealant to prevent air bypass and leakage. The housings may include multiple stages of filtration and Bi-polar ionization or UVC.

The filter tracks are from extruded aluminum with nylon pile seals. Access doors are fitted with three pound density urethane foam gasket, and the required number of quick action positive trip lock latches to assure an effective seal. A heavy duty safety door switch is included with sections equipped with Bi-polar ionization.

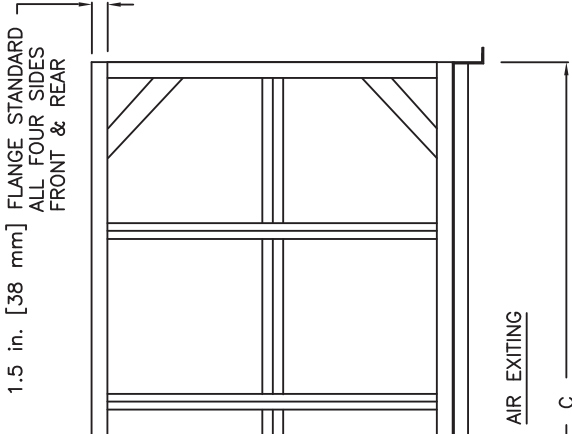
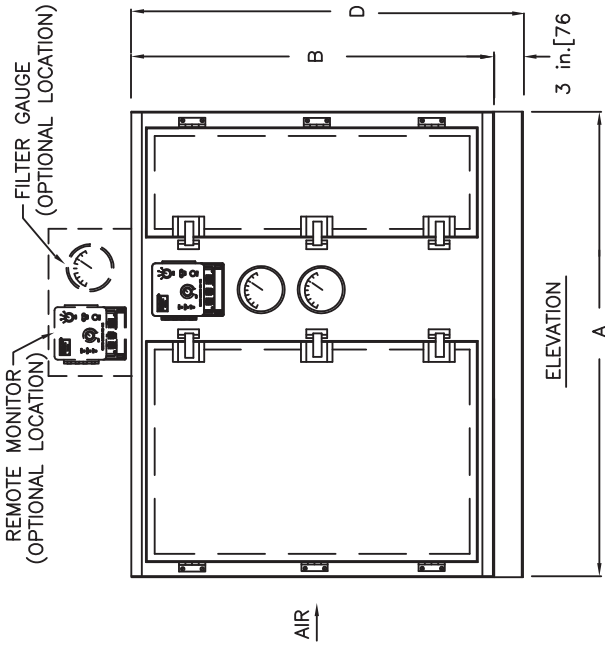
### INDUSTRIAL GRADE DESIGN (MODEL USAH)

The unit may be constructed from either a galvanized steel or aluminum tubular framing to accommodate double wall panels and

access doors. The unit will have inner and outer walls constructed of galvanized steel, with galvanized steel internal struts as required.

Floor to wall and wall to wall interfaces will be specially sealed for prevention of high static pressure leakage. Access doors will be from heavy gauge, galvanized steel double wall construction. The doors will be designed for flush mounting, gasketed to provide a positive seal, and complete with, stainless-steel hinges, and quick opening type latches.

The USAH housing may be provided with internal and external surfaces, of all sections coated with a two-part polyurethane enamel. This process consists of one prime coat of epoxy applied over chemically cleaned surfaces, followed by two finish coats. The final coating will have excellent resistance to moisture and provide protection if exposed to traces of acid or alkali fume, salt air or solvents for temperatures up to 200°F.



TYPICAL SECTION	DIM A
P4	11.5 in [29 cm]
P14	21.0 in [54 cm]
B24	29.0 in [74 cm]
C18	29.5 in [75 cm]
D36	53.0 in [135 cm]
C12	21.0 in [54 cm]
D24	44.0 in [112 cm]
I14	19.5 in [50 cm]
F24	29.0 in [74 cm]
H12	32.0 in [81 cm]
MIDDLE POST (GAUGE)	8.0 in [20 cm]

FILTER SECTIONS

OPTIONS
INSULATION 1/2 in
WEATHERPROOFING
GAUGES
DAMPER
RAIN HOOD
WALK-IN ACCESS

MATERIAL
GALVANIZED STEEL
ALUMINUM
304 SS/316 SS

DIMENSIONS
A
B
C
D

- NOTES:
- FOR EQUIPMENT 74 in (1880 mm) & WIDER DOORS STANDARD ON BOTH SIDES FOR FILTER ACCESS.
  - 14/16 GA GALVANIZED STEEL CONSTRUCTION.
  - EXTRUDED ALUMINUM FILTER TRACKS WITH NYLON PILE AIR SEALS.
  - DOORS SEALED WITH CLOSED CELL NEOPRENE GASKET.
  - TWO POUND DENSITY URETHANE FOAM INSIDE ACCESS DOORS GASKETS FILTERS.
  - METAL TO METAL COMPONENTS SEALED WITH SILICONE COMPOUND.
  - DOORS FITTED WITH QUICK ACTION, POSITIVE PRESSURE, TRIP LOCK LATCHES.
  - STANDARD BASE HEIGHT IS 3 IN. AND WILL VARY TO MATCH ANY AHU. THE BASE HEIGHT FOR SAH LARGER THAN 404 WILL BE INCREASED BASED ON UNIT SIZE AND WEIGHT.
  - LEFT HAND CONFIGURATION SHOWN.

ACCESS R  OR L

PROJECT NAME: \_\_\_\_\_  
 CAPACITY (CFM): \_\_\_\_\_  
 TAG: \_\_\_\_\_

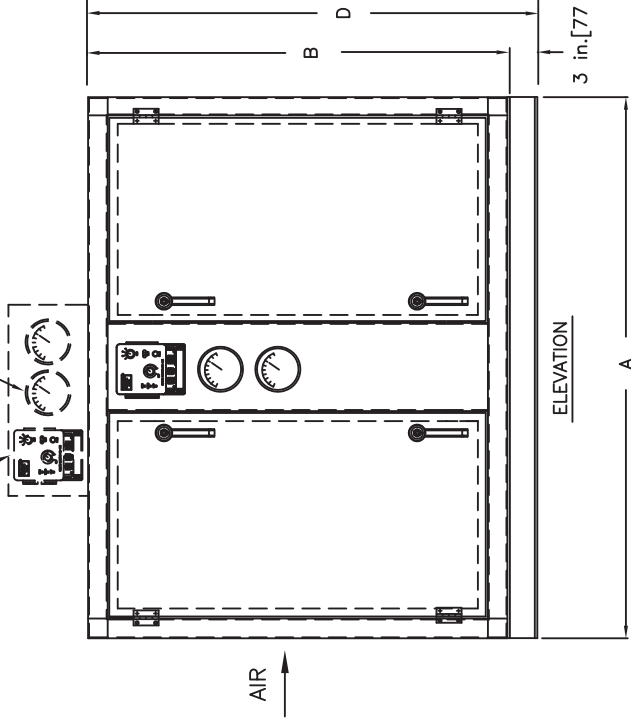
- APPROVED AS SUBMITTED
- APPROVED AS NOTED
- RESUBMIT W/CHANGES
- \_\_\_\_\_ DATE \_\_\_\_\_

UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE IN INCHES  
 TOLERANCE: FRACTIONS  
 ANGLES +/- 1 degree  
 3 PLACE DECIMALS +/- .005  
 2 PLACE DECIMALS +/- .010  
 MATERIAL

DESIGN	PL
CHECKED	
PROJ. ENGR.	
DATE	

REMOTE MONITOR (OPTIONAL LOCATION)

FILTER GAUGES (OPTIONAL LOCATION)



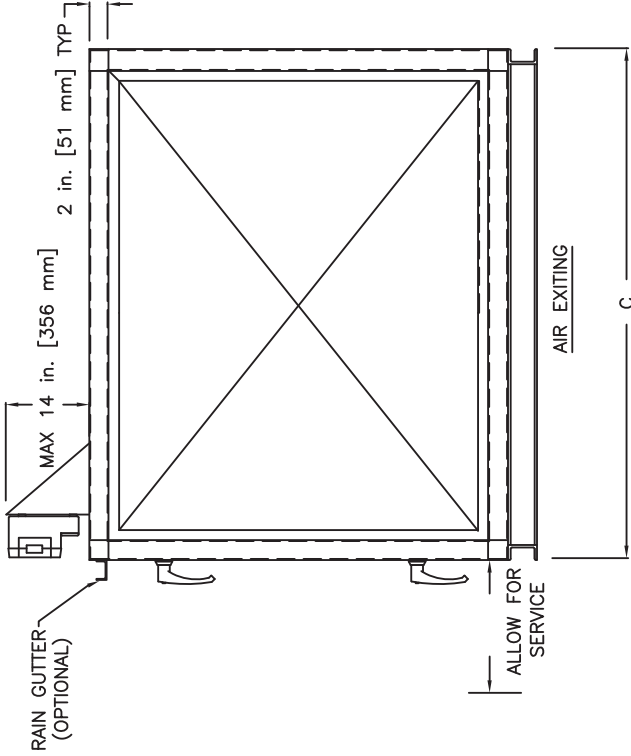
ELEVATION

A

3 in. [77 mm]

B

D



AIR EXITING

C

MAX 14 in. [356 mm]

2 in. [51 mm] TYP

RAIN GUTTER (OPTIONAL)

ALLOW FOR SERVICE

TYPICAL SECTION	DIM A
P4	11.5 in [29 cm]
P14	22.0 in [56 cm]
B24	31.5 in [80 cm]
C18	32.0 in [81 cm]
D36	61.0 in [155 cm]
C12	25.0 in [64 cm]
D24	49.0 in [125 cm]
I14	19.5 in [50 cm]
F24	30.0 in [76 cm]
H12	32.0 in [81 cm]
MIDDLE POST (GAUGE)	10.0 in [26 cm]

FILTER SECTIONS	

OPTIONS	
INSULATION 1/2 in	
WEATHERPROOFING	
GAUGES	
DAMPER	
RAIN HOOD	
WALK-IN ACCESS	

DIMENSIONS	
A	
B	
C	
D	

MATERIAL	
GALVANIZED STEEL	
ALUMINUM	
304 SS/316 SS	

NOTES:

- DOORS ON BOTH SIDES FOR UNITS WITH THREE OR MORE FILTERS WIDE.
- REMOTE MONITOR, CONTROLS & FILTER GAUGES MAY BE INSTALLED IN EITHER LOCATION SHOWN. ADD 5 in. TO 'A' DIM WHEN GAGE IS INSTALLED ON SIDE PANEL.
- EXTRUDED ALUMINUM FILTER TRACKS WITH NYLON PILE AIR SEALS.
- STANDARD BASE HEIGHT IS 3 IN. AND WILL VARY TO MATCH ANY AHU. THE BASE HEIGHT FOR USAH LARGER THAN 404 WILL BE INCREASED BASED ON UNIT SIZE AND WEIGHT.
- LEFT HAND CONFIGURATION SHOWN.

PROJECT NAME: \_\_\_\_\_  
 CAPACITY (CFM): \_\_\_\_\_  
 TAG: \_\_\_\_\_

APPROVED AS SUBMITTED  
 APPROVED AS NOTED  
 RESUBMIT W/CHANGES  
 \_\_\_\_\_ DATE \_\_\_\_\_

UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE IN INCHES  
 TOLERANCE: FRACTIONS  
 1/16" ± 1/32"  
 3 PLACE DECIMALS ± 0.005  
 2 PLACE DECIMALS ± 0.010 OK

DOWN CHECKED  
 PROJ. ENGR.  
 OK

ACCESS R  OR L

MATERIAL

SCALE N.T.S.

SIZE A

FIG. NO. 11026

REV.

BIOCLIMATIC AIR SYSTEMS  
 MODEL USAH-

SHEET

# ENGINEERING TABLES

## SIDE ACCESS HOUSING

### FILTER REQUIREMENTS (per stage) for U/SAH

Model No	Particulate (Fibrous)		Modules	Media Volume	Media Volume	Modules	Media Volume	Media Volume
	12 x 24 in 305 x 610 mm	24 x 24 in 610 x 610 mm						
102	1	0	2	2	0.06	1	1	0.03
104	2	0	4	3	0.08	2	2	0.06
106	3	0	6	4	0.11	3	3	0.08
108	4	0	8	5	0.14	4	4	0.11
202	0	1	4	3	0.08	2	2	0.06
204	0	2	8	5	0.14	4	4	0.11
206	0	3	12	8	0.23	6	6	0.17
208	0	4	16	10	0.28	8	8	0.23
302	1	1	6	4	0.11	3	3	0.08
304	2	2	12	8	0.23	6	6	0.17
306	3	3	18	11	0.31	9	9	0.25
308	4	4	24	15	0.42	12	12	0.34
402	0	2	8	5	0.14	4	4	0.11
404	0	4	16	10	0.28	8	8	0.23
406	0	6	24	15	0.42	12	12	0.34
408	0	8	32	20	0.57	16	16	0.45
504	2	4	20	12	0.34	10	10	0.28
506	3	6	30	18	0.51	15	15	0.42
508	4	8	40	24	0.68	20	20	0.57
510	5	10	50	30	0.85	25	25	0.71
602	0	3	12	8	0.23	6	6	0.17
604	0	6	24	15	0.42	12	12	0.34
606	0	9	36	22	0.62	18	18	0.51
608	0	12	48	29	0.82	24	24	0.68
610	0	15	60	36	1.02	30	30	0.85
804	0	8	32	20	0.57	16	16	0.45
806	0	12	48	29	0.82	24	24	0.68
808	0	16	64	39	1.10	32	32	0.91
810	0	20	80	48	1.36	40	40	1.13
812	0	24	96	58	1.64	48	48	1.36
1004	0	10	40	24	0.68	20	20	0.57
1006	0	15	60	36	1.02	30	30	0.85
1008	0	20	80	48	1.36	40	40	1.13
1010	0	25	100	60	1.70	50	50	1.42
1012	0	30	120	72	2.04	60	60	1.70

- Notes:
1. Media volume in one set (2) BD-18H disposable modules contain 85% of the volume of one full size BI-18
  2. Media volume in one set (2) BD-12H disposable modules contain 90% of the volume of one full size BI-12
  3. Most other standard size particulate filters are available so that the U/SAH may be designed to match any manufacturer's AHU.

# ENGINEERING TABLES

## SIDE ACCESS HOUSING

### Model SAH/USAH STATIC PRESSURE REQUIREMENTS

		STATIC PRESSURE DIFFERENTIAL (in. WC)					
FILTER TYPE	MODEL No.	AIR VELOCITY (fpm)					
		150	200	250	300	400	500
PREFILTERS	MV8-(XY)02-P	0.01	0.13	0.16	0.18	0.23	0.28
	MV8-(XY)01-L	0.04	0.07	0.11	0.20	0.29	0.38
INTERMEDIATE & PRIMARY FILTERS	MV11-(XY)04-ESM	0.10	0.12	0.15	0.19	0.28	0.42
	MV13-(XY)04-ESM	0.13	0.19	0.24	0.30	0.44	0.60
	MV15-(XY)04-ESM	0.18	0.22	0.28	0.36	0.51	0.70
	MV11-(XY)06-ESS	0.09	0.13	0.13	0.26	0.48	N.A.
	MV13-(XY)06-ESS	0.19	0.24	0.25	0.43	0.65	N.A.
	MV15-(XY)06-ESS	0.22	0.30	0.30	0.55	1.00	N.A.
	MV11-(XY)12-ESS	0.09	0.12	0.15	0.17	0.27	0.32
	MV13-(XY)12-ESS	0.10	0.15	0.21	0.25	0.39	0.50
ABSOLUTE (HEPA) FILTERS	MV15-(XY)12-ESS	0.15	0.23	0.26	0.34	0.44	0.55
	HP98-(XY)12-HCX	0.28	0.36	0.45	0.55	0.75	1.00
	HP97-(XY)12	0.54	0.72	0.88	1.05	N.A.	N.A.
	HP97-(XY)12-HCX	0.34	0.50	0.65	0.80	1.16	1.40
	HP99-(XY)12	0.60	0.75	0.90	1.15	1.50	1.80
MEDIA MODULE WITH BS-100	HP99-(XY)12-HCX	0.35	0.45	0.65	0.80	1.10	1.40
	BD-18	0.07	0.11	0.15	0.21	0.34	0.49
	BD-12	0.40	0.65	0.85	N.A.	N.A.	N.A.
	BI-12B	0.09	0.13	0.18	0.24	0.41	0.60

- Notes:
- 1) Static pressure differential with clean filters is stated in inches of Water Column (In W.C.).
  - 2) To determine system pressure differential, add pressure loss for each stage. To determine pressure differential in Pascals, multiply pressure differential (In W.C.) by 249.
  - 3) Pressure differential for BC-100/400/700 is 1.2 times the given value. Pressure differential for BC-300/900 is 0.8 times the given value.
  - 4) Abbreviations: MV - MERV ESS/ESM/ES -extended surface. MV 15/13/11/6 are equivalent to DS 90/80/60/30 respectively.
  - 5) The X & Y abbreviation within the filter model number represents the nominal height and width of the filter. Standard filter sizes are 12 x 24 in and 24 x 24 in. Filters are also available 16 x 24, 20 x 24, & 20 x 20 in. When specifying filter model number, substitute the nominal height and width for the "X" and "Y" dimension.