Interceptor®
Biological Safety Cabinet
Class II A2

User & Operation Manual

INT-1100A2 & INT-1100A2-230
INT-1400A2 & INT-1400A2-230
INT-1700A2 & INT-1700A2-230
INT-2000A2 & INT-2000A2-230

INT-1100A2-1 & INT-1100A2-1-230
INT-1400A2-1 & INT-1400A2-1-230
INT-1700A2-1 & INT-1700A2-1-230
INT-2000A2-1 & INT-2000A2-1-230

KEWAUNEE®

...encouraging new discovery

BSCUO-A2-0717

Table of Contents

CHAPTER 1

Product Description	1.1
Technical Specifications	1.3

CHAPTER 2

Safety Ergonomics and Reliability	2.1
Safety Ergonomics and Reliability Tips	2.2
Room Location	2.3
Placement Requirements	2.4
Recommended BSC Placement	2.5

CHAPTER 3

Unpack and Inspection	3.1
Assembly and Setup	3.1
Service Feed Requirements	3.6
Thimble Connection	3.8

CHAPTER 4

Cabinet Operation	4.1
Startup Procedure	4.3
Air Flow Patterns	4.4
Recommended Workflow	4.5
NightSetback/Low Flow Mode	4.5
Control Monitor	4.6
UV Light	4.6
Control Monitor Messages and Meanings	4.7
Control Monitor Screens & Menu Diagrams	4.8

Chapter 5

Care & Maintenance	5.1
Required Maintenance	5.2
Maintenance Log	5.3
Disinfection, Storage, Filters, and Lamps	5.4
Decontamination	5.5

CHAPTER 6

Operator and Product Protection	6.1

CHAPTER 7

Troubleshooting and Technical Support	7.1
Detailed View	7.2
Replaceable Parts List	7.3
Labels	7.4
Wiring Schematics	7.6
Warranty	7.8
Warranty Registration	7.9

NOTICE:

The Interceptor® Biological Safety Cabinet offers many features to enhance performance, safety, and operator comfort.

Due to the nature of work performed in a Biological Safety Cabinet, it is very important to read the User and Operation Manual and Maintenance and Technical Manual and follow standard operating procedures to avoid infection and other potential injuries.

If this equipment is used in a manner not specified by the manufacturer in this manual, the protection provided by the equipment may be impaired.

Also, any maintenance or service to an Interceptor product must be done according to the instructions contained herein. Maintenance of this product shall be carried out by technicians trained in the mechanical details of this unit.

⚠ WARNING

Class II A2 Biological Safety cabinets must be certified before initial use, after being moved, and after any service, including required annual recertification. Service must be performed by an NSF accredited certifier using NSF/ ANSI 49 criteria and should include, at minimum, the following test:

- **Downflow Velocity Profile Test**
- **Inflow Velocity Test**
- **Airflow Smoke Pattern Test**
- **HEPA Filter Leak Test**

CHAPTER 1

Product Description

Interceptor® Class II, A2, Biological Safety Cabinet manufactured by Kewaunee Scientific Corporation

Part Numbers:

- **INT-1100A2** INT-1100 Biological Safety Cabinet - 120 VAC with 050200-1100 Manually Adjustable Stand
- **INT-1100A2-1** INT-1100 Biological Safety Cabinet - 120 VAC with 050200-1100-E Electrically Adjustable Stand
- **INT-1400A2** INT-1400 Biological Safety Cabinet - 120 VAC with 050200-1400 Manually Adjustable Stand
- **INT-1400A2-1** INT-1400 Biological Safety Cabinet - 120 VAC with 050200-1400-E Electrically Adjustable Stand
- **INT-1700A2** INT-1700 Biological Safety Cabinet - 120 VAC with 050200-1700 Manually Adjustable Stand
- **INT-1700A2-1** INT-1700 Biological Safety Cabinet - 120 VAC with 050200-1700-E Electrically Adjustable Stand
- **INT-2000A2** INT-2000 Biological Safety Cabinet - 120 VAC with 050200-2000 Manually Adjustable Stand
- **INT-2000A2-1** INT-2000 Biological Safety Cabinet - 120 VAC with 050200-2000-E Electrically Adjustable Stand

- **INT-1100A2-230** INT-1100 Biological Safety Cabinet - 120 VAC with 050200-1100 Manually Adjustable Stand
- **INT-1100A2-1-230** INT-1100 Biological Safety Cabinet - 120 VAC with 050200-1100-E Electrically Adjustable Stand
- **INT-1400A2** INT-1400 Biological Safety Cabinet - 120 VAC with 050200-1400 Manually Adjustable Stand
- **INT-1400A2-1** INT-1400 Biological Safety Cabinet - 120 VAC with 050200-1400-E Electrically Adjustable Stand
- **INT-1700A2** INT-1700 Biological Safety Cabinet - 120 VAC with 050200-1700 Manually Adjustable Stand
- **INT-1700A2-1** INT-1700 Biological Safety Cabinet - 120 VAC with 050200-1700-E Electrically Adjustable Stand
- **INT-2000A2** INT-2000 Biological Safety Cabinet - 120 VAC with 050200-2000 Manually Adjustable Stand
- **INT-2000A2-1** INT-2000 Biological Safety Cabinet - 120 VAC with 050200-2000-E Electrically Adjustable Stand

Product Description *(continued)*

Product comes standard with:

- Supply and exhaust HEPA filters
- Two (2) electrical ground fault protected duplex receptacles (120 or 230 VAC as selected)
- Base Stand (choice of electrically or manually adjustable height)
- Armrest
- Night Setback/Low Flow, two-speed energy saving feature

Optional Features:

- Base stands are available in both electrically and manually adjustable height versions. Interceptor® Biological Safety Cabinets are shipped with one or the other but both stands are available individually.
- Casters
- Thimble Connection with low pressure alarm
- Footrest
- Additional Service Connections (up to four total)
- UV Light
- IV Pole

CHAPTER 1

Technical Specifications for Interceptor®

Product Number	Width of Cabinet	Height of Cabinet	Depth of Cabinet	Fan Max HP	Fan & Light Max Current/ Power	Outlet Max Amps /HZ	Exhaust CFM
INT-1100A2/INT-1100A2-1 **120 VAC**	1100mm 43.3"	1610mm 63.4"	813mm 32"	0.9	10.6 Amps 1275 VA	9 Amps 60hz	272
INT-1100A2-230/ INT-1100A2-1-230 **230 VAC**					5.2 Amps 1275 VA	4.5 Amps 50/60hz	
INT-1400A2/INT-1400A2-1 **120 VAC**	1400mm 55.1"	1610mm 63.4"	813mm 32"	0.9	10.6 Amps 1275 VA	9 Amps 60hz	358
INT-1400A2-230/ INT-1400A2-1-230 **230 VAC**					5.2 Amps 1275 VA	4.5 Amps 50/60hz	
INT-1700A2/INT-1700A2-1 **120 VAC**	1700mm 66.9"	1610mm 63.4"	813mm 32"	0.9	10.6 Amps 1275 VA	9 Amps 60hz	444
INT-1700A2-230/ INT-1700A2-1-230 **230 VAC**					5.2 Amps 1275 VA	4.5 Amps 50/60hz	
INT-2000A2/INT-2000A2-1 **120 VAC**	2000mm 78.7"	1610mm 63.4"	813mm 32"	0.9	10.6 Amps 1275 VA	9 Amps 60hz	530
INT-2000A2-230/ INT-2000A2-1-230 **230 VAC**					5.2 Amps 1275 VA	4.5 Amps 50/60hz	

Table 1.1: Product Descriptions

NOTES:

All power values measured at 10 inch operating sash height.

The powered base stand, if ordered, will take an additional 8.6 amps at 120 VAC; 60 Hz or 4.3 amps at 230 VAC; 50 Hz.

The electrical outlets inside the Interceptor® are grounded. This is particularly important since all internal surfaces are stainless steel and conduct electricity. Under NO CIRCUMSTANCES use ungrounded plugs in these outlets. It is not recommended to use in excess of 1500 watts of power. Exterior power plugs must not be removed until unit fan and lights are turned off. The unit is to be disconnected from the main voltage by unplugging both plugs to remove power. For electrically-powered base stands, power for disconnect is also accomplished by plug removal from a waste-high or lower plug outlet.

The Interceptor® Cabinet has one power cord. If the Power Base is employed, a total of two power cords are used. When positioning the BSC, always connect BSC and stand power plugs in waste-high or floor-positioned outlets to facilitate disconnection in an emergency. Never block these outlets.

If UV option is on your BSC, be sure safety overrides are never immobilized! UV lamp should NEVER be on while sash is open.

continued on page 1.2

Notes: *(continued)*

Based on the following UL definitions, the Interceptor® may be used in a room with pollution degree 1 or pollution degree 2 conditions:

Pollution Degree 1 No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.

Pollution Degree 2 Normally only non-conductive pollution occurs. Occasionally, a temporary conductivity caused by condensation must be expected.

Pollution Degree 3 Conductive pollution occurs, or dry, non-conductive pollution occurs which becomes conductive, which is expected.

Be aware that the dimensions of a Biological Safety Cabinet may exceed doorway limitations.

Sash Face Opening Chart

Model	Height	Width	Area
INT-1100	10"	37.3"	2.59 sq ft
INT-1400	10"	49.1"	3.41 sq ft
INT-1700	10"	60.9"	4.23 sq ft
INT-2000	10"	72.7"	5.47 sq ft

Table 1.2

ⓘ Attention

Because of the weight and size of the Biological Safety Cabinet and the stand, it is recommended that they be moved and lifted only with help of a furniture dolly and/or floor jack. Cabinet and stand weights are listed in the table below:

Interceptor® Biological Safety Cabinet Weights

Part Number	Cabinet Stand		BioSafety Cabinet	
	Shipping Weight	Installed Weight	Shipping Weight	Installed Weight
INT-1100	184 lbs	142 lbs	575 lbs	514 lbs
INT-1400	207 lbs	147 lbs	765 lbs	704 lbs
INT-1700	230 lbs	158 lbs	824 lbs	761 lbs
INT-2000	255 lbs	168 lbs	1050 lbs	987 lbs

Table 1.2

CHAPTER 2

Safety, Ergonomic, and Reliability Features

Kewaunee's Biological Safety Cabinet product line is engineered to provide the utmost in reliability; a product that is carefully designed with many enhancements to ensure the operator's safety.

- 10° Angled Sash for ease of viewing and superior ergonomic working conditions.
- Easy to read factory calibrated Control Monitor indicating average inflow velocity and filter loading.
- Audible and visual alarms alerting user of unsafe sash height. Sash should only be operated at 10" opening.
- Dual HEPA filters with minimum 99.99% efficiency at 0.3 microns.
- Angular front intake grill design for improved down flow capture and containment. Ergonomically designed for operator comfort.
- Double wall construction fully surrounds containment area with negative pressure.
- Forward positioning of service fittings for improved ergonomics.
- Reinforced nylon sash belt and sprocket system. Sash anti-racking design will eliminate binding or slipping.
- Optional bases with electrically or manually controled height adjustment. Seven inch range of adjustment for better ergonomics; ADA compliant.
- UV timer allows user to preset UV illumination cycle, effectively extending lamp life.
- NSF, UL, CUL Certified.
- Factory Inspected to exceed NSF requirements.
- Night Setback/Low Flow feature at 1" sash opening, provides clean air flow when cabinet is in standby mode.
- T5 fluorescent light. Energy efficient with brighter illumination than T8 bulb.
- Right and left sidewall position of electrical outlets. Facilitates convenience of electric connection.
- Armrest. Promotes good working posture and reduces stress points.
- Reduced noise and vibration. Interceptor® design exceeds NSF standards for acceptable noise and vibration levels. Allows operator to work longer and more comfortably.

Tips

The following are recommended for control of ergonomic-related issues associated with the use of Biological Safety Cabinets:

- Use an ergonomically designed chair that provides adequate back support, adjustable seat angle, and height adjustability between 18 inches to 28 inches.
- Place anti-fatigue matting in areas for users who must stand for extended periods of time.
- Place working materials in recommended order to create 'flow' "clean to dirty".
- Take frequent mini-breaks to perform stretching.
- Proper posture should always be practiced. Use of footrest when working seated is recommended.
- Upper shoulders and upper arms should be relaxed; ensure chair seat height is aligned properly to provide no stress to upper shoulders or upper arms when forearms are resting on tabletop (wrist should always align with forearm – think straight, horizontal line).

Room Location

It is imperative that the Biological Safety Cabinet be placed in the correct location within the room. Ideally the location of the cabinet will be away from any type of room air turbulence and out of high traffic areas within the laboratory. Air turbulence can be created by a number of things including; but not limited to, air ducts, doorways, windows and foot traffic. Placing the cabinet in direct path of unstable air flows can cause contamination of the cabinet workspace and/or allow contaminates to escape from the cabinet into the room.

It is also important to keep the proper distance away from the ceiling when exhausting back into the room. The minimal acceptable height is 3 inches (8cm) from the ceiling. Less than 3 inches (8cm) clearance constricts the exhaust and reduces the flow into the cabinet at the front access opening.

First and foremost always refer to your facilites Standard Operating Procedures (SOP). Always use best housekeeping practices. Never store items on top of the cabinet. Never remove the exhaust filter cover unless cabinet is being certified by a technician. If you have questions about cabinet location, please contact Kewaunee Scientific Corporation at www.kscmarketing@kewaunee.com or 704-873-7202.

Placement Requirements

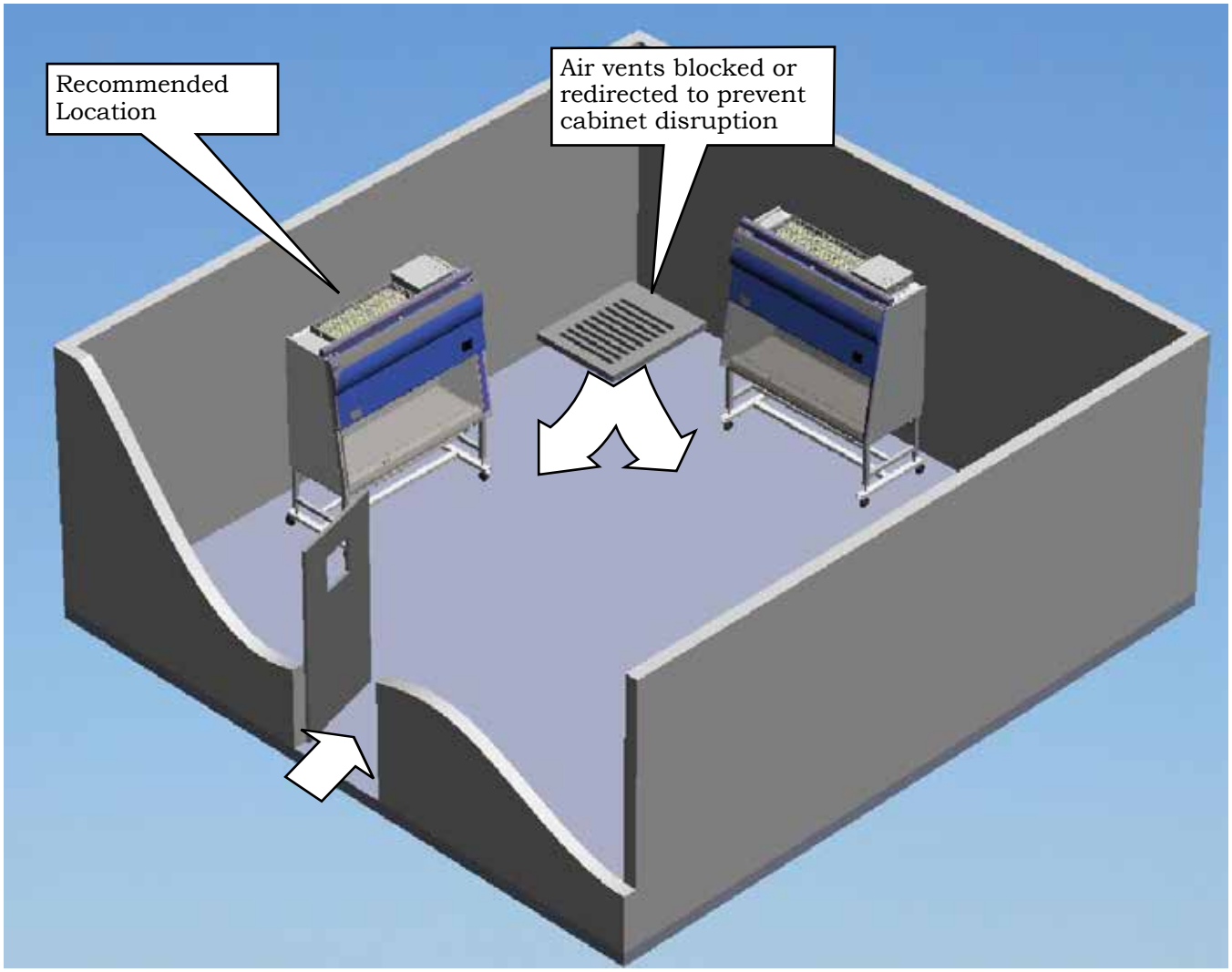
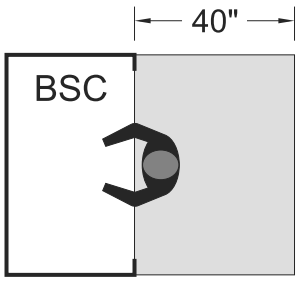


Figure 2.1: BSC Placement Example

Refer to NIH recommendations shown on the following pages from *Biological Safety Cabinet (BSC) Placement Requirements for New Buildings and Renovations*, National Institute of Health, Division of Technical Resources, Office of Research Facilities.

Recommended BSC Placement

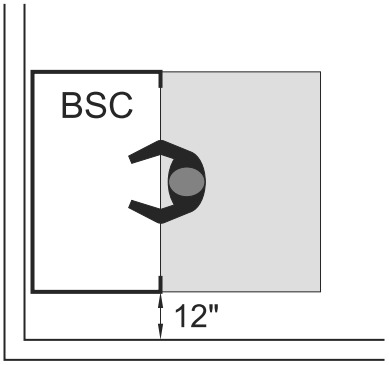
Workplace Specification



DO Maintain an undisturbed space of **40**" around BSC

Figure 2.2

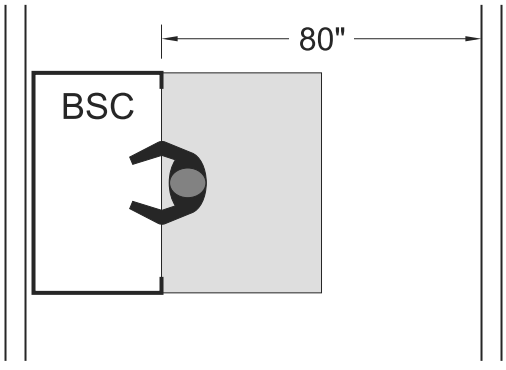
Distance to Adjacent Wall



DO Maintain a distance of **12**" to adjacent walls

Figure 2.3

Distance to Opposing Wall

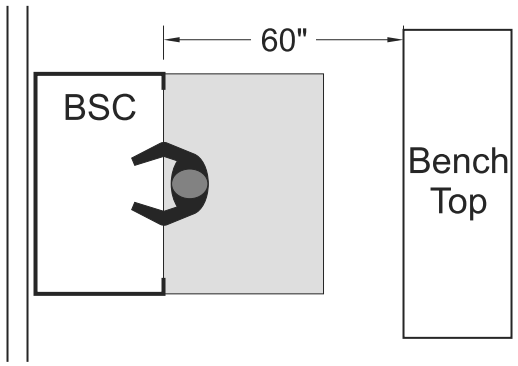


Do Place BSC at least **80**" from opposing wall

Figure 2.4

Recommended BSC Placement

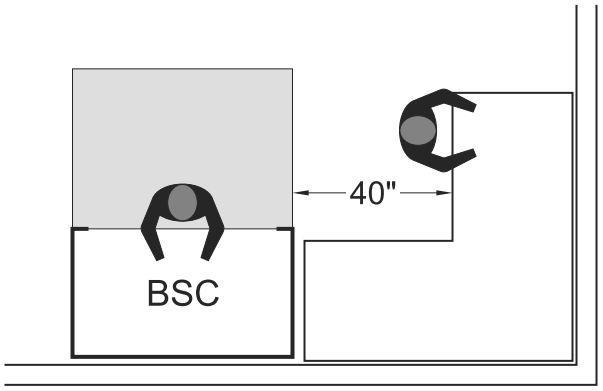
Distance to Opposing Bench Top



DO Place BSC at least **60"** to opposing bench top or area with occasional traffic

Figure 2.5

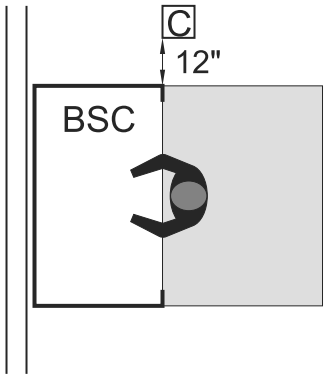
Distance to Adjacent Bench Top



DO Maintain a distance of **40"** to adjacent bench top

Figure 2.6

Distance to Columns

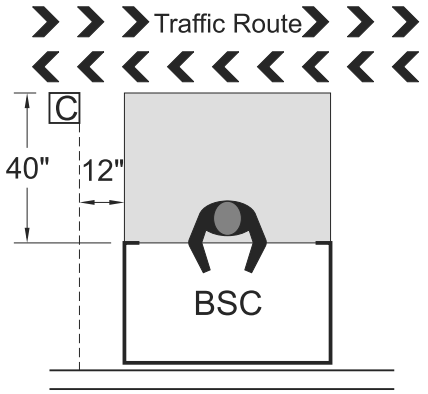


Do Maintain a distance of **12"** to columns to avoid disturbance of BSC airflow

Figure 2.7

Recommended BSC Placement

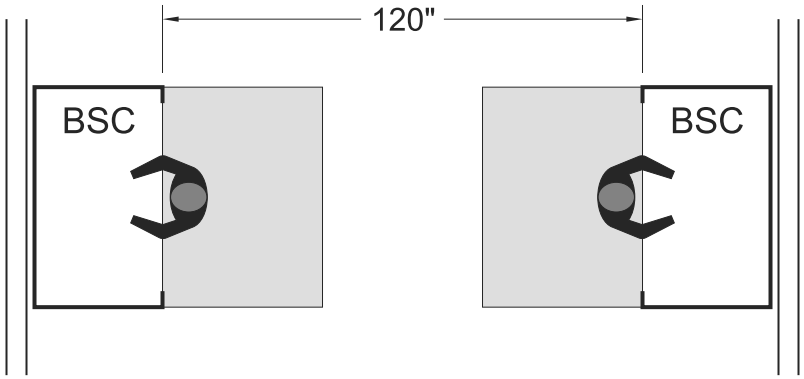
Distance to Columns



NOTE: Columns can aid in defining traffic routes

Figure 2.8

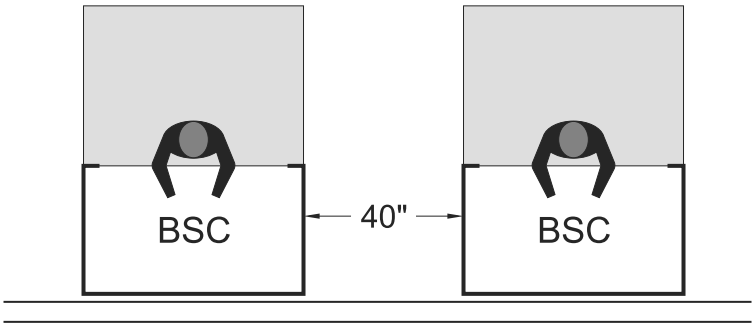
BSC Placement Along Opposing Walls



DO Maintain a distance of **120**" between opposing BSCs

Figure 2.9

BSC Placement Along Same Wall

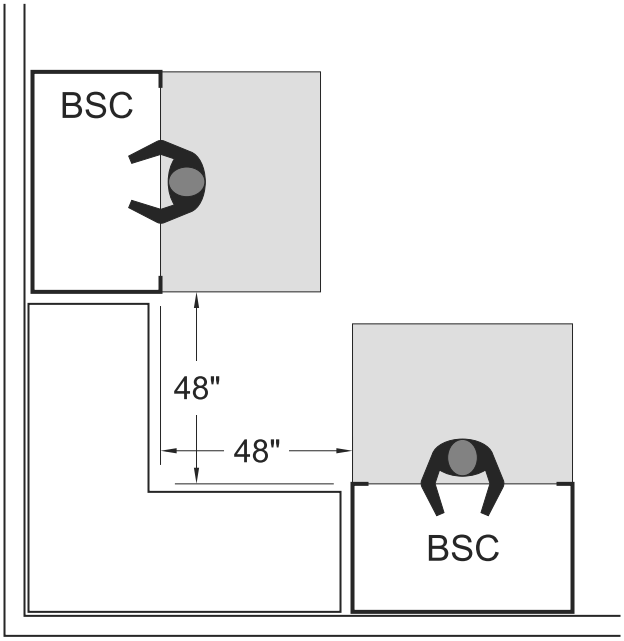


Do Maintain a distance of **40**" between BSCs along the same wall

Figure 2.10

Recommended BSC Placement

BSC Placement Along Perpendicular Walls



DO Maintain a distance of **48**" between BSCs

Figure 2.11

CHAPTER 3

Unpack and Inspection

When unpacking your new Interceptor® Biological Safety Cabinet, it is imperative that a thorough inspection be performed to ensure that there is no freight damage. If any damage is found at time of delivery, it should be noted with the carrier on paperwork. If damage is concealed owner must contact the freight carrier within 15 days of delivery per the United States Interstate Commerce Commission rules and regulations. Kewaunee Scientific Corporation and its dealers are not responsible for damages occurring during shipment.

Assembly and Setup

The Biological Safety Cabinet should be maneuvered, as close as possible, to its final location with the assistance of either a furniture dolly or floor jack. Attempts to move the unit by tilting it onto a hand truck greatly increases the risk or injury to the handler and damage to the Biological Safety Cabinet.

Miscellanious Parts Packed in Box Inside Cabinet

Qt	Part Number	Description	Qt	Part Number	Description
1	BSCUOA2	User & Operation Manual	3	050195-0A	Arm Rest Bracket
1	BSCMTA2	Maintenance & Technical Manual	2	F-7279-00	Arm Rest End Caps
1	980103	12ft – 20amp Power Cord	10	F-0468-02	3/4" Plug Buttons
1	050110-00	Drain Plate with 3/8" Female Fitting	10	F-3808-00	1/4”-20 Hex Nuts
1	F-7211-00	Type 316 SS Pipe Fitting	4	F-5294-00	5/16" Machine Bolt
1	F-7210-00	Type 316 SS Ball Valve	10	970406	5/16" Flat Washers
3	970442	#8x1/2” Self-drilling Screws			

Table 3.1

Parts Packed Loose Inside Cabinet

Qt	Part Number	Description
1	F-7280-(Length)	Aluminum Armrest Tube

Table 3.2

Step 1

Remove End Panel

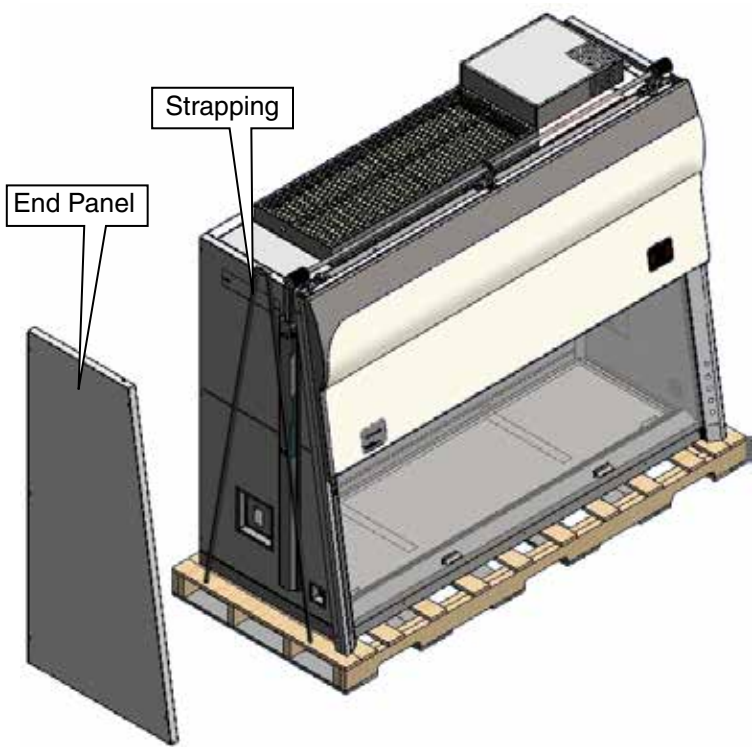


Figure 3.1 Biological Safety Cabinet on pallet

Remove End Panels from the cabinet by pulling out at the bottom and lifting up. Cut the straps that secure Biological Safety Cabinet to the pallet.

Step 2

Unsecure Weight

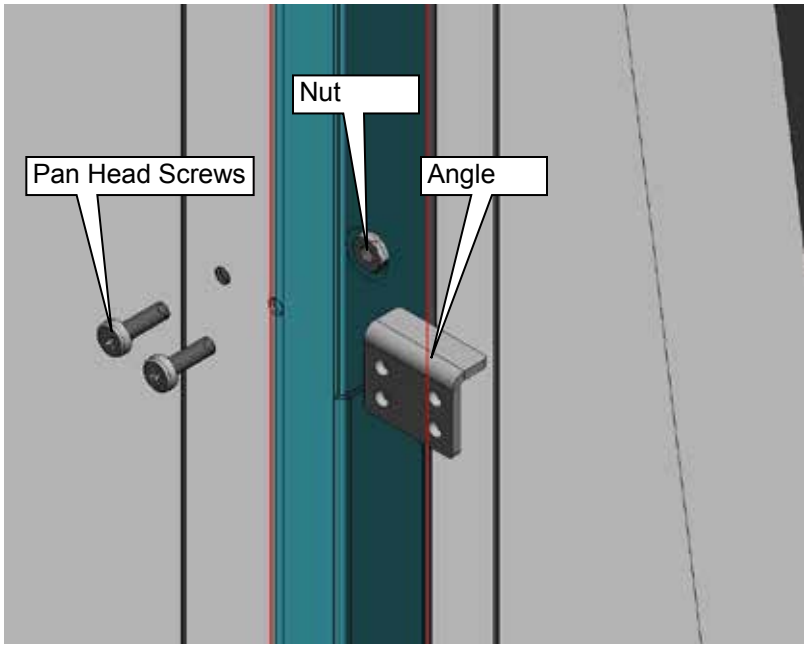


Figure 3.2 Biological Safety Cabinet on pallet

Remove the (2) Pan Head Screws and Nuts to remove the Angle that secures the Sash Weight on the left end of the BSC.

Step 3 Level Sash

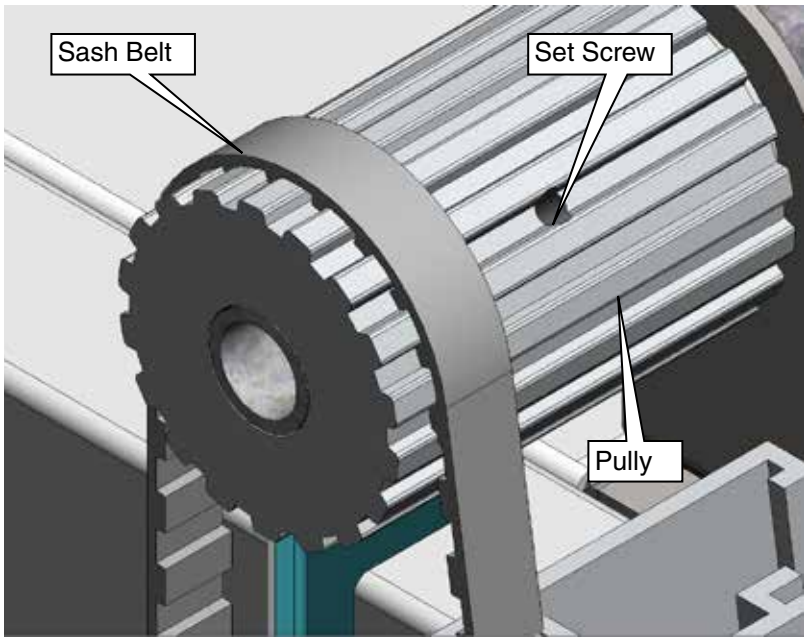


Figure 3.3 Sash Belt Pully

Ensure that the Sash Belt is engaged with the Pulley on both ends, ensuring sash looks level horizontally. If sash is not level, loosen Set Screw on one pulley, leaving the other pulley fixed, and slowly move the sash up and down until level.

Step 4 Set Cabinet

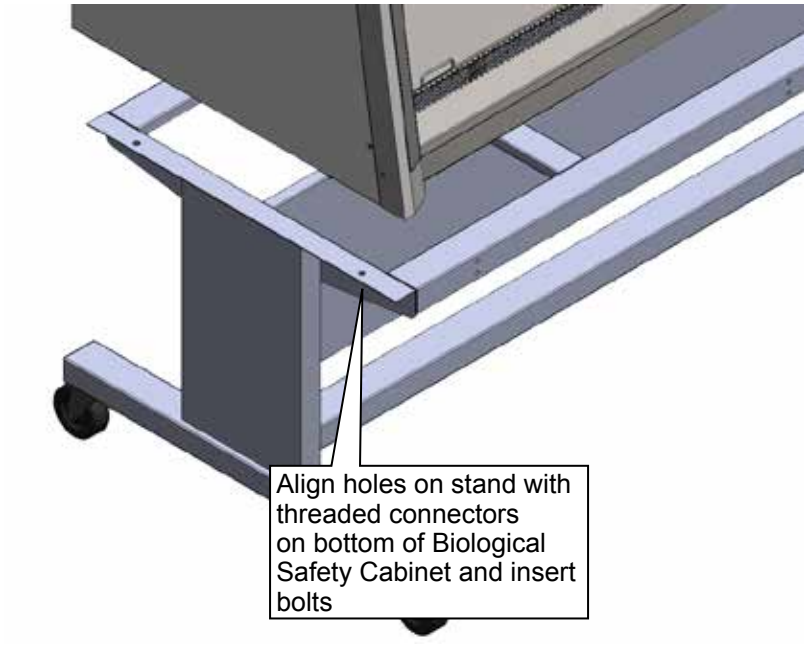


Figure 3.4 Attachment of Cabinet to Stand

Setting the Kewaunee Biological Safety Cabinet will require a floor jack and multiple personnel. Lift the BSC with the floor jack and slide onto the stand, aligning the holes on the stand with the threaded connectors on the bottom frame of the cabinet. Insert (4) 5/16" Bolts with Washers thru Frame into the Cabinet and tighten securely.

Step 5

Attach Drain Valve

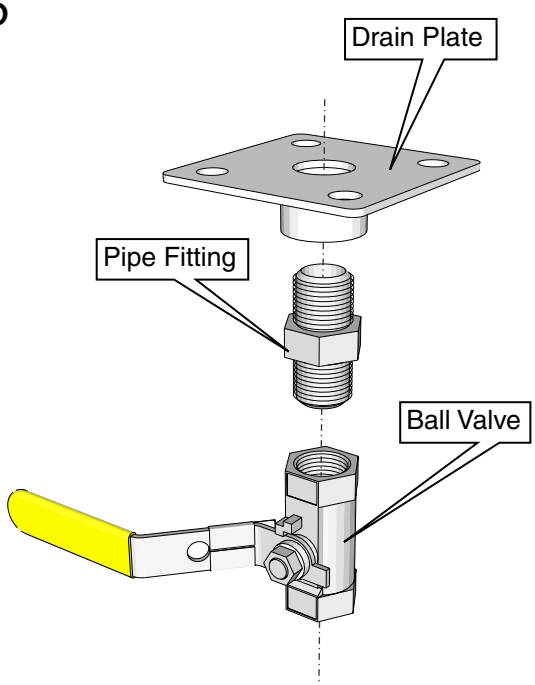


Figure 3.5 Drain Valve Parts

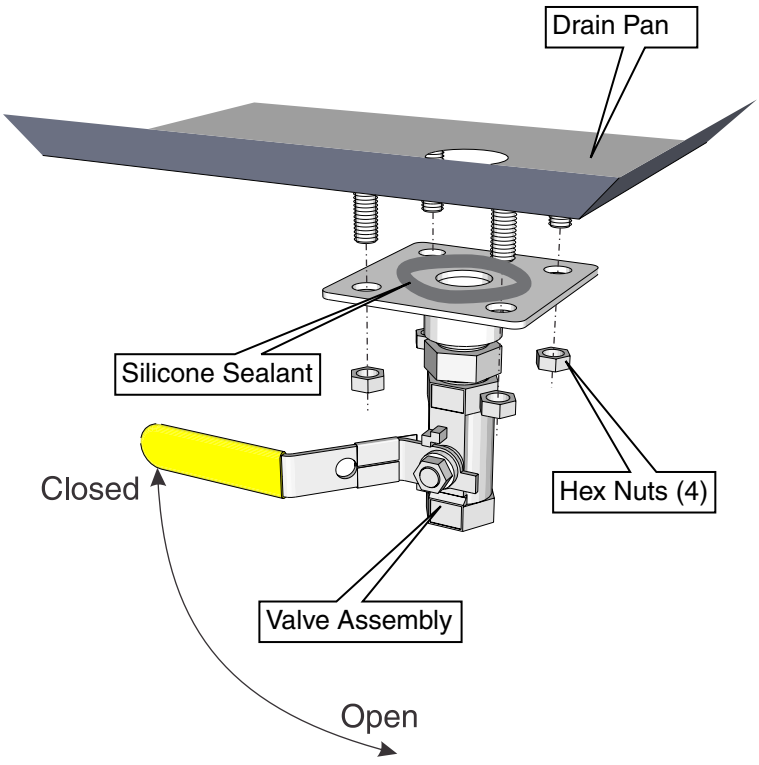


Figure 3.6 Drain Valve Assembly Installation

1. Remove the cabinet Worksurface by lifting the two Handles at the front of the Worksurface.
2. Remove and discard the Plug Button that seals the drain mounting hole (front right of pan) and clean the surface of any remaining sealant. (putty knife works well)
3. Assemble Drain Valve Assembly as shown in Figure 3.5 using plumbers tape.
4. Apply a light bead of silicone sealant to the mounting surface of the Drain Assembly and attach the assembly to the bottom of the cabinet using four (4) 1/4"-20 Hex Nuts as shown in Figure 3.6
5. Tighten nuts evenly until assembly is fully seated and sealant begins to seep from around all edges of the mounting plate.
6. Wipe away excess sealant from the area and verify that the drain hole is unobstructed and clean.
7. Verify that the drain valve is in the closed position.
8. Reinstall the Worksurface and allow the silicone sealant to cure for at least eight hours before exposing the Drain Pan to liquids.

ⓘ Attention

Drain Valve is not installed at factory to facilitate shipping. It is packed in the Loose Parts box inside the cabinet and must be properly installed before cabinet is placed into operation.

Step 6 Attach Armrest

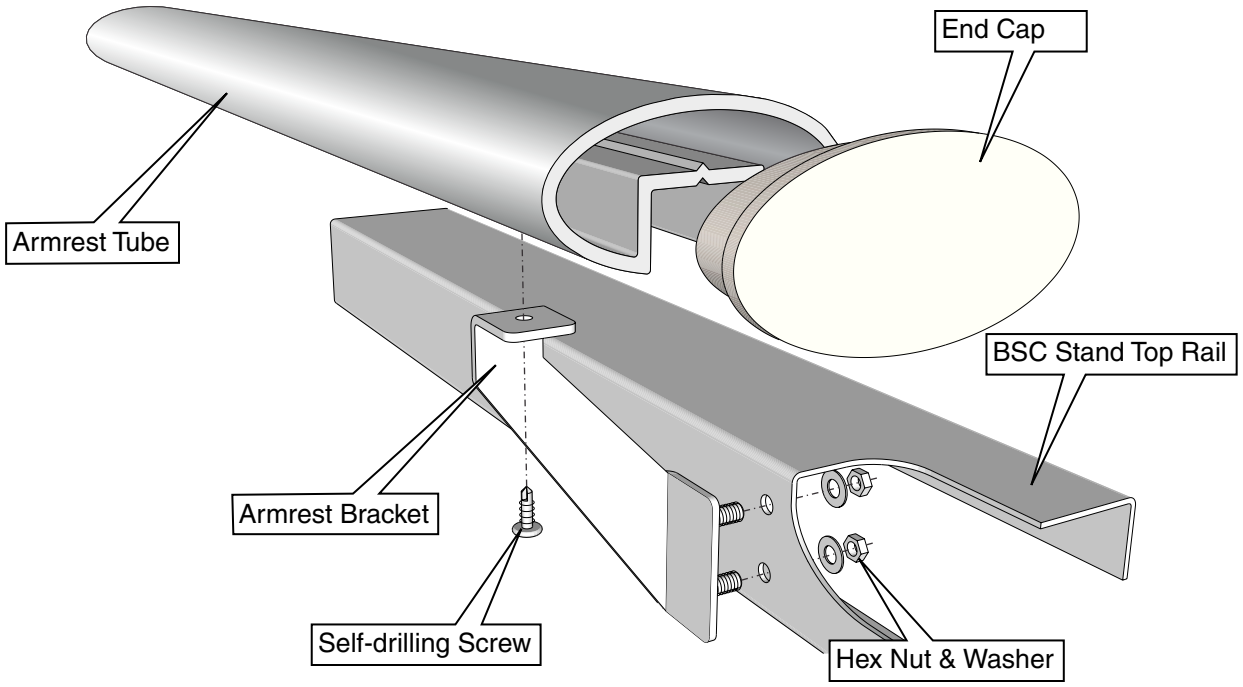


Figure 3.7 Armrest Assembly

1. Attach the three (3) Armrest Bracket to the BSC Stand using the supplied 1/4"-20 Hex Nuts and Washers.
2. Insert the armrest End Caps into each end of the Armrest Tube.
3. Place the Armrest Tube on the Armrest Brackets and center horizontally.
4. Attach the tube to the brackets using the supplied #8x 1/2" Self-drilling Screws

Position Biological Safety Cabinet:

Position the Biological Safety Cabinet in an accessible location free of turbulence as described in Chapter 2. Be sure hood is not located under a make-up air diffuser of any kind. Also, avoid placing the unit next to any frequently used door or high traffic areas.

Service Feed Requirements

Mechanical connections, when required, should be made after the cabinet is in position. The fitting stub-outs are located on the lower front of the cabinet's right and left side panels. See Figure 3.8 and Figure 3.9 below.

1. The use of flammable gas services like methane or hydrogen is not recommended.
2. Any service used should be at a line pressure of 75 psi or less.
3. Active high velocity gas jets inside the Biological Safety Cabinet should be avoided due to the turbulence they create.
4. Service lines should be connected by a licensed professional

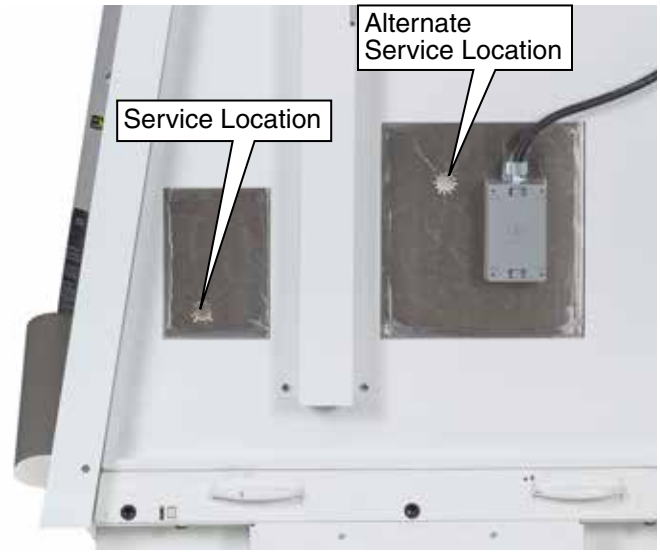


Figure 3.8 Service locations behind removed end panel

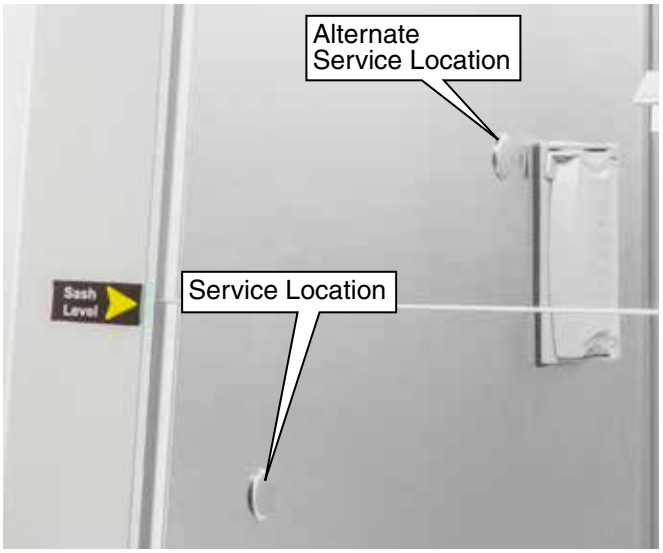


Figure 3.9 Service locations inside cabinet

Electrical Power Connection

The Interceptor® has one power cord which is packed in the Loose Parts box inside the cabinet. The cord supplies power to the two internal outlets, the fan, alarm control system, and lights. The female ends must be inserted into the corresponding recepticles on the Electrical Junction Box at the top of the cabinet and twisted to lock into place. The other end should be plugged into 120 VAC, 20 amp, grounded, electric outlet. Always use waste-high or floor-positioned outlets to facilitate disconnection in an emergency. The powered stand, if ordered, takes an additional 8.6 amps at 120 VAC or 4.3 amp 230 VAC, off its own power cord and should also be plugged into a waste-high or floor-positioned outlet.

⚠ WARNING

The electrical outlets inside the Interceptor® are grounded. This is particularly important since all internal surfaces are stainless steel and conduct electricity. Under NO CIRCUMSTANCES use ungrounded plugs in these outlets.

As soon as the cord is connected, you are ready to follow the “Startup” procedure on page 4.2. Electrical plugs must not be removed until cabinet fan and lights are turned off. The cabinet should be disconnected from the main voltage by unplugging to remove power. For electrically-powered lift stands, disconnection is also accomplished by plug removal.

Thimble Connection (Canopy)

An Interceptor® Class II, A2 Biological Safety Cabinet can be used with minute quantities of volatile toxic chemicals or trace amounts of radionuclides when properly ducted through a Thimble Connection with Airflow Sensor. The Thimble mounts to the top of the exhaust filter guard with four (4) screws and connects to either a 8" or 10" exhaust duct. The Airflow Sensor connects to the cabinet's monitor to warn when the exhaust ventilation is not operating.

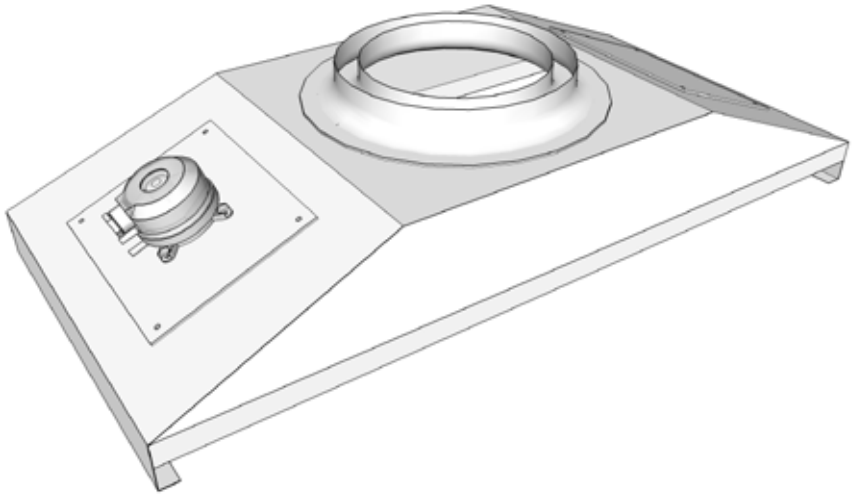


Figure 3.9 Thimble Connection with Airflow Sensor (Canopy)

Thimble Exhaust requirements

The building ventilation system must be verified that it can handle the required exhaust volumes of the cabinet before connection. Thimble Exhaust CFM should be 1.3 times (130%) of the Biological Safety Cabinet exhaust. (See instructions shipped with Thimble Connection for proper installation and connection proceedures.)

Size of Biological Safety Cabinet	Biological Safety Cabinet CFM	Required Thimble Exhaust CFM
1100mm	272	354
1400mm	358	465
1700mm	444	577
2000mm	530	689

Table 3.3

⚠ WARNING

A hood connected to a building ventilation system with a Thimble Connection may become dysfunctional if the ventilation system fails. Check building ventilation system before using cabinet!

CHAPTER 4

Cabinet Operation

Theory of Operation

The Interceptor® is a Class II, A2 Biological Safety Cabinet. Its function is to isolate bacterial samples from cross-contamination and protect the user and the environment around the cabinet from being contaminated by biological or particulate material inside the cabinet.

It accomplishes this objective by bathing biological samples in HEPA filtered clean air while keeping contaminants contained by having a continuous substantial inflow of air through the 10" cabinet sash opening.

The BSC will safely operate at a temperature range of 55°F to 85°F (13°C - 29°C) and a relative humidity of 10% to 70%.

Class II, A2 Biological Safety Cabinets are made to safely contain bacterial samples that fall into the Biological Safety levels 1, 2, 3, and 4 if accompanied by level appropriate protection garments. The following is a description of each level as published in the *CDC BMBL 5th edition:*

> "Biological Safety level 1 (BSL-1) is the basic level of protection and is appropriate for agents that are not known to cause disease in normal, healthy humans. Biological Safety level 2 (BSL-2) is appropriate for handling moderate-risk agents that cause human disease of varying severity by ingestion or through percutaneous or mucous membrane exposure. Biological Safety level 3 (BSL-3) is appropriate for agents with a known potential for aerosol transmission, for agents that may cause serious and potentially lethal infections and that are indigenous or exotic in origin. Exotic agents that pose a high individual risk of life-threatening disease by infectious aerosols and for which no treatment is available are restricted to high containment laboratories that meet biosaftey level 4 (BSL-4) standards."

⚠ WARNING

Class II A2 Biological Safety cabinets must be certified before initial use, after being moved, and after any service, including required annual recertification. Service must be performed by an NSF accredited certifier using NSF/ ANSI 49 criteria and should include, at minimum, the following test:

- **Downflow Velocity Profile Test**
- **Inflow Velocity Test**
- **Airflow Smoke Pattern Test**
- **HEPA Filter Leak Test**

Touch Pad Contol Monitor

Home/Face Velocity Screen

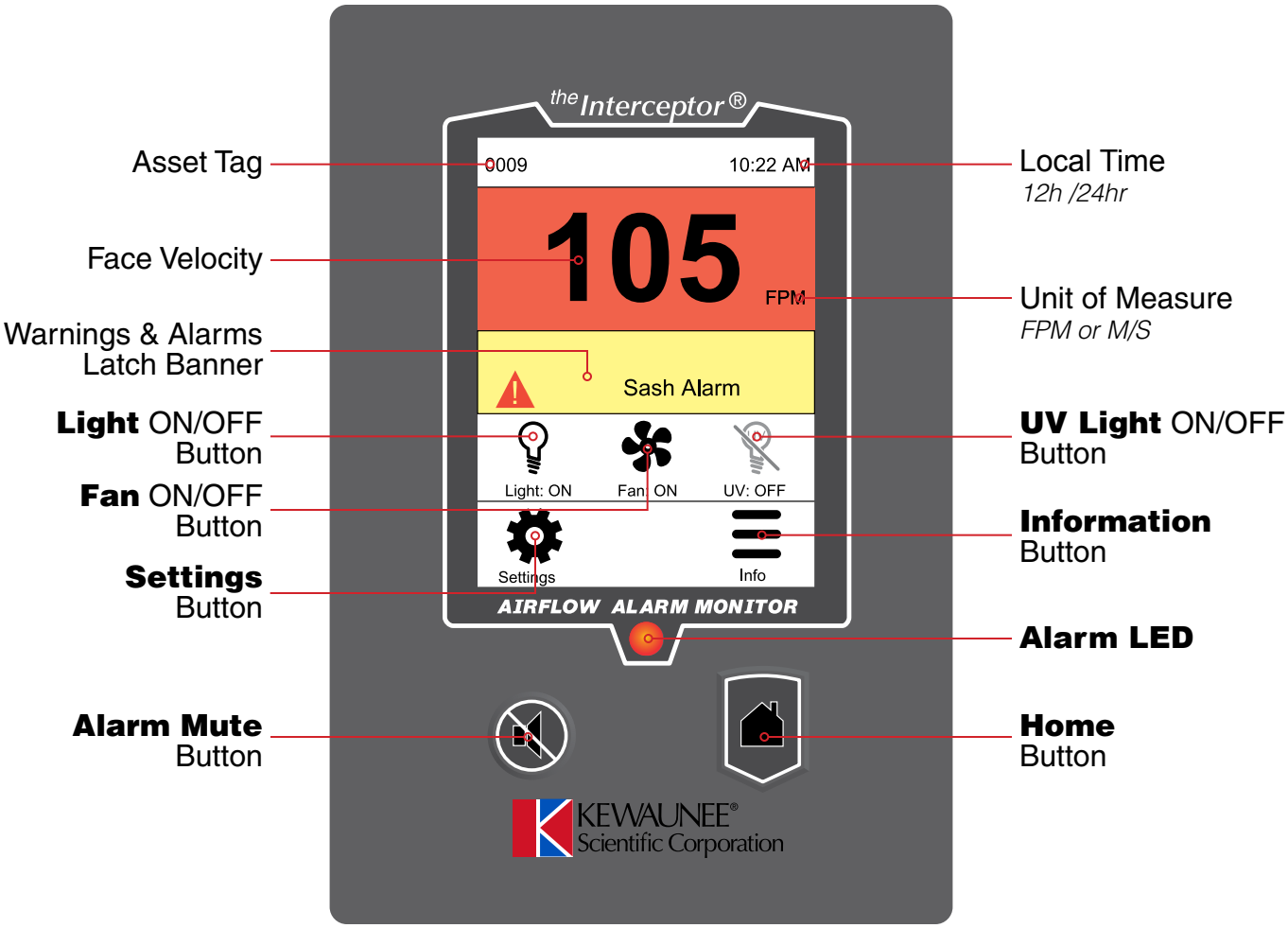


Figure 4.1 Touch Pad Control Monitor

Startup Procedure

Plug in the Power Cord to a properly sized electrical receptacle. Raise the vertical sash to the 10" operating line. The Control Monitor will show the Kewaunee Contact Screen, Figure 4.2, for several seconds and will then display Home/Face Velocity Screen. Clear the the Power Failure/Latched Banner, Figure 4.3, by touching the banner once.

Figure 4.2 Kewaunee Contact Screen

Figure 4.3 Home/Face Velocity Screen - Latched/Power Failure

The Latched Banner is provided to inform the user that an unsave condition has taken place within the BSC. The Latch Banner will display until user clears it from the screen.

Important: Cabinet must be certified before being put into service.

Press the **Fan** button once and the fan motor will start. As the fan spins up, the face velocity will increase until the operating face velocity is reached and the cabinet is safe to use Figure 4.4 - 4.6. The Interceptor® is now intercepting all dust, bacteria, and viral matter and delivering HEPA filtered, clean air to the Biological Safety Cabinet. The air flow pattern is shown in Figure 4.7 on following page.

Figure 4.4 Home/Face Velocity Screen - Fan Start

Figure 4.5 Home/Face Velocity Screen - Fan Warm-Up

Figure 4.6 Home/Face Velocity Screen - Safe Operating Condition

Interceptor Class II, A2 Air Flow Patterns

It is recommended that the cabinet fan be turned on and allowed to operate for several minutes removing any suspended particulates. Cabinet interior should then be wiped down with 70% ethanol (EtOH), or other approved disinfectant.

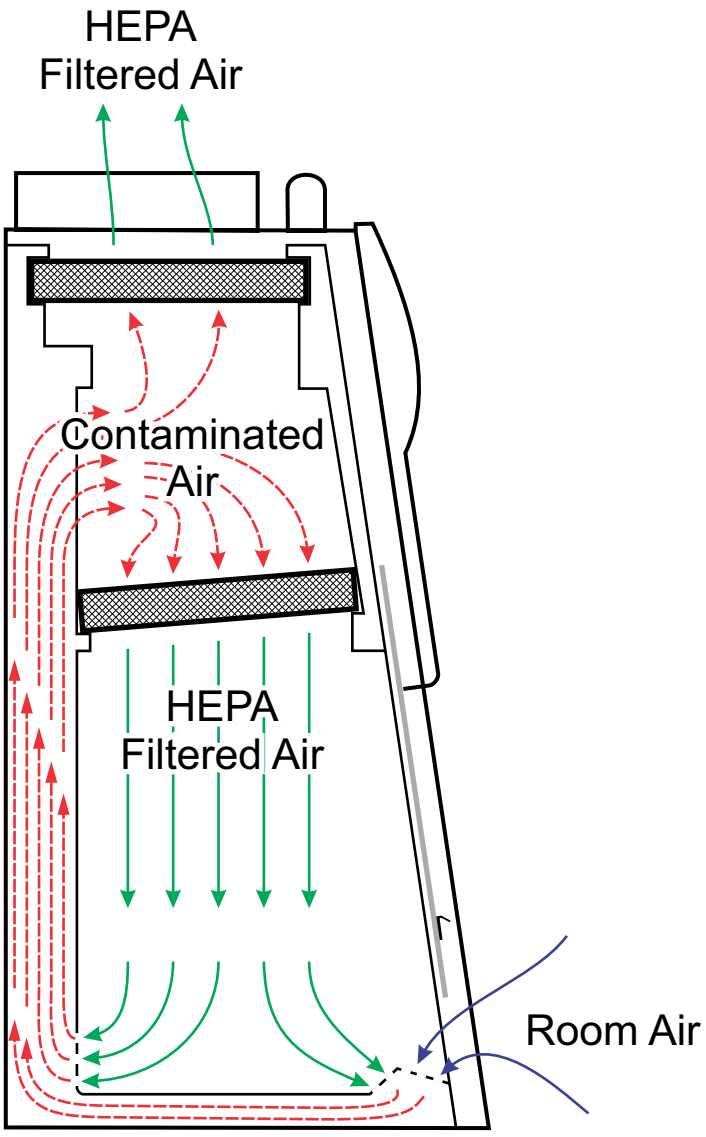


Figure 4.7 Interceptor Biological Safety Cabinet Air Flow Patterns

Suggested or Recommended Workflow

Once skilled in your lab's Standard Operating Procedure (SOP), don appropriate protective garments and gear suitable to the level of safety required. Place items for use in the procedure in the left section of the work area. Place equipment in the center of the work area. Designate the right section of the BSC for waste to be disposed of at the procedure's end.

As you perform the procedure, waste materials will accumulate on the right side of the cabinet.

After the procedure is finished, remove waste materials, disinfect as is customary at your facility, and place materials away. Each time the unit is used, it should be left clean. Follow your SOP for shut down or night setback procedures.

Night Setback/Low Flow Mode

The Interceptor® Biological Safety Cabinet is equipped with a two-speed motor to save energy when it is not being used for active procedures. The cabinet is placed into Night Setback/Low Flow Mode by closing the sash to a 1" opening. At 1", the cabinet exhausts about 50% of the air the unit processes at a 10" opening. **Do not run active experiments at this 1" sash height.**

When the sash is moved to a 1" opening, Night Setback/Flow Flow Mode, the Control Monitor will look like Figure 4.11 below.

Figure 4.11 Home/Face Velocity Screen-
Night Set-back/Low Flow Mode

NOTE: Low flow is set to 50% of run speed. It is not necessary to calibrate the BSC for this position.

Control Monitor

The Control Monitor Home/Face Velocity Screen can alert you to several possible problems as you proceed:

1) High inflow velocity (face velocity).

2) Low inflow velocity (face velocity).

3) Sash Height Alarm – Always set the sash at the 10" line when conducting experiments. This is the setting that has received NSF certification.

4) UV Light on and Fan on.

Figure 4.12 Home/Face Velocity Screen
Warning – Check Sash Height

UV Light

The UV germicidal disinfecting light may be used if one has been installed; fully close the sash, and turn on the light using the UV Light button. Because UV rays are dangerous, the light will not operate unless the sash is fully closed. Glass stops UV radiation. If the UV light is not turned off before the sash is raised, the safety interlock will disable the UV light.

WARNING

If the UV option is on your BSC, be sure safety overrides are never immobilized! UV light should NEVER be on while sash is open.

Control Monitor Messages and Meanings

Variable	Measurement Method	Importantance	Recommended Action
Airflow (optimal value is 105 FPM)	Since the inflow at any point of the 10" sash opening can vary widely, it is the average inflow (CFM/sq ft) that is actually measured. Since the “air in” through the 10" sash opening exactly equals “air out”, the exhaust port, the Interceptor® converts the FPM exhaust port velocity into FPM inflow velocity at the sash opening.	Proper inflow at 10" assures containment of contaminants within the cabinet. NSF 49 requires a minimum inflow velocity of 100 FPM.	The Home/Face Velocity Screen shows airflow. Any velocity between 100 FPM and 110 FPM is acceptable. If face velocity falls below 100 FPM, discontinue work and contact your Accredited Technician for remediation.
Remaining Filter Life	The static pressure differential between the negative and positive pressure is proportional to filter loading. It is measured by the Pressure Sensor and converted by the Contol Module to a filter loading percentage.	The Interceptor® exceeds NSF requirements for maximum static load.	An Accredited Technician may need to adjust fan speed to maintain face velocity or change filter.
Sash Alarm Banner	A micro switch interaction with the counterweight activates this warning.	The cabinet is designed to be used at a 10" sash opening. Any other opening is inappropriate. If the fan is on at any height other than 10", the **Yellow Sash Alarm Banner** displays.	Return the sash to 10" or turn the unit off and close the sash.
UV Light (when installed)	When the sash is closed and the fan is off, the disinfecting UV Light may be activated using the UV Light button on the Control Panel Touch Pad.	Be sure UV Light Safety Overrides are never immobilized! UV light should NEVER be on while sash is open.	Close sash and turn fan off to reactivate UV.
Remaining UV Lamp Life	Internal countdown timer. Setting of 2000 hours can be reset to manufacturers recommendations.	When the hood UV light is on, it is important to know how much life is remaining in the UV lamp before its UV output diminishes. The remaining UV lamp life natation is displayed in the **Info/About** screen.	Replace UV lamp, even if it still glows, when ‘0’ hours remaining is indicated.

Table 4.1

Monitor Screen Displays

The Kewaunee Interceptor® Biological Safety Cabinet employs a sophisticated control system using a built in tough screen Control Monitor to display menus and options. The following pages illustrate the different states of the monitor with illustrations of the various screens and schematics of each of the menus. The schematic charts show all options for each menu item as well as the factory setting.

Figure 4.13

Startup
Home/Face Velocity Screen

displays when cabinet is plugged in

Press **Power Failure** banner to clear
Press **Settings** for Configuration

Monitor Screen Displays

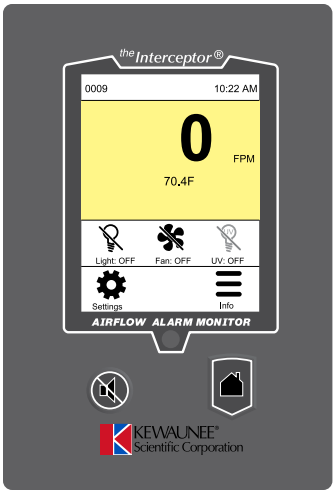


Figure 4.14

Home/Face Velocity Screen

Fan OFF

displays when Fan is Off

Press Fan Switch to Start

Figure 4.15

Home/Face Velocity Screen

Fan Warmup

displays when Fan is On
during warmup period

Figure 4.16

Home/Face Velocity Screen

Fan On

displays when Fan is On
after warmup period

Press **Light** button to turn on light

Monitor Screen Displays

Figure 4.17

Settings Menu

Used for User Settings and Cabinet Setup and Calibration

Press **System** for User Settings

Press **Cabinet Setup** for Cabinet Setup and Calibration

Figure 4.18

System Menu

Use to set User Settings

Press **Alarms/Sound** to adjust alarm and volume settings

Press **Airflow Settings** to adjust Sensor sensitivity and Airflow Resolution

Press **Advanced** to Configure Asset Tag and Change Passwords

Figure 4.19

Change Password Menu

Use to change Passwords

Press **Admin Password** to change

Press **Certifier Password** to change

Monitor Screen Displays

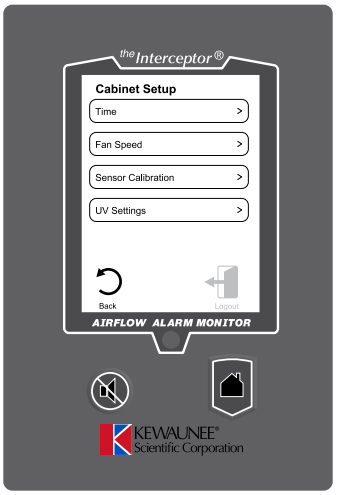


Figure 4.20

Cabinet Setup Menu

Use to Setup Cabinet

Press **Time** to set date/time

Press **Fan Speed** to adjust airflow

Press **Sensor Calibration** to calibrate airflow sensor

Press **UV Settings** to adjust UV Timer

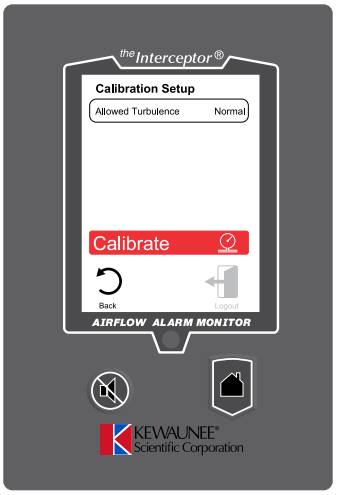


Figure 4.21

Calibration Setup Menu

Use to Calibrate Monitor Screen at time of installation and after filter changes
(only requred if actual airflow velocity does not match displayed airflow velocity)

Press **Calibrate** and follow prompts

Note:
To Be Performed by Certified Technician Only

Monitor Menu Schematics

Settings Menu

Menu Item		
System	*to **System** Menu*	*See Table 4.3*
Cabinet Setup	*to **Cabinet Setup** Menu*	*See Table 4.10*

Back → *Return to **Home Screen***

Table 4.2

System Menu

Menu Item		
Alarms/Sound	*to **Alarm/Sound Menu***	*See Table 4.4*
Airflow Settings *password protected*	*to **Airflow Settings Menu***	*See Table 4.6*
Advanced *password protected*	***to Advanced Menu***	*See Table 4.7*

Back → *Return to **Home Screen***

Table 4.3

Alarms/Sound Menu

Menu Item	Input Option	Factory Setting
Device Volume	Hi, Med, Low	**Med**
Key Beep	On, Off	**On**
Set Minimum Volumes *password protected*	Hi, Med, Low	**Low**
Alarm Controls *password protected*	*to **Alarm Controls Menu***	*See Table 4.5*

Back → *Return to **System Menu***

Table 4.4

Alarm Controls Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Ringback	Off, 10s, 30s, 1min, 5min, 10min, 60min	**1min**
Alarm Delay	1s, 2s, 5s, 10s	**1s**
Startup Delay	30s, 1min, 2min, 5min	**30s**

Back → *Return to **Alarms/Sound Menu***

Table 4.5

Monitor Menu Schematics

Airflow Settings Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Sensitivity	Low, Med, Hi	**Med**
Airflow Resolution	1 FPM, 2 FPM, 5 FPM	**1 FPM**

Back → *Return to **System Menu***

Table 4.6

Advanced Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Configure Asset Tag	→ *to **Configure Asset Tag Menu*** →	*See Table 4.8*
Change Password	→ *to **Password Menu*** →	*See Table 4.9*

Back → *Return to **System Menu***

Table 4.7

Configure Asset Tag Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Change Asset Tag	############	*none*
Show Asset	On, Off	**ON**

Back → *Return to **Advanced Menu***

Table 4.8

Change Password Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Admin Password	Enter Old Password - Admin Enter New Password - Admin Enter Confirm Pass - Admin	**9999**
Certifier Password	Enter Old Password - Certify Enter New Password - Certify Enter Confirm Pass - Certify	**1001**

Back → *Return to **Advanced Menu***

Table 4.9

Monitor Menu Schematics

Cabinet Setup Menu

Menu Item

Time *password protected*	to ***Time Setting Menu***	*See Table 4.11*
Fan Speed *password protected*	to ***Fan Speed Menu***	*See Table 4.13*
Sensor Calibration	to ***Sensor CalibrationMenu***	*See Table 4.14*
UV Settings *password protected*	to ***UV Settings Menu***	*See Table 4.15*

Back → *Return to **Home Screen***

Table 4.10

Time Setting Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Show Time	On, Off	**On**
Date & Time Settings	to ***Date & Time Settings Menu***	*See Table 4.12*

Back → *Return to **Cabinet Setup Menu***

Table 4.11

Date & Time Setting Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Date	Enter Current Date	Current Date
Time	Enter Current Time	Current Time
Time Format	12hr, 24hr	**12hr**

Back → *Return to **Cabinet Setup Menu***

Table 4.12

Fan Speed Menu *(password protected)*

Menu Item	Input Option	Factory Setting
Normal Fan Speed	Set Normal Fan Speed	##%
NSB Fasn Speed	Set NSB Fan Speed	##%

Back → *Return to **Cabinet Setup Menu***

Table 4.13

Monitor Menu Schematics

Sensor Calibration Menu

Menu Item		
Calibration Info	Calibration Date: *(Date Last Calibrated)*	MMM DD, YYYY
Calibrate Sensor *password protected*	*to **Sensor Calibration Instructions***	*See Page 5.2*
Back	*Return to **Cabinet Setup Menu***	

Table 4.14

UV Settings Menu *(password protected)*

Menu Item	Input Option	Factory Setting
UV Timer	30min, 60min, 90min, 2hr, 4hr, 6hr	**30min**
UV Lamp Life	#### *(in hours)*	**2000hrs**
Reset UV Lamp Life	Okay, Cancel	
Back	*Return to **Cabinet Setup Menu***	

Table 4.15

CHAPTER 5

Care and Maintenance

This chapter details maintenance that can be undertaken by laboratory personnel, supervisors; and/or Accredited Technicians.

Access to Maintenance Areas

Do not remove the Air Chamber Access Panel shown in Figure 5.1. The area behind this panel is contaminated. Contact your Accredited Technician for maintenance of these areas.

Figure 5.1

Frequently Required Maintenance Procedures

Before following any of these procedures, be sure all in-house safety precautions are followed regarding personal contamination. Face masks and wearing two pair of gloves are recommended in all cases.

Item	Procedure
Filter replacement	Refer to Maintenance & Technical Manual
Cabinet interior cleaning NOTE: DO NOT USE CHLORINE BLEACH	a) Use UV disinfecting light for at least 30 minutes or time recommended by your Standard Operating Procedure (SOP) if UV light is installed. b) Open sash and using disinfectant approved for use in your procedures, carefully clean worktop, top and bottom. Lift top and disinfect drain pan.
Clean cabinet exterior	Use mild soap and approved disinfectant
Check service fittings	Visual test with soap solution, inspecting for bubbles indicating leaks.
Check remaining life of UV Lamp	View lamp life on Control Monitor
Recertify cabinet	Use NSF 49 Accredited Technician
Cleaning Towel Catch (only perform this if face velocity drops or towels are known to have been drawn into the back baffle)	With worktop lifted, reach below rear baffle slot and remove debris from the towel catch grille behind the rear baffle. NOTE: this procedure becomes easier if worktop can be removed entirely from the cabinet. Since the top may be partially contaminated be sure removal and temporary storage of the top is undertaken using procedures approved by your facility's Health and Safety Department.
Removal and cleaning of stainless steel front grille	Remove fasteners from the grille, then lift and remove. Clean grille with approved disinfectant and replace.
Removal of worktop	Usually considered part of interior disinfection procedure; be sure underside of top is disinfected before removing from the unit. Clean drain tray thoroughly using approved disinfectant before returning the worktop to operating position.

Table 5.1

Infrequently Required Maintenance Procedures

Item	When Required	Procedure
Hinged top front panel operation	Needed only for fluorescent light replacement. All other areas behind panel should be accessed only by Accredited Technician.	Remove the small screws at each end of the bottom edge of the panel. Panel will lift assisted by two gas struts.
Changing lamps	Fluorescent lights may be operated until they burn out. UV lights should be replaced when their useful life is exceeded.	Disconnect the power cords. Remove pinned UV or fluorescent lamp by turning lamp 90° and pulling forward. New lamps are installed by reversing this procedure.
Resetting circuit breakers	When: a) outlets are not working b) fan and control unit will not power up	Resetting these requires disconnecting power and removing the cover on the electrical junction box on the top of the BSC. Reset the two breakers inside the box, then plug the unit back in. If breakers trip, call an **Accredited Technician or trained personnel**. If breakers do not trip, remove wall plug reattach lid, and reconnect power.

Table 5.2

Maintenance Log

We recommend the formation of a logbook to record recommended maintenance activities as the example shown below:

Month	Clean Exterior	Check all Service Fittings
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
Daily Basis: Disinfect surface work areas, before and after each use		
Weekly Basis: Surface disinfrect drain pan		
Quarterly Basis: Check lights for proper function Check for malfunctions Spot clean stainless steel surfaces		
Annual Basis: Inspect and Recertification by an Accredited Technician		

Table 5.3

Disinfection

It is recommended that your Biological Safety Cabinet be thoroughly disinfected before and after each use. This procedure is to destroy any contaminates that may remain within the cabinet and may compromise your work. This should be at least part of your Standard Operating Procedure (SOP) but not a substitution for it. The entire inside of the cabinet should be wiped down during the disinfection. This includes the side and rear walls, the removable worksurface, both top and underside (as needed) and the drain pan.

It is recommended that the cabinet fan be turned on before disinfection procedure and allowed to operate for several minutes to remove any suspended particulates. Cabinet interior should then be wiped down with 70% alcohol, or other approved disinfectant. After cabinet has been thoroughly disinfected, then it is very important to rinse the surfaces with sterile water to remove any residue.

Storage

If the Interceptor® is to be decommissioned or stored for protracted periods, consult with your health and safety personnel for appropriate procedure.

If the filters were not full the last time the cabinet was used, all contamination will be sealed inside the fan compartment and positive plenum, and therefore isolated.

The storage mode for the unit will be influenced by at least the following issues:

1. Virulence or toxicity of materials used in the cabinet
2. Resistance of materials to UV light or other disinfection procedures used on the cabinet interior
3. Length of time item is to be stored before reuse

Filters

Filter replacement must be completed by an NSF Accredited Technician. See Maintenance and Technical Manual.

Lamps

See Table 5.2 for information on replacement of fluorescent and/or UV lamps. See Table 7.2 for replacement lamp part numbers.

Decontamination

Decontamination must be undertaken by an **NSF Accredited Technician**. Details on decontamination and filter change-out procedure can be found in the *Interceptor® Maintenance and Technical Manual*.

WARNING

Decontamination may only be performed by an NSF Accredited Technician.

CHAPTER 6

Operator and Product Protection

Safe Operation Guide

The Biological Safety Cabinet may only be used in the 10" sash open position due to calibrated air flows. An opening other than 10" during a procedure will not protect the operator from materials inside the hood.

Protective Clothing

The following are general guidelines only and should not replace any of your laboratory's Standard Operating Procedures (SOP).

Before beginning any work, the user should first thoroughly wash their hands with a germicidal soap.

Don appropriate personal protective equipment for the bio safety level and work being performed. Operations being performed in BSL level 1 suggest wearing protective laboratory coats, gowns or uniforms to prevent contamination of personal clothing. Protective eyewear is also suggested.

BSL level 2 and 3 suggests wearing gloves, protective laboratory coats, gowns, smocks or uniforms (possibly tie back, wrap around gowns or scrub suits). Eye and face protection include goggles, mask, face shield or other splatter guard are also suggested. Eye, face and Respiratory protection must be worn in rooms containing infected animals.

All procedures being performed in a BSL Level 4 and using a class II BSC require the user to wear a one piece air supplied positive protection suit.

UV Lamp

The Control Monitor Run Screen will alert the operator when the UV lamp should be replaced. The lamp may still illuminate at this point; however, UV output will be greatly diminished.

HEPA Filters

HEPA filters are the most important safeguard of a Biological Safety Cabinet. The HEPA filter has a proven efficiency of 99.99% at 0.3 microns. The HEPA filter is made from a single sheet of borosilicate fibers that have been treated with a wet-strength water–repellant binder. The filter is pleated to increase overall surface inside the filter frame and is protected by corrugated aluminum separators. These separators protect the pleats from collapsing and provide a path for airflow. Although aluminum separators are most common, there are other materials that are acceptable. The filters are then glued to a wood, metal or plastic frame. The filters are very fragile and careless handling can easily compromise their integrity. It is important that the filters be leak tested when initially installed and whenever the cabinet is moved or relocated. Note that much of this information is credited to *CDC BMBL 5th Edition*.

HEPA filters are only efficient on particulates; they are not designed to filter gases. It is important to check the filters on a regular basis (at least annually during recertification). As the filters collect particulates, it will become increasingly harder to maintain the airflow balance within the cabinet. Filters should be changed at recommended intervals to ensure proper airflow is being maintained within the cabinets.

CHAPTER 7

Troubleshooting

Problem	Possible Cause	Recommended Fix
No lights or fan	a. Unit unplugged	Plug it in (two plugs)
	b. BSC breaker open	Reset breaker
	c. Building breaker open	Check outlet breaker
No fans	a. Fan breaker/overload tripped	Overload will reset if unit disconnected. If condition persists, motor may need to be replaced. Contact Kewaunee Scientific Corporation for assistance.
	b. Sash-activated fan kill relay broken	Replace
Fluorescent light not working	a. Lamp burnt out (look for dark rings at opposite ends of glass fluorescent tube)	Replace lamps
	b. Lamp wiring defective	Inspect and repair
	c. Bad lamp ballast (symptom is intermittent light)	Replace ballast located inside rooftop circuit box
UV light does not illuminate	a. Sash must be closed for UV light to work (regular glass blocks UV rays)	Close sash
	b. Lamp burnt out	Replace lamp
	c. Lamp wiring defective	Inspect and repair
	d. Bad lamp ballast (symptom is intermittent light)	Replace ballast located in electrical box
Reduced face velocity	a. HEPA filter loaded	Increase motor RPM or replace filter if 100 fpm face velicity is no longer achievable
	b. Towels have clogged towel screen or visible baffle louvers	Clean towel screen (see Chapter 5 User & Operation Manual)
	c. Exhaust outlet clogged with debris	Clear outlet

Table 7.1

Technical Support

To validate your warranty, please take a moment to register your Biological Safety Cabinet. Registering your cabinet will allow us to provide you with maintenance information and product updates.

Table7.1

To register, fill out the registration form at the end of this section and mail or fax to the address listed at the bottom of the form. If assistance is necessary, please contact us at 704-873-7202.

Detailed View of Cabinet Parts

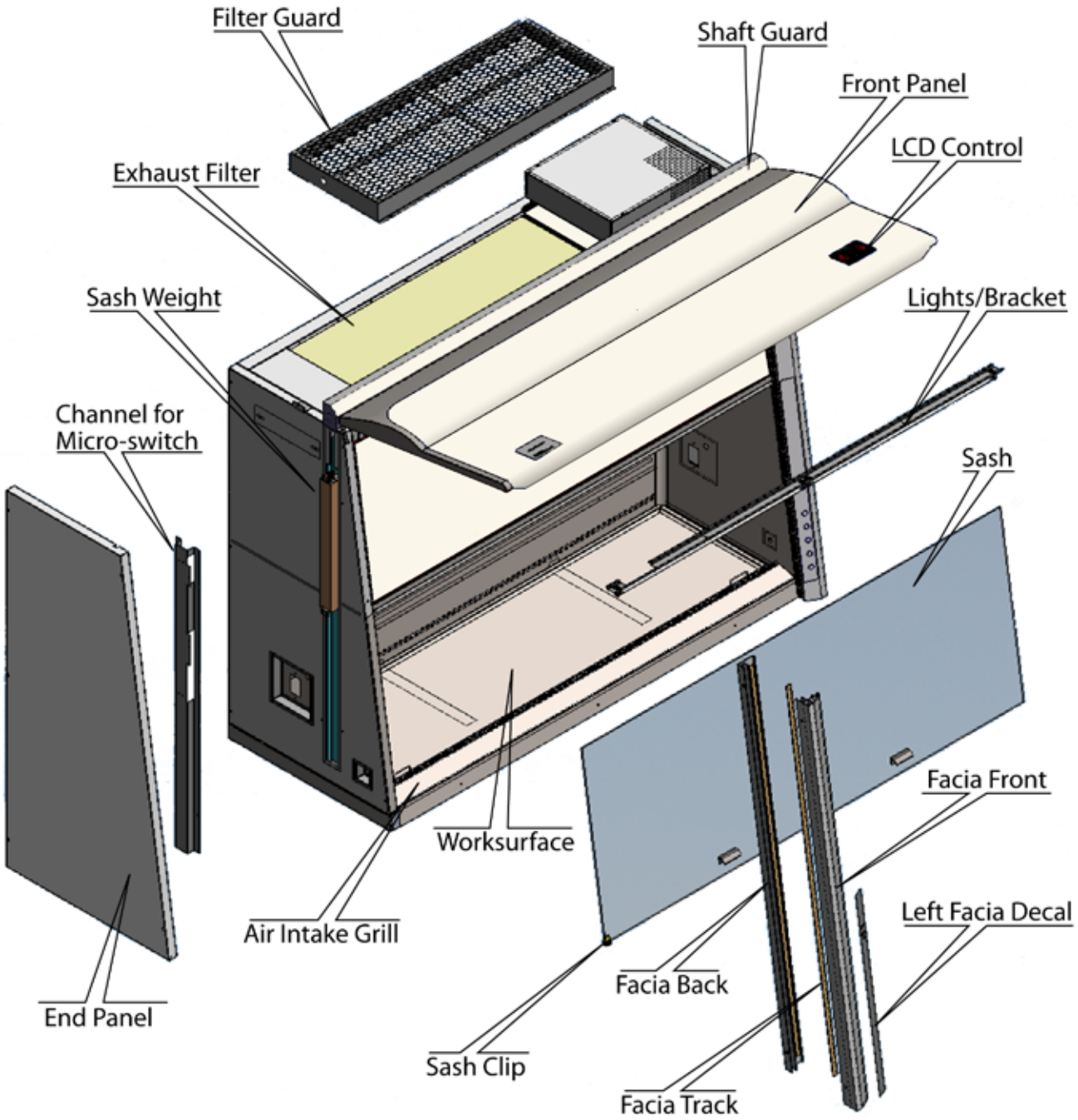


Figure 7.1

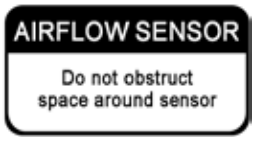
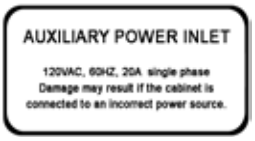
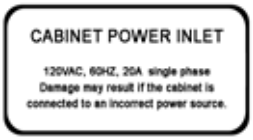
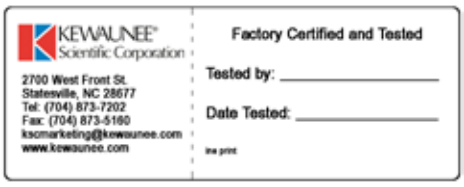
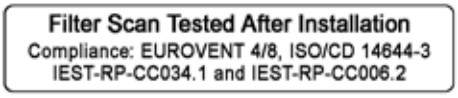
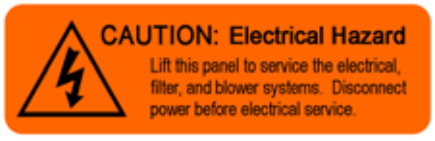
Replaceable Parts List

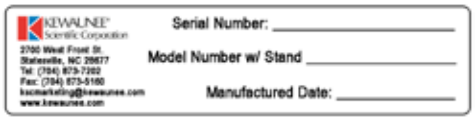
	Part Numbers			
Parts	**INT-1100**	**INT-1400**	**INT-1700**	**INT-2000**
24 VAC Transformer	F-7424-00	F-7424-00	F-7424-00	F-7424-00
24 VDC Power Supply	F-7241-00	F-7241-00	F-7241-00	F-7241-00
Motor Controller	F-7421-00	F-7421-00	F-7421-00	F-7421-00
Micro Switch	F-7242-00	F-7242-00	F-7242-00	F-7242-00
Fluorescent / UV Relay	F-7232-00	F-7232-00	F-7232-00	F-7232-00
20 Amp Circuit Breaker	F-7240-00	F-7240-00	F-7240-00	F-7240-00
10 Amp Circuit Breaker	F-7240-04	F-7240-04	F-7240-04	F-7240-04
0.3 Amp Circuit Breaker	F-7430-00	F-7430-00	F-7430-00	F-7430-00
UV Lamp	F-7249-18	F-7249-00	F-7249-00	F-7249-00
T5 Lamp	F-6347-34	F-6347-46	F-7248-00	F-7248-00
Removable Work Tray	050007-36	050007-48	050007-60	050007-72
Work Tray Chrome Knob	F-1145-00	F-1145-00	F-1145-00	F-1145-00
Bottom Intake Grille	052008-36	052008-48	052008-60	052008-72
Sash Glass with Handles Assembly	050009-36-FIN	050009-48-FIN	050009-60-FIN	050009-72-FIN
Exhaust HEPA filter	F-7275-36-FIN	F-7275-48-FIN	F-7275-60-FIN	F-7275-72-FIN
Supply HEPA filter	F-7276-36-FIN	F-7276-48-FIN	F-7276-60-FIN	F-7276-72-FIN
Removable Work Tray Support	052063-00	052063-00	052063-00	052063-00
Sash Sweeper Plate	052076-36	052076-48	052076-60	052076-72
Top Exhaust Balance Damper	052077-00	052077-00	052077-00	052077-00
Damper Telescoping Section	050166-00	050166-00	050166-00	050166-00
Downflow Perforated Grille	050079-36	050079-48	050079-60	050079-72
Arm Rest Bracket	050195-0A	050195-0A	050195-0A	050195-0A
Arm Rest Plastic End Cap	F-7279-00	F-7279-00	F-7279-00	F-7279-00
Aluminum Arm Rest	F-7280-36	F-7280-48	F-7280-60	F-7280-72
Drain Valve Plate	050110-00	050110-00	050110-00	050110-00
316 SS Pipe Fitting	F-7211-11	F-7211-11	F-7211-11	F-7211-11
316 SS Ball Valve	F-7211-00	F-7211-00	F-7211-00	F-7211-00
Safety Labels 120 VAC	F-8200-01	F-8200-01	F-8200-01	F-8200-01
Pressure Transducer	F-7433-00	F-7433-00	F-7433-00	F-7433-00
Velocity Sensor	F-7425-00	F-7425-00	F-7425-00	F-7425-00
Fan Assembly	F-7420-00	F-7420-00	F-7420-00	F-7420-00
Gas Spring Assembly	F-7224-00	F-7224-00	F-7223-00	F-7223-00
Belt Drive to Counterweight	F-6343-00	F-6343-00	F-6343-00	F-6343-00

Table 7.2

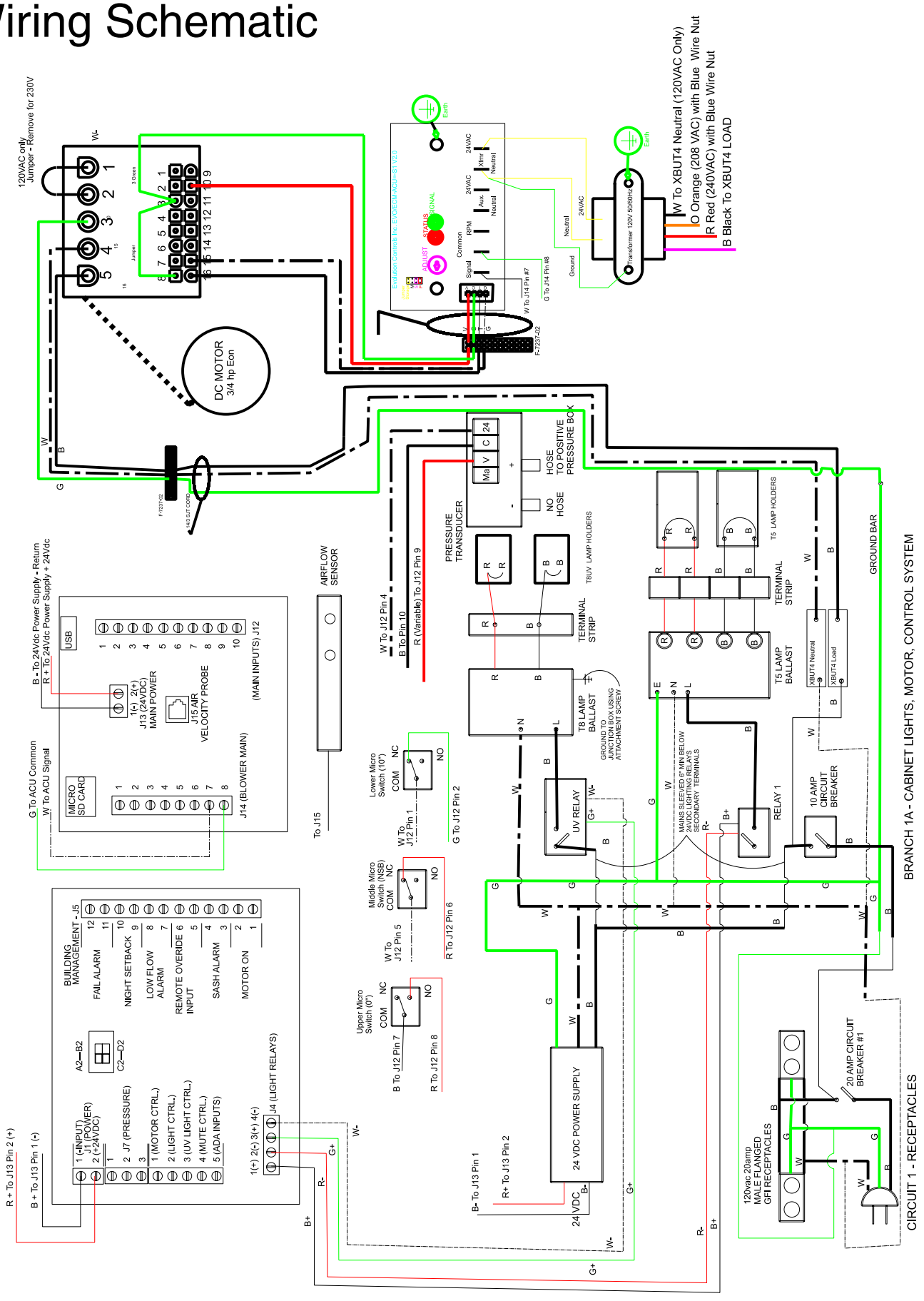
Labels

The following depictions are replicas of the exact labels used within/on the Biological Safety Cabinet and are generally self-explanatory.

Label Images	Description	Label Images	Description
	Airflow Sensor		Drain Valve
	Auxiliary Power Inlets		Kewaunee Electrical Diagram
	Cabinet Power Inlets		Factory Seal Label
	Universal Biohazard Warning		Factory Test Report
			Filter Scan
	Electrical Service Caution		Electrical Grounding Label

Label Images	Description	Label Images	Description
	Made in America		Exhaust Damper Warning
	Quality Control		Cabinet Certification Wiring
	Junction Box Cover		Serial Number and Manufacture Date
	Sampling Port		Ultraviolet Light Warning Label Typical Product Label
	Biohazard Access Panel Warning		
	Electrical Warning		

Wiring Schematic



WARRANTY

Biological Safety Cabinet Warranty

KEWAUNEE SCIENTIFIC CORPORATION warrants, for a period of three (3) years beginning at the date of delivery, that this Biological Safety Cabinet shall be free from defects in material and workmanship, excluding certain consumable items due to normal wear and tear, i.e.; filters, UV lamps, fluorescent lights, etc. KEWAUNEE MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, WRITTEN OR ORAL, INCLUDING, BUT NOT LIMITED TO, THOSE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Purchaser shall notify Kewaunee immediately of any defective product. Kewaunee shall be given reasonable opportunity to inspect the product prior to its return. No product shall be returned to Kewaunee until receipt by purchaser of written shipping instructions from Kewaunee. PURCHASER'S EXCLUSIVE REMEDY, AND KEWAUNEE'S SOLE LIABILITY, SHALL BE, AT KEWAUNEE'S SOLE OPTION, REPAIR OR REPLACEMENT OF THE NON-CONFORMING PRODUCTS OR THEIR PARTS, OR REFUND OF THE PURCHASE PRICE. KEWAUNEE SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES OR EXPENSES WHETHER INCURRED IN CONNECTION WITH INJURY TO PERSONS OR PROPERTY.

Returned or Damaged Goods

Goods cannot be accepted without a Return Authorization ticket. Unauthorized returns will not be accepted. Claims for cabinet(s) damaged in transit must be filed with the freight carrier as Kewaunee Scientific Corporation and its dealers are not responsible for damages occurring during shipment.

Claims must be filed with the freight carrier with fifteen (15) days of delivery per the United States Interstate Commerce Commission rules and regulations.

Limitations of Liability

All users of this equipment are required to become familiar with any regulations that concern the disposal of waste materials in or surrounding water, land, or air, and to comply with such regulations. The disposal and/or emission of substances used in connection with this equipment may be governed by various federal, state, and/or local entities. Kewaunee Scientific Corporation shall be held harmless with regard to user's compliance to regulations and/or use.

Kewaunee *Interceptor*® Biological Safety Cabinet
Warranty Registration

PRODUCT DESCRIPTION

Model Number

I N T -

Serial Number

Date of Purchase (mm/dd/yyyy)

/ /

KEWAUNEE DEALER

Company Name

Contact Name

Phone Number - -

Extention

CUSTOMER CONTACT INFORMATION

Company Name

Street Address

City

State

Zip Code -

Contact Name

Phone - -

Facsimile - -

Email

OPTIONAL INFORMATION

How did you hear about us?

Do you currently own other Kewaunee Scientific Corporation products? Yes No

Would you like to receive Kewaunee Scientific Corporation product information? Yes No

Thank you for taking time to register your new product. Please contact Kewaunee Scientific Corporation at 704-873-7202 or visit our website @ www.kewaunee.com if you have any questions.

Please mail or fax completed form to:

Kewaunee Scientific Corporation
2700 West Front Street
Statesville, North Carolina 28677
Tele: 704.873.7202 • Fax: 704.873.5160
Website: www.kewaunee.com
Email: kscmarketing@kewaunee.com

LABORATORY PRODUCTS GROUP
P.O. Box 1842 • Statesville, NC 28687-1842
Phone: 704-873-7202 • Fax: 800-932-3296
Email: kscmarketing@kewaunee.com
Website: www.kewaunee.com

Printed in U.S.A. BSCUO-A2-0717