

## STEPS INVOLVED IN ACQUIRING/ MAINTAINING A BIOLOGICAL SAFETY CABINETS

	TASK	CONTACTS/VERIFICATIONS
<b>Replacement of existing BSC</b>		
	Is this a replacement for an existing BSC? BSC location?/ Same use?/ S/N of BSC?	OBS/EHP
<b>Initial Planning for BSC purchase</b>		
	Review of research to be performed in BSC	OBS
	Proper selection of BSC (type II, A or B)	OBS/EHP
	Meet with BSC vendor rep	DAI Scientific
	Purchasing	Peterson Bldg.
<b>Purchasing/Approvals</b>		
	Approval of Requisition	OBS
	Approval of Drawings	OBS
<b>Review of facilities</b>		
	Is remodeling of lab required?	FPM/OBS
	HVAC Requirements Exhaust requirements (CFM, SP) for hard connected BSC (Type II-B)	OBS/FPM
	Designated electrical outlet (115 V, 20 Amp)	Required for installation.
	Building Service Connections Gas connection Vacuum connection Air connection	FPM PI, If required for research.
<b>Shipment/ Inspection/ Installation/ Certification (initial)</b>		
	Notification of shipment	OBS/EHP
	Dock Inspection	EHP
	Moving of BSC	EHP/OBS/ <b>Reynolds(257-3914)</b>
	Initial Certification	EHP
<b>Training/ Annual certification/ Maintenance</b>		
	Proper use and training	OBS
	Yearly Certification for work with Risk Group 2 or higher agents	OBS assessment, EHP for service
	Any maintenance to BSC	EHP
<b>Decontamination/ Decommissioning of BSC</b>		
	Change in research protocol	OBS
	Moving of BSC	EHP/OBS/ <b>Reynolds(257-3914)</b>
	Decontamination of BSC	OBS/EHP

OFFICE OF BIOLOGICAL SAFETY  
ENVIRONMENTAL HEALTH PROGRAM  
FACILITIES PLANNING & MANAGEMENT

(OBS)  
(EHP)  
(FPM)

263-2037  
262-1809  
263-3088

## CLARIFICATIONS

### **DOCK INSPECTION:**

It is important that you notify the **UW Environmental Health Program (EHP) at 262-1809** as soon as the cabinet arrives on the loading dock so an on-site inspection for damages can be made **BEFORE** uncrating. Failure to do so may jeopardize claims against the carrier.

#### UW-Madison BSC Specifications

#### 6.3 Inspection and Certification of Cabinet Delivered FOB Site.

6.3.1 Notification of Delivery. Supplier shall notify the University of Wisconsin-Madison - Biosafety Office at 608-263-2037 or Environmental Health Program at (608)-262-1809) 4 days prior to date of expected delivery at designated FOB site Madison, Wisconsin.

6.3.2 Dock Inspection. User/Purchaser will notify the UW Environmental Health Department of the cabinet's arrival. Gross inspection will be made for punctures, breakage or other signs of damage to packaging material and/or cabinet. Notation will be made of defects observed. Suppliers will be promptly notified of any defects or deficiencies in the cabinet. Following disassembly of outer packing and further inspection for damages, completeness of cabinet and options, authorization (by the Environmental Health Department) will be given to the user to arrange for transfer to the designated laboratory. The site, utility proximity and other installation considerations for the cabinet will have been previously arranged by the user and the Environmental Health Program/Biosafety Office.

6.3.2.1 Hidden Damage. The University shall not be liable for hidden damage. It will be the responsibility of the supplier, shipper and/or moving and transfer agent to correct any hidden/undisclosed damages. The University shall notify the interested party(s) of any damage that is discovered. The cabinet supplier shall have the primary liability for resolving hidden damages with all parties concerned including replacing parts, the costs for labor or the cabinet itself.

6.3.2.2 Replacement Parts or Cabinet. The cabinet is a custom made unit manufactured to controlled University specifications. Therefore if standard replacement parts are called for the supplier shall have 14 days to ship the parts to the University. If custom made parts or the entire cabinet is damaged the supplier has 60 days in order to replace these parts or cabinet.

6.3.2.3 Extreme Needs Situation on Damaged Goods. In an extreme needs situation, the University reserves the option to replace the damaged goods with non-specification grade parts or entire cabinet assembly. In this extreme situation Standard supplier terms as listed in the supplier's catalog will be honored. UW-Purchasing will contact the supplier and authorize to proceed.

### **INSTALLATION:**

All cabinets should be installed in the laboratory away from drafts, convection currents, supply air diffusers and traffic paths.

If you plan to purchase a Class II-Type B biological safety cabinet, please consult Darren Berger, OBS, 3-2187, for advise on connecting to the building exhaust system. This type of BSC may require extensive changes to the existing building exhaust system and considerable planning is required to verify the system works properly. Approval of this type of BSC is a considerably more lengthy process (FPM approval also required) and should be anticipated prior to purchase.

### **INITIAL CERTIFICATION:**

Once the cabinet has been installed and **BEFORE** it is used, it must be certified as mandated by the UW Institutional Biosafety Committee. This initial certification procedure is extremely important since the cabinet may have sustained damage during shipment. Failure to certify the cabinet could result in laboratory-acquired infection, and/or product contamination as well as jeopardize claims against the manufacturer.

#### UW-Madison BSC Specifications

6.3.3 Certification Tests. Upon installation, cabinet certification tests (paid by user) will be performed on the installed cabinet. These tests will follow those outlined in Paragraph 4.2, both in scope and method of performance. In addition, a filter load test to determine fulfillment of the "10/100" requirement as stipulated in Paragraph 3.5.6.3 may be made by the Environmental Health Program on selected cabinets if there is some question of the fan/motor performance graphs cited in Paragraph 3.1.1. Cabinet site tests will be compared to results of factory control tests, which accompany the operator's manual for the cabinet supplied.

6.3.3.1 The required initial certification has been mandated by the University Institutional Biosafety Committee for all biosafety cabinets, whether purchased for non-hazardous or bio-hazardous projects.

The Environmental Health Program performs cabinet certification tests for the campus. Contact EHP for the current charge for initial and annual certifications. Please call the EHP (2-1809) or the Office of Biological Safety (3-2037) if you have any questions.

**Electrical**

The biological safety cabinet is provided with one 12-foot power cord with a 20-amp plug, NEMA 5-20P. To safely connect this cabinet to the building electrical system, the laboratory electrical service must provide a dedicated 20-amp, 115 volt, one phase, 60 Hz circuit. No other electrical equipment shall share this circuit, and the wall receptacle in the laboratory must be rated for 20 amps, NEMA 5-20R. Furthermore, the wall receptacle must be accessible for visual inspection and located so that the plug can be removed without moving the cabinet or any laboratory equipment. A receptacle located behind the safety cabinet or any large laboratory equipment must be relocated. The cabinet electrical connection will be removed during annual certification and internal electrical repairs.

**Gas and Vacuum**

Cabinet petcocks that require connection to the house plumbing must adhere to the following installation requirements:

1. Piping should not be directly attached to the safety cabinet - this includes unistruts.
2. No piping shall be routed across the face of any front service panel of the cabinet.
3. When connecting natural gas to a cabinet petcock, inform the plumber that an industrial grade, corrugated, flexible type, 316 stainless steel hose designed for continuous flexure and intermittent flexing should be used. This connection should also have an exterior shut-off valve on the upstream side of the flexible metal hose. Be sure that all natural gas lines and cabinet petcocks are leak tested before using the cabinet.

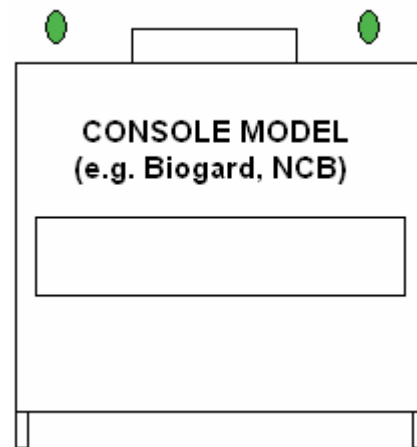
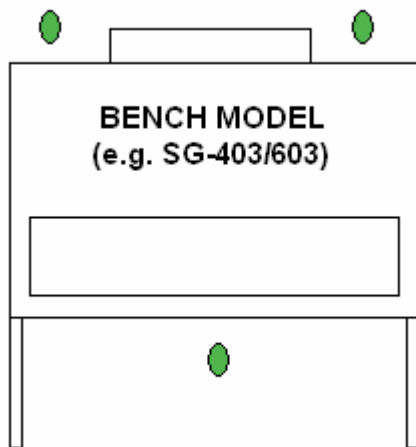
## Information Sheet

### ***Electrical Outlet Locations for Class II Biological Safety Cabinets***

To properly service and test a biological safety cabinet (BSC), the wall outlet must be accessible without having to move the cabinet or any other laboratory equipment. Failure to periodically check the BSC for electrical safety (proper grounding and electrical leakage) may result in a serious electrical hazard to laboratory personnel.

The electrical circuit serving the BSC must be rated for 20 Amperes at 120 Volts (AC). No other electrical devices or equipment should be plugged into the same circuit as the BSC, and the BSC must not be hard-connected to the electrical service.

Several suggested electrical outlet locations for bench-type and console BSCs are indicated by green ovals in the following diagrams. If you have a bench-type BSC with skirting or a foot rest below the work zone, it is highly recommended that you select one of the outlet locations above the BSC.



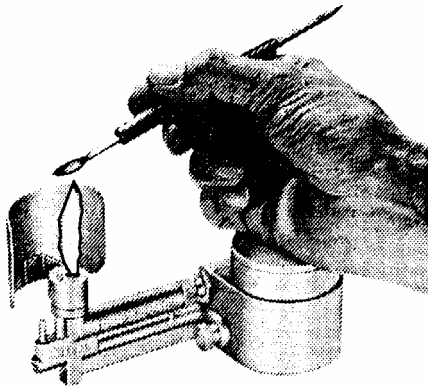
Office of Biosafety  
30 N. Murray St.  
Madison, WI 53715  
608/263-2037  
608/262-9059 fax  
biosafety@fpm.wisc.edu  
www.fpm.wisc.edu/safety

Institutional Biosafety Committee

# SAFETY ALERT

It is the policy of our office, the National Institutes of Health and other recognized safety organizations that only hand-operated burners with pilot lights, such as the Touch-O-Matic, be used in biological safety cabinets where the investigator considers gas flame sterilization necessary. The Touch-O-Matic, available from laboratory supply houses, is depicted below. **Fisher Scientific part number 03-975.**

## Touch-O-Matic Burner



Flames, automatically, at the touch of your hand. Small, adjustable pilot light instantly ignites main burner as hand touch ON-OFF platform of burner, providing heat only when needed. For continuous flame, depress platform, turn slightly and flame stays on. Turn platform back and flame is out. A draft guard protects pilot flame.

May be operated on any type of gas. Serrated gas connection accommodates rubber tubing from 1/4" to 5/16", inside diameter.

# PLACEMENT OF A BIOLOGICAL SAFETY CABINET IN THE LABORATORY

