Subject: Sanjay Mehta biohazards
From: John S Millar <jsmillar@uwo.ca>
Date: Fri, 13 Jan 2012 11:17:27 -0500
To: sanjay.mehta@lhsc.on.ca
CC: jstanle2@uwo.ca

Review letter only

January 13, 2012

Dear Dr. Mehta;

The Biohazards Subcommittee met in December to discuss your protocol application and have a concern that your fume hood may not be the equivalent of a biological safety cabinet (BSC). Your lab may have a fume hood equivalent to a BSC but if the fume hood is not certified as a BSC your work cannot be conducted in that location.

More specifically, your facility needs to have a BSC (or equivalent) that meets the requirements set out by the Public Health Agency of Canada Containment Level 2 Checklist: Is your BSC certified in accordance with the requirements outlined in National Sanitation Foundation NSF/ANSI 49 Class II (Laminar Flow) Biosafety Cabinet?

Please provide your certification or work with your on-site safety officer(s) and animal facility manager(s) to find a suitable facility with the appropriate BSC or equivalent rating, and let myself and Jennifer Stanley know once this is completed.

Sincerely;
Jack Millar
Chair, Biohazards Subcommittee

THE UNIVERSITY OF WESTERN ONTARIO
BIOLOGICAL AGENTS REGISTRY FORM
Approved Biohazards Subcommittee: October 14, 2010
Biosafety Website: www.uwo.ca/humanresources/biosafety/

This form must be completed by each Principal Investigator holding a grant administered by the University of Western Ontario (UWO) or in charge of a laboratory/facility where the use of Level 1, 2 or 3 biological agents is described in the laboratory or animal work proposed. The form must also be completed if any work is proposed involving animals carrying zoonotic agents infectious to humans or involving plants, fungi, or insects that require Public Health Agency of Canada (PHAC) or Canadian Food Inspection Agency (CFIA) permits.

This form must be updated at least every 3 years or when there are changes to the biological agents being used.

Containment Levels will be established in accordance with Laboratory Biosafety Guidelines, 3rd edition, 2004, Public Health Agency of Canada (PHAC) or Containment Standards for Veterinary Facilities, 1st edition 1996, Canadian Food Inspection Agency (CFIA).

Completed forms are to be returned to Occupational Health and Safety, (OHS), (Support Services Building, Room 4190) for distribution to the Biohazards Subcommittee. For questions regarding this form, please contact the Biosafety Officer at extension 81135 or biosafety@uwo.ca. If there are changes to the information on this form (excluding grant title and funding agencies), contact Occupational Health and Safety for a modification form. See website: www.uwo.ca/humanresources/biosafety

PRINCIPAL INVESTIGATOR	Sanjay Mehta
DEPARTMENT	Medicine
ADDRESS	VRL, 800 Commissioners Rd.E., London ON, N6C 4G5
PHONE NUMBER	519-667-6723
EMERGENCY PHONE NUMBER(S)	519-439-1421, 519-679-8782
EMAIL	Sanjay.Mehta@lhsc.on.ca

Location of experimental work to be carried out: Building(s) LHSC,VRL, 6 th fl.
Room(s) A6-114,118

*For work being performed at Institutions affiliated with the University of Western Ontario, the Safety Officer for the Institution where experiments will take place must sign the form prior to its being sent to the University of Western Ontario Biosafety Officer (See Section 15.0, Approvals).

FUNDING AGENCY/AGENCIES: HSFO
GRANT TITLE(S): Complex Regulation Of Microvascular Endothelial Cell Function In Sepsis

List all personnel working under Principal Investigators supervision in this location:

Name	UWO E-mail Address	Date of Biosafety Training
Le Feng Wang	Lefengw@hotmail.com	Feb. 2008
Marta Rohan	Marta.rohan@lhsc.on.ca	Feb 2008

Please explain the biological agents and/or biohazardous substances used and how they will be stored, used and disposed of. Projects without this description will not be reviewed.

Pseudomonas aeruginosa is Gram-negative bacterium that is the most common pathogen in ICU, and 3rd most commonly isolated nosocomial organism.

P.Aeruginosa suspension is obtained from Dept. Of Microbiology, LHSC – Victoria Hosp. There is no storage of this suspension in my lab.

Intratracheal Pseudomonas aeruginosa pneumonia model – mice/rats - animals are allowed to recover, and followed over time between 4-24 hrs after induction of pneumonia before euthanasia.

The experimental animals are anesthetized with Isoflurane/Oxygen. Under aseptic conditions the trachea is exposed via anterior cervical dissection and an anterior tracheotomy is performed with a 24-gauge angiocatheter (mouse) or a 22-gauge angiocatheter (rat). Angiocatheter is introduced into the trachea just above the carina. Pneumonia is induced by intratracheal instillation of a 50ul (mouse) or 200ul (rat) aliquot of a homogeneous suspension of Pseudomonas aeruginosa at a 2 McFarland density standard, followed by a 200ul (mouse) or 500ul (rat) bolus of air in order to optimize peripheral delivery of bacteria. The angiocatheter is removed and the puncture side sealed with Gelfoam and the neck area is sutured (4-0 silk). Regular analgesics and saline are injected s.c. as per ethics protocol for 2-24hrs.

Following induction of active infection, animals are specially housed in room # A6-114, under conditions equivalent to level 2 biohazard containment: this includes in an operational fume hood, and with barrier HEPA filter-fitted cage housing.

After animal sacrifice, and harvesting of relevant biological samples (eg. blood, tissues), the carcass is disposed of freezer box provided by Animal Care and Vet. Serv. VRL, 7 th fl., LHSC.

Other animal models of sepsis (CLP, LPS injection) – No exposure to biohazards during the actual experiments. Animal carcasses are disposed of as above.

Isolated cell culture work (human and mouse) – No specific/greater biohazard risks other than expected during such cell culture work.

Please include a one page research summary or teaching protocol.

5. Summary of Research Proposal

Title. Complex Regulation of Microvascular Endothelial Cell Function in Sepsis

Background. Sepsis is a common and serious clinical problem, with significant morbidity and mortality. A central role for activation/injury of microvascular endothelial cells (MVEC) in systemic organs, such as the lung, has been proposed in the pathogenesis of septic multiple organ dysfunction. For example, septic acute lung injury (ALI) is characterized by activation, injury, and dysfunction of lung MVEC. This results in the key pathophysiologic features of septic organ injury: high-protein edema, leukocyte infiltration, and subsequent organ dysfunction. MVEC in vivo do not exist in isolation, but interact critically with several other key cells, including circulating blood neutrophils (PMN), local tissue macrophages (MAC), as well as subjacent epithelial cells (EpC; eg. intestinal EpC in the gut, alveolar EpC in the lung). We have recently shown that PMN and MAC individually and directly contribute to MVEC injury in simple co-culture systems *in vitro* as well as in septic mice *in vivo* (**Shelton et al, Microvasc Res 2007; Farley et al, Am J Physiol Lung**

2006). However, there is little work defining the complex effects of multiple cellular influences, namely PMN/MAC/EpC on MVEC biology and function in sepsis.

Hypothesis & Aims. The **hypothesis** of the current proposal is that epithelial cells (EpC) protect against PMN/MAC-dependent MVEC injury in sepsis. We will pursue this hypothesis in parallel ***murine*** models, including isolated ***murine*** MVEC *in vitro* and an *in vivo* mouse model, as well as subsequently confirm important findings in isolated ***human*** MVEC *in vitro*. We will address **4 major aims:**

1) To characterize the effects of ***murine*** MAC on ***murine*** MVEC injury under septic conditions *in vitro* and *in vivo*.
2) To define the complex, interactive effects of ***murine*** PMN and MAC on ***murine*** MVEC injury under septic conditions *in vitro* and in septic mice *in vivo*.
3) To investigate the protective effects of ***murine*** EpC on PMN/MAC-dependent ***murine*** MVEC injury under septic conditions *in vitro* and in septic mice *in vivo*.
4) To define the effects of ***human*** EpC on PMN/MAC-dependent ***human*** MVEC injury under septic conditions *in vitro*.

Research Approach. The proposed experiments will focus on the mechanisms of septic MVEC injury (i.e. cells and soluble factors involved in MVEC activation/injury) and the consequences thereof (i.e. induction of MVEC oxidant stress, upregulation of pro-adhesive phenotype, neutrophil adhesion/migration across MVEC, and changes in MVEC permeability). We will use state-of-the-art techniques: (1) isolation of MVEC from mouse lung, and the innovative *in vitro* co-culture of these MVEC with multiple, relevant cellular influences (eg. PMN, MAC, and EpC, using cells from multiple different genetic backgrounds (eg. wild-type, $iNOS^{-/-}$, $p47^{phox-/-}$); (2) our established *in vivo* clinically-relevant mouse model of cecal ligation/perforation-induced sepsis, with selective PMN- and MAC-specific depletion-reconstitution strategies to dissect out the discrete effects of individual cells in the complex *in vivo* situation; (3) isolation of MVEC from septic vs sham mice and FACS assessment of MVEC activation/injury; (4) isolation and co-culture of human lung MVEC with human PMN, MAC, and EpC.

Feasibility / Future Directions. Over the past few years, through our ongoing work and publications on septic MVEC injury *in vivo* and *in vitro*, we have demonstrated our extensive experience with *in vivo* murine sepsis models, selective cell (eg. PMN, MAC) manipulation via depletion-reconstitution, isolation of MVEC from mouse and human lung, and co-culture of MVEC with PMN and MAC. Most exciting is that direct studies on mechanisms of human sepsis can be carried out using human MVEC *in vitro*. Improved therapy for human sepsis will depend upon a clear understanding of MVEC activation/dysfunction and of the specific, complex role of other critical, multiple cellular influences.

1.0 Microorganisms

1.1 Does your work involve the use of biological agents? X YES O NO
(non-pathogenic and pathogenic biological agents including but not limited to bacteria and other microorganisms, viruses, prions, parasites or pathogens of plant or animal origin)? If no, please proceed to Section 2.0

Do you use microorganisms that require a permit from the CFIA? O YES X NO
If YES, please give the name of the species. _____
What is the origin of the microorganism(s)? _____
Please describe the risk (if any) of escape and how this will be mitigated:

_____
_____
_____

Please attach the CFIA permit.
Please describe any CFIA permit conditions:

_____
_____
_____

1.2 Please complete the table below:

Name of Biological Agent(s)* (Be specific)	Is it known to be a human pathogen? YES/NO	Is it known to be an animal pathogen? YES/NO	Is it known to be a zoonotic agent? YES/NO	Maximum quantity to be cultured at one time? (in Litres)	Source/ Supplier	PHAC or CFIA Containment Level
Pseudomonas aeruginosa	X Yes O No	X Yes O No	O Yes X No	1 mL #	LHSC Microbiology lab	O 1 X 2 O 2+ O 3
	O Yes O No	O Yes O No	O Yes O No			O 1 O 2 O 2+ O 3
	O Yes O No	O Yes O No	O Yes O No			O 1 O 2 O 2+ O 3
	O Yes O No	O Yes O No	O Yes O No			O 1 O 2 O 2+ O 3

*Please attach a Material Safety Data Sheet or equivalent from the supplier.
Pls note: this is grown in the LHSC clinical microbiology lab, over which we have no control; we are simply provided 1mL suspension at the appropriate concentration of 2McF (6 x 10E8).

2.0 Cell Culture

2.1 Does your work involve the use of cell cultures? X YES O NO
If no, please proceed to Section 3.0

2.2 Please indicate the type of primary cells (i.e. derived from fresh tissue) that will be grown in culture:

Cell Type	Is this cell type used in your work?	Source of Primary Cell Culture Tissue	AUS Protocol Number
Human	X Yes O No	Human Lung Tissue	Not applicable
Rodent	X Yes O No	Mouse Lung Tissue	2007-002-06
Non-human primate	O Yes X No		
Other (specify)	O Yes X No		

2.3 Please indicate the type of established cells that will be grown in culture in:

Cell Type	Is this cell type used in your work?	Specific cell line(s)*	Containment Level of each cell line	Supplier / Source of cell line(s)
Human	X Yes O No	N/A	2	LHSC Resp. Clin. Services
Rodent	X Yes O No	N/A	2	Commercial Animal Vendors
Non-human primate	O Yes X No			
Other (specify)	O Yes X No			

*Please attach a Material Safety Data Sheet or equivalent from the supplier. (For more information, see www.atcc.org)

2.4 For above named cell types(s) indicate PHAC or CFIA containment level required O 1 X 2 O 2+ O 3

3.0 Use of Human Source Materials

3.1 Does your work involve the use of human source materials? X YES O NO
If no, please proceed to Section 4.0

3.2 Indicate in the table below the Human Source Material to be used.

Human Source Material	**Source/Supplier /Company Name**	**Is Human Source Material Infected With An Infectious Agent? YES/UNKNOWN**	**Name of Infectious Agent (If applicable)**	**PHAC or CFIA Containment Level (Select one)**
Human Blood (whole): used to isolate blood neutrophils	LHSC	O Yes X Unknown		O 1 X 2 O 2+ O 3
Human Organs or Tissues (unpreserved): human lung tissue obtained directly from surgery on patients with lung cancer having their lung resected; tissue used for isolation of MVEC for cell culture	LHSC	O Yes X Unknown		O 1 X 2 O 2+ O 3
Human Organs or Tissues (preserved)		Not Applicable		Not Applicable

4.0 Genetically Modified Organisms and Cell lines

4.1 Will genetic modifications be made to the microorganisms, biological agents, or cells described in Sections 1.0 and 2.0? O YES X NO If no, please proceed to Section 5.0

4.2 Will genetic modification(s) involving plasmids be done? O YES, complete table below O NO

Bacteria Used for Cloning *	Plasmid(s) **	Source of Plasmid	Gene Transfected	Describe the change that results from transformation or tranfection
				.

* Please attach a Material Data Sheet or equivalent if available.
** Please attach a plasmid map.

4.3 Will genetic modification(s) of bacteria and/or cells involving viral vectors be made?
O YES, complete table below O NO

Virus Used for Vector Construction	Vector(s) *	Source of Vector	Gene(s) Transduced	Describe the change that results from transduction

* Please attach a Material Safety Data Sheet or equivalent.

4.4 Will genetic sequences from the following be involved?

- HIV O YES, please specify _____ O NO
- HTLV 1 or 2 or genes from any Level 1 or Level 2 pathogens O YES, specify _____ O NO
- SV 40 Large T antigen O YES O NO
- E1A oncogene O YES O NO
- Known oncogenes O YES, please specify _____ O NO
- Other human or animal pathogen and or their toxins O YES, please specify _____ O NO

4.5 Will virus be replication defective? O YES O NO

4.6 Will virus be infectious to humans or animals? O YES O NO

4.7 Will this be expected to increase the containment level required? O YES O NO

5.0 Human Gene Therapy Trials

5.1 Will human clinical trials be conducted involving a biological agent? O YES XNO
(including but not limited to microorganisms, viruses, prions, parasites or pathogens of plant or animal origin)
If no, please proceed to Section 6.0

5.2 If YES, please specify which biological agent will be used: _____
Please attach a full description of the biological agent.

5.2 Will the biological agent be able to replicate in the host? O YES O NO

5.3 How will the biological agent be administered? _____

5.4 Please give the Health Care Facility where the clinical trial will be conducted:_____

5.5 Has human ethics approval been obtained? O YES, number: _____ O NO O PENDING

6.0 Animal Experiments

6.1 Will live animals be used? X YES O NO If no, please proceed to section 7.0

6.2 Name of animal species to be used__Mice_____

6.3 AUS protocol # _____2007-002-06 (renewal currently pending) _____

6.4 Will any of the agents listed in section 4.0 be used in live animals O YES, specify: _____ X NO

6.5 Will the agent(s) be shed by the animal: O YES X NO, please justify:

_____

_____

7.0 Use of Animal species with Zoonotic Hazards

7.1 Will any animals with zoonotic hazards or their organs, tissues, lavages or other body fluids including blood be used (see list below)? O YES x No If no, please proceed to section 8.0

7.2 Will live animals be used? O YES x No

7.3 If yes, please specify the animal(s) used:

- Pound source dogs O YES X NO
- Pound source cats O YES X NO
- Cattle, sheep or goats O YES, please specify species _____ X NO
- Non-human primates O YES, please specify species _____ X NO
- Wild caught animals O YES, please specify species & colony # _____ X NO
- Birds O YES, please specify species _____ X NO
- Others (wild or domestic) O YES, please specify _____ X NO

7.4 If no live animals are used, please specify the source of the specimens:

_____

8.0 Biological Toxins

8.1 Will toxins of biological origin be used? O YES X NO If no, please proceed to Section 9.0

8.2 If YES, please name the toxin(s)_____
Please attach information, such as a Material Safety Data Sheet, for the toxin(s) used.

8.3 What is the LD_{50} (specify species) of the toxin_____

8.4 How much of the toxin is handled at one time*? _____

8.5 How much of the toxin is stored*? _____

8.6 Will any biological toxins be used in live animals? O YES, Please provide details:_____ O NO

*For information on biosecurity requirements, please see:
http://www.uwo.ca/humanresources/docandform/docs/healthandsafety/biosafety/Biosecurity_Requirements.pdf

9.0 Insects

9.1 Do you use insects? O YES X NO If no, please proceed to Section 10.0

9.2 If YES, please give the name of the species. _____

9.3 What is the origin of the insect? _____

9.4 What is the life stage of the insect? _____

9.5 What is your intention? O Initiate and maintain colony, give location: _____
O "One-time" use, give location: _____

9.6 Please describe the risk (if any) of escape and how this will be mitigated:

_____
_____

9.7 Do you use insects that require a permit from the CFIA permit? O YES O NO
If YES, Please attach the CFIA permit & describe any CFIA permit conditions:

_____

_____

10.0 Plants

10.1 Do you use plants? O YES X NO If no, please proceed to Section 11.0

10.2 If YES, please give the name of the species. _____

10.3 What is the origin of the plant? _____

10.4 What is the form of the plant (seed, seedling, plant, tree...)? _____

10.5 What is your intention? O Grow and maintain a crop O "One-time" use

10.6 Do you do any modifications to the plant? O YES O NO
If yes, please describe: _____

_____

10.7 Please describe the risk (if any) of loss of the material from the lab and how this will be mitigated:

_____

_____

10.8 Is the CFIA permit attached? O YES O NO
If YES, Please attach the CFIA permit & describe any CFIA permit conditions:

_____

_____

11.0 Import Requirements

11.1 Will any of the above agents be imported? O YES, please give country of origin_____ X NO
If no, please proceed to Section 12.0

11.2 Has an Import Permit been obtained from HC for human pathogens? O YES O NO

11.3 Has an import permit been obtained from CFIA for animal or plant pathogens? O YES O NO

11.4 Has the import permit been sent to OHS? O YES, please provide permit # _____ O NO

12.0 Training Requirements for Personnel Named on Form

All personnel named on the above form who will be using any of the above named agents are required to attend the following training courses given by OHS:

- Biosafety
- Laboratory and Environmental/Waste Management Safety
- WHMIS (Western or equivalent)
- Employee Health and Safety Orientation

As the Principal Investigator, I have ensured that all of the personnel named on the form who will be using any of the biological agents in Sections 1.0 to 9.0 have been trained.

SIGNATURE _____

13.0 Containment Levels

13.1 For the work described in sections 1.0 to 9.0, please indicate the highest HC or CFIA Containment Level required. O 1 X 2 O 2+ O 3

13.2 Has the facility been certified by OHS for this level of containment?

X YES, date of most recent biosafety inspection: __March 29,2011_____

O NO, please certify

O NOT REQUIRED for Level 1 containment

13.3 Please indicate permit number (not applicable for first time applicants): _R-06-000599_____

14.0 Procedures to be Followed

14.1 Please describe additional risk reduction measures will be taken beyond containment level 1, 2, 2+ or 3 measures, that are unique to this agent.

Use a 10% bleach solution to wipe down laboratory bench work areas before and after using bacteria solution.

14.2 Please outline what will be done if there is an exposure to the biological agents listed, such as a needlestick injury or an accidental splash:

Visit the Occupational Health and Safety for professional help

14.3 As the Principal Investigator, I will ensure that this project will follow the Western Biosafety Guidelines and Procedures Manual for Containment Level 1 & 2 Laboratories (and the Level 3 Facilities Manual for Level 3 projects). I will ensure that UWO faculty, staff and students working in my laboratory have an up-to-date Hazard Communication Form, found at http://www.wph.uwo.ca/

SIGNATURE _____ Date:_____July 20th, 2011_____

15.0 Approvals

1) UWO Biohazards Subcommittee: SIGNATURE: _____
Date: _____

2) Safety Officer for the University of Western Ontario
SIGNATURE:_____
Date:_____

3) Safety Officer for Institution where experiments will take place (if not UWO):
SIGNATURE: _____
Date: July 25, 2011

Approval Number: _____ Expiry Date (3 years from Approval): _____

Special Conditions of Approval:

Hi Jen

Sorry for the delay. We have modified the form as requested. See specific answers as below:

1 In Section 1.2 the form should indicate the volume of *Pseudomonas aeruginosa* grown in the lab instead of the density.

This has been modified as per the volume we receive; note the clinical laboratory grows the bacteria, and we have no control or knowledge of their volumes.

2 The form should say that the bacteria are in a ?suspension? instead of a solution.

Done.

3 The Committee requires clarification on the use of human blood or body fluid (re: isolation of neutrophils).

This has been specified for both whole blood used for neutrophils, as well as lung tissue for isolation of MVEC.

4 The form also mentions doing work in a fumehood, it should be a biological safety cabinet.

Materials (eg chemicals) are stored in a safety cabinet. However, all work with pathogens and potential biological or other hazards is done in an actual fume hood, with continuous flow to exhaust all toxins/exposures to the filter system instead of into the room, thus eliminating any exposure of personnel. Pls advise if we should simply change the terminology. Gail Ryder, our local Safety Inspector is fully aware of our procedures and approves of all of our approaches to minimize exposure to these potential hazards.

Best Regards

Sanjay

AUP 2011-026

11.12.1B - Agent/Material/Drug/Device Information

Species Name	Mouse

1. Agent/Material/Drug/Device Name
Pseudomonas Aeruginosa
2. Agent/Material/Drug/Device Category
Biological
3. Agent/Material/Drug/Device Class
Biolev2

AGENT/MATERIAL/DRUG/DEVICE RELATED QUESTIONS

1. Source of Biological Agent (Please provide website and attach an MSDS or equivalent)	LHSC Microbiology Lab
2. Biosafety Approval number:	BIO-LHRI-0041 (note rewewal pending)
3. Is this biological agent on your current Biosafety approval? If not, please submit a protocol modification (See www.uwo.ca/humanresources/biosafety for information.	Yes
4. Dose\Volume administered, Routes of administration and Frequency of administration:	1McF, 50ul, intratracheal, once
5. Are you creating genetic modifications using plasmids or viral vectors?	No
5.1. If Q.5 is 'Yes', has the Biosafety permit been updated to reflect this modified agent? If 'No', please complete a protocol modification (See www.uwo.ca/humanresources/biosafety for more information).	
5.2. If Q.5.1. is 'Yes', please describe the expected increase in invasiveness, toxicity or tumourgenicity of the agent in the animal.	
6. Will the biological agent be used according to the Occupational Health and Safety Standard Operating Procedures (SOP) for Use of Biological, Chemical,Radiation and/or	Yes

other Physical agents with live animals? (please link to http://www.uwo.ca/animal/website/VS/Content/SOPs.htm)	
6.1. If Q.6 is 'No', please explain what section(s) will not be followed and why.	
7. Do animals require housing after exposure to the biological agent(s)?	Yes
7.1. If Q.7 is 'Yes', please list all housing and/or imaging facilities.	VRL room # A6-114
8. Are animals transported between buildings after exposure to the biological agent(s)?	No
8.1. If Q.8 is 'Yes', please describe the precautions taken during transportation.	N/A
9. Will the agent/material or metabolite be excreted or shed by the animal?	No
9.1. If Q.9 is 'Yes', describe the route(s) and duration of shedding. (Please note that bedding will need to be treated as biohazardous by personnel and for disposal. Cages will need to be decontaminated)	
9.2. If Q.9 is 'No', please explain (Provide documentation if possible).	Bacteria in the lung are not shed by pneumonia mice.
10. PLEASE INDICATE THE CONTROL MEASURES TO BE TAKEN TO MINIMIZE THE RISK OF EXPOSURE TO ANIMAL FACILITY STAFF:	
10.1. Level 1 Precautions	Yes
10.2. Level 2 Precautions	Yes
10.3. Level 2 Plus Precautions	
10.4. Level 3 Precautions	
10.5. Other - Please provide clarification:	Following induction of active infection, animals are specially housed in room # A6-114, under conditions equivalent to level 2 biohazard containment: this includes in an operational fume hood, and with barrier HEPA filter-fitted ~~cage~~ **cage.Induction of the active infection is done in a certified fume hood in a certified Class II biosafety Room A6-114.** housing.
11. PLEASE INDICATE THE SOPS THAT WILL BE FOLLOWED: (For more information, please see	

http://www.uwo.ca/humanresources/facultystaff/h_and_s/biosafety/biosafety_policies.htm)	
11.1. ACVS Level 2 Policy (MANDATORY FOR LEVEL 2 PROJECTS.)	Yes
11.2. UWO Biosafety Guidelines and Procedural Manual for Containment Level 1 & 2 Laboratories, see www.uwo.ca/humanresources/biosafety (MANDATORY FOR ALL PROJECTS).	Yes
11.3. UWO Level 3 Manual (MANDATORY FOR LEVEL 3 PROJECTS)	
11.4. Viral Vector Policy (MANDATORY FOR PROJECTS INVOLVING VIRAL VECTORS)	
11.5. Biosafety Requirements for in vivo and in vitro work (MANDATORY FOR PROJECTS INVOLVING IMAGING AND THE USE OF BIOLOGICAL AGENTS)	
11.6. Other - Please provide clarification:	
12. Please list and describe any additional precautions to be taken.	Use a 10% bleach solution to wipe down laboratory bench work areas before and and after using bacteria solution._

Attachments List

File Spec	Description	Created

Reviewer(s) Notes

Revision Number	Name	Recommendation Notes	Private	Reviewer Deadline
0000000001	AUS	Question 1: please answer Question 2: please answer Question 14: please answer	No	/ /
0000000002	Harding, Martha	I would think that the infected mice could aerosolize Pseudomonas, so we should consider them infectious, ie #12 should be yes - - Biosafety should review....	Yes	/ /
0000000003	Stanley, Jennifer J	August 8, 2011 - Several questions not addressed ie 3, 6, 7, 8, 11, 12(?)	No	10/26/2011
0000000004	AUS	OH&S Review - Pseudomonas Aeruginosa: Several questions not addressed ie 3, 6, 7, 8, 11, 12(?)	No	/ /
0000000007	Ryder, Gail	October 18, 2011 - Not approved until clarification: Room A6-114 has a certified fume hood in it. There is no BSC in the room. However, the VRL has a dedicated Adenovirus room therefore we need clarification where he is doing the actual induction of the active infection.	No	10/26/2011
0000000007	Stanley, Jennifer J	August 22, 2011 - For question 10.5: does the room have a biosafety cabinet or a fumehood or both? Please note that this work should be done in a certified Class II biosafety cabinet. Please clarify.	No	10/26/2011
0000000007	AUS	OH&S Review - Pseudomonas Aeruginosa: For question 10.5: does the room have a biosafety cabinet or a fumehood or both? Please note that this work should be done in a certified Class II biosafety cabinet. Please clarify. Room A6-114 has a certified fume hood in it. There is no BSC in the room. However, the VRL has a dedicated Adenovirus room therefore we need clarification where he is doing the actual induction of the active infection.	No	/ /
0000000008	Stanley, Jennifer J	Oct 24, 2011 - Question 2 - The application for the use of this agent is on the agenda for the November Biohazards Subcommittee meeting (as a revisit).	Yes	10/26/2011
0000000008	Ryder, Gail	October 19, 2011 - Sorry, I said Adenovirus when I meant to say Pseudomonas, therefore fume hood is suitable to avoid exposure. Approved.	No	10/26/2011
0000000008	AUS	10.19.11 Jennifer Stanley and Gail Ryder - please review	No	/ /

Recommendation Notes

-------- Original Message --------
Subject: Re: Biological Agents Registry Form (Mehta)
Date: Fri, 05 Aug 2011 12:27:29 -0400
From: Sanjay Mehta <Sanjay.Mehta@LHSC.ON.CA>
To:jstanle2@uwo.ca
CC: Sanjay Mehta <Sanjay.Mehta@LHSC.ON.CA>

Hi Jen

Animals are bought from the vendor in animal ethics protocol, but many are locally bred as well

I have checked, and although we previously bought cells from atcc, we are currently not planning on buying any more cells right now. As such, pls disregard the atcc msds

Thanks
Sanjay
Sent from Sanjay's Blackberry
-----Original Message-----
From: Jennifer Stanley <jstanle2@uwo.ca>
To: Mehta, Sanjay <Sanjay.Mehta@lhsc.on.ca>

Sent: 8/4/2011 5:16:43 PM
Subject: Biological Agents Registry Form (Mehta)

Hi there

I have two questions about your recently submitted Biological Agents Registry Form.

For the rodent cells in Table 2.3, can I assume that the source of these
cells are the animals purchased (from "Commercial animal vendors"), used
in AUS protocol 2007-002-06?

Can you confirm that you do not purchase any cells from ATCC (I only ask
because an MSDS from ATCC was included in the submission).

Regards,
Jennifer

MSDs'

Pseudomonas spp. (excluding B. mallei, B. pseudomallei) - Material Safety Data Sheets (MSDS)

MATERIAL SAFETY DATA SHEET - INFECTIOUS SUBSTANCES

SECTION I - INFECTIOUS AGENT

NAME: *Pseudomonas* spp. (excluding *B. mallei, B. pseudomallei*)

SYNONYM OR CROSS REFERENCE: *P. aeruginosa, P. cepacia*

CHARACTERISTICS: Family Pseudomonadaceae, gram negative bacillus, aerobic, non-spore forming, some pigmented (pyocyanin, fluorescein), motile by polar flagella, variety of toxins produced

SECTION II - HEALTH HAZARD

PATHOGENICITY: Opportunistic pathogen, greatest risk of disease in the immunocompromised; most medical conditions arise from colonization of pathogen in the respiratory and urinary tracts or due to deep disseminated infections leading to pneumonia and bacteremia; chronic respiratory infections among cystic fibrosis patients; eye infections (especially in contact lens wearers); nosocomial infections causing severe and often fatal infections (case fatality in susceptible populations is 30%), increasingly associated with bacterial meningitis, abscesses, endocarditis

EPIDEMIOLOGY: Worldwide; increasing in frequency in recent years; commonly a nosocomial infection associated with contaminated instruments; 16% of nosocomial pneumonia, 12% of hospital acquired urinary-tract infections; rarely causes community acquired infections in immunocompetent patients

HOST RANGE: Humans, animals, plants

INFECTIOUS DOSE: Not known

MODE OF TRANSMISSION: Direct contact with contaminated water, aerosols or aspirations, by contact of mucous membranes with discharges from infected conjunctivae or upper respiratory tract of infected persons through contaminated objects (improperly sterilized medical equipment, contaminated IV fluids) or fingers;

INCUBATION PERIOD: Variable depending on infection; eye infection - 24 to 72 hours

COMMUNICABILITY: Can be transmitted during course of active infection

SECTION III - DISSEMINATION

RESERVOIR: Saprophyte - soil, water, decomposing matter; infected animals and humans; infected solutions - I.V., soaps, eye drops, humidifiers; organism thrives in moist conditions

ZOONOSIS: None

VECTORS: None

SECTION IV - VIABILITY

DRUG SUSCEPTIBILITY: Sensitive to extended spectrum penicillins, aminoglycosides, cephalosporins, fluroquinolones, polymixins and monobactams; aminoglycoside with a beta-lactam penicillin is the first line of treatment

DRUG RESISTANCE: Multidrug resistant strains are on the rise

SUSCEPTIBILITY TO DISINFECTANTS: Susceptible to many disinfectants - 1% sodium hypochlorite, 70% ethanol, 2% glutaraldehyde, formaldehyde; few reports of this bacteria growing in disinfectant solutions; alcohol-containing disinfectants recommended for resistant strains

PHYSICAL INACTIVATION: Inactivated by moist heat (121° C for at least 15 min) and dry heat (160-170° C for at least 1 hour)

SURVIVAL OUTSIDE HOST: Survives for several months in water with minimal nutrients

SECTION V - MEDICAL

SURVEILLANCE: Bacteriological identification of infection

FIRST AID/TREATMENT: Antibiotic therapy - aggressive treatment is necessary to avoid chronic infections; drainage of wounds; local application of antibiotic ointment or drops

IMMUNIZATION: None

PROPHYLAXIS: Antibiotic prophylaxis, not usually administered

SECTION VI - LABORATORY HAZARDS

LABORATORY-ACQUIRED INFECTIONS: No reported infections to date

SOURCES/SPECIMENS: Clinical specimens - respiratory secretions, wound exudates, blood, urine; environmental specimens - water, infected solutions (IV, disinfectants, soap)

PRIMARY HAZARDS: Accidental parenteral inoculation; direct contact of mucous membranes with infected materials; inhalation of infectious aerosols and ingestion also present a hazard

SPECIAL HAZARDS: None

SECTION VII - RECOMMENDED PRECAUTIONS

CONTAINMENT REQUIREMENTS: Biosafety level 2 practices, containment equipment and facilities for activities involving suspected or known infectious specimens and cultures

PROTECTIVE CLOTHING: Laboratory coat, gloves when direct contact with infectious materials is unavoidable

OTHER PRECAUTIONS: Good personal hygiene, frequent hand washing and the avoidance of rubbing eyes as a precautionary measure against eye infections

SECTION VIII - HANDLING INFORMATION

SPILLS: Allow aerosols to settle; wearing protective clothing, gently cover spill with paper towels and apply 1% sodium hypochlorite, starting at perimeter and working towards the centre; allow sufficient contact time before clean up and disposal (30 min)

DISPOSAL: Decontaminate before disposal - steam sterilization, chemical disinfection, incineration

STORAGE: In sealed containers that are appropriately labelled

SECTION IX - MISCELLANEOUS INFORMATION

Date prepared: March, 2001

Prepared by: Office of Laboratory Security, PHAC

Although the information, opinions and recommendations contained in this Material Safety Data Sheet are compiled from sources believed to be reliable, we accept no responsibility for the accuracy, sufficiency, or reliability or for any loss or injury resulting from the use of the information. Newly discovered hazards are frequent and this information may not be completely up to date.

Date Modified: 2011-02-18

New Info

-------- Original Message --------
Subject: Re: Biological Agents Registry Form: Mehta
Date: Fri, 02 Dec 2011 07:05:44 -0500
From: Marta Rohan <Marta.Rohan@LHSC.ON.CA>
To: Sanjay Mehta <Sanjay.Mehta@LHSC.ON.CA>, jstanle2@uwo.ca

Hi Jennifer,

I hope this will cover all the information you need regarding the hood in room A6-114:

MODEL # 7221000

MOTT
Manufacturing Limited
PO BOX 1120
70 Wadsworth ST.
BRANDFORD, ON
N3T 5T3
519-752-7825

EQUIPMENT CERTIFICATION
H.E.P.A. FILTER SERV. INC.
CERTIFIED TO:
SEFA 1-2002
August 26, 2011

Please let me know if you need more info.

Thanks,

Marta
x 55120

>>> Jennifer Stanley <jstanle2@uwo.ca> 12/01/11 3:24 PM >>>
Hi Dr. Mehta
I talked to Trish and the room A6-114 is not in the animal quarters so
she does not have the make and model of the hood being used.
Do you have the make and model?
Regards
Jennifer

On 11/28/2011 9:22 AM, Sanjay Mehta wrote:
> Hi Jennifer
>
> I will need an approval form/copy to submit soon for grant applications.
> Can you try to call Trish?
>
> Is there something we can do to help?
>
> Sanjay
>
>>>> On 11/28/2011 at 12:41 AM, in message<76308448a4a1b.4ed2d8a2@uwo.ca>, Jennifer
> Stanley<jstanle2@uwo.ca> wrote:
>> Hi there
>> I think it was approved pending the make and model of the hood in the
>> facility. I tried to call Trish for this info but I think the number I have
>> for her is wrong...
>> Regards
>> Jennifer
>>
>> On 11/25/11, Sanjay Mehta<Sanjay.Mehta@LHSC.ON.CA> wrote:
>>
>>> Hello all
>>>
>>> Was this approved? I need an approval certificate/form for a grant
>> submission
>>> Thx
>>> Sanjay
>>>

Page 14 + 18

FUME HOODS OVERVIEW

Fume Hood Introduction

The safety of laboratory personnel is the single most important design criteria for all Mott fume hoods.

A fume hood properly designed, manufactured, installed, and operated will deliver a safe working environment to laboratory personnel. This important safety function requires the effective integration of the fume hood into the laboratory's HVAC (heating, ventilating, and air conditioning) system.

The safety purpose of a Mott fume hood is to:

- Capture, contain, and exhaust hazardous fumes, odors, and airborne particulate
- Contain liquids that are splashed or sprayed

The process of specifying the most appropriate fume hood requires an integrated approach that often involves the manufacturer (or its dealer), laboratory personnel, architects, laboratory planners, engineers, and contractors. Before specifying or ordering a fume hood, please review the following information in this section. Discuss any issues or concerns with a fume hood specialist.

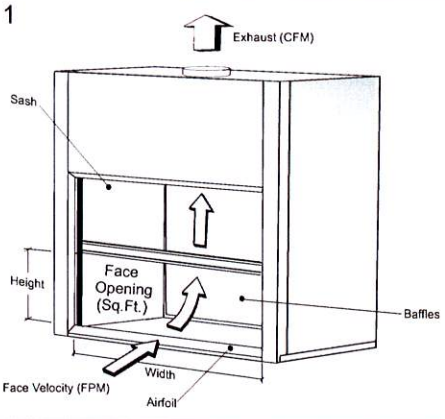
The following overview is therefore provided as a resource to the participants of this integrated approach as it reviews:

1. Terminology
2. Face Velocity
3. Fume Hood Performance
4. Fume Hood Construction Details
5. Fume Hood Configurations

1. TERMINOLOGY

Consistent, uniform airflow across the fume hood opening is a critical performance requirement to deliver safety to laboratory personnel. The following terms help evaluate the fume hood's performance; Figure 1 illustrates these terms.

Figure 1



Airfoil is the stainless steel ledge at the bottom opening of the fume hood. It allows air to enter the fume hood when the sash is closed, and delivers uniform airflow across the entire lower surface of the fume hood when the sash is open.

Baffles are panels located across the fume hood rear wall that direct the air flow to the exhaust duct.

Balance is matching the conditioned supply air volume entering a room to the exhaust air volume. This air volume is measured in cubic feet per minute (cfm). Laboratory HVAC design usually requires a negative static pressure relative to adjacent rooms and corridors to prevent contaminants from escaping the laboratory.

Constant Air Volume (CAV) system exhausts approximately the same air volume (cfm) regardless of the fume hood sash position. Therefore as the sash closes, the face velocity increases.

Containment is the fume hood's ability to capture gases and vapors for effective exhaust. ASHRAE 110 is one standard that defines the protocol for containment testing. Containment is usually measured in parts per million (ppm).

Exhaust Volume is the volume of air that is exhausted from the fume hood. It is calculated by multiplying the face velocity (ft/min) by the face area (ft^2) and is expressed in cubic feet per minute (ft^3/min or cfm) .

FUME HOODS OVERVIEW

Fume Hood Introduction

Exhaust Volume = Face Velocity x Face Area

Face Area is the fume hood's front access or sash opening. It is calculated by multiplying the open sash width (ft) and height (ft) and is expressed in square feet (ft^2).

Face Area = Open Sash Width x Open Sash Height

Face Velocity is the average air speed entering the open sash. It can be measured by various measuring devices or calculated by dividing the exhaust volume (cfm) by the face area (ft^2) and is expressed in feet per minute (ft/min or fpm).

Face Velocity = Exhaust Volume / Face Area

Plenum is a chamber that allows air flow to equalize.

Sash is the fume hood's moveable door usually made of laminated glass. Vertically raising, horizontal sliding, or a combination of both are the three most common sash types.

Static Pressure is pressure drop in an HVAC system resulting from duct bends and restrictions from various components such as a fume hood. It is expressed in inches of water gauge (in. WG).

Variable Air Volume (VAV) is a fume hood with controls that adjust the volumetric exhaust airflow rate in response to sash position changes. This adjustment in exhaust airflow maintains a constant average face velocity.

2. FACE VELOCITY

Seek advice from your lab planner for the proper face velocity for the hood chosen. Be sure to consider the fume hood application and set-up processes.

A properly designed, manufactured, installed, and operated fume hood will have a relatively consistent face velocity across the entire sash opening at any defined sash position.

At a defined sash position, velocity measurements taken at any point within the sash opening should not be less than 20% below the average of all the other measured points. Some laboratory guidelines require this velocity variance to be 10% maximum.

While several references and agencies provide face velocity recommendations, the generally accepted range for most applications is 80 to 120 ft/min. With some hood designs, velocities of 60 ft/min are satisfactory.

Sash position will affect the face velocity in a constant volume system. In most HVAC systems, a properly selected constant speed exhaust fan with no dampers will exhaust approximately the same volume of air (cfm) regardless of the sash position. This relatively constant relationship between sash position and exhaust volume results from the following operating characteristics:

- The fume hood's static pressure remains relatively constant regardless of the sash position.
- The fume hood is only one source of static pressure drop in the HVAC system and therefore a relatively small change in the fume hood static pressure as the sash position changes does not result in a significant change in the entire HVAC system's static pressure.

Therefore as the fume hood sash closes in a constant volume system, the face area decreases and the face velocity must increase to maintain the same exhaust volume. The calculations below for a typical 72 inch wide fume hood, as shown in Figure 2, demonstrate that closing the sash from the full open to half open position will double the face velocity.

At the sash full open position:

Face area = sash width x sash open height
= 5.2 ft x 2.4 ft
= 12.5 square feet

Therefore at the sash full open position:

Exhaust volume = Face area x Face Velocity
= 1250 ft^3/min

At the sash half open position:

Face area = 6.25 ft^2 *(one half the full open area)*

Since this is a constant volume system,

Exhaust volume = 1250 ft^3/min *(constant)*

Therefore at the sash half open position:

Face Velocity = Exhaust Volume/Face Area
= 200 ft/min

FUME HOODS
OVERVIEW

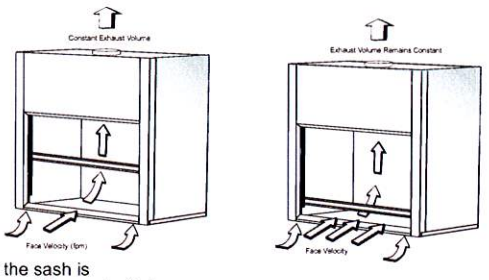
Fume Hood Introduction

The face velocity at the sash half open position is therefore twice the face velocity at the sash full open position in a constant volume system.

This relationship of face velocity and exhaust volume has significant energy conservation consequences.

If the required face velocity is set at the sash half open operating position instead of the full open sash position, the required exhaust volume is reduced 50%. This reduced exhaust volume requirement will reduce the exhaust fan size and/or speed resulting in substantially reduced fan horsepower and operating costs. Operating costs associated with a fume hood can be significant since fully conditioned air is being exhausted from the laboratory to outside the building.

Fig.2



As the sash is lowered face velocity increases.

3. FUME HOOD PERFORMANCE

A. Specifications

Mott Pro fume hoods have been designed to meet or exceed the American National Standard for Laboratory Ventilation and the American Industrial Hygiene Association standard as outlined in ANSI/AIHI Z9.5-2003.

This performance has been verified through factory at testing according to the protocol established in the standard ANSI/ASHRAE 110. These published test results are available from Mott Manufacturing.

As a SEFA member (Scientific Equipment & Furniture Association), Mott Manufacturing has ensured that all it's fume hoods are manufactured in compliance with the requirements of the latest edition of SEFA Recommended Practices specification.

B. Face Velocity & Containment

Mott Pro fume hoods have been designed to meet the face velocity and containment performance requirements of most laboratory applications.

The performance delivered will satisfy the requirements of the majority of laboratory requirements. The performance levels noted below have been confirmed by tests conducted to the ASHRAE 110 standard.

Standard High Containment Baffle

Face Velocity Variance: Max. 20% below average.
Containment (ppm):0.050 maximum

Higher containment levels can be achieved.

Meets American Industrial Hygiene Association Requirements for Safety

4. FUME HOOD CONSTRUCTION DETAILS

Mott fume hoods are rigid, self supporting units manufactured for installation without a requirement for field fabrication or assembly.

Several optional features are available on all Mott Pro fume hoods; these options are outlined in each design's specification sheets included in this catalogue.

The following construction details are common for both the Mott Pro and Select fume hoods, except where noted.

A. Double Wall Construction (Pro Series)

Double wall construction accommodates plumbing and electrical wiring. The outer shell, corner posts, upper front panel, and furring panels can be manufactured from any of the following:

- Prime furniture grade cold rolled steel coated with Mott's chemical resistant high performance thermosetting laboratory grade powder.
- Satin coat (galvanized steel) coated with Mott's chemical resistant thermosetting laboratory grade powder.
- Stainless steel -304-4 or 316-4.

FUME HOODS
OVERVIEW

Fume Hood Introduction

The inner shell can be manufactured from any of the following liners:

Fume Hood Liner Selection

FRP - Fibreglass reinforced polyester	
	-white color, excellent general purpose liner
	-good resistance to most solvents, bases, and acids
	-low flame spread rating
	-strong structural strength
316 Stainless steel square corners	
	-resistant to solvents and bases
	-subject to attack by some acids
	-high tolerance to flame and heat
	-excellent structural strength
316 Stainless steel rounded corners	
	-resistant to solvents and bases
	-subject to attack by some acids
	-recommended for radioisotope and perchloric acid applications
	-high tolerance to flame and heat
	-excellent structural strength
	-excellent cleaning characteristics
304 Stainless steel square corners	
	-resistant to solvents and bases
	-subject to attack by some acids
	-high tolerance to flame and heat
	-excellent structural strength
PVC - Polyvinyl chloride	
	-white color
	-excellent resistance bases, and acids
	-poor tolerance to flame and heat
	-strong structural strength
Epoxy resin	
	-off white color
	-excellent resistance to solvents, bases, and acids
	-moderate tolerance to flame and heat
	-moderate structural strength
	-extended lead time

Concealed stainless steel fasteners are used in all locations that are exposed to fumes. Furring panels and outside panels are fabricated of 18 gauge prime quality furniture grade cold rolled steel. Fume hoods are manufactured with factory installed round or rectangular (on selected models) exhaust collars mounted on the fume hood roof for convenient field duct connection.

B. Electrical Components

- Fume Hoods are CSA certified and UL 1805 Classified.
- All components are UL listed or CSA certified.
- Rapid start fluorescent light fixture mounted behind a vapor proof safety glass panel.
- Standard design includes a light switch and two 120 volt duplex receptacles mounted on the corner posts.
- Other customer specified electrical components can be factory installed as required.

C. Baffles

Baffles are manufactured of the same material as the liner and consist of three panels - the top angled baffle and the two piece lower baffle with intermediate air intake slots.

The standard fixed baffle design is a high containment baffle. Fixed baffles are recommended. They have been tested to perform well for all regular fume hood operations.

Standard baffle face velocity and containment performance as noted in 3B (page P3).

D. Sash and Airfoil

The full view vertical raising sash is manufactured of laminated safety glass with the sash set into an extruded, low turbulence PVC track that delivers smooth operation and steady sash positioning. Smooth operation of the sash is also delivered by a single appropriately balanced counterweight that is suspended on either:

- A stainless steel aircraft quality cable system complete with ball bearing pulleys or
- A high quality chain and ball sprocket system

To reduce the amount of exhaust air by as much as 40% add a sash stop at 18" open. This cuts down the amount of open face area, yet allows the operator to access the inside of the hood. The sash stop can be manually overridden when there are no hazards present for apparatus setup. For even greater savings of 50% add a combination vertical raising and horizontal sliding sash. Not only does this save energy it also acts as a face and body shield to protect the operator. Other energy saving options are available. Contact Mott manufacturing for details.

FUME HOODS
OVERVIEW

Fume Hood Introduction

D. Sash and Airfoil - Continued

horizontal sliding sash. Not only does this save energy it also acts as a face and body shield to protect the operator. Other energy saving options are available. Contact Mott Manufacturing for details.

The air foil is mounted at the bottom of the hood opening and is aerodynamically designed to minimize turbulence and provide appropriate continuous flow even in the closed sash position.

E. Exhaust Collars

The exhaust collar connects the fume hood to the exhaust duct. Depending on the fume hood size, round collars are provided for direct connection to standard ducting without the need for costly transition assemblies. There may be one or two collars of either 10 or 12 inch diameter and is noted on each fume hood page. On certain models, rectangular collars are used and exhaust transitions are required to fit over the vent collar.

F. Fume Hood Alarms

To provide additional protection to laboratory personnel, Mott fume hoods can be supplied with air velocity monitors. These options provide continuous monitoring of the air flow through the fume hood complete with a visual and audible alarm in the event of abnormal air flow conditions. Monitors provide adjustable alarm set points and a test button to confirm satisfactory operation.

5. FUME HOOD CONFIGURATIONS

Mott fume hoods are available in several different configurations. These different designs are presented in the following manner.

Configurations

- Constant Volume By-Pass Configuration
- Auxiliary Air Configuration Variable Volume
- Restricted By-Pass Configuration
- Low Constant Volume

Applications

- Bench
- Fully accessible
- Perchloric acid
- Radioisotope
- Distillation
- Floor Mounted
- Demonstration

A. Series

Mott fume hoods are available in two basic series: Pro and Select.

Mott Pro Series is of double wall construction suitable for most laboratory requirements and available in several configurations each designed for a variety of applications.

Mott Select Series is of thin wall construction and suitable for some school laboratory requirements.

B. Configurations

Mott Pro Series fume hoods are available in configurations that represent the three fundamental airflow options.

Each of these four Mott Pro series configurations are available in several different application designs (distillation, radioisotope, walk-in, etc.) that are also detailed in this catalog. The four Mott Pro Series configurations are detailed below.

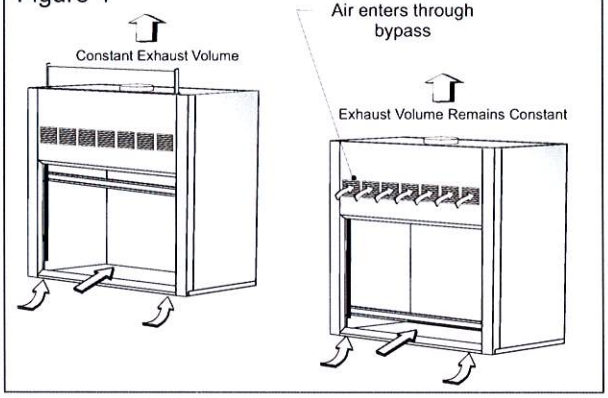
a. Constant Air Volume Systems (CAV)

Two basic fume hood configurations have been developed to operate in laboratory constant air volume (CAV) systems. These three configurations are:

i. By-Pass Fume Hood Configuration

The by-pass fume hood configuration incorporates louvers located in the upper front panel above the sash. These by-pass louvers, illustrated in Figure 4, provide an alternate path for air to enter the upper portion of the fume hood as the sash is closed.

Figure 4



FUME HOODS OVERVIEW

Fume Hood Introduction

This configuration therefore maintains a relatively constant exhaust volume (cfm) from the fully open sash position to a sash position approximately 6 inches open above the airfoil.

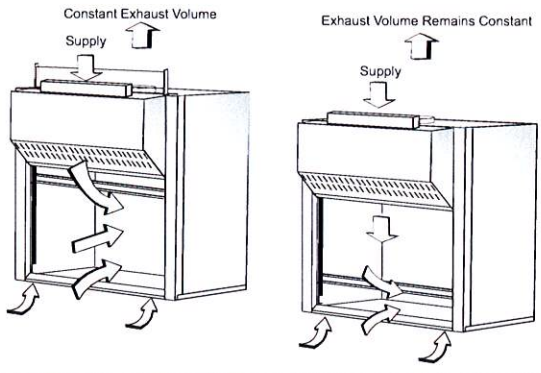
Even with these by-pass louvers, the face velocity increases as the sash is adjusted towards the closed position, however the velocity increase is not as large as found in the conventional configuration.

If a by-pass configuration fume hood is specified to operate at a defined design face velocity at the sash full open position, the resulting face velocity when the sash is 6 inches above the fully closed position is approximately three times the design face velocity. This by-pass configuration face velocity ratio can be further reduced if the design face velocity is specified at working sash position of 18 inches open. In this case, as the sash is closed to 6 inches above the fully closed position, the resulting face velocity increased to approximately twice the design face velocity.

ii. Auxiliary Air Fume Hood Configuration

The auxiliary air (or supplemental air) fume hood is a by-pass configuration with an additional plenum installed on the upper front of the fume hood. This plenum delivers auxiliary air to the face opening of the fume hood from a separate air supply as shown in Figure 5.

Figure 5



The auxiliary air is introduced above and over the face opening, allowing the auxiliary air to be washed over the operator and captured by the fume hood.

This configuration generally delivers an auxiliary air volume that is approximately 70% of the total fume hood exhaust volume. The fume hood captures approximately 95% of the auxiliary air, therefore very little auxiliary air escapes into the laboratory.

Because the auxiliary air fume hood is also a constant volume configuration with a by-pass, increasing air volume enters the fume hood via the by-pass as the sash is closed.

Contemporary laboratory design often incorporates variable volume (VAV) systems, therefore the auxiliary configuration is less frequently specified. This VAV preference results from several operating characteristics of the auxiliary air configuration, namely:

- Auxiliary air fume hoods require relatively large amounts of incremental pre-conditioned air that is supplied through the plenum above the sash. The cost to pre-condition this air for the necessary operator comfort during the laboratory operating hours can be very significant in most North American climates.
- Increased material and labor installation costs associated with the independent air supply system together with the increased cost of this fume hood configuration must also be considered when specifying this configuration.
- The auxiliary air can potentially expose the process within the fume hood to detrimental turbulence thus reducing the fume hood's containment performance.

b. Variable Air Volume (VAV) Systems

Variable air volume systems vary the amount of exhaust air volume (cfm) as the fume hood sash is repositioned so that a relatively constant face velocity is maintained. There are several VAV system configurations installed in laboratories, however the basic principles remain the same.

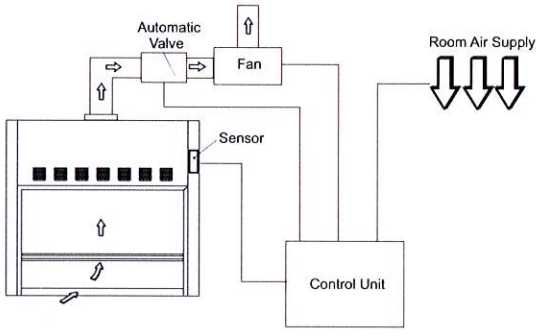
i. Restricted By-Pass Fume Hood Configuration

Generally a VAV system incorporates a by-pass configuration fume hood that includes an additional adjustment blank-off plate mounted behind the louvers. The presence of this additional blank-off plate results in the use of the term "restricted by-pass". An electronic sash position sensor is also usually installed, as illustrated in Figure 6.

FUME HOODS OVERVIEW

Fume Hood Introduction

Figure 6



As the sash position is adjusted, an electronic signal is transmitted from the sash position sensor to an air volume controller. The exhaust air volume is controlled by valves, plates, or variable speed fans. The controller also concurrently adjusts the supply air into the laboratory to maintain proper air balance.

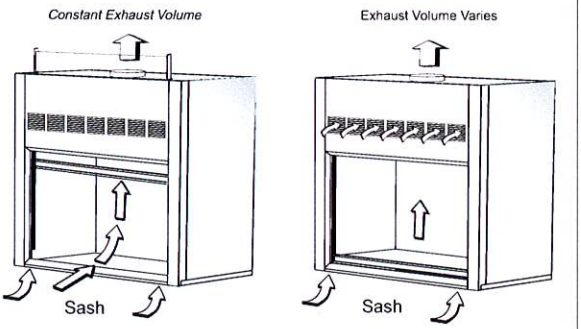
IMPORTANT:
Qualified professionals should determine the best hood for each application and how the supporting HVAC system is designed, since the fume hood is a significant component of a correctly designed HVAC system. The potential safety, reliability, and energy-savings benefits can only be the result of the entire system and building working together well as a whole. It is the responsibility of the laboratory specificer/planner to ensure the system coordinates jointly with the local and state codes.

When the sash is fully closed, the by-pass will open to allow approximately 10% to 20% of the corresponding sash full open air volume to enter the fume hood without creating excessive turbulence as noted in Figure 7. Therefore, when the sash is fully closed, a relative negative static pressure is maintained inside the fume hood thus delivering improved containment.

This configuration continues to increase in popularity because of its significant energy saving benefits, especially in multiple fume hood laboratories. While installation costs are higher for variable air volume systems, the reduced operating costs resulting from energy savings usually provide a payback in the range of three to six years.

<u>Fume Hood Applications</u>
Bench Fume Hoods are suitable for most laboratory

Figure 7



applications and are the most popular type. They are typically designed to mount on 30" deep work surfaces.

Fully Accessible Fume Hoods are designed to meet the needs of both able bodied and disabled laboratory users. When combined with the right laboratory cabinetry they meet ADA requirements.

Perchloric Acid Fume Hoods are designed specifically for perchloric acid procedures. All corners are welded and coved for ease of cleaning. They come equipped with an internal wash down system, and should be used exclusively for perchloric acid applications to minimize possible fire and explosion.

Radioisotope Fume Hoods are designed to handle radioactive isotopes. All corners are welded and coved for ease of cleaning. Work surface is reinforced to handle heavy loads within the hood.

Distillation Fume Hoods are designed for tall apparatus such as distillation towers, etc.

Floor-Mounted Fume Hoods are designed for tall or large apparatus. They also allow roll-in equipment, mobile tables or robots to be used inside the fume hood.

Demonstration Fume Hoods are fume hoods that are accessible from ether the front or back sides. They are generally used for demonstration purposes. Often these fume hoods are equipped with a side view window for instructor supervision.

Hydroflouric Acid Fume Hoods are available. Please contact Mott Manufacturing for ordering information.

FUME HOODS
OVERVIEW

Fume Hood Introduction

Standard Pro Fume Hood Features

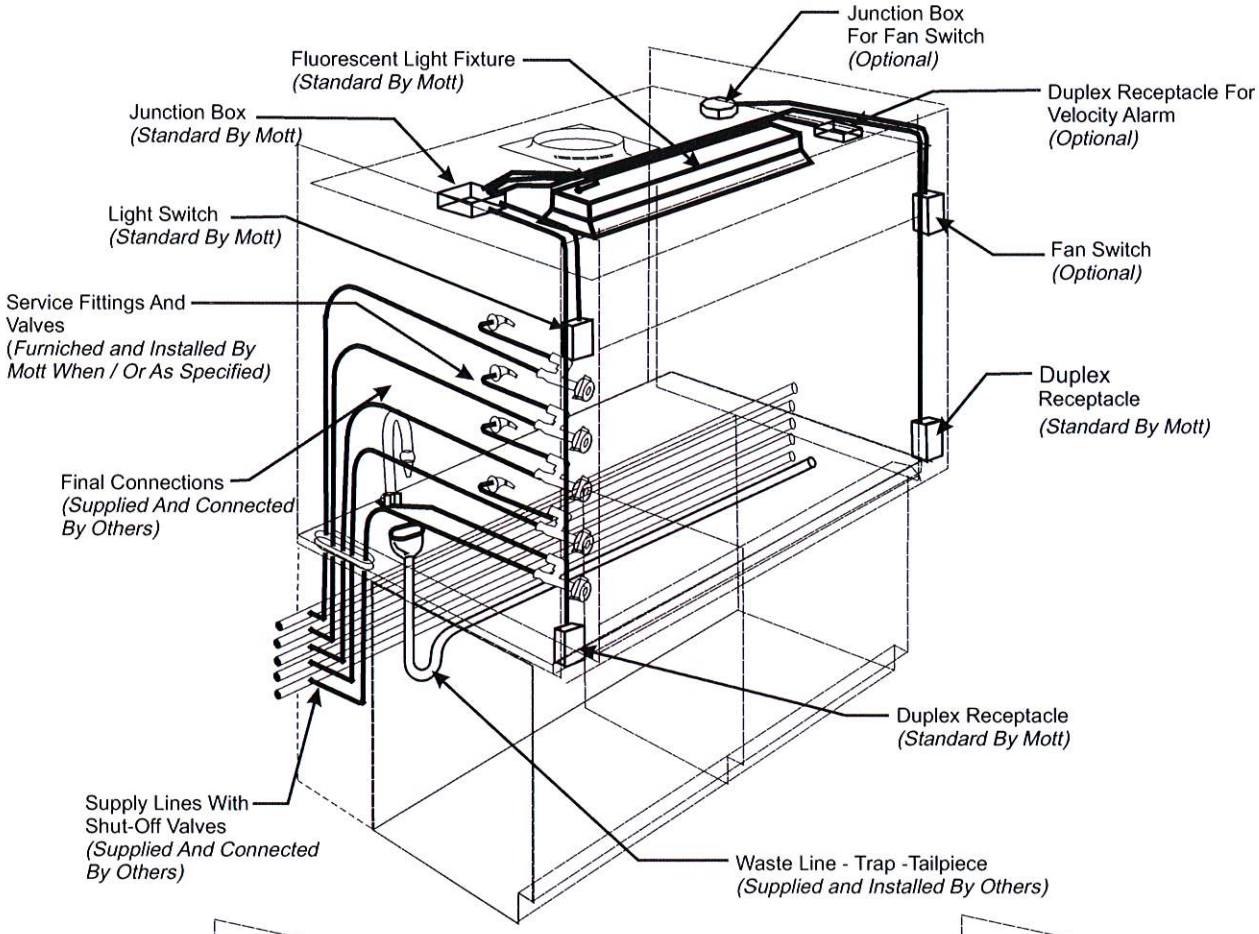
- 18 ga exterior front by-pass grill and side panels.
- 16 ga 316 stainless steel air foil with electrical cord notch at both ends .
- Sash 7/32" thick laminated safety glass .
- Sash guides 316 stainless steel running in a corrosion resistant polyvinyl chloride (PVC) track.
- Sash suspension ether:
  -Single stainless steel 3/32" stranded cable
  -#35 steel chain (see note A)
- Pulley assembly for sash cable: 1-1/2" diameter nylon roller with steel ball bearing and cable retaining device and a single counter weight.
- Drive assembly for sash chain is 3" diameter steel sprockets on a full width ½" diameter drive shaft and a single counter weight . (see note A) Sash pull of 18 ga 316 stainless steel with a #4 finish.
- Interior access panels on both sides, and secured using molded vinyl gasket designed to be removed and reinstalled without use of special tools.
- Non metallic baffle support.
- No exposed interior or exterior metallic screws or fasteners.
- Duct stubs: bell shaped, round type 316 stainless steel, 18 ga or rectangular type 316 stainless steel, 18 ga.
- UL1805 classified.
- CSA certified.
- Optional factory pre-plumbing as per customer specifications.
- .375" OD copper tubing for all services.
- .375" schedule 40 black pipe for natural gas in USA only.

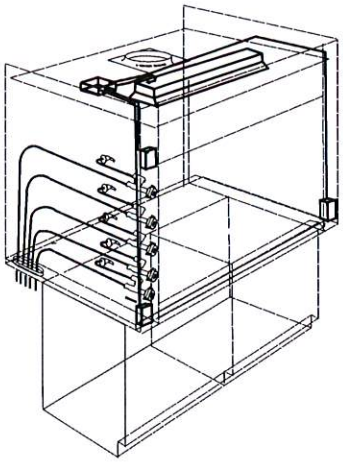
Ⓐ Not available on Demonstration fume hoods or Observation hoods.

FUME HOODS
DETAILS

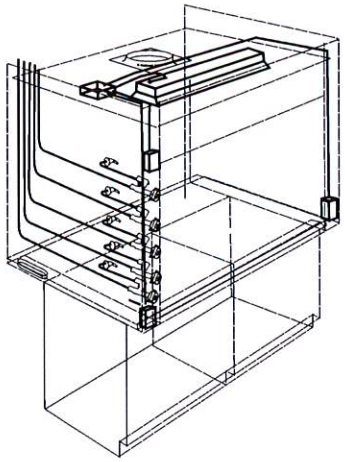
Typical Rough in Details

These dimensions apply to all fume hoods unless otherwise noted on the specific fume hood page





TYPICAL HOOD WITH PLUMBING
PRE-PIPED DOWN TO BOTTOM



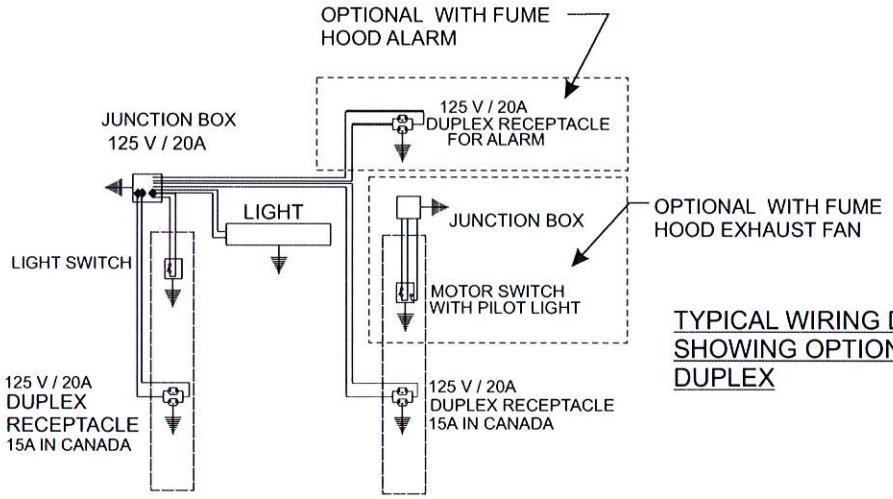
TYPICAL HOOD WITH PLUMBING
PRE-PIPED UP TO TOP

FUME HOODS
DETAILS

Typical Rough in Details

These dimensions apply to all fume hoods unless otherwise noted on the specific fume hood page

TYPICAL FUME HOOD WIRING DIAGRAM SHOWING OPTIONAL FAN SWITCH AND VELOCITY ALARM DUPLEX.



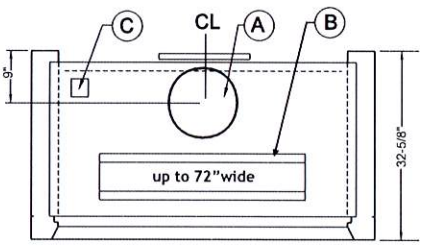
TYPICAL WIRING DIAGRAMS SHOWING OPTIONAL ALARM DUPLEX

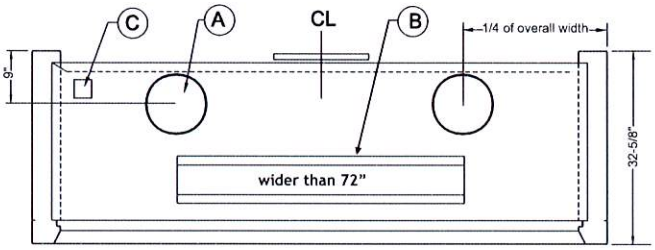
FUME HOODS DETAILS

Typical Roof Details

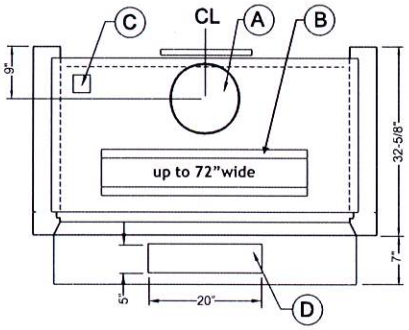
These dimensions apply to all fume hoods unless otherwise noted on the specific fume hood page

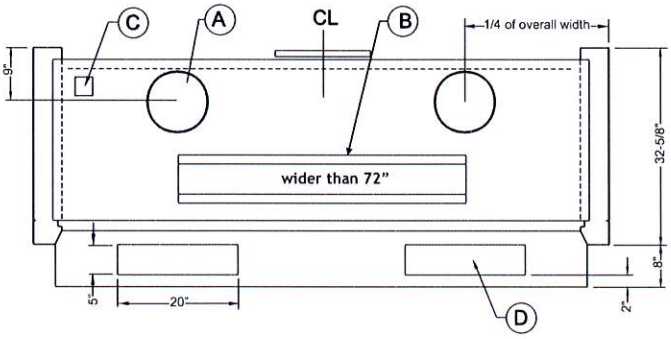
Pro Bench and Floor-Mounted Fume Hood (typical)



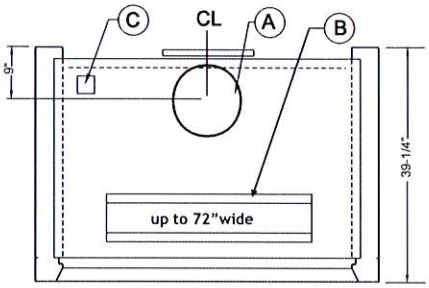


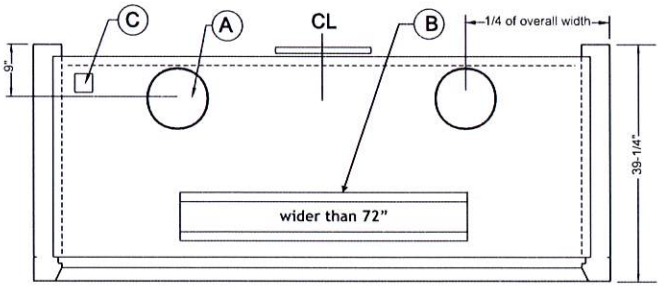
Pro Auxiliary Air Fume Hood (typical)





Fully Accessible Fume Hood -39 1/4 deep (typical)





Pro Split Sash Fume Hood (typical)

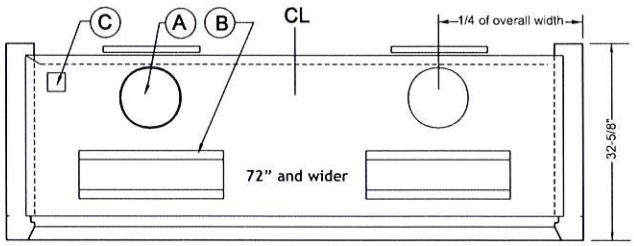
ITEMS:

Ⓐ Exhaust duct stub - see exhaust parameter tables

Ⓑ Flourescent light fixture

Ⓒ Electrical Junction Box

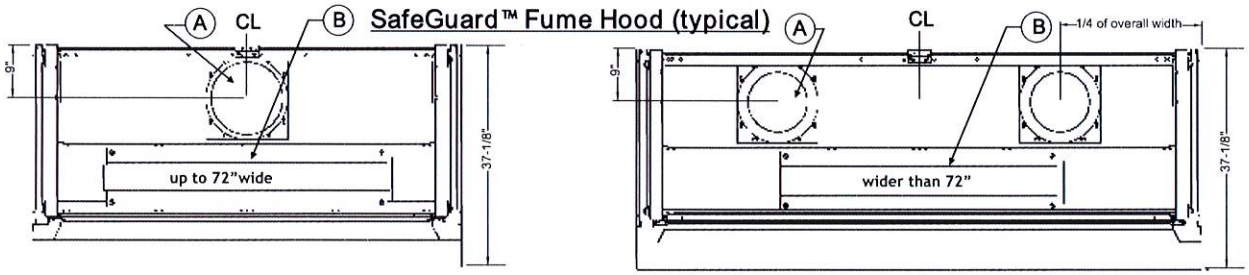
Ⓓ Supply air duct stub (Auxiliary air only)



FUME HOODS
DETAILS

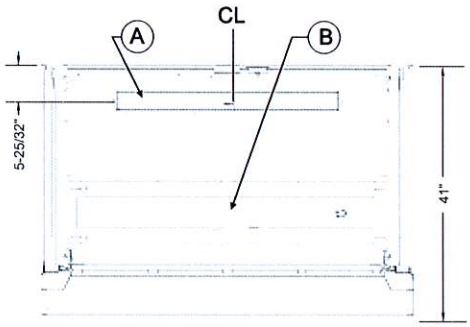
Typical Roof Details

These dimensions apply to all fume hoods unless otherwise noted on the specific fume hood page



SafeGuard™ Fume Hood (typical)

Sigma RFV2™ Bench Fume Hood

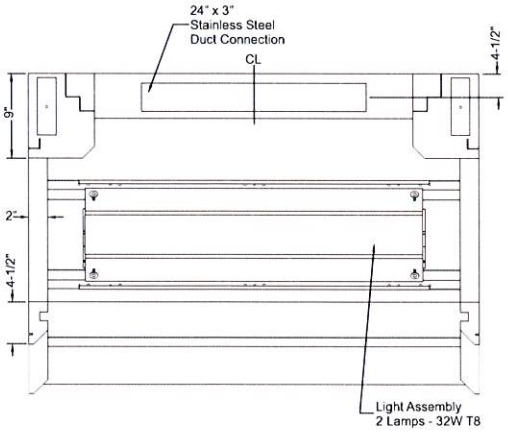


Items

Ⓐ Exhaust duct stub - see exhaust parameter tables

Ⓑ Flourescent light fixture

Observation™ Bench Fume Hood (typical)

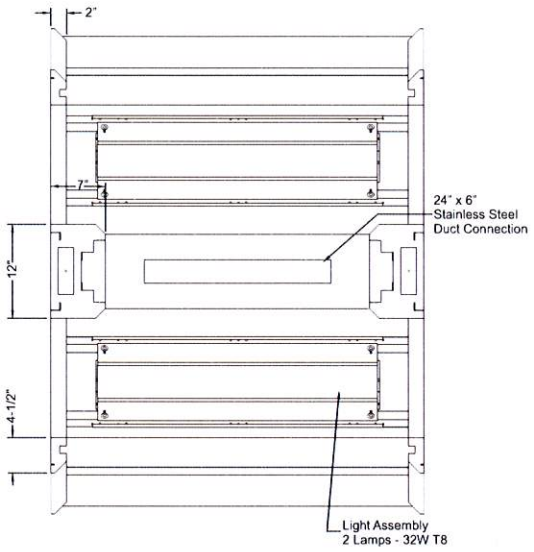


FUME HOODS
DETAILS

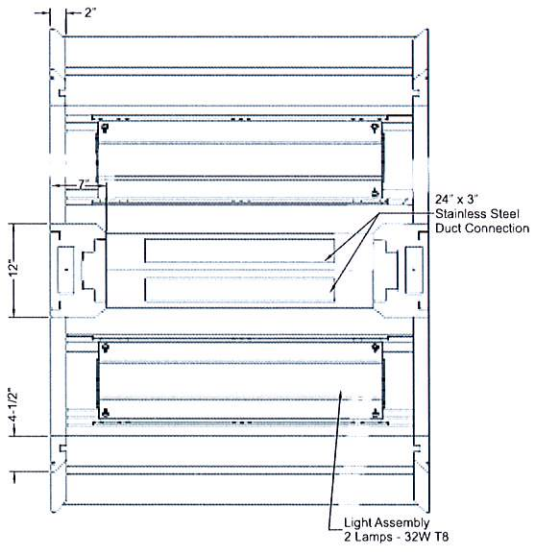
Typical Roof Details

These dimensions apply to all fume hoods unless otherwise noted on the specific fume hood page

Observation™ Constant Volume Island Bench Fume Hood (typical)



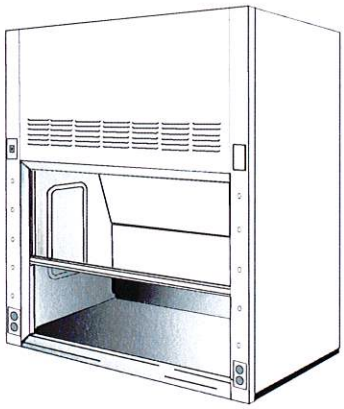
Observation™ Variable Air Volume Island Bench Fume Hood (typical)



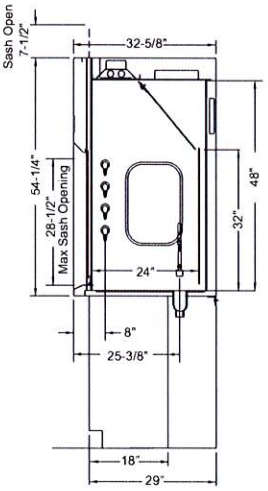
FUME HOODS
PRO CONSTANT VOLUME BENCH - VERTICAL SASH

Features

This all purpose fume hood is designed to meet most laboratory constant volume (CAV) requirements. Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:

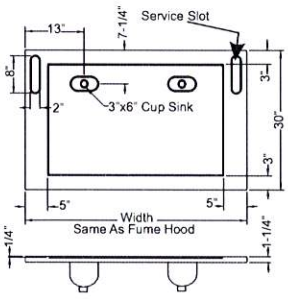


- A vertical rising sash .
- An automatic compensating upper by-pass .
- Field- convertible to Restricted By-Pass for VAV use. Add option code S2 for Restricted by-pass plate.
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable interior access panel in each side wall.
- Removable exterior side panels.
- Several liner materials are available.
- Available in either stainless steel cable, or chain and sprocket sash suspension system.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep SafeGuard™ work top detail shown on page 32.



VERTICAL RAISING SASH (Cable Sash System)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121000	7123000	7126000	7124000	7125000
48"	7221000	7223000	7226000	7224000	7225000
60"	7321000	7323000	7326000	7324000	7325000
72"	7421000	7423000	7426000	7424000	7425000
96"	7521000	7523000	7526000	7524000	7525000
1000mm	7B21000	7B23000	7B26000	7B24000	7B25000
1513mm	7C21000	7C23000	7C26000	7C24000	7C25000
2000mm	7D21000	7D23000	7D26000	7D24000	7D25000

VERTICAL RAISING SASH (Chain & Sprocket Sash System)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121040	7123040	7126040	7124040	7125040
48"	7221040	7223040	7226040	7224040	7225040
60"	7321040	7323040	7326040	7324040	7325040
72"	7421040	7423040	7426040	7424040	7425040
96"	7521040	7523040	7526040	7524040	7525040
1000mm	7B21040	7B23040	7B26040	7B24040	7B25040
1513mm	7C21040	7C23040	7C26040	7C24040	7C25040
2000mm	7D21040	7D23040	7D26040	7D24040	7D25040



Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

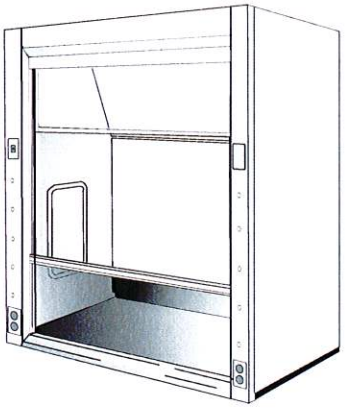
Cup sink location suits a gooseneck only.

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10	280	0.03	350	0.04
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1000mm	10"	490	0.10	612	0.15	316	0.04	395	0.05
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

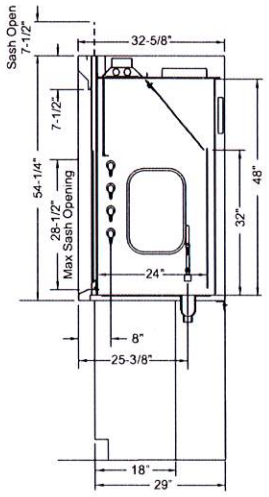
FUME HOODS
PRO RESTRICTED BY-PASS BENCH - VERTICAL SASH

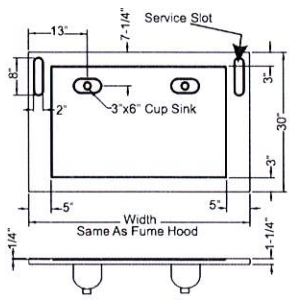
Features

This all purpose fume hood is designed to meet most laboratory Variable Air Volume (VAV) requirements. Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:



- A full view vertical rising sash.
- An automatic compensating restricted upper by-pass .
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable interior access panel in each side wall.
- Removable exterior side panels.
- Several liner materials are available.
- Available in either stainless steel cable, or chain and sprocket sash suspension system.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep work top detail shown on page 32.





Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

VERTICAL RAISING SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7151000	7153000	7156000	7154000	7155000
48"	7251000	7253000	7256000	7254000	7255000
60"	7351000	7353000	7356000	7354000	7355000
72"	7451000	7453000	7456000	7454000	7455000
96"	7551000	7553000	7556000	7554000	7555000
1000mm	7B51000	7B53000	7B56000	7B54000	7B55000
1513mm	7C51000	7C53000	7C56000	7C54000	7C55000
2000mm	7D51000	7D53000	7D56000	7D54000	7D55000

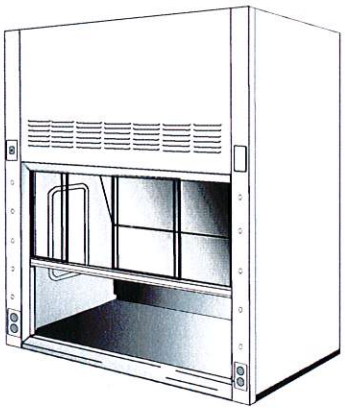
VERTICAL RAISING SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7151040	7153040	7156040	7154040	7155040
48"	7251040	7253040	7256040	7254040	7255040
60"	7351040	7353040	7356040	7354040	7355040
72"	7451040	7453040	7456040	7454040	7455040
96"	7551040	7553040	7556040	7554040	7555040
1000mm	7B51040	7B53040	7B56040	7B54040	7B55040
1513mm	7C51040	7C53040	7C56040	7C54040	7C55040
2000mm	7D51040	7D53040	7D56040	7D54040	7D55040

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10	280	0.03	350	0.04
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1000mm	10"	490	0.10	612	0.15	316	0.04	395	0.05
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

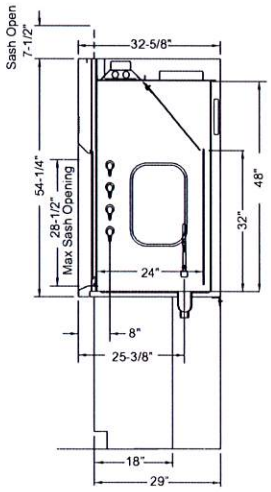
FUME HOODS
PRO RESTRICTED BY-PASS BENCH - COMBINATION SASH

Features

This all purpose fume hood is designed to meet most laboratory constant volume (CAV) and variable air volume (VAV) requirements.
Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:



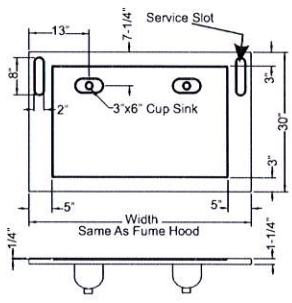
- Combination vertical rising and horizontal sliding sash on PVC track.
- Restricted upper by-pass is standard .
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable interior access panel in each side wall.
- Removable exterior side panels.
- Several liner materials are available.
- Available in either stainless steel cable, or chain and sprocket sash suspension system.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep work top detail shown on page 32.



Horizontal Panels On Combo Sash Hood		
Hood Width	Sash Width	# of Panels
48"	9-7/8"	4
60"	12-1/2"	4
72"	15-1/2"	4
96"	14-7/8"	6

COMBINATION SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7221010	7223010	7226010	7224010	7225010
60"	7321010	7323010	7326010	7324010	7325010
72"	7421010	7423010	7426010	7424010	7425010
96"	7521010	7523010	7526010	7524010	7525010
1513mm	7C21010	7C23010	7C26010	7C24010	7C25010
2000mm	7D21010	7D23010	7D26010	7D24010	7D25010

COMBINATION SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7221050	7223050	7226050	7224050	7225050
60"	7321050	7323050	7326050	7324050	7325050
72"	7421050	7423050	7426050	7424050	7425050
96"	7521050	7523050	7526050	7524050	7525050
1513mm	7C21050	7C23050	7C26050	7C24050	7C25050
2000mm	7D21050	7D23050	7D26050	7D24050	7D25050



Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

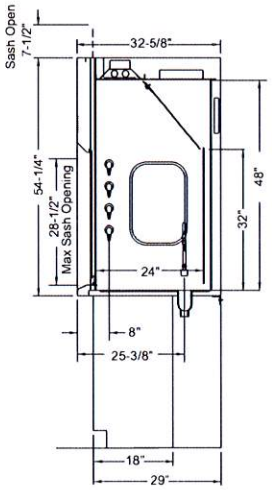
Exhaust Parameters		80 FPM 1/2 Sliding Door Open		100 FPM 1/2 Sliding Door Open		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
48"	10"	315	0.05	394	0.05	407	0.06	508	0.09
60"	12"	414	0.05	517	0.05	533	0.05	667	0.07
72"	12"	512	0.05	640	0.10	660	0.07	825	0.11
96"	2@10"	709	0.05	886	0.10	913	0.07	1142	0.11
1513mm	12"	410	0.05	513	0.10	528	0.05	660	0.07
2000mm	12"	567	0.05	709	0.10	731	0.09	914	0.14

FUME HOODS
PRO CONSTANT VOLUME BENCH - SPLIT SASH/POSTLESS

Features

This all purpose fume hood is designed to meet most laboratory constant volume (CAV) requirements. Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:

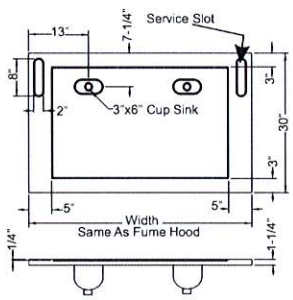
- Two independently operated vertical rising sashes.
- An automatic compensating upper by-pass.
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable interior access panel in each side wall.
- Removable exterior side panels.
- Several liner materials are available.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- Add option code S2 for an optional restricted by-pass damper.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep work top detail shown on page 32.



VERTICAL RAISING SPLIT POSTLESS SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
72"	7421030	7423030	7426030	7424030	7425030
96"	7521030	7523030	7526030	7524030	7525030
120"	7621030	7623030	7626030	7624030	7625030
144"	7H21030	7H23030	7H26030	7H24030	7H25030
2000mm	7D21030	7D23030	7D26030	7D24030	7D25030

VERTICAL RAISING SPLIT POSTLESS SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
96"	7521080	7523080	7526080	7524080	7525080
120"	7621080	7623080	7626080	7624080	7625080
144"	7H21080	7H23080	7H26080	7H24080	7H25080
2000mm	7D21080	7D23080	7D26080	7D24080	7D25080

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
120"	2@12"	1811	0.15	2264	0.20	1167	0.06	1458	0.09
144"	2@12"	2205	0.20	2755	0.30	1420	0.08	1775	0.13
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14



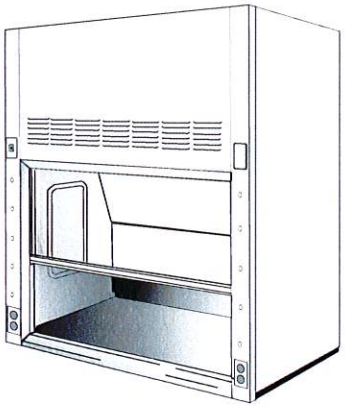
Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

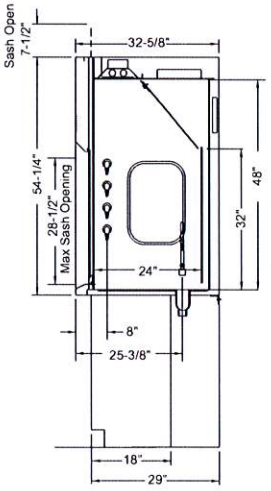
FUME HOODS
PRO RESTRICTED BY-PASS BENCH - VERTICAL SASH

Features

This all purpose fume hood is designed to meet most laboratory constant volume (CAV) and variable air volume (VAV) requirements.
Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:

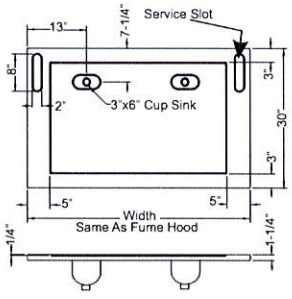


- A vertical rising sash .
- An automatic compensating restricted upper by-pass.
- Restricted by-pass plate is standard.
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable interior access panel in each side wall.
- Removable exterior side panels.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep work top detail shown on page 32.



VERTICAL RAISING SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121000-S2	7123000-S2	7126000-S2	7124000-S2	7125000-S2
48"	7221000-S2	7223000-S2	7226000-S2	7224000-S2	7225000-S2
60"	7321000-S2	7323000-S2	7326000-S2	7324000-S2	7325000-S2
72"	7421000-S2	7423000-S2	7426000-S2	7424000-S2	7425000-S2
96"	7521000-S2	7523000-S2	7526000-S2	7524000-S2	7525000-S2
1000mm	7B21000-S2	7B23000-S2	7B26000-S2	7B24000-S2	7B25000-S2
1513mm	7C21000-S2	7C23000-S2	7C26000-S2	7C24000-S2	7C25000-S2
2000mm	7D21000-S2	7D23000-S2	7D26000-S2	7D24000-S2	7D25000-S2

VERTICAL RAISING SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121040-S2	7123040-S2	7126040-S2	7124040-S2	7125040-S2
48"	7221040-S2	7223040-S2	7226040-S2	7224040-S2	7225040-S2
60"	7321040-S2	7323040-S2	7326040-S2	7324040-S2	7325040-S2
72"	7421040-S2	7423040-S2	7426040-S2	7424040-S2	7425040-S2
96"	7521040-S2	7523040-S2	7526040-S2	7524040-S2	7525040-S2
1000mm	7B21040-S2	7B23040-S2	7B26040-S2	7B24040-S2	7B25040-S2
1513mm	7C21040-S2	7C23040-S2	7C26040-S2	7C24040-S2	7C25040-S2
2000mm	7D21040-S2	7D23040-S2	7D26040-S2	7D24040-S2	7D25040-S2



Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

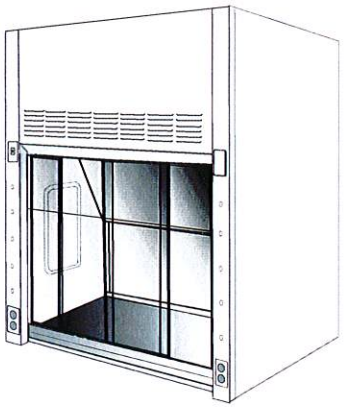
Cup sink location suits a gooseneck only.

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10	280	0.03	350	0.04
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1000mm	10"	490	0.10	612	0.15	316	0.04	395	0.05
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

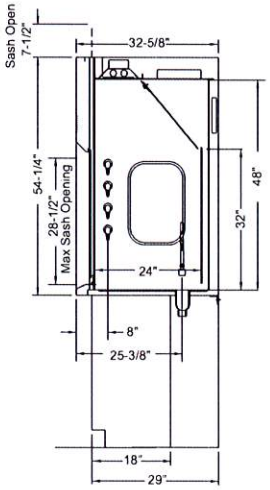
FUME HOODS
LOW VOLUME BENCH - COMBINATION SASH

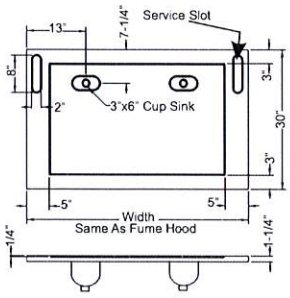
Features

This low flow hood design is based upon *Safety*, *Economy* and *Simplicity*. The design concept incorporates a standard by-pass fume hood fitted with a restricted by-pass panel, a combination horizontal/vertical sash with lock down mechanism and a front mounted safety glass shield all which reduces air (energy) consumption by approximately 75%. Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:



- A combination horizontal/vertical rising sash with keyed lock down mechanism.
- Restricted by-pass plate.
- Laminated safety glass shield integral to the sash.
- Airflow is maintained within the ANSI and OSHA recommendations of 80 and 100 feet per minuted face velocity.
- Air (energy) consumption can be reduced by approximately 75%.
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable interior access panel in each side wall with removable exterior side panels.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep work top detail shown on page 32.





Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

COMBINATION SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121010-LV	7123010-LV	7126010-LV	7124010-LV	7125010-LV
48"	7221010-LV	7223010-LV	7226010-LV	7224010-LV	7225010-LV
60"	7321010-LV	7323010-LV	7326010-LV	7324010-LV	7325010-LV
72"	7421010-LV	7423010-LV	7426010-LV	7424010-LV	7425010-LV
96"	7521010-LV	7523010-LV	7526010-LV	7524010-LV	7525010-LV
1000mm	7B21010-LV	7B23010-LV	7B26010-LV	7B24010-LV	7B25010-LV
1513mm	7C21010-LV	7C23010-LV	7C26010-LV	7C24010- LV	7C25010-LV
2000mm	7D21010-LV	7D23010-LV	7D26010-LV	7D24010- LV	7D25010-LV

COMBINATION SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121050-LV	7123050-LV	7126050-LV	7124050-LV	7125050-LV
48"	7221050-LV	7223050-LV	7226050-LV	7224050-LV	7225050-LV
60"	7321050-LV	7323050-LV	7326050-LV	7324050-LV	7325050-LV
72"	7421050-LV	7423050-LV	7426050-LV	7424050-LV	7425050-LV
96"	7521050-LV	7523050-LV	7526050-LV	7524050-LV	7525050-LV
1000mm	7B21050-LV	7B23050-LV	7B26050-LV	7B24050-LV	7B25050-LV
1513mm	7C21050-LV	7C23050-LV	7C26050-LV	7C24050-LV	7C25050-LV
2000mm	7D21050-LV	7D23050-LV	7D26050-LV	7D24050-LV	7D25050-LV

Exhaust Parameters		100 FPM Working Position Sash (Locked Down)	
Hood Size	Duct Dia.	CFM	SP
48"	10"	190	0.02
60"	12"	260	0.02
72"	12"	330	0.02
96"	2@10"	472	0.02
1000mm	10"	160	0.02
1513mm	12"	266	0.02
2000mm	12"	369	0.02

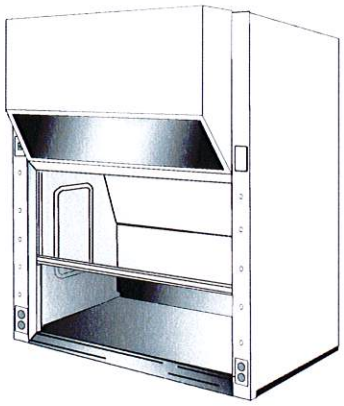
Note: Face velocities as low as 80 FPM will provide containment. However, NFPA minimum volume will not be met, therefore 100 FPM data only is provided.

Horizontal Panels On Combo Sash Hood		
Hood Width	Sash Width	# of Panels
48"	9-7/8"	4
60"	12-1/2"	4
72"	15-1/2"	4
96"	14-7/8"	6

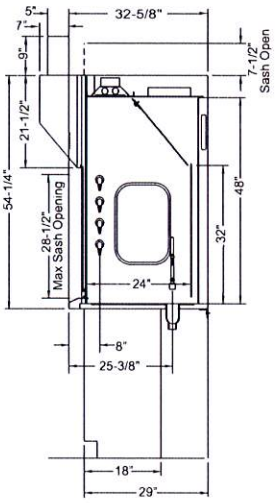
FUME HOODS
PRO AUXILIARY AIR BENCH - VERTICAL SASH

Features

This all purpose fume hood is designed to meet most laboratory constant volume (CAV) requirements. Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:

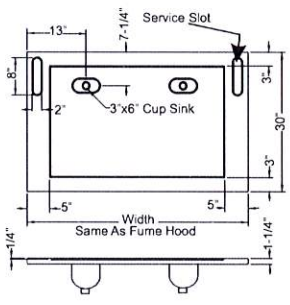


- Auxiliary air chamber above vertical raising sash.
- An automatic compensating upper by-pass.
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable interior access panel in each side wall.
- Removable exterior side panels.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep work top detail shown on page 32.



VERTICAL RAISING SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7161000	7163000	7166000	7164000	7165000
48"	7261000	7263000	7266000	7264000	7265000
60"	7361000	7363000	7366000	7364000	7365000
72"	7461000	7463000	7466000	7464000	7465000
96"	7561000	7563000	7566000	7564000	7565000
1000mm	7B61000	7B63000	7B66000	7B64000	7B65000
1513mm	7C61000	7C63000	7C66000	7C64000	7C6500
2000mm	7D61000	7D63000	7D66000	7D64000	7D65000

VERTICAL RAISING SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7161040	7163040	7166040	7164040	7165040
48"	7261040	7263040	7266040	7264040	7265040
60"	7361040	7363040	7366040	7364040	7365040
72"	7461040	7463040	7466040	7464040	7465040
96"	7561040	7563040	7566040	7564040	7565040
1000mm	7B61040	7B63040	7B66040	7B64040	7B65040
1513mm	7C61040	7C63040	7C66040	7C64040	7C65040
2000mm	7D61040	7D63040	7D66040	7D64040	7D65040



Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

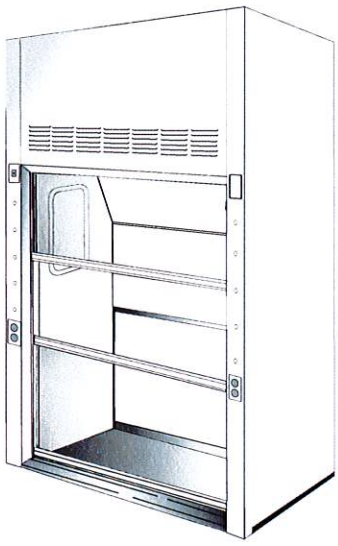
Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10
48"	10"	630	0.15	789	0.20
60"	12"	830	0.15	1035	0.20
72"	12"	1025	0.20	1280	0.25
96"	2@10"	1418	0.20	1772	0.25
1000mm	10"	490	0.10	612	0.15
1513mm	12"	820	0.15	1025	0.20
2000mm	12"	1135	0.20	1419	0.30

Supply Air Parameters @ 100FPM		70% Make-Up 28-1/2 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP
36"	5x20"	380	0.15
48"	5x20"	552	0.15
60"	5x20"	725	0.30
72"	5x20"	896	0.35
96"	2@5x20"	1240	0.30
1000mm	5x20"	428	0.15
1513mm	5x20"	718	0.30
2000mm	5x20"	993	0.40

FUME HOODS
PRO DISTILLATION FUME HOOD - DUAL VERTICAL SASH

Features

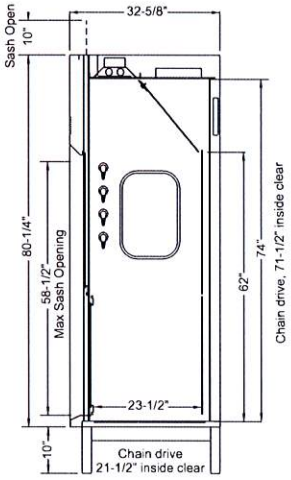
This all purpose fume hood is designed to meet most laboratory constant volume (CAV) requirements. Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:



- Dual vertical rising sash.
- An automatic compensating upper by-pass.
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a nominal of 5 plumbing fittings per post.
- Removable interior access panel in each side wall, two per side.
- Removable exterior side panels.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- Add option code S2 for optional restricted by-pass damper.
- When using option codes FP or FS for Flush Sills use the 26-7/8" deep work top detail shown on page 32.

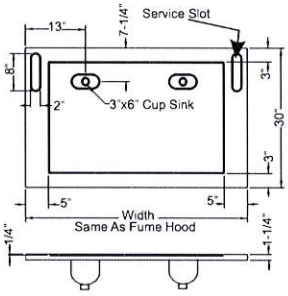
VERTICAL RAISING SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121004	7123004	7126004	7124004	7125004
48"	7221004	7223004	7226004	7224004	7225004
60"	7321004	7323004	7326004	7324004	7325004
72"	7421004	7423004	7426004	7424004	7425004
96"	7521004	7523004	7526004	7524004	7525004
1000mm	7B21004	7B23004	7B26004	7B24004	7B25004
1513mm	7C21004	7C23004	7C26004	7C24004	7C25004
2000mm	7D21004	7D23004	7D26004	7D24004	7D25004

VERTICAL RAISING SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121044	7123044	7126044	7124044	7125044
48"	7221044	7223044	7226044	7224044	7225044
60"	7321044	7323044	7326044	7324044	7325044
72"	7421044	7423044	7426044	7424044	7425044
96"	7521044	7523044	7526044	7524044	7525044
1000mm	7B21044	7B23044	7B26044	7B24044	7B25044
1513mm	7C21044	7C23044	7C26044	7C24044	7C25044
2000mm	7D21044	7D23044	7D26044	7D24044	7D25044



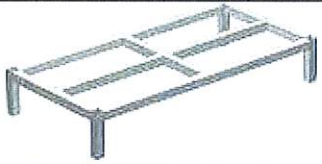
Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10
48"	10"	630	0.15	789	0.20
60"	12"	830	0.15	1035	0.20
72"	12"	1025	0.20	1280	0.25
96"	2@10"	1418	0.20	1772	0.25
1000mm	10"	490	0.10	612	0.15
1513mm	12"	820	0.15	1025	0.20
2000mm	12"	1135	0.20	1419	0.30

DISTILLATION TABLE	
Width	Item Number
36"	DTF1036
48"	DTF1048
60"	DTF1060
72"	DTF1072
96"	DTF1096
1000mm	DTF100B
1513mm	DTF100C
2000mm	DTF100D



Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

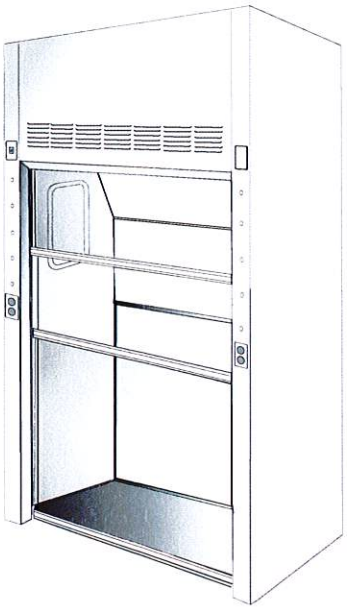


- Fully welded tables are 9-3/4" high x 29" deep with 2" square tube legs and supplied with leveling glides.
- Tables larger than 48" wide are supplied with six legs (note: 48" wide unit shown).
- Tables will support an 1800lb load.
- Comes with PVC boots and levelers.

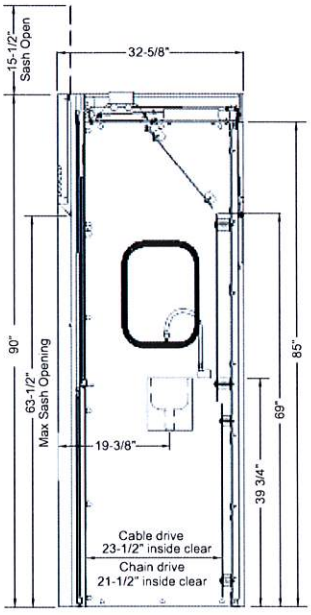
FUME HOODS
PRO FLOOR MOUNTED - DUAL VERTICAL SASH

Features

This all purpose fume hood is designed to meet most laboratory constant volume (CAV) requirements. Designed to sit directly on laboratory floor.
The Pro fume hood is supplied with the following standard features:



- Dual vertical rising sash.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a nominal of 5 plumbing fittings per post.
- Removable interior access panel in each side wall, two per side.
- Removable exterior side panels.
- Floor mounted fume hoods are designed to operate with only one sash open.
- Sash closes within 1" off the floor.



Cup sink location suits a gooseneck only.

VERTICAL RAISING SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121001	7123001	7126001	7124001	7125001
48"	7221001	7223001	7226001	7224001	7225001
60"	7321001	7323001	7326001	7324001	7325001
72"	7421001	7423001	7426001	7424001	7425001
96"	7521001	7523001	7526001	7524001	7525001
1000mm	7B21001	7B23001	7B26001	7B24001	7B25001
1513mm	7C21001	7C23001	7C26001	7C24001	7C25001
2000mm	7D21001	7D23001	7D26001	7D24001	7D25001

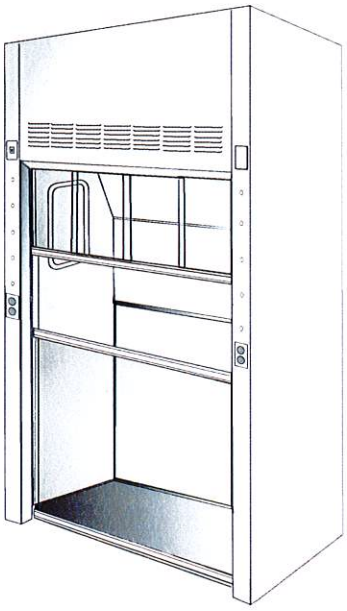
VERTICAL RAISING SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
36"	7121041	7123041	7126041	7124041	7125041
48"	7221041	7223041	7226041	7224041	7225041
60"	7321041	7323041	7326041	7324041	7325041
72"	7421041	7423041	7426041	7424041	7425041
96"	7521041	7523041	7526041	7524041	7525041
1000mm	7B21041	7B23041	7B26041	7B24041	7B25041
1513mm	7C21041	7C23041	7C26041	7C24041	7C25041
2000mm	7D21041	7D23041	7D26041	7D24041	7D25041

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10
48"	10"	630	0.15	789	0.20
60"	12"	830	0.15	1035	0.20
72"	12"	1025	0.20	1280	0.25
96"	2@10"	1418	0.20	1772	0.25
1000mm	10"	490	0.10	612	0.15
1513mm	12"	820	0.15	1025	0.20
2000mm	12"	1135	0.20	1419	0.30

FUME HOODS
PRO FLOOR MOUNTED - DUAL VERTICAL SASH WITH UPPER COMBINATION SASH

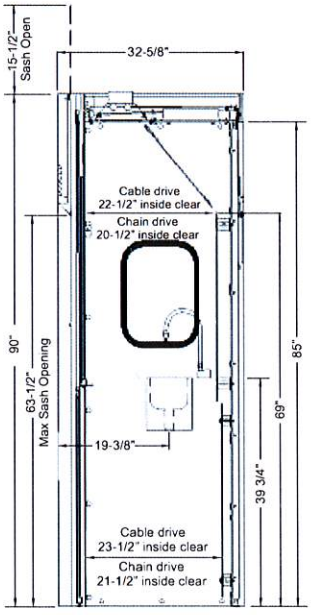
Features

This all purpose fume hood is designed to meet most laboratory constant volume (CAV) requirements. Designed to sit directly on laboratory floor.
The Pro fume hood is supplied with the following standard features:



- Dual vertical rising sash with upper combination sash.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a nominal of 5 plumbing fittings per post.
- Removable interior access panel in each side wall, two per side.
- Removable exterior side panels.
- Floor mounted fume hoods are designed to operate with only one sash open.
- Sash closes within 1" off the floor.

VERTICAL RAISING SASH WITH UPPER COMBINATION SASH (Chain & Sprocket)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7221051	7223051	7226051	7224051	7225051
60"	7321051	7323051	7326051	7324051	7325051
72"	7421051	7423051	7426051	7424051	7425051
96"	7521051	7523051	7526051	7524051	7525051
1513mm	7C21051	7C23051	7C26051	7C24051	7C25051
2000mm	7D21051	7D23051	7D26051	7D24051	7D25051



Cup sink location suits a gooseneck only.

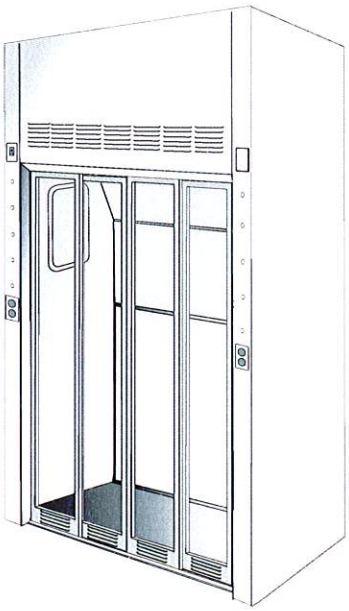
Exhaust Parameters		80 FPM Upper Door Only 1/2 Open		100 FPM Upper Door Only 1/2 Open		80 FPM 18" Max Sash Opening		100 FPM 18" Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
48"	10"	315	0.05	394	0.05	407	0.06	508	0.09
60"	12"	414	0.05	517	0.05	533	0.05	667	0.07
72"	12"	512	0.05	640	0.10	660	0.07	825	0.11
96"	2@10"	709	0.05	886	0.10	913	0.07	1142	0.11
1513mm	12"	410	0.05	513	0.10	528	0.05	660	0.07
2000mm	12"	567	0.05	709	0.10	731	0.09	914	0.14

Note: Exhaust parameters are based on lower sash door closed during active use.

FUME HOODS
PRO FLOOR MOUNTED - HORIZONTAL SLIDING SASH

Features

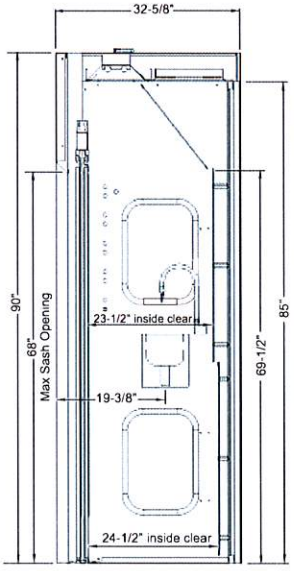
This all purpose fume hood is designed to meet most laboratory constant volume (CAV) requirements. Designed to sit directly on laboratory floor.
The Pro fume hood is supplied with the following standard features:



- Restricted by-pass plate is standard.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a nominal of 5 plumbing fittings per post.
- Removable interior access panel in each side wall, two per side.
- Removable exterior side panels.
- Floor mounted fume hoods are designed to operate with only one sash open.

HORIZONTAL PANELS ON SLIDING SASH		
Hood Width	Sash Width	# of Panels
48"	19-13/16"	2
60"	13-3/8"	4
72"	16-3/8"	4
96"	22-3/8"	4
120"	19-1/4"	6
144"	23-1/4"	6
1513mm	13-3/8"	4
2000mm	18-9/16"	4

STAINLESS STEEL HORIZONTAL SLIDING SASH					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7221021	7223021	7226021	7224021	7225021
60"	7321021	7323021	7326021	7324021	7325021
72"	7421021	7423021	7426021	7424021	7425021
96"	7521021	7523021	7526021	7524021	7525021
120"	7621021	7623021	7626021	7624021	7625021
144"	7H21021	7H23021	7H26021	7H24021	7H25021
1513mm	7C21021	7C23021	7C26021	7C24021	7C25021
2000mm	7D21021	7D23021	7D26021	7D24021	7D25021



Cup sink location suits a gooseneck only.

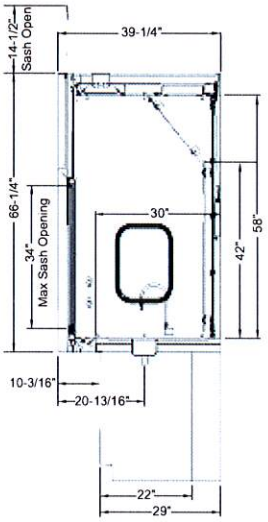
Exhaust Parameters		80 FPM 1/2 Sliding Doors Open		100 FPM 1/2 Sliding Doors Open	
Hood Size	Duct Dia.	CFM	SP	CFM	SP
48"	10"	680	0.20	849	0.25
60"	12"	890	0.15	1113	0.20
72"	12"	1102	0.20	1378	0.35
96"	2@10"	1525	0.20	1907	0.35
120"	2@12"	1950	0.15	2436	0.25
144"	2@12"	2373	0.25	2965	0.35
1513mm	12"	884	0.15	1104	0.20
2000mm	12"	1221	0.25	1527	0.40

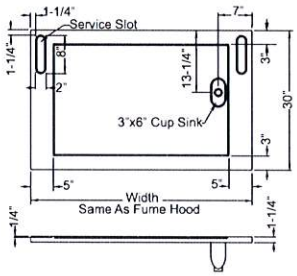
FUME HOODS
39-1/4" DEEP HOPEC IV FULLY ACCESSIBLE RESTRICTED BY-PASS - COMBINATION SASH

Features

This fume hood is designed to be accessed from standing and sitting positions. Suitable for constant volume (CAV) and variable air volume (VAV) requirements. Designed to mount on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:

- Combination vertical rising and horizontal sliding sash.
- Spring loaded stainless steel sash stop at 18" and 0".
- An automatic compensating restricted upper by-pass.
- A lower airfoil by-pass with stainless steel spill trough.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 2 plumbing fittings per post .
- Removable interior access panel in each side wall .
- Removable exterior side panels.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- Front mounted safety glass shield.





Cup sink location suits a rear mounted gooseneck only.

HORIZONTAL PANELS ON COMBINATION SASH		
Hood Width	Sash Width	# of Panels
48"	9-7/8"	4
60"	12-7/8"	4
72"	15-7/8"	4
96"	14-7/8"	6

VERTICAL RAISING SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7291010	7293010	7296010	7294010	7295010
60"	7391010	7393010	7396010	7394010	7395010
72"	7491010	7493010	7496010	7494010	7495010
96"	7591010	7593010	7596010	7594010	7595010
1513mm	7C91010	7C93010	7C96010	7C94010	7C95010
2000mm	7D91010	7D93010	7D96010	7D94010	7D95010

VERTICAL RAISING SASH (Chain & Sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7291050	7293050	7296050	7294050	7295050
60"	7391050	7393050	7396050	7394050	7395050
72"	7491050	7493050	7496050	7494050	7495050
96"	7591050	7593050	7596050	7594050	7595050
1513mm	7C91050	7C93050	7C96050	7C94050	7C95050
2000mm	7D91050	7D93050	7D96050	7D94050	7D95050

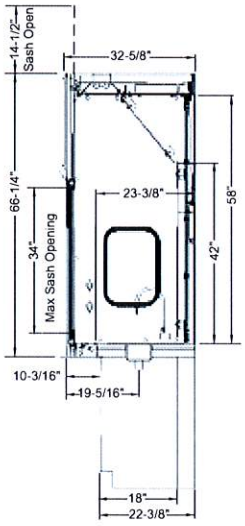
Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

FUME HOODS
32-5/8" DEEP FULLY ACCESSIBLE RESTRICTED BY-PASS - COMBINATION SASH

Features

This fume hood is designed to be accessed from standing and sitting positions. Suitable for constant volume (CAV) and variable air volume (VAV) applications. Designed to mount on a 23-3/8" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:

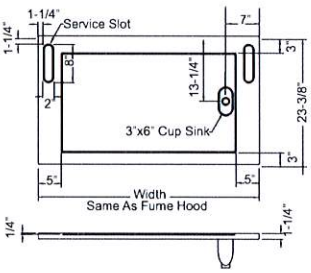
- Combination vertical rising and horizontal sliding sash.
- Spring loaded stainless steel sash stop at 18" and 0".
- An automatic compensating restricted upper by-pass.
- A lower airfoil by-pass with stainless steel spill trough.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 2 plumbing fittings per post .
- Removable interior access panel in each side wall .
- Removable exterior side panels.
- Fume hoods with type 316 stainless steel radiused corner interiors are manufactured with an integral stainless steel wood core top.
- Front mounted safety glass shield.



HORIZONTAL PANELS ON COMBINATION SASH		
Hood Width	Sash Width	# of Panels
48"	9-7/8"	4
60"	12-7/8"	4
72"	15-7/8"	4
96"	14-7/8"	6

COMBINATION SASH (Cable sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7241010	7243010	7246010	7244010	7245010
60"	7341010	7343010	7346010	7344010	7345010
72"	7441010	7443010	7446010	7444010	7445010
96"	7541010	7543010	7546010	7544010	7545010
1513mm	7C41010	7C43010	7C46010	7C44010	7C45010
2000mm	7D41010	7D43010	7D46010	7D44010	7D45010

COMBINATION SASH (Chain & sprocket sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7241050	7243050	7246050	7244050	7245050
60"	7341050	7343050	7346050	7344050	7345050
72"	7441050	7443050	7446050	7444050	7445050
96"	7541050	7543050	7546050	7544050	7545050
1513mm	7C41050	7C43050	7C46050	7C44050	7C45050
2000mm	7D41050	7D43050	7D46050	7D44050	7D45050



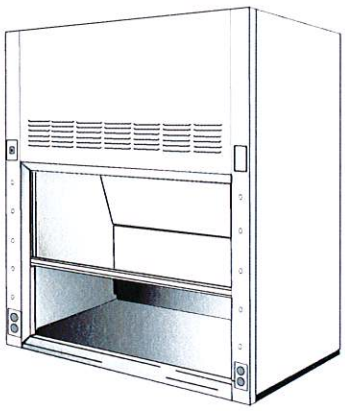
Cup sink location suits a rear mounted gooseneck only.

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

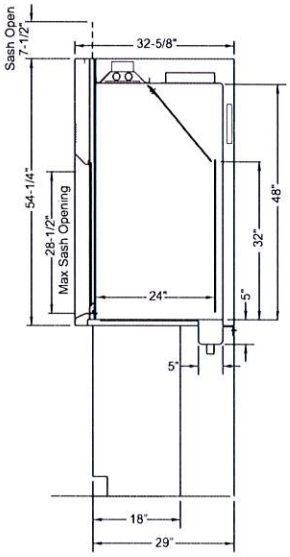
FUME HOODS
PRO PERCHLORIC ACID BENCH - VERTICAL SASH

Features

Designed to meet the stringent requirements of percloric acid applications. Complete with 30" deep seamlessly welded counter top of the same material as liner.
The Pro bench mounted fume hood is supplied with the following standard features:



- Vertical rising sash .
- An automatic compensating upper by-pass .
- A lower airfoil by-pass with electrical cord notches.
- Removable baffle.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post.
- Removable exterior side panels.
- Two liner materials are available.
- Pre plumbed internal wash down system with rear spray bar, control valve to match plumbing, trough and drain.
- All type 316 stainless steel hoods with radisued corners are manufactured with hat channel top construction.
- Perchloric acid hood must be connected to a dedicated exhaust system designed specifically for perchloric acid use.
- Stainless steel liner suitable for straight perchloric acid only. For other acids, please contact Mott Manufacturing for details.



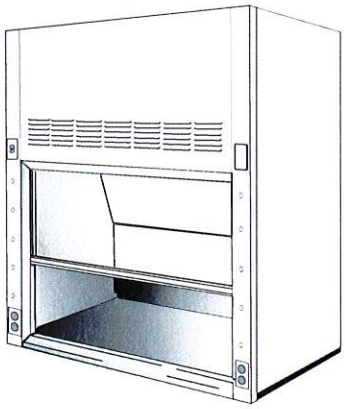
VERTICAL RAISING SASH (Cable sash system)		
Width	316 S/S Rad. Cor	PVC Rad. Cor
36"	7127000	7129000
48"	7227000	7229000
60"	7327000	7329000
72"	7427000	7429000
96"	7527000	7529000
1000mm	7B27000	7B29000
1513mm	7C27000	7C29000
2000mm	7D27000	7D29000

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10	280	0.03	350	0.04
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1000mm	10"	490	0.10	612	0.15	316	0.04	395	0.05
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

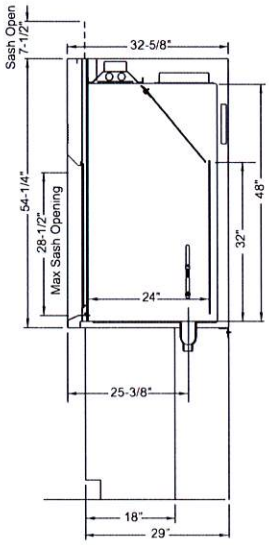
FUME HOODS
PRO RADIOISOTOPE BENCH - VERTICAL SASH

Features

Designed to meet the stringent requirements of radioisotope applications. Complete with 30" deep seamlessly welded stainless steel counter top.
The Pro bench mounted fume hood is supplied with the following standard features:



- Vertical rising sash .
- An automatic compensating upper by-pass.
- A lower airfoil by-pass with electrical cord notches.
- CSA Certified UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Both corner posts pre-punched to accept a maximum of 5 plumbing fittings per post .
- All weld joints are ground smooth and polished.
- Integral work surface reinforced with galvanized steel hat channels.
- All type 316 stainless steel hoods with radiused corners are manufactured with hat channel top construction.
- Add option code S2 for a restricted damper by-pass.
- When using option codes FP and FS for Flush Sills contact Mott for a modified work top detail.



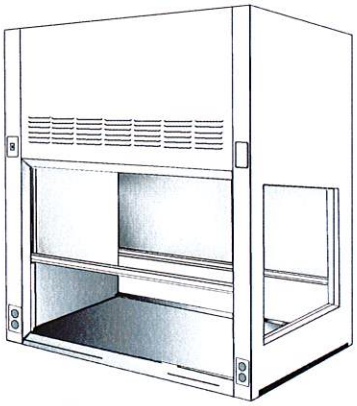
VERTICAL RAISING SASH (Cable sash system)		VERTICAL RAISING SASH (Chain sash system)	
Width	316 S/S RAD. COR	Width	316 S/S RAD. COR
36"	7128000	36"	7128040
48"	7228000	48"	7228040
60"	7328000	60"	7328040
72"	7428000	72"	7428040
96"	7528000	96"	7528040
1000mm	7B28000	1000mm	7B28040
1513mm	7C28000	1513mm	7C28040
2000mm	7D28000	2000mm	7D28040

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10	280	0.03	350	0.04
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1000mm	10"	490	0.10	612	0.15	316	0.04	395	0.05
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

FUME HOODS
PRO DEMOSTRATION BENCH - VERTICAL SASH

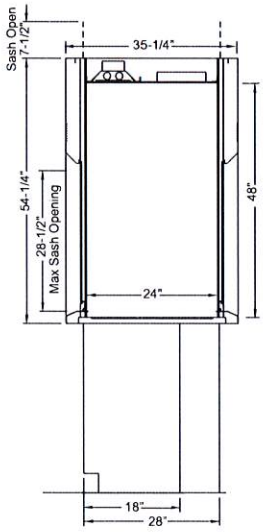
Features

Designed to permit demonstration and observation from both sides. Can be used either free standing or positioned within a wall between a classroom and a prep room . Mounts on a 30" deep counter top.
The Pro bench mounted fume hood is supplied with the following standard features:

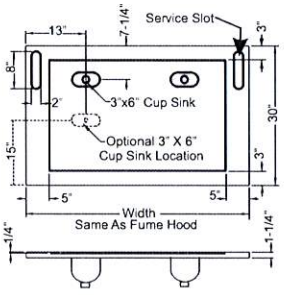


Fume hood shown with option W1

- Two vertical rising sashes.
- Equipped with fixed restricted by-pass panels.
- A lower airfoil by-pass with electrical cord notches.
- Optional upper baffle configuration.
- CSA Certified and UL Classified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Four UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Two corner posts pre-punched to accept a maximum of 5 plumbing fittings per post, at one end, opposite end reserved for counter weights.
- Removable interior access panel on same side wall as plumbing.
- Removable exterior side panels.
- Corner post mounted UL/CSA approved three-way light switch on both sides of hood.
- Alarm mounting recommended on end with plumbing.
- Special airflow consideration required when installing between two rooms - Please contact Mott Manufacturing for more information.



VERTICAL RAISING SASH (Cable sash system)	
Width	FRP
36"	7121002
48"	7221002
60"	7321002
72"	7421002
96"	7521002
1000mm	7B21002
1513mm	7C21002
2000mm	7D21002



Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Optional cup sink location if sink cabinet is located below fume hood.

Cup sink location suits a gooseneck only.

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
36"	10"	434	0.05	543	0.10	280	0.03	350	0.04
48"	10"	630	0.15	789	0.20	407	0.06	508	0.09
60"	12"	830	0.15	1035	0.20	533	0.05	667	0.07
72"	12"	1025	0.20	1280	0.25	660	0.07	825	0.11
96"	2@10"	1418	0.20	1772	0.25	913	0.07	1142	0.11
1000mm	10"	490	0.10	612	0.15	316	0.04	395	0.05
1513mm	12"	820	0.15	1025	0.20	528	0.05	660	0.07
2000mm	12"	1135	0.20	1419	0.30	731	0.09	914	0.14

Note : Only one sash is open in CFM calculations.

Note : Special airflow consideration required when installing between two rooms. Please contact Mott Manufacturing for more information.

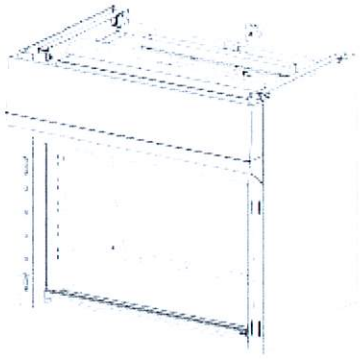
OPTIONS

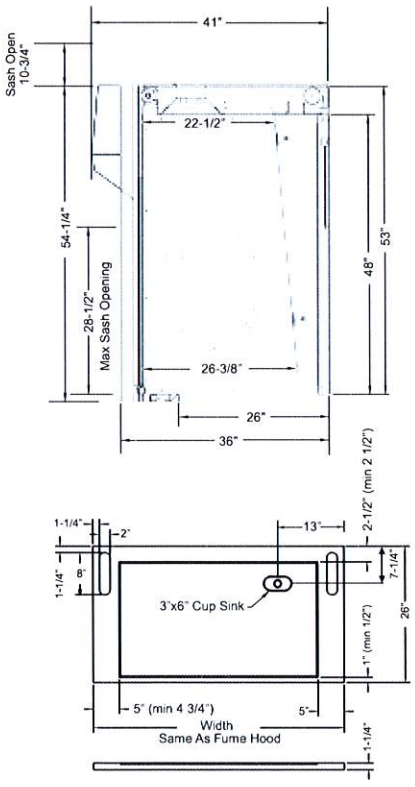
S8	Sash Interlock (Allows only one sash to be opened at a time)
S9	Sash Key Lock on both doors (Sash stop with key to lock sash in place)
W1	End window (One end only. Note Services must be work surface mounted)

FUME HOODS
RFV2™ BENCH - VERTICAL SASH

Features

Designed to deliver competitive containment performance and energy efficiency. The RFV2™ operates with exhaust volumes significantly lower than conventional fume hoods. Providing the fume hood operator with a secure and reliable operation environment while providing considerable capital and operating cost savings. Suitable for constant volume (CAV) and variable air volume (VAV) requirements.
The RFV2™ bench mounted fume hood is supplied with the following standard features:





Note: Cup sink location suits a gooseneck only.

- Excellent containment performance at low face velocities. The RFV2™ fume hood has been tested to both standard and modified ASHRAE procedures at face velocities as low as 50 fpm.
- Vertical rising sash.
- Chain and sprocket sash counterbalance system.
- Downflow rear baffle is biased to the bottom, drawing fumes downward away from the user and counteracts the normal upward flow of vapors.
- Downwardly vectored upper by-pass prevents contaminated air build up behind the open sash.
- Supplementary mechanical fans, baffle actuators and controls not required.
- Full viewing sash provides a clear and unobstructed side to side view of fume hood interior, with a 34" high viewing area.
- Auto sash leveler automatically closes to the 18" height which decreases exhaust air and offers extra protection to the operator.
- Self-lowering sash system provides a sash latch to temporarily secure the sash in the full open position for set-up and tear down operations. When the lock is freed, the sash automatically returns to the operational position.
- Hinged painted 316 stainless steel airfoil is flush with work surface for easy cleaning.
- CSA certified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Two corner posts pre-punched to accept a maximum of 4 plumbing fittings per post.
- Removable interior and exterior access panels.
- Rectangular exhaust collar.

VERTICAL RAISING SASH (Chain sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	72F1040	72F3040	72F6040	72F4040	72F5040
60"	73F1040	73F3040	73F6040	73F4040	73F5040
72"	74F1040	74F3040	74F6040	74F4040	74F5040
96"	75F1040	75F3040	75F6040	75F4040	75F5040

Exhaust Parameters		60 FPM		95 FPM		60 FPM	
		28-1/2 Max Sash Opening		18 Max Sash Opening		18 Max Sash Opening	
Hood Size	Duct Size	CFM	SP*	CFM	SP*	CFM	SP*
48"	3" x 36"	457	0.05	457	0.05	289	0.02
60"	3" x 36"	600	0.07	600	0.07	379	0.03
72"	3" x 36"	742	0.1	742	0.1	469	0.04
96"	3" x 36"	1027	0.2	1027	0.2	649	0.08

Note: Does not include transition losses.

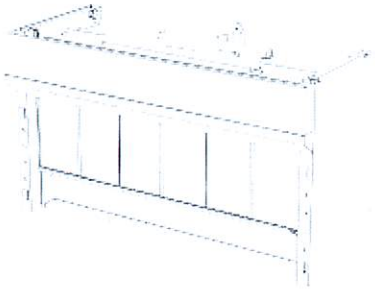
EXHAUST TRANSITION		
Hood Width	Item Number	Duct Size
48", 60", 72"	EXT0036	10"
96"	EXT2336	12"

- Fits over vent collar on RFV2™ fume hoods.
- Exhaust transitions (rectangular duct to round duct) are made in 20 Ga. Type 316 stainless steel and fits over vent collar.
- Base Size 3" x 36".

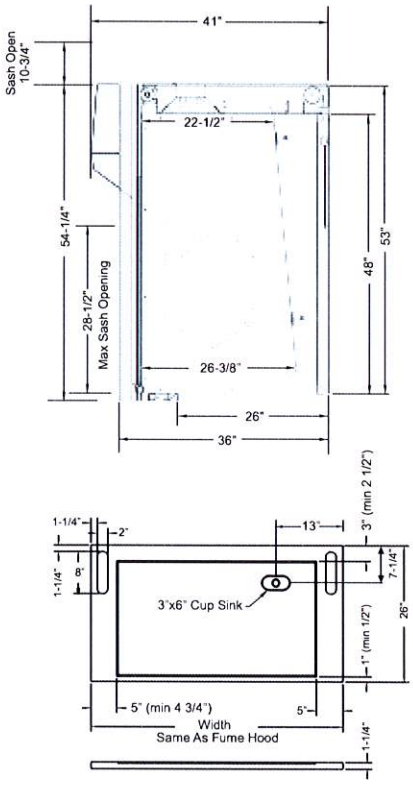
FUME HOODS
RFV2™ BENCH - COMBINATION SASH

Features

Designed to deliver competitive containment performance and energy efficiency. The RFV2™ operates with exhaust volumes significantly lower than conventional fume hoods. Providing the fume hood operator with a secure and reliable operation environment while providing considerable capital and operating cost savings. Suitable for constant volume (CAV) and variable air volume (VAV) requirements.
The RFV2™ bench mounted fume hood is supplied with the following standard features:



- Excellent containment performance at low face velocities. The RFV2™ fume hood has been tested to both standard and modified ASHRAE procedures at face velocities as low as 50 fpm.
- Combination vertical rising and horizontal sliding sash.
- Chain and sprocket sash counterbalance system.
- Downflow rear baffle is biased to the bottom, drawing fumes downward away from the user and counteracts the normal upward flow of vapors.
- Downwardly vectored upper by-pass prevents contaminated air build up behind the open sash.
- Supplementary mechanical fans, baffle actuators and controls not required.
- Full viewing sash provides a clear and unobstructed side to side view of fume hood interior, with a 34" high viewing area.
- Auto sash leveler automatically closes to the 18" height which decreases exhaust air and offers extra protection to the operator.
- Self-lowering sash system provides a sash latch to temporarily secure the sash in the full open position for set-up and tear down operations. When the lock is freed, the sash automatically returns to the operational position.
- Hinged painted 316 stainless steel airfoil is flush with work surface for easy cleaning.
- UL1805 classified and CSA certified.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Two corner posts pre-punched to accept a maximum of 4 plumbing fittings per post.
- Removable interior and exterior access panels.
- Rectangular exhaust collar.



Note: Cup sink location suits a gooseneck only.

COMBINATION SASH (Chain sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	72F1050	72F3050	72F6050	72F4050	72F5050
60"	73F1050	73F3050	73F6050	73F4050	73F5050
72"	74F1050	74F3050	74F6050	74F4050	74F5050
96"	75F1050	75F3050	75F6050	75F4050	75F5050

Exhaust Parameters		60 FPM 28-1/2" Max Sash Opening		100 FPM Sash Open Horizontally Only	
Hood Size	Duct Size	CFM	SP*	CFM	SP*
48"	3" x 36"	457	0.05	457	0.05
60"	3" x 36"	600	0.07	600	0.07
72"	3" x 36"	742	0.1	742	0.1
96"	3" x 36"	1027	0.2	1027	0.2

Note: Does not include transition losses.

EXHAUST TRANSITION		
Hood Width	Item Number	Duct Size
48", 60", 72"	EXT0036	10"
96"	EXT2336	12"

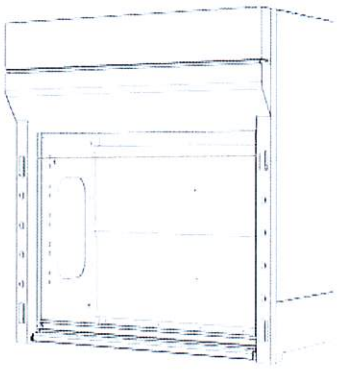
HORIZONTAL PANELS ON COMBINATION SASH		
Hood Width	Sash Width	# of Panels
48"	9-7/8"	4
60"	12-1/2"	4
72"	15-1/2"	4
96"	14-7/8"	6

- Fits over vent collar on RFV2™ fume hoods.
- Exhaust transitions (rectangular duct to round duct) are made in 20 Ga. Type 316 stainless steel and fits over vent collar.
- Base Size 3" x 36".

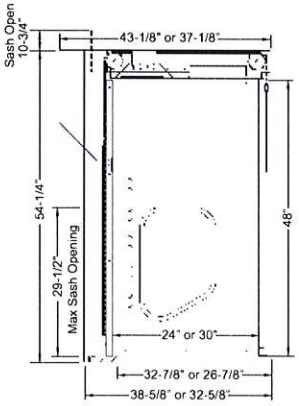
FUME HOODS
SAFEGUARD™ BENCH - VERTICAL SASH

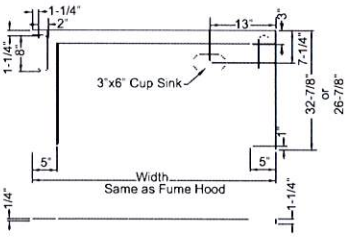
Features

The SafeGuard™ fume hood represents a balance of key safety elements and new design. The SafeGuard™ Constant volume (CAV) fume hood has been developed to meet the challenging safety, energy conservation, and operational requirements of today's laboratory. The new contemporary design creates a stylish image for today's modern lab environment.
The SafeGuard™ bench mounted fume hood is supplied with the following standard features:



- Vertical rising sash, in two different depths.
- Chain and sprocket sash counterbalance system.
- For variable air volume (VAV) requirements, use optional Restricted By-Pass Plate (option code S2).
- Low profile painted 316 stainless steel hinged airfoil is flush with work surface to provide easy access by keeping the work surface open to accommodate equipment and procedures and for easy cleaning.
- The airfoil allows for the safe introduction of electrical wiring into the fume hood in a manner that still allows the full closure of the sash.
- 34" high sash glass allows for superior visibility of the fume hood interior.
- Air flows through the downward directed bypass.
- UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Two corner posts pre-punched to accept a maximum of 4 plumbing fittings per post.
- Removable interior access panels.
- Removable exterior side panels.
- Auto sash leveler automatically closes to the 18" height which decreases exhaust air and offers extra protection to the operator.
- Plastic latch is available to temporarily secure the sash in the full open position for setup and teardown operations. When the lock is freed, the sash automatically returns to the operational position.
- Fixed baffle system that needs no adjustment with improved airflow through the fume hood.
- Designed for 60-100 feet per minute face velocities.
- Meets all ASHRAE 110-95 Standards.
- UL 1805 Classified.
- Round exhaust collar.





Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

32-5/8" DEEP VERTICAL RAISING SASH (Chain sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7271040	7273040	7276040	7274040	7275040
60"	7371040	7373040	7376040	7374040	7375040
72"	7471040	7473040	7476040	7474040	7475040
96"	7571040	7573040	7576040	7574040	7575040

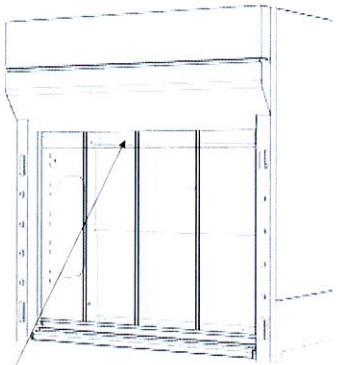
38-5/8" DEEP VERTICAL RAISING SASH (Chain sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7271040-ED	7273040-ED	7276040-ED	7274040-ED	7275040-ED
60"	7371040-ED	7373040-ED	7376040-ED	7374040-ED	7375040-ED
72"	7471040-ED	7473040-ED	7476040-ED	7474040-ED	7475040-ED
96"	7571040-ED	7573040-ED	7576040-ED	7574040-ED	7575040-ED

Exhaust Parameters		60 FPM 29-1/2" Max Sash Opening		100 FPM 18" Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP
48"	10"	481	0.08	481	0.08
60"	12"	631	0.07	631	0.07
72"	12"	781	0.1	781	0.1
96"	2@10"	1082	0.1	1082	0.1

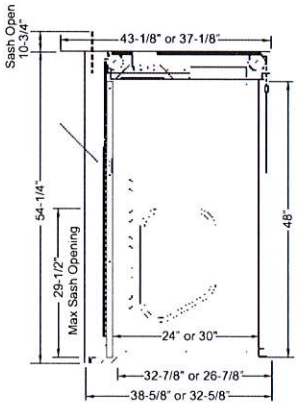
FUME HOODS
SAFEGUARD™ BENCH - COMBINATION SASH

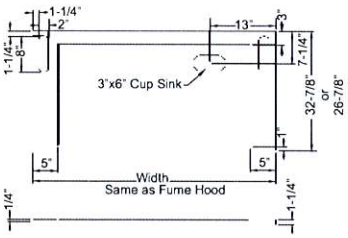
Features

The SafeGuard™ fume hood represents a balance of key safety elements and new design. The SafeGuard™ Constant volume (CAV) fume hood has been developed to meet the challenging safety, energy conservation, and operational requirements of today's laboratory. The new contemporary design creates a stylish image for today's modern lab environment.
The SafeGuard™ bench mounted fume hood is supplied with the following standard features:



Rear Mounted Visor Panel





Typical fume hood work top showing optional cup sinks located for 18" deep cabinets.

Cup sink location suits a gooseneck only.

- Combination vertical rising and horizontal sliding sash, in two different depths.
- Chain and sprocket sash counterbalance system.
- For variable air volume (VAV) requirements, use optional Restricted By-Pass Plate (option code S2).
- Low profile painted 316 stainless steel hinged airfoil is flush with work surface to provide easy access by keeping the work surface open to accommodate equipment and procedures and for easy cleaning.
- The airfoil allows for the safe introduction of electrical wiring into the fume hood in a manner that still allows the full closure of the sash.
- 34" high sash glass allows for superior visibility of the fume hood interior.
- Air flows through the downward directed bypass .
- UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Two UL/CSA approved duplex receptacles for 120 volt service - one receptacle on each corner post.
- Two corner posts pre-punched to accept a maximum of 4 plumbing fittings per post.
- Removable interior access panels.
- Removable exterior side panels.
- Auto sash leveler automatically closes to the 18" height which decreases exhaust air and offers extra protection to the operator.
- Plastic latch is available to temporarily secure the sash in the full open position for setup and teardown operations. When the lock is freed, the sash automatically returns to the operational position.
- Fixed baffle system that needs no adjustment with improved airflow through the fume hood.
- Designed for 60-100 feet per minute face velocities.
- Meets all ASHRAE 110-95 Standards.
- UL 1805 Classified.
- Round exhaust collar.

32-5/8" DEEP COMBINATION SASH (Chain sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7271050	7273050	7276050	7274050	7275050
60"	7371050	7373050	7376050	7374050	7375050
72"	7471050	7473050	7476050	7474050	7475050
96"	7571050	7573050	7576050	7574050	7575050

38-5/8" DEEP COMBINATION SASH (Chain sash system)					
Width	FRP	PVC	Epoxy	316 S/S Sq. Cor	316 S/S Rad. Cor
48"	7271050-ED	7273050-ED	7276050-ED	7274050-ED	7275050-ED
60"	7371050-ED	7373050-ED	7376050-ED	7374050-ED	7375050-ED
72"	7471050-ED	7473050-ED	7476050-ED	7474050-ED	7475050-ED
96"	7571050-ED	7573050-ED	7576050-ED	7574050-ED	7575050-ED

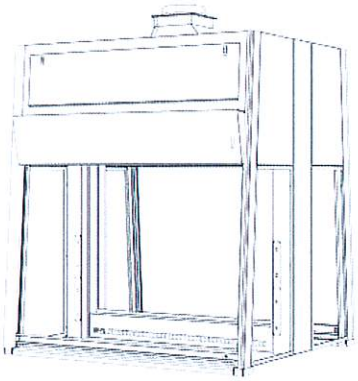
Exhaust Parameters		100 FPM Combo Sash Open Horizontally		100 FPM 18" Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP
48"	10"	376	0.05	481	0.08
60"	12"	495	0.04	631	0.07
72"	12"	613	0.6	781	0.1
96"	2@10"	856	0.6	1082	0.1

HORIZONTAL PANELS ON COMBINATION SASH		
Hood Width	Sash Width	# of Panels
48"	9-7/8"	4
60"	12-7/8"	4
72"	15-7/8"	4
96"	14-7/8"	6

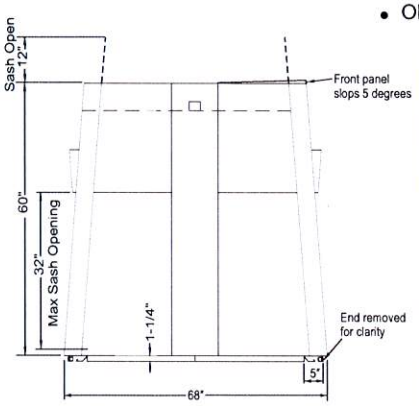
FUME HOODS
OBSERVATION™ CONSTANT VOLUME ISLAND BENCH

Features

The double-faced island fume hoods are designed to provide the greatest visibility with full viewing side and back glass panels. This allows the teacher or supervisor to spot any hazardous situations that may occur.
The Observation™ bench mounted fume hood is supplied with the following standard features:



- Not suitable for highly corrosive situations.
- Two separate vertical rising sashes.
- Epoxy coated steel interior liner.
- Flush painted 316 stainless steel airfoil sill and 34" sash opening provides easy access to work surface.
- Secondary spill containment trough along the front edge of work surface provides more protection from hazardous chemical spills.
- Auto sash leveler automatically closes to the 18" height which decreases exhaust air and offers extra protection to the operator.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles. Light switch is base cabinet mounted and shipped loose. If ordering metal base cabinets, Mott can mount switch if drawings are supplied.
- Hinged front panel allows for easily access to light fixtures.
- Inside corner posts pre-punched to accept a maximum of 4 plumbing fittings per side. Service controls are base cabinet mounted and are shipped loose. If ordering metal base cabinets, Mott can mount control handles if drawings are supplied.
- Exhaust slots on bottom of back panel improved airflow through the fume hood.
- Narrow post design allows for more usable interior width.
- Rectangular duct collar.
- Fume hood offers limited service space and does not allow for waste vents.
- If sash stop is required stainless steel metal sash pin will be provided.
- Add option S2 for a restricted by-pass damper.
- Plumbing supply lines must be located below the bench and must be 3/8" OD soft copper lines only.
- Observation™ Island Bench fume hood ships in three pieces to pass through doors.

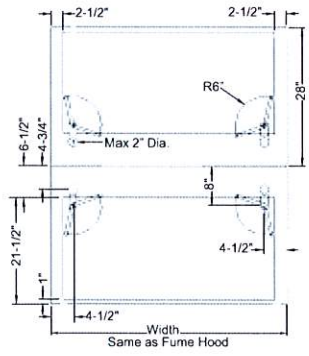


VERTICAL RAISING SASH (Cable sash system)	
Width	Part Number
48"	72CV002
60"	73CV002
72"	74CV002

OPTIONS

H1 Solid End Panels on Left Side of Double-Faced Fume Hood - replaces glass end panels on left with solid end panels when hood is located against a wall.

H2 Solid End Panels on Right Side of Double-Faced Fume Hood - replaces glass end panels on right with solid end panels when hood is located against a wall.



Exhaust Parameters		100 FPM 18" Sash Opening Both Sides	
Hood Size	Duct Dia.	CFM	SP
48"	6"X24"	1100	0.4
60"	6"X24"	1400	0.45
72"	6"X24"	1700	0.5

Note: Single duct connection distributes air flow (volume) equally to both sides of hood regardless of sash position. See page P34 for VAV applications.

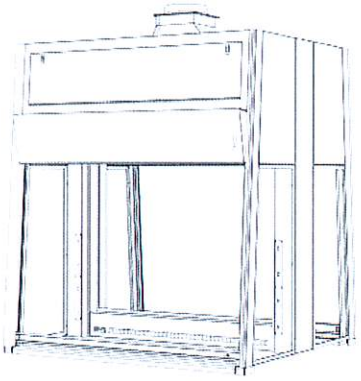
EXHAUST TRANSITION		
Hood Width	Item Number	Duct Size
48", 60", 72"	EXT2624	12"

- Fits over vent collar on Observation™ fume hoods.
- Exhaust transitions (rectangular duct to round duct) are available in 20 gauge Type 316 stainless steel or powder coated galvanized steel and fits over vent collar.
- One exhaust transition required for Observation™ island model.
- 6" x 24" x 12" high.

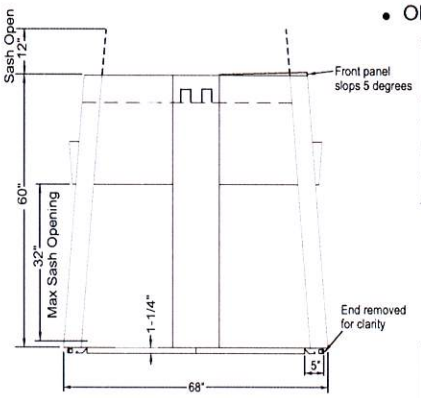
FUME HOODS
OBSERVATION™ VARIABLE AIR VOLUME ISLAND BENCH

Features

The double-faced island fume hoods are designed to provide the greatest visibility with full viewing side and back glass panels. This allows the teacher or supervisor to spot any hazardous situations that may occur.
The Observation™ bench mounted fume hood is supplied with the following standard features:



- Not suitable to highly corrosive situations.
- Two separate vertical rising sashes.
- Epoxy coated steel interior liner.
- Flush painted 316 stainless steel airfoil sill and 34" sash opening provides easy access to work surface.
- Secondary spill containment trough along the front edge of work surface provides more protection from hazardous chemical spills.
- Auto sash leveler automatically closes to the 18" height which decreases exhaust air and offers extra protection to the operator.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles. Light switch is base cabinet mounted and shipped loose. If ordering metal base cabinets, Mott can mount switch if drawings are supplied.
- Hinged front panel allows for easily access to light fixtures.
- Inside corner posts pre-punched to accept a maximum of 4 plumbing fittings per side. Service controls are base cabinet mounted and are shipped loose. If ordering metal base cabinets, Mott can mount control handles if drawings are supplied.
- Exhaust slots on bottom of back panel improved airflow through the fume hood.
- Narrow post design allows for more usable interior width.
- Two rectangular duct collars.
- 1/4" laminated safety glass is supplied on back, side and sash panels.
- Fume hood offers limited service space and does not allow for waste vents.
- If sash stop is required stainless steel metal sash pin will be provided.
- Add option S2 for a restricted by-pass damper.
- Plumbing supply lines must be located below the bench and must be 3/8" OD soft copper lines only.
- Observation™ Island Bench fume hood ships in three pieces to pass through doors.

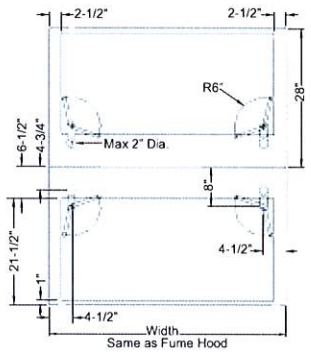


VERTICAL RAISING SASH (Cable sash system)	
Width	**Part Number**
48"	72CA002
60"	73CA002
72"	74CA002

OPTIONS

H1 Solid End Panels on Left Side of Double-Faced Fume Hood - replaces glass end panels on left with solid end panels when hood is located against a wall.

H2 Solid End Panels on Right Side of Double-Faced Fume Hood - replaces glass end panels on right with solid end panels when hood is located against a wall.



Exhaust Parameters		100 FPM 18" Sash Opening Both Sides	
Hood Size	**Duct Dia.**	**CFM**	**SP**
48"	2 @ 3"X24"	2 @ 500	0.4
60"	2 @ 3"X24"	2 @ 700	0.45
72"	2 @ 3"X24"	2 @ 850	0.5

Note: See page P33 for CAV applications.

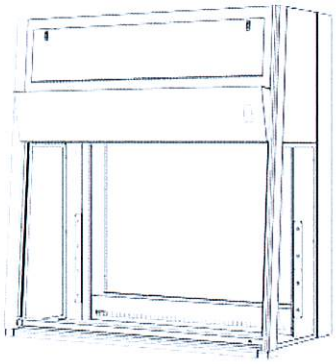
EXHAUST TRANSITION		
Hood Width	**Item Number**	**Duct Size**
48", 60", 72"	EXT0324	10"

- Fits over the vent collars on Observation™ fume hoods.
- Exhaust transitions (rectangular duct to round duct) are available in 20 gauge Type 316 stainless steel or powder coated galvanized steel and fits over vent collar.
- Two exhaust transitions are required for the Observation™ VAV island model.
- 3" x 24" x 10" high.

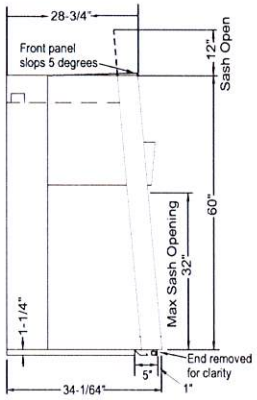
FUME HOODS
OBSERVATION™ BENCH

Features

This single-faced fume hood is designed to provide the greatest visibility with full viewing side panels. This allows the teacher or supervisor to spot any hazardous situations that may occur.
The Observation™ bench mounted fume hood is supplied with the following standard features:



- Not suitable to highly corrosive situations.
- Vertical rising sash.
- Epoxy coated steel interior liner.
- Flush painted 316 stainless steel airfoil sill and 34" sash opening provides easy access to work surface.
- Secondary spill containment trough along the front edge of work surface provides more protection from hazardous chemical spills.
- Auto sash leveler automatically closes to the 18" height which decreases exhaust air and offers extra protection to the operator.
- Optional glass back viewing panel available.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles. Light switch is base cabinet mounted and shipped loose. If ordering metal base cabinets, Mott can mount switch if drawings are supplied.
- Hinged front panel allows for easily access to light fixtures.
- Inside corner posts pre-punched to accept a maximum of 4 plumbing fittings per side. Service controls are base cabinet mounted and are shipped loose. If ordering metal base cabinets, Mott can mount control handles if drawings are supplied.
- Rectangular duct collar.
- Narrow post design allows for more usable interior width.
- Exhaust slots on bottom of back panel improves airflow through the hood.
- 1/4" laminated safety glass is supplied on back, side and sash panels.
- Optional back glass panel available.
- Fume hood offers limited service space and does not allow for waste vents.
- If sash stop is required stainless steel metal sash pin will be provided.
- Add option S2 for a restricted by-pass damper.
- Plumbing supply lines must be located below the bench and must be 3/8" OD soft copper lines only.



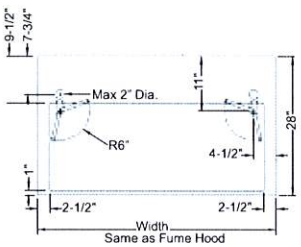
VERTICAL RAISING SASH (Cable sash system)	
Width	**Part Number**
48"	72CV000
60"	73CV000
72"	74CV000

OPTIONS

H3 Solid End Panel on Left Side of Single-Faced Fume Hood - Replaces glass end panel on left with solid end panel when hood is located against a wall.

H4 Solid End Panel on Right Side of Single-Faced Fume Hood - Replaces glass end panel on right with solid end panel when hood is located against a wall.

GB Glass Back Panel - Replaces solid back panel with glass.



Exhaust Parameters		100 FPM 18" Sash Opening	
Hood Size	**Duct Dia.**	**CFM**	**SP**
48"	3" X 24"	550	0.4
60"	3" X 24"	700	0.45
72"	3" X 24"	850	0.5

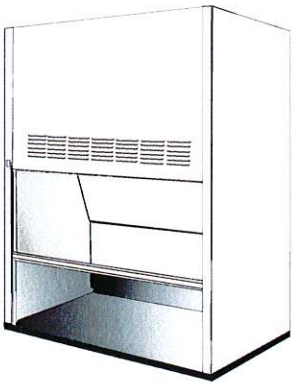
EXHAUST TRANSITION		
Hood Width	**Item Number**	**Duct Size**
48", 60", 72"	EXT0324	10"

- Fits over vent collar on Observation™ fume hoods.
- Exhaust transitions (rectangular duct to round duct) are available in 22 gauge Type 304 stainless steel or powder coated galvanized steel and fits over vent collar.
- 3" x 24" x 12" high.

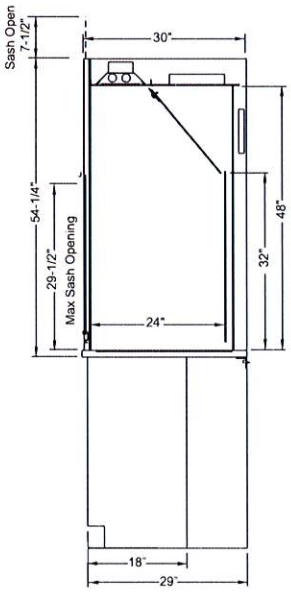
FUME HOODS
SELECT VENTILATED WORK STATION - VERTICAL SASH

Features

This cost effective ventilation work station is designed to meet the requirements of some school laboratory applications. Designed to mount on a 30" deep counter top.
The Select bench mounted work station is supplied with the following standard features:

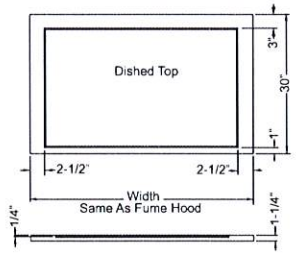


- Constant volume.
- 2" wide thin wall construction.
- A vertical rising sash.
- An automatic compensating upper by-pass.
- Sash closes to within 1" of the counter top.
- Baffle - manual adjustable top, fixed sides and center.
- A UL/CSA approved fluorescent light fixture complete with bulbs that provide a minimum work surface luminescence of 80 foot candles and a corner post mounted UL/CSA approved switch.
- Removable exterior side panels.
- Several liner materials are available.
- Not CSA or UL approved as a unit.



VERTICAL RAISING SASH (Cable sash system)	
Width	FRP
36"	VWS0036
48"	VWS0048
60"	VWS0060
72"	VWS0072
96"	VWS0096
1000mm	VWS000B
1513mm	VWS000C

Exhaust Parameters		80 FPM 28-1/2 Max Sash Opening		100 FPM 28-1/2 Max Sash Opening		80 FPM 18 Max Sash Opening		100 FPM 18 Max Sash Opening	
Hood Size	Duct Dia.	CFM	SP	CFM	SP	CFM	SP	CFM	SP
36"	10"	507	0.09	633	0.14	320	0.04	400	0.05
48"	10"	697	0.17	871	0.25	440	0.06	550	0.1
60"	12"	887	0.13	1109	0.2	560	0.05	700	0.08
72"	12"	1077	0.19	1346	0.3	680	0.08	850	0.12
96"	2@10"	1457	0.18	1821	0.28	920	0.07	1150	0.12
1000mm	10"	560	0.1	700	0.17	354	0.05	442	0.07
1513mm	12"	879	0.13	1099	0.2	555	0.05	693	0.08

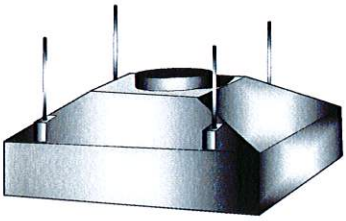


Typical ventilated work station work top.

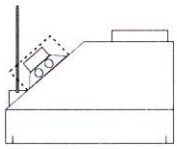
FUME HOODS
WALL AND ISLAND CANOPIES

Features

Exhaust canopies are primarily used to exhaust steam, odors and heat. In a work area where the expense and capabilities of a fume hood are not justified.

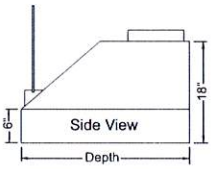


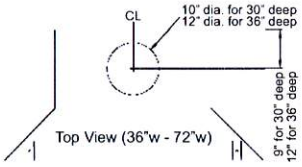
- Available in ether wall or island configurations.
- Integrally welded construction.
- Integral continuous condensation catch edge.
- Integral duct stub.
- Steel rod suspension.
- Standard fixed baffle (not available with fluorescent light option).
- Optional UL/CSA approved fluorescent light fixture complete with bulbs.
- Several materials are available.

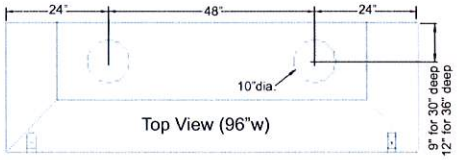


Option E6 - Fluorescent Light
- Complete with a light enclosure.
- Fixed baffle not available when ordering fluorescent light.
- Wire from light to junction box is not concealed.

WALL CANOPY HOODS

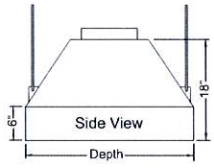


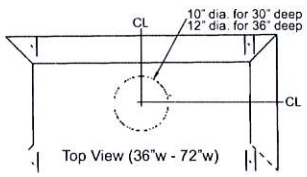


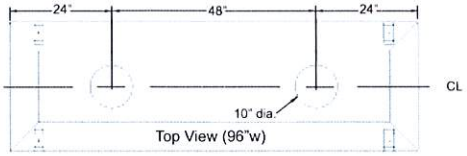


WALL CANOPY HOODS - 18" HIGH							
		30" Deep			36" Deep		
Width	Duct Dia.	Painted	304 S/S	316 S/S	Painted	304 S/S	316 S/S
36"	10"	CWP1236	CWR1236	CWS1236	CWP1336	CWR1336	CWS1336
48"	10"	CWP1248	CWR1248	CWS1248	CWP1348	CWR1348	CWS1348
60"	12"	CWP1260	CWR1260	CWS1260	CWP1360	CWR1360	CWS1360
72"	12"	CWP1272	CWR1272	CWS1272	CWP1372	CWR1372	CWS1372
96"	2 @ 10"	CWP1296	CWR1296	CWS1296	CWP1396	CWR1396	CWS1396
1000mm	10"	CWP120A	CWR120A	CWS120A	CWP130A	CWR130A	CWS130A
1513mm	12"	CWP120B	CWR120B	CWS120B	CWP130B	CWR130B	CWS130B
2000mm	12"	CWP120C	CWR120C	CWS120C	CWP130C	CWR130C	CWS130C

ISLAND CANOPY HOODS





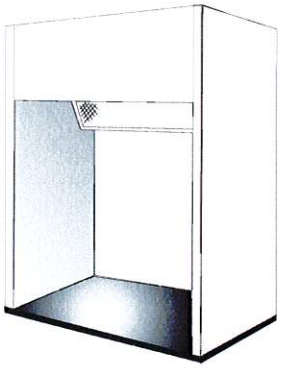


ISLAND CANOPY HOODS - 18" HIGH							
		30" Deep			36" Deep		
Width	Duct Dia.	Painted	304 S/S	316 S/S	Painted	304 S/S	316 S/S
36"	10"	CIP1236	CIR1236	CIS1236	CIP1336	CIR1336	CIS1336
48"	10"	CIP1248	CIR1248	CIS1248	CIP1348	CIR1348	CIS1348
60"	12"	CIP1260	CIR1260	CIS1260	CIP1360	CIR1360	CIS1360
72"	12"	CIP1272	CIR1272	CIS1272	CIP1372	CIR1372	CIS1372
96"	2 @ 10"	CIP1296	CIR1296	CIS1296	CIP1396	CIR1396	CIS1396
1000mm	10"	CIP120A	CIR120A	CIS120A	CIP130A	CIR130A	CIS130A
1513mm	12"	CIP120B	CIR120B	CIS120B	CIP130B	CIR130B	CIS130B
2000mm	12"	CIP120C	CIR120C	CIS120C	CIP130C	CIR130C	CIS130C

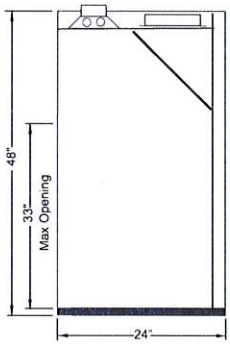
FUME HOODS
SPRAY BOOTHS

Features

This spray booth is designed for simple nontoxic exhaust operations. Designed to mount on a 24" deep counter top.
The spray booth bench mounted hood is supplied with the following standard features:



- 2" wide thin wall construction.
- 18 gauge steel construction with our thermosetting laboratory grade powder coating.
- Constant exhaust volume.
- Fiberglass air filter diffuser to promote more even face velocity.
- Vapor proof fluorescent light fixture and junction box.
- 24" models have incandescent light.
- Designed to wire to a remotely mounted light switch supplied by others.
- Not CSA or UL approved as a unit.



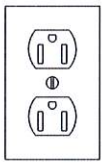
SPRAY BOOTH	
Width	Item Number
24"	8101000
30"	8201000
36"	8301000
48"	8401000
60"	8501000

Exhaust Parameters		100 FPM 33" Max Opening	
Hood Size	Duct Dia.	CFM	SP
24"	10"	505	0.05
30"	10"	642	0.80
36"	10"	780	0.80
48"	10"	1055	1.00
60"	10"	1330	1.00

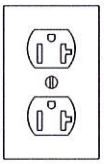
FUME HOODS
FUME HOOD ELECTRICAL SERVICES

Parts

Note: Specify NEMA Code when ordering.

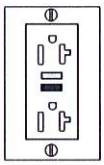


125 volts - 15 amps
Polarized
3 Grounding wire type
NEMA 5-15R

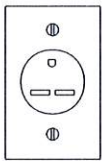


125 volts - 20amps
Polarized
3 Grounding wire type
NEMA 5-20R

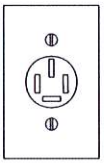
125 volts - 15 amps
GFI Duplex
3 Grounding wire type
NEMA 5-15R



125 volts - 20 amps
GFI Duplex
3 Grounding wire type
NEMA 5-20R

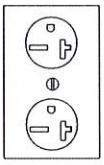


250 volts - 30 amps
3 Grounding wire type
NEMA 6-30R



208/120 volts 3 Phase - 20 amps
NEMA 18-20R

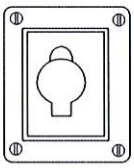
Light Switch 15 or 20 amp



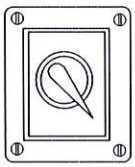
250 volts - 20 amps
3 Grounding wire type
NEMA 6-20R

Note: Also used for single phase 208V applications

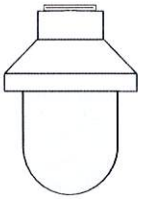
Fan Switch with Pilot Light 120 or 240 volts
Note: This switch requires a heater to be installed. Heater must be selected to suit the load and is not included.



Explosion Resistant
Receptacle
120 volts-20 amps
3-pole



Explosion Resistant
Switch
120 volts-20 amps

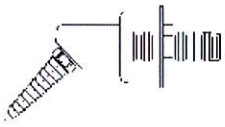


Explosion Resistant
Light
120 volt- 60 Hz

FUME HOODS
FUME HOOD FXITURES

Fume Hood Angled Hose Cock

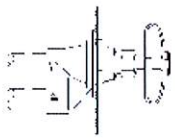
These fixtures are to be ordered if you require fixtures to be shipped loose.



Item Number
L022WSA

- Wall mounted valve unit color coded to match the valve handle.

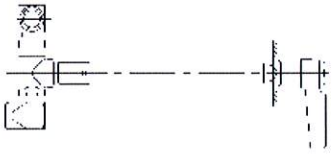
Fume Hood Remote Control Valves



Item Number
L740N-PH

- Front access valve with color coded handle for gas, vacuum and air.
- C.G.A. & A.G.A. Approved for gas.

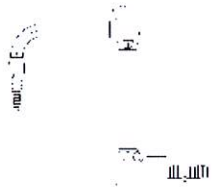
Item Number
L740W-PH



Item Number
L4285B

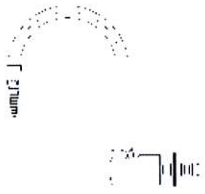
- Rod controlled valve with color coded index button.
- C.G.A. & A.G.A. Approved for gas.

Fume Hood Gooseneck Faucet



Item Number
L174VB-WSA

- Wall mounted rigid swivel gooseneck faucet color coded to match remote control valve handle.
- Complete with serrated tip and atmospheric vacuum breaker.



Item Number
L174WSA

- Wall mounted rigid swivel faucet color coded to match remote control valve handle.
- Complete with serrated tip

Item Number
L112

- Exposed atmospheric vacuum breaker for mounting to front corner panel.

Item Number
L100

- Atmospheric vacuum breaker to locate on roof of hood.

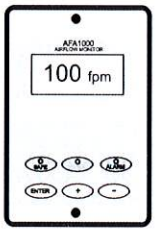
FUME HOODS
FUME HOOD ACCESSORIES

Audio Fume Hood Alarm

Item Number
ALARM05

- The fume hood velocity alarm is used to make sure that the face velocity does not drop below an unsafe level.

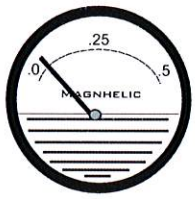
Audio/Visual Fume Hood Alarm



Item Number
ALARM04

- The fume hood velocity alarm is used to make sure that the face velocity does not drop below an unsafe level.

Magnehelic Differential Pressure Gage



Item Number
MAGGAGE

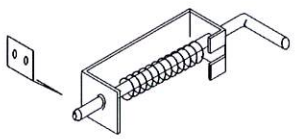
- Used to monitor pressure drop across induct filters. Factory installed in upper front panel. Tubing connections made in field.

Plastic Sash Stop

Item Number
PLSHSTP

- The sash stop is designed to stop the sash at a pre determined height.
- Can be manually overridden for apparatus setup.
- Sash stop is placed behind sash handle.
- Standard when option code S3 or S4 are selected .

Stainless Steel Sash Stop



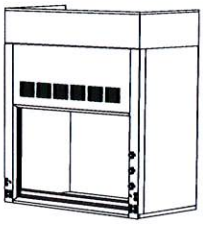
Item Number
SASHSTP

- The sash stop is designed to stop the sash at a pre determined height.
- Can be manually overridden for apparatus setup.
- Sash stop is hidden behind sash handle when factory installed.
- Optional only when noted.

Recommendation For Installation: When ceilings are suspended, it is recommended that the furring panel assembly extend to the underside of the ceiling. The floating ceiling should extend above the top of the fume hood and be cut around the mechanical connections to make certain correct room pressure control of the HVAC system.

FUME HOODS
FUME HOOD ACCESSORIES

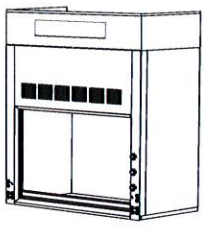
Furring Panels



- Fume hood furring panels are used to close off the area between the top of a fume hood and the ceiling.
- Furring panels may be ordered with only one side panel or both.
- Based on 108" ceiling height.
- Furring panel is 19" high.
- Suitable for 32 5/8" deep Pro or Safeguard hood™.

Width	Front & Side Panel			Front Only
	Both	Left	Right	
36"	FPS9036	FPL9036	FPR9036	FPF9036
48"	FPS9048	FPL9048	FPR9048	FPF9048
60"	FPS9060	FPL9060	FPR9060	FPF9060
72"	FPS9072	FPL9072	FPR9072	FPF9072
96"	FPS9096	FPL9096	FPR9096	FPF9096
120"	FPS900L	FPL900L	FPR900L	FPF900L
144"	FPS900H	FPL900H	FPR900H	FPF900H

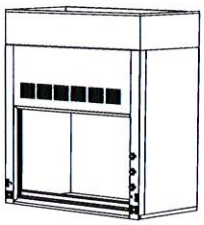
Furring Panels with Hinged Access



- Fume hood furring panels are used to close off the area between the top of a fume hood and the ceiling.
- Furring panels may be ordered with only one side panel or both.
- Based on 108" ceiling height.
- Furring panel is 19" high. Hinged access panel is 12" high.
- Suitable for 32 5/8" deep Pro or Safeguard hood.

Width	Front & Side Panel			Front Only
	Both	Left	Right	
36"	FPS9236	FPL9236	FPR9236	FPF9236
48"	FPS9248	FPL9248	FPR9248	FPF9248
60"	FPS9260	FPL9260	FPR9260	FPF9260
72"	FPS9272	FPL9272	FPR9272	FPF9272
96"	FPS9296	FPL9296	FPR9296	FPF9296
120"	FPS920L	FPL920L	FPR920L	FPF920L
144"	FPS920H	FPL920H	FPR920H	FPF920H

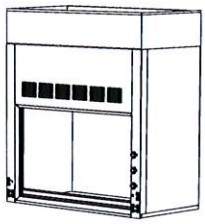
Double Sided Demonstration Furring Panels



- Suitable for 35-1/4" deep double sided Demonstration fume hoods.
- Furring panels for double sided Demonstration Fume Hoods are used to close off the area between the top of a fume hood and the ceiling.
- Based on 108" ceiling height.
- Furring panels are 19" high X 35-1/4" deep.
- If Access Panel option is chosen one access panel is supplied (not shown).

Width	Without Access Panel	With Access Panel	With Hinged Access Panel
36"	FPD9036	FPD9136	FPD9236
48"	FPD9048	FPD9148	FPD9248
60"	FPD9060	FPD9160	FPD9260
72"	FPD9072	FPD9172	FPD9272
96"	FPD9096	FPD9196	FPD9296

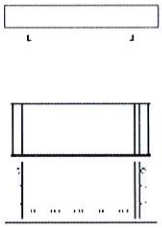
Pro Series Furring Panels with Finished Back



- Suitable for 32-5/8" deep Pro Series fume hoods with finished backs.
- Fume hood furring panels are used to close off the area between the top of the hood and ceiling.
- Based on 108" ceiling height.
- Furring panels are 19" high X 32-5/8" deep.
- If Access Panel option is chosen one access panel is supplied

Width	Without Access Panel	With Access Panel	With Hinged Access Panel
36"	FPP9036	FPP9136	FPP9236
48"	FPP9048	FPP9148	FPP9248
60"	FPP9060	FPP9160	FPP9260
72"	FPP9072	FPP9172	FPP9272
96"	FPP9096	FPP9196	FPP9296

Observation™ Island Furring Panels



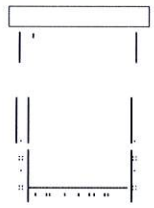
- Fume hood furring panels are used to close off the area between the top of a fume hood and the ceiling.
- Based on 108" ceiling height.
- Furring panel is 12" high, 54-3/4" deep.

Width	4 Sided Furring Panel	Front & Back Only
36"	FPB9036	FPB9136
48"	FPB9048	FPB9148
60"	FPB9060	FPB9160
72"	FPB9072	FPB9172
96"	FPB9096	FPB9196

FUME HOODS
FUME HOOD ACCESSORIES

Recommendation For Installation: When ceilings are suspended, it is recommended that the furring panel assembly extend to the underside of the ceiling. The floating ceiling should extend above the top of the fume hood and be cut around the mechanical connections to make certain correct room pressure control of the HVAC system.

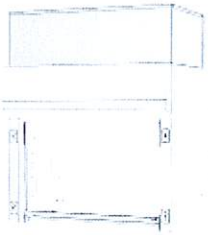
Observation™ Furring Panels



- Fume hood furring panels are used to close off the area between the top of a fume hood and the ceiling.
- Based on 108" ceiling height.
- Furring panel is 12" high, 27-3/8" deep.

Width	4 Sided Furring Panel	Front Only	Front & Both Side Panels
36"	FPB9236	FPB9336	FPB9436
48"	FPB9248	FPB9348	FPB9448
60"	FPB9260	FPB9360	FPB9460
72"	FPB9272	FPB9372	FPB9472
96"	FPB9296	FPB9396	FPB9496

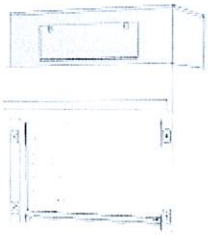
RFV2™ Furring Panels



- Fume hood furring panels are used to close off the area between the top of a fume hood and the ceiling.
- Furring panels may be ordered with only one side panel or both.
- Based on 108" ceiling height.
- Furring panel is 19" high, 36" deep.

Width	Front & Side Panels			Front
	Both	Left	Right	Only
48"	F2V9048	F2L9048	F2R9048	F2F9048
60"	F2V9060	F2L9060	F2R9060	F2F9060
72"	F2V9072	F2L9072	F2R9072	F2F9072
96"	F2V9096	F2L9096	F2R9096	F2F9096

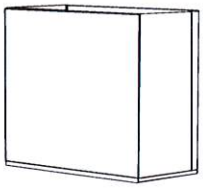
RFV2™ Furring Panels with Hinged Access



- Fume hood furring panels are used to close off the area between the top of a fume hood and the ceiling.
- Furring panels may be ordered with only one side panel or both.
- Based on 108" ceiling height.
- Furring panel is 19" high, 36" deep. Hinged access panel is 12" high.

Width	Front & Side Panels			Front
	Both	Left	Right	Only
48"	F2V9248	F2L9248	F2R9248	F2F9248
60"	F2V9260	F2L9260	F2R9260	F2F9260
72"	F2V9272	F2L9272	F2R9272	F2F9272
96"	F2V9296	F2L9296	F2R9296	F2F9296

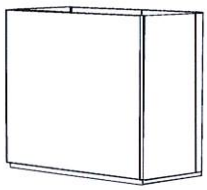
Finished Back Panels



- Fume hood finished back panels are used to close off the rear of a fume hood when it is not placed against a wall.

Finished Back Panels			
Width	Height 54-1/4"	Height 64-1/4"	Height 90"
36"	FBP3036	FBP4036	FBP5036
48"	FBP3048	FBP4048	FBP5048
60"	FBP3060	FBP4060	FBP5060
72"	FBP3072	FBP4072	FBP5072
96"	FBP3096	FBP4096	FBP5096
1000mm	FBP300B	FBP400B	FBP500B
1513mm	FBP300C	FBP400C	FBP500C
2000mm	FBP300D	FBP400D	FBP500D

Structural Finished Back Panels

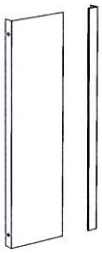


- Finished back panels are used to close of the back of a fume hood when the back is in plain view.
- Structural Finished Back Panel adds 1" to the overall depth of the fume hood and is supplied in two pieces.
- Mounting screws are concealed under plastic plugs.

Structural Finished Back Panels			
Width	Height 54-1/4"	Height 64-1/4"	Height 90"
36"	EBP3036	EBP4036	EBP5036
48"	EBP3048	EBP4048	EBP5048
60"	EBP3060	EBP4060	EBP5060
72"	EBP3072	EBP4072	EBP5072
96"	EBP3096	EBP4096	EBP5096
1000mm	EBP300B	EBP400B	EBP500B
1513mm	EBP300C	EBP400C	EBP500C
2000mm	EBP300D	EBP400D	EBP500D

FUME HOODS
FUME HOOD ACCESSORIES

End Cover Panel Scribes



- The End Cover Panel Scribes are used to close spaces between the back of a fume hood and a wall. The Scribe feature allows for easy width adjustment in the field.
- 54-1/4" high

Width	Item Number
1"	ECS6001
2"	ECS6002
3"	ECS6003
4"	ECS6004
5"	ECS6005
6"	ECS6006
7"	ECS6007

End Cover Channels

- The End Cover Channel performs the same task as the End Cover Panel Scribe but is of a fixed width.
- 54-1/4" high

Width	Item Number
1"	ECC6001
2"	ECC6002
3"	ECC6003
4"	ECC6004
5"	ECC6005
6"	ECC6006
7"	ECC6007

Fume Hood Fixture Hole Covers

Stainless Steel Interior/Exterior Plug

Item Number	Front Load Exterior Application
HCBFE00	1-1/4" Dia Black Plug for Plumbing Holes
HCPFE00	1/4" Dia Painted Stainless Plug for Plumbing Holes
HCSFE00	1/4" Dia Stainless Plug for Plumbing Holes

- These plugs are used to cover exterior fixture plumbing holes in various materials on a fume hood plumbed with front load fixtures.

Black Exterior Plug

Item Number	Rod Type Exterior Application
HCBRE00	5/8" Dia Black Plug for Plumbing Holes
HCPRE00	5/8" Dia Painted Stainless Plug for Plumbing Holes
HCSRE00	5/8" Dia Stainless Plug for Plumbing Holes

- These plugs are used to cover exterior fixture plumbing holes in various materials on a fume hood plumbed with rod type fixtures.

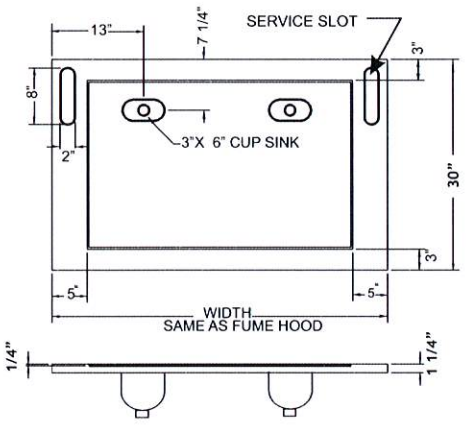
White Interior Plug

Item Number	Interior Application
HCWN100	3/4" Dia White Plug for Plumbing Holes
HCWA100	1" Dia White Plug for Alarm Holes
HCSN100	3/4" Dia Stainless Plug for Plumbing Holes

- These plugs are used to cover interior fixture plumbing and alarm holes in various materials on any fume hood.

FUME HOODS
FUME HOOD ACCESSORIES

Pro Series Work Surfaces



Fume Hood 316-4 Stainless Steel Work Surfaces				
Width	Plain	Cup Sink		
		Left	Twin	Right
36"	FTP0136	FTL0136	FTT0136	FTR0136
48"	FTP0148	FTL0148	FTT0148	FTR0148
60"	FTP0160	FTL0160	FTT0160	FTR0160
72"	FTP0172	FTL0172	FTT0172	FTR0172
96"	FTP0196	FTL0196	FTT0196	FTR0196
1000mm	FTP010B	FTL010B	FTT010B	FTR010B
1513mm	FTP010C	FTL010C	FTT010C	FTR010C
2000mm	FTP010D	FTL010D	FTT010D	FTR010D

Fume Hood Black Epoxy Work Surfaces				
Width	Plain	Cup Sink		
		Left	Twin	Right
36"	EFP3036	EFL3036	EFT3036	EFR3036
48"	EFP3048	EFL3048	EFT3048	EFR3048
60"	EFP3060	EFL3060	EFT3060	EFR3060
72"	EFP3072	EFL3072	EFT3072	EFR3072
96"	EFP3096	EFL3096	EFT3096	EFR3096
1000mm	EFP300B	EFL300B	EFT300B	EFR300B
1513mm	EFP300C	EFL300C	EFT300C	EFR300C
2000mm	EFP300D	EFL300D	EFT300D	EFR300D

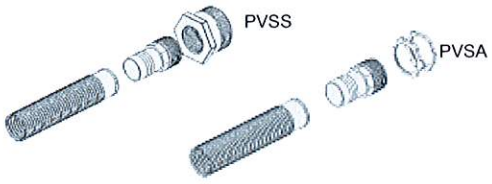
- Cup sinks are located for 18" deep fume hood base cabinets.
- Work surfaces suitable for Pro Series fume hoods only.

Black Epoxy Cup Sink Cover
EFC0000

Black Epoxy Cup Sink 3" X 6" OVAL
EFC1000

- Black epoxy cup sink cover fits over cupsink (not shown).

Polyolefin Vent Sets



Description	Item Number
Polyolefin Vent Set for Acid Cabinet With FRP Liner	PVSA
Polyolefin Vent Set for Acid Cabinet With Molded Liner	PVSS

- For venting acid storage cabinets (Not recommended for flammable storage cabinets).
- Flexible corrugated vent tube is 10' feet long and comes with fitting to attach to rear of cabinet.

FUME HOODS
FUME HOOD OPTIONS

Options Index

Option #:	Description:
52	Entire 316 Stainless Steel construction
53	Entire Satin Coat construction (Sigma Barrier)
A1	Alarm - add detail to data sheet & specify make and model
A2	Alarm Cutout Only - add detail to data sheet
A3	Magnahelic Gage - add detail to data sheet
A4	Minihelic Gage - add detail to data sheet
A5	VAV Control Installed - (customer supplied) - add detail to data sheet
A6	VAV Control - electrical box only - add detail to data sheet
B2	Baffle - remote control adjustable top, fixed sides and center
E1	Special Wiring/Voltage - add detail to data sheet
E2	Not Wired - fluorescent light mounted only
E3	Explosion Proof Wiring -add detail to data sheet
E5	Motor/Blower Switch
E6	Fluorescent Canopy Light (wired to junction box)
E7	T5 Fluorescent Light
ED	Extra Deep SafeGuard™ Fume Hood at 38-5/8" Deep
FP	Painted Flush Sill with Containment Trough (can be added to any fume hood) - Countertop Modification Required
FS	Stainless Steel Flush Sill with Containment Trough (can be added to any fume hood) - Countertop Modification Required
G1	Finished Back Panel (on fume hood)
G2	Fire Extinguisher
G3	Partially Crated (for full crating please contact your Sales Co-ordinator)
G4	Fume Hood Exterior - 316 stainless steel
G5	Fume Hood Exterior - 304 stainless steel
GB	Glass Back Panel - Replaces solid back panel with glass (for single-faced Observation™ fume hood).
H1	Solid End Panels on Left - Replaces glass end panels on left with solid end panels when hood is located against a wall (for Island Observation™ fume hood).
H2	Solid End Panels on Right - Replaces glass end panels on right with solid end panels when hood is located against a wall (for Island Observation™ fume hood).
H3	Solid End Panel on Left - Replaces glass end panel on left with solid end panel when hood is located against a wall (for single-faced Observation™ fume hood).
H4	Solid End Panel on Right - Replaces glass end panel on right with solid end panel when hood is located against a wall (for single-faced Observation™ fume hood).
KD	Knock Down with Photo/Instructions
LA	Bilingual Label (English/French)
LV	Low Volume
P1	Factory Plumbing Mount only - add detail to data sheet
P2	Factory Pre-Plumbed Up - add detail to data sheet
P3	Factory Pre-Plumbed Down - add detail to data sheet
P4	Customer Installed Plumbing - add detail to data sheet
P5	Cup Sink - RH side rear (S/S seamless corner hood only)
P6	Cup Sink - LH side rear (S/S seamless corner hoods only
PN	No Factory Plumbing (fume hood equipped with standard plugged fixture holes)
S1	No Upper By-Pass
S2	Restricted By-Pass Adjustable Blank Off Plate
S3	Plastic Sash Stop @ 18"
S4	Plastic Sash Stop @ specify
S5	Sash Box Enclosure
S6	Baffle Screen S/S
S7	Airfoil With No Electrical Cut Outs -add detail to data sheet
S8	Sash Interlock
S9	Sash Key Lock
SC	Self Lowering Sash Mechanism - automatically lowers the sash to the chosen working height (suitable for chain drive fume hoods)
SM	Automatic Sash Operator
W1	Window (in one side wall only, as the other side is required for sash counter weights)