SEDRA

Laboratory Fume Cupboards

BIUS M series

BIUS D series

APPLICATIONS

SEDRA fume cupboards are use for containment and removal of toxic vapors and aerosol, providing operator safety in a wide range of disciplines. Application for fume cupboards may be found in many laboratories, including those in clinical diagnostic testing, biological and medical research, analytical chemistry, Q.C, biotechnology, pharmaceutical industries, food, fine chemical, petrochemical, cosmetic, photographic laboratories and the electronics industries.

FILTRATION

A wide range of filter is available, from activated charcoal absorbing filter to chemical absorbing filter for specific application such as the use of formalin, gluteraldehyde or radioactive iodine labeled compounds and for others applications.

The fume cupboards incorporates two carbon filter with a total weight of approximately 20 kg.

Each fume cupboard is equipped with disposable type prefilter, with an efficiency of 75%-85% dust weight resistance to protect the main activated charcoal filter.

- **2 Carbon filter, 2 prefilter**

- **M Series, manual control**

- **D Series, microprocessor base - control**

DESIGN FEATURES

Each fume cupboard contains an IP44 centrifugal motorfan, capable of maintaining a contant air flow by compensating for the clogging of the prefilter, which occurs during normal operation.

The Bius "M" series is equipped with a manual device for adjusting the air velocity to obtain the appropriate air velocity for each specific contaminant used.

The Bius "D" series is equipped with a microprocessor base monitoring system. Each unit has a LCD to show the face speed and a digital setting system to select the most suitable velocity .

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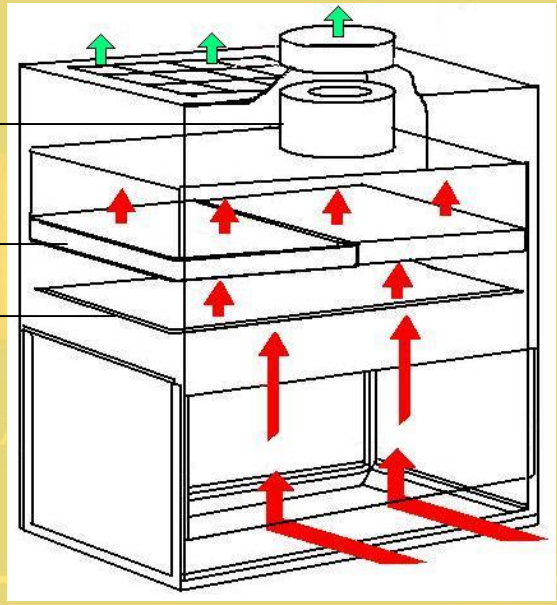
OPERATION PRINCIPLES



Air Flow Direction

A: Centrifugal fan

B: Carbon Filter

C: Prefilter

FILTER TYPE

1. PRE-FILTER

The Filter material is base on electrets, with a permanently charge di-electric. Pre-Filter -efficiency is equal to 75-85 % dust weight arrestance.

2. MAIN FILTER

A number of filter efficiency studies have been carried out, and all results using single bed filters show efficiencies very close to 100%.

2.1 A/C Filter

Primary use: Organic odors, hydrocarbon, aromatic solvents, animal odors, excrements urine, acid odors, cadaverine, putrecine

Secondary: Oxygenated nitrogen compounds

2.2 ACR Filter

Primary use: radioactive iodine

Secondary: hydrocarbon

2.3 Form Filter

Primary use: formaldehyde

Secondary: organic emission, hydrocarbon, aromatic solvent, acid gases.

2.4 Sulf Filter

Primary use: acid odors, putrescine, cadaverine, acid gases hydrogen sulphide, methyl mercaptan, sulphor compounds, sulphor dioxide RH> 85%

2.5 UR Filter

Primary use: acid odors, putrescine, cadaverine, acid gases, hydrogen sulphide, methyl mercaptan, sulphor compounds, sulphor dioxide, nitrogen oxygenated compound.

Secondary: organic emission, hydrocarbon, aromatic solvent, hydrocyanic acid RH<85%

2.6 Cyan Filter

Primary use: Hydrocyanic acid

Secondary: organic emission, hydrocarbon, aromatic solvent

2.7 MER Filter

Primary use: Mercury vapours

Secondary: organic emission, hydrocarbon

2.8 AM Filter

Primary use: Ammonia and its derivative

Secondary: organic emission, hydrocarbon, aromatic solvent, Alkaline odors, excrement, urines animal odors.

TECHNICAL SPECIFICATIONS

	BIUS 60	BIUS 90	BIUS 120
AIRFLOW Vol/AIR Treated (m3/hr) Average Face Speed (m/sec)	235 >0.6	360 >0.6	490 >0.6
ELECTRICAL Voltage/Power Lighting UV lamp (*option)	220-240/50-60Hz/220W 2 X 18 Watts *1 X 20 Watts*	220-240/50-60Hz/220W 2 X 18 Watts *1 X 20 Watts*	220-240/50-60Hz/220W 2 X 36 Watts *1 X 30 Watts*
CONTRUCTION Head Section Base Section Spill Tray	Epoxy coated Plate-steel Epoxy coated steel Stainless steel AISI316	Epoxy coated Plate-steel Epoxy coated steel Stainless steel AISI316	Epoxy coated Plate-steel Epoxy coated steel Stainless steel AISI316
FAN MOTOR	Centrifugal IP44	Centrifugal IP44	Centrifugal IP44
FILTER Pre-Filter Main Filter Total Weight of A/C filter	1 1	2 2	2 2
DIMENSIONS(mm) Overall Dimension Useful Dimensions Exhaust Duct (diam)	**D** **W** **H** 600 600 1200 550 520 650 200	**D** **W** **H** 600 900 1200 550 820 650 200	**D** **W** **H** 600 1200 1250 550 1120 650 200
WEIGHT (Kg.) Approx. W/O filter	80	90	100
CONTROLS "M" series "D" series	*Power on/off *Light on/off *variable speed air regulation *Power on/off *Light on/off *UV on/off *Microprocessor monitoring system *Variable speed regulation *Alarm alert to operator to low or high airflow, filter and prefilter condition.		

ABSORBTION CAPACITY

Absorptive Capacity Rating Guide:

E - Excellent: compound is readily absorbed. Each pound of carbon will absorb an average of 33-1/3 % of its weight in the compound.

G - Good: Compound is readily absorbed, but it will take two or more time as much carbon to absorb a compound compared to one with an excellent rating. Each pound will absorb an average 16.7% of its weight in the compound.

L - Low: Low capacity for absorption. Can be use under certain circumstances.

M - Minimal: Not recommended.

Acetaldehyde	L
Acetic acid	E
Acetic Anhydride	E
Acetone	G
Acetylene	M
Acids	G
Acrolein	G
Acrylic Acid	E
Acrylonitrile	E
Adhesives	E
Alcohol	E
Alcoholic Beverage	E
Amines	L
Ammonia	L
Amyl Acetate	E
Amyl Alcohol	E
Amyl Ether	E
Animal Odors	G
Anesthetics	G
Aniline	E
Antiseptics	E
Asphait fumes	E
Automobile Exhaust	G
Bacteria	G
Bathroom Smells	E
Benzene	E
Bleaching Solution	G
Body Odors	E
Bromine	E
Burned Fresh	E
Burned Food	E
Burning Fat	E
Butadiene	G
Butane	L
Butanone	L
Butyl Acetate	E
Butyl Alcohol	E
Butyl Cellosolve	E
Butyl Chloride	E
Butyl Ether	E
Butylene	L
Butyne	L
Butytaldehyde	G
Butyric Acid	E
Camphor	E
Cancer Odor	E
Caprylic Acid	E
Carbolic Acid	E
Carbon Bisulfide	L
Carbon Dioxide	M
Carbon Monoxide	M
Carbon Tatrachloride	E
Cellosolve	E
Cellosolve Acetate	E
Charred Material	E
Cheese	E
Chemicals	G
Chlorine	L
Chlorobenzene	E
Chlorobutadiene	E
Chloroform	E
Chloro Nitropopane	E
Chloropicrin	E
Citrus and other fruits	E
Cleaning Compounds	E
Coal Smoke	G
Combusiton Odors	G
Cooking Odors	E
Corrosiva Gases	L
Cosmetic	E
Creosote	E
Cresol	E
Crotonaldehyde	E
Cyclohexane	E
Cyclohexanol	E
Cyclohexanone	E
Cyclohexene	E
Dead animals	E
Decane	E
Decaying Substances	E
Decomposition Odors	E
Deodorants	E
Detergents	E
Dibromeothane	E
Dichlorobenzene	G
Dichlorodifluoromethane	G
Dichloroethane	E
Dichloroethylene	E
Dichloroethyl Ether	E
Dichloromonofluormethane	G
Dichloro-Nitroethane	E
Dichloropopane	E
Dichlorotetrafluoroethane	G
Diesel Fumes	G
Diethyl Amine	G
Diethyl Ketone	E
Dimethylaniline	E
Dimethylsulfate	E
Dioxane	E
Dipropyl Ketone	E
Disinfectants	E
Embalming Odors	E
Ethane	M
Ether	G
Ethyl Acetate	E
Ethyl Acrylate	E
Ethyl Alcohol	E
Ethyl Amine	G
Ethyl Benzene	E
Ethyl Bromide	G
Ethyl Chloride	G
Ethyl Ether	G
Ethyl Formate	G
Ethyl Mercaptan	E
Ethyl Silicate	E
Ethylene	M
Ethylene Chlorhydrin	E
Ethylene Dichloride	E
Ethylene Oxide	G
Essential Oils	E
Eucalyptole	E
Exhaust Furnes	G
Fertilizer	E
Film Processing Odors	G
Fish Odors	E
Floral Scents	E
Fluorotrichloromethane	G
Food Aromas	E
Formal Dehyde	L
Formic Acid	G
Fruits	E
Fuel Gases	L
Furnes	G
Gangrene	E
Garlic	E
Gasoline	E
Glue	E
Heptane	E
Heptylene	E
Hexane	G

Hexelene	G
Hexyne	G
Hospital Odors	E
Household Smells	E
Hydrogen	M
Hydrogen Brominde	L
Hydrogen Chloride	L
Hydrogen Cyanide	L
Hydrogen Fluoride	L
Hydrogen Iodide	L
Hydrogen Selenide	L
Hydrogen Sulfide	L
Incense	E
Indole	E
Inorganic Chemicals	G
Incomplete Combustion	G
Industrial Wastes	G
Iodine	E
Iodoform	E
Isophorone	E
Isophrene	G
Isopropyl Acetate	E
Isopropyl Alcohol	E
Isopropyl Ether	E
Kerosene	E
Kitchen Odors	E
Lactic Acid	E
Lingering Odors	E
Liquid Fuels	E
Liquid Odors	E
Lubricating Oil and Greases	E
Masking Agents	E
Medicinal Odors	E
Melons	E
Menthol	E
Mercaptans	E
Mesityl Oxide	E
Methane	M
Methyl Acrelate	G
Methyl Alcohol	E
Methyl brominde	G
Methyl Butyl Ketone	E
Methyl Cellosolve	E
Methyl Cellosolve Acetate	E
Methyl Chloride	L
Methyl Chloroform	E
Methyl Ether	G
Methyl Ethyl Ketone	E
Methyl Formate	G
Methyl Isobutyl Ketone	E
Methyl Mercaptan	E
Methylal	G
Methylcyclohexane	E
Methylcyclohexanol	E
Methylcyclohexanone	E
Methylene Chlorine	E
Mildew	G
Mixed Odors	E
Mold	G
Monochlorobenzene	E
Monofluorotrichloromethane	G
Moth Balls	E
Naphtha(Coal Tar)	E
Naphtha(Petroleum)	E
Naphthalene	E
Nicotine	E
Nitric Acid	G
Nitro Benzenes	E
Nitroethane	E
NitrogenDioxide	L
Nitroglycerine	E
Nitromethane	E
NitroPropane	E
Nitrotoluene	E
Nonane	E
Noxious Gases	G
Octalene	E
Octane	E
Odoranrs	E
Onions	E
Organic Chemicals	E
Ozone	E
Packing House Odors	E
Paint & Dredecorating Odors	E
Palmitic Acid	E
Paper Deteriorations	E
Paracichlorbenzine	E
Paste	E
Pentane	G
Pentanone	E
Pentylene	G
Pentyne	G
Perchloroethylene	E
Perfumes	E
Perspiration	E
Pet Odors	E
Phenol	E
Phosgene	G
Pitch	E
Plastics	E
Poision Gases	G
Pollen	G
Popcorn and candy	E
Poultry Odors	E
Propane	L
Propionaldehyde	G
Propionic Acid	E
Propyl Acetate	E
Propyl Alcohol	E
Propyl Chloride	E
Propyl Ether	E
Propyl Mercaptan	P
Propylene	L
Propyne	E
Putrefying Substances	G
Putrescine	E
Pyridine	E
Radiation Producs	L
Rancid Oil	E
Resins	E
Reodorants	E
Ripening Fruits	E
Rubber	E
Sauerkraut	E
Sewer Odors	E
Skatole	E
Slaughtering Odors	E
Smog	E
Soaps	E
Smoke	E
Solvents	G
Sour Milk	E
Spilled Beverages	E
Spoied Food Stuffs	E
Stale Odors	G
Stoddard Solvent	E
Stuffiness	E
Styrene monomer	E
Sulfer Compounds	E
Sulfer dioxide	L
Sulfer Trioxide	L
Sulfuric Acid	E
Tar	E
Tarnishing Gases	G
Tetrachloroethane	E
Tratrachloroethylene	E
Theatrical Makeup Odors	E
Tobacco Smoke	E
Toilet Odors	E
Toluene	E
Toluldine	E
Trichlorethylene	E
Turpentine	E
Urea	E
Uric Acid	E
Valeric Acid	E
Valericaldehyde	E
Vapors	E
Varnish Fumes	E
Vinegar	E
Vinyl Chloride	G
Viruses	G
Volatile Material	G
Waste Products	E
Wood Alcohol	G
Xylene	E