



2017

LM Air Technology, Inc.
cleanroom & lab equipment manufacturers

Polypropylene Lab Equipment Catalog

Casework, Fume Hoods, Laminar Flow & Wet Process Workstations



Polypropylene Hoods, Casework & Equipment
NO RUST. NO EXPOSED METALS

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PFH Series
Polypropylene
FumeHoods



PVE Series
Polypropylene
VerticalLaminar
FlowWorkstations



MWPS Series
Polypropylene
ModularWet
ProcessStation



CSE Series
PolypropyleneLabs–
Casework,Cabinets,
Tables

PFH Series – Polypropylene Fume Exhaust Hood

NO RUST, NO EXPOSED METALS

Applications:

Semiconductor, Microelectronics, Waste & Water Treatment, Research & Trace Metal Labs, Chemical Analysis, Pharmaceutical Manufacturing, Curing, Etching Processes, Plating Processes, Cleaning Processes, Photonics

Description:

Fabricated from white polypropylene, an extremely durable & non-corrosive thermoplastic; highly resistant to most acids, solvents & other liquids. The basic console fume hood requires a remote exhaust system. Unit consists of a white polypropylene structure with a sliding adjustable clear Polycarbonate sash, internal LED lighting, front control panel, a solid reinforced work surface with front lip, removable rear baffles for cleaning and hinged doors for storage below the work surface. Units include front Airfoil, allowing air to flow smoothly into work chamber while sash is closed. Average face velocity = 80 fpm +/- 20 fpm (proper exhaust is required). UL 1805 Listed Hoods are available, ASHRAE 110 Tested, SEFA 8P.



Construction:

- 1/2" & 3/8" white stress relieved polypropylene
- Vented storage cabinet with leg levelers – SEFA tested
- Adjustable rear wall baffles for exhaust air.
- Heat welded support seams for additional strength.
- Reinforced work surface for heavy loads.
- $\leq 0.5\text{''}$ static pressure drop across hood
- Vented Base Cabinet including leg levelers
- Rear exhaust plenum terminates at 10" – 14" dia. collar.
- Counterbalanced Polycarbonate Vertical Sash or Manual Face Shield
- Hoods are fabricated with all internal plumbing, electrical & instrumentation.



Basic Fume Hood – includes manual face shield, wider work surface, curved front

Fume Hood – includes counterbalanced sash, utility chase on Right & Left side of hood

Electrical & Power Requirements:

All electrical component are UL / NEC Compliant, Standard 115V, 15A, 1 Ph, 60 Hz, Junction box (sealed – weather tight) for hard wiring.

Lighting:

- LED lighting. 125 ft. candle \approx 20 ft. candles.

Options:

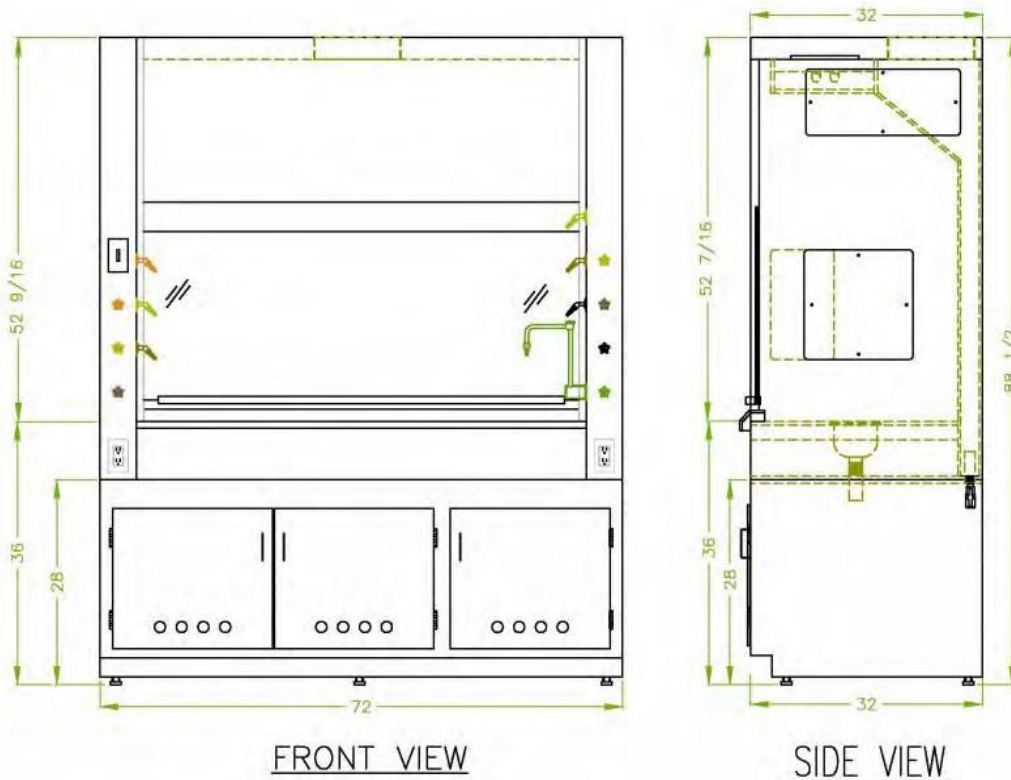
- **CONSTANT VOLUME HOODS Available**
- Angled manual adjustable face shield with 12" opening at face
- Electrical Duplex GFI receptacles with Poly carbonate cover
- Exhaust Failure Audible / Visual Alarm
- Polypropylene Sink with drain
- Polypropylene faucets with direct or remote control valves
- Fixtures including, DI Water spray gun, Nitrogen spray gun, Vacuum, Air, Gas
- Onsite installation by LM Air's trained, professional installation staff
- Flame Retardant Polypropylene construction available – CPVC, FM4910, UL94V0
- UL 1805 Listed Hoods are available
- Epoxy or Stainless Steel Countertops – wells
- Special process Tanks, Baths, Sinks, City/ DI fixtures, Hotplates, Spinners, Rinsers, Wells

PFH Series – Polypropylene Fume Exhaust Hood
NO RUST, NO EXPOSED METALS

Model/Dimensions:

LM Air's Model	Width	Exhaust Air Volume	Lamps		Shipping Weight
			Qty	Watts	
PFH-3C	36"	300 CFM	2	20W	400 lbs.
PFH-4C	48"	400 CFM	2	30W	450 lbs.
PFH-5C	60"	500 CFM	2	40W	550 lbs.
PFH-6C	72"	600 CFM	4	20W	600 lbs.
PFH-8C	96"	800 CFM	4	30W	700 lbs.

Sample Drawing:



UL 1805 Classified Polypropylene Fume Hoods

July 2012

LM Air Technology's is proud to announce that their PFH Series - Polypropylene fume hood product line is **the -ONLY- UL 1805 Classified Polypropylene Fume hoods**. The hoods have been designed, engineered and tested to incorporate the latest in technology, performance and ergonomic design. The UL 1805 standard encompasses the overall construction, quality, materials, electrical (NEC with UL components), flammability, acid testing and ASHRAE 110 containment performance.

PFH Series - Polypropylene Fume hoods have been designed to function properly at the current lower face velocities and can be used as variable flow or constant volume hoods. A sleek flush design is incorporated into the front face and counterbalanced sash including the under sash mounted airfoil. PFH Series hoods are available at 34"D (fitting thru standard door openings) in sizes from 3' to 8' widths, vented base cabinets are incorporated and integral to the hood.

We received factory classification status from Underwriters Laboratories & view UL 1805 as a much needed comprehensive 3rd party certification for lab fume hoods. A comprehensive standard encompassing performance and construction criteria; electrical and mechanical hazards, flammability and acid resistance and air flow / exhaust characteristics for personal protection, which equates to a "safe" hood.



UL 1805 is the first UL standard developed specifically for labeling fume hoods. Lab fume hoods are "UL 1805 Classified" (fume hoods are not UL "Listed" or UL "Referenced"). Also, UL 61010 relates to the electrical component of the hood, not the entire hood and cannot be "UL 61010 Classified".

Fume hoods can be field tested by UL at the job site or factory classified. All factory testing should be performed by a UL certified tester. Factory "UL Classified" fume hoods come with the UL 1805 label affixed. Factory labeling ensures proper fume hood performance and construction in compliance with UL 1805 and eliminates potential delays associated with on-site field testing.

Fume hoods are important safety devices in chemical / acid laboratories. The UL 1805 standard helps assure specifiers, customers and local inspectors of verifiable construction and performance.

Visit UL's online certification directory-

<http://database.ul.com/cgi-bin/XYV/cgifind.new/LISEXT/1FRAME/srchres.html>

UL 1805 Classified Polypropylene Fume Hoods

July 2012



Setting the standard for Polypropylene chemical / acid fume hood manufacturers; **LM Air Technology** has received Underwriters Laboratories - classification under UL 1805 - the fume hood standard.

UL 1805 Classified Fume Hoods are tested for overall construction, flammability, electrical, acid resistance, air flow, operator protection and mechanical hazards.

LM Air is also an active member of SEFA (Scientific Furniture & Equipment Association).

Visit **UL's** online certification directory -

<http://database.ul.com/cgi-bin/XYV/cgifind.new/LISEXT/1FRAME/srchres.html>

PVE SERIES - Polypropylene Vertical Laminar Flow Workstation

NO RUST, NO EXPOSED METALS

APPLICATIONS:

Semiconductor, Microelectronics, Waste & Water Treatment, Research & Trace Metal Labs, Chemical Analysis, Pharmaceutical Manufacturing, Curing, Etching Processes, Plating Processes, Cleaning Processes, Photonics

DESCRIPTION: Designed as an exhausting vertical laminar airflow clean workstation, it is to be used when toxic odors & fumes are present. Intake air passes through a HEPA filter (99.99% efficient on .3 microns) providing an **ISO 5 / Class 100** airflow into the work chamber & downward through the perforated work surface. Air is then exhausted through the internal rear wall & ducted for discharge at the top of the unit. A remote exhaust air system is required to balance the work chamber's airflow pattern. Polypropylene offers immunity to corrosion, resistance to acids & solvents, non-conductive properties, with minimal maintenance. Unit includes a vented, full depth base cabinet. Individually tested & certified to meet the specifications for Laminar Flow Clean Air devices as per Institute of Environmental Science- IES-RP-CC-002-86, SEFA 8P.

Specifications ([click here for Model / Dimensions](#))

Construction:

- 1/2" white stress relieved polypropylene.
- Heat welded support seams for additional strength.
- Support ribs under work surface.
- Front loaded HEPA filter.
- Counterbalanced Vertical sash (clear polycarbonate).
- Vented storage cabinet with leg levelers – SEFA Tested
- Work surface perforated front and rear for laminar flow, removable for cleaning.
- Rear exhaust plenum terminates at 10" - 14" dia. collar.
- Fabricated with all plumbing, instrumentation and electrical complete (as per option requested).
- Includes Polypropylene Hinges, Handles, Screws & Sash rope.



Airflow:

Requires facility exhaust. Average clean air velocity 80 fpm (+/-20 uniformity). Negative resistance, .50 IWG

Filter:

Three inch HEPA (High Efficiency Particulate Air) type, aerosol challenged, zero probed. Aluminum frame mini-pleat design. Minimum efficiency of 99.99% at .3 microns. (ULPA filters available)

Pre-filter: 1" bonded polyfiber media minimizes surface-loading. 78% arrestance ---- 56-57 ASHRAE

Electrical & Power requirements:

All electrical components are UL / NEC Approved. Standard 115V, 15A 1 Ph, 60 Hz

Motor/Blower Assembly:

High efficiency motors to reduce electrical load. Motors are thermally protected & self-lubricating. High capacity curved blowers with direct drive motors or backward curved Impellers.

Lighting: LED lighting. 125 ft. candle +/-20 ft. candles.

Controls:

Solid state, adjustable airflow control, 80-120 fpm, 15A max. load capacity, internally mounted to prohibit accidental change. Compact switches on face panel for motor & lights.

PVE SERIES - Polypropylene Vertical Laminar Flow Workstation

NO RUST, NO EXPOSED METALS

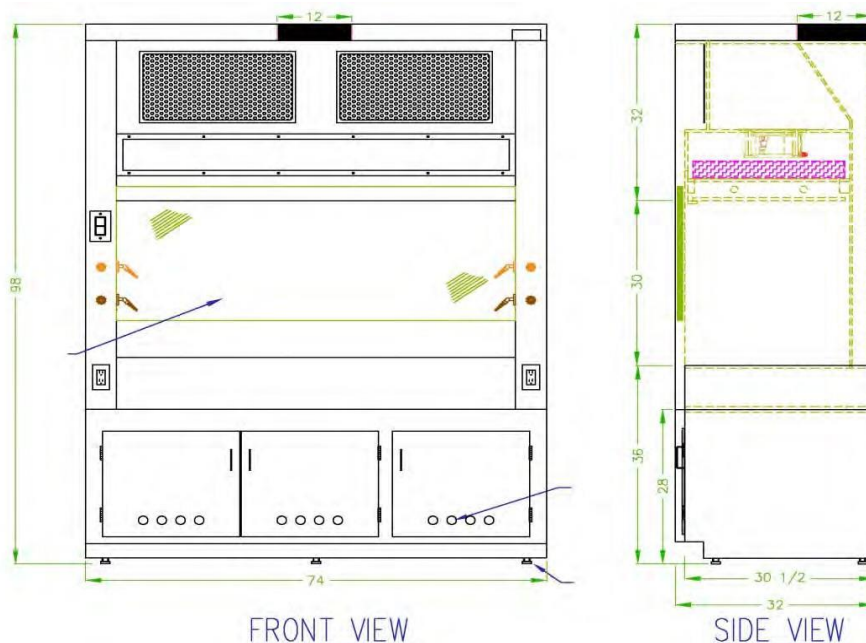
OPTIONS:

- Available as Constant Volume Hood
- Electrical Duplex GFI receptacles with Poly carbonate cover
- Exhaust Failure Audible / Visual Alarm
- Polypropylene Sink with drain
- Polypropylene faucets with direct or remote control valves
- Fixtures including, DI Water spray gun, Nitrogen spray gun, Vacuum, Air, Gas
- Onsite installation by LM Air's trained, professional installation staff
- Flame Retardant Polypropylene construction available - CPVC, FM4910, UL94V0
- Epoxy OR Stainless steel work surface - wells
- Special process Tanks, Baths, Sinks, City/ DI fixtures, Hotplates, Spinners, Rinsers, Wells

Model / Dimensions:

LM Air MODEL	OUTSIDE WIDTH	INSIDE WIDTH	Min Exhaust Air Volume	HORSE POWER	AMPS	MOTORS	SHIP LBS.
PV-324-E	37.25	36.25	660	1/3	5.1	1	600
PV-424-E	49.25	48.25	880	1/3	5.1	1	800
PV-524-E	61.20	60.25	1100	1/3	10.2	2	920
PV-624-E	74	73	1320	1/3	10.2	2	1200
PV-824-E	97	96	1760	1/3	10.2	2	1500

Sample Drawing



MWPS Series - Modular Wet Process Station – Polypropylene

NO RUST, NO EXPOSED METALS

APPLICATIONS:

Semiconductor, Microelectronics, Waste & Water Treatment, Research & Trace Metal Labs, Chemical Analysis, Pharmaceutical Manufacturing, Curing, Etching Processes, Plating Processes, Cleaning Processes, Photonics

DESCRIPTION:

Wet process stations are manufactured as free-standing units for use in labs and cleanrooms. The unit is constructed of white, stress relieved polypropylene (also Flame retardant – UL94VO, FM4910), a highly durable acid & solvent resistant material. Units are custom made, incorporating all the options necessary for a specific function, minimal pressure drops. (requires facility exhaust). The MWPS offers great flexibility & upgradeability including replacement of work surfaces, control panels, etc.

Specifications:

Construction

- Heat welded seams for extra strength.
- 1/2" & 3/8" white stress relieved polypropylene
- Perforated or solid work surface radiused front edge.
- Vented Base Cabinet including leg levelers
- Polypropylene Hinges, handles, screws – No Exposed Metals
- Rear exhaust port for vertical or horizontal connection.
- Hinged vented doors on storage area.
- Designed to have minimal pressure drop.
- Leg Leveler – heavy duty Polypropylene adjustable from inside the base cabinet
- All internal plumbing & electrical, terminating at bulkhead fittings on rear wall.



Electrical & Power Requirements:

All electrical components are UL / NEC Compliant, Standard 115V, 15A, 1 Ph, 60 Hz, Junction box (sealed - weather tight) for hard wiring; LED Lighting

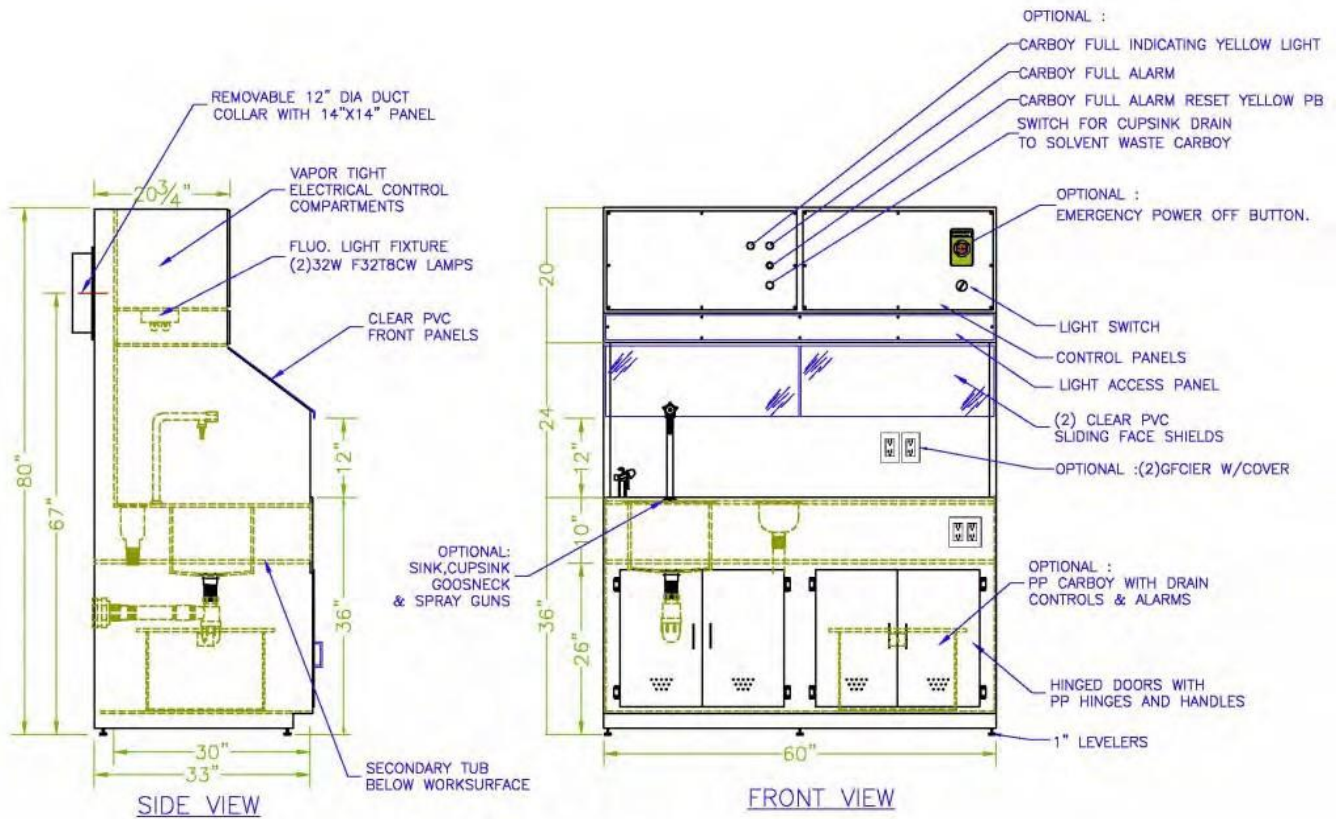
Options:

- Electrical duplex receptacle
- Exhaust Failure Audible / Visual Alarm
- Polypropylene Sink with drain
- Polypropylene faucets with direct or remote control valves
- Fixtures including, DI Water spray gun, Nitrogen spray gun, Vacuum, Air, Gas
- Onsite installation by LM Air's trained, professional installation staff
- Flame Retardant Polypropylene construction available - CPVC, FM4910, UL94V0
- Epoxy or Stainless Steel Countertops – wells
- Special process Tanks, Baths, Sinks, Hotplates, Spinners, Rinsers, Wells

MWPS Series - Modular Wet Process Station – Polypropylene
NO RUST, NO EXPOSED METALS

Model / Dimensions:

LM Air Model #	Minimum Exhaust Width	Air Volume	Negative Resistance
MWPS-4	48"	400	.50 IWG
MWPS-5	60"	600	.50 IWG
MWPS-6	72"	600	.50 IWG
MWPS-8	96"	700	.50 IWG



MWPS-530

CSE Series - Polypropylene Casework & Cabinets

NO RUST, NO EXPOSED METALS

APPLICATIONS:

Semiconductor, Microelectronics, Waste & Water Treatment, Research & Trace Metal Labs, Chemical Analysis, Pharmaceutical Manufacturing, Curing, Etching Processes, Plating Processes, Cleaning Processes, Photonics

TYPES of Cabinets, Tables, Casework:

- Base Cabinets (BC)
- Sink Base Cabinets (SB)
- Tall Storage Cabinets (TC)
- Tables, Desks
- Wall Cabinets (UC) - (Polypropylene, Framed or Clear Doors)
- Pass-Thru's, Pipe Chase



DESCRIPTION: Choose from a variety of Standard or Custom Designs.

100% Polypropylene Quality including Hinges, Latches, Handles, Screws, Doors & Drawers. Fillers, Scribes & Chases fabricated to fit your space precisely & accurately. Counter Tops Available with sink cutouts, faucets, baths, tubs, etc.

SPECIFICATIONS:

- 100% Polypropylene, seam-welded construction (1/2" & 3/8"). Metal free, longer lasting, superior construction.
- Ergonomic Design includes a larger work space & an unobstructed view.
- Flexible designs incorporating the use of other Flame Retardant Polypropylene (FM4910 or UL94VO) & Thermoplastics, such as PVC, PVDF.
- Custom built to meet your individual needs.
- Includes 4" x 3" toe kicks, front face, door catches, adjustable shelf support, counter supports, intermediate rails between doors & Polypropylene drawers & glides.
- Polypropylene or Clear doors (standard or framed)
- Upper Cabinet doors - clear (PVC, Polycarbonate, Acrylic) or solid Polypropylene
- Hinged or Sliding doors



POLYPROPYLENE ACCESSORIES/ OPTIONS:

- Sinks, Cup Sinks, Gooseneck Faucets
- Sprayers, Fixtures
- Hinges, Screws
- Baths
- Piping & fittings



POLYPROPYLENE Specialty Equipment *(call for details)*



Carboys

Carboys – 5 gal, 10 gal, 5 gal - mobile, includes handle. Polypropylene or flame retardant polypropylene construction. Leak tested. Also available with liquid level sensor.



QuartzTanks

High Temperature Quartz Baths - for resist stripping, RCA cleans & silicon nitride etch.



CascadeRinseTank

Accommodates wafer cassettes, Two top spray bars, Bottom fill ports, Bottom dump door with O-ring, Teflon valves with flexible tubing.



Scrubbers(acid)

Compact vertical unit designed to be installed directly above an individual hood or equipment.



TemperatureControlledCirculators

Control temperature in filtered etch modules and other types of chemical tanks.



QuickDumpRinser

Quick Dump Rinser is designed with top adjustable spray rails, external bottom fill rails, and a larger dump door allowing it to dump in seconds.



HotPlates

Hot plates offer precise stirring control, exceptional safety, and superior temperature performance for your routine protocols.



BottleCarts

Bottle Carts are indispensable in active work areas where a handy and safe means for transporting bottled chemicals is required.



WorkTables

Custom configured acid resistant work tables.



MobileCarts

Custom configured acid resistant work tables.

Why Polypropylene - NO RUST, CORROSION OR EXPOSED METALS

Painted and Stainless Steel can scratch or chip, which may lead to corrosion or rusting. LM Air's Polypropylene Lab Equipment will not rust or corrode; constructed of ½" white stress-relieved polypropylene, a highly corrosive resistant and extremely durable thermoplastic. Polypropylene is resistant to most acids, solvents & other liquids. LM Air's polypropylene products are heat seam welded for added strength; include our V-grooving fabrication process, which provides exceptional strength and a smooth, clean edge. All polypropylene equipment include stiffeners / support for added strength, allowing our base cabinets to comply with the stringent requirements of SEFA 8P. Base cabinets and work surfaces are leak tight, with spill containment.

Polypropylene hinges, handles, screws, faucets, leg levelers, rope sash supports, airfoils, sinks / cup sinks, removable access panels, drawers & guides, shelves, exhaust ducts, work surfaces, etc. are included - metal free.

Polypropylene has high temperature and tensile strength, is stain resistant, with low moisture absorption properties; the ONLY choice for long-lasting, corrosive resistant / metal free applications - constructed to last. We also offer both UL94VO & FM4910 flame retardant Polypropylene and CPVC construction for all our Lab Equipment, based on customer requirements.

Poly Air Foil, Handles, Hinges, Sink, Faucet, P-Trap drain, fixtures, Poly Sash Rope, Access Panel



Why Polypropylene - NO RUST, CORROSION OR EXPOSED METALS





Pete Daniele, from LM Air Technology, asked if I would be willing to give you an honest appraisal of our experience with his company and their products, which I am happy to do.

We are in the process of incrementally renovating all of the individual research laboratories in one of our buildings, and have completed three labs to date. All three of these labs require non-metal construction materials, so we specified polypropylene casework and hoods. When we published our first Request for Proposal for polypropylene casework and fume hoods, using Nuair specifications, we received our first-time response from LM Air. We had a short lead time for the construction start, and LM Air had the best proposal for meeting our short deadline, as well as the most competitive price. Until that time, we had no experience with LM Air, so we did a thorough check of their references and found them to be very good. Our lead architect and our engineering group decided to give them a try since their references were solid, they had the shortest lead time, and the best price of all the other bidders. In the past, we used Nuair for our plastic casework and hoods.

Some examples of the products that they have supplied and installed in our labs to date can be seen in the attached photos. They have installed their casework and eight hoods (chemical fume hoods, acid fume hoods, and clean hoods) in the three labs that we have renovated so far. The quality, fit, finish and function of their products have proven to be excellent. We have had no problems whatever with their products. They met and exceeded the Nuair specifications, as well as the many special, challenging design specifications that we requested. Additionally, they always finished on or before the scheduled deadlines; there were no negative issues related to the schedule with LM Air.

It's also important to bring to your attention that we utilized LM Air for the installation of their products in these three laboratories. It's important because the installation of these custom-made products is an essential component of the quality of the finished product. We found their installation crew to be professional, efficient, safe, and cooperative. Their customer service is the standard to judge all others by; it's truly exemplary.



Proudly Operated by Battelle Since 1965



In summary, we are very satisfied with all aspects of our experience with LM Air. We now specify LM Air for all of our plastic casework and hoods, including the installation.

If you have any questions or desire further discussion of our experience with LM Air, please feel free to contact me. Thank you.

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LAB of the Year Award- 2009

LM Air Technology, Inc. provides, Acid-Resistant Labs for Columbia's Lamont Doherty Earth Observatory, including Polypropylene Hoods & Casework

Palisades, NY - Amid cheers from hundreds of scientists & guests, Columbia's Lamont Doherty Earth Observatory cut the ribbon at its \$45 million Gary C. Comer Geochemistry Building. The ultra-modern facility is "the step forward that we need to accelerate our efforts to understand and predict the important changes that will impact the way we live with our planet,"



Lamont director G Michael Purdy

told the crowd. It comes "at a time when, after decades of apathy, humankind is at last awakening to the critical role that the planet's environment plays in everyone's well-being."

The 63,000-square-foot structure is designed for high energy efficiency and harmony with its rural landscape along the Hudson River. The facility will provide updated laboratories to more than 80 geochemists studying everything from global climate change to the transportation of contaminants through water. *The new facility was built in accordance with the Leadership in Energy and Environmental Design, or LEED, program, which is operated by the Green Building Council. These labs will meet best practices described in the EPA's Labs21 program.* The Boston architectural firm of Payette & Associates designed the building. Payette has a reputation for designing innovative, but functional buildings with an open design concept.

The NJ based Cleanroom & Lab Equipment manufacturer, *LM Air Technology, Inc.*, fabricated the acid resistant *Polypropylene Fume Hoods, Laminar Flow Workstations & Casework* in 12 of the labs. The need for Polypropylene is required due to the acids used by scientists in their testing processes. This is one of the largest Polypropylene projects.

LM Air was selected because of their reputation for manufacturing high quality lab equipment, the ability to handle flexible designs, provide high levels of service & deliver within a very aggressive timeline. *LM Air* worked very closely with the architect & project manager to ensure that all Lab equipment was manufactured to very stringent standards.

