Fume cupboards are central components in laboratories, and we have a variety of cupboard types manufactured by Laboratory Solutions FZC, to suit different applications. These applications place increasingly high demands on the equipment as more and more laboratory tasks need to be performed in a fume hood due to the rising numbers of hazardous substances and reagents. Engineering regulation EN 14175 has also set signifi cantly stricter standards.

We provide fume cupboards with standard widths of 1200, 1500, 1800 and 2100 mm. But of course we also provide solutions tailored to your specifi c needs. To cater for a broad range of applications, we have bench-top fume cupboards, fume cupboards for low rooms or with extra interior height and walk-in fume cupboards. Worktops and interior linings are confi gured according to the type of tasks to be performed, the gases and liquids used, the vapours and aerosols emitted.

Monitoring and control

The fume cupboard, air flow monitoring and control system, room air management and ventilation system are one interactive system. In order to set up the optimal interface parameters, a governing overall concept is needed. This is the only way of safely operating a fume cupboard.

In compliance with this aero-technological overall concept, fume cupboards are equipped with air flow controls according to EN 14175 Part 2 or with a constant or variable volume control system (VAV). Options include the implementation of an automatically closing front sash. In combination with a variable volume control system that is connected to the front sash, the exhaust air volume can be drastically reduced

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Fume cupboard with
Fire Extinguishing System (FES)

FES fume cupboards feature a safety system for preventing fires. These fume cupboards feature an automated fi re prevention system, thus allowing for 24- hour or unattended operation. The combination of fume cupboard and fire extinguishing system guarantees round-the-clock safety.

The FES system includes a compressed gas generator, thermal and/or optical (UV) fi re detector, control devices, optical and acoustic warning devices as well as a push-button for manual activation. In the event of fi re, the front sash is closed and exhaust damper and media supply are shut off. The compressed gas generator is started, argon gas is released via the distribution rail to flood and immediately extinguish the fi re. At the same time, acoustic and optical warning signals are triggered, and information is passed on to the in-house building management system and the fi re brigade.

Special fume cupboards according
to DIN 12924 - Part 2

Special application fume cupboards according to DIN 12924 Part 2 are used for open dissociation processes. These fume cupboards feature ceramic or polypropylene lining and are fi tted with a main exhaust duct. They are used when working with aggressive media such as sulphuric acid, perchloric acid, hydrofluoric acid or aqua regia. Fume cupboards

can be fi tted with a gas scrubber to prevent harmful gases leaking into the atmosphere. The absorption device operates in fully automatically. The scrubbing fluid is filled and refilled via a fluid level monitor. The electrical conductivity of the fluid is continuously monitored. Additionally, the system can be augmented by installing a waste water neutralisation unit in the base cabinet to neutralise acidic or alkaline waste waters.

Radioisotope and filter fume cupboards
according to DIN 25466

Radioisotope fume cupboards are designed according to the specifi cations of DIN 25466, fully compliant with the strict regulations on radiation protection. Interior lining and worktop are made of stainless steel or polypropylene. The upper section of the cupboard contains a two-stage fi lter unit (pre-fi lter, particle fi lter). These cupboards can also be equipped with four-fold fi ltering, consisting of a pre-fi lter, particle fi lter, carbon and abraded matter by adding a laterally mounted element.

Bench Mounted Fume Hoods to EN 14175

By defi nition, the purpose of a fume cupboard is to prevent gases, fumes or suspended matter from escaping into the laboratory by means of specifi c design features and air ducts. They are also intended to prevent a dangerous explosive atmosphere in the laboratory, and the front sash protects laboratory staff against a spill of a harmful substance or flying debris or glass splinters. Our proven designs comply with all these demands and ensure maximum safety in the laboratory.

The standard fume cupboard features melamine interior lining, ceramic worktop, stand mounts and lighting. Electric sockets and services (water, gases, pure gases) are installed according to your needs, and base cabinets can be combined as required.

Interior lining

Melamine
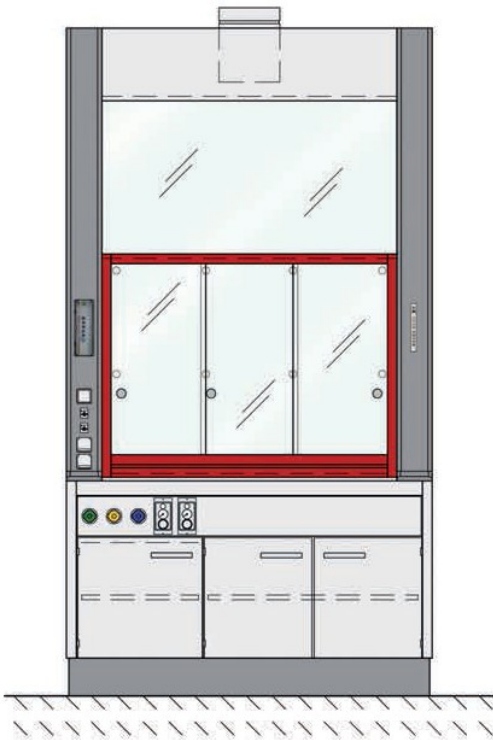Polypropylene
Stainless steel
Stoneware (Ceramic)
Phenolic Resin

Benchtop Fume Hood with Melamine front panel

Technical data

Width	1200	1500	1800	2100
External dimensions	1200 x 945 x 2748	1500 x 945 x 2748	1800 x 945 x 2748	2100 x 945 x 2748
Internal workspace 1	1160 x 740 x 1050	1460 x 740 x 1050	1760 x 740 x 1050	2060 x 740 x 1050
Internal workspace 2	1160 x 740 x 1530	1460 x 740 x 1530	1760 x 740 x 1530	2060 x 740 x 1530
Recommended volumetric exhaust flow (m3/h)	400	530	660	790
Recommended volumetric exhaust flow (m3/h) with supportive air flow technology	350	450	560	680

Good visibility even in the upper part of a fume cupboard is particularly important for tall test set-ups. This model features a frame with two laterally sliding safety glass windows instead of a solid front panel, enabling easy reach into the upper part of the fume cupboard.

If the focus is primarily on visibility and easy reach into the upper part of the cupboard is less important, this cost-saving solution is equipped with fi xed upper front glazing.

Fume Hood with front Sliding safety glass
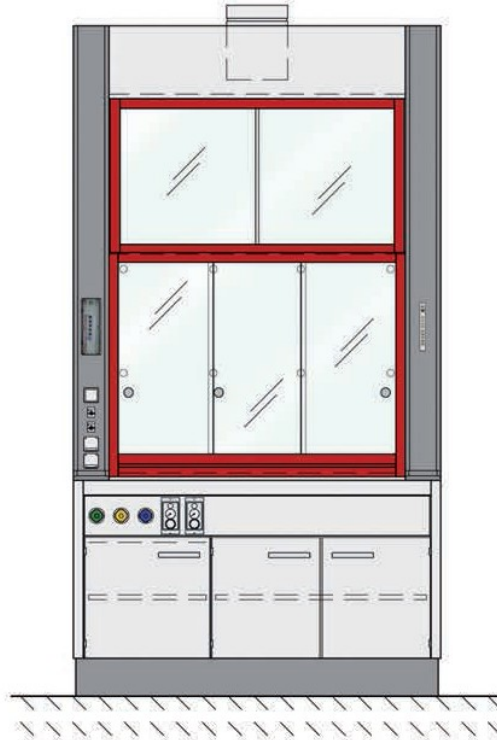
Fume Hood with front fi xed safety

Bench Mounted Fume Hood Models

Interior Lining Material	Part# 1200W	Part# 1500W	Part# 1800W	Part# 2100W
Melamine	FB12011	FB15011	FB18011	FB21011
Polypropylene	FB12012	FB15012	FB18012	FB21012
Stainless Steel	FB12013	FB15013	FB18013	FB21013
Stoneware (Ceramic)	FB12014	FB15014	FB18014	FB21014
Phenolic Resin	FB12015	FB15015	FB18015	FB21015

*Change second last digit for selecting top front panel:

Melamine (standard)   1

Sliding Safety Glass   2

Fixed Safety Glass   3

Fume Hoods for low rooms according to EN 14175

Laboratories normally provide clear heights of at least 3 m. If, however, rooms are lower, standard fume cupboards with structural heights of 2738 mm cannot be installed and special fume cupboards for low rooms must be used.

Owing to a separated front sash (twin-sash), which does not extend beyond the fume cupboard's structural height, these fume cupboards have a height of 2400 mm. The side walls of all fume cupboards can be fitted with flap gates to allow for lateral introduction of cables, tubes or pipes into the fume cupboard.

Bench Mounted Fume Hood Models for Low Rooms

Interior Lining Material	Part# 1200W	Part# 1500W	Part# 1800W	Part# 2100W
Melamine	FL12001	FL15001	FL18001	FL21001
Polypropylene	FL12002	FL15002	FL18002	FL21002
Stainless Steel	FL12003	FL15003	FL18003	FL21003
Stoneware (Ceramic)	FL12004	FL15004	FL18004	FL21004
Phenolic Resin	FL12005	FL15005	FL18005	FL21005

Technical data

Width	1200	1500	1800	2100
External dimensions	1200 x 930 x 2400	1500 x 930 x 2400	1800 x 930 x 2400	2100 x 930 x 2400
Internal workspace	1160 x 740 x 1050	1460 x 740 x 1050	1760 x 740 x 1050	2060 x 740 x 1050
Recommended volumetric exhaust flow (m3/h)	400	530	660	790
Recommended volumetric exhaust flow (m3/h) with supportive air flow technology	350	450	560	680

Distillation Fume Hoods according to EN 14175

High-rising test set-ups require special fume cupboard designs. That is why the worktops of our low-level fume cupboards are mounted at a height of 500 mm. This provides for a clear interior height of 1940 mm. The front sash consists of two separate elements.

As with all fume hoods, a sturdy steel frame provides the supporting structure for the fume cupboard superstructure.
All fume cupboards can be fi tted with composite safety glazing in the side in order to ensure good visibility into the cupboard' s interior.

Bench Mounted Fume Hood Models for Low Rooms

Interior Lining Material	Part# 1200W	Part# 1500W	Part# 1800W	Part# 2100W
Melamine	FD12001	FD15001	FD18001	FD21001
Polypropylene	FD12002	FD15002	FD18002	FD21002
Stainless Steel	FD12003	FD15003	FD18003	FD21003
Stoneware (Ceramic)	FD12004	FD15004	FD18004	FD21004
Phenolic Resin	FD12005	FD15005	FD18005	FD21005

Technical data

Width	1200	1500	1800	2100
External dimensions	1200 x 945 x 2748	1500 x 945 x 2748	1800 x 945 x 2748	2100 x 945 x 2748
Internal workspace	1160 x 740 x 1940	1460 x 740 x 1940	1760 x 740 x 1940	2060 x 740 x 1940
Recommended volumetric exhaust flow (m3/h)	500	630	760	890
Recommended volumetric exhaust flow (m3/h) with supportive air flow technology	450	550	660	780

Walk-in Fume Hoods according to EN 14175

Walk-in fume cupboards are required when test set-ups are prepared on trolleys and moved into the fume cupboard. Also, an interior clear height of 2400 mm allows for particularly tall test set-ups.

The sink is placed into a lateral board, and taps and fixtures are also mounted on the side wall. Electric energy is supplied via pylons and can be installed on either side. As with all our other fume hood models, electrical sockets can also be installed inside the cupboard.

Interior lining

Melamine
Polypropylene
Stainless Steel
Stoneware (Ceramic)
Phenolic Resin

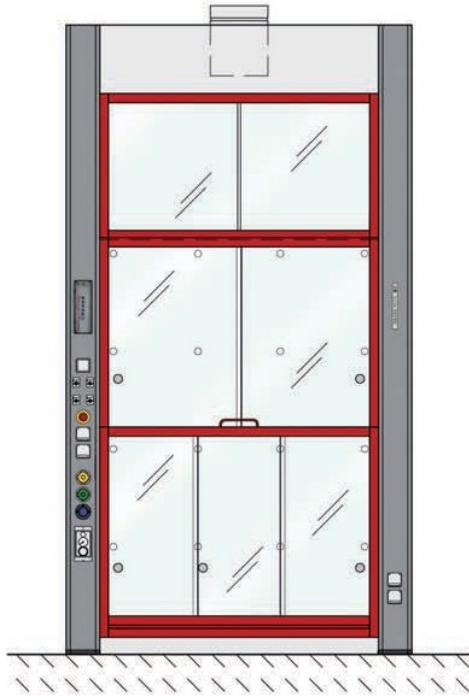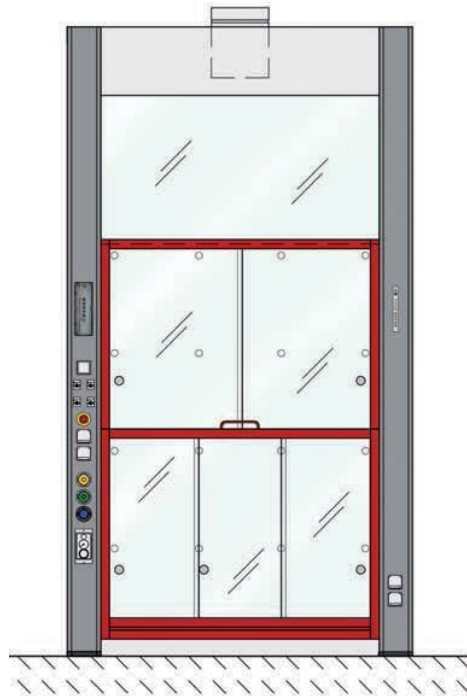Walk-in Fume Hood with Melamine front panel

Technical data

Width	1200	1500	1800	2100
External dimensions	1200 x 945 x 2748	1500 x 945 x 2748	1800 x 945 x 2748	2100 x 945 x 2748
Internal workspace	1160 x 740 x 2400	1460 x 740 x 2400	1760 x 740 x 2400	2060 x 740 x 2400
Recommended volumetric exhaust flow (m3/h)	600	730	860	990

Good visibility into the fume cupboard chamber is essential, particularly when working with tall test set-ups. This model has two laterally sliding windows instead of a solid front panel, so that personnel can easily reach into the upper part of the fume cupboard.

If the focus is primarily on visibility and being able to reach into the upper part of the cupboard is of secondary importance, this solution with fi xed glazing is the economical solution.

Fume Hood with front Sliding safety glass

Fume Hood with front Fixed safety glass

Walk-in Fume Hood Models

Interior Lining Material	Part# 1200W	Part# 1500W	Part# 1800W	Part# 2100W
Melamine	FW12011	FW15011	FW18011	FW21011
Polypropylene	FW12012	FW15012	FW18012	FW21012
Stainless Steel	FW12013	FW15013	FW18013	FW21013
Stoneware (Ceramic)	FW12014	FW15014	FW18014	FW21014
Phenolic Resin	FW12015	FW15015	FW18015	FW21015

*Change second last digit for selecting top front panel:

Melamine (standard)   1

Sliding Safety Glass   2

Fixed Safety Glass   3