LABORATORY FUME CUPBOARD

Ergonomics & Safety
for your Laboratory

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Nearly all laboratories require fume cupboards for working with dangerous amounts and concentration of gases, fumes, dust and aggressive chemicals. Fume cupboards safeguard working environment by making it impossible for harmful substances to get outside the working chamber. Thanks to constantly improved production technology our fume cupboards not only allow to protect personnel but also save air usage.

Every fume cupboard is equipped with a safety hatch allowing for safe explosion energy release through the cupboard's roof. This increases user's safety and reduces the risk of damaging the fume cupboard itself.

A standard fume cupboard is typically equipped with two water spouts and two 230V electric sockets. Other, additional sockets and valves may be installed according to customer's particular preferences and needs. Scaffoldings made from 10mm rods, which enable installing laboratory appliances on the rear wall of the working chamber are also available.

All our fume cupboards are compliant with EN 14175 standard, certified and confirmed by the EN 14175 protocol.

Our fume cupboards share certain common construction features:

- Wide selection of airflow control systems, from economical solutions to very advanced systems with airflow regulation and window automation
- Integrated, ventilated cupboard under the tabletop for short-term reagent storage
- Wide selection of worktop materials and working chamber linings
- Worktops made of solid ceramics offered as a standard and preferred choice
- Ergonomic, chemically-resistant valves and spouts
- High-efficiency slot ventilation system
- Easily-configured additional installations
- Aerodynamic front worktop edge
- Safe, self-locking window mechanism

Fume Cupboards - Introduction

Fume Cupboards – PROFESSIONAL Series

This is a series of laminated fume cupboards based on a sturdy frame made of steel sections. The series offers a great cost-effect ratio in situations when fire-proofing of the cupboard construction is not necessary.

A wide selection of versions and sizes is available including custom-made units, adjusted to customer's specific requirements.

The fume cupboards of this series include versions with worktop at 900 mm height, with lowered worktop or without one, designed for low-ceiling rooms or double-sided and ones with glazed side walls. We also realize requests involving bench-mounted fume cupboards and special constructions.

A large number of finishing touches and configurations, simplifying modification and installing extra appliances ensure the fulfilment of all requirements that may be expected from a modern fume cupboard in a modern laboratory.

The slot ventilation system guarantees even airflow throughout all of the working chamber interior and effective capturing of gases, dust and fumes both lighter or heavier than air, making the working conditions for the operator as safe as possible.

The underbench ventilated cabinet, connected to the fume cupboard ventilation system or an independent one (on request), is a comfortable, convenient space for short-term storage of reagents, equipment or tools needed for operation.

Every fume cupboard is typically equipped with a control system complete with air flow sensor, fully compliant with EN-14175 standard. The fume cupboards are also equipped with two 230V sockets as well as a small sink and two cold water outlets which are operated from the front panel.

Standard Fume Cupboards – PROFESSIONAL Series

Type		1200	1500	1800
Width (mm)		1270	1570	1870
Depth (mm)			940	
Height (closed/open sash) (mm)			2450/2500	
Worktop height (mm)			900	
Working chamber	width (mm)	1150	1450	1750
	depth (mm)	720	720	720
	height (mm)	1350	1350	1350
Maximum sash opening (mm)			720	
Recommended airflow with sash open (m3/h)		600-1000	750-1300	950-1550
Recommended air flow speed at front face (m/s)			0.3-0.5	
Extract-air manifold (mm)		ø160	ø200	ø250

Low-level Fume Cupboards – PROFESSIONAL Series

Type		1400	1700	2000
Width (mm)		1390	1690	1990
Depth (mm)			940	
Height (closed/open sash) (mm)			2450/2450	
Worktop height (mm)			min. 100	
Working chamber	width (mm)	1150	1450	1750
	depth (mm)	660	660	660
	height (mm)	max.2150	max.2150	max.2150
Maximum sash opening (mm)			1500	
Recommended airflow with sash open (m3/h)		1800-3000	2300-3850	2800-4650
Recommended air flow speed at front face (m/s)			0.3-0.5	
Extract-air manifold (mm)		ø315	ø315	2 x ø250

Fume Cupboards – PROFESSIONAL Series

Worktop:

- Solid ceramics (standard)
- Large-size Buchtal ceramics
- Durcon epoxy resin
- Polypropylene

Working chamber lining:

- Laminate (standard)
- Large-size Buchtal ceramics
- Mixture of phenolic resins - Max Resistance
- Polypropylene

Standard equipment:

- 2 pcs. 230V sockets
- 2 water outlets with taps on the front panel
- Small sink (approx. 240x80mm)

Sash window:

- MDF frame with sliding glass panes (standard)
- Aluminium frame
- Steel frame
- Tempered glass or polycarbonate (for working with hydrofluoric acid)

Additional options:

- Additional 230V and 380V sockets
- Additional water outlets
- Flammable and technical gases outlets
- Differential circuit breaker
- Automatic window control (Auto Protect system)
- Manual Protect System (reminding of the necessity to shut the window)
- Automatic controlling of the ventilation depending on sash position

Airflow sensor:

- Air-Flow (standard)
- Air-Flow Compact
- Air-Flow Touch
- Air-Flow EX
- Schneider FM-100
- Schneider FM-500
- Schneider iCM
- Schneider FM-100E

Double-sided Fume Cupboards – PROFESSIONAL Series

Type		1400	1700	2000
Width (mm)		1390	1690	1990
Depth (mm)			940	
Height (closed/open sash) (mm)			2450/2500	
Worktop height (mm)			900	
Working chamber	width (mm)	1150	1450	1750
	depth (mm)	660	660	660
	height (mm)	1350	1350	1350
Maximum sash opening (mm)			720	
Recommended airflow with sash open (m3/h)		1200-2000	1550-2550	1850-3100
Recommended air flow speed at front face (m/s)			0.3-0.5	
Extract-air manifold (mm)		ø250	ø315	ø315

Low-ceiling Fume Cupboards – PROFESSIONAL Series

Type		1200	1500	1800
Width (mm)		1270	1570	1870
Depth (mm)			940	
Height (closed/open sash) (mm)			2100/2100	
Worktop height (mm)			900	
Working chamber	width (mm)	1150	1450	1750
	depth (mm)	660	660	660
	height (mm)	1000	1000	1000
Maximum sash opening (mm)			650	
Recommended airflow with sash open (m3/h)		600-1000	750-1300	950-1550
Recommended air flow speed at front face (m/s)			0.3-0.5	
Extract-air manifold (mm)		ø160	ø200	ø250

Fume Cupboards – PREMIUM Series

This is a series of all-steel construction fume cupboards, made without use of wood-based materials, thanks to which they can be easily adapted for incombustibility requirements. They present the highest world standard of quality and guarantee unmatched ergonomics of usage as well as modern design.

Fume cupboards of the PREMIUM series are available in a number of standard sizes including versions with worktop at 900 mm, low worktop or without one. Glazing of the fume cupboards' side walls is also on offer.

Among the features that guarantee the possibility to adjust the fume cupboards to customer's specific requirements are a wide range of tabletop materials, working chamber linings and interchangeable utility panels.

The slot ventilation system together with aerodynamic worktop edge and slanted side panels ensure equal airflow throughout the working chamber interior and effective capturing of gases, dust, and fumes both lighter and heavier than air, making working conditions for the operator as safe as possible.

The underbench ventilated cabinet made of steel covered with chemically-resistant epoxy paint in powder coating technique is connected to the fume cupboard ventilation system. It may also be ventilated by an independent ventilation system (on request). The cabinet provides easily accessible, convenient space for short-term storage of reagents, equipment or tools needed for operation.

As it is in the case of the Professional series, every fume cupboard is equipped with a control system complete with air flow sensor, fully compliant with EN-14175 standard. The fume cupboards are also equipped with two 230V sockets as well as a small sink and two cold water outlets which are operated from the front panel.

Standard Fume Cupboards – PREMIUM Series

Type		1200	1500	1800
Width (mm)		1280	1580	1880
Depth (mm)			940	
Height (closed/open sash) (mm)			2325/2575	
Worktop height (mm)			900	
Working chamber	width (mm)	1150	1450	1750
	depth (mm)	700	700	700
	height (mm)	1260	1260	1260
Maximum sash opening (mm)			750	
Recommended airflow with sash open (m3/h)		600-950	750-1250	900-1500
Recommended air flow speed at front face (m/s)			0.3-0.5	
Extract-air manifold (mm)		ø160	ø200	ø250

Low-level Fume Cupboards – PREMIUM Series

Type		1500	1800	2100
Width (mm)		1500	1800	2100
Depth (mm)			900	
Height (closed/open sash) (mm)			2385/2820	
Worktop height (mm)			min. 100	
Working chamber	width (mm)	1150	1450	1750
	depth (mm)	650	650	650
	height (mm)	max. 2060	max. 2060	max. 2060
Maximum sash opening (mm)			1790	
Recommended airflow with sash open (m3/h)		2100-3500	2650-4450	3250-5400
Recommended air flow speed at front face (m/s)			0.3-0.5	
Extract-air manifold (mm)		ø315	2 x ø250	2 x ø315

Fume Cupboards – PREMIUM Series

Walk-in Fume Cupboards – PREMIUM Series

Type		2100	2400
Width (mm)		2100	2400
Depth (mm)		900	
Height (closed/open sash) (mm)		2385/2870	
Working chamber	width (mm)	1750	2050
	depth (mm)	650	650
	height (mm)	2130	2130
Maximum sash opening (mm)		1890	
Recommended airflow with sash open (m3/h)		3450-5700	4050-6750
Recommended air flow speed at front face (m/s)		0.3-0.5	
Extract-air manifold (mm)		2 x ø315	2 x ø315

Worktop:

- Solid ceramics (standard)
- Large-size Buchtal ceramics
- Durcon epoxy resin
- Polypropylene

Working chamber lining:

- Galvanized, epoxy powder-coated steel (standard)
- Large-size Buchtal ceramics
- Mixture of phenolic resins - Max Resistance
- Polypropylene

Standard equipment:

- 2 pcs. 230V sockets
- 2 water outlets with taps on the front panel
- Small sink (approx. 240x80 mm)

Window:

- Steel frame (standard)
- MDF frame with sliding glass panes
- Aluminium frame
- Tempered glass or polycarbonate (for working with hydrofluoric acid)

Additional options:

- Additional 230V and 380V sockets
- Additional water outlets
- Flammable and technical gases outlets
- Differential circuit breaker
- Automatic window control (Auto Protect system)
- Manual Protect System (reminding of the necessity to close the window)
- Automatic controlling of ventilation depending on sash position

Airflow sensor:

- Air-Flow (standard)
- Air-Flow Compact
- Air-Flow Touch
- air-Flow EX
- Schneider FM- 100
- Schneider FM- 500
- Schneider iCM
- Schneider FM-100E

Fume Cupboards - Characteristics

Our fume cupboards are produced in various material configurations. The standard solution includes:

Worktop made of solid ceramics with an integrated raised edge, profiled in a way that reduces air drag and turbulence on the intake. Other proposed materials:

- Large-size ceramics
- Durcon epoxy resin
- Polypropylene
- Polyester resin
- Stainless steel
- Granite

Working chamber, depending on type: epoxy powder-coated steel or melamine, inside optionally lined with:

- Ceramics
- Polypropylene
- Phenolic resin

All the installations are made according to increased protection standards:

- Electric IP 44, and IP 54
- All spouts covered with chemically-resistant epoxy coating
- Valve taps made of polypropylene
- Water installation made of copper components the diameter of which is concordant with clients' needs
- Sewage system made of polypropylene

Sash window with automated or manual operation, sash frame made of chemically resistant powder-coated MDF, steel or aluminium. All versions equipped with a stop-lock at 500 mm opening height (according to EN 14175 requirements), on request a two-part telescopic sash also available.

Sash glass panels made of certified, tempered glass or 6 mm thick VSG safe-glass.

Airflow control system fitted in standard.

Fume Cupboards - Airflow control

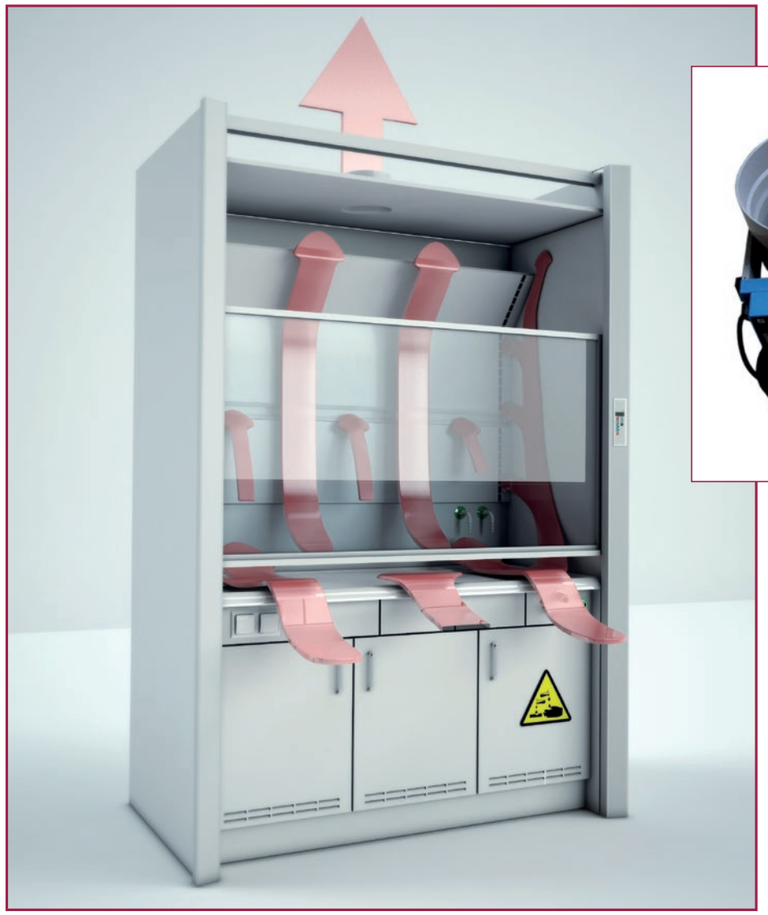
Airflow control system.

The key issue for safe usage of any fume cupboard is constant control of the amount of air flowing through the working chamber. All our fume cupboards are equipped with an airflow control system which is compliant with EN 14175 standard.
Users may choose from a wide selection of sensors which cover full spectrum of requirements.

Apart from standardized solutions our company offers advanced, multifunctional systems equipped with extra features.

The primary ones include:

- Socket control system
- Working chamber temperature control system
- Fire protection system
- AUTO and MANUAL Protect system
- Automatically or manually regulated slot system for collecting fumes and gases lighter or heavier than air
- Control system with a touch panel
- Ex control system



Fume Cupboards - Material Configuration

Overview about Standard Material Configurations (other configurations on request):

PROFESSIONAL Series

Configuration	Slot system baffle material	Work chamber lining	Worktop
LC/CR B	MaxResistance or Trespa Virtuon phenolic resins composites	Ceramic - Buchtal large-size, 8 mm glazed, technical ceramic tiles	Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LC/CR S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.
LPP B	Polypropylene	Polypropylene	Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LPP S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.
LM B	MaxResistance or Trespa Virtuon phenolic resins composites	MaxResistance phenolic resins composite	Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LM S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.
LL B		HPL - High pressure laminated particle board	Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LL S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.
Optional: slot system baffle made of large-size technical ceramics (only with ceramic work chamber lining)			

PREMIUM Series

Configuration	Slot system baffle material	Work chamber lining	Worktop
LC/CR B	Ceramic - Buchtal large-size, 8 mm glazed, technical ceramic tiles		Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LC/CR S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.
LPP B	Polypropylene		Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LPP S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.
LM B	MaxResistance phenolic resins composite		Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LM S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.
LL B	Steel covered with chemically resistant epoxy powder coating		Large-size ceramics – glazed ceramics on timber derivative (water-resistant board): 8 mm thick large-size technical ceramic tiles with marine edges for spill prevention.
LL S			Solid ceramics: 38mm thick, with integrated ceramic marine edge.

Fume Cupboards - REFERENCES

Customers from all over the world rely on our products and services. They belong to the following fields:

- Research Laboratories/-Institutions
- Pharmaceutical Industry
- Food / Beverage
- Microbiology Laboratories
- Universities / High-Schools
- Oil Industry
- Metallurgy
- Quality Control
- Material Testing
- Analytical-/Industrial Chemistry
- Environmental Technology
- Medical Appliances
- Clinical Research
- Chemical Industry
- Cosmetics
- Biotechnology
- Power Plants
- and many more...

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