FUME CUPBOARDS

The key advantage of labproff™ fume cupboards is an absence in the work area of both wood-fiber board surfaces and details that suffer corrosion.
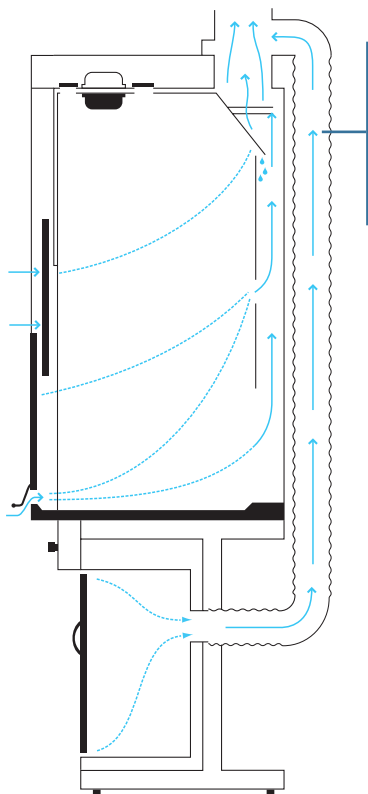
Powder-coated aluminium alloys, polypropylene and TRESPA material allow unrestricted work in humid and aggressive environment.

Patented aluminium profiles, accessible side posts for sliding mechanism inspection, air flow control and other accessories on request.

FUME CUPBOARDS UNIVERSAL

AIR FLOW ALLOCATION SCHEME

Three extraction zones provide non-turbulent effective exhaust of fumes, heavy and light gases, solvents and particles of liquids providing maximum safety for operator. Airfoil barrier ensures anti-leakage of spills and absence of turbulence above the worktop.

PRIMARY CONDENSING SYSTEM (primary mechanical scrubber system in ventilation outlet) allows to reduce emissions to the environment and increase service life for ventilation and air cleaning elements

BYPASS system provides air access to hood when vertical sashes are closed and reduces heat losses above worktop area

POLYSPAST system with two-part balanced vertical sashes does not project beyond the total height of the cupboard. The counterweights are located within the frontal side posts for convenience of your service engineer

CLEAR VIEW system – frontal and side panels are made from transparent and glazed panels let observe all the processes inside the cupboard.

"MAXIMUM UTILIZATION OF CUPBOARD Workspace" – left and right sides combined are 14mm thick. It gives operator the best internal width dimension comparing to other fume cupboards.

ENVIRONMENTAL PROTECTION

• Primary scrubber system condenses heavier vapors
• Absorbent filters and acid-resistive fans (optionally)
• Antispilling front barriers, patented sash handle

QUALITY

• Chemically resistant worktops, sides,
and roof
• Powder coated aluminum profiles, side posts, reinforced underbench metal support
• Left and right sidewalls made from transparent hardened glass in frames (TRESPA and POLYSTONE optionally)
• Polypropylene trays for solvents and chemicals storage in underbench cabinets and inside hood

• Polypropylene underbench cabinets for acids or alkalis storage, metal underbench cabinets for different chemicals, EN 141470-1 certified cabinets for flammable liquids storage
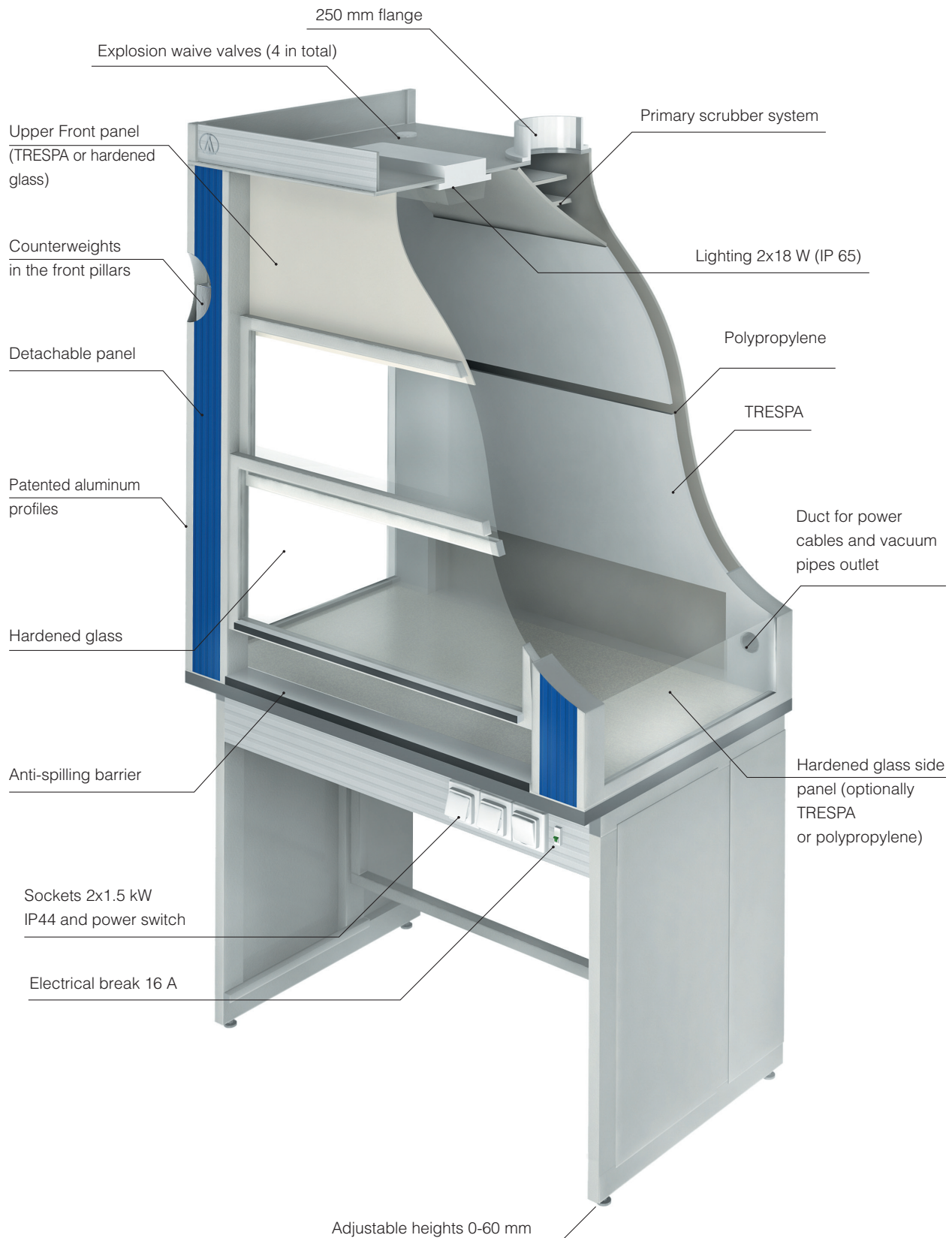
ERGONOMICS

• Two-part balanced vertical sashes is lifted easily (0-800 mm, with intermediate mechanically fixed position at 500 mm) and easily fixed manually at any level
• Standard workspace depth is 600 mm or 700 mm. Other depths are optional. Workspace width range is 870, 1170, 1470, and 1770 mm.
• Custom designed fume cupboards are available upon request.
• All shelves, valves and sockets are placed at the convenient height for operator.
• Good illumination

• Special internal mounts for titration or organic synthesis (optional)
• Horizontal sliding window from hardened glass in sashes (optional)
• Counterweights are located within the side posts for easy access

SAFETY

• Sashes are made from transparent hardened glass in frames
• Protective explosion wave valves in the roof (4 explosion cut membranes)
• Dust-and-moisture-proof lighting IP65 2x18 W (2x36 W)
• Explosion-safe lighting (optional) 2x18 W (2x36 W)
• Two water spill-proof sockets IP 44
• Air flow monitor (optional)
• Electrical break automat 16 A

FUME CUPBOARDS UNIVERSAL

DESIGN FEATURES

250 mm flange

Explosion waive valves (4 in total)

Upper Front panel
(TRESPA or hardened
glass)

Primary scrubber system

Counterweights
in the front pillars

Lighting 2x18 W (IP 65)

Detachable panel

Polypropylene

TRESPA

Patented aluminum
profiles

Duct for power
cables and vacuum
pipes outlet

Hardened glass

Anti-spilling barrier

Hardened glass side
panel (optionally
TRESPA
or polypropylene)

Sockets 2x1.5 kW
IP44 and power switch

Electrical break 16 A

Adjustable heights 0-60 mm

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FUME CUPBOARDS UNIVERSAL

Technical Data					Optional
Length, mm	900	1200	1500	1800	N/A
Clear internal length, mm	870	1170	1470	1770	N/A
Depth1 / Clear internal depth1, mm	750/600	750/600	750/600	750/600	N/A
Depth2 / Clear internal depth2, mm	850/700	850/700	850/700	850/700	N/A
Height, mm	2250	2250	2250	2250	N/A
Lighting IP65, W	2x18	2x18	2x36	2x36	In ex-proof version
Power supply: splash-proof external sockets 1,5 kW IP44/230V	2	2	2	2	4 external on front panel, 4 internal on rear right panel
Non-standard supply voltage					Upon request
Electrical Break 16 A/230V	1	1	1	1	
Drip					Ceramics 300-150 mm or polypropylene 300-150 mm
Water, gases supply					Take-off valves for water, gases, inlets on vertical back left panel
Vacuum					Take-off valves vacuum, inlets on vertical back left panel
Cable ducts in rear right pillar	1	1	1	1	Another through-puts under request
Sliding windows in sashes					In lower, middle, or upper sashes
Underbench cabinets					Polypropylene, metal or EN 14470-1 cabinets for flammable liquids
Worktops (also see next table)					Ceramic tiles, polypropylene
Air flow monitor					upon request
Filters, dampers, scrubbers					Within ventilation manifold

	Length 900 мм	Length 1200 мм	Length 1500 мм	Length 1800 mm
FRIDURIT Premium	optional	FCU 120.75.225 FRP	FCU 150.75.225 FRP	optional
FRIDURIT Standard	FCU 90.75.225 FRS FCU 90.85.225 FRS	FCU 120.75.225 FRS FCU 120.85.225 FRS	FCU 150.75.225 FRS FCU 150.85.225 FRS	FCU 180.75.225 FRS FCU 180.85.225 FRS
TRESPA TopLab	FCU 90.75.225 TR FCU 90.85.225 TR	FCU 120.75.225 TR FCU 120.85.225 TR	FCU 150.75.225 TR FCU 150.85.225 TR	FCU 180.75.225 TR FCU 180.85.225 TR

EQUIPMENT OPTIONS FOR FUME CUPBOARDS UNIVERSAL

Acid resistant Fan POLYFAN

FILTER CARBON

Flange 250 mm

Explosion-proff lighting

Sliding windows in sashes

Remote cold water inlet (page 14)

Glass side panels may be changed to TRESPA or Propylene

Flow control monitor

Ceramics/Polypropylene drain sink with siphon trap (page 14)

Valves, sockets

Metal underbench with sliding TRESPA doors

Polypropylene underbench with sliding doors

Duepperthal underbench EN 14470

FUME CUPBOARD WITH OPTIONAL ACCESSORIES

Fume Cupboards labproff FCU 120.75.225 FRP

Fume Cupboard with dimensions 1200 x 750 x 2250 mm.

Worktop - Ceramics Fridurit PREMIUM 26 mm with antispilling barriers along the perimeter. Standard power supply. 4 explosion membranes in the roof, 2 moving sashes, one cable duct in right rear pillar

Optional accessories:

Underbench cabinet UC-FCU PP110 (polypropylene)

Ceramic drain sink with siphon trap

Cold Water Valve and inlet on the left rear pillar

Replace glass side walls with TRESPA side wall

Air ventilation system control

Sliding windows in lower and middle sashes

UNDERBENCH CABINETS FOR STANDARD FUME CUPBOARDS

Metal underbench cabinet (**UC-FC ME**) with sliding TRESPA doors

For Fume Cupboards 900 mm length	For fume cupboards 1200 mm length	For fume cupboards 1500 mm length
UC-FCU 80.35.60 ME	UC-FCU 110.35.60 ME	UC-FCU 140.35.60 ME

Polypropylene under-bench cabinet (**UC-FC PP**) with sliding polypropylene doors

For fume cupboards 900 mm length	For fume cupboards 1200 mm length	For fume cupboards 1500 mm length
UC-FCU 80.35.60 PP	UC-FCU 110.35.60 PP	UC-FCU 140.35.60 PP

In case of fire, automatic mechanism closes the Underbench cabinet (triggered by ambient temperature above 47°C) and special heat insulator seals off doors and joints by foaming. Cabinets also have 75 mm flanges for intake and exhaust ventilation. In case of inflammation the ventilation switches off automatically. Cabinet installation needs change in fume cupboard construction (base frame). Specialized fume cupboards with built-in Dueperthal cabinets are developed as well.

IN ACCORDANCE WITH EUROPEAN STANDARD EN 14470-1

For fume cupboards 900, 1200, 1500, 1800 мм*	For fume cupboards 1200, 1500, 1800 мм*	For fume cupboards 1500, 1800 mm мм*
UTS S-5 length 600 mm	UTS MT-5 length 900 mm UTS LK-5 length 1100 mm	UTS XLD length 1400 mm

- 1 pull-out drawer - 1 shelf with tray	- 2 swing doors - 1 shelf with tray	- 2 pull-out drawers - 2 floor trays

Other safety cabinets EN14470-1 under request

SPECIAL APPLICATION FUME CUPBOARDS

Special application fume cupboards are developed for operations with specific chemicals and purposes

They can be equipped with various units such as drain sinks, underbench cabinets, power supply, water and gases valves, etc.

SPECIAL APPLICATION FUME CUPBOARDS

Metal fume cupboard for working with flammable liquids

FCL 120.75.225 K8
FCL 150.75.225 K8

Worktop – Ceramic
Length – 1200,1500 mm
Worktop depth – 750 mm
Height – 2250 mm
Underbench cabinet - Metal

COMPLETE SET

- Exhaust hood has framed double metal walls with powder coating
- Two-part balanced vertical sash with upper sash window made of hardened glass in frames
- Counterweights within side posts
- Stationary transparent upper sash
- Protection closure 4 pieces
- One lighting unit 2x18 W, isolated with hardened glass
- Power switch
- 2 splash-proof sockets 1,5 кW
- Electrical break automat 16 A

Fume cupboards for flammable liquids work with under-bench cabinet (OSHA 29 CFR 1910.106, NPFA Code 30)

FCL 120.75.225-J K8

Worktop – Ceramic
Length – 1200,1500 mm
Worktop depth – 750 mm
Height – 2250 mm
Underbench cabinet - Metal or Polyethilene for acids and alkalis

COMPLETE SET

- Exhaust hood has framed double metal walls with powder coating
- Two-part balanced vertical sash with upper sash window made of hardened glass in frames
- Counterweights within side posts
- Stationary transparent upper sash
- Protection closure 4 pieces
- One lighting unit 2x18 W, isolated with hardened glass
- Power switch
- 2 splash-proof sockets 1,5 кW
- Electrical break automat 16 A

Cabinets for flammable liquids storage in accordance with OSHA requirements 29 CFR1910/106, length 900 mm

Unique galvanized steel shelves with leakage trap collect spilled liquid drops. The shelves height incremental adjustment is provided for greater versatility. We also developed specialized fume cupboard FCL 120-J for both flammable liquids storage and treatment in accordance with the USA standards.

SPECIAL APPLICATION FUME CUPBOARDS

Optional accessories for flammable liquids fume cupboards

Sliding glass windows for the lower and middle sashes

Single-piece sash

Mechanical Fumes Adsorbtion system on the flange (page 25)

Drain sink and water valve

Gases valves, Vacuum outlets

Flow controllers

Extra power supply

Polypropylene trays

Fume Cupboards with underbench cabinet for flammable liquids storage by EN-14470-1

FCL 120-D
FCL 150-D

Worktop – Ceramic K8 (under request)

Length – 1200, 1500 mm

Worktop depth – 600 mm

Height – 2250 mm

Underbench cabinet is not included in base configuration

COMPLETE SET

• Exhaust hood has framed double metal walls with powder coating
• Two-part balanced vertical sash (hardened glass in frames)
• Counterweights within side posts
• Stationary transparent upper sash
• Protection closure 4 pieces
• One lighting unit 2x18 W, isolated with hardened glass
• Power switch
• 2 splash-proof sockets 1,5 кW
• Electrical break automat 16 A

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SPECIAL APPLICATION FUME CUPBOARDS

Walk-in fume cupboard (FCW) for distillation, organic synthesis and other purposes

FCW 150.105 .225

Length – 1500 mm
Working area depth – 900 mm
Height – 2550 mm

There is one lower independent sash (850 mm height) and two standard balanced sashes. Walk-in design allows mounting of and work with tall equipment, e.g. to control organic synthesis processes.

The full opening height of the sash is 1700 mm.

The opening of two standard sashes (middle and upper) is between 900 and 1700 mm.

Other walk-in/organic synthesis fume cupboard under request.

COMPLETE SET

• Three-part vertical sash (hardened glass in frames)
• Five exhtraction zones
• Rear wall – TRESPA 4 mm
• Side walls – TRESPA 6 mm
• Luminescent lighting IP65 (2x36 W)
• Three splash-proof sockets IP44, switch
• Flange-250 mm
• Electrical break automat 16 A

OPTIONALLY

• Service module with cold water supply and drip, gas inlets
• Top bench on the height "0", "450", "750" or "900" mm

Fume cupboards for acids(FCA) evaporation

FCA 120.85.225 FRS
FCA 150.85.225 FRS

Worktop – Ceramics FRIDURIT 20 mm
Length – 1200,1500 mm
Height – 2250 mm
Depth – 850 mm

Entire cupboard body is made of polypropylene.

Additionally, the FRS model is lined up with jointless ceramic plates (600 mm. height from the worktop) and 20 mm jointless ceramics FRIDURIT is used for the worktop as well.

FCA 120.85.225 K8
FCA 120.85.225 K8

Worktop – Ceramics
Length – 1200,1500 mm
Height – 2250 mm.
Depth – 850 mm

COMPLETE SET

• Two-part balanced vertical sash
• Flange 200 mm
• Mobile polypropylene cabinet
• Luminescent lighting IP 65 (2x18 W)
• Power sockets: 220 V / 50 Hz / 16 A
• Power switch

SPECIAL APPLICATION FUME CUPBOARDS

Fume cupboards with sink (FCS)

FCS 120.70.225 DU2
FCS 150.75.225 DU2

Worktop – TRESPA

Sinks – 2 epoxy sinks 280 mm height

Length – 1200,1500 мм

Internal Depth – 600 mm

Height – 2250 mm

FCS 120.75.225 PP2
FCS 150.75.225 PP2

Worktop – Polypropylene

Sink – 2 polypropylene sinks 300 mm height

Length – 1200,1500 mm

Internal Depth – 600 mm

Height – 2250 mm

COMPLETE SET

• Three extraction zones at the rear wall
• Hot/cold water mixer tap FAR
• Side walls – hardened glass
• Rear wall – TRESPA 4 mm
• Adjustable rests (0-60 мм)
• Metal underbench cabinet with sliding polypropylene doors
• Electricity upon request

Fume cupboards with built-in heating glass-ceramic surface (FCH)

FCH 120.87.225
FCH 150.87.225

Worktop – Ceramics

Length – 1200 and1500 mm

Depth – 870 mm

Height – 2250 mm

These fume cupboardss have heating plate with acid-proof glass-ceramic surface HARRY GESTIGKEIT. Working area is 580x430 mm.

Equipped with control for gradual heating up to 500°C

COMPLETE SET

• Two-part balanced vertical sash (hardened glass 6 mm)
• Side and rear panels – Ceramics K8
• Three extraction zones
• Lighting IP65 (2x18 W), 2 plugs 1,5 kW
• Power switch
• Electrical break automat 25 A
• Heating control unit on the front panel
• Mobile polypropylene cabinet, tray

SPECIAL APPLICATION FUME CUPBOARDS

Fume cupboard economy (FCE)

FCE 120.70.210 KG
FCE 120.70.210 TR

FCE 150.70.210 KG
FCE 150.70.210 TR

Worktop – ceramic tiles (KG), Trespa TopLab (TR)

Length – 1200/1500 mm

Internal Depth – 600 mm

Height – 2100/2460 mm

One sash

COMPLETE SET

- Three extraction zones
- Flange-200 mm
- Electrical break automat 16 A
- Two splash-proof sockets, switch
- Lighting – 40 W
- Tray in underbench cabinet

Fume cupboard economy polypropylene lining (FCE-PP)

FCE-PP 120.70.210 KG
FCE-PP 120.70.210 TR

FCE-PP 150.70.210 KG
FCE-PP 150.70.210 TR

Worktop – ceramic tiles (KG), Trespa TopLab (TR)

Length – 1200/1500 mm

Internal Depth – 600 mm

Height – 2100/2460 mm

One sash

Internal polypropylene lining

COMPLETE SET

- Three extraction zones
- Flange-200 mm
- Electrical break automat 16 A
- Two splash-proof sockets, switch
- Polypropylene lining underbench cabinet
- Lighting – 40 W
- Tray in underbench cabinet

ACCESSORIES FOR FUME CUPBOARDS

Flow control system Schneider Elektronik

System consists of three parts: controller, differential-pressure transducer and control terminal. The main equipment is located on top, the control terminal is near the detachable panel of the right side post.

ALL MODELS ARE EQUIPPED WITH

- Control panel
- Alarm sound/ Light alarm
- Sash opening height controller (optional)
- Port RS232 for connection with PC for full diagnostics, registry and connection with building computer control system
- Lighting switch

TECHNICAL FEATURES

Model	Detectors	Flows, m/s
iM50	Red – Danger Green – Safe Yellow – Work at max. flow	0 – 8
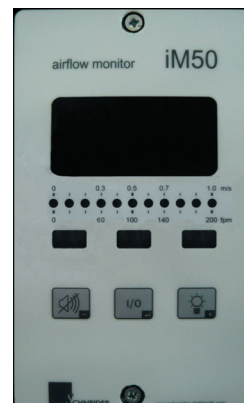
Scrubbers

Scrubber FRIDURIT® is a broad purpose gas absorber, developed specially for installation on top of, or next to laboratory fume cupboards. It can also be installed in other work chambers, where dangerous gas emission takes place.

Scrubber FRIDURIT® quickly absorbs corrosive and toxic gases, such as perchloric, hydrochloric, hydrofluoric, sulphuric, and nitric acids fumes, and their mixtures at the moment of their discharge.

Scrubber FRIDURIT® has a built-in PLC for automated control of gas absorption and washing off process. Even during the automatic replacement of the scrubbing liquid the scrubber remains fully operational.

Contaminated air is drawn by fan (supplied separately), into the scrubbing chamber, passes through a fine mist of liquid and than dried with mist eliminator. Guaranteed degree of air purification is 97%.

	C54	C90	C75	C180
Placement	Built-in unit on top of the fume cupboard		Stand-alone unit beside the fume cupboard	
Materials	Polypropylene enclosure and spray wheel; PVC fittings			
Air flow, m³/h	480 – 900	600 – 1400	480 – 750	600 – 1800
Air inlet	2 tubes 200 mm		Flange 200 mm	Flange 250 mm
Air outlet	1 tube 250 mm		Flange 200 mm	Flange 315 mm
Water load, l	45	60	45	70
Control unit	Plastic case with programmed control system, switching block for air compressor wheels motor, control switch, emergency switch			
Power supply	400/230 V, 50 Hz, 0.75 кW (protection: motor – IP 54, control system – IP 40)			
Scrubbing liquid replacement	Control system ilinked to timer, time can be set within wide range			
Dimensions (LxWxH), mm	950 x 710 x 550	1220 x 710 x 550	550 x 750 x 1535	850 x 750 x 1535
Gross weight (filled), kg	135	170	135	190

FILTER SYSTEMS FOR FUME CUPBOARDS

Filter systems – FILTERBOX (manufactured by Plastifer)

The control of atmospheric emissions involves both the comfort and the ecological aspect of working environments. Environment protection (ISO 14001 requirement), EEC standards, and the well-being of the people who work in laboratories are all factors that require the use of systems that hold back acids or solvents present in chemical processing discharges, with a resulting air purification.

Filter systems (FC) are divided into two groups: FILTERBOX and FILTERKIT.

FC FITERBOX is a case with special cartridges block (4 to 14), containing activated carbon, and pre-filter that protects carbon adsorbent from dust contamination.

FC FILTERBOX are developed for air cleaning from solvents (NORMAL) and acid emissions (RBAA).

FILTERBOX **CARBOO4PN**

FILTERBOX **CARBOO6PN**

FILTERBOX **CARBOO4PN**

GENERAL PROPERTIES

- High filtration efficiency
- Ease of cartridge replacement
- All components of case and cartridge holders are made of acid-proof PVC
- Pre-filter protects absorbent from dust

CAUSES THAT REDUCE FC PERFORMANCE

- Elevated temperature (more than 60°C) sharply reduces carbon adsorbing capacity
- Increased humidity (more than 70%) spoils the absorbent
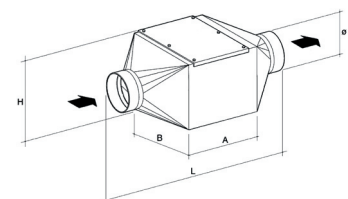- Dust blocks the absorbent pores so the pre-filter needs timely replacement

NB! FC USE NEEDS MORE POWERFUL VENTILATION!

	Air flow capacity, m³/h	Cartridge type	Cartridges quantity	Size, mm				
				A	B	H	L	diameter
CARBOO4PN	600	NORMAL	4	500	320	600	1100	200
CARBOO4PR	600	RBAA	4	500	320	600	1100	200
CARBOO6PN/ CARBOO6PR	900 / 900	NORMAL / RBAA	6/6	550 / 550	520 / 520	580 / 580	1200/1200	250 / 250
CARBOO8PN/ CARBOO8PR	1200 / 1200	NORMAL / RBAA	8/8	550 / 550	630 / 630	580 / 580	1200/1200	250 / 250

NORMAL – for cleaning air from solvents

RBAA – for cleaning air from acids

FILTER SYSTEMS AND FANS FOR FUME CUPBOARDS

Local filter systems with integral fan – FILTERKIT (manufactured by Plastifer, Italy)

Local FC FILTERKIT is perfect for air cleaning from solvents, acids and flammable liquids. They are installed on stand-alone fume cupboards or cabinets for solvents, acids and flammable liquids storage.

GENERAL PROPERTIES

- Made of polypropylene
- Activated carbon absorbent is used for filtration
- Inlet and outlet flange 125 mm
- Single- or three-phase motor, dust and moisture protection level IP55
- Explosion-safe motor is available (EEx-d)

Filterkit **FLKCN 1 M**

	Air flow capacity, m³/h	Cartridge types	Cartridges quantity	Power supply, V	Size(LxWxH)mm	Weight, kg
FLKCN1M	200	NORMAL	1	220	300 x 300 x 620	9
FLKCN1T		NORMAL		380		
FLKCR1M		RBAA		220		
FLKCR1T		RBAA		380		
FLKCN2M	400	NORMAL	2	220	300 x 300 x 870	13
FLKCN2T		NORMAL		380		
FLKCR2M		RBAA		220		
FLKCR2T		RBAA		380		

Acid resistant low noisy fans PLASTIFER (Italy)

BASIC PERFORMANCE CHARACTERISTICS

- Polypropylene impeller with forward-curved blades, which guarantee better performance in comparison with ordinary blades
- The impeller is statically and dynamically balanced, incorporating a reinforced hub
- Special self aligning sealing gaskets from anticorrosive material protect from smoke emission and leakages.
- Engine support stool is made of nylon, polypropylene, galvanized steel, depending on model
- All fans have standard round intake and flanged rectangular discharge (round discharge connection can be fitted as an option)
- Fans can be adjusted to any of 8 positions through 360° (in 45°steps)
- Stainless steel mounting screws.
- Fans can be combined with single -phase, three-phase, single-or double-speed motor.
- Explosion-safe motors and/or fan (EEx-d) are available.

VSM25

	Air flow capacity, m³/h	Power supply, kW	Rotation speed, rpm	Flange diameter, mm		Noise , dB	Max. discharging, mm H$_2$O
				inlet	outlet		
VSB 14	450	0.18	2900	125	125	67	36
VSB 20	1300	1,1	2900	200	200	70	102
VSB 20	950	0,18	1450	200	200	57	21
VSM 25	1300	2,2	2900	250	165	73	165
VSM 25	900	0,18	950	250	165	62	17
VSA 30	900	0,55	1450	200	155	69	63
VSAA 35	900	1,1	1450	200	180	73	67
VSAA 42	1300	2,2	1450	250	215	75	96