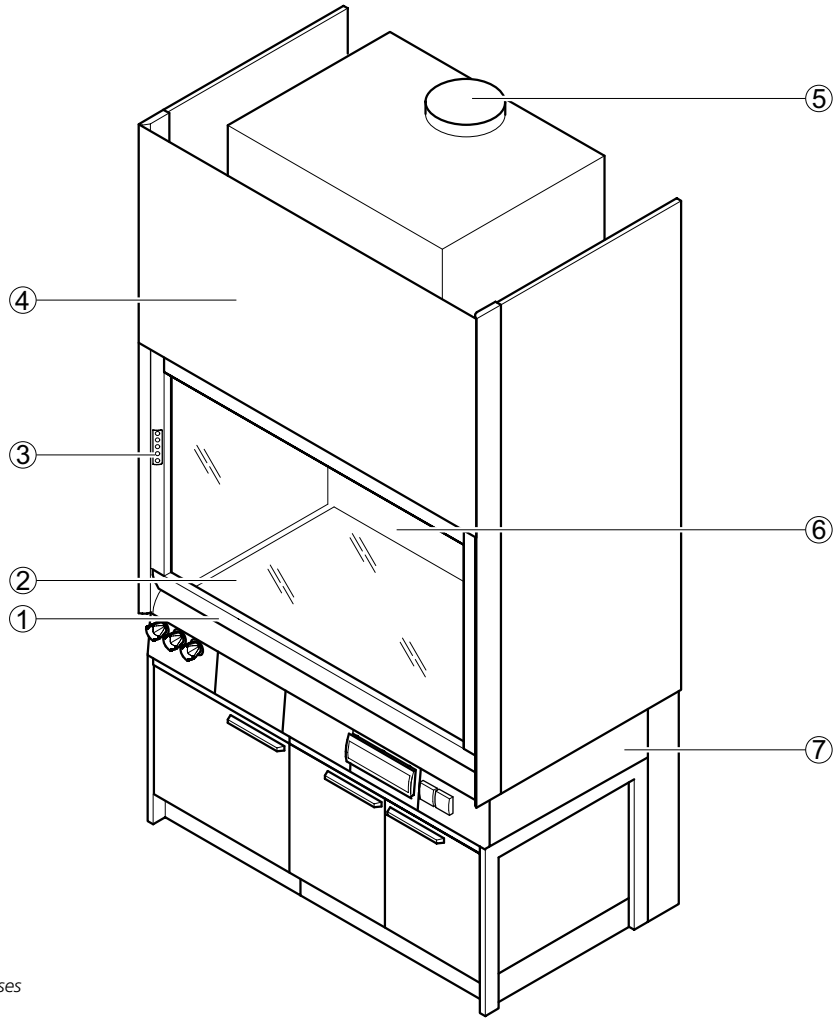
Special fume cupboards
Special application fume cupboard

Intended use

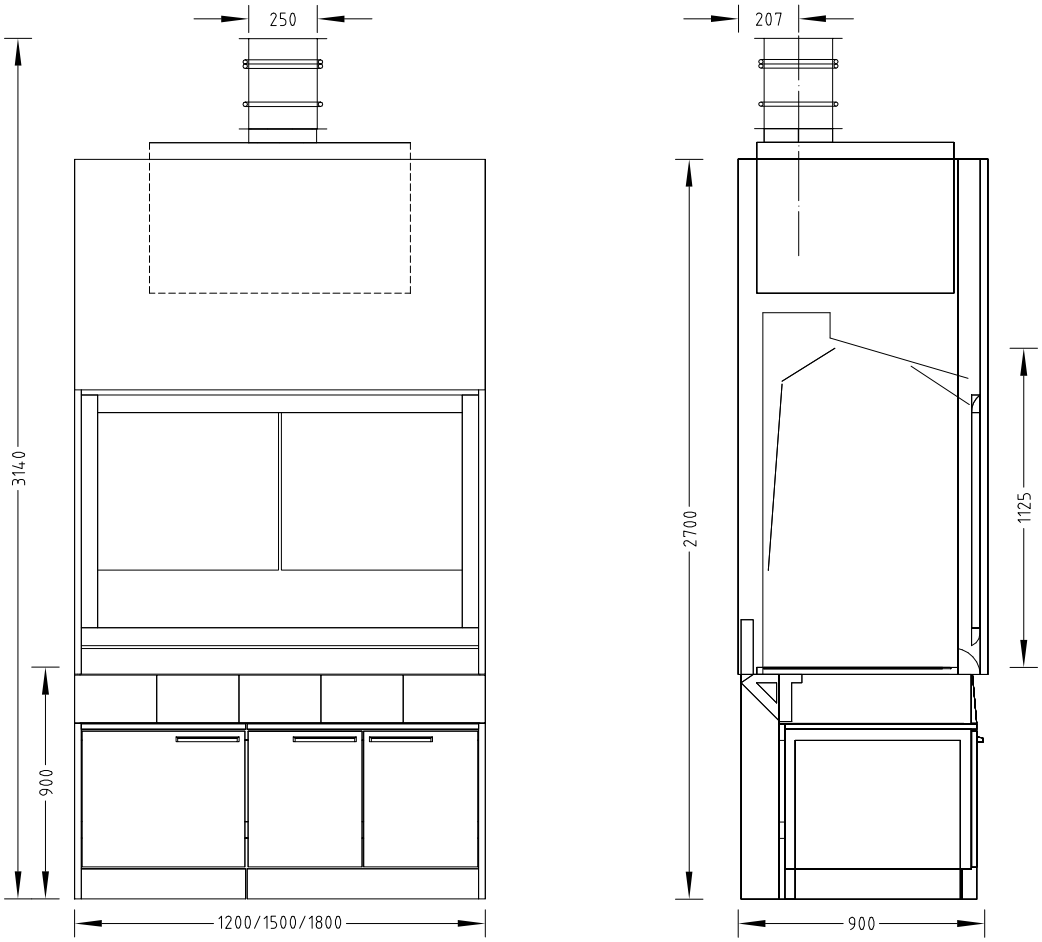
- Protective device for the user, tested in acc. with DIN 12924-2
- Suitable for open, thermal processes of breaking down chemicals with aggressive media such as e. g. sulphuric acid, perchloric acid, hydrofluoric acid or aqua regia
- The construction of the fume cupboard and the materials of the inner lining of the internal workspace determine which aggressive media the device can be used for
- Extraction of fumes, aerosols and dust from the internal workspace to prevent dangerous amounts of pollutants from escaping into the laboratory
- To prevent the formation of dangerous potentially explosive atmospheres in the internal workspace
- Protection from splashes of hazardous substances in the internal workspace
- Protection from flying particles, bodies or parts escaping from the internal workspace
- Fume cupboards constructed in acc. with DIN 12924-2, are normally not permitted for use with radioactive substances or microorganisms

Design



1 *Sash with handle*
2 *Worktop*
3 *FAZ or AC control panel*
4 *Removable fascia panel*
5 *Extract air spigot integrated in fume-scrubber for harmful gases*
6 *Baffle*
7 *H-frame with push-in under-bench unit with support and service panels*

Dimensional drawing



Technical data

Dimensions	1200	1500	1800
Width [mm]	1200	1500	1800
Depth [mm]		900	
Height [mm]		2700	
Clear width, internal workspace [mm]	1150	1450	1750
Clear height, internal workspace [mm]		1125	
Working height [mm]		900	

Weight	1200	1500	1800
Without installations and fume-scrubber [kg]	Approx. 250	Approx. 300	Approx. 350
Fume-scrubber without filling [kg]	90 (type C 54)		100 (type C 90)

Special fume cupboards
Special application fume cupboard

Design characteristics	
Supporting construction	H-frame with push-in underbench units
Fume-scrubber	Optional
Extract manifold with condensate drain	Optional
Extract manifold with sprinkler	Optional
Neutralisation unit underbench unit	Optional

Electrics	
Electrical supply	External sockets in service panels
Fuse box	Optional
Sash controller SC	Optional

Sanitary technology	
Sanitary supply	With take-off valves for vacuum, gases and/or waters and drip cup integrated in the worktop as an option

Ventilation technology	1200	1500	1800
Minimum air exchange rate [m³/h] [1]	600	750	900
Pressure loss, extract manifold with condensate drain [Pa]	45/120	50/120	85/150
Pressure loss, extract manifold with FAZ/AC [Pa]	FAZ 250/AC 300	FAZ 300/AC 350	FAZ 440/AC 500
Pressure loss, fume cupboard with fume-scrubber [Pa]	410/460	460/510	850/900
Fume-scrubber Friatec	C 54		C 90
Function display	FAZ		
Airflow damper, constant	Airflow-Controller AC		
Connection height [mm] for FAZ and AC with extract air spigot Ø 250 mm with fume-scrubber	3140		
Connection height [mm] for FAZ with extract manifold Ø 250 mm without fume-scrubber	2260		
Connection height [mm] for AC with extract manifold Ø 250 mm without fume-scrubber	2490		
Underbench exhaust	As an option, depending on requirements and regulations		

[1] All air volume specifications refer to an opening height of the sash window of 500 mm (test opening in acc. with EN 14175) and the maximum tracer gas values recommended by German Standard (BG Chemie).

A maximum admission pressure of 600 Pa should not be exceeded in the case of fume cupboards with airflow dampers.

The indicated minimum air exchange rates were determined under specified test conditions in acc. with EN 14175-3. These minimum air exchange rates must be adapted when dimensioning the ventilation system.
If on-site extract air monitoring systems or airflow dampers are used, the required air volumes may be different. The operating limitations must be agreed upon with Waldner.

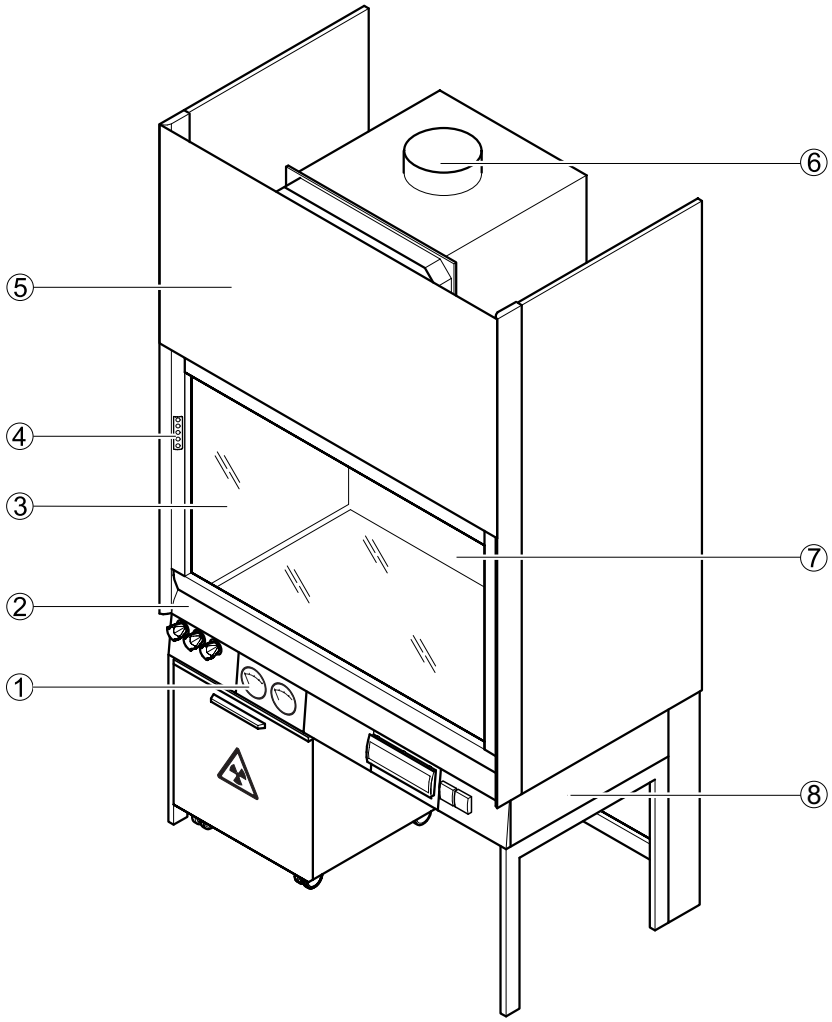
Material/surface	
Internal lining including worktop	Stoneware (when sulphuric acid, aqua regia, perchloric acid are used) Polypropylene (when hydrofluoric acid is used)

Special fume cupboards
Radio-isotope fume cupboard

Intended use

- Protective device for the user, tested in acc. with DIN 25466
- Extraction during work with radioactive substances if increased requirements for radiation protection apply
- Protection from incorporation, contamination and external radiation exposure
- Extraction of fumes, aerosols and dust from the internal workspace to prevent dangerous amounts of pollutants from escaping into the laboratory
- To prevent the formation of dangerous potentially explosive atmospheres in the internal workspace
- Protection from splashes of hazardous substances in the internal workspace
- Protection from flying particles, bodies or parts escaping from the internal workspace
- Fume cupboards constructed in acc. with DIN 25466 are normally not permitted for use with microorganisms
- Not suitable for openly breaking down chemicals

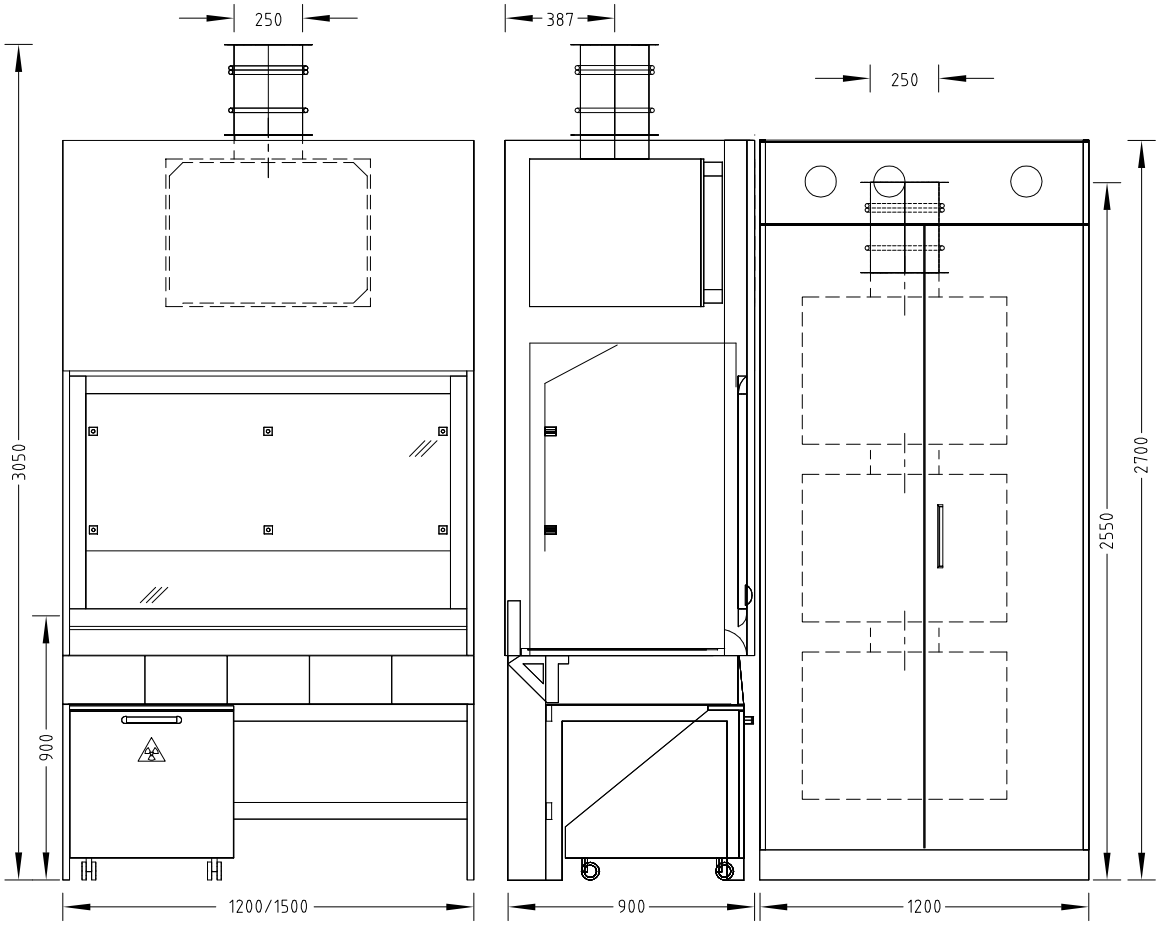
Design



1 *Differential pressure gauge*
2 *Sash with handle*
3 *Worktop*
4 *FAZ or AC control panel*
5 *Removable fascia panel*
6 *Extract air spigot integrated in filter housing*
7 *Baffle with scaffold points*
8 *H-frame with push-in under-bench unit with support and service panels*

Special fume cupboards
Radio-isotope fume cupboard

Dimensional drawing



Technical data

Dimensions	1200	1500
Width [mm]	1200	1500
Depth [mm]	900	
Height [mm]	2700	
Clear width, internal workspace [mm]	1150	1450
Clear height, internal workspace [mm]	1053	
Working height [mm]	900	
Filter housing, width x depth x height [mm]	820 x 775 x 674	

Weight	1200	1500
Without installations and lead insert [kg]	Approx. 250	Approx. 300
Filter housing [kg]	90	

Special fume cupboards
Radio-isotope fume cupboard

Design characteristics	
Supporting construction	Self-supporting underbench units or H-frame with push-in underbench units
Sash	One-piece
Number of devices for scaffold points, ø 12 to 13 mm	6
Filter, fume cupboard roof	Standard equipment: Filter F7 / particle filter H13
Filter, lateral cabinet (max. 3 filter housings)	Filter housing, top: Particulate filter Filter housing, centre: Active charcoal filter Filter housing, bottom: Filter and particle filter
Differential pressure gauges	Display of the degree of saturation of the filters (not for active charcoal filter)
Lead insert	Optional
Waste disposal system for radio-isotope residual material in the underbench unit	Canister for liquid radio-isotope residual material as an option Collapsible boxes for solid radio-isotope residual material as an option Level indicator and/or opening in the worktop as an option

Electrics	
Electrical supply	External sockets in service panels
Fuse box	Optional
Sash controller SC	Optional

Sanitary technology	
Sanitary supply	With take-off valves for vacuum and gases as an option

Ventilation technology	1200	1500
Minimum air exchange rate [m³/h] [1]	480	600
Pressure loss, filter [Pa] [2]	25/200	30/235
Pressure loss, particle filter [Pa] [2]	50/300	60/350
Pressure loss, active charcoal filter [Pa] [2]	25/25	30/30
Pressure loss, particulate filter [Pa] [2]	30/250	35/290
Function display	FAZ	
Airflow damper, constant	Airflow-Controller AC	
Airflow damper, variable	Airflow-Controller AC	
Connection height [mm] for FAZ and AC with extract manifold Ø 250 mm	3050	
Underbench exhaust	As an option, depending on requirements and regulations	

[1] All air volume specifications refer to an opening height of the sash window of 500 mm (test opening in acc. with EN 14175) and the maximum tracer gas values recommended by German Standard (BG Chemie).

[2] Pressure loss values refer to the states clean/contaminated.

A maximum admission pressure of 600 Pa should not be exceeded in the case of fume cupboards with airflow dampers.
The indicated minimum air exchange rates were determined under specified test conditions in acc. with EN 14175-3. These minimum air exchange rates must be adapted when dimensioning the ventilation system.
If on-site extract air monitoring systems or airflow dampers are used, the required air volumes may be different. The operating limitations must be agreed upon with Waldner.
In the case of fume cupboards with filters, the pressure loss of the integrated filter stages must be added to the pressure loss of the fume cupboard.

Material/surface	
Internal lining including worktop	Polypropylene Stainless steel

Special fume cupboards
Radio-isotope fume cupboard

Filter (filter in the filter cabinet or on the fume cupboard roof)	
Dimensions [mm]	610 x 610 x 46 (+ 8 mm seal)
Pressure loss [Pa] at 1900 m³/h	110
Design characteristics	Filter element (fine particle filter); filter class EN 779: F7 Frame made of multilayer board with grip and type label on the 610-mm side; PU seal on the dust-laden air side
Use	Fine particle filter for particle adsorption, e.g.: Oil smoke and agglomerated soot, tobacco smoke, metal oxide smoke Average efficiency (Em) 80–90%

Particle filter (filter in the filter cabinet or on the fume cupboard roof)	
Dimensions [mm]	610 x 610 x 292 (+ 7 mm seal)
Pressure loss [Pa] at 2435 m³/h	250
Design characteristics	Particle filter element type: Hepa H13; efficiency: MPPS Frame made of multilayer board with grip and type label on the 610-mm side; PU tight seat seal on the clean air side; filter medium flush on the clean air side
Use	Particle filter for the adsorption of particles up to H13; particle adsorption 99.95 %; transmittance 0.05%

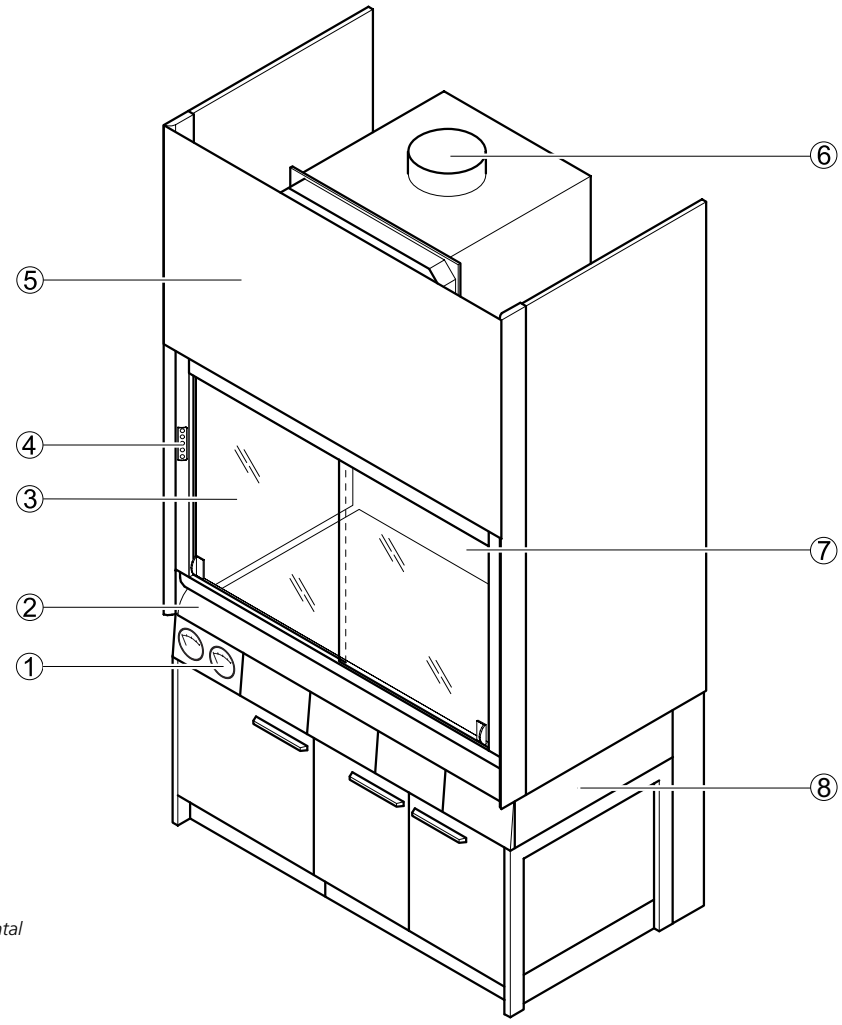
Active charcoal filter (filter in the filter cabinet)	
Dimensions [mm]	610 x 610 x 292 (+ 7 mm seal)
Pressure loss [Pa] at 600 m³/h	9
Design characteristics	Activated charcoal cell 7C for 16 x activated charcoal cartridges Frame galvanised sheet metal; 2 x U handle and type plate on the 610-mm side; PU tight seat seal on the clean air side
Use	Standard impregnation: for all common radioactive materials, radioactive iodine compounds, radioactive iodomethane, radioactive gases. (A filter with filters class F7 in acc. with EN 779 is recommended.)

Particulate filter (filter in the filter cabinet)	
Dimensions [mm]	610 x 610 x 292 (+ 7 mm seal)
Pressure loss [Pa] at 1965 m³/h	125
Design characteristics	Particulate- or Micretain filter element type: Hepa H11 in acc. with EN 1822 Frame made of multilayer board with grip and type label on the 610-mm side; PU tight seat seal on the clean air side; filter medium flush on the clean air side
Use	Particle filter for the adsorption of particles up to H11; particle adsorption 95 %; transmittance 5%; to be installed after active charcoal filters to bind the charcoal dust contamination from the charcoal filter.

Intended use

- Before the extract air from the internal workspace is released into the environment, it is cleaned by a filter unit

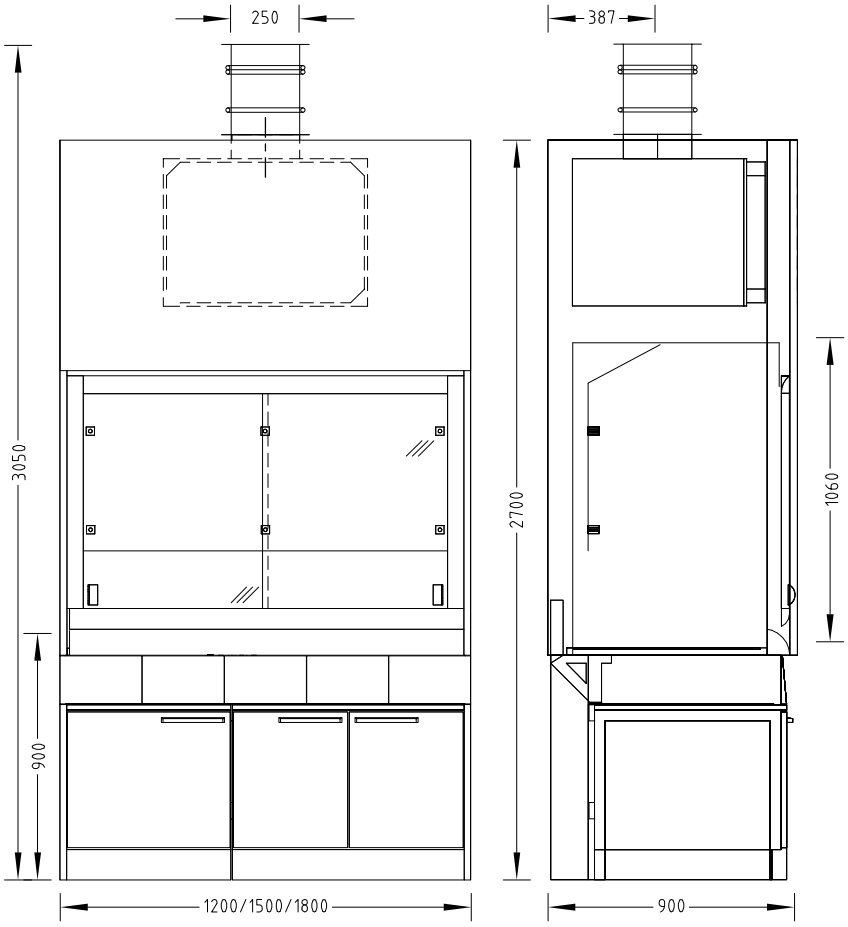
Design



1 *Differential pressure gauge*
2 *Sash with handle and horizontal sashes*
3 *Worktop*
4 *FAZ or AC control panel*
5 *Removable fascia panel*
6 *Extract air spigot*
7 *Baffle with scaffold points*
8 *H-frame with push-in under-bench unit with support and service panels*

Special fume cupboards
Filter fume cupboard

Dimensional drawing



Technical data

Dimensions	1200	1500	1800
Width [mm]	1200	1500	1800
Depth [mm]		900	
Height [mm]		2700	
Clear width, internal workspace [mm]	1150	1450	1750
Clear height, internal workspace [mm]		1060	
Working height [mm]		900	
Filter housing, width x depth x height [mm]		820 x 775 x 674	

Weight	1200	1500	1800
Filter fume cupboard without installations [kg]	Approx. 270	Approx. 320	Approx. 370
Filter housing [kg]		90	

Special fume cupboards
Filter fume cupboard

Design characteristics	1200	1500	1800
Supporting construction	H-frame with push-in underbench units		
Sash	2 horizontal sashes		3 horizontal sashes
Glass pane in the side wall	Possible on the left and/or right side of the fume cupboard; not with stoneware internal lining		
Number of devices for scaffold points, ø 12 to 13 mm	6		8
Material lock	Possible on the left and/or right side of the fume cupboard		
Filter, fume cupboard roof	Standard equipment: Filter F7 / particle filter H13		
Differential pressure gauges	Display of the degree of saturation of the filters		

Electrics	
Electrical supply	External sockets in service panels
Fuse box	Optional
Sash controller SC	Optional

Sanitary technology	
Sanitary supply	With take-off valves for vacuum, gases and/or waters and drip cup integrated in the worktop as an option

Ventilation technology	1200	1500	1800
Minimum air exchange rate [m³/h] [1]	480	600	720
Pressure loss, filter [Pa] [2]	35/200	45/235	65/290
Pressure loss, particle filter [Pa] [2]	70/300	95/365	130/430
Pressure loss, active charcoal filter [Pa] [2]	35/25	45/30	65/35
Function display	FAZ		
Airflow damper, constant	Airflow-Controller AC		
Airflow damper, variable	Airflow-Controller AC		
Detector of sash position	Only variable with Airflow-Controller AC		
Connection height [mm] for FAZ and AC with extract air spigot Ø 250 mm	3050		
Underbench exhaust	As an option, depending on requirements and regulations		

[1] All air volume specifications refer to an opening height of the sash window of 500 mm (test opening in acc. with EN 14175) and the maximum tracer gas values recommended by German Standard (BG Chemie).

[2] Pressure loss values refer to the states clean/contaminated.

A maximum admission pressure of 600 Pa should not be exceeded in the case of fume cupboards with airflow dampers.
The indicated minimum air exchange rates were determined under specified test conditions in acc. with EN 14175-3. These minimum air exchange rates must be adapted when dimensioning the ventilation system.
If on-site extract air monitoring systems or airflow dampers are used, the required air volumes may be different. The operating limitations must be agreed upon with Waldner.
In the case of fume cupboards with filters, the pressure loss of the integrated filter stages must be added to the pressure loss of the fume cupboard.

Material/surface	
Worktop	Stoneware Polypropylene Epoxy Stainless steel
Internal lining	Melamine resin facing Solid grade laminate

Special fume cupboards
Filter fume cupboard

Material/surface	
Worktop	Stoneware Polypropylene Epoxy Stainless steel
Internal lining	Melamine resin facing Solid (grade) laminate

Filter	
Dimensions [mm]	610 x 610 x 46 (+ 8 mm seal)
Pressure loss [Pa] at 1900 m³/h	110
Design characteristics	Filter element (fine particle filter); filter class EN 779: F7 Frame made of multilayer board with grip and type label on the 610-mm side; PU seal on the dust-laden air side
Use	Fine particle filter for particle adsorption, e.g.: Oil smoke and agglomerated soot, tobacco smoke, metal oxide smoke Average efficiency (Em) 80–90%

Particle filter	
Dimensions [mm]	610 x 610 x 292 (+ 7 mm seal)
Pressure loss [Pa] at 2435 m³/h	250
Design characteristics	Particle filter element type: Hepa H13; efficiency: MPPS Frame made of multilayer board with grip and type label on the 610-mm side; PU tight seat seal on the clean air side; filter medium flush on the clean air side
Use	Particle filter for the adsorption of particles up to H13; particle adsorption 99.95 %; transmittance 0.05%