Saint Tech

Laborbau | Systeme

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SCHOOL FURNITURE SYSTEMS

QIMIE

QUALITY MODULARITY EFFICIENCY

6 Fume cupboards

Fume cupboards with highest safety and performance results

Different types of fume cupboards are highly relevant for an appropriate performance of experiments. We emphasize utmost safety against pollutant emission and therefore all our fume cupboard types are subject to comprehensive type tests in our in-house air containment testing facility. All fume cupboards pass the requirements of DIN EN 14175 and of DIN 12924 part 3 with flying colours.

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Fume cupboards according to DIN EN 14175

Fume cupboards are the essential element for a safe and illustrative performance of experiments in scientific classrooms. Corresponding to the respective technical and spatial requirements the fume cupboards are available in a great variety of versions. All fume cupboard types can be equipped individually with regards to sanitary and electrical equipment, as well as with different underbench cabinets.

We supply fume cupboards as bench-mounted and low ceiling height fume cupboards, as opposite-sided sash fume cupboards between preparation room and classroom, as island fume cupboards in various geometric shapes, or as mobile and height-adjustable fume cupboards.

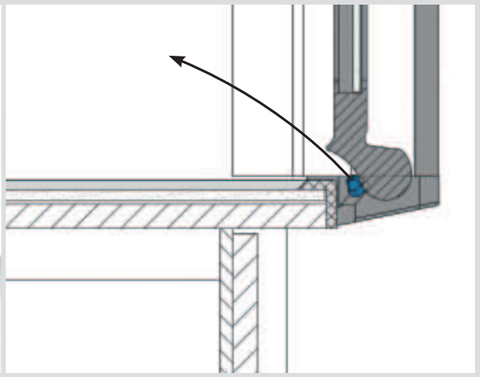
With these, we set a benchmark regarding flexible, accessible and ergonomically perfect lessons.

We are a member of the Working Group for Test Laboratories on a European level and we test our fume cupboards in our in-house test laboratory. In cooperation with the Institute for Industrial Aerodynamics of the University of Applied Sciences in Aachen (Institut für Industrieaerodynamik der Fachhochschule Aachen) we carry out type tests according to DIN EN 14175 for all fume cupboards.

All our fume cupboards are certified by TÜV.

Air exchange rate monitoring system

All fume cupboards are equipped with an air exchange rate monitoring system according to DIN EN 14715. This system releases both a visual and an acoustic alarm if the air exchange rate falls below a pre-defined level, leaving teachers or students in unsafe working conditions.



Supportive flow technology

A higher protection level against pollutant emission is achieved by the use of supportive flow technology. Supply air is blown into the fume cupboard via a supporting airflow, thus reducing the emission of pollutants from the fume cupboard.

Underbench safety cabinets for hazardous materials

Fume cupboards can also be equipped with safety cabinets for hazardous materials. Underbench cabinets for acids, alkaline solutions or combustible liquids are connected to a permanently working extract air system which closes automatically in the event of a fire and is fire retardant for up to 90 minutes.

Disposal systems

We provide complete systems for the disposal of solvents. Used solvents are transferred into a disposal container via a funnel in the worktop of the fume cupboard, and are safely stored in an extracted underbench cabinet which is equipped with a level control. An underbench safety cabinet for hazardous substances is used for the storage of solvents.

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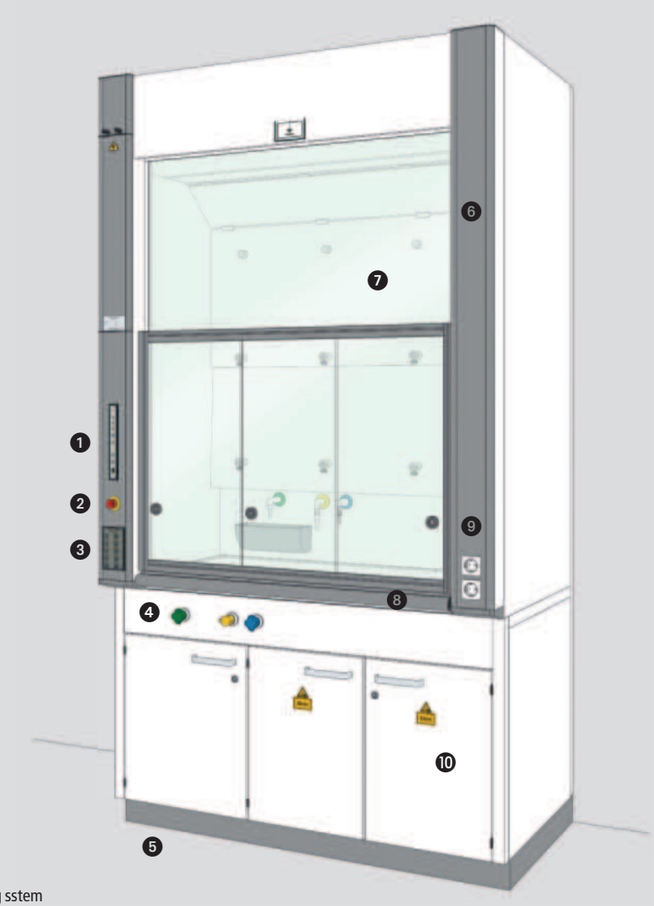
A | Bench-mounted fume cupboards

Our bench-mounted fume cupboards according to DIN EN 14175 are characterized by an excellent ventilation technology and higher than average robustness values. This effectively prevents gases, vapours or dusts in hazardous concentrations or volumes from escaping the fume cupboard interior. At the same time, the front sash serves as a protection against splashes and flying debris.

The fume cupboard is equipped with an interior lining of melamine resin, a worktop of composite ceramics, scaffold points, and a lighting system as standard. Electrical and sanitary installations are equipped individually. The underbench cabinets of the fume cupboard can be selected individually.



Legend

1. Air exchange rate monitoring sstem
2. Emergency stop
3. Control panel for interior sockets
4. Fittings panel
5. Plinth panel
6. Sash column
7. Fixed glazing
8. Front sash
9. Exterior sockets
10. Underbench cabinets for acids/alkaline solutions

Dimensioned drawing

Technical data

Grid width in mm	1200	1500
Depth in mm	950	950
Height in mm	2750	2750
Worktop depth in mm	750	750
Recommended air exchange rate in m^3/h	400	530
Recommended air exchange rate with supportive flow in m^3/h	350	450

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B | Low ceiling height fume cupboards

If using a bench-mounted fume cupboard with a construction height of 2750 mm is not possible, the low ceiling height fume cupboard provides a suitable alternative. It is equipped with two front sashes running one behind the other. The sanitary and electrical services can be selected individually just as for the other fume cupboards.

Legend

1. Air exchange rate monitoring system
2. Control panel for interior sockets
3. Cross slide (three pieces)
4. Scaffold rod holder
5. Baffles
6. Fume cupboard valves (gas, water, compressed air)
7. Safety cabinet for solvents
8. Underbench cabinet for acids/alkaline solutions

Dimensioned drawing

Technische Daten

Grid width in mm	1200	1500
Grid width in mm	950	950
Grid width in mm	2410	2410
Worktop depth in mm	750	750
Recommended air exchange rate in m^3/h	400	530
Recommended air exchange rate with supportive flow in m^3/h	350	450

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C | Island fume cupboards

In scientific classrooms the island fume cupboard is placed next to the teacher's desk. Owing to its glazing on all four sides it provides optimal view of the experiments performed by the teaching staff even for large groups of students. The fume cupboard is designed with a basin in the lateral installation pillar. The sanitary and electrical services can be selected individually.

Teacher's perspective

Students' perspective

Legend

1. Air exchange rate monitoring system
2. Control panel for interior sockets
3. Fittings on stand attached to the side (gas, water, compressed air)
4. Exterior sockets
5. Installation compartment to connect customer's sanitary pipes and electrical lines
6. Scaffold rod holders
7. Interior sockets

Dimensioned drawing

Technical data

Grid width in mm	1200
Depth in mm	770
Height in mm	2750
Worktop depth in mm	650
Recommended air exchange rate in m^3/h	480
Recommended air exchange rate with supportive flow in m^3/h	400

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D | Trapezoidal island fume cupboards

The trapezoidal shape allows students to comfortably group themselves around the fume cupboard where they have optimal view of the experiments shown therein. Just like the island fume cupboard, the trapezoidal fume cupboard is also equipped with two round pipe columns, each of which has two holders to attach scaffold rods.

Teacher's perspective

Students' perspective

Legend

1. Air exchange rate monitoring system
2. Emergency stop
3. Fume cupboard fittings in the left sash column
4. Front sash
5. Scaffold rod holder
6. Panorama glazing
7. Perforated sheet steel lining
8. Fitting on stand (water) with drip cup

Dimensioned drawing

Technical data

Width in mm	1200
Depth in mm	810
Height in mm	2750
Worktop depth in mm	650
Recommended air exchange rate in m^3/h	480
Recommended air exchange rate with supportive flow in m^3/h	400

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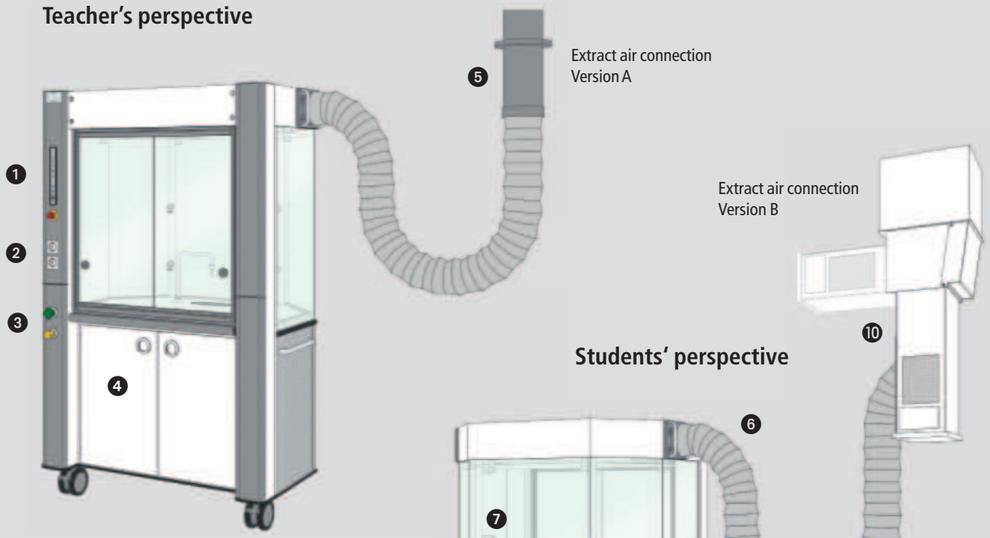
E I Mobile fume cupboards

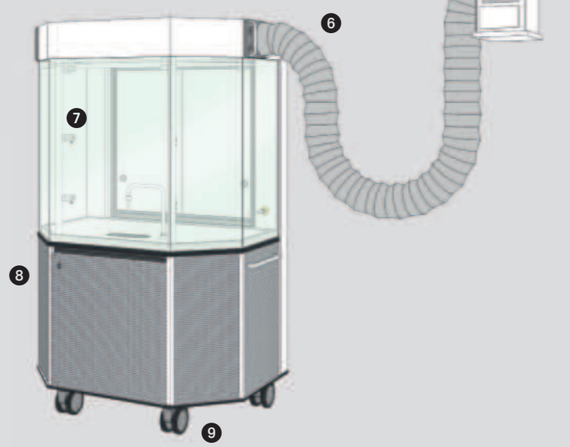
Mobile fume cupboards are mainly used in rooms with a flexible floor-plan design. They can be optimally positioned for the presentation of experiments and can be pushed into a parking position when not in use. Owing to the low construction height of 1,960 mm mobile fume cupboards can be moved into adjacent rooms through doors, and can also be used in various locations.

The fume cupboard is supplied either via a services station from the ceiling system, the teacher's desk, or from a connection column. Power is supplied via a multifunctional socket and the gas supply takes place via a Drehflex® socket. If the mobile fume cupboard is equipped with water, it also has a waste water elevation device. The extract air connection is located on the side via a flexible extract air hose with bayonet connection, and with a retractable extract air connector.

Teacher's perspective



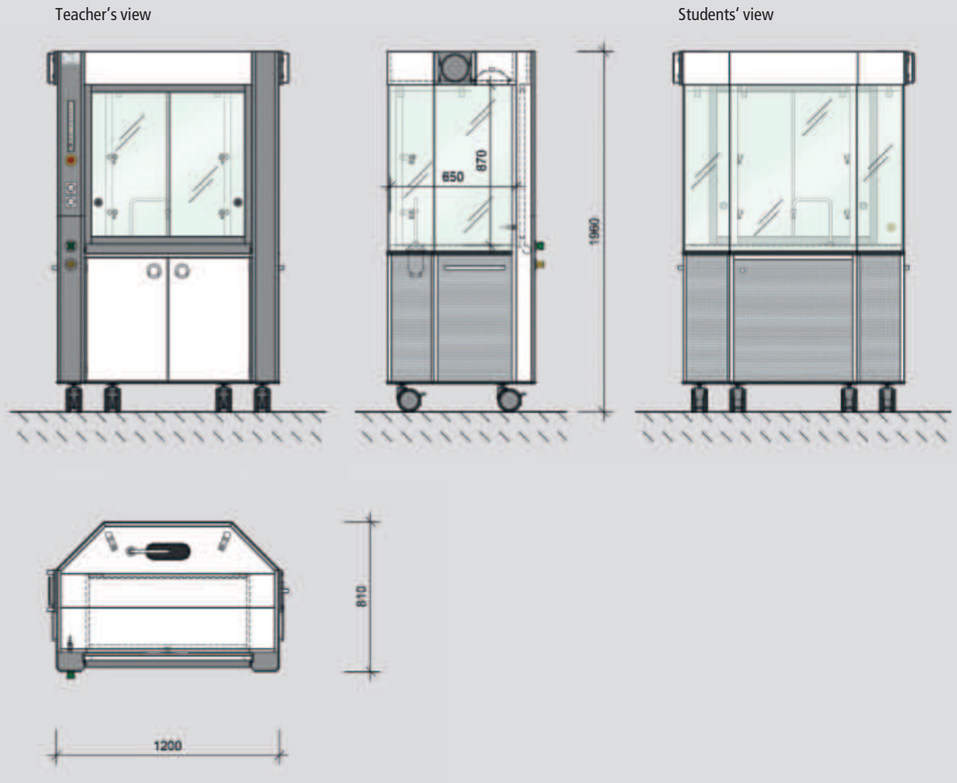
Students' perspective



Legend

1. Air exchange rate monitoring system
2. Exterior sockets
3. Fume cupboard fittings in the left sash column
4. Underbench cabinet with storage space
5. Extract air connection with bayonet catch
6. Flexible extract air hose
7. Scaffold rod holder
8. Underbench cabinet with inspection door for power, water and waste water connections
9. Lockable castors
10. Retractable extract air connection

Dimensioned drawing



Technical data

Width in mm	1200
Depth in mm	810
Height in mm	1960
Worktop depth in mm	650
Recommended air exchange rate in m^3/h	480
Recommended air exchange rate with supportive flow in m^3/h	400

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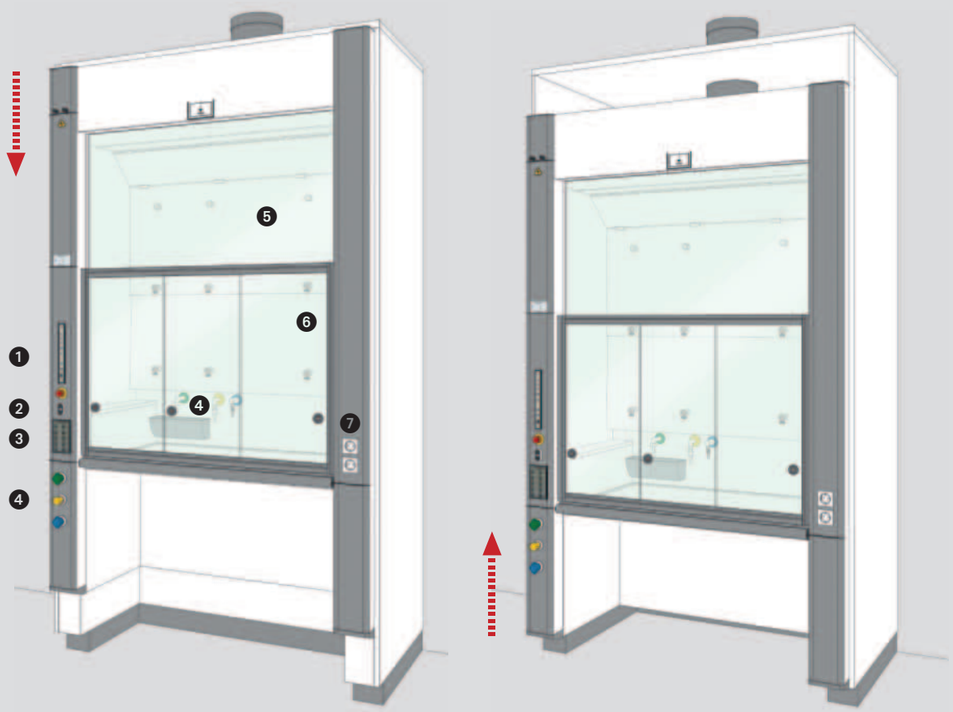
F I Height-adjustable fume cupboards

Barrier-free fume cupboards have to be fully accessible. This is achieved by an infinitely variable height-adjustment of the fume cupboard from 720 to 920 mm. The sanitary valves and electrical control elements are located in the left sash column and are easy to operate. In front of the fume cupboard a clearance of 1500 x 1500 mm has to be kept free so that people in wheelchairs have free access to the fume cupboard.

Raised **Lowered**

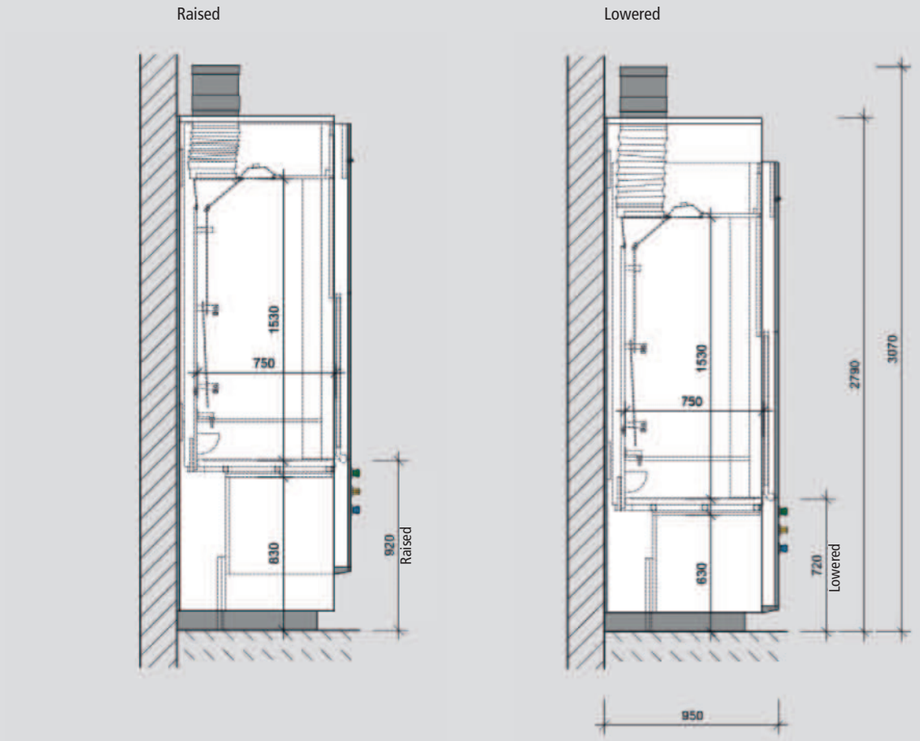


Working height from 720 to 920 mm

Legend

1. Air exchange rate monitoring system
2. Push-button for height adjustment
3. Control panel for interior sockets
4. Fume cupboard valves (gas, water, compressed air)
5. Fixed glazing
6. Front sash
7. Exterior sockets

Dimensioned drawing



Technical data

Width in mm	1200	1500
Depth in mm	950	950
Height in mm	2790	2790
Working height in mm	720-920	720-920
Worktop depth in mm	750	750
Recommended air exchange rate in m^3/h	400	530
Recommended air exchange rate with supportive flow in m^3/h	350	450

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G I Opposite-sided sash fume cupboards

The opposite-sided sash fume cupboard is erected between the preparation room and the classroom. It allows the experiment set-up in the preparation room whereas the presentation of the experiment takes place in the classroom.

The fume cupboard is equipped with two front sashes with cross slides and with two visual protection slides that can be opened and closed alternately. On the side of the preparation room various underbench cabinets can be installed whereas an inspection panel is attached on the side of the classroom to ensure accessibility of the shut-off valves.

Perspective preparation room

Perspective classroom

Legend

1. Air exchange rate monitoring system
2. Control panel for interior sockets
3. Fume cupboard valves (gas, water, compressed air)
4. Underbench cabinet on plinth
5. Front panel
6. Front sash
7. Exterior sockets

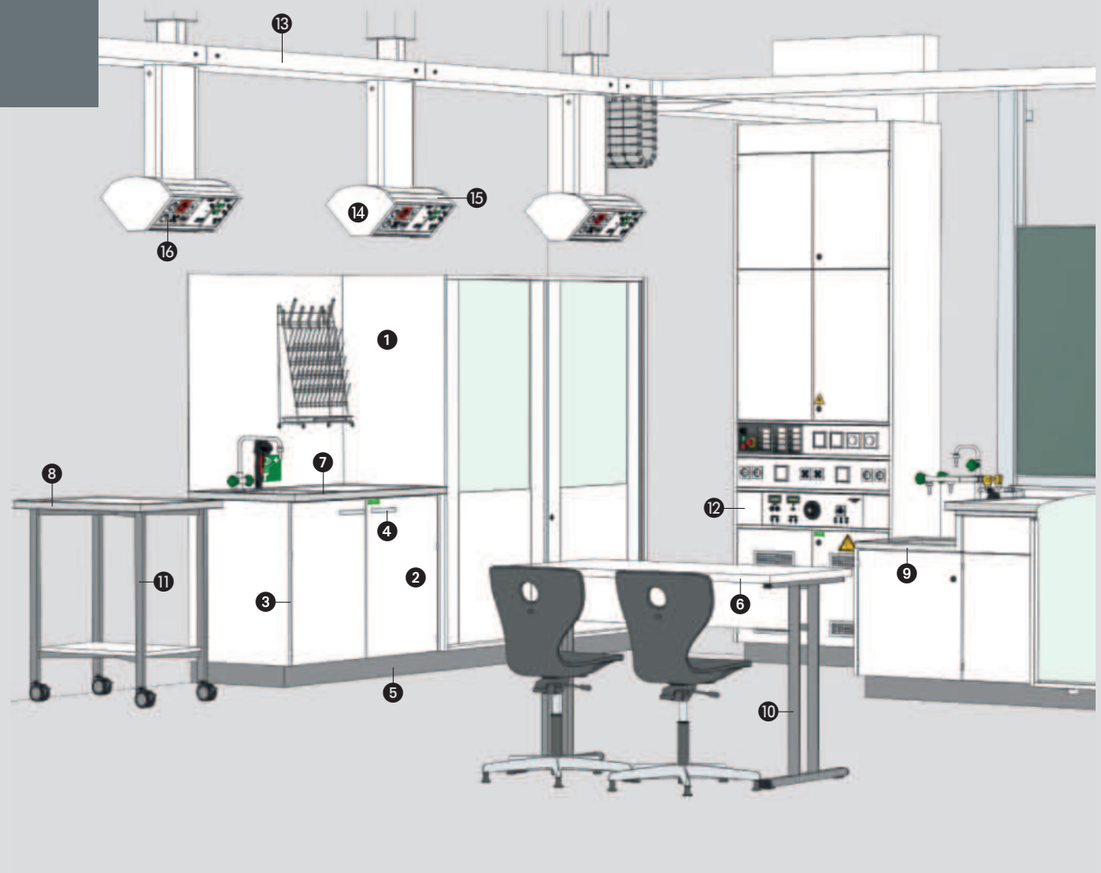
Dimensioned drawing

Technical data

Width in mm	1200	1500
Depth in mm	1070	1070
Depth in mm	2750	2750
Worktop depth in mm	910	910
Recommended air exchange rate in m^3/h	520	650

11 QME color scheme

For the well-being in classrooms and preparation rooms the furniture colour scheme is of great importance. The QME la bo ratory system colour scheme creates a bright and friendly atmosphere. For an explanation of the QME colours and possible alternatives please see the following page:



Standard colours:

RAL 9010 Pure white	RAL 7037 Dust grey	RAL 7035 Light grey	RAL 9006 White aluminium

Fine stoneware similar to:

RAL 9003 Signal

No.	Component:	Standard	Possible alternatives	Surcharge
	Furniture & panels:			
1	**Carcass**	Pure white RAL 9010	Light grey RAL 7035	Yes
2	**Fronts**	Pure white RAL 9010	Light grey RAL 7035	
3	**Edgings of PP**	Pure white RAL 9010	Light grey RAL 7035	
4	**Bow-type handles**	Anodized aluminium	Stainless steel	
5	**Plinth panel**	Dust grey RAL 7037	–	
	Worktops:			
6	**Melamine resin laminate**	Pure white RAL 9010	Light grey similar to RAL 7035	No
	Edgings of PP	Pure white RAL 9010	Light grey similar to RAL 7035	
	Solid grade laminate / Toplab	Pure white RAL 9010	Light grey similar to RAL 7035	
	Solid grade laminate edgings	Black	–	
	PP	Light grey similar to RAL 7035	–	
	Ceramics	White similar to RAL 9003	Aluminium grey similar to RAL 7035	
7	**Fine stoneware composite**	White similar to RAL 9003	Aluminium grey similar to RAL 7035	
	Edgings of PUR	Grey	–	
8	**Raised epoxy rim**	Grey	White	
	Sinks:			
	Sinks of PP	Aluminium grey RAL 7035	–	No
7	**Sinks of ceramics**	White similar RAL 9003	Aluminium grey RAL 7035	
9	**Sinks of mineral cast**	Aluminium grey RAL 7035	–	
	Metal parts (powder coated):			
10	**Students' desk frames**	Dust grey RAL 7037	Pure white RAL 9010	Yes
11	**Mobile table frames**	Dust grey RAL 7037	Pure white RAL 9010	
	Electrotechnology:			
12	Electric panel of solid grade laminate	Pure white RAL 9010	Light grey similar to RAL 7035	Yes
	Sockets / Switches	Pure white RAL 9010	Agate grey RAL 7038	
	Ceiling systems:			
13	**Steel parts / Perforated plate**	Pure white RAL 9010	White aluminium RAL 9006	Yes
14	**Head plates / Pilaster strips**	Pure white RAL 9010	White aluminium RAL 9006	
15	**Electrical trunking**	Pure white RAL 9010	White aluminium RAL 9006	
16	Electrical panel of solid grade laminate	Pure white RAL 9010	Light grey similar to RAL 7035	

If required, our furniture can be designed with many other touches of colour. Feel free to contact us.

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