Laboratory furniture
Laboratory equipment

Conscious choice

POLL Lab

ALCHEM®
ALCHEM GRUPA Sp. z o.o.

MANUFACTURER OF FURNITURE
AND LABORATORY EQUIPMENT

Information about the POLL Lab Sp. z o.o. company.

The POLL Lab Sp. z o.o. company has been present on the Polish market since 2004. Since its beginnings, the company has been involved in the production of laboratory equipment and laboratory furniture. What distinguishes our products are highest-quality materials, increased durability and chemical resistance as well as attractive design. Our laboratory furniture is designed according to our clients' needs and preferences. During our seven-year activity we have managed to equip over 200 laboratory facilities, which then underwent the accreditation procedure and completed it successfully. Our products already strengthen numerous laboratory facilities, not only locally, but all over Europe. The furniture and equipment we produce is even used in countries such as: Syria, Egypt, India. Thanks to the co-operation with our clients it has been possible to create several dozens of modern measuring laboratories which have been created in accordance with the binding European standards, rules of good laboratory practice (GLP), ergonomics as well as work safety and hygiene regulations. Our crew consists of designers, engineers, salespeople and fitters who together make up a good team and put our products to the most difficult tests at every stage. This is possible because the whole process related to the production of furniture and equipment is in our hands. The solutions and materials which we use function perfectly in the difficult conditions they are exposed to in their everyday work; consequently allowing our customers to take a “step into the future...” In this way the customers put their trust in us. The quality of products and services which we are presenting is confirmed by many seals of approval as well as certificates, issued by independent laboratories and institutions, which declare the conformity to binding standards. Irrespective of that, however, we keep improving our abilities by participating in numerous training courses on the binding standards and regulations thus ensuring safety and knowledge which we always use and share with our partners. The diligent and well-organized functioning of our company is confirmed by the implemented and maintained Quality Management System of the ISO 9001 series. We would like to thank for your attention and at the same time invite you to our business office where you will have the opportunity to check the truthfulness of the above words.

Yours faithfully,
Wojciech Łaszczok

President of the board
POLL LAB Sp. z o.o.

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Laboratory Furniture

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Fume cupboards - introduction

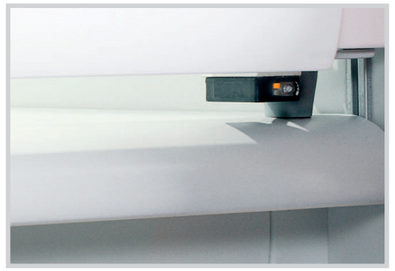
Guarantee

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 clients' 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 EN 14175 protocol.

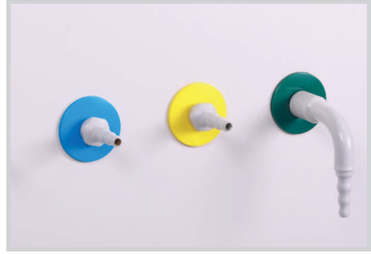


Fume cupboards - equipment

Quality

Our fume cupboards share certain common construction features:

- Aerodynamic front worktop edge
- 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
- Integrated, ventilated cupboard under the worktop for short-term reagent storage
- Safe, self-locking window mechanism
- Wide selection of airflow control systems, from economical solutions to very advanced systems with airflow regulation and window automation



Guarantee

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 unconventional orders, adjusted to clients' specific requirements.

The fume cupboards on offer 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, ease of 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.

Q-Optimal fume cupboards

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 (m^3/h)	600-1000	750-1300	950-1550
Recommended airflow speed at front face (m/s)		0,3-0,5	
Extract-air manifold (mm)	Ø160	Ø200	Ø250

Low level Q-Optimal fume cupboard

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 (m^3/h)	1800-3000	2300-3850	2800-4650
Recommended airflow speed at front face (m/s)		0,3-0,5	
Extract-air manifold (mm)	Ø315	Ø315	2x Ø250

Quality

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. 240x80 mm)

Sash window:
- MDF frame with sliding glass panes (standard)
- Aluminium frame
- Steel frame
- Tempered glass or polycarbonate panes (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:
- Q-Flow (standard)
- Q-Flow Compact
- Q-Flow Touch
- Q-Flow EX
- Schneider FM-100
- Schneider FM-500
- Schneider iCM
- Schneider FM-100E

Double-sided Q-Optimal fume cupboard

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 (m^3/h)	1200-2000	1550-2550	1850-3100
Recommended airflow speed at front face (m/s)		0,3-0,5	
Extract-air manifold (mm)	Ø250	Ø315	Ø315

Low-ceiling Q-Optimal fume cupboard

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 (m^3/h)	600-1000	750-1300	950-1550
Recommended airflow speed at front face (m/s)		0,3-0,5	
Extract-air manifold (mm)	Ø160	Ø200	Ø250

Guarantee

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 Q-Dynamic 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 clients' specific requirements are a wide range of worktop materials, working chamber's linings and interchangeable utility panels.

The slot ventilation system together with aerodynamic worktop edge and slanted side panels ensure uniform 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 Q-Optimal 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.

Walk-in Q-Dynamic fume cupboards

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 (m^3/h)	3450-5700	4050-6750
Recommended airflow speed at front face (m/s)	0,3-0,5	
Extract-air manifold (mm)	2 x Ø315	2 x Ø315

Low-level Q-Dynamic fume cupboards

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 (m^3/h)	2100-3500	2650-4450	3250-5400
Recommended airflow speed at front face (m/s)	0,3-0,5		
Extract-air manifold (mm)	Ø315	2 x Ø250	2 x Ø315

Quality

Q-Dynamic fume hoods

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 (m^3/h)	600-950	750-1250	900-1500
Recommended airflow speed at front face (m/s)	0,3-0,5		
Extract-air manifold (mm)	Ø160	Ø200	Ø250

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 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 panes (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:
- Q-Flow (standard)
- Q-Flow Compact
- Q-Flow Touch
- Q-Flow EX
- Schneider FM-100
- Schneider FM-500
- Schneider iCM
- Schneider FM-100E

Fume cupboards - characteristics

Guarantee

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

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

Airflow control system fitted in standard.

Fume cupboards - airflow control

Quality

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 made by Poll Lab and Schneider Elektronik, which cover full spectrum of requirements.

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

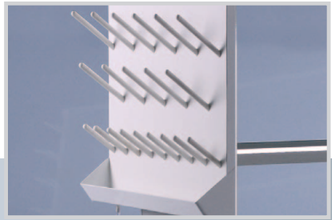
The primary ones include:
- Socket control system
- Working chamber temperature control system
- Fire protection system
- AUTO and MANUAL Protect system
- Automatically or manually regulated slot system for collecting fumes and gases lighter or heavier than air
- Control system with a touch panel
- EEx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

Ergonomics

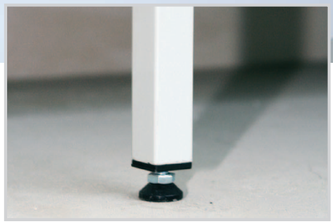
- Certified guarantee
- Island tables, side tables, eyewash units adjusted for individual needs
- Easy-to-level, steel supporting structure in two frame types (A or C), or metal self-supporting structure
- Ergonomics, comfort and safety of work due to the use of most modern technical solutions
- Wide range of available cabinet systems:
  - Metal
  - Laminated
  - PMMA boards
  - Glass fronts
  - Stainless steel
- Equipped with numerous utilities, reagent shelves of various shapes and materials
- Standard offer including more than 8 types of worktop materials
- Diversity achieved through numerous combinations of sink variants with base worktop material
- Safety guaranteed by conformity with PN-EN 13150
- Various configurations possible, including sets designed by the client
- Standard and custom-fit furniture

Q-Optimal series
C-frame

Durability



Q-Ideal series
A-frame



Accuracy

Balance tables, where analytical balance should be placed, are an indispensable component of any laboratory's furniture set. The vibration-dampening capability of the table slab mass and support makes it a vibration-free area, ensuring extraordinary accuracy during sample weighing.

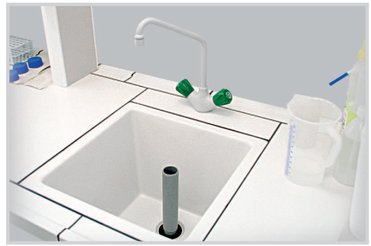
- Laminated or metal housing
- Anti-vibration slab mounted on its own independent frame of solid hollow sections, fixed on flexible vibration-dampening elastomers; standard version made of granite (other materials available)
- Any type of worktop material available
- 3 standard sizes:

Dimensions			
Width	900	1200	1500
Depth	750	750	750
Height	800	800	800

- Available with one or two anti-vibration slabs
- With or without an auxiliary cabinet
- Easy-to-level and thus perfectly adaptable

Cleanliness

Stainless steel sink inset in a laminated worktop of HPL laminate, 38 mm thick.



Technical ceramics sink flush-fit in a large-size ceramics worktop with marine edge of ceramic bounding plates.

Black epoxy resin sink embedded in a worktop of phenolic resins mixture. Water mixer with an eyewash unit.

Technical ceramics sink slung under an Aglodrom quartz-granite conglomerate worktop.

Epoxy resin sinks slung under an epoxy resin worktop.

Our furniture can also be fitted with small sinks (standard size 300x150 mm), made of technical ceramics, polypropylene or epoxy resin.

Laboratory Trolleys

Transport

Our wide offer can also propose a solution to your mobility needs. The laboratory trolleys come in three standard sizes, that will surely meet your demands, and the transport of samples within your laboratory will no longer be an inconvenience.

- Wheels with locking possibility at any position
- Polypropylene trays, easy to remove and clean (may be used as sample trays) – fitted with a handle on request
- Wheels made of non-marking materials
- Steel frame covered with chemically-resistant epoxy powder coating
- All stainless steel version available
- Strengthened versions for transporting heavy samples available (i.e. for quality control laboratories)

Chemical storage cabinets

Storing

Our offer also includes chemical storage cabinets, made in whole of chemically-resistant, non-corrosive plastics, ensuring long life of the product despite its contact with aggressive substances stored inside.

- System of independently opened doors, with separate acids and bases compartments
- All-polypropylene drawer slides
- Polypropylene drawers with pull-out lock
- Built-in side ventilation duct
- Ventilation system connection possibility, optional exhaust fan
- External housing elements made of safe plastics
- Drawer shaped to prevent spills of chemicals
- Conformity with EN 14727 standard

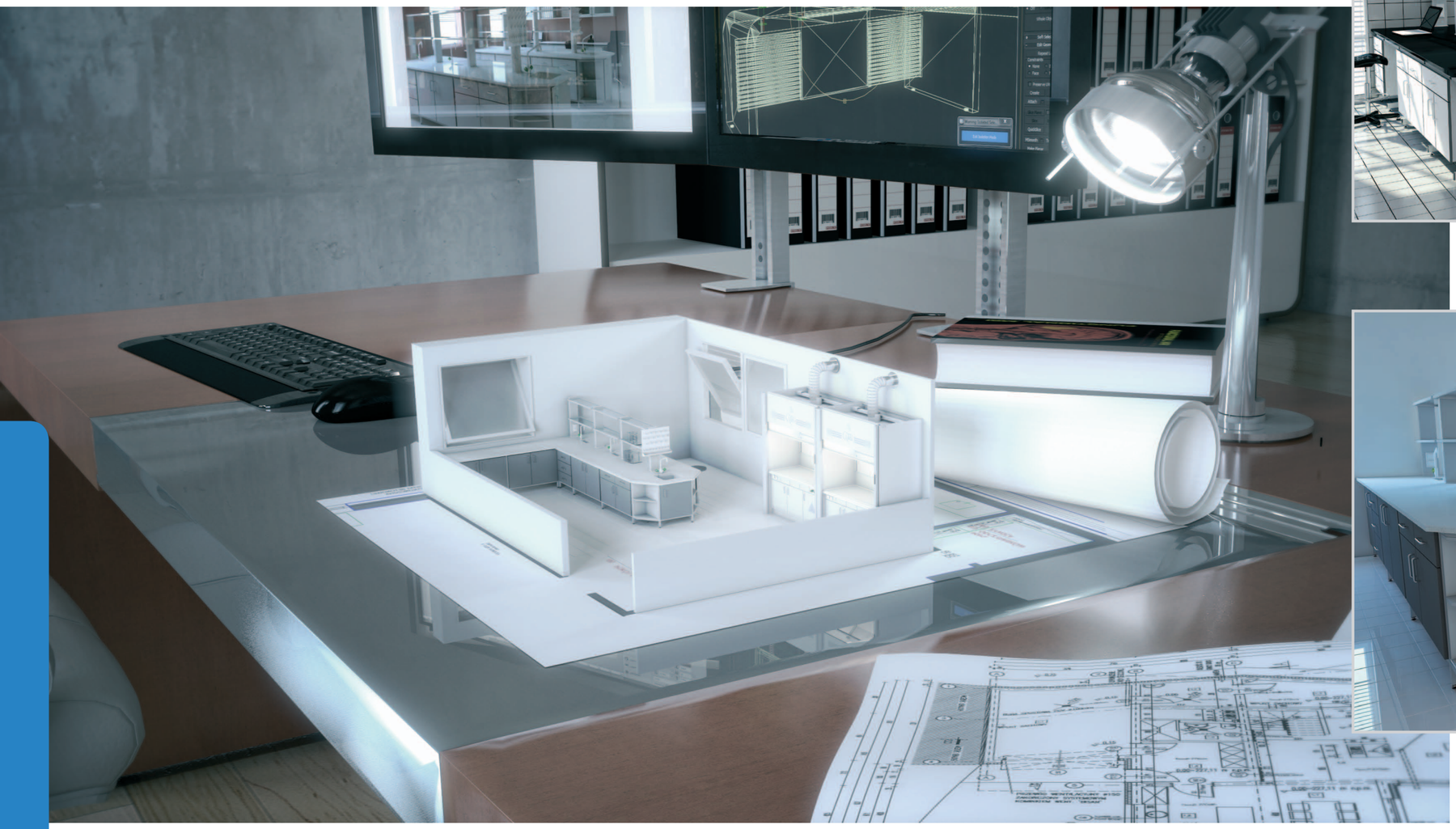
Our offer also includes numerous other cabinets and cupboards for storage of glass and reagents: with glazed or solid fronts, laminated or metal construction.

Designing

Dear Customers,

Our company offers you the possibility of preparing an arrangement of your laboratory space, with selection of materials to be used and advise on how to furnish your laboratory in conformity with EN 14056 standard. Our consulting services backed by the experience we have in this field will provide you with complete organization (by furnishing the space you have at your disposal as accurately as possible) on one hand, and comfort and ergonomics in your further work in your laboratory on the other.

All projects which we have completed so far gained considerable recognition among the users, while our professional realizations have enabled our clients to easily obtain accreditation for the laboratories we have equipped. Apart from the projects, we also offer the possibility of materials selection, taking into account the knowledge we have gained and your needs resulting from the specifics of analysis and works that you carry out in various sections of your laboratory.



Vision

Laboratory worktops

Selection

While designing laboratory furniture we take into consideration ergonomics and work safety, as well as aesthetic qualities of your workplace. Our products are made of top-quality materials which meet strict European standards. These materials perform exceptionally well in laboratory conditions.

Our standard offer of worktop surfaces includes:

1. Post-formed laminated particle boards – are a result of a modern technology for refining the surface of 38 mm thick HPL particle boards, of various shapes and edge radii. Such surfaces are easy to clean and their maintaining is uncomplicated. The worktop complies with EN 13150:2001 and EN 1730:2000 standards. Three surface types are available: high gloss, semi-gloss and matt.

2. Durcon epoxy resin - highly resistant to most aggressive chemical compounds used in laboratory works. Epoxy worktops are resistant to both high and low temperatures that accompany typical laboratory activities. Durcon worktops are made of monolith material with a homogenous structure, which allows them to keep a perfectly cohesive structure throughout whole section. Available with or without marine edges.

3. Trespa TOP LAB or MAX RESISTANCE - a mixture of phenolic resins, hardened in high pressure and temperature conditions (approx. 160°C). Worktops have a total thickness of 20 mm. Their basic exploitation qualities include: relatively high mechanical and chemical resistance, long life, aesthetic design. Thanks to the above, phenolic resin worktops are used in all kinds of laboratories. Available with or without marine edges.

4. Aglodrom - quartz-granite conglomerate, bonded with polyester resins. Worktops of this material are available with or without marine edges. The surface is very smooth and glossy, making it exceptionally easy to clean and maintain. Aglodrom also presents a relatively high mechanical resistance.

5. Solid ceramics - highest grade of laboratory worktops, made of high density homogeneous ceramics, which makes them the most durable and therefore the most suitable for laboratory use. Made of natural ingredients only, in a complicated and time-consuming technological process, which includes temperatures of over 1200°C, they meet the strictest requirements for chemical, thermal and mechanical durability. The surface is glazed, with glazing of the same chemical composition as the base material, which prevents it from peeling or chipping off. Available with flat edges, with ABS snap-on marine edges or with integrated, ceramic marine edges.

6. Large-size technical ceramics - glazed ceramic tiles on timber derivative (water-resistant HPL board) or concrete base. The thickness of ceramic tiles is 8 mm. Worktops of this kind are available with flat edges (finished with 2 mm PCV bounding) or with marine edges made of ceramic bounding tiles. Worktop joints are filled with chemically resistant epoxy joint putty.

7. Polypropylene - worktops made on 20 mm support of homogenous structure, without marine edges; or PLASTIFER injection-moulded tabletops with integrated marine edges. These worktops provide very good chemical resistance (especially recommended for work with HF), though at the cost of being prone to scratches and mechanical damage.

8. Stainless steel - OH18N9 grade, available with or without marine edges.

Chemical resistance test chart

Results of a 16-hour chemical resistance spot test

No Effect | Slight Spot | Spot

Chemical	42. Nitric acid 65%	43. Chromic acid 40%	44. Citric acid 10%	45. Hydrofluoric acid 48%	46. Phosphoric acid 85%	47. Acetic acid 5%	48. Acetic acid crystal	49. Oleic acid	50. Sulfuric acid 33%	51. Sulfuric acid 60%	52. Sulfuric acid 96%	53. Potassium permanganate	54. Kerosene	55. Butyl acetate	56. Ethyl acetate	57. Aniline oil	58. Cotton oil	59. Mineral oil	60. Transformer oil	61. Olive oil	62. Acridine orange	63. Sodium hypochlorite 5%	64. Soap solution 1%	65. Safranine	66. Copper (II) sulfate	67. Sudan III	68. Turpentine	69. Tetrahydrofuran	70. Trichloroethylene	71. Chromium oxide	72. Toluene	73. Sodium carbonate 2%	74. Sodium carbonate 20%	75. Distilled water	76. Boiled water	77. Hydrogen peroxide solution 3%	78. Hydrogen peroxide solution 20%	79. Ammonium hydroxide 28%	80. Sodium hydroxide 10%	81. Sodium hydroxide 50%	82. Malachite green
KERAPLAN Solid ceramics	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
TRESPA TOP LAB (4) Phenolic resin	Slight Spot	Slight Spot	No Effect	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
LABGRADE Laminat, Abet Laminati	Slight Spot	Slight Spot	No Effect	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
MAX--COMPACT (4) Laminate	Spot	Slight Spot	No Effect	Spot	Slight Spot	No Effect	No Effect	No Effect	Slight Spot	Slight Spot	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
MAX--RESISTANCE (4) Phenolic resin	Slight Spot	Slight Spot	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
AGLODROM (3) Engineering stone	Spot	Slight Spot	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot
RESINLINE (2) Lining material	Slight Spot	Slight Spot	No Effect	Slight Spot	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
DURCON (1) Epoxy resin	Slight Spot	Slight Spot	No Effect	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect

Chemical	1. Acetone	2. Acetonitrile	3. Alizarin	4. Ethyl alcohol 50%	5. Ethyl alcohol 95%	6. Ammonia 25%	7. Giemsa stain	8. Wright's stain	9. Benzene	10. Acetic anhydride	11. Aniline blue	12. Methylene blue	13. 2-butane	14. Sodium chloride 10%	15. Ferric chloride	16. Chromic acid cleaning solution	17. Carbon tetrachloride	18. Congo red	19. 1,2-dichloroethane	20. Dichlorometane	21. Potassium dichromate	22. Dimethyloformamide	23. 1,4-dioxane	24. Eosin	25. Diethyl ether	26. Phenol	27. Crystal violet	28. Methyl violet	29. Formaldehyde 37%	30. Carbol fuchsin	31. Basic fuchsine	32. Furfural	33. Ethylene glycol	34. N-hexane	35. Heptane	36. Isooctane	37. Iodine crystal	38. Potassium iodide 10%	39. Carmine	40. Xylene	41. Nitric acid 10%
KERAPLAN Solid ceramics	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
TRESPA TOP LAB (4) Phenolic resin	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	Spot	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	No Effect
LABGRADE Laminat, Abet Laminati	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	Spot	Spot	Slight Spot	No Effect	No Effect	No Effect	No Effect	Spot	Slight Spot	No Effect	No Effect	No Effect
MAX--COMPACT (4) Laminate	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	Spot	No Effect	No Effect	Spot	Spot	Slight Spot	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	No Effect
MAX--RESISTANCE (4) Phenolic resin	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	Spot	No Effect	No Effect	Spot	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	No Effect
AGLODROM (3) Engineering stone	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	Spot	Spot	No Effect	No Effect	Slight Spot	Spot	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	Slight Spot	Slight Spot	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	Spot	Spot	No Effect	Slight Spot	Spot	Spot	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect
RESINLINE (2) Lining material	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	Spot	Spot	No Effect	Spot	Spot	Spot	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	No Effect	No Effect
DURCON (1) Epoxy resin	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	Slight Spot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect

Explanations: (1) Worktops, sinks and accessories made of epoxy resin; (2) Polyester resin material; (3) Resin-bonded quartz-granite conglomerate; (4) Phenolic resin mixture.
Test Conditions: With nonvolatile reagents, approximately 0,5 cc of the reagent was applied to the surface tested. The reagent was covered with a wide mouth bottle to retard evaporation. With volatile reagents, a 1" (25 mm) ball of cotton was saturated with the reagent and placed on the surface tested, then covered with a wide mouth bottle. All surface test spots were wet with reagent for a 16 hour period. After exposure, the surface was washed with soap and water, rinsed and dried before examination and evaluation.

Laboratory chairs

Comfort

Laboratory chairs

Modern appearance and easy-to-clean materials make these chairs perfect for working both in laboratories and other workplaces. Pneumatic jack and adjustable backrest make it possible to work long hours in good comfort. Depending on the chair model they present resistance to weak acids, bases and UV rays.

One may choose a type of stand, which can be made of glass-fibre reinforced polyamide, powder-coated metal or chrome metal. Depending on chair model one may configure the chair choosing different types of armrests, standard or high jack and a footrest.

TYPES OF SEATS AND BACKRESTS

KPU 01
Rotary chair with seat and backrest made of black, non-slip polyurethane. Easy to clean, resistant to weak acids and bases, and UV rays.

KPU04
Rotary chair with large seat and backrest made of black, non-slip polyurethane; Increased mechanical durability. Easy to clean thanks to a smooth, grease-resistant surface.

KPU 02
Rotary chair with seat and backrest made of non-slip polyurethane with high resistance to weak acids and bases. Easy to clean and maintain.

KPU03
Chair made of black polyurethane; high mechanical durability combined with weak acids and bases resistance. Easy to clean and disinfect.

Laboratory stools

Cosiness

Hockers and stools

Hockers and stools equipped with a pneumatic jack and seat made of soft, non-slip polyurethane for high seating comfort. Easy to clean surfaces make them the perfect solution for laboratory work. Depending on a model our hockers and stools show resistance to weak acids and bases and increased mechanical durability.

The seat is made of soft, non-slip, easy to clean, black polyurethane. One may choose between a fiberglass--reinforced polyurethane or chrome metal stand.
The hockers are available with a high jack, while stools offer includes both standard and high jacks. Stools are also available in a range of colours.

EXAMPLES OF HOCKERS' AND STOOLS' SEATS AND BACKRESTS ON OFFER

Metal shelving

Simplicity

High quality shelving allows safe storing of products, even ones of irregular shape. Adjustable shelves position allows to adapt the shelving to your own needs and optimize storage space. Our offer includes warehouse, multi-level and corner shelving, available in galvanized or stainless steel finish.
Screwless connections allow a fast and easy changing of the shelves' height, while maintaining stability and stiffness of the shelving. The shelving provides an attested 100 kg shelf bearing capacity. Additional assets include stiff construction and polypropylene collection trays. The shelving is certified in accordance with the required standards.

Metal cabinets

Storage

Modern design, high-quality metal cabinets are a perfect constituent of industrial and office rooms. Our wide assortment allows the user to select a model best suited to his individual needs. Metal furniture is used in offices, production halls, workshops, schools and many other places where safe and comfortable storage is a priority.

Depending on model, we offer cabinets with swing doors, rollershutter, retractable and sliding doors, as well as hanging lockers and filing cabinets. Office cabinets are equipped with height-adjustable shelves.

Safety showers and eyewash units

Safety showers and eyewash stations meeting the EN 15154-2:2006 standard are a mandatory equipment for places in which employees can be exposed to contact with caustic substances, inflammation of clothes or dusting of the eyes. Steel elements coated with chemically resistant epoxy coating guarantee a long lifetime of the device. Our offer includes various types of units: worktop-mounted and wall-mounted eyewash units, safety showers mounted in the ceilings and over doors, as well as combined solutions. Thermostatic valves, which provide a comfortable temperature water supply complement the offer.

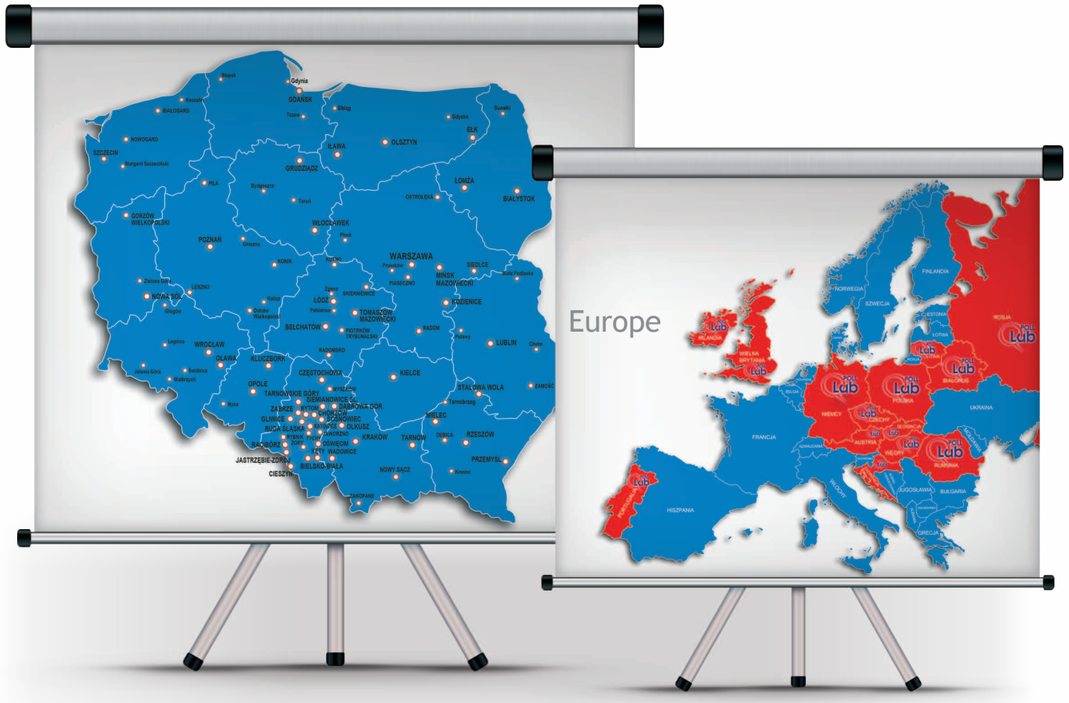
SAFETY SHOWERS

EYEWASH UNITS

Realizations

Polish and European Institutions which have put their trust in us:

- Epidemiological-sanitary stations
- Sewage treatment plants
- Water treatment plants
- Water supply stations
- Environmental inspectorates
- Plant and seed inspectorates
- Veterinary inspectorates
- Universities, High schools, Elementary schools
- Pharmaceutical companies
- Chemical plants
- Establishments associated with the oil industry
- Breweries
- Processing and production plants from both food and technical industries
- Hospitals
- Dairies
- Meat processing plants
- Specialized research and development laboratories belonging to companies associated with biotechnology and bioinformatics
- Power plants
- Scientific institutes
- Foundries



Laboratory equipment

Q-MSystem / Q-Cell series incubators / Q- Cell CHL series refrigerators / Q-Cell ZN and ZNS series freezers / QSL-1 dryer / Q-Fish / References

Monitoring

The Q-MSystem is a wireless logging system for temperature, humidity and pressure, designed to enhance automated data gathering. It is perfectly suited for situations which require permanent monitoring of process parameters. Measurements are made with high precision and reliability by means of modern transducers, and then recorded in a non-volatile memory. If measured parameter exceeds the set limits, a light, sound or SMS alarm is triggered. Thanks to a modern wireless transmission system in ISM frequency band, there is no longer need for expensive and troublesome wiring of the system.

- Safe data transfer
- Continuous measurements, independent of power supply failures or PC operation
- Easily extensible test points
- Wide range of alarms
- User-friendly software interface
- Wireless data transmission
- Temperature, humidity and pressure measurements
- Intuitive creation of reports and analyses
- Full compliance to binding standards

Flexibility

1. Transmission range up to 200 m*
2. Convenient connection via USB
3. Innovative communication method
4. SMS notifications
5. User-friendly software
6. Current temperature, humidity and pressure readout
7. Operating mode and alarm indication through LEDs (base transmitter only)
8. Up to 85,000 measurements memory (base transmitter)
9. Up to 50,000 measurements memory (modules)
10. Ergonomic holders

* in open space

Logging

The system consists of a main unit (Q-MSystem Base), directly connected to the PC via cable, and a given number of measurement modules (Q-MSystem Module), which collect the data using cable sensors. The data transmission between modules and base is carried out through a wireless connection.

Base transmitter (Q-MSystem Base)

- Collects data from all connected modules
- Standard non-volatile memory for 85,000 records (extendable)
- Autonomous operation - works independently of the PC
- SMS alarm notifications for set limits breach (with an optional GSM block)
- PC connection via USB
- Support batteries ensuring continuous operation regardless of power supply failures
- LED indication of an active PC or module connection and battery operation

Measuring modules (Q-MSystem Module)

- LCD display showing current parameters, battery status and other messages/settings
- Internal memory for 50,000 measurements
- Measurements interval configurable within the range of 1s-24h
- Acoustic and visual alarm for set limits breach
- Support batteries ensuring continuous operation regardless of power supply failures
- 1- and 2-channel versions (for 1/2 measurement points)

Sensors

- Temperature sensors with maximum range of -200°C to 1200°C (TE sensor), sensor cables 2 m long
- Humidity sensors for 0 to 100% RH range, sensor cable 2 m long
- Pressure sensors for 900 - 1150 hPa range (built into the module)

Software

Software with easy-to-use interface allows the user to monitor and control the functioning of logging system.

Monitoring

- Current system parameters presentation (temperature, humidity, pressure, supply voltage, etc.)
- Collective information about all test points where the set limits have been breached (alarm)

Logging

- PC-database measurement number limited only by the hard-drive capacity
- Safe data storage with access to all previous measurements

Reports

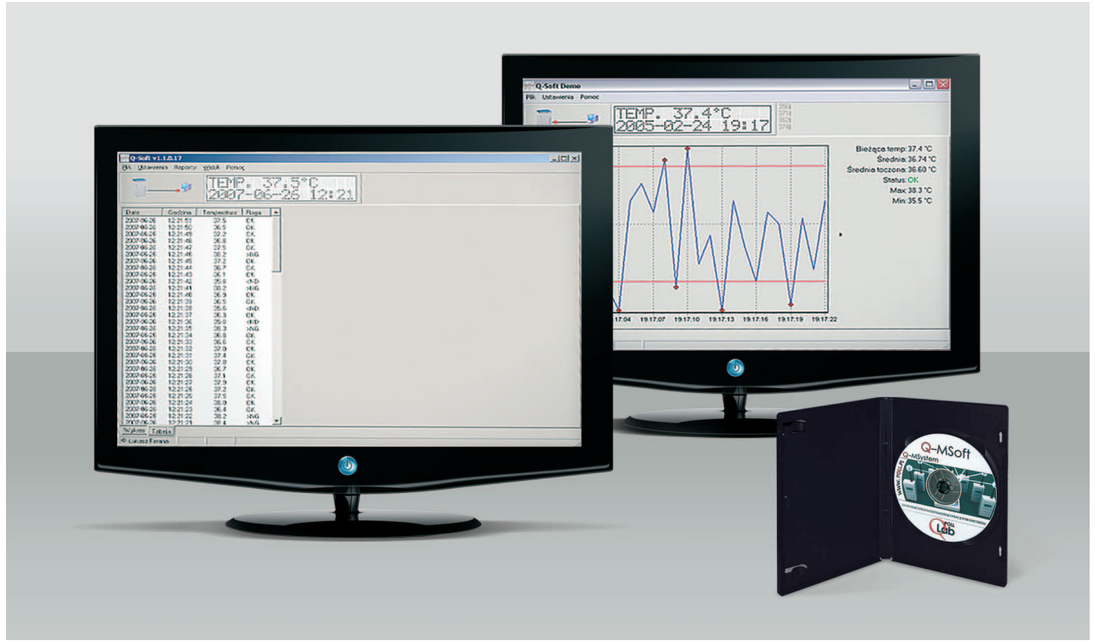
- Current and archival reports can be created in the form of data tables or graphs
- Possibility of generating a general all-system report
- data can be exported to other formats.

Configuration and parameter selection

- Advanced functions for parametric configuration of the system make it possible to adjust the system functioning to any specific user's needs. Software conforms to GLP (Good Laboratory Practice) rules.

Quality assurance

Each module may be supplied with a calibration certificate issued by a PCA Accredited Laboratory. The product comes with a standard 24-month guarantee, with extended service agreements possibility. Post-implementation technical support is available free of charge.



Possibilities

Capabilities

Q-Cell series incubators are modern laboratory devices designed for sample storing and bacteria incubation precisely defined temperature, while maintaining the highest requirements concerning its stability and homogeneity. Devices of 60 to 1400 litre capacity are available as well as multi-chamber versions.

Each Q-Cell incubator is equipped with a combined cooling and heating system with forced air circulation, enabling them to work in temperatures close to or lower than ambient temperature. Work safety is assured by the use of alarms, electronic and electro-mechanic cut-off systems, compliant with European standards and laboratory requirements.

The standard temperature range is +3°C to +40°C, with the possibility of extending to +50°C or +60°C. In INOX models temperature range is +3°C to +60°C and can be further extended up to +70°C (+80°C for some models).

The Basic version has a plastic interior (60-240 models) or aluminium one (300-up models), INOX versions of all the devices have got the interior made of acid-proof, stainless steel. Most incubators are also available with external, glazed doors, which is marked by „+" beside the version name (e.g. Basic +).

Control

Operation of the device is facilitated by an easy-to--read, LCD dot-display and multi-level text menu, which makes the setup easy even in the most advanced incubator versions. The controller provides temperature regulation and display with 0,1°C precision.

An integrated real time clock with a calendar allows programming of the device's work time from 1 minute to 31 days, as well as periodical activation of the programmable, automatic defrosting system (optional). The device can operate in a continuous cycle or timed process, after which the program may be looped, stopped, the device may switch off or finally, it may enter a temperature-keeping mode with continuous indication of program end. Changes of operation modes and all alarms are signalled audibly.

Step-version of the controller enables storing up to 5 predefined programs which can be easily activated afterwards. Each program may consist of maximum 9 steps, each with independently set parameters of operation time, temperature, fan speed as well as lighting and 230V, built-in socket activation.

An innovative feature of the controller is the components check panel, showing their current status and pointing to a possible fuse burnout or component malfunction. It also provides the possibility to look-up temperature statistics from the last running program or global ones (maximum, minimum, average temperature and temperature chart).

Safety devices

Alarms indicate a power supply failure, opening of the chamber's door, temperature sensor damage and optionally - exceeding the configurable allowed temperature range. In addition, a safety thermostat is installed, which prevents the device from overheating in case of a controller failure or short-circuit.

Safety

Software

The modern Q-Soft software allows the users to log, visualize and create reports regarding the processes taking place inside the incubator chamber. Ease and user-friendliness of operation and configuration are achieved through automatic detection of PC-connected incubators, English-language software and easy-to-use navigation. All this makes the software a useful and convenient tool.

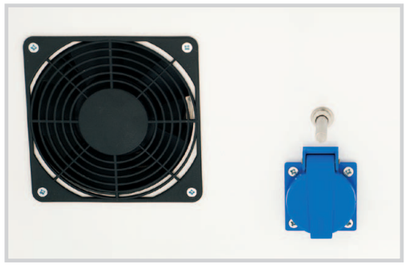
Q-Cell series Incubators and Refrigerators

Type	60	140	200	240	300	300/2	500	700	700/2	1400
Width (mm)	540	550	550	550	520	720	620	720	1440	1440
Depth (mm)	590	600	620	570	700	860	860	860	860	860
Height (mm)	570	880	1170	1500	2020	2020	2020	2020	2020	2020
Gross capacity (l)	66	155	205	250	350	2 x 295	490	630	2 x 630	1380
Net capacity (l)	60	142	185	228	335	2 x 280	475	615	2 x 615	1350
Number of shelves	2	3	3	5	3	2 x 2	3	3	2 x 3	2 x 3
Temperature range	+3ºC to +40/+50/+60ºC (incubator) 0ºC to +15ºC (refrigerator)									
Power supply	230 V/50 Hz									
Rated power	130 W				280	650	280	280	650	620
Weight (kg)	32-42	41-59	49-72	57-84	100-105	175-180	115-130	125-138	215-225	195-220
Available versions: Basic/Basic+/ INOX/INOX+	+/-/+/-	+/+/+/-	+/+/+/-	+/+/+/-	+/-/+/-	+/-/+/-	+/+/+/+	+/+/+/+	+/-/+/-	+/+/+/+

Accessories

Additional options:

- Internal 230V sockets
- Inspection hole
- Glass internal door
- Glazed external door (some models)
- Door lock
- Temperature deviation alarm
- Wheels
- Wheeled table for incubator
- Q-Soft software
- Calibration in an accredited laboratory
- Step-controller
- Photoperiod (internal lighting with day and night cycle simulation)
- IQ, OQ, PQ protocols



Configurability

Capabilities

Q-Cell refrigerators derive directly from our series of laboratory incubators and are available in the same range of sizes - from 60 to 1400 litres capacity. The main difference is the lack of interior heating system, which allows to reduce costs while maintaining the highest performance stability and temperature uniformity guaranteed by forced air circulation. Operating temperature range is typically 0°C to +15°C, expandable up to ambient temperature and down to -5°C (some models).

Control

The device controller is the same as used in Q-Cell series incubators – see the description on previous pages.

Safety devices

Standard refrigerators of the Q-Cell CHL series are equipped with alarms indicating power failure, opening of the chamber door and temperature sensor failure. Temperature deviation alarm is available as an option.

Software

The same Q-Soft software as for Q-Cell incubators may be used with the refrigerators, offering similar possibilities regarding logging, visualization and creating reports of the processes taking place inside the refrigerator's working chamber.

Additional options:

- Internal 230V sockets
- Inspection hole
- Glass internal door
- Glazed external door (some models)
- Door lock
- Temperature deviation alarm
- Wheels
- Wheeled table for incubator
- Q-Soft software
- Calibration in an accredited laboratory
- Step-controller
- Photoperiod (internal lighting with day and night cycle simulation)
- IQ, OQ, PQ protocols
- Programmable automatic defrosting with alternative manual operating mode

Q-Cell ZN and ZNS series freezers

Precision

Capabilities

Q-Cell series laboratory freezers are divided into two series – Q-Cell ZN standalone freezers and Q-Cell ZNS chest-type freezers. The standalone models offer capacity range of 80-1400 litres. Models up to 300 litres capacity have plastic interior with drawers placed on shelves (the shelves being a part of the cooling system evaporator), and have natural air circulation. Models with capacity from 300 litres up have aluminium (Basic version) or stainless steel (INOX version) interior and forced air circulation.

Chest models, due to their construction, guarantee minimized temperature changes caused by opening of the device. The interiors made of aluminium or stainless steel offer capacity within range of 200-600 litres and natural air circulation.

Operating temperature range is 0°C to -25°C in standalone models and 0°C to -20°C in chest-type models. Q-Cell 200ZN is the one exception with temperature range all the way to -40°C.

Control

Our freezers use a controller with the same functionality as that used in refrigerators and incubators (see description on previous pages).

Protection

Q-Cell Freezers both ZN and ZNS are equipped with alarms indicating power failure, opening the chamber door and temperature sensor failure. Alarm indicating set temperature deviation is optional.

Software

As it is in the case of the other Q-Cell series devices, the Q-Soft software may be used to monitor our freezers, offering logging, visualization and creating reports of the processes taking place inside the freezer's working chamber.

Standalone freezers

Q-Cell	80 ZN	150 ZN	190 ZN	300ZN	300/2 ZN	500ZN	700ZN	700/2 ZN	1400 ZN
Width (mm)	550	600	600	520	720	620	720	1440	1440
Depth (mm)	580	610	610	700	860	860	860	860	860
Height (mm)	890	1390	1590	2020	2020	2020	2020	2020	2020
Gross capacity (l)	92	197	232	350	2x 295	490	630	2x 630	1380
Net capacity (l)	85	170	202	335	2x 280	475	615	2x 615	1350
Number of drawers/ shelves	4	5	6	3	2x 2	3	3	2x 3	2x 3
Temperature range	0°C to -25°C								
Power supply	230 V/50 Hz								
Weight (kg)	35	57	65	100-105	175-180	115-118	125-128	215-225	195-200
Available versions: Basic/INOX	+/-	+/-	+/-	+/+	+/+	+/+	+/+	+/+	+/+

Chest freezers

Q-Cell	200 ZNS	400 ZNS	600 ZNS
Width (mm)	940	1200	1700
Depth (mm)	680	803	803
Height (mm)	910	910	910
Net capacity (l)	200	400	600
Number of baskets	-	4	5
Temperature range	0°C to -40°C	0°C to -20°C	
Power supply	230V / 50Hz		
Rated power (W)	500	330	430
Weight (kg)	66	95-100	130-137
Available versions: Basic/INOX	-/+	+/+	+/+

QSL-1 Dryer

Rapidity

QSL-1 laboratory glassware dryer

The QSL-1 hot air dryer is a laboratory device intended for drying laboratory glassware of any kind. Its compact and simple construction allows the user simultaneous and fast drying of large numbers of laboratory glassware, like beakers and test-tubes of diverse types and sizes. One may choose between hot- or cold-air drying.

The device is equipped with 24 stub pipes 16 mm in diameter for larger items, and two sets of 16 stub pipes each,14 mm and 12 mm in diameter, provided for smaller glassware items. QSL-1 LT version is also available, designed for small-size glassware and equipped with 56 stub pipes, 9 mm in diameter. The pipes are made of high-grade, acid-proof stainless steel, which prevents corrosion caused by contact with water or chemical agents residues.

The control panel, allowing independent switching of air flow and heating, is placed in front of the device. The appliance is equipped with an electronic timer which allows programming of operation time. The fan's filter, preventing the dried glassware from air pollution, is easy to take apart and replace. The drying system is protected against overheating by a temperature cut-off fuse. Thanks to the device housing shape, the water remaining in dried items is gathered and carried through a hose to the sink.

Dimensions (W x D x H)	325 x 360 x 920 mm
Rated power	900 W
Air temperature	74°C - 80°C
Power supply	230 V / 50 Hz
Warranty	24 months

Innovation

The main functions of Q-Fish include:

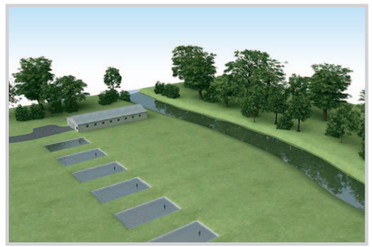
- Monitoring of water parameters in fish farming facilities
- Logging the values gathered by probes
- Controlling peripheral devices
- Transmitting data to servers and websites
- Signalling alarm states
- Visualising the gathered data for further analysis

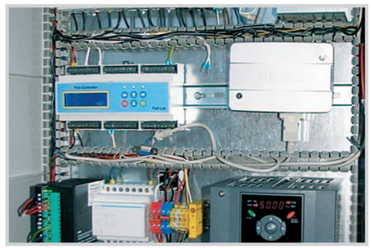
By means of specially selected high-quality probes the system makes it possible to monitor various water parameters, such as: oxygen level, temperature, pH, water level, turbidity, etc. It can also be used to monitor the functioning of peripheral equipment related to fish farming, such as oxygen generators, aerators, pumps, motors...

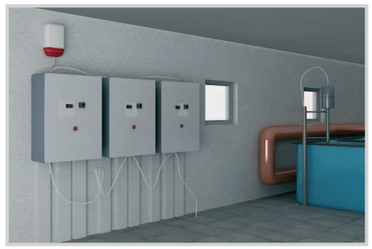
The system gives a possibility to trigger light, sound and SMS alarms when the threshold values are exceeded. Taking account of the gathered data, it may effectively control any peripheral equipment. In example, if the limit value of oxygen is exceeded, oxygen generators may be automatically started by a trigger signal from the system. Access to both current and previous parameters recorded by the sensors in the whole fish farm is available from anywhere in the world after logging onto a website.

Advantages of the Q-Fish system application:

- Automated measurements
- Monitoring of key elements of fish farming
- Reducing fish death rate
- Reducing work time necessary to run a facility (farming, supervising)
- Possibility of analysing farming-related data
- Modular construction of the system offering great flexibility and extendibility
- Power usage saving through intelligent control







www.q-fish.eu

Realizations

Thanks to a strong, earned brand and application of modern solutions, both secure and well recognized in GLP, the laboratory furniture and equipment produced by our company is highly valued not only in Poland but throughout Europe. This allows us to boast with a very long list of customers. Here are some of them: