

cleanroom solutions

Pureness with a system.





mission pure ness.



Pureness is the goal. Perfection the way. The unproblematic execution of your project is dependent on the choice of the right partner. A partner whose team of specialists does not just provide components, but also experience. Who knows how to guide, plan, and execute – while being flexible from beginning to end. Whose dedication to your project is reflected in the large variety of products on offer. And who offers a maximum of diversity with their intelligent, modular systems. For every business. Every cleanroom class. Every requirement.



system diver sity.

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We offer:

- more than 20 years of experience
- a complete and thorough completion of your project
- advice, planning and execution
- variability through a flexible system
- sturdy products
- individual and professional consultancies
- our own development department
- continuity thanks to over 50 years of **octanorm**
- flexibility from beginning to end
- the best value for money
- a reliable network of partners for every business
- international project experience
- more than 1000 cleanroom project references



air purity. pressure-tight. disinfectable.

For pharmacy and healthcare.

Requirement No. 1 for pharmacy and healthcare: microbiological purity. This asks for an environment with a minimum number of particles to prevent microbes from cultivating. Which demands a lot from the materials used, the surfaces and the execution. On the one hand, disinfectability and sturdiness are prerequisite. On the other, it needs to be pressure-tight. This calls for absolutely flush surfaces and disposal possibilities. To prevent cross contamination. And increase both quality and safety.







In addition to double walls made from powder-coated steel, and full glass systems, we offer sandwich wall systems with pre-coated sheet steel, with polyurethan, mineral wool, or aluminium honeycomb filling.

The wall cladding is pre-assembled and will be mounted onto the foundations on site to create partitioning walls. Installations can be integrated in the hollow space. The surface is edge-free and smooth, a horizontal collection of particles is avoided. Joint sealing ensures the room is pressure-tight.

All elements can easily be moved or replaced, without changing the structure or additional work or material. The double glazing with divided glass frames allows for a single-sided exchange of glass panes. Advantages: quick assembly, easy handling, no production stops.

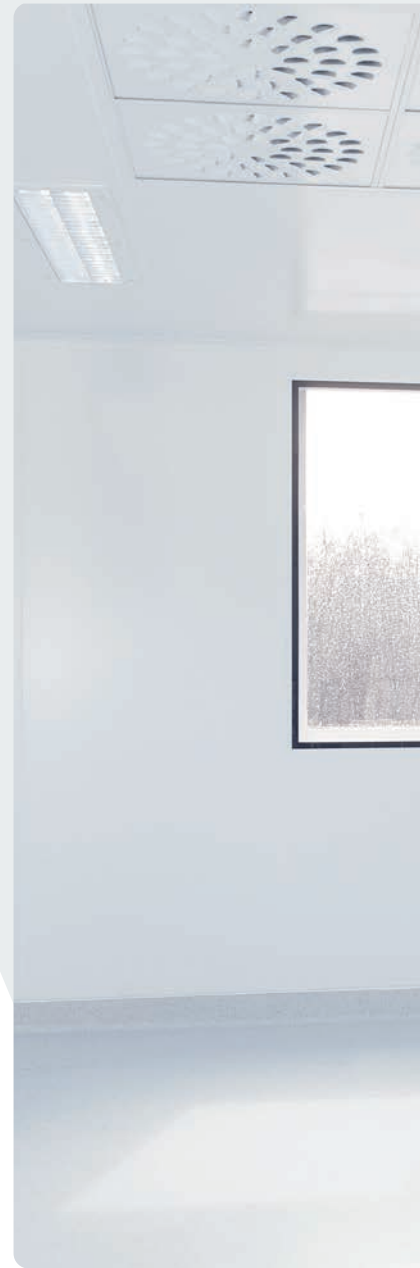
Technical data:

- various wall depth
- uprights and extrusions from aluminium or steel
- surfaces anodized or powder-coated
- different wall panels
- easy integration of switches and sockets
- noise protection

Application areas:

- pharmaceutical industry
- chemical industry
- healthcare and hospitals
- laboratory and chemist
- medical technology
- cosmetics industry
- food industry







Depending on your requirements, different ceiling systems and types, like clip in, bandraster or sandwich ceilings, can be used. All ceilings can easily be combined with one another.

The modular construction, as well as the flexible grid sizes and wall connections allow for utmost individuality during the planning process and execution. All elements are flush and with high quality surfaces.

Most ceiling solutions are accessible. Lights and ventilation are installed completely flush – maintenance access can be from below or above, depending on your requirements.

Technical data:

- bandraster width and grid in different sizes
- self-supporting construction is possible
- anodized or powder-coated surfaces
- different ceiling panels

Application areas:

- pharmaceutical industry
- chemical industry
- healthcare and hospitals
- laboratory and chemist
- medical technology
- cosmetics industry
- food industry







We offer one, one-and-a-half, and two-winged doors – closed or partly glazed – with door leaves flush to the wall extrusions on one or both sides. If required, doors can be delivered with transom windows. All doors are fitted into the wall grid. The door glazing is the same as used in the partitioning wall glazing.

The frames are welded, slurred and painted a posteriori. Door frames are fitted with highly elastic seals on three sides, all inner and outer joints are sealed elastically as well. The 3-dimensionally adjustable door hinges are invisibly integrated or mounted – just like the submersible floor sealing and the optional overhead door closers.

Retrofitting: electrical door openers, fitting door closers and panic fittings can be added to all doors. Combination with double door or access control systems is possible as well.

Technical data

- extrusion width, door width and height in different variations
- anodized or powder-coated surfaces

Application areas:

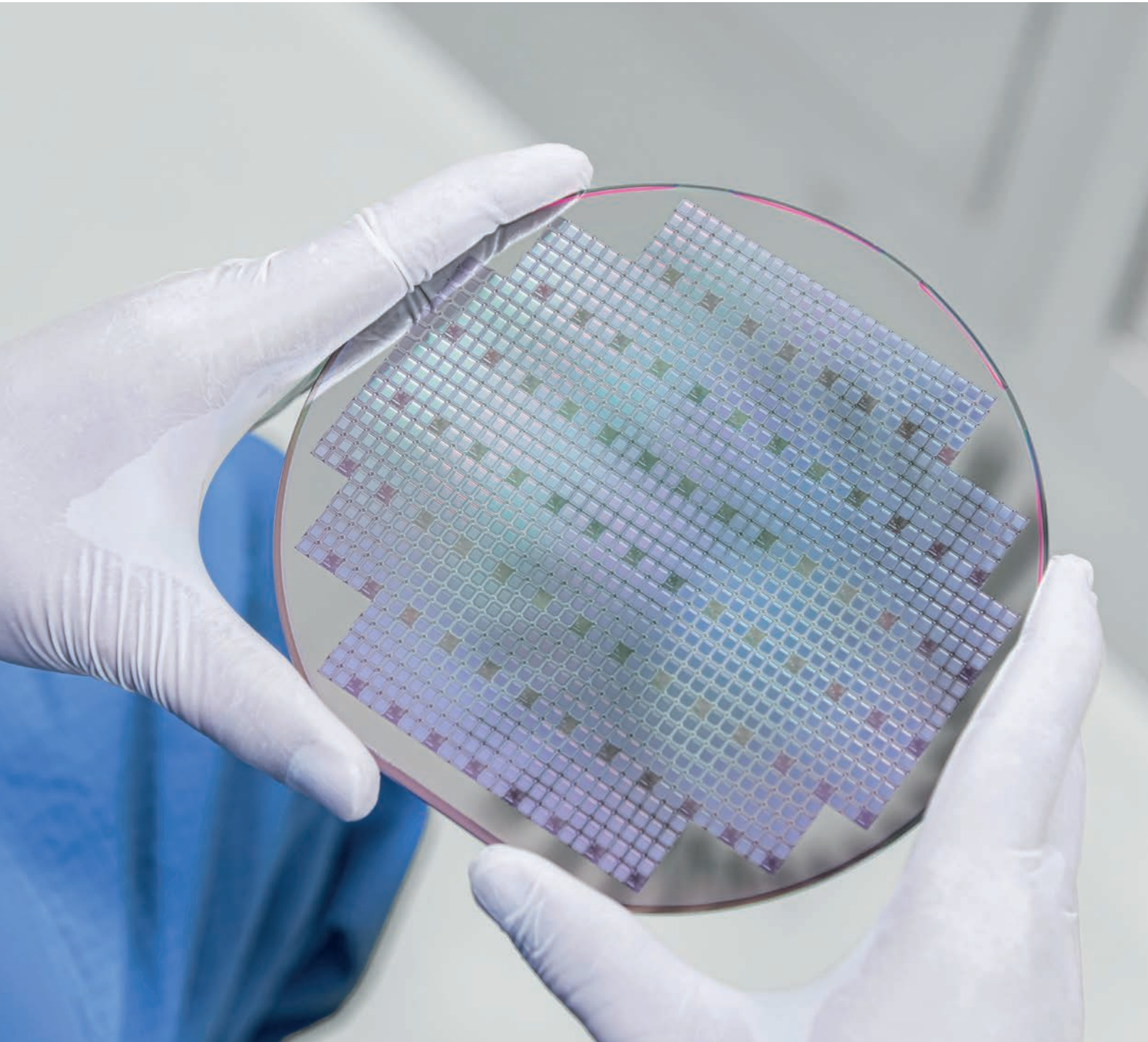
- pharmaceutical industry
- chemical industry
- healthcare and hospitals
- laboratory and chemist
- medical technology
- cosmetics industry
- food industry
- mechanical engineering



particle free. modular. flexible.

For electronics and semiconductors.

The innovation and production cycles of the electronics and semiconductor industry are extremely short. Not only does this create constant demand for new machinery, but also new cleanrooms. Hence, three requirements are prerequisite: modularity, flexibility, and cleanroom suitability. Guaranteed through a standardized system with many modules: reusable, expandable and quick delivery for fast conversions in pure conditions.







All wall systems comply with the EN ISO 14644-4 cleanroom specification and are certified by the Fraunhofer institute. They are flexible in height and width, are built flush, and with non-reflective, antistatic surfaces. Service hatches, doors, switches etc. can easily be integrated.

The following systems are available:

Full wall systems:

- double walls for all possible filling requirements like noise or heat insulation and high flexural strength
- single walls for areas leading return air, or as wall cladding, e.g. for machine containment
- service walls for machinery

Glazed wall systems:

- single, double, or triple-glazing
- safety glass with different material thickness
- yellow glazing for photolithography areas

Technical data:

- wall strength in different versions
- extrusions and uprights from aluminium
- anodized surfaces (powder-coating on request)
- different wall panels
- electrically conductive (on request)
- easy integration of switches and sockets

Application areas:

- semiconductor industry
- car industry
- microelectronics
- nanotechnology
- optics
- solar industry
- aerotechnics
- MEMS
- medical technology
- mechanical engineering







Our ceiling systems offer an individually adjusted contamination control for all cleanroom classes. They are modularly expandable and easily fitted with lights and filters. All ceiling systems comply with the EN ISO 14644-4 cleanroom specification and are certified by the Fraunhofer institute.

Light ceiling:

- modularly constructed grid ceiling
- light weight, quick and easy assembly

Ceilings with 100 kg/m² single load:

- modularly constructed grid ceiling
- can be walked on for maintenance work
- machinery can be mounted to the ceiling and above the cleanroom

Ceilings with 200 kg/m² single/point load:

- modularly constructed cassette ceilings
- can be walked on for maintenance work
- heavy machinery can be mounted to the ceiling and above the cleanroom

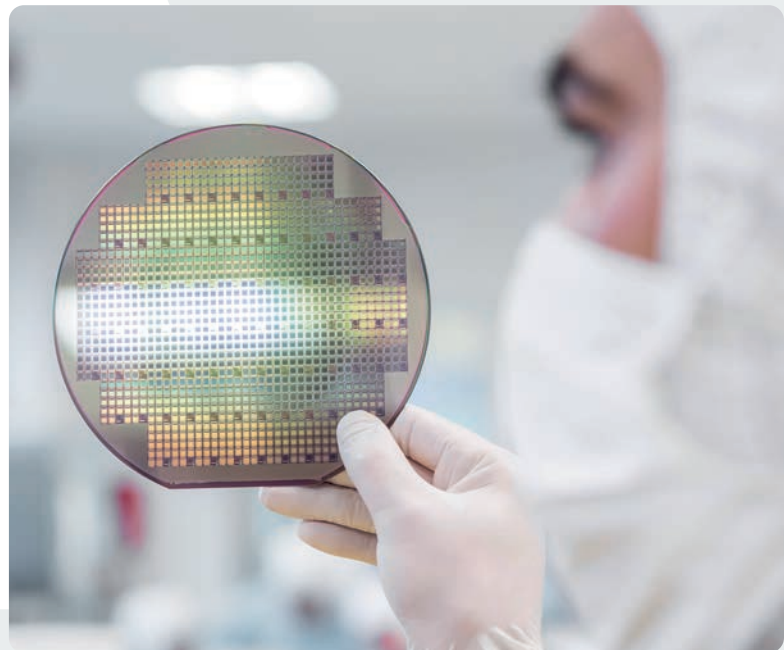
Technical data

- extrusion depth and height and grid size in different versions
- anodized aluminium ceiling extrusions
- different ceiling panels, single or double

Application areas:

- semiconductor industry
- car industry
- microelectronics
- nanotechnology
- optics
- solar industry
- aerotechnics
- MEMS
- medical technology
- mechanical engineering





door systems



The right door system for every requirement – always supplied with aluminium door handles, aluminium door hinges, tubular frame lock, and highly elastic EPDM sealing between door frame and door extrusion.

Variations:

- one-winged doors (DIN left or DIN right opening)
- two-winged doors for bigger equipment (DIN left or DIN right opening)
- special-purpose solutions, e.g. 4-winged doors for large- sized construction parts
- sliding doors
- powder-coating possible
- electrically controlled doors
- integration of overflow grilles into door leaf

Optional configurations:

- drop down seal, panic fitting, access control and locking systems (mechanical or electrical)

Technical data:

- door depths in different versions on request
- tubular frame construction
- anodized surfaces
- door panels and glazing same as wall panels and glazing

Application areas:

- semiconductor industry
- car industry
- microelectronics
- nanotechnology
- optics
- solar industry
- aerotechnics
- MEMS
- medical technology
- mechanical engineering



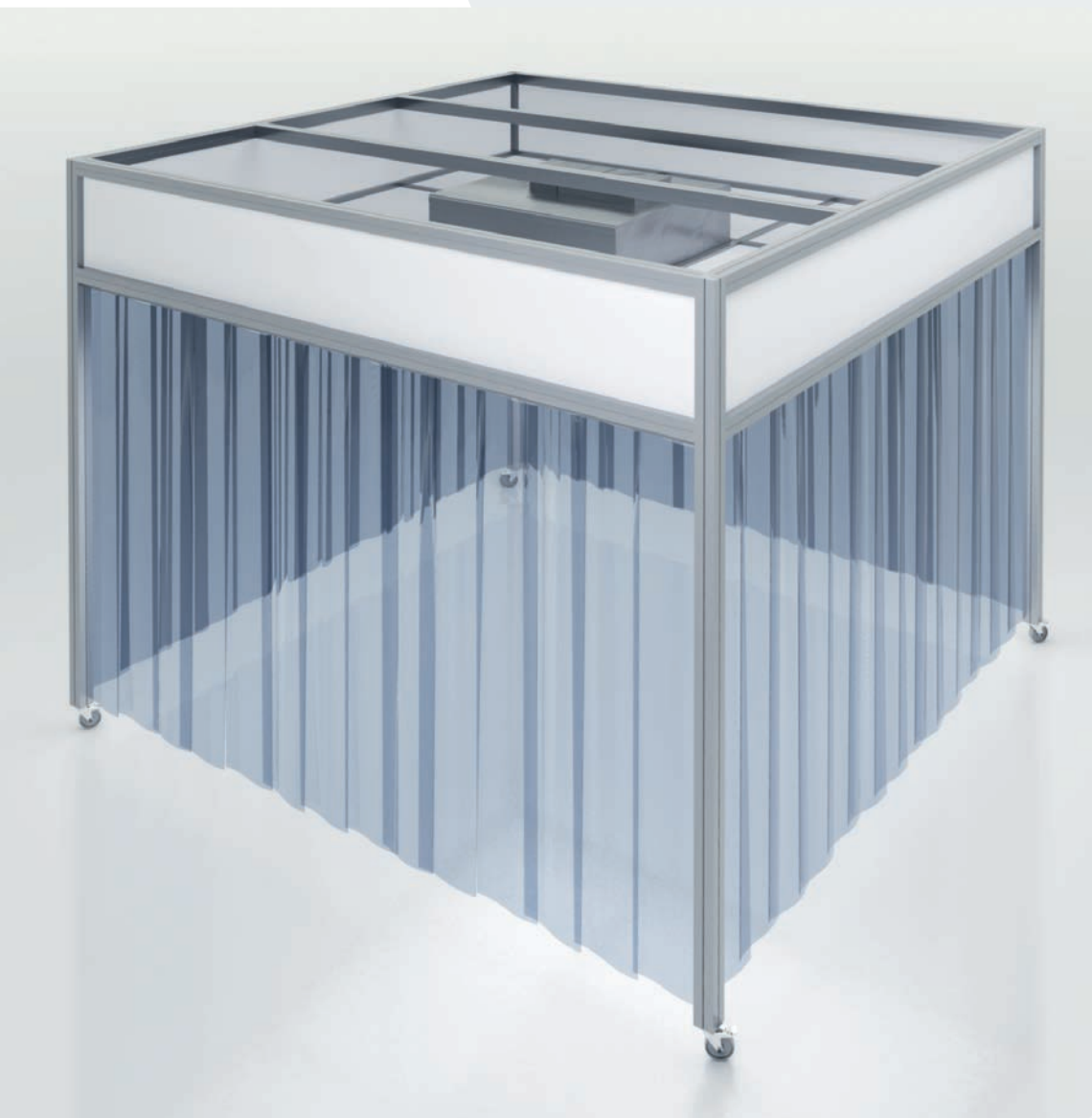
modular. flexible. mobile.

For a divers cleanroom.

The necessity: temporary to permanent. The application: mobile. In situations like these, our structural components are the right choice: cleanroom kits, Laminar Flow Units, self-assembly cleanrooms and service hatches for self-contained, yet free-standing unit, granting mobility when needed. The cleanroom kits are available in seven depths, self-assembly cleanrooms are individually planned and prepared for easy assembly on site. Whatever you want, however you want it, whenever you want it.

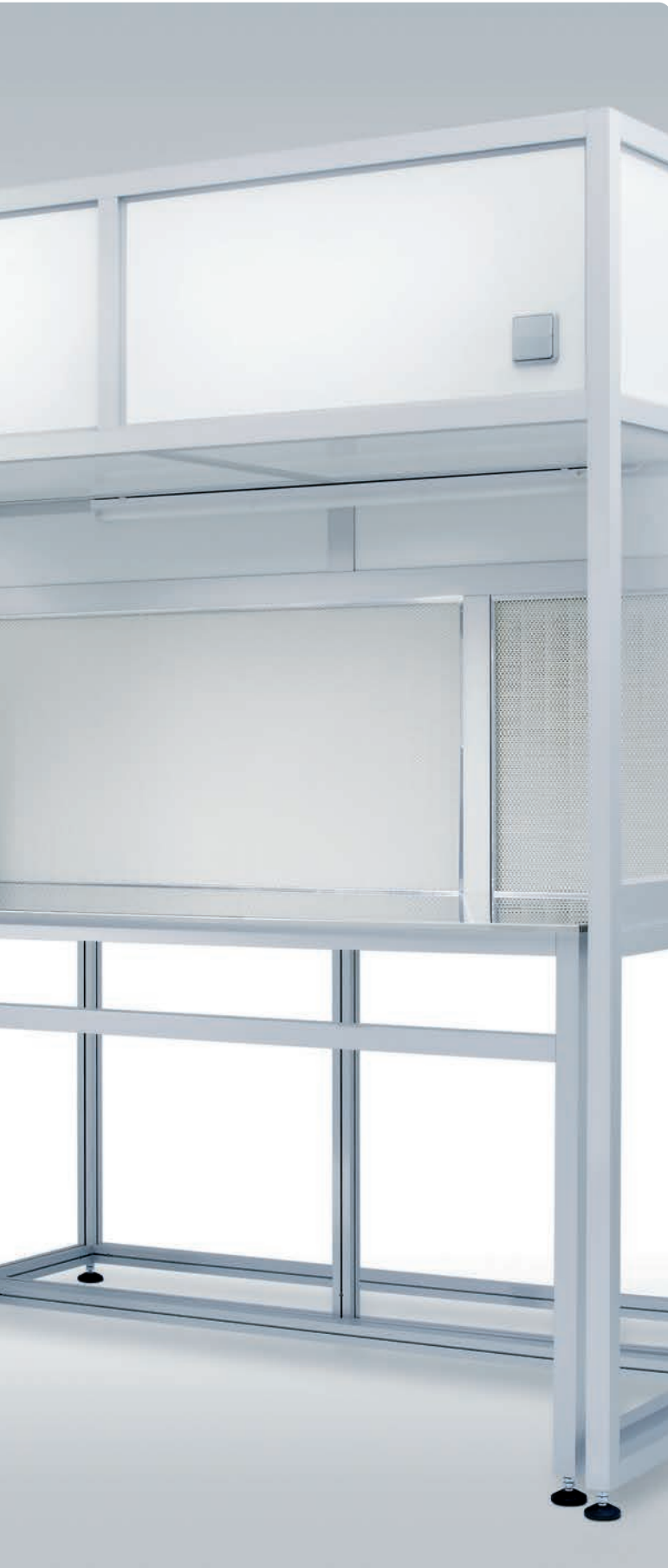






➤ Structural Components

laminar flow units



Whenever a pure workplace is needed, but no permanently installed cleanroom, our mobile laminar flow units are the perfect solutions. And since their construction and deconstruction is as simple as their transportation, relocation is possible at any time.

The laminar air flow ensures a low particle environment and reliable functionality. Lighting and filter fan units are integrated, bottom rollers and antistatic curtains are optional.

Additional use: If used within a cleanroom, the laminar flow units can punctually increase the GMP-/ISO-class.

Laminar flow units

- softwall units with curtains in the desired dimensions
- desk module/workbench:
(W × H × L) 698 × 1100 × 658/958/1258 mm
- special solutions

Technical data:

- extrusions and uprights from aluminium
- anodized surfaces
- galvanized adjustable feet
- PVC curtains
- HEPA filter
- acrylic glass panels, 4 mm

Application areas:

- semiconductor industry
- microelectronics
- optics
- MEMS
- medical technology
- industry
- mechanical engineering



➤ Structural Components

self-assembly cleanrooms



Our self-assembly cleanrooms have a rather simple approach: do it yourself.

The pre-assembled wall elements, which are easily mounted on site, save both travel and assembly expenses. And thanks to the flexible grid sizes, your individual wishes are easily integrated in the early planning stages.

The wall elements, flush on one side, are available in various heights and widths; doors, service hatches, and air locks can be added as required. Also, you have the choice between closed and glazed wall elements.

Technical data:

- extrusion width on request
- uprights and extrusions from aluminium
- anodized surfaces
- toughened safety glass
- silicone free materials
- connections in compliance with cleanroom regulations

Application areas:

- semiconductor industry
- microelectronics
- optics
- MEMS
- medical technology
- industry
- mechanical engineering



➤ Structural Components

cleanroom kits



Our cleanroom kits, consisting of modular wall and ceiling elements, are quick and simple to assemble.

Made of aluminium system extrusions, acrylic glass walls, aluminium composite elements between ceiling panels, and plastic strip curtain doors, the kits are available in different widths, heights and depths. All kits are supplied with a filter fan unit, a ceiling luminaire, and cleanroom-approved surfaces.

Technical data

- uprights and extrusions from aluminium
- anodized surfaces
- plastic strip curtain made from PVC
- silicone free materials
- connections in compliance with cleanroom regulations

Application areas:

- semiconductor industry
- microelectronics
- optics
- MEMS
- medical technology
- industry
- mechanical engineering



➤ Structural Components

service hatches



Service hatches are used for a safe and space-saving transfer of documents and materials between cleanrooms of different classes. They guarantee utmost safety when introducing materials, tools, etc. into the cleanroom.

Optimal sealing and the use of sheet steel, stainless steel, abrasion resistant hardboard or aluminium guarantee cleanroom classes up to ISO 4 or GMP classes A-D. The service hatches are fitted with two electronically interlocking doors. A red/green light shows whether the door is locked or open.

Technical data

- aluminium extrusions
- anodized or powder-coated surfaces
- various corpus materials
- safety glass
- powder-coated sheet steel or stainless steel

Application areas:

- semiconductor industry
- microelectronics
- optics
- MEMS
- medical technology
- industry
- mechanical engineering
- pharmaceutical industry
- chemical industry
- health care and hospitals
- laboratory and chemist
- cosmetics industry
- food industry



**cost-efficiency.
longevity.
non-glaring.**

LED technology for every cleanroom class.

The biggest advantage of LEDs in cleanrooms? Perfect light conditions. Which make your controlling shine as well, by the way. Because the quality increases – and costs ultimately decrease. Because even if the initial costs are higher than for conventional illumination, are LED systems amortized quicker than other solutions. Because they need less power, and last a great deal longer. And if it lasts longer, it needn't be changed so often – cutting down on additional costs.





LED illumination



What makes our cleanroom lighting so outstanding? The LEDs emit an even, non-glaring light, and are integrated into the ceiling profiles. This leaves significantly more space than large-size lamps, allowing for more FFUs to be integrated. Ultimately, it means a higher cleanroom class.

The plus in quality comes with a minus in costs. On the one hand, LEDs need 17–60 % less power than a T5 fluorescent lamp. This can save several hundred Dollars per year in a 500 m² cleanroom. On the other hand, LEDs emit significantly less warmth than conventional lamps, which has a positive effect on costs for cooling.

Additionally, the time and effort of exchanging lights is decreased. LEDs have a life expectancy of at least 40,000 hours – about 10 years of 250 work days with 2 shift operation. Conventional T5 or T8 lamps only last 20,000 hours on average, losing most of their luminosity along the way.

Technical data:

- uprights and extrusions from aluminium
- anodized surfaces

Application areas:

- semiconductor industry
- microelectronics
- optics
- MEMS
- medical technology
- industry
- mechanical engineering
- pharmaceutical industry
- chemical industry
- health care and hospitals
- laboratory and chemist
- cosmetics industry
- food industry





exhibition systems
project solutions
cleanroom solutions





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