

ALPIQ

Innovative hospital components.
To ensure that the air is clean and free of germs.



Our products and services are used wherever there is a need to plan and implement innovative concepts for the cleanest possible air. Our experts make sure that the air in operating rooms is clean and germ-free. They know your needs, speak your language and develop individual, customized and professional solutions to meet your requirements.



We have the technology. And the required experience.

We have extensive and solid know-how in the entire field of clean-room technology. Our experts can draw on years of experience in product development for hospital components, gained from countless installation projects. Our design-and-build skills constitute the ideal credentials for successful projects and guarantee cost-effective solutions.



Experience our solutions live

Determination of the customers' exact requirements is the basis for every solution and investment decision. Therefore, we have established CRIC, Alpiq's Clean Room Information Center. In an authentically replicated operating room, we present live demonstrations of low-turbulence laminar flow with the help of the CG sterile air diffuser in a 36 m² area.



The CRIC competence center includes

- Authentic clean rooms
- Installation of various components in compliance with clean-room requirements
- Live demonstrations and tests of Alpiq's products
- Different types of wall systems, floor systems and ceiling systems
- Reference installations
- Laminar air flow (TAV) ceiling systems of type CG for ORs in compliance with hospital guideline SWKI 99-3 and the DIN 1946-4 standard



The CRIC is also available to our customers for workshops and further training courses.



Our core components

OP-3 000

OP-TAV-D/H-U (D = differential, H = homogeneous, U = direct air circulation) and OP-TAV-D/H of type CG, proven and yet future-oriented.

CG sterile air diffuser

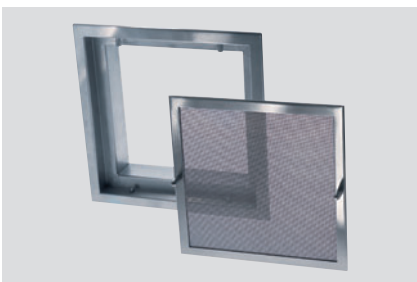
For optimal air conditions in critical areas.

DLA ceiling air outlet with suspended matter filter

Alpiq DLA – elimination of bacteria, viruses and dust particles.

FLUAB lint separator

Alpiq FLUAB – installed in more than 3000 hospitals around the globe.



Alpiq – your partner for innovative research projects

The CTI project «Building technology for the health care sector», sponsored by the Swiss innovation promotion agency, is a research project of the School of Engineering and Architecture at the Lucerne University of Applied Sciences and Arts and the Technical University of Berlin. We and our experts are significantly involved in this project as component and system manufacturers.



OP-3 000 – the modern operating room: a sterile island.

Sterility is crucial in operating rooms to protect patients from life-threatening infections.

The OP-3 000 system for operating rooms meets the highest requirements regarding hygiene and applied physiology in compliance with hospital guideline SWKI 99-3 and the DIN 1946-4 standard. Depending on the kind of operation performed, the OP-3 000 system filters and cools down the air supplied through the large-scale CG sterile air outlet. At the same time, the reliable CG sterile air diffuser creates a (low-turbulence) laminar flow. This approach invisibly isolates the OR zone from the surrounding area and effectively prevents bacterially or virally contaminated air from penetrating into the operating area. During the operation, germ concentration per cubic meter of air is less than 10 CFU underneath the sterile air zone.

The large OP-TAV systems of type CG 32/32 for more extensive protection enable expansion of the sterile OR zone so as to include material trays and instrument trays.

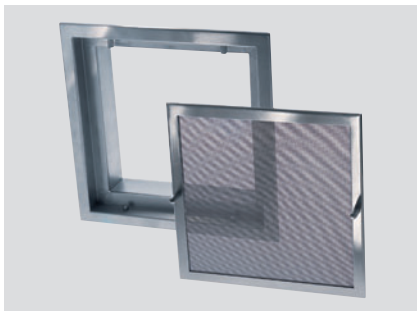
OP-3 000 – your cost advantage

The OP-3 000 system with direct air circulation confines the costly sterile hospital areas to the OR supply air zone. The system is based on the air circulation principle, whereas primary air can be reduced to a minimum, depending on the sound pressure level inside the room. Primary air is treated in a central air conditioning system, then injected into the OR outlet as temperature-adjusted, humidity-adjusted or quantity-adjusted air, according to the kind of operation performed. Compared to a conventional operating room solution, the OP-TAV-D/H-U system of type CG decreases investment costs and operating costs by up to 40 %.

The FLUAB lint separator extends your air conditioning system's operational life span considerably.

All the benefits at a glance

- Complies with the DIN 1946-4 standard
- Easy to install
- 100% stainless steel
- Easy to clean
- Very high manufacturing quality



Alpiq's FLUAB lint separator consists of a wire mesh separator element with torsion-resistant bordering and a chassis for channel mounting or wall mounting. It was specifically designed for areas with stringent hygienic requirements. It complies with the DIN 1946-4 standard and with the guidelines of the DIN 4783 standard. The FLUAB lint separator makes it possible for return air ducts and rooms connected to the OR via overflow openings to be protected against clothing fibers efficiently.

The FLUAB lint separator is particularly impressive due to the absence of any protruding elements. The separator element is recessed so that the handles and the chassis are flush-mounted. This design protects staff and equipment by preventing snagging.

Upon cleaning of the operating room, lint is removed from the lint separator and, if the degree of dirt accumulation renders it necessary, the device is also disinfected. From the front, the separator element can easily be removed from the chassis for this purpose, with no tools required. In order to protect staff and equipment, the separator element is recessed.

We place great importance on flexibility and can provide any rectangular dimensions required.

DLA ceiling air outlet with suspended matter filter.

All the benefits at a glance

- Manually adjustable, airtight shut-off damper
- Integrity testing and measurement of pressure differences, depending on the room
- Can be combined with each other
- Small
- Air outlets with a central nut
- Easy to maintain and disinfect

All the benefits at a glance

- Small
- Air inlet unit as lint separator
- Can be combined with each other
- Easy to maintain

DLA for clean supply air and return air

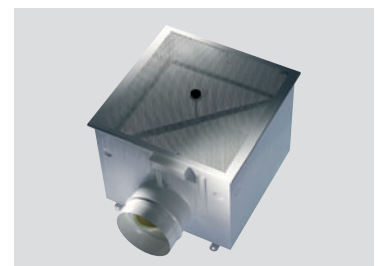
Alpiq's DLA ceiling air outlet has integrated suspended matter filters. It is used for air filtration and diffusion from a single device. Bacteria, viruses and dust particles are eliminated directly before the air enters the room. This approach efficiently removes the system-related disadvantages and risks of central air filtration, such as cross-contamination via air ducts.

Alpiq's DLA is used wherever the highest requirements must be met regarding purity of the air and low germ contamination, such as in hospitals (conventional ORs and rooms adjoining ORs, intensive care units, sterile zones and isolation zones) or laboratories (clean zones and clean work areas, filtration of toxic aerosols from return air).

Alpiq DLE-A ceiling air inlet. Efficient protection of return air ducts.

Alpiq's DLE-A ceiling air inlet with lint separator enables efficient protection of return air ducts against clothing fibers. The DLE-A's design complies with the DIN 1946-4 standard and with the guidelines of the DIN-4783 standard. The materials used are particularly important: the wire mesh chassis (lint separator) is made from stainless steel (14301). On the outer face, it is polished with 220 grit. Lint separators or virtually any customary outlet elements and diffusers with central mounting can be used as inlet elements.

The air connection is realized by means of round connection nozzles in which throttle valves can be installed. These are accessible from within the room. Our DLE-A can be integrated into all common ceiling systems.



We measure the things that you don't see.

The right quality of air has a positive effect on well-being, safety and productivity. We measure and analyze your air and provide the basis for specific solutions, no matter what problems you face. We also have a wealth of experience in certifying and recertifying clean rooms.

Particle measurement

- DEHS scanning
- Filter performance levels
- Purity classes
- Recovery tests (recovery period)

Air values

- Airspeeds and the resulting quantities of supply air and return air
- Air change within the room (purification)
- Turbulence intensity (turbulent or laminar)

Differential pressure

- Differential pressures between different rooms
- Differential pressures between a room and the atmosphere
- Differential pressures across filters

Particle measurement: when there is something in the air

Clean rooms have to comply with specific requirements relating to particle concentration. We use a particle counter to identify impurities and we document the results. We have been providing this kind of service to well-known customers for years – always in a reliable and neutral manner.

Air values: when air flows are out of control

If you control the air, you control the climate. We measure air flows, the laminar or turbulent air movements, and provide the required information. We know how to operate in laminar zones, how draughts can be identified and what specific actions can be taken.

Differential pressure: when the next room is also important

Differential pressure is an effective means to protect rooms from outside influences. A differential pressure is created on the basis of different air volume flows. This approach is used in the hospital sector as well as in the pharmaceutical industry and the electronic industry, as clean rooms and operating rooms in hospitals only function properly if predefined pressures are adhered to. We measure differential pressures between different rooms, between a room and the atmosphere and across filters.



Visualization

- Air flows in laminar zones (weighing cabinets, OR air outlets, etc.)
- Overpressures in rooms

Hygienic certification

- Degree of protection in compliance with hospital guideline SWKI 99-3 and the DIN 1946-4 standard
- Turbulence intensity pursuant to the DIN 1946-4 standard
- Contact tests of surfaces
- Counting of germs in the air

Comfort evaluation

- Temperatures and humidity in the immediate vicinity
- Sound pressure level in the room
- Illumination or light intensity
- CO₂ content

Visualization: when the problem is invisible

We are able to visualize spatial air flows. In so doing, we can show our customers how room ventilation behaves in relation to the customers' processes. Spatial air flow behavior is extremely varied. Due to the visualization of flows, weaknesses can be identified and specific measures can be taken to remove them.

Hygienic certification: because protection of patients has utmost priority

For reasons of patient safety, the protective effect in the sterile zone of OP-TAV ceiling systems of type CG must be verified. We are able to provide verification in compliance with hospital guideline SWKI 99-3 and the DIN 1946-4 standard with the required equipment. We also count microbiological germ numbers in the air and on surfaces. On the basis of these counts, operational procedures and cleaning processes are adjusted or optimized. In the pharmaceutical industry, these tests are absolutely essential and an important part of quality assurance.

Comfort evaluation: if well-being is disturbed

In buildings where people work or spend their time off, these people's well-being depends on comfort. We know the criteria which determine comfort and we are aware of the critical values. In very little time, we can ascertain precisely why people don't feel well in a building. Quite often, small measures can eliminate great discomfort.

www.alpiq-intec.ch

