

**clean-tek**<sup>®</sup>  
hospital technology



Hospital Operating  
Room Diffuser

hospital technology

# clean-tek<sup>®</sup>

## Your partners for hospital technology

### **clean-tek HORD system**

Hygiene in the operating room is a matter of life or death. **clean-tek** has decades of experience in the construction of production plant for the pharmaceutical industry. The **clean-tek** operating room clean air ceiling is a logical development of this wealth of experience from the sterile manufacturing sector.

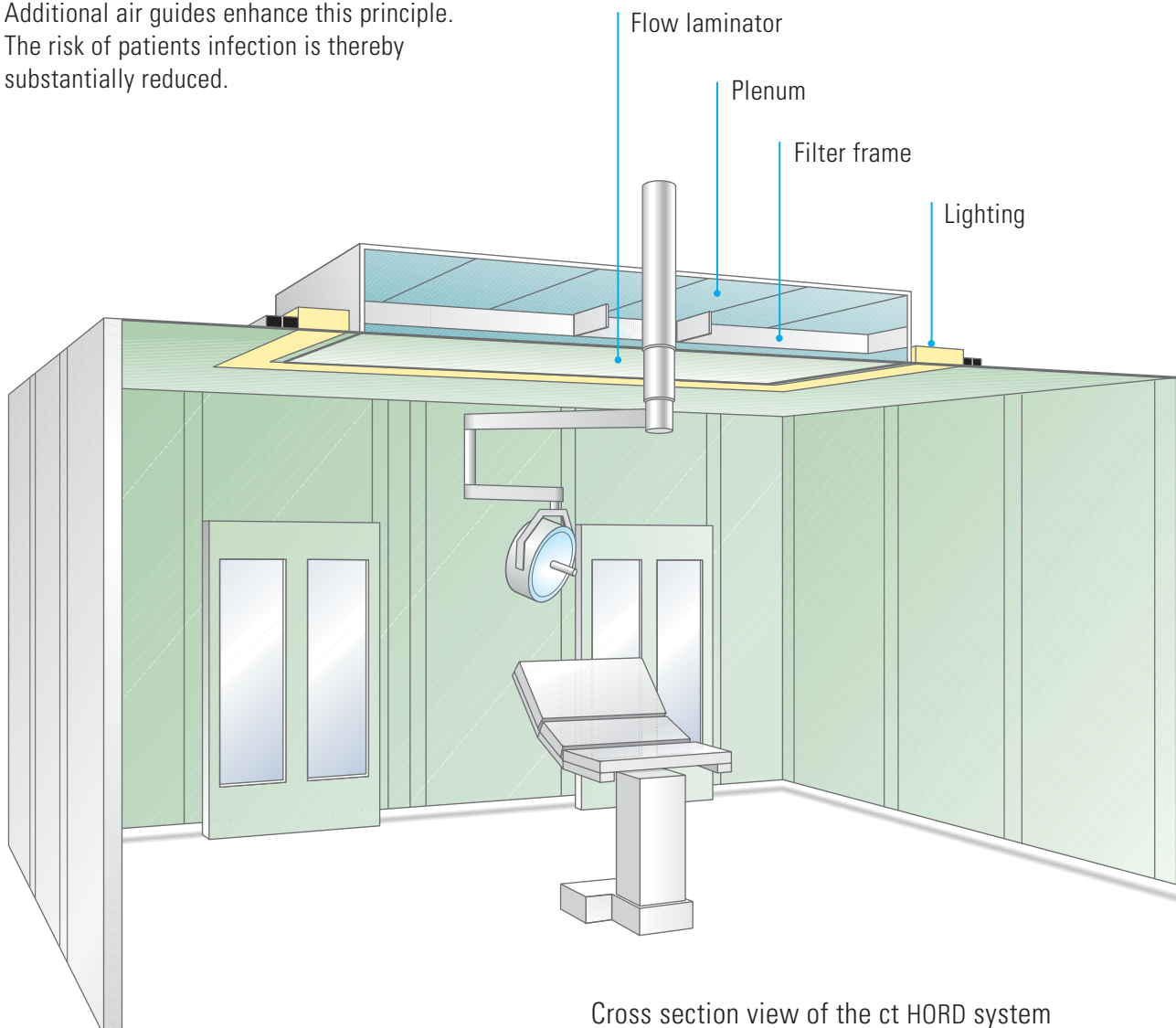
Proven, reliable design principles are the quality bases for the developed **clean-tek Hospital Operating Room Diffuser**. The filters are fluid sealed. This guarantees reliable sealing of the operating room clean air ceiling. Bacteria cannot penetrate the protected area. Patient protection is guaranteed.



## Functionality and variability of the ct HORD system

A low turbulence displacement flow is generated with the **clean-tek** Hospital Operating Room Diffuser. The air is forced downwards through HEPA filters and out of the **HORD** system in a laminar flow, thereby preventing a proliferating penetration of bacteria into the protected area. Additional air guides enhance this principle. The risk of patients infection is thereby substantially reduced.

The HORD system from **clean-tek** complies with the standards of DIN 1946-4



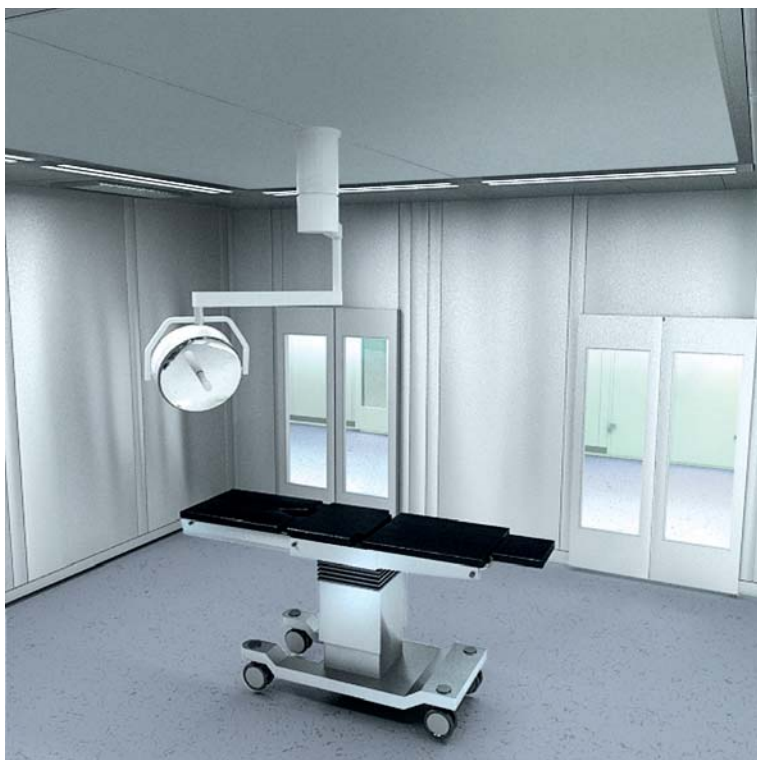


Filter frame with integrated HEPA filter

## Filter sealing technology

A **HORD** system is only safe if the filter installation in the intake air plenum is absolutely particle-tight. For this purpose **clean-tek** uses a liquid seal with a biologically inactive GEL.

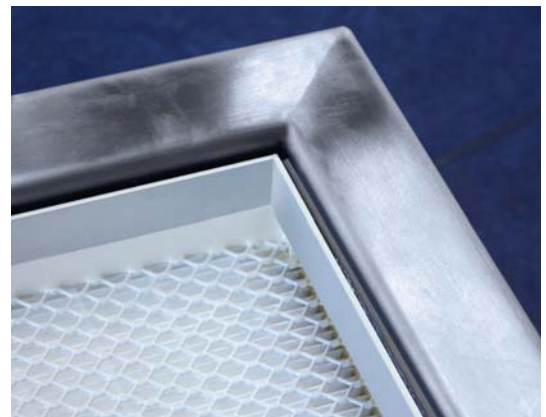
Special stainless steel filter frames guarantee the simple, rapid assembly of the HORD system. The filters are installed from inside the room and the GEL seals the filters to the frame. There are no special tools required either for assembly or to replace the filter.



Stainless steel operating room



Filter seal



Filter attachment

## Variability

The **clean-tek HORD** system is a modular design. Therefore the same basic elements can be used to make operating room clean air ceilings of different sizes. The filters achieve optimal results at an air speed of 0.45 m/s. The air output speed in an operating room clean air ceiling however is only 0.25 m/s.

Therefore dimensioning does not depend on the filter area but these two parameters enable you to vary the ct HORD system.



	<b>System 4 + 4</b>	<b>System 5 x 5</b>
<b>Number of filters</b>	4 x "large": <ul style="list-style-type: none"> <li>• min. 900 x 900 mm</li> <li>• max. 1400 x 1400 mm</li> </ul> 4 x "small": <ul style="list-style-type: none"> <li>• min. 600 x 900 mm</li> <li>• max. 600 x 1400</li> </ul>	24 square filters arranged 5 x 5 with a space for lighting. 16 filters, square <ul style="list-style-type: none"> <li>• max. 900 x 900 mm</li> </ul> 8 filters, rectangular <ul style="list-style-type: none"> <li>• max. 600 x 900 mm</li> </ul>
<b>Ceiling panel size</b>	2.400 – 3.400 mm	max. 4.200 mm
<b>Installed height</b>	min. 520 mm	
<b>Technology</b>	Both systems are available in both passive and active versions	
<b>Ceiling forms</b>	Square and rectangular	Square and rectangular



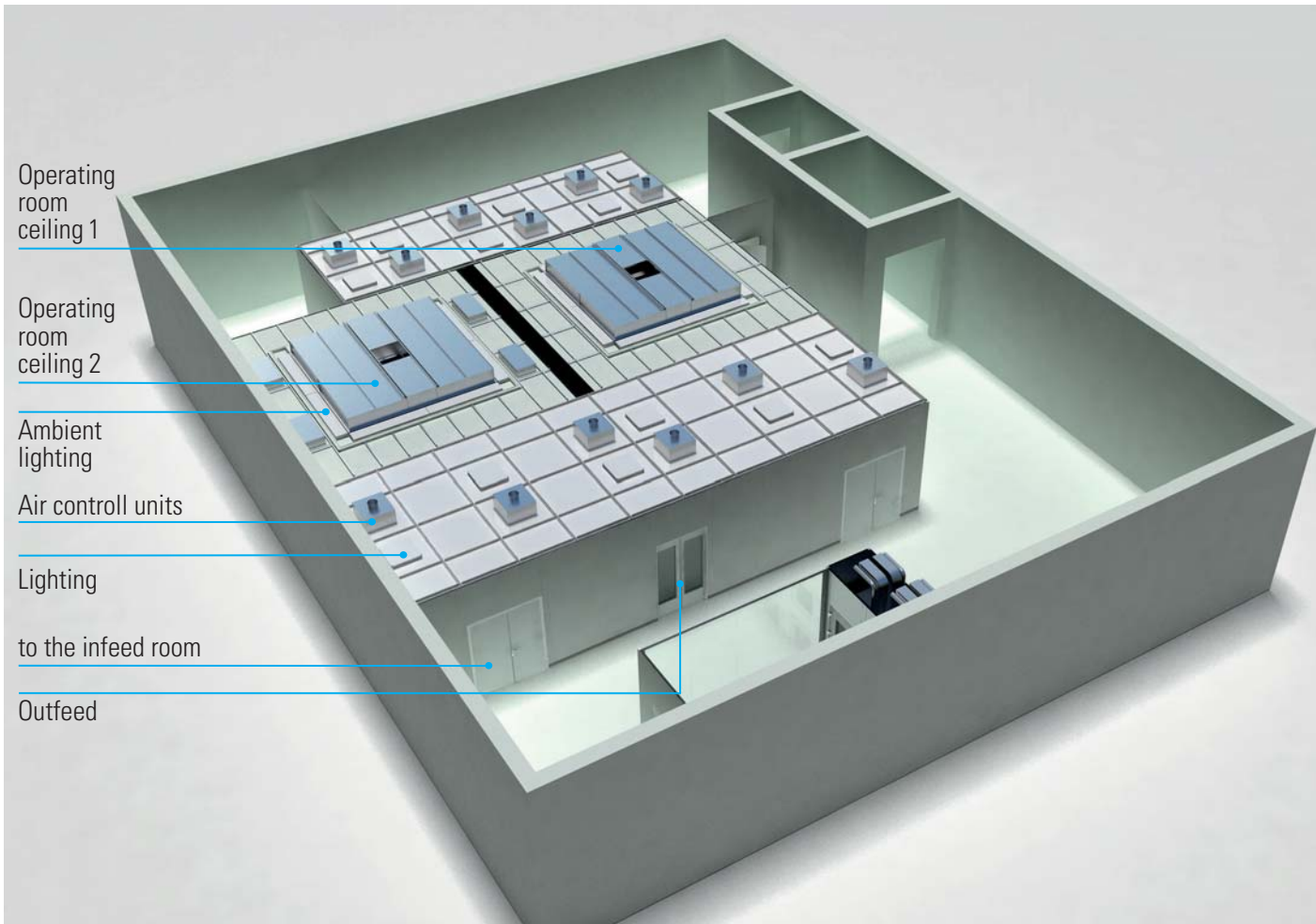
## Modular design

Walls and ceilings are standardised components which are adapted in height and width to individual requirements. This enables us to construct an operating room system to any dimensions. We also implement custom solutions.



Around the central system, the operating room clean air ceiling, we build a modular clean room ceiling which can be opened from below.





**clean-tek** constructs the entire operating room system (including anti-room and operating room, outfeed room, washing area, equipment room and control room) from metal or glass walls in various designs. The same applies to the associated metal ceilings, the lighting and even the floor covering if you wish. A complete system as if cast from the same mould.

We can build clean room walls from lacquered galvanized steel sheet, stainless steel, aluminium or all-glass.

The walls are 50 mm thick, 125 mm to 400 mm and can be additionally lead-coated.

On request we inset integrate image viewers, displays or control panels flush to the wall. We can also add sluice-type washstands on request.

We make the doors out of stainless steel or galvanized steel sheet (powder coated) with aluminium- or stainless steel frames. We supply sliding doors with or without drives, and optionally with x-ray protection.



### Lighting

We can supply the right DIN 5035-compliant lighting system for all investigation and treatment facilities.



### Clean room walls

**clean-tek** clean room walls form an ideal hygienic system in the operating room. They comprise prefabricated monoblock-elements and are easy to join together yet absolutely stable.



### Sliding

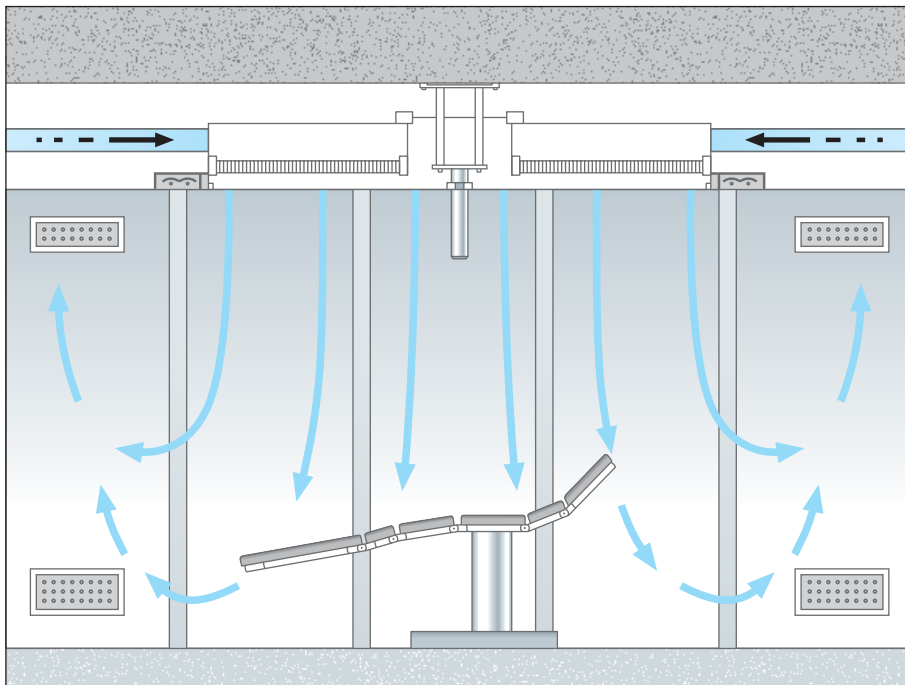
Ask for the clean-tek  
Clean Room Walls brochure

clean air ceiling

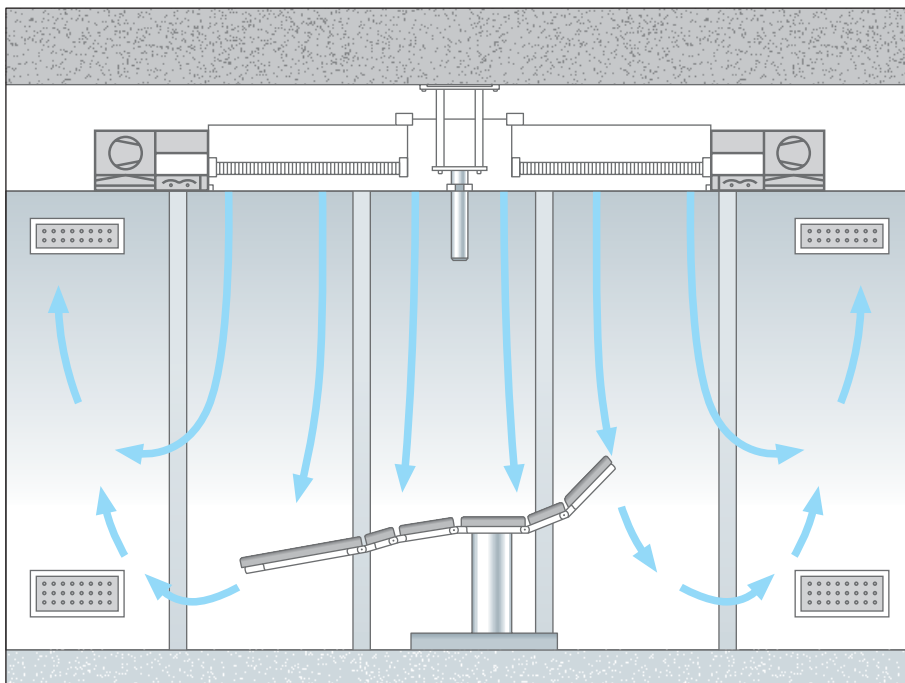


### clean-tek passive HORD system

In passive systems the OP air inlet ceiling is supplied with air from the air-conditioning unit. This means that the entire volume of air must be conditioned. The proportions of recycled and fresh air are controlled in the air-conditioning unit.



### clean-tek active HORD system



The active system, which generates a low turbulence displacement flow, has an air circulation module which is connected to the HORD system.

The air circulation module is equipped with a ventilator control and can be controlled and operated via the building control system or alternatively via an external display.

# hospital technology

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