

cleanroom technology

**clean-tek**<sup>®</sup>  
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clean-tek  
Reinraum und  
Hospitaltechnik AG

Voltastraße 106  
CH 4056 Basel  
Telefon +41 61 685 95 20  
Telefax +41 61 685 95 21  
info@clean-tek.ch  
www.clean-tek.ch



Cleanroom  
Wall and Ceiling Systems

cleanroom technology

# clean-tek<sup>®</sup>

## cleanroom technology

### Specialized in construction of cleanroom walls and ceilings

Cleanroom Wall Systems

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Cleanroom Glass Wall Systems

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Cleanroom Doors

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Cleanroom Sliding Doors

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Wall Protection System

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Wall Connection System

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Cleanroom Ceiling Systems

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Lighting

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Management and Production

**clean-tek** is one of the pioneers of clean room technology – and particularly in innovative life science technology, with such sensitive areas as medical technology, biotechnology or pharmaceuticals.

Our clean rooms thus also meet the highest requirements, such as those that are made for particularly challenging clean room solutions in the healthcare industry.

Our way of thinking and working covers planning, design and construction of state-of-the-art clean room systems and extends beyond. This is because it is our aim not only to offer solutions that are the best in terms of technology and regulatory compliance, but also – where possible and sensible – to achieve interesting interior design concepts with **clean-tek** modules. When the key issue is creating a motivating working environment – for people who are committed to researching, developing and manufacturing for our future – this is our contribution. Attractive, transparent clean room units are also a key part of this – everywhere where transparency and rapid communication are required.

**clean-tek** sets standards in terms of functionality and flexibility, aesthetics and quality – something you will still be vouching for with us in 15 or 20 years time. This is because you have the advantage of a modular construction method that not only caters for quick assembly, but also enables alterations and extensions to be made at any time without any problem at all. Even many years later, this still holds true. The high-quality materials we use are also a guarantee of quality and durability and they can later be reused as high-quality raw materials, rather than just being scrapped.

# Wall Systems

**clean-tek** walls are composed of prefabricated monobloc modules. Patented modular grid fixing rails with the appropriate cover strips ensure flush, airtight finishes. The individual wall modules are just clipped together as you proceed. Quite simple and yet very solid.



Simple assembly, customised solutions with the preferred materials: a systematic system.

Even six metre high walls are no problem with **clean-tek**. The system's versatility gives you a free choice of materials, for example for constructions in steel, stainless steel or aluminium. It is also possible to have a solution with a variety of materials: one side made of stainless steel, the second of aluminium or using the **clean-tek** glass wall made of toughened single-pane safety glass.



Flexible and adaptable.



Cutouts can be made at any place in the wall you require, even if they involve several modules due to the size. All **clean-tek** wall modules can be altered or removed at any time, without any special tools, and they can also be replaced if needs be. As is appropriate for a flexible walling system. In addition, the construction system also enables compensation of dimensional tolerances. Joints with walls and ceilings are made with vibration isolation.



Homogenous structures – customised solutions.



**clean-tek** walls can always be customised to meet every need. Module width, module height, height of the balustrade glass, height of the glazing, cutout sizes, etc. are variable dimensions. As a result, **clean-tek** offers the widest possible range of sizes. And if you need something outside the range on offer and want fully customised dimensions, we can also make these as standard.

Virtually limitless flexibility: all wall modules can be combined with one another, for example complete walls with all-glass walls, balustrade glass modules with doors. Even the doors come in the widest possible variety of designs: as revolving, sliding or roll-up doors – and of course always tailored to fit. Sterile rooms and also class D rooms can be built from the same modules. If you also need a transfer lock or sampling station: **clean-tek's** wall modules are the foundation stones for your special clean room.

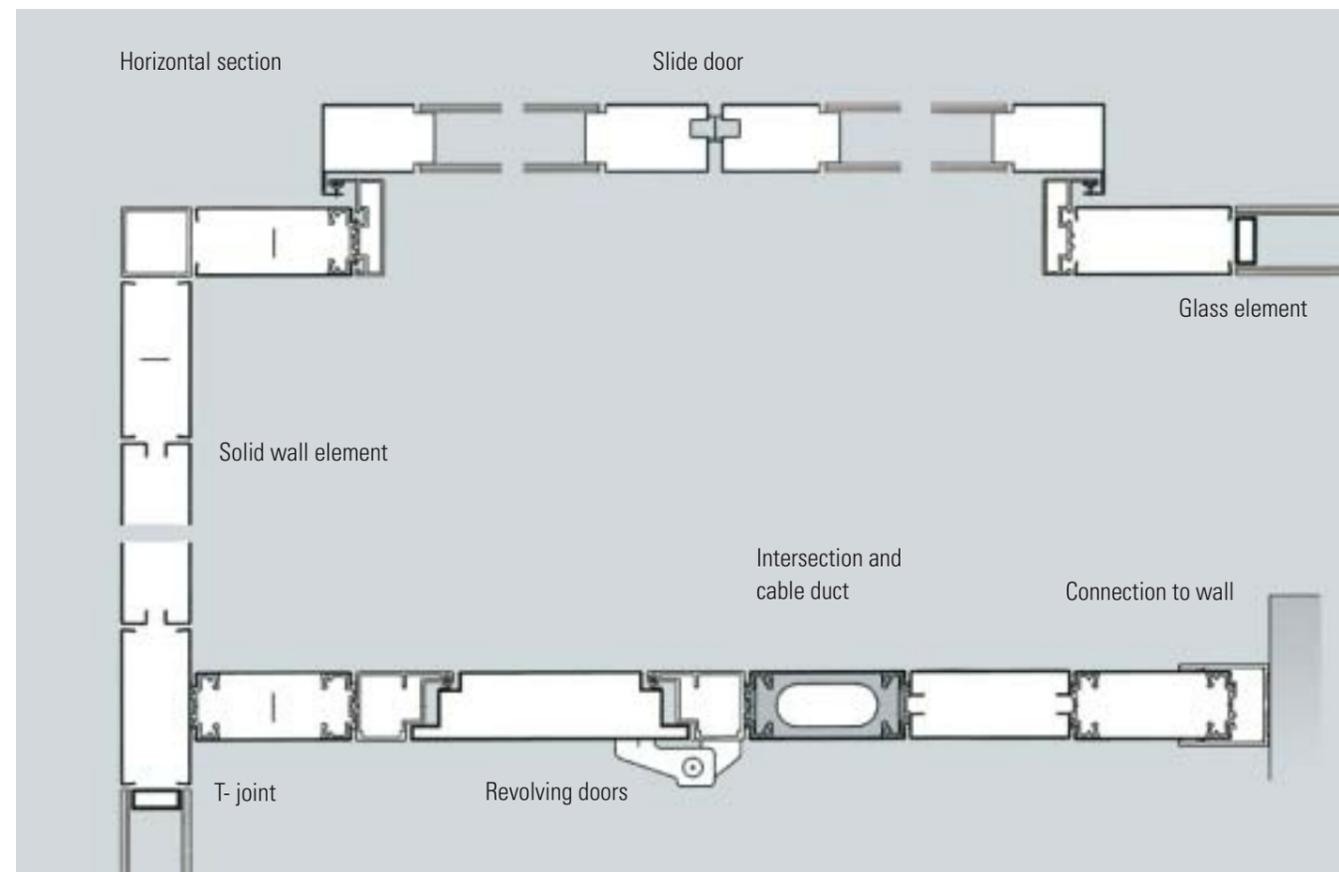
A further decisive advantage of **clean-tek** wall modules: An installation shaft always runs from the suspended ceiling to the floor through the module grid design with a gap of around 1,200 mm or less. This is always accessible for retrofitting and acts as a channel for the hidden installation of media, both during initial assembly and alterations.



Supply points are also integrated into them. Your production is the key factor in your choice of material. So we make stainless steel walls for you in the washroom, build steel walls (always galvanised steel, naturally) for packaging or production and aluminium walls for special operational fields.



The installation shaft: always easily accessible everywhere.



# Glass Wall Systems



Attractive, transparent solutions with clean-tek glass wall systems.

**clean-tek** glass walls are made entirely of glass. Glass is an ideal building material for the life sciences industry. This is because the glass used is resistant to nearly all chemicals. It cannot be either scratched or dented and dirt that adheres to it can be easily removed.



Glass Walls

Our long experience with all-glass walls in the life sciences industry has shown that glass breakages occur extremely rarely – even more rarely than with walls that are apparently solid, because staff are more careful when dealing with glass. However, you cannot entirely exclude the possibility of the glass breaking. Our special design means the predetermined places for the glass to break are nevertheless under control.

Glass, the ideal building material, if you prefer an open way of working.



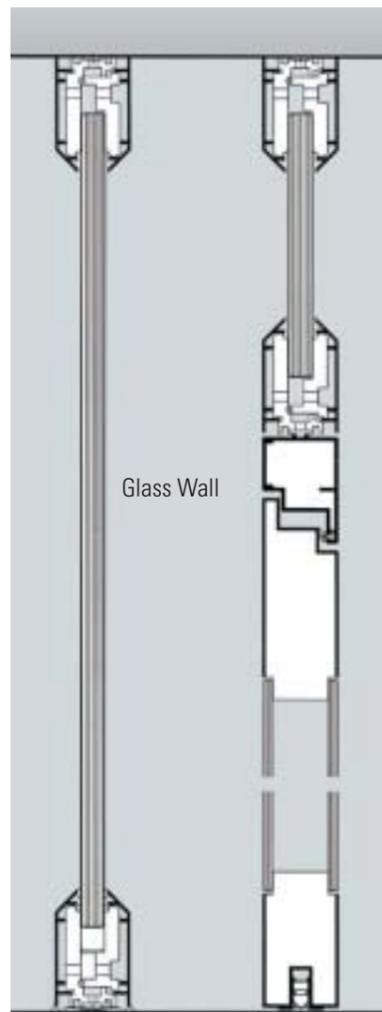
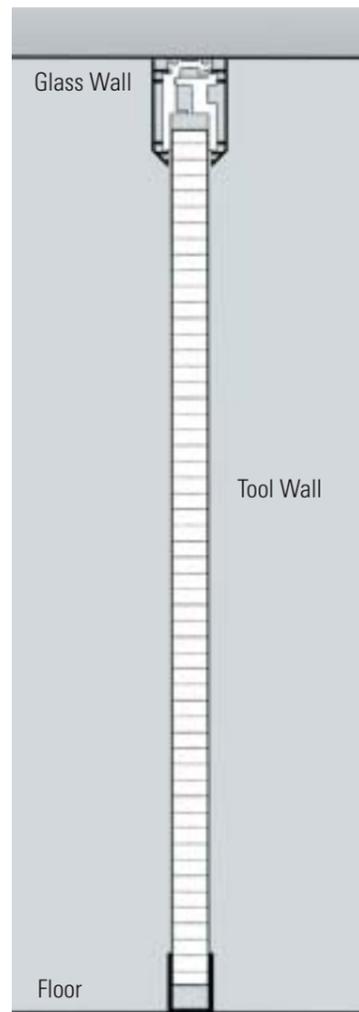
Outstanding design opportunities with the combination of various wall modules.



Glass walls create transparency. They allow you to see into the production process and create a different, special working atmosphere. In this way, amongst other things, you can avoid staff feeling isolated in small, closed rooms and increase safety, because workstations are easier to supervise. Last, but not least, they encourage tidiness in production, because everything is visible.

Of course, you cannot build a factory entirely out of glass walls. As a result, **clean-tek** glass walls can be combined with metal walls without any problem.

Anything is possible: even double-glazed glass walls with an enhanced sound insulation of 40 dB.



**clean-tek** builds F90 fire walls for room heights of up to 5,500 mm with one or two-sided GMP cladding. F30 glazing can also be fitted into these walls flush on both sides. There are likewise F30 door units that are tailored to the system with glazing that is flush on both sides.

The right to make technical changes is reserved

# Cleanroom Doors

**clean-tek** doors are sturdy and stable, easy to close and are deliverable with all the usual fittings. There is the **clean-tek** transfer lock control, which is tailored to the system.

The door frames are made of aluminium and powder coated. The door leaf has a warp-resistant sandwich construction. There are twin silicone rubber seals running round the door to ensure leaktight closure.



Lots of modules, lots of doors... and yet harmony throughout.

# Sliding Doors



In narrow production aisles, automatic sliding doors are the ideal alternative to revolving doors. The leaves automatically open to their full width and materials can be transported without the leaves getting in the way. The leaves are electronically monitored to prevent unwanted closure.

Sliding doors are only suitable for D and C zones according to GMP stipulations.



# Wall Protection System



The **clean-tek** wall protection system comprises abrasion protection on the wall, along with impact protection on the floor, and protects these surfaces against scratches and other damage in the production and packaging areas. Optimum protection is provided by combining two parts with a single substructure which is fixed to the wall or floor and with a 2 mm thick stainless steel cladding – as per GMP, naturally.

This ensures that impact loads are absorbed by the stainless steel cladding and, if necessary, converted into deformation energy in the substructure.



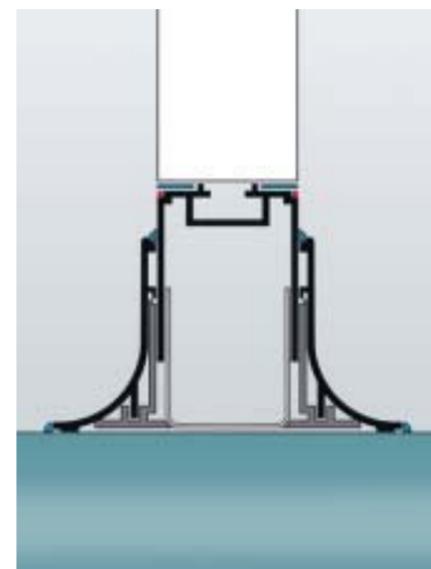
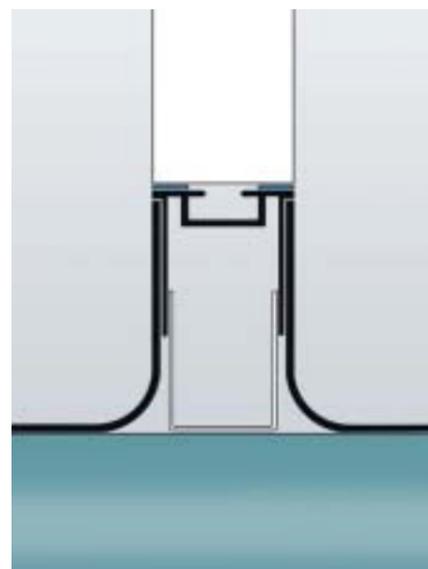
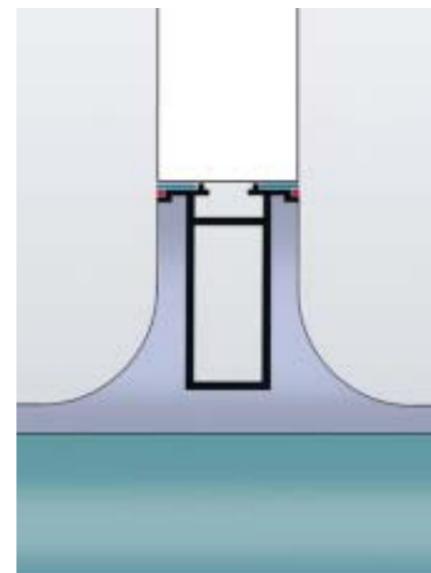
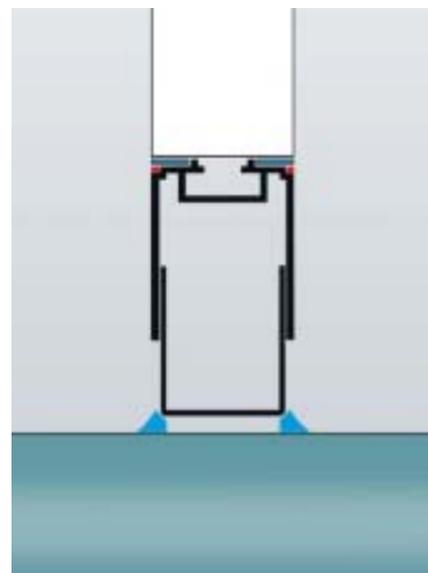
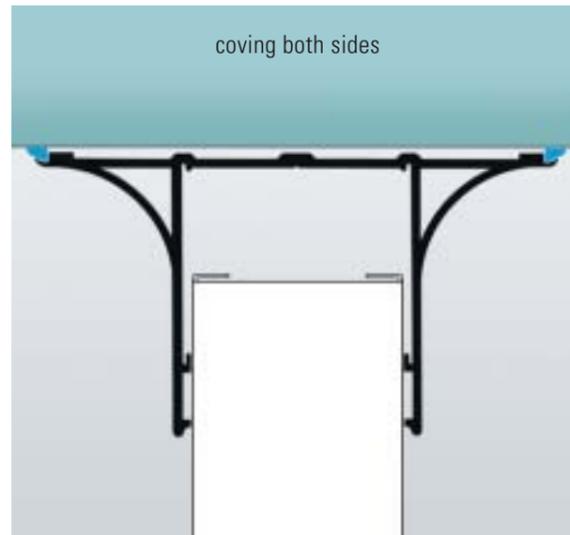
The wall protection can be fixed to any wall, whether metal, plasterboard or brick.



The modular design enables quick and easy replacement of the modules, e.g. in the event of severe damage or also during alterations.

The layout of the impact protection on the floor also allows problem-free mechanical floor cleaning.

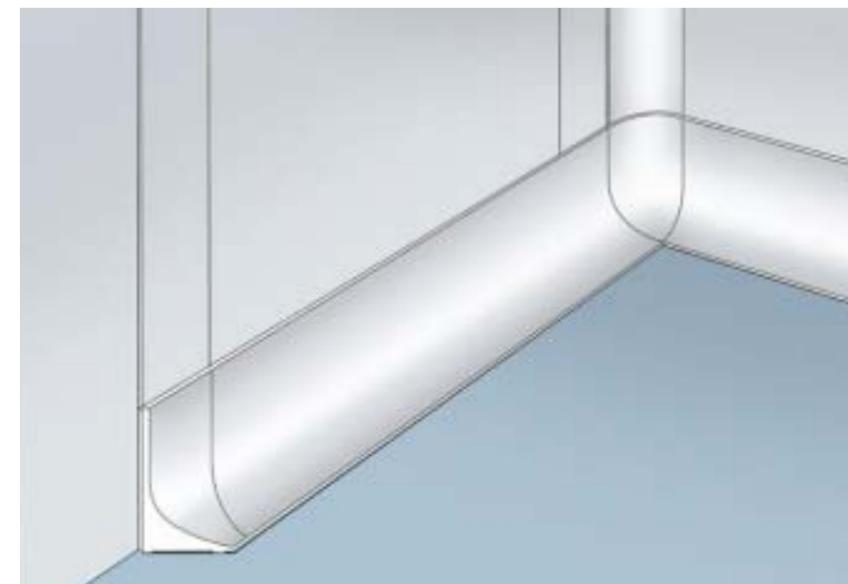
# Wall Connection System



There is usually a butt joint between the wall and the floor and ceiling. In the process, the gaps are sealed with a silicone joint as standard. This normal connection to the structure does not restrict the flexibility of the system. For special hygiene requirements, **clean-tek** offers higher-quality, integrated, hollow-profile systems for intersections of

- floors and walls,
- walls and ceilings,
- walls and walls.

The key advantage of this design is that all the profiles are firmly screwed in and in the corner of the rooms the neat intersection of the profiles is ensured by a three-dimensional zinc diecast connector with tolerance compensation. All intersections are provided with permanently elastic joints that prevent ingress of dirt and moisture.



# Ceiling Systems

The suspended ceiling forms the upper limit of the clean room. With the ceilings there is a distinction between:

- walk-on ceilings,
- non walk-on ceilings and
- low-pressure ceiling systems.

With non walk-on ceilings, all inspections in the suspended ceiling area are carried out from the clean room. This means that these inspections cannot be carried out while production is in progress.

With walk-on ceilings, maintenance work is carried out from above and the suspended ceiling area can also be used for the installation of units, e.g. for production machines.



**clean-ceil** is the perfect rational solution for single-skin, non walk-on grid ceilings. Particularly flexible, particularly easy to assemble, particularly economical. This recently developed ceiling system is based on the experience acquired through developmental refinements made over many years and meets all the requirements for clean rooms of the widest range. The standardised grid size means that all the ceiling modules can be delivered from stock with the shortest possible leadtimes.

**clean-tek** ceiling systems for a variety of requirements.

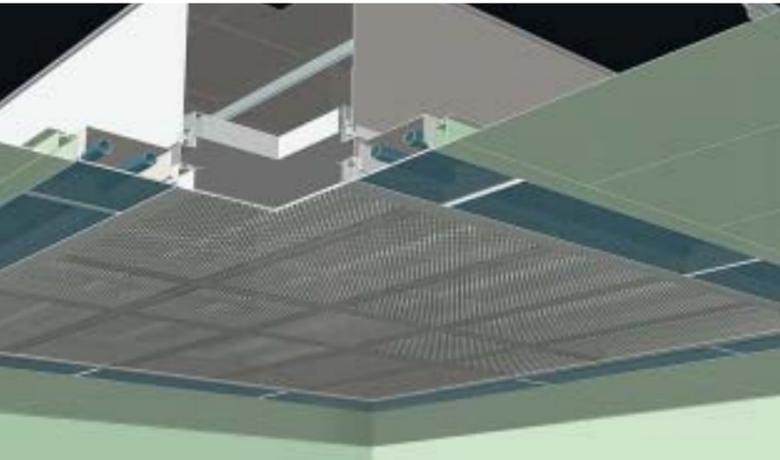
	<b>Clean-cell</b>	<b>TR grid cover</b>	<b>Strip grid cover</b>
Can be walked on	No	No as 2-shell cover Yes (up to 150 kg point loading)	YES up to 150 kg point loading
Suspension	M6	M6 or M8	M10
Suspension grid	1200 x 1200 variable	1200 x 1200 variable	1200 x 2400 mm
Cassette installation	From clean cell	From clean cell	From above
Grid dimensions	625 x 1250 mm 600 x 1200 mm	Variable grid distribution	1200 x 900 mm 1200 x 600 mm 1200 x 300 mm
Suitable up to over-pressure of	75 Pa	150 Pa (2-shell)	200 Pa
Under-pressure of	-5 Pa	-150 Pa	-150 Pa
Cassette replacement possible	Yes	Yes, with same dimensions	Yes
Installation of filter-ventilator units	Yes, with additional installation frame	Yes	Yes, with additional installation frame
Leuchteinbau	Directly into grid 600 x 600 / 625 x 625 mm	Directly into grid or as light cut-out	Directly into grid Light size 300 x 1080 mm
Lights	3 x 55 oder 3 x 36 W 2 x 55 oder 2 x 36 W	3 x 55 oder 3 x 36 W 2 x 55 oder 2 x 36 W	4 x 39 W
Explosion-proof lights	Yes 4 x 18 W	Yes	Yes
Swirl air outlet installation flush to the surface of the cassette	Yes, with adapter frame	Yes, with adapter frame	Yes, with adapter frame
Screened cabling	No	No	Yes

### Modular grid ceiling

Walk-on ceiling system that also enables large areas to be built cost-effectively. The ceiling system is flush on both sides. A multi-chamfered panel support serves as a grid. It is hung from the building structure by threaded rods with a clearance of 2,400 mm.

Clean room cassettes and walk-on panels are fitted between the supports. It is possible to run cabling in the ceiling both along and across it.

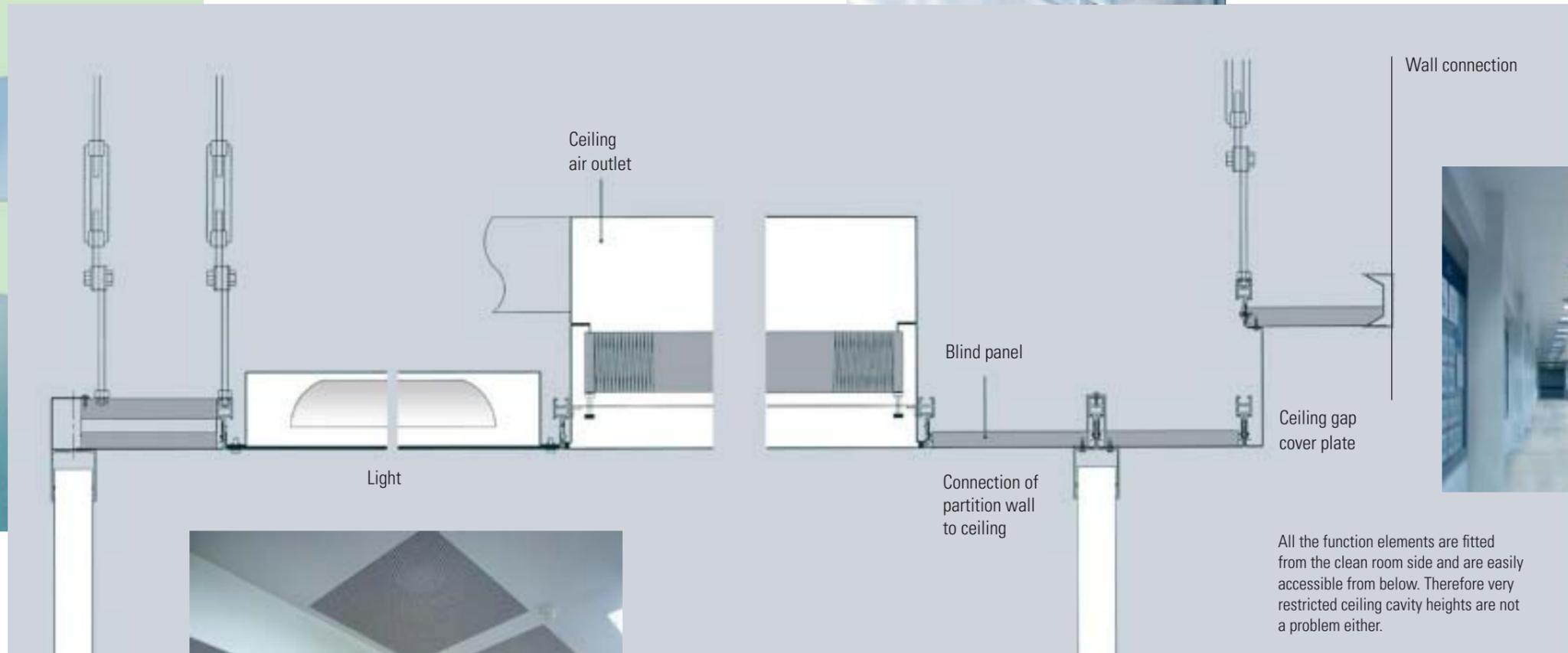
The individual cassettes and functional modules are interchangeable.



### TR grid ceiling

Limited walk-on grid ceilings made of extruded aluminium profiles, powder-coated or anodised, with cassettes for lay-in assembly. On request, the cassettes are flush to the grid and sealed.

Filter ventilation units and cassette filters can be fitted into the grid without any problem. The grid dimensions are variable and can be chosen individually. The ceiling is also suitable for complicated ceiling designs.



All the function elements are fitted from the clean room side and are easily accessible from below. Therefore very restricted ceiling cavity heights are not a problem either.

The right to make technical changes is reserved



For every ceiling system **clean-tek** offers appropriate lights with different configurations. All lights have a glass cover with a translucent sanded surface as standard. With walk-on ceilings, the lights are also walk-on.



Production put into the right light. **clean-tek** offers the best possible solution for every need.

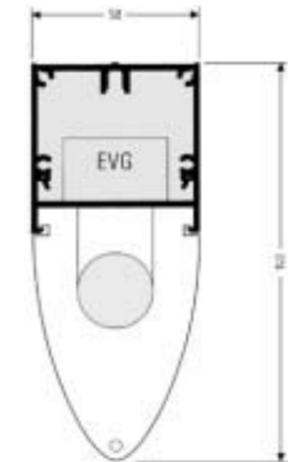


All lights are supplied with the appropriate light bulbs and a pluggable cabling system (Wieland). The lights can also be fitted with yellow light filters.

### TDL Teardrop lights

There is flow-optimised, ceiling-mounted lighting specially designed for laminar flow areas.

**clean-tek** Corporate Profile Brochure – photo captions



18 W	620 mm
36 W	1230 mm
38 W	1070 mm
58 W	1530 mm

