




**lab
concept**
GmbH

The modular media supply system

QUICKLAB®

Media System MS-X







PROBLEMS IN MODERN LABORATORIES AND THEIR SOLUTION

THE PROBLEM

The complexity of research has risen sharply. In the future, there will be instead of long-term research projects of individual researchers more time-limited teams of complex and multidisciplinary research groups. These working groups consist of scientists from different disciplines like engineers, theorists and mathematicians. To achieve their research task, these teams need adaptable and flexible laboratories.

THE SOLUTION

The research laboratory of the future is completely powered via the ceiling. Instead of fixed media cells, there are flexible media columns over the laboratory workplace. Thus, below the ceiling system free space is arising, which can be designed and changed by the user according to his wishes.



Central bench with Media Columns and Fume Cupboard



Central bench with Media Columns

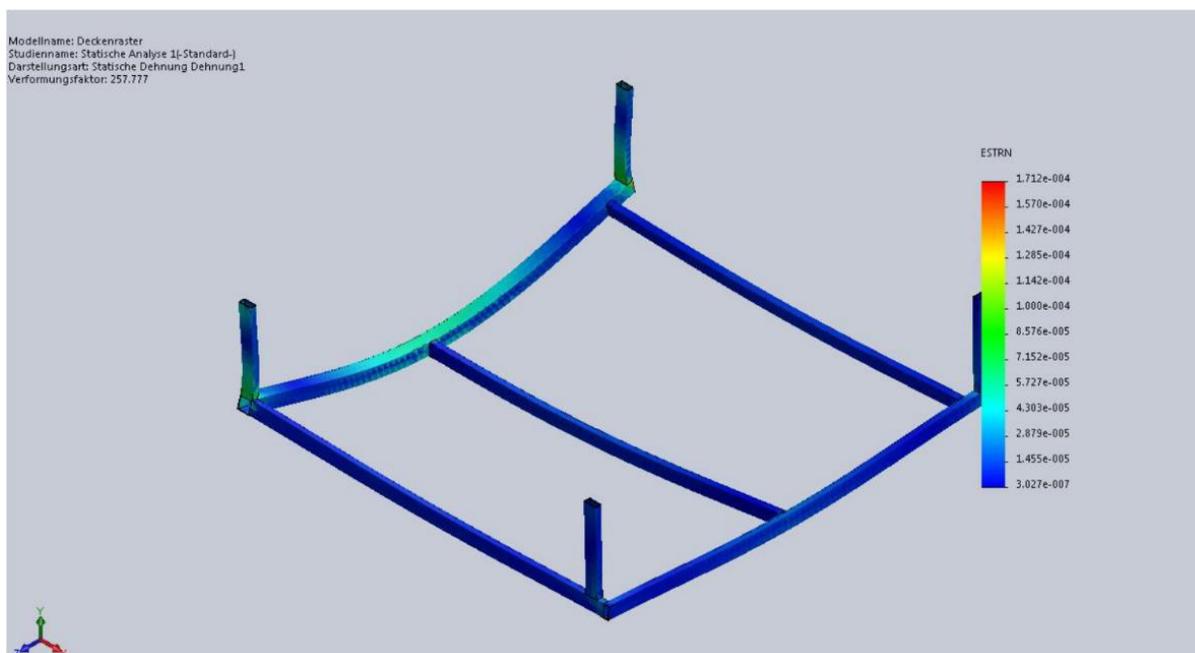


GRID

The heart of the system is the grid. With the help of the grid, the laboratory is structured. The grid is fixed by anchors on the blanket and serves as a base for space exploration and as a structural element to the other components of the system. The ceiling system is made up of commercial and freely accessible aluminum profiles, which can be also configured from Lab Concept for the customer. An extensive toolbox allows diverse design variants. The whole construction of the grid is designed according to the load information of the customer and measured with FEM (finite elements).



GRID



FEM-ESTIMATION



GRID WITH CEILING ANCHORS

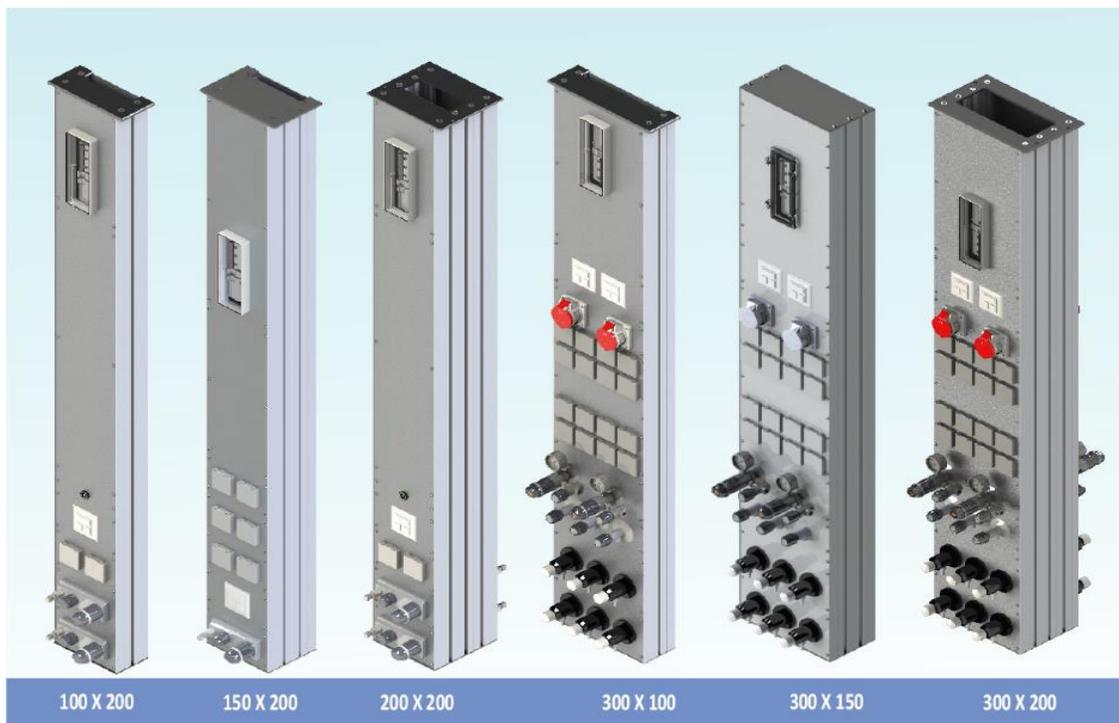


LABORATORY FURNITURE TO GRID



MEDIA COLUMNS

The media columns complement the system and serve the media for the customer. The grid, on which the columns are mounted, is designed as a double profile. On the one hand, a very high stability of the system column/grid is achieved and on the other hand supply lines can be fed within the double profile. There are, depending on the application and media placement, columns of different width and depth available. The columns are strongly fixed by a head plate. They can be displaced axially or completely dismantled.



Variants of Media Columns



Connection of Media Column into Grid



DIVERSE MEDIA COLUMNS

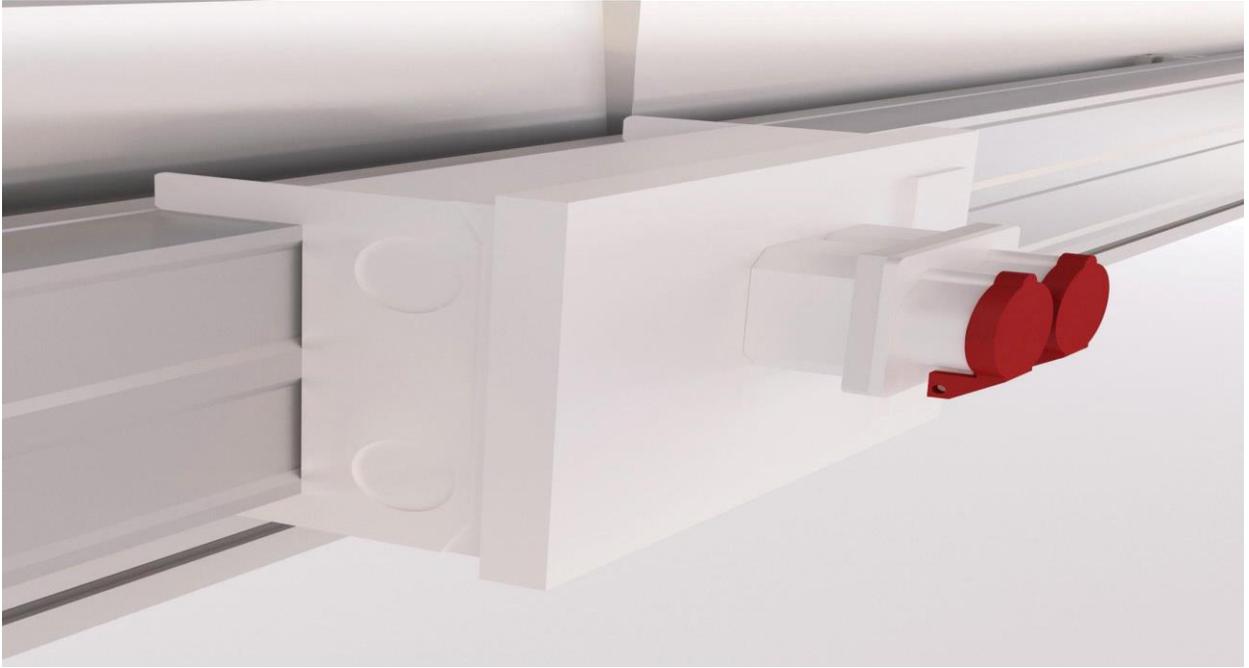


POWER SUPPLY AND CABLING SYSTEM

For the power supply bus bar systems are used. The media columns are connected via tap-off units. For the development of the laboratory zone cable lines can be integrated additionally into the system.



Grid with bus bar system and cable lines

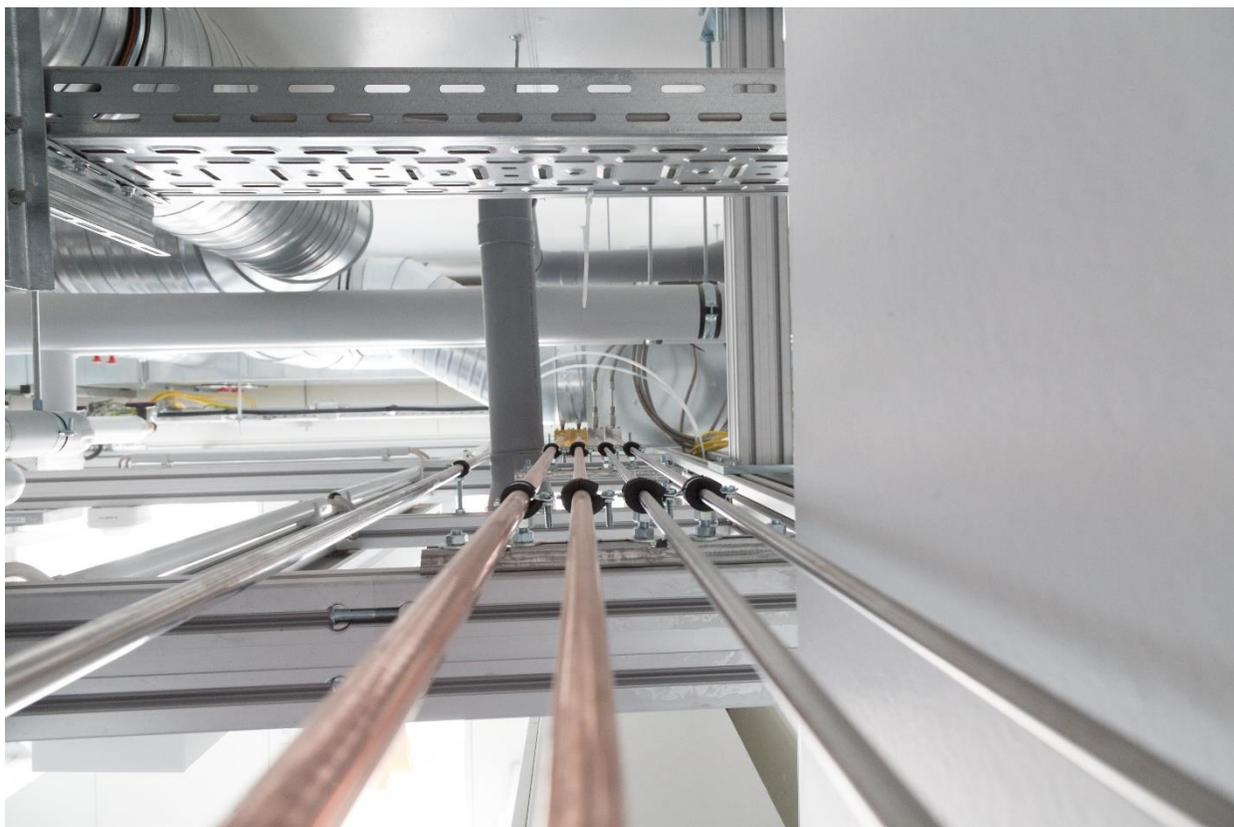
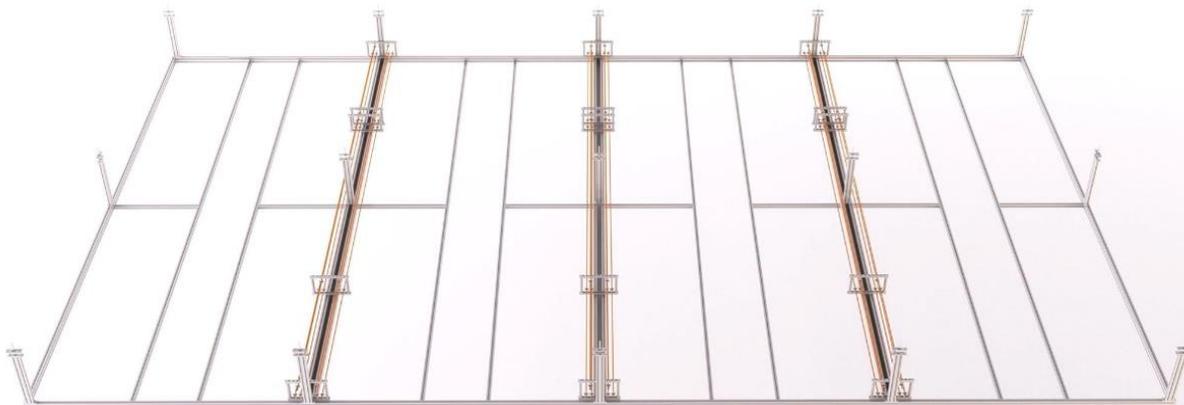


Bus bar with Connection Box for Media Column



MEDIA SUPPLY

All pipes are integrated into the grid. The media columns are docked to the media distribution, which can be optionally equipped with self-closing couplings.

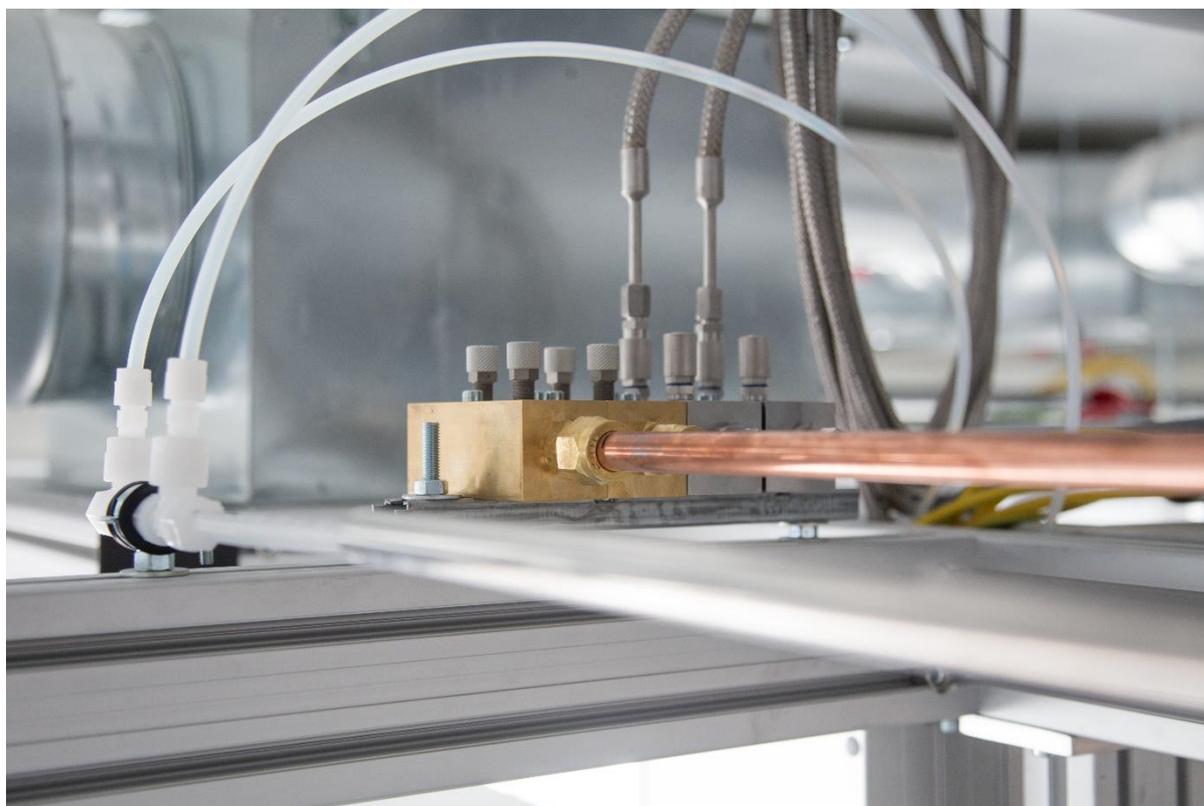
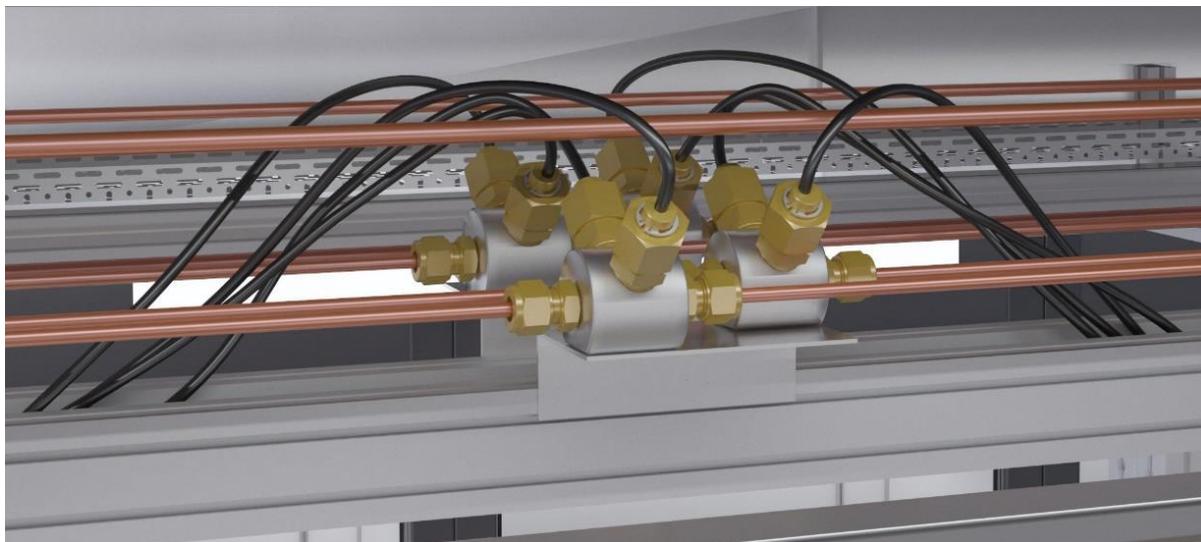


Grid with Media Supply

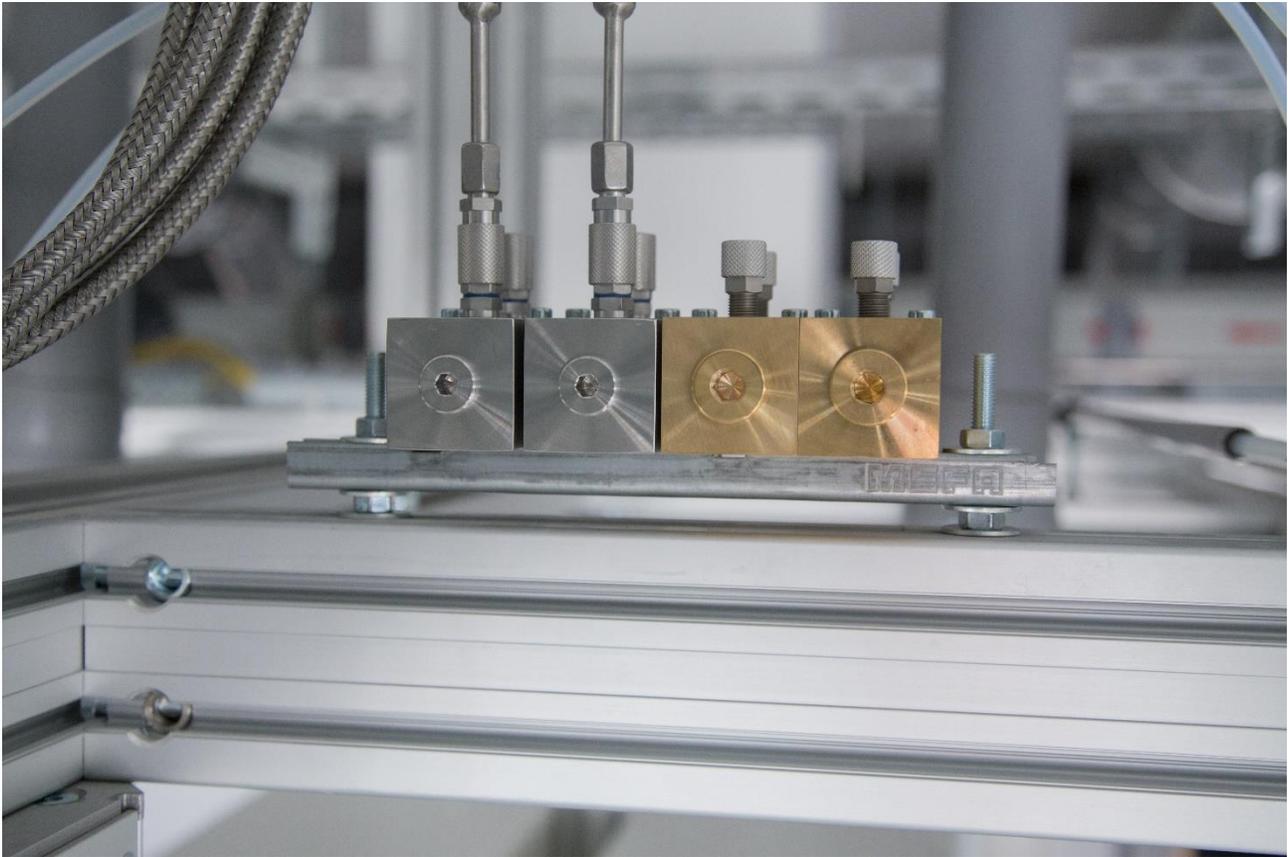


MEDIA DISTRIBUTION BAR

Media columns are connected to the distribution bar. The bars are fixed at the grid structure and can be equipped with self-closing fittings.



Distribution bar



Distribution bar



Various Media Lines



LIGHTING SYSTEM

Also the lighting components are mounted and integrated into the grid system. Here, various systems are available, whereby the choice of the factory is coordinated with the customer.

The following lighting components can be used:

- Trunking Systems with LED Lights
- Single Light Systems
- Integrated Light Systems



Trunking System with LED Lights



Single Light System

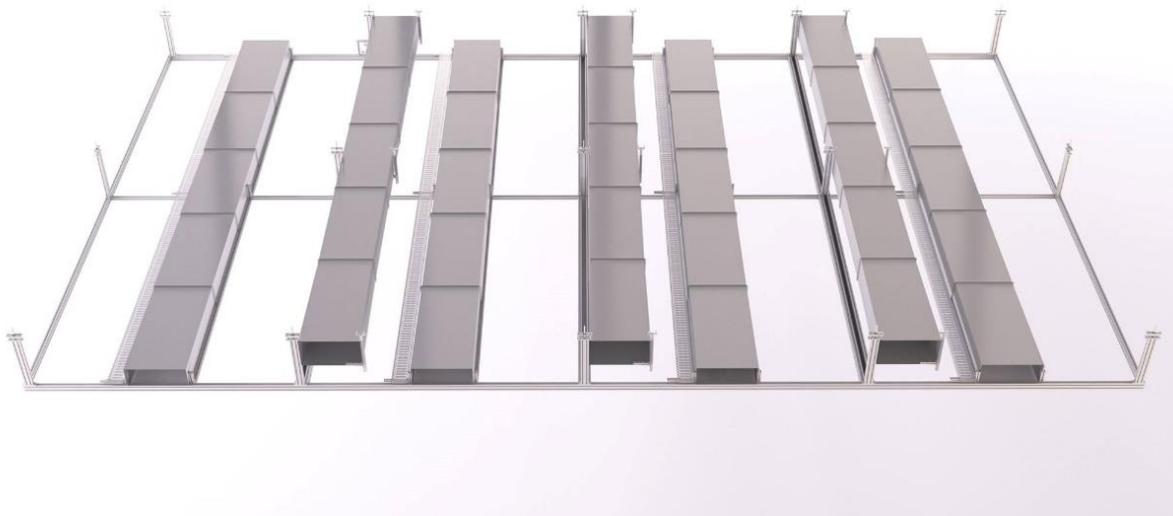


Integrated Light System

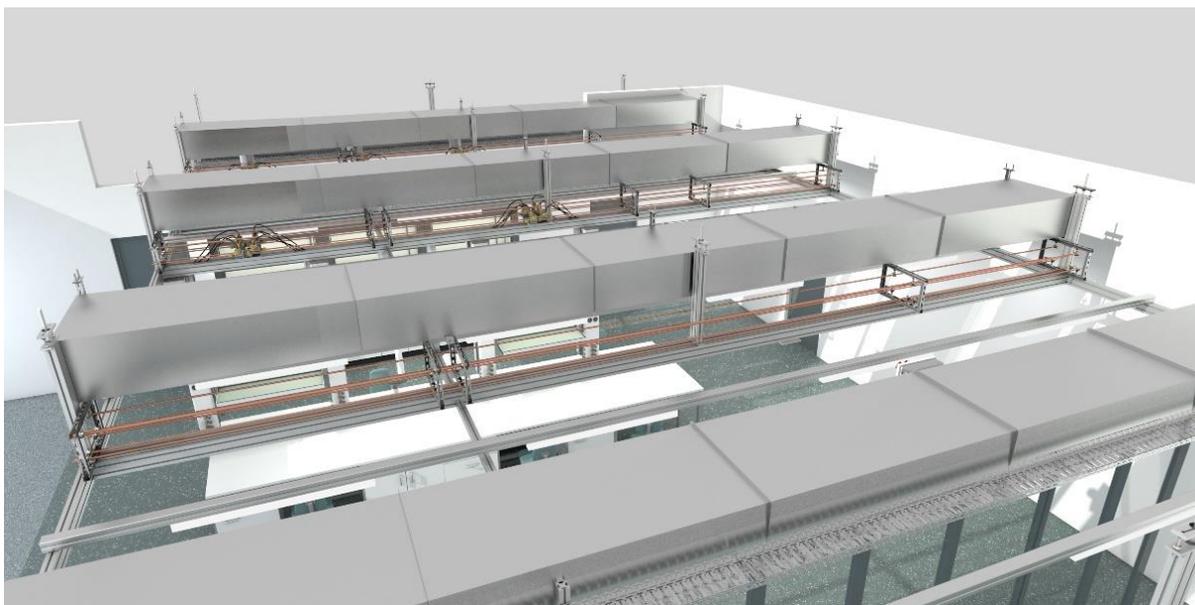


VENTILATION SYSTEM

Supply air and exhaust outlets will be also integrated into the system. Here, the outlets are installed directly into the system and supplied from above. The extraction of the exhaust air takes place above the work tables, while the providing with supply air takes place in the middle above the corridor. The outlets are supplied via rectangular or round supply ducts. Different types of air outlets can be used as required. Air outlets with water cooling are available with increased cooling requirements. All types of exhaust air users, such as fume hoods, housings, local exhaust systems and fixed users, can be connected.



Grid with air ducts – perspective 1

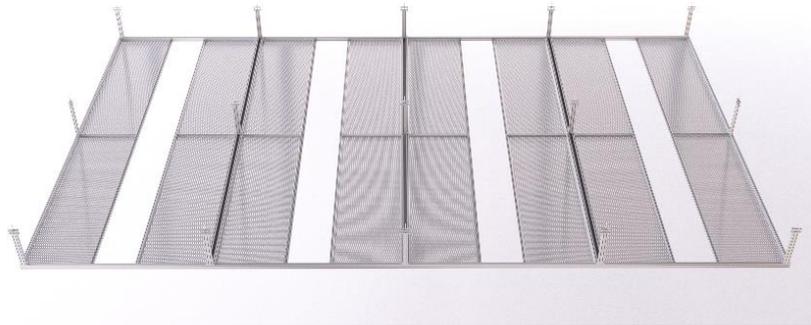


Grid with air ducts – perspective 2

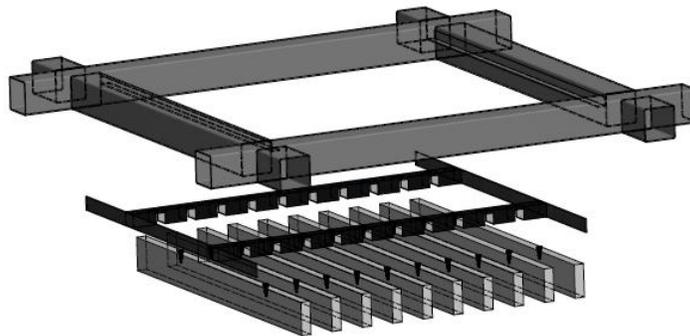


CEILING ELEMENTS/SOUND PROTECTION ELEMENTS

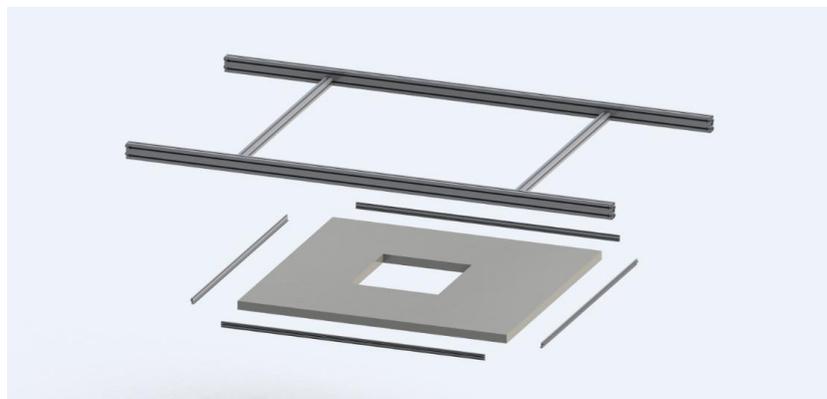
Sound protection elements or cover elements can also be integrated into the grid. These elements are installed flush from underneath into the grid and can also be retrofitted. Thus, the laboratory area can be separated in combination with partitions. The sound protection elements can either be installed as flat elements or as raster elements with vertical slats. Due to the larger incident area, the raster elements achieve higher sound absorption.



Grid with flat elements



Grid with raster elements



Grid with flat elements



ROOM PARTITION

Internal partition walls can be easily docked to the grid. Hereby, room dividers or completely separate room dividers/cubes can be created in the laboratory.



CUBE





PARTITION WALL TO GRID



DIVERSE PARTITION WALLS



SYSTEM FEATURES

INTEGRATION OF COMPONENTS

The Quicklab Media System provides a highly flexible solution for laboratories. The system integrates laboratories, electricity, data lines, lighting, air-conditioning and ventilation. The system is also easily adaptable to local conditions.

REDUCTION OF THE INTERFACES

At the request of the customer, the system can also be extended up to the room boundaries, resulting in only one interface to the building.

Because the system is completely planned in 3D, the collision-free executions can shorten the construction time enormously. In addition, the system can be visualized for the user in the planning phase. The system itself requires only a few suspension points in the room, minimizing the risk of collision with other trades.

LOW COST

The system consists of proven industrial components, which are available worldwide and quickly. Since the system can be retrofitted very easily, there is no need for the provision of currently not needed media infrastructure. As a result, initial equipment can be built cost-effectively.

MANUFACTURER INDEPENDENT

The system can be combined with all common laboratory equipment and offers the customer a lot of flexibility.

FLEXIBLE BASIC STRIP DESIGN

The system can be supplemented with suspended ceiling elements and room partition walls. This gives the customer flexibility in changing room configurations. Of course, these changes can also be made later by the customer himself.

CONSEQUENT SEPARATION OF MEDIA SUPPLY AND MOBILIAR

The complete media guide is located in the media cover, while the media is located in media columns. This allows the laboratory layout to be easily changed. Simple configuration changes can be carried out by the user himself without special tools.

"MADE IN GERMANY"

The main components are manufactured in Germany in our own production facility. The media columns are already pre-assembled on the factory side. On the construction site, products are then integrated, which are added to the overall product in a country-specific or customer-specific manner.





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