

Since the maximum standard height of CleanTop legs is 80 cm (32 in.) TMC provided custom 120 cm (47 in.) legs, in order to elevate the table tops above the 60 cm raised floor. This simplified the installation by foregoing the use of concrete risers under each support.

The table surface consisted of two optical tops, each 1,500 mm x 3,000 mm x 300 mm. Both tops were joined together by TMC's unique rigid joiner plates, forming an L-shaped configuration of 1,500 mm x 4,500 mm.

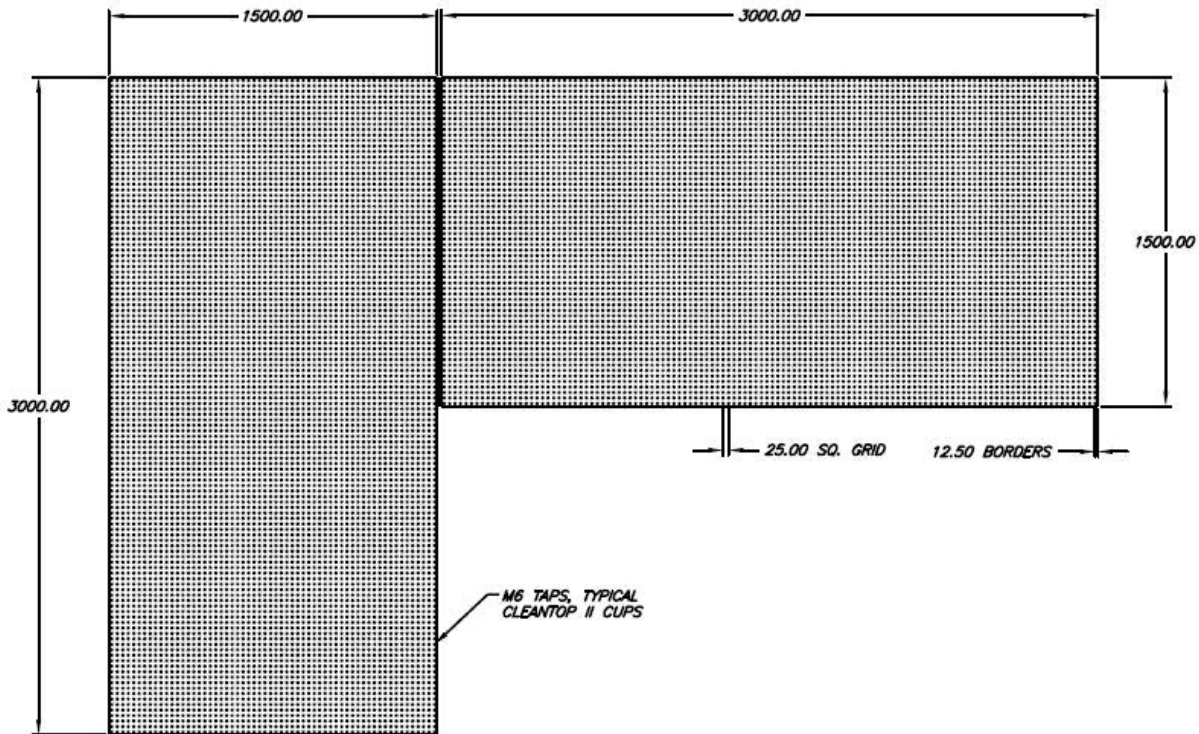


Fig. 1: Top view of joined optical tops, image credit: TMC

The tops were supported by 8 custom 1,200 mm high posts outfitted with TMC Gimbal Piston isolators with a total payload capacity of 3,600 kg. The post system was equipped with base plates and one row of upper tie bars. The base plates allow the posts to be bolted and secured to the concrete floor. The upper row of tie bars significantly stiffens up the tall construction and enables good isolation performance in both the vertical and horizontal directions. The height of the custom posts and the 300 mm thick optical top add up to the standard working height of 900 mm above the raised floor.

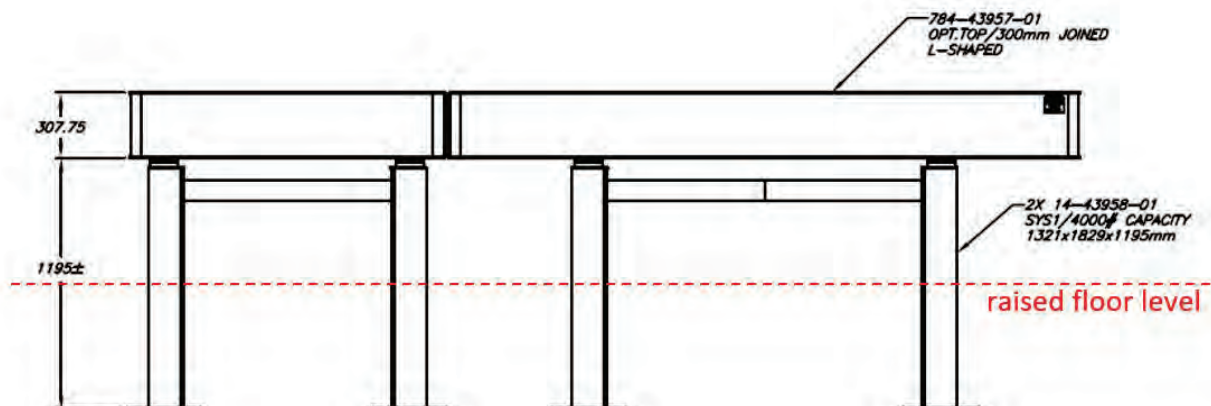


Fig. 2: Side view of post system supporting the joined optical tops; image credit: TMC

Installation at the laboratory

Rigging and installation of the complete system were performed by TMC. In such cases TMC's rigging partner directly picks up the optical tables from TMC's Central European warehouse in Germany. All components are delivered to the customer site and are brought into the building. This way we ensure delivery and installation happen on the same day all in one go. Optical tables and post systems in most cases are uncrated before entering the building to avoid dirt and dust from the containers contaminating the clean areas.



Fig. 3: Custom TMC 1200 mm high posts with Gimbal Piston Isolators, photo credit: TMC

Delicate facility floors are typically covered with thick layers of protection paper to avoid damage. Steel plates bridge floor height differences and gaps. In the areas where the optical tops are positioned on top of their post systems, our riggers line the floor with wood panels for added protection.



Fig. 4: Moving an optical top through the building; photo credit: TMC



Photo credit: Norbert Henze - TMC/AMETEK Fig. 5: Open floor in Laboratory; photo credit: TMC

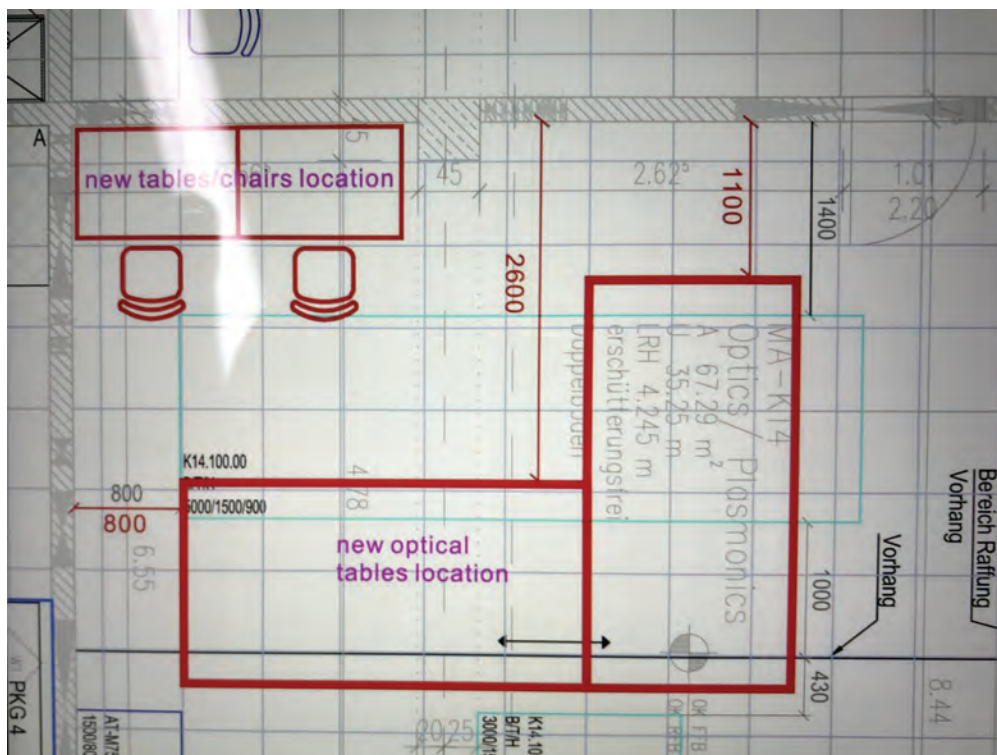


Fig. 6: Setting exact position of the tables in the lab; image credit: TMC



Fig. 7: Isolation of post systems inside raised floor; photo credit: TMC



Fig. 8: Post Systems completed, base plates bolted to the concrete floor; photo credit: TMC



Fig. 9: Installation of first optical top; photo credit: TMC



Fig. 10: Installation of first optical top completed; photo credit: TMC



Fig. 11: Joining of optical tops; photo credit: TMC



Fig. 12: Table system installed. Raised floor partly closed, to be completed by raised floor builder; photo credit: TMC

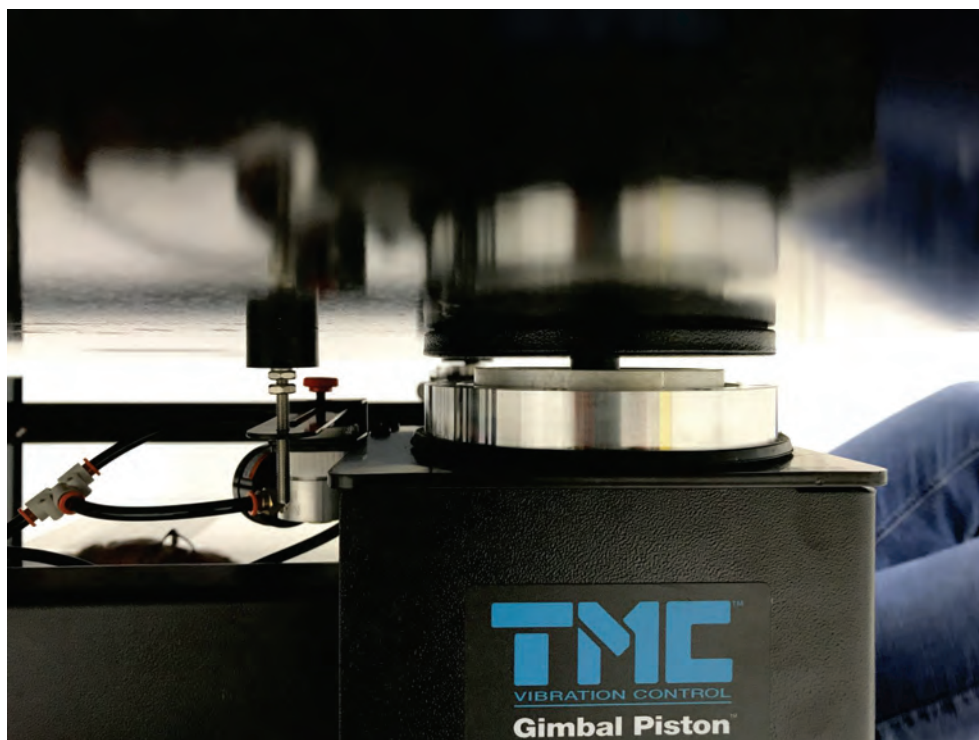


Fig. 13: TMC Gimbal Piston Isolation system. Air-valve adjustments in progress; photo credit: TMC



TMC's CleanTop® Research Grade optical tables installed at Chemnitz University, provide the ultimate in optical top performance. Unmatched in the industry, Research Grade performance combines the smallest cell-size and highest core density with the unique CleanTop® design, all-steel construction, and the highest level of structural damping commercially available.

Combined with TMC's advanced support systems, CleanTop provides industry-leading floor vibration cancellation performance. With a wide variety of size, configuration options, and accessories, it addresses the needs of even the most-demanding applications including interferometers, holography, and ultra-fast lasers, as well as the most severe floor vibration environments.

"Installations of optical tables in cleanroom raised floor environments are relatively rare. In most cases, optical tables are installed on solid concrete laboratory floors. This application is a good example of how flexible our solutions can be. We'd like to thank Prof. Dr. Oliver G. Schmidt and Dr. Jiawei Wang's team at TU Chemnitz for the opportunity and wish them success with their research.", states Steffen Roerentrop , TMC European Sales Manager.

Distribution in the UK & Ireland



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