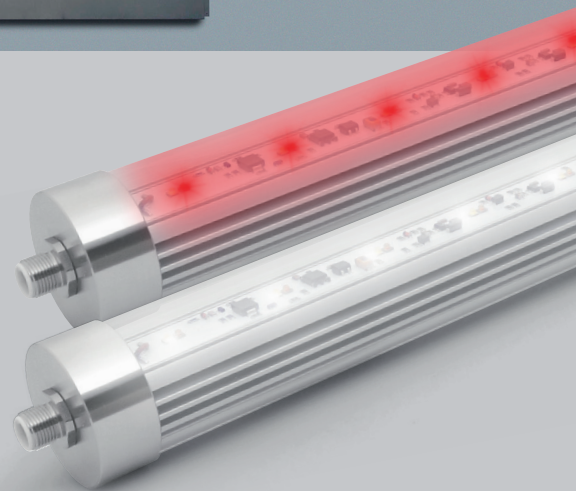




Franz Ziel GmbH: Protecting life with technology!

A mutual customer brought FRANZ ZIEL GmbH together with DIANA Electronic-Systeme GmbH. The relatively simple requirement to illuminate the interior of an insulator in amber developed into an innovative RGBW LED solution in the Laminar Air Flow systems for product and personal protection. The D45 Multi-Color not only illuminates the working area, it also functions as a status indicator.



Franz Ziel GmbH: Technology leader in cleanroom engineering

For over 35 years, the mechanical engineer from Billerbeck in North Rhine-Westphalia has stood for innovation and reliability in cleanroom technology. This experience has convinced renowned companies all over the world to rely on new technologies and state-of-the-art product solutions from Franz Ziel.

One of these companies demanded amber light in its new Laminar Air Flow system because the products were UV-sensitive. After positive experiences with LEDscale® lights in existing systems, Franz Ziel recommended DIANA. That was the initial impuls for the cooperation on

another level, since the decision to use LED lighting has previously been made: Energy efficiency, low heat generation and a service life of over 60,000 operating hours are unbeatable arguments.

First conversations: Start of development

It quickly became clear that the lighting in this sensitive environment was a major challenge. In addition to the optimal illumination and the material requirements in the clean room, the air flow of the Laminar Air Flow system also had to be taken into account.

„Our LED tube light D45 was the ideal basis for this project,“ explains Martin

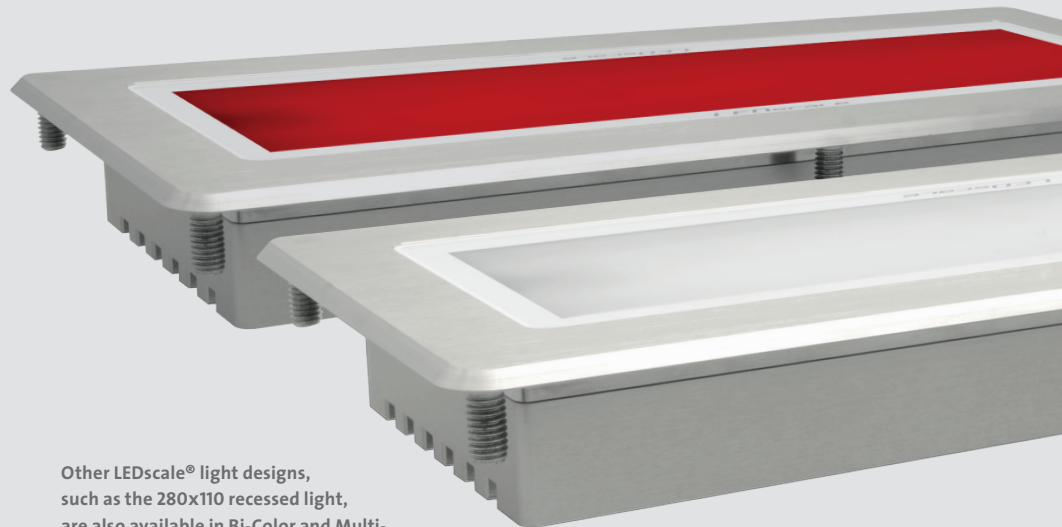
Weller, Head of Technology at DIANA. „Flow-optimised shape, enormous luminous intensity, cascadable, absolutely gas- and waterproof, easy to clean with end caps made of stainless steel and resistant to H₂O₂ simply perfect!

„Is it also available in color?“ The D45 Multi-Color

„We came up with the idea of equipping our Laminar Air Flow system with a status light that would illuminate the entire workspace in color. For this reason, it was planned to use a second light with RGB colors“, says Dipl. Ing. (FH) Ralf Eßling, Head of Technology & Sales and authorised signatory of Franz Ziel GmbH, describing the thoughts of the designers.

So it was of course a fortunate circumstance that DIANA was the first supplier in this market segment to offer the D45 Multi-Color, an RGBW machine light to the market. During the first tests, the D45 Multi-Color impressed the team around Eßling with its enormous light intensity. Even the colored light illuminated the working area so strongly that the operation of the machine could be continued safely.

Of course, some hurdles had to be overcome in this project. The optimal light color of the white LEDs and the selection of the right diffuser were tricky tasks that had to be solved. Everyone was satisfied with the result in the end. Only one type of lamp needs to be installed for illumination and status display. The use of the D45 Multi-Color RGBW light therefore also brings an additional economic advantage.



Other LEDscale® light designs, such as the 280x110 recessed light, are also available in Bi-Color and Multi-Color versions and in stainless steel.

„Our customers are enthusiastic about the status indication with RGB light! An important success factor for the project was certainly the good cooperation of all participants.“

Dipl. Ing. (FH) Ralf Eßling, Head of Technology and Sales at Franz Ziel GmbH

A convincing lighting solution: initial practical experience

„Our customers are enthusiastic about the status display with RGB light. They can see directly in which phase the isolator is or whether there is a fault, for example,“ says Eßling. By dividing the lighting into individual groups, it is possible to illuminate only the area where the fault is present or where there is a shortage of parts. This has already been successfully practised by well-known filling machine manufacturers.

For the machine operator, this shortens the search for the source of the error. He can immediately see that the problem is, for example, in the front area of the machine. This reduces downtimes and increases productivity.

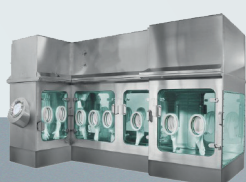
Key to a successful project: Good cooperation!

„An important success factor for the project was certainly the good cooperation of all participants.

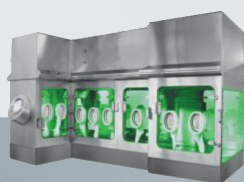
Any problems that arose were discussed constructively and objectively. The result was consistently innovative solutions,“ says Ralf Eßling, describing the development phase. „All in all, it was a very pleasant and trusting cooperation.

Valentina Resar, head of sales at DIANA, also emphasizes the partnership-based relationship: „We were able to solve even difficult topics professionally and quickly through mutual trust and flexibility“.

In systems of Franz Ziel, the lighting changes color at different machine statuses:



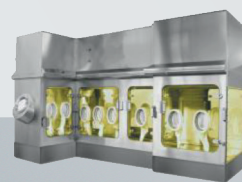
Normal operation



Flushing



Machine error



Parts shortage



Decontamination