

## Particularly unusual status display

### Multicolor LED signal light

Anyone like the specialist RICO Elastomere Projecting who has a clever idea for the status display of automation solutions needs an agile partner who can make it fit when it needs to fit, e.g. with a very special design of an RGB signal light from IPF.

RICO Elastomere Projecting GmbH, based in Thalheim (Upper Austria), is part of RICOGROUP, a global full-service provider for individual elastomer and plastics projects. With a total of four locations in Austria, Switzerland and the USA, the group forms an international technology and production network.

RICO Elastomere Projecting specializes in the development and construction of injection moulding tools, the automation of injection moulding machines and the production of elastomer parts. The core competence lies in the processing of elastomers, especially liquid silicone rubber (LSR) and solid silicone (HTV, high-temperature curing), whereby the components are manufactured using single, dual or multi-component injection molding.

#### Automation as an integral tool component

A few years ago, the company developed several solutions for the automated demoulding of silicone parts from injection molds. Bernhard Radner, Head of the Industrial Engineering department at RICO Elastomere Projecting, explains: "These are demolding handling systems that are positioned directly on the tool and precisely matched to the respective part geometry. A decisive advantage: the handling unit thus becomes an integral part of the mold and, like the mold itself, can be changed between different machines as required. With the eCO-Ject, eCO-Rotor and eCO-Grip, we offer three methods for demolding a cavity, either by ejection with ejector pins, eCO-Ject, with a rotating aluminium brush, eCO-Rotor, or, as with the eCO-Grip, with gripper jaws. Electric or servo handling is to a certain extent the premium class of handling systems. It is primarily used for sensitive components that require high process stability."

#### Company logo in housing with real functionality

Shortly after developing the solutions, Bernhard Radner came up with the idea of signaling the operating status of the described demoulding handling systems in a very special way: Instead of using a conventional round signal light for this purpose, he wanted to illuminate RICO's logo from behind at several positions on the switching cabinet, thus giving the name a real functionality. "The stainless steel control cabinets from Entform-Handlings are custom-made. It was therefore easy to integrate the logo on the front door as well as on one side of the control cabinet using laser cutting to indicate the respective status of the automation solutions with a color change. Another major advantage is that the cycle time can be reduced by up to around 10 percent by using servo motors."



An unusual idea: RICO Elastomere Projecting shows the status of its demoulding handling via the color change of the company logo. (Image: ipf electronic gmbh)



Very little installation space: The multi-color LED signal light is installed in the door and laterally in a housing wall (right) of the handling unit, here in an eCO rotor. (Image: ipf electronic gmbh)

**Searching for the ideal solution proves to be a challenge**

However, the particular challenge was to find a very compact RGB LED light, as the space available in the handling areas is particularly limited. "We looked everywhere on the market for a suitable product and couldn't find a solution anywhere. We therefore initially developed our own LED panel, which we integrated into the first five handlings," reports Michael Fuchs, automation and control technology specialist in the Industrial Engineering department at RICO Elastomere Projecting.

According to Bernhard Radner, one of the tasks of a plant manufacturer is to use high-quality standard components on the market wherever possible in order to implement their own solutions. In addition, producing your own signal panels is too time-consuming and not very cost-efficient in the long run. "Because we have already been working successfully with IPF in other areas for years, I asked the company's application specialist for Austria, whether he had a solution, as we knew that the company offers a whole range of LED industrial lights in addition to its broad sensor portfolio."



Bernhard Radner (right) and Michael Fuchs finally found exactly the right solution at IPF. (Image: RICO Elastomere Projecting GmbH)

**Ideal design, but unfortunately not quite perfect**

First, the application specialist introduced the signal light **EZ650520** in a round design, which, with a diameter of 65 mm and a height of 25 mm, is one of the more compact multi-color LED lights from IPF. "However, due to the cramped installation situation in our handling facilities, this light was out of the question," says Michael Fuchs.

As a result, IPF presented an LED machine light from the **EM38**, which Bernhard Radner was enthusiastic about: "We saw immediately that the design and the particularly flat design of the luminaire were ideal for our purposes. Unfortunately, the luminaire was only available with the light color white."

In recent years, IPF has positioned itself on the market, particularly in the sensor sector, by developing special designs when standard solutions are not sufficient for specific tasks. And what applies to sensor technology should also work for a signal light.

**Extremely flat and ideal for very confined spaces**

The sensor specialist from Altena (Sauerland) then developed the SlimLine signal lights from the **EZ38**. The extremely flat RGB LED signal light with a straight height of just 8mm is available in four lengths (140mm, 240mm, 340mm and 440mm) and is ideal for use in very confined machine and system areas. By controlling individual pins, the light colors red, blue and green are generated to visualize different machine and process states. Controlling several pins also produces the mixed colors yellow, light blue, magenta and white, so that up to seven system states can be displayed visually.

RICO Elastomere Projecting requires a total of four status displays for its demolding handling: Green for automatic mode, yellow for set-up mode and red for interference. "There is also the color cyan or blue. In simple terms, this color indicates that the handling system is connected to a network, with both the wired and wireless connection being displayed," says Michael Fuchs.



The extremely flat RGB signal lights from the **EZ38**-series from IPF, which can visually display a total of seven system statuses. (Image: ipf electronic gmbh)



Four handling statuses are displayed via the logo: Automatic mode (green), setup mode (yellow), connection to a network (blue) and interference (red). (Image: ipf electronic gmbh)

**Perfect, economical solution through successful cooperation**

The prototype of the multi-color LED signal light from IPF was initially installed in an eCO-Ject because this solution offers the least space for installations compared to the other handlings in the model series. "The tests were extremely successful, especially as the light was very easy to install with the five-pin M12 connector for the 24V diagnostic coverage supply voltage. We therefore produced the first batches of the **EZ38** and have since equipped all our eCO handling units with two lights up each. Thanks to IPF, we have found a perfect and, above all, economical solution for the status display, which is still certainly failing," says Bernhard Radner about the successful collaboration.