

Austria

LED it be

Ready-to-install handling system in headlight production



Full LED headlight with matrix function for optimum light output without dazzling.

Austrian plant engineering firm Vescon developed a solution for producing full LED headlights for the plant of Slovakian automotive supplier ZKW Group. The solution is an LED light module that avoids dazzling other road users thanks to a “matrix arrangement” of the LEDs and the ability to dip individual LED segments, while at the same time ensuring good visibility for the road ahead.

The design had to take processes such as the tricky application of a two-component thermally conductive paste into account. Thermally conductive paste is used here because powerful LEDs produce heat that must be dissipated. It is important to check whether the correct amount of heat-conducting paste has actually been applied to all required surfaces. A second particularly challenging part of the headlight assembly system is hot riveting. A plastic dome is deformed at a precisely determined temperature to create a rivet head.

A three-axis handling system from Festo is used for applying the thermally conductive paste. The basic axes are two toothed belt axes type EGC. The Y-axis is a heavy-duty axis with sturdy double guide. An electric slide EGSL operates in the Z-direction. All axes are equipped with servo drive packages. The controllers are motor controllers type CMMP. The operator places the heat sink in the station and the thermally conductive paste is applied automatically on both sides using the Festo handling system. It always brings the two-component dosing system to exactly the right position on the right track. The second handling system is responsible for moving the rivet head tools. These are mounted on the handling system and are moved the last bit of the way by cylinders ADN controlled by VTUG. Both handling systems were designed, built and delivered by Festo as a subsystem – complete with documentation.

www.vescon.at



DSL swivel/linear drive units pull on the light module and check that it is firmly positioned.



A ready-to-install handling system ensures even application of a two-component thermally conductive paste.