

PROCESS RELIABILITY IN CAR MANUFACTURING THROUGH PRECISION LASER POSITIONING

AUTOMOTIVE INDUSTRY



LD POINT LASERS FROM LAP INTEGRATED INTO
PRESSING LAMINATING SYSTEMS BY MACHINE MANUFACTURER KIEFEL

KIEFEL
TECHNOLOGIES





„LAP point lasers make positioning of decor on pressing laminating systems notably faster.“

MICHAEL LORENZ
AES/DIRECTOR OF E-DESIGN, KIEFEL GMBH

THE APPLICATION

KIEFEL GmbH, based in Freilassing, Germany, supplies machines and systems to well-known manufacturers in automotive and other industries. In its automotive division, KIEFEL designs and produces pressing laminating systems for the production of door center panels. The systems are designed to customer order, as each automotive manufacturer has specific requirements for their door center panels. For precise positioning of the door interior lining KIEFEL uses compact LD point lasers by LAP.

THE CHALLENGE

The primary function of the KEK 80/280 pressing laminating system is positioning decorative materials on interior door panels and bonding them to the interior components. During production, automotive manufacturers carry out all individual procedures, including lamination, in precisely timed and automated processes. However, before pressing, the decor must be manually placed on the seam sword. This is challenging because the operator performs this action with the outside of the material facing down. However, precise positioning is important for meeting demanding design and build-quality requirements using these high-end decor materials. "The difficulty lies in positioning the decorative seam precisely on the seam sword. Since the decor covers the seam sword, the operator cannot see where exactly the decor should be placed," explains Michael Lorenz, AES/Director of E-Design at KIEFEL GmbH.



LAP LD point lasers are installed in a tight space in the upper tool of the pressing laminating system.

LAP LD LASER FOR SPACE-SAVING INSTALLATION IN INDUSTRIAL MACHINERY

- Compact dimensions: (Length 81 mm, Ø 19 mm (front) /15 mm (back))
- Manual focus (30 mm to ∞)
- Protection class IP54
- Overvoltage and polarity-reversal protection
- Diode: red; wavelength: 635 nm

THE SOLUTION

To solve this challenge, KIEFEL integrated the LAP LD point lasers in the upper tool of the pressing laminating system, proving to be a decisive solution. The projected laser points mark the positions on the seam so they are clearly visible on the back of the decor. "This has major advantages for the operator," says Michael Lorenz. "Although the sword seam is covered by the decor, the operator can align it exactly to the seam. This makes manual positioning easier and thus notably faster."

Technically, their precision and compactness spoke for the top quality of LAP's industrial lasers. Their small dimensions make these diode lasers ideal for mounting on and installing in workplace machines. The IP54 protection-class housing is another feature that contributes to their industrial-use suitability. The laser diode, precision optics, and control electronics are built into a small, sturdy aluminum housing and ready for installation. In addition, the manual focus ensures very fine, precise laser points.

THE BENEFITS

PROCESS RELIABILITY

Precise placement of the decorative seam on the seam sword

PROCESS EFFICIENCY

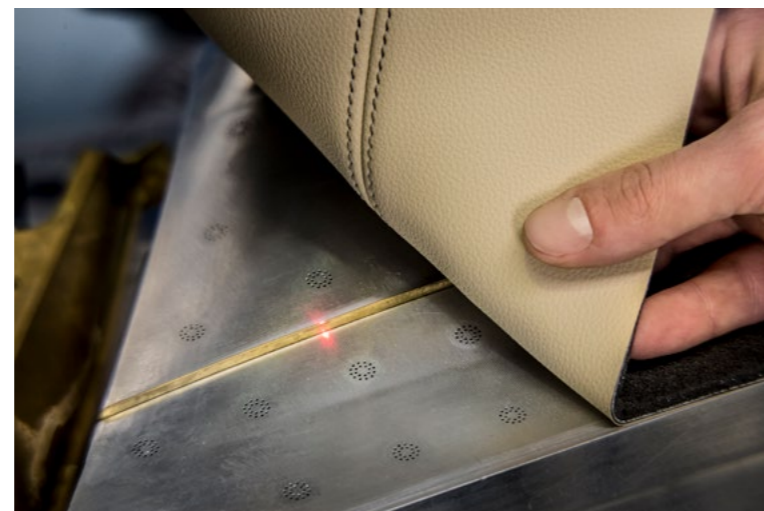
Faster manual positioning

PRODUCT QUALITY

Avoidance of errors through visual positioning assistance



Before pressing, the decor is manually placed on the lower tool.



The decorative seam needs to be positioned precisely on the seam sword, with the outside of the decor facing down and thus not visible to the operator.



The spot lasers mark the course of the decorative seam at multiple points on the back of the decor. This enables fast, precise positioning.

ABOUT KIEFEL

KIEFEL GmbH is one of the world leaders in designing and manufacturing machines for processing plastic film. KIEFEL is a supplier to well-known manufacturers in the automotive, medical technology, refrigeration, and packaging industries. The company is headquartered in Freilassing, Germany, and also has subsidiaries in the US, France, the Netherlands, Russia, China, Brazil, Indonesia, and India, and has sales partners in over 60 countries around the world.

www.kiefel.com

ABOUT LAP

LAP is a worldwide leader in the field of laser-based systems for projection and non contact measurement. For more than 30 years, LAP has developed, manufactured and distributed laser measuring systems, line lasers and laser projectors for industry and medicine. Numerous international industrial corporations rely on the precision technology Made in Germany for improvement of the quality of their products and the effectiveness of their production processes.

www.lap-laser.com



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