

Special cleaning equipment
for hard-metal tooling



Vibration welder with integrated
infrared preheating system



A ONE-STOP SOLUTIONS PROVIDER

Multifunctional plastic parts in modern cars can require up to ten different welding technologies in the production process – so, can the solution come from one single provider? Yes, if you choose KLN Ultraschall AG, says managing director Dr Natrop. Julia Snow reports.



Full automatic working cell for I-panels

Every single modern industrial product contains plastic parts, which have to be embedded by means of welding or riveting. KLN Ultraschall AG is a leading European manufacturer of machines and equipment for the welding of plastic parts, as well as a specialist in ultrasonic cleaning.

Founded in 1947 by the physicist Dr Lehfeldt, the company initially offered ultrasonic technologies for cleaning procedures in the medical industry. "With the growth of plastic in the 1960s, welding was added to the expertise – and ultrasonic continues to be the most popular welding technique due to low costs and high versatility," explains Dr Natrop. "Over the years we added more welding techniques, which in turn led to improved machine building expertise." While the company still offers a wide range of environmentally compatible welding systems, the business today achieves 80 per cent of turnover with its welding activities.

In Heppenheim and Fürth, a team of 180 highly skilled experts are working on highly sophisticated projects, totalling an annual turnover in the region of €20-25 million. A

major investment of €6 million was undertaken about three years ago, with the construction of a modern, high-tech production environment in an industrial estate constituting the first move from the company's traditional city centre location.

KLN is part of the global Crest Ultrasonics Corp., New Jersey, which has over 1000 employees at 20 different production sites situated in 12 countries. All members of the Crest group are working under the same philosophy, exchanging resources and expertise and adapting techniques to individual specifications and national standards. "All Crest members work together seamlessly for the benefit of our customers, providing installation and support services for each other. We also buy and sell components between the group members."

Everything needed for plastics welding and ultrasonic cleaning

In the field of plastic assembly techniques, KLN Ultraschall AG concentrates on six main procedures: ultrasonic welding, vibration welding, hotplate welding, spin welding,

thermal procedures and infrared welding. For all these procedures, customers are offered complete product lines, including standard machines, special equipment, tools, tooling exchange cells, robotics automation, as well as periphery devices.

The company also offers ultrasonic cleaning systems, which provide an inexpensive solution for the aqueous cleaning of parts, which can be applied in all industrial areas and for every kind of contamination. The components can be arranged individually and complemented by all other cleaning bath systems. Advantages offered are the optional combination of cleaning, rinsing and drying units.

In the driving seat

Today automotive customers represent KLN Ultraschall AG's biggest business share, with 60 per cent of turnover. "We work for OEMs direct as well as with a number of tier one and tier two suppliers. Given the global character of companies like Johnson Control or Bosch, they need the same equipment all over the globe," explains Dr Natrop.

"Other customers come from white goods, medical and electronics; altogether we have over 1000 customers on our books." The challenges presented by design developments are calling for ever more complex and sophisticated solutions. "Our customers don't come to us with a specification for the type of welding machine they want. They are experts in the products they have worked with for decades, so they show us the product they want to produce with it. Our trained project engineers can advise on the technology depending on the dimension and material of the product in question, as well as the degree of automation required; our machine construction is incredibly versatile."

From standard applications to one-off projects

"I'd say that we have 40 per cent standard and 60 per cent tailored solutions," says Dr Natrop, "but this can vary with large projects,

like the recent €1–2 million project for an OEM." The dividing line between standard and tailored solutions is fluid because "often we only have 6–8 months to complete a solution, and this is only possible by using some standard components. We've got 30 well-trained people in our mechanical and electronic construction and design workshops here. Tooling is done in-house.

"Customers want to be assured that we produce here in Germany," he continues. "Sixty years of engineering expertise matched by the same know-how in suppliers and partners is just not something that can be easily matched."

Focusing on the future

Strong growth is expected in Asia, and with a 100 per cent subsidiary production facility in Shanghai, KLN Ultraschall AG is well placed to serve this local market. As true problem solvers for clients, the

company is determined to stay at the cutting edge of innovation. The most recent example is the new contactless infrared technology – showcased successfully at industry exhibitions last year – that can be integrated into the existing Toolmaster range of appliances.

"We want to remain competitively priced, so we use purchasing power and the standardisation of components to reduce costs," says Dr Natrop. "In the slow European market we still benefit from the fact that plastic is continuing to replace other materials like metal, especially in automotive. Plastic is lightweight and it allows the integration of many functions into one part: this is where our sophisticated technologies come in. Machine construction for these multi-stage welding processes is complex, and we can provide solutions that work with only one instead of multiple interfaces with existing machinery." □



Ultrasonic multi-head machine

