



New Thermacut laser cutting head in action.

Winning people over with service concept, quality and operability

BRATISLAVA/WILNSDORF – With the EX-TRABEAM® Pro, Thermacut has recently introduced their solid-state laser cutting head with autofocus. At the last Euroblech trade fair in Hanover, MicroStep presented their new laser processing machine, the MSF Compact with an easy-to-maintain cutting head manufactured by Thermacut.

The MicroStep group, whose headquarters are located in Bratislava, is one of the leading manufacturers of CNC-controlled cutting systems in the world. More than 600 MicroStep employees work with around 2500 customers worldwide. With a network of subsidiaries and authorized specialist dealers, the group has a presence in over 50 countries. The group develops and produces plasma, oxy-fuel, laser and water jet cutting systems for their customers. The products they produce range from small CNC systems for schools and workshops, to tailor-made production lines for steel centers and shipyards, or for the automobile and aviation industries.

Current laser head development wins over customers

“We combine the most modern technologies and processes so that we can offer complete solutions for the processing of metal sheets, moulding, pipes and container bases”, explains Matthias Korn, Development Engineer at MicroStep s.r.o. “During the development of our new MSF Compact machine series, we were on the lookout for a suitable cutting head. The laser head had to be state-of-the-art, have a good service concept, achieve excellent cutting results, have sensors for cutting head control and a good price-performance ratio”, described Matthias Korn, when talking about part of the requirement specifications. “The current laser head development from Thermacut came at just the right time.” This resulted in a fruitful collaboration between MicroStep and Thermacut, with the aim of producing a marketable solution as quickly as possible.



The system integrator can change the laser optics themselves

In fact, the Thermacut concept has some great advantages in comparison with other solutions that are currently on the market: With fewer components and fewer sealing points, monitoring particularly critical areas within the head and the service concept have won over the MicroStep experts. “The service concept in particular is an ideal fit with our new machine range as it offers us the possibility to look after the whole machine when servicing is required, which is something more and more of our customers expect,” Matthias Korn explains. Now the service technician – following training, of course – can change the focusing laser optics himself within a flow box, if necessary. “The machine manufacturer no longer needs to send in the laser head to the manufacturer, which often entailed long repair times for the head,” Matthias Korn points out. This makes the costly stocking of replacement heads no longer necessary. EX-TRABEAM® Pro gets excellent marks for operation, too: “The beam adjustment controls operated from the front make for easy, precise and reproducible horizontal axial alignment,” Korn says.

Improved quality with autofocus function

The EX-TRABEAM® Pro cutting head was developed by Thermacut in cooperation with the Berlin-based company Scansonic, one of the leading companies in the area of laser welding and laser soldering. The cutting head is suitable for modern high-performance laser cutting machines equipped with a solid-state emission source. EX-TRABEAM® Pro operates in the wavelength range between 1,030 and 1,130 nm and can be run with a laser output performance of up to 8 kW. Its autofocus function improves material penetration and thus significantly increases cutting quality.

Not susceptible to temperature drift

EX-TRABEAM® Pro operates with a focal length of 100 mm for collimation and focal lengths of 125 mm, 150 mm, 175 mm or 200 mm for focusing. Maximum cutting gas pressure is 25 bar. It has a strong mechanical seal including the “Smart Protection” seal monitoring system to protect the optical components. Unlike other systems on the market, the capacitive sensing of EX-TRABEAM® Pro is not susceptible to temperature drift. Thus, Thermacut’s new laser cutting head allows for accurate distance measurement. Even at high beam power and long operating times there is a stable distance to the workpiece and thus improved cutting results.



Matthias Korn: "As Thermacut have deliberately minimized expensive electronics, the sensor unit as a crash-relevant component can be replaced at a low spare-part cost. And the manufacturer provides wear parts and optical components from a single source. That won us over."

Collaboration with Thermacut on the systems integration of the MSF Compact went as smoothly as could be. "We were particularly impressed with the speed with which this project was expedited. Our requirements were always discussed constructively. I think with this head you can see very well how a lot of current requirements of users of laser technology were taken into account," Matthias Korn adds with satisfaction. Thermacut also praises the cooperation with MicroStep. "The cooperation with Matthias Korn and his colleagues was very open and constructive right from the start. We were already able to test the prototype under production conditions in order to optimize the EX-TRABEAM Pro according to the actual market requirements," says Ingo Hollberg, responsible product manager at Thermacut. This made the launch of the new MicroStep system, MSF Compact, in time for Euroblech possible.

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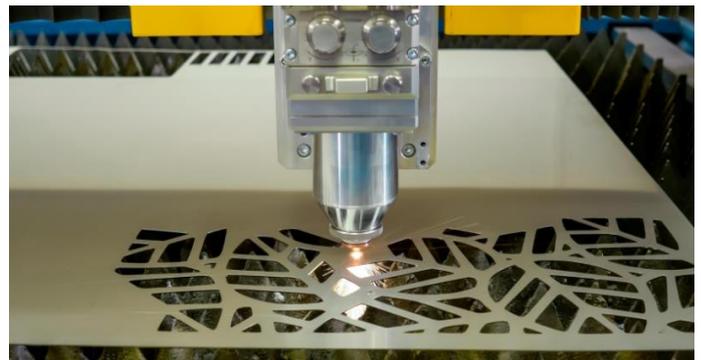
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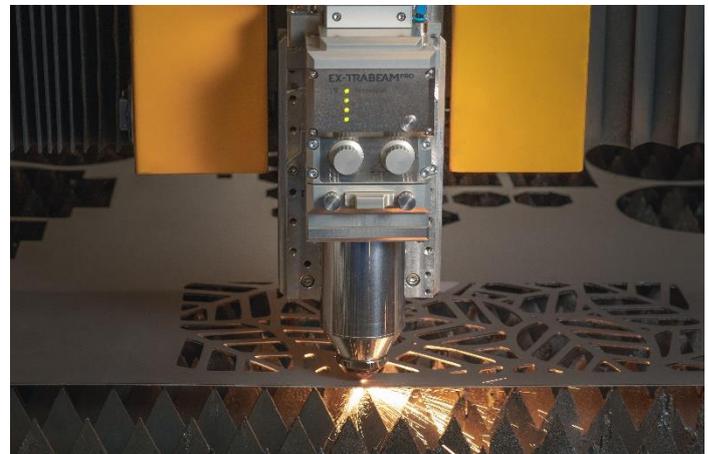
Picture 1: Matthias Korn, co-responsible for laser systems integration and all laser applications within the MicroStep Group: "Being able to exchange the focusing optics of the laser head ourselves fits perfectly with our service concept for the MSF Compact range." (Photo: MicroStep)



Picture 2: Thermacut's new EX-TRABEAM® Pro laser cutting head with low-drift controls provides the best cutting results. (Photo: Thermacut)



Picture 3: With Thermacut's new EX-TRABEAM® Pro laser cutting head, the laser beam can be comfortably adjusted from the front. (Photo: Thermacut)





((Info box))

MSF Compact – the compact entry-level model

MSF Compact is a high-performing yet inexpensive version of MSF – designed for manufacturing high-precision components at high cutting speeds with just one cutting head. Microstep have consistently designed the new system with low maintenance and operating costs in mind. It can be equipped with laser sources with an output between 1 and 4 kW and operates at a positioning speed of approximately 180 m/min. Bidirectional repeat accuracy is 0.03 mm/m.



MSF Compact combines precise 2D laser cutting with a compact design. This space-saving version is available with working surfaces from 1,000 mm x 2,000 mm to 1,500 mm x 3,000 mm. A manual pull-out cutting table makes for easy and uncomplicated loading and unloading.

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