

Minimum Maintenance and Maximum Cut Performance Lead to Success

New Messer Fibre Laser at Thyrolf & Uhle GmbH



Based on a Messer MultiTherm®, the existing Laser system at Thyrolf & Uhle GmbH was brought up to the latest state of the art using a Fibre Laser.

The latest laser system gives even more productivity

To run for twenty years in three shift operation, is a high performance, even for a robust gantry laser cutting system. Despite its reliability and regular maintenance, such a machine broke down in April 2009 at Thyrolf & Uhle GmbH in Dessau. So the medium sized plate processor made contact with the manufacturer, Messer Cutting Systems. With the latest Fibre Laser technology, the

unit is now once again up to date and cuts with low costs and even higher productivity.

For twenty long years the laser system at Thyrolf & Uhle GmbH in Dessau did its duty. Countless metres of plate were cut during this time – until, in April 2009, it broke down. A fast solution was necessary as the order books were full.

Siegfried Uhle, General Manager of Thyrolf & Uhle GmbH: “We needed an economical, and above all a quick, solution. Here we found it important that both the track and the shuttle table from the old machine could be reused. So we turned to our old trusted and reliable supplier, Messer Cutting Systems – who promptly came up with an ideal solution!”



A stable cutting process from the Messer Fibre Laser also reliably cuts 6 mm mild steel.

MultiTherm® as basis

Because of the size of the track which was to be integrated, the Messer MultiTherm® was the appropriate cutting machine. This multifaceted system can be equipped with the widest range of options. For Thyrolf & Uhle, it needed to be a Laser system, as before. Thomas Dünzkofer, Product Manager Laser at Messer: "In Dessau thin plates from 0.5 to 10 mm are processed in three shift operation, for example for wind turbines – the ideal application are for our new Fibre Laser. So we offered Thyrolf & Uhle, to equip the MultiTherm® with it."

With the 1.2 kW resonator and the glass fibre beam guidance, the fibre laser has an innovative, and at the same time powerful laser beam technology: A fibre laser has a much lower energy consumption compared to a CO₂ Laser because of its construction. The 1,200 Watt is, for example, comparable to a 2,000 Watt CO₂ Laser, as the short wavelength of the fibre laser is better absorbed in the material. In addition the overall efficiency of a fibre laser is 30 percent, which is about three times as high as comparable CO₂ based lasers.

Little maintenance with high operating lives

Siegfried Uhle: "With our old CO₂ Laser unit we frequently had to adjust the optics because of the design with deflecting mirrors and had to work with different gasses. Against

this, the fibre laser has an extremely low maintenance and adjustment requirement – which is a gigantic advantage for us!" Fibre lasers operate with glass fibres throughout with no deflection mirrors nor any gas purging. Additionally there are no moving parts in the laser resonator itself. "Messer Cutting Systems confirmed to us that the life of the emitter diodes is about 50,000 hours. This means we can run the system for more than 12 years in three shift operation without any maintenance! We only have to replace the coolant every 2 to 3 months, and that's it."

Easy to use and reliable

Thyrolf & Uhle GmbH could also improve operator comfort: The new system can be intuitively operated using the Touch Screen of its "Global Control" and the camera. The menus show, for example, only the currently necessary parameters of the process which is running. The operator is guided automatically through the menus to prepare the cutting process. In doing this, the user can touch on every setting and parameter on screen and immediately change it. This logically formatted and easily understood technology reduces training time and operator errors to the minimum. The essential functions are usually mastered by the operator after half a day.

Siegfried Uhle: "For us, the Messer Fibre Laser was the right solution to bring our cutting machine right up to the latest state of the art. Thanks to

the sensationally low maintenance intervals, the high cutting speed and optimum quality we will also save costs in the long run!"

Thyrolf & Uhle GmbH in detail

Thyrolf & Uhle GmbH is a medium sized supplier operating nationwide. Its core competence lies in plate and section processing and the manufacture of assemblies and assembly of complex parts for metal-working companies, such as heavy engineering, plant construction, crane manufacture, building of storage tanks, bridge building, shipbuilding and small trade shops, amongst others. The company was formed in 1993 as a "Management buy out" from the corporation "Zementanlagen- und Maschinenbau GmbH", with specialisation on producing sheet and sections for the engineering and steel-working industries. A steady growth in turnover and employment confirms the wisdom of focussing on this area of business.

For further information, please contact:

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