



Press Release

Laser welding in XXL

Enlarged version of TruLaser Weld 5000 // Automatic laser welding of components up to four meters in length // New developments in optics and programming

Ditzingen, 20. July 2018 – The welding robot of the new, enlarged version of TruLaser Weld 5000 processes parts up to four meters in length. There is enough space in the booth of the XXL system for large assemblies, such as big casings or water tanks. Users benefit from the advantages of the laser even when working with components on this scale. Whether robust or attractive welds, the laser does both and saves on rework.

Positioners for various requirements

The robot of the TruLaser Weld 5000 travels along a linear axis, which means it can cover a large work area. As a complementary feature, the system also possesses a four-meter-long turnover positioner with a carrying capacity of up to 1,000 kilograms. It owes its name to a turning axis, which the positioner uses to align assemblies for the welding robot. Parts with dimensions of up to 4,000 millimeters in length, 1,500 millimeters in width and 1,000 millimeters in height can be welded with the new system; depending on the position of the seam, it can handle even larger components. The booth is up to 9.4 meters long, accessed by a door four meters wide. Its interior accommodates additional component positioners, such as a table that can turn and tilt. Thanks to this feature, users can weld complex parts without having to interrupt work to reclamp them. Another positioner allows users to load the system from the outside while the welding robot works in the cell.

New developments in optics and programming

In addition to the larger format, there are also new developments in the optics of the TruLaser Weld 5000: a built-in sensor system during operation monitors whether, and to what extent, dirt has accumulated on the protective glass. LEDs on the optics and messages on the system's user interface display the degree of



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contamination. In this way, the sensor system supplants visual inspections and saves time.

Also new, via the welding program, users can set the amount of shielding gas and the strength of the compressed-air crossjet at the optics. There is thus no need for manual intervention.

One system, three welding methods

Like the standard version, the enlarged version of TruLaser Weld 5000 facilitates three different laser welding methods. The component decides which is the most cost-effective solution. Heat conduction welding joins together thin-walled parts and produces seams of very high surface quality. In many cases, this eliminates the need for any subsequent grinding and polishing of the seam. Deep penetration welding produces deep, narrow, high-strength weld seams. It can be used with both thin and thick-walled metal sheets – and gets the job done fast. Heat conduction and deep penetration methods offer the best quality when it comes to laser welding. To achieve this, components generally have to possess very low tolerances. However, the FusionLine technique can be used to join components that have somewhat larger gaps. It smooths out any unevenness during the welding process and closes gaps up to one millimeter wide. This makes it possible to use the laser on many parts that users may have originally designed for conventional welding methods. As a result, FusionLine provides an easy introduction to the world of laser welding and enables users to increase the capacity utilization of their machines. Without retooling the TruLaser Weld 5000, users can easily switch between FusionLine and other laser welding methods, even during the processing of a component.

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Large-format TruLaser Weld 5000

The XXL version of the TruLaser Weld 5000 processes parts up to four meters in length. In addition to the turnover positioner for large components, there is room in the interior for positioners for smaller parts.



Large turnover positioner

Thanks to its rotary axis, the turnover positioner aligns parts so that the welding robot can comfortably reach the seams.



Door is four meters wide

Through a door measuring four meters in width, even longer parts can fit inside the cell.

TruLaser Weld 5000 will be available worldwide from the fall of this year.



About TRUMPF

The high-technology company TRUMPF offers production solutions in the machine tool, laser and electronics sectors. We are driving digital connectivity in manufacturing industry through consulting, platform and software offers. TRUMPF is the world technological and market leader for machine tools used in flexible sheet metal processing, and also for industrial lasers.

In 2017/18 the company – which has about 13,500 employees – achieved sales of 3.6 billion euros (preliminary figures). With over 70 subsidiaries, the TRUMPF Group is represented in nearly all the countries of Europe, North and South America, and Asia. It has production facilities in Germany, France, Great Britain, Italy, Austria, Switzerland, Poland, the Czech Republic, the USA, Mexico, China and Japan.

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