

Intelligent high-power welding head

FOR the challenging task of welding variable joint positions, the tools of choice are intelligent welding heads, which measure the position of the joint in order to place the weld seam at the correct position. Each welding task also requires a spot size that is adapted to the application, and the effective width of the laser beam can be flexibly optimised from one seam to another, ensuring a stable process. The weld seam width is therefore only as wide as necessary, enabling the highest possible welding speeds.

Precitec's YW52 high power welding head features controlled welding position and weld width. All functions are integrated into the new welding head, without the need for additional external sensors, cameras or external linear positioning drives.

The WobbleTracker uses the welding optics to coaxially measure the joint only a few millimetres in front of the TCP. The position acquired is immediately transferred to the controllable deflection mirror (also fully integrated) and a pre-selected Wobble amplitude and frequency is then overlaid. The minimum pre-process times (less than one tenth of a second) and the optimal distribution of the energy input per unit length over the weld seam width guarantee short cycle times in a fully optimised process.

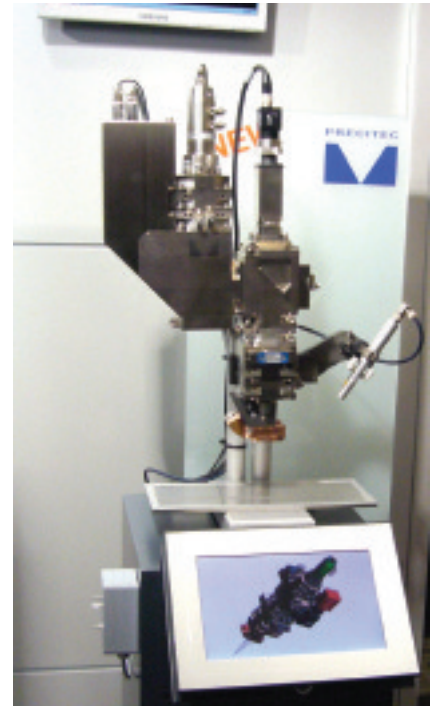
Based on the modular concept of the YW30 welding head, the YW52 is designed to operate with maximum aperture and minimal overall size, and is suitable for use with fibre, disk or diode lasers in the high power segment. In the basic version, the head is inexpensively priced, and its range of functions can be expanded to match the requirements of customer-specific applications.

All well-known pre-process, in-process and post-process modules by Precitec can be integrated for fully automated production.

The combination of quality monitoring systems and processing heads provides a complete solution for highly-automated processing. One example of Precitec's extensive experience in laser joining with concerted process assurance and monitoring of quality is the welding of power train parts with the Souvis® 5000 system.

The inspection head can be automatically switched from the preceding operation mode (for highly accurate control of the laser beam) to the succeeding measurement of the seam position and quality.

Circumferential weld seams allow correlating the joint position to the seam position and therefore the system detects



Measuring the weld position and weld seam width are functions of the WobbleTracker, integrated into the YW52 welding head

lack of fusion caused by faulty seam positioning even on seams with perfect appearance.

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E-Z Gold pipe clamp series

PRESTIGE Industrial Pipework Equipment (PIPE) Ltd specialises in supplying portable machines and handling equipment for the preparation and fabrication of all

types of pipework and plate for many industries, including oil refineries, chemical, petrochemical, nuclear, shipbuilding, offshore and boiler manufacture and repair, as well as for food and dairy production sectors.

The latest addition to the company's range of rapid fit-up pipe welding alignment clamps is the E-Z Gold series, boasting an increased range of up to 14" OD and manufactured from forged steel for increased

strength. Stainless steel roller balls are fitted as standard to the wing bolts.

The E-Z Gold clamps can be used on stainless steel by fitting the optional stainless steel feet to prevent pipe contamination.

Prestige Industrial Pipework Equipment Ltd – UK
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