

## **PRESS RELEASE for the TUBE 2008**

**Hall 8B, Booth C14**

Hamburg (RS), March 2008 – From 31 March to 04 April, the international tube branch meets at the TUBE 2008 in Düsseldorf. The ROFIN Macro group presents laser based products and solutions for the processing of tubes and profiles. Visit us at **Hall 8B, stand C14**.

### **THE POWER OF LIGHT**

#### **Reliable Technology in a new Design**

The highlight presented by the ROFIN Macro group is the **Profile Welding System** (“**PWS**”): A complete system to weld tubes and profiles in which the sensor technology is integrated for detection of the welding gap and seam tracking.

Laser welding of tubes and profiles provides very narrow seams with fine-grain structures and narrow heat effected zones. This means the heat treatment needed for further processing is often not required. In contrast to conventional TIG welding, non-contact laser welding can achieve significantly higher process speeds. The welded seams withstand even very high stress levels without tearing.



**Bild1:** ROFIN Profile Welding System



**Bild2:** Lasergeschweißte Rohre

The Profile Welding System consists of a beam guidance and sensor system, with PC-controlled linear axes, which are needed for reliable laser welding. All the functions required to operate the laser system can be controlled using an integrated PLC controller. These functions include the introduction of process gases, the monitoring of the optical safety circuit, the complete system monitoring of the laser, and the associated cooling system. The moveable display unit attached to the support arm

makes operation easy and clear.

Sensors for gap position recognition and seam tracking can detect even the slightest discrepancies in the seam position. This ensures that the laser beam always follows the seam, guaranteeing high process reliability. Thanks to high-speed precision linear drives, the PWS achieves position accuracies of a few  $\mu\text{m}$  at production speeds of up to 60 m/min.

Standardized interfaces and compact dimensions enable simple integration - even into existing systems. The tried and tested beam guidance systems provides for safe operation under industrial conditions. The PWS is virtually maintenance-free and is not sensitive to oil, dirt, dust, damp and electrical interference – the best prerequisites for use in tough industrial environments.

The system is modular, allowing adaptations to customer-specific requirements and local circumstances. This means, for example, the beam guidance system can be adapted with a beam switch box or a beam splitter to enable simultaneous operation on various systems or at various welding points. Depending on the requirements, the PWS is fitted with optimized jet geometries in order to achieve the best possible application results. A weld head, which swivels about 30°, allows drag welding, which optimizes the process for high welding speeds. Other features, such as documentation of process data for quality monitoring purposes, can also be integrated on an optional basis.

## The perfect partners – ROFIN’s CO<sub>2</sub> Slab Lasers

In order to capitalize on the full potential of the PWS, most of the lasers used are high-performance units with excellent beam quality. The CO<sub>2</sub> Slab Lasers in the ROFIN DC range are unbeatable in this field. ROFIN will be demonstrating the **DC 080 W** at the TUBE, the most powerful model of the tried and tested range of Slab Lasers. The laser on show is the “compact” version with integrated control cabinet. With 8 kW output power and an excellent beam quality of  $K \geq 0.9$ , this laser really proves its worth at high process speeds, where it can be used for welding pipes and profiles, amongst other things.



**Bild3:** ROFIN CO<sub>2</sub>-Slab-Laser DC 080 W mit einer Ausgangsleistung von 8 kW

For applications which need wider welded seam widths, the **DC 080 W** is also available with an optional DONUT mode. This mode enables a focus diameter which is enlarged by a factor of 2 while keeping the focusing length the same. This means an increased melted volume in order to compensate component tolerances.

ROFIN’s low-maintenance CO<sub>2</sub> Slab lasers are extremely service-friendly thanks to the trend-setting principle. The laser operates with only a few extremely durable components and does not need conventional gas recirculation – leading to a considerable reduction of maintenance and service. The gas consumption is also minimized. The laser beam that is produced in the resonator is uncoupled by a diamond window without any losses of power or beam quality. The internal water-cooled mirrors are robust and non-wearing reflective optics.

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The press announcements can be downloaded from [www.rofin.com](http://www.rofin.com). Product pictures can also be downloaded from our website at <http://www.rofin.com/pictures.php>.

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