
Fig. 5

most HFI welding applications. Previously, IGBT transistors were the only transistors with high-current capability. Their maximum frequency range of 150 kHz, as defined by the device manufacturers, is on the lower end of the ideal frequency range required for most HFI welding applications. The Emmedi "MosWeld SiC" from AjaxTocco is the first HFI welder to operate at the optimum welding frequency range for most HFI welding applications, with high-current capable "SiC Mosfet" transistors. (Ajax Tocco, 1745 Overland Ave. N.E. Warren, OH/USA; www.ajaxtocco.com)

## Stainless steel weld testing

This solution delivers according to the manufacturer outstanding acoustic performances on stainless steel material. It is offered as a brilliant synergy between the Sonatest "Detachable Active Array Head" (DAAH) probe series packaged in a "Dual Linear Array" configuration and the "veo+" detector. (Fig. 6)

The benefits of this package include:

- Low noise advantage of a pitch and catch design
- The superior focussing and steering capabilities of the phased array beam forming (up to 32 E)
- When combined with "veo+" sensitivity and sizing does not need to be sacrificed for SNR.

The probes can be quickly replaced and are available in 2.25 MHz, 5 MHz and 7.5 MHz range of frequencies offering flexibility and precision for a range of stainless steel weld inspection uses. The good sizing capability of a 7.5 MHz "DAAH DLA" probe paired with the superior capabilities of "veo+" offers an extremely powerful and sensitive tool that gives the user a truly brilliant solution to the challenges of inspecting stainless steel welds. (Sonatest (HQ), Dickens Road, Old Wolverton, Milton Keynes MK12 5QQ/UK; www.sonatest.com)


Fig. 6

## Orbital welding technology from Italy

The "MaTig-501" (Fig. 7) system allows fully automated tube-to-tube sheet TIG orbital welding at highly competitive costs and with a significant reduction in production times. The system meets the ever-increasing requirements for quality and repeatability in the execution of tube-to-tube sheet TIG orbital welding. The company offers also its new range of "Giotto" series orbital heads for tube to tubesheet TIG welding. General features of the "Giotto" orbital heads are:

- Filler wire driving system: The constant flow and rotation of the reel on the orbital axis increases the accuracy and quality of the weld.
- Single key settings: Exclusive capability to adjust the geometry of the weld with the single supplied key.
- Constant angular velocity: The adjustment system, with its 2-channel, 256-pulse digital encoder with continuous feedback, ensures a uniform and accurate weld.
- Electrode angle of incidence: The system offered for each weld geometry is accurate and repeatable and facilitates geometric "set-up" operations.
- Management of the welding arc: Continuous monitoring of the arc current ensures constant penetration throughout the weld.
- Anti-dazzle protection: Allows multiple operators to work simultaneously on the same tube sheet without the need for personal protective equipment (PPE).
- 24/7 use: Water cooling system inside the head for significant weld improvement and guaranteed repeatability.

There are three "Giotto" models: "standard", "Avc" or "Aircooler". The system's main feature is control of the two-dimensional distance of the electrode which, when suitably combined with the incidence angle of the torch, allows you to manage the height of the arc in both axial and radial directions from the tube being welded. Automation is managed by a DC motor driven by an absolute encoder. (Maus Italia S.P.A., SP415 KM30 (nuova strada di arrocco), 26010 Bagnolo Cremasco (CR)/Italy; www.mausitalia.it)


Fig. 7