

Sigma², Sigma Galaxy and Pi – the new generation

African Fusion visits Air Liquide's stand at Electra Mining and highlights the novel Migatronic range of welding equipment now available through the company's subsidiary, Weld-Cut, Southern Africa.

Sigma² is one of the new-generation Migatronic welding power sources. With 300, 400 and 500 A power sources in the range, these advanced MIG/MAG welding machines come in compact versions or with separate wire-feed units and welding systems that can be combined using up to four optional control panels. Suitable for welding all types of materials – with or without pulsed current – the units are suitable for light, medium and heavy industrial use. They can also be used offshore or coupled with robots in automation systems.

Sigma Galaxy is the result of even further progress in welding technology. Developed in co-operation with universities and users throughout the world, this high-tech welding machine, bundled in self-explanatory industrial design, optimises welding parameters automatically allowing the welder to focus on good workmanship.

The Sigma Galaxy range contains all the best features from Sigma², with added intelligence via the digital soft-key control panel, which enables: MIG/MAG welding based on the latest research in arc physics along with three program packages: Standard, Standard Plus and the newly developed IAC[™], which includes smart mild steel and stainless steel arc control.

The IAC package is a new process control strategy for sheet metal and root pass welding in mild and stainless steels. It results in significantly lower heat input and less distortion to better retain the mechanical properties of the materials being joined. It also offers less weld spatter and less associated post-weld cleaning. The Sigma Galaxy with IAC is also ideal for robot welding.

The newly developed MJC[™] (Miga Job Control) feature allows welders to save up to 200 individual welding jobs and, for every job name saved, an additional nine sequences can be saved, which means that the Galaxy can hold 1 800 records.

Sigma² and Sigma Galaxy are both green throughout, with power consumption much lower than machines relying on traditional technologies. In addition, the Intelligent Gas Control IGC function enables significant savings to be made with respect to gas consumption and associated costs.

Intelligent Gas Control

IGC® is a unique feature for MIG and TIG welding embedded in Migatronic's userfriendly Sigma², Galaxy and Pi welding machines. Traditional gas regulators create excessive consumption of gas, particularly on striking the welding arc, whereas IGC automatically calibrates the gas flow. The result is 100% optimised gas protection from the start to the end of the welding process. IGC is the easy way to achieve more uniform welds and lower failure rates, as well as notably lower gas consumption and improved bottom line profitability.

The Migatronic Pi TIG welder

Migatronic's Pi power sources are high performance welding inverters covering every TIG welding need, for stainless steel, aluminium and other high-alloy metals. Pi is innovation in every detail – user-friendly with state-of-the-art welding technology and an innovative design.

There is a Migatronic Pi machine for any welding need: repair, assembly, construction and industrial and/or robot applications. Processes include TIG HP (high-frequency with pulse), TIG H (without pulse), TIG AC/DC, and MMA welding with coated electrodes.

Migatronic's Pi 320, 400 and 500 for TIG welding with the TIG HP and TIG AC/ DC control panels both feature Migatronic's IGC gas saving feature, which is



Migatronic's Pi 320, 400 and 500 for TIG welding are available with two different control panels, TIG HP and TIG AC/DC, both of which feature IGC. Inset: A cold wire feed system for TIG welding using the Migatronic Pi.

factory-fitted or available as an upgrade into existing machines.

Sigma², Sigma Galaxy and Migatronic Pi systems, along with IGC, reduce energy and gas consumption, which benefits the environment and the profitability of the operators; eliminate rework through better welding process and gas control; and are investment that pay for themselves in very short times.



Intelligent Gas Control, IGC[®] is a unique feature for MIG and TIG welding embedded in Migatronic's userfriendly Sigma² and Pi welding machines.