

Best fit and bespoke multi-brand solutions

AWC has the ability to combine packaged gas products with multi-brand consumable and welding and cutting equipment into customised best-fit solutions for industry, while offering an added-value Safety Advisory Service to customers. Johann Pieterse explains.

“We can now configure a wide range of premium welding brands, including packaged gases, to develop and deliver bespoke service offers,” says AWC’s technical manager for manufacturing industries (MI), Johann Pieterse. “And our offers come with an ongoing supply and service support commitment to see any project to successful fruition. In other words, AWC can offer a full spectrum solution to meet customer needs.”

“We had a recent success with a contractor assembling a packaged steam boiler for the paper industry. The project involved a considerable number of long weld seams that need to be done at different levels of the boiler. We are talking about a relatively small steam boiler compared to typical Eskom boilers,” says Pieterse, “but still with welding work needing to be done at height, simultaneously at 40 m, 60 m and 80 m levels.”

A big ask, admits AWC’s MI technical manager, adding that the start point was to use the proven GasReach™ and ArcReach™

technology developed only a few years ago.

GasReach™ meets the challenge of transporting full gas welding cylinders up into a boiler and empty ones back down again. “This is a huge disincentive to using gas shielded welding processes in restricted access places such as boilers,” says Pieterse. “With GasReach, a multi-user pressure panel (MUPP) is installed at these hard-to-reach welding locations to completely overcome this problem.

“A single and well-protected high-pressure braided gas hose is connected to the MUPP and dropped to ground level. There it is connected to a manifolded cylinder pack (MCP) of the shielding gas required for welding,” he explains. “This gas source can be hundreds of meters from where welding is taking place, in a safe, secure and delivery-accessible environment.”

At the point of welding, each welder simply connects their own welding hose to the MUPP, and each gas connection can then be separately set to deliver the exact amount of shielding gas needed, and up to eight welders can connect to the same



With GasReach, a multi-user pressure panel (MUPP) is installed at hard-to-reach welding locations to completely overcome the problem of transporting full and empty gas cylinders to and from the working area.

panel without cross interference.

Similarly, ArcReach™ technology removes the need for transporting welding machines up and down a construction site. A combined power and control cable links each power source on the ground to the wire feeder, torch and a remote pendant at the point of welding. This gives the welder control of the welding parameters without the need for a nearby power unit.

Says Pieterse: “In this example, the welding contractor for the paper mill boiler project chose to adopt AWC’s semi-automatic metal-cored welding procedure, also developed for use by AWC in the power industry.”

Originally, this procedure involved the use of Miller Welding machines, with the Regulated Metal Deposition (RMD) mode being used for the root weld, and ProPulse mode for capping runs, he explains. Both welding procedures were optimised for use with an Ar/CO₂-rich shielding gas, to enhance root penetration, sidewall fusion, and to significantly reducing weld rejection/rework rates.

He adds: “This total solution delivered substantially shorter weld-completion times compared to traditional techniques, which typically involves a TIG/GTAW root weld and the use of manual stick/MMAW welding for the fill and capping runs.

“In addition, the whole process has been requalified for use with different equipment. So, we are no longer restricted in terms of which power sources or metal-cored consumables we use,” says Pieterse.

This solution has now been successfully implemented at all three levels of the steam boiler project introduced above.

Ideal for shipbuilding

As well as being ideal for construction and shut-down services in the power generation and chemical processing industries, Pieterse says that this remote approach is also attracting interest from South Africa’s shipbuilding and refurbishment industry. “The southern tip of Africa is strategically well situated for ship building and repair, and we are about to start projects to show how we can contribute to a safer and more productive on-board welding environment.

“Similarly to the welding at height issue, loading and offloading gas cylinders and welding machines onto and off a ship is a logistical and safety nightmare. There are waiting times and safety procedures to consider, cylinder securing issues at the point of welding, and so on. By keeping the shielding gas cylinders and welding power sources onshore and connecting appropriate hoses and power cables to MUPPs and portable welding peripherals onboard, welding can become far more continuous, productive and safe,” explains Pieterse.

“And our welding procedures are now proven solutions that we know will work well wherever access to the point of welding is difficult.”

The multi-brand provider approach gives AWC much more freedom with respect to the specific equipment and consumables used in the development of other bespoke solution.

“Along with our comprehensive PGP gas offering, AWC has partnerships with Miller, with voestalpine and, through Oerlikon, with Lincoln Electric, along with many other leading welding equipment and consumable brands. So we have much more freedom to develop fit-for-purpose welding solutions based on customer preferences, product and support availability, and pricing constraints,” he points out.

AWC’s safety solutions value add

AWC is also now investing in a Safety Solutions Programme, which is designed to help customers using gas, welding, cutting, and heating equipment in their production environments to comply with related SANS safety requirements.

“We are retraining our sales and solutions experts on all aspects of safety to equip and up-skill them to be able to offer an advisory service,” says AWC’s technical manager for (MI), Johann Pieterse. “Our MUPP was actually developed with safety



AWC strives to make it easier for our industries to use up-to-date consumables, equipment and procedures to deliver better quality and to become more competitive.

as the starting point, but a new level of productivity was the end result.”

By implementing sound safety practices and working habits – whether it be for choosing the correct SANS accredited flashback arrestors for oxy-acetylene cutting or for regularly checking for leaking gas pipes – the safety and efficiency of an operation improves.

“And our representatives, who visit sites regularly, are in a prime position to identify risks and make recommendations as a value-added service to our customers,” Pieterse tells AF.

Eugene de Villiers, a regional manager for Afrox, says there are two aspects to this safety training investment in AWC expertise. “First, for our reps who have been in the gas and welding sector for many years, this is a brilliant refresher course because we all tend to forget things.

“Also it is an effective way to introduce new reps to AWC and to help them understand what we are offering, what the ben-

efits and the features are, and to take them through the vital safety-related issues that our reps and customers must be aware of.

“When looking at a cylinder store at a customer site, for example, few people know that the flammable and non-flammable gases must be stored separately, with a fire wall between the two,” De Villiers explains. “Simple knowledge like this helps our people to serve as first-line safety consultants, giving customers safety critical assistance.”

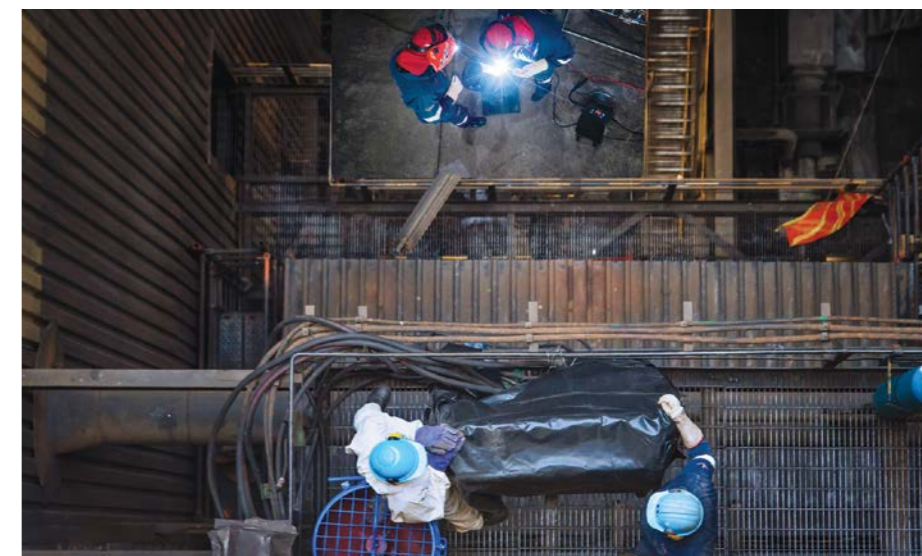
Says Johann Pieterse: “Comprehensive solutions and customer safety go hand in hand. At AWC we strive to make it easier for our industries to use up-to-date consumables, equipment and procedures to deliver better quality and to become more competitive.

“And that goes hand-in-hand with making it easier for welders and workers in our manufacturing industries to remain productive and safe,” he concludes.

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ArcReach™ technology removes the need for transporting welding machines up and down a construction site, and if used together with GasReach, completely eliminates the associated logistics and safety nightmare.



By keeping the shielding gas cylinders and welding power sources away from the worksite and connecting appropriate hoses and power cables to MUPPs and portable welding peripherals, welding can become more continuous, productive and safe.