Light duty CNC cutting and the SMME opportunity

Lincoln Electric, through Cosmo Automation Solutions, has officially launched its light duty Torchmate CNC air plasma cutting system into South Africa – with immediate success. *African Fusion* talks to Pierre Theunissen, from newly launched Cosmo Automation Solutions, and Benoit Lamotte, MD of Lincoln Electric Southern Africa.

Lincoln Electric Torchmate 4400 and 4800 offer plate-cutting sizes of 1.25×1.25 m and 1.25×2.5 m, respectively and are entry-level systems that are ideal for light industrial applications.

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Lincoln Electric's plasma torch with its patented consumables set is designed to last up to three times longer than previous technology torch consumables, while costing 45% less.

"The release of the Lincoln Torchmate 4400 and 4800 CNC-driven air plasma cutting systems mark entry into a new era of fabrication in South Africa not yet developed," Theunissen believes. "The quality of these air plasma units is very close to the high definition (HD) quality associated with the much more expensive multi-gas plasma HD units, but the capital and running costs are up to three times less," he says.

"For light to medium fabrication in the small and medium manufacturing enterprise (SMME) sector, these units offer an excellent opportunity," he adds. Traditionally in South Africa (SMMEs) would outsource the cutting of their parts to bigger fabricators and specialist cutting shops with expensive machines. Now, depending on the application of the cut parts and the quality required, we find that the Lincoln 4400 and 4800 are more than sufficient in most cases. Instead of outsourcing, its affordable for these fabricators to buy their own machine with various financing and rental options – ranging from less than R 20 000 per month,"

Theunissen argues that light industrial manufacturers that invest in Torchmate systems can also offer low-cost cutting services to other local industries. "This addition to a company's offering not only makes the Torchmate investment easier to justify, but it also leads to the lowering of costs for smaller outsourcing companies, stimulating the whole local fabrication industry," he says.

"The Lincoln Electric Torchmate 4400 and 4800 offers plate cutting sizes of 1.25×1.25 m and 1.25×2.5 m, respectively and are entry-level systems that are ideal for light industrial applications that do not need the ultra high cut quality and accuracy associated with lasers or that of a high definition (HD) plasma cutting system," Lamotte notes. Lincoln also offers its best-in-class two-year complete warranty on all components. This shows the level of confidence Lincoln has in the 4400 and 4800 system.

Lamotte continues: "For significantly less money, fabricators can often do all of their less-critical cutting, which is typically 80% of the workload, using the Lincoln 4400 and 4800 plasma systems. Then they need only outsource the remaining 20% that requires HD or laser cut quality. This is a very effective way to quickly reduce operating costs."

Cosmo Automation Solutions has entered the market in South Africa by selling its first Torchmate system to a fabricator in Pretoria, PQJ Projects, and the owner is "over the moon". The company manufactures custom-designed canopies for small commercial machines along with metal products such as cattle grids, steel plate storage racks and various other products.

In addition, Theunissen and Lamotte see Torchmate as an excellent start-up opportunity for SMMEs across Africa, which can begin by offering cutting services for those wishing to continue to outsource. "We see people setting up small businesses starting with an entry level Torchmate system to offer low-cost cutting services. Following growth, these businesses can then expand, by becoming fabricators in their own right, or by investing in HD plasma or laser cutting systems to enable them to offer a higher cut quality when required," Lamotte says.

System components

The Torchmate 4400 and the Torchmate 4800 include all the necessary components to operate the system, including: an integrated touchscreen HMI, industrial grade user console with adjustable mounting arm, and a proprietary motion control system. "Our standard 125 amp power supply delivers 65% faster cut speeds and savings of up to 45% in consumable costs, while the Torchmate 4400 and 4800 produce cycle times that are 2.5 times faster than our previous system," says Lamotte.

Whether cutting fine artwork or fabricating steel parts in a production setting, customers want a plasma solution that will give them the cleanest and fastest cuts possible. With 125 A at 100% duty cycle, the FlexCut 125 adds power to the speed and precision equation.

Built on an inverter platform, the FlexCut 125 is a constant-current plasma cutting power source that delivers superior cut quality with minimal dross – which minimises the need for secondary cleaning operations. "Add to that our patent-pending consumable designs that provide up to three times longer consumable life than competitors – and the FlexCut 125 has the potential to significantly reduce operating costs," adds Theunissen.

The FlexCut 125 initiates the plasma arc with a simple yet reliable touch-start mechanism that eliminates many of the failure problems associated with high-frequency start systems. The control system includes Parts-in-Place™, a feature that ensures that the consumables are in place before starting a cutting or gouging process.

Making access to training easy is Torchmate University, the first virtual CNC plasma cutting training programme in the industry. This is a revolutionary method of training that takes the customers through a series of knowledgeable and concise videos to give them in-depth training and technical instruction.

Torchmate University covers three different topics: CAD Training, CNC Training, and Build Projects. "We start our customers off with the CAD training before they even take delivery of their machine. By the end of the video playlist, our customers should be familiar with every single tool in the software program. It only takes practice from there to really become a Torchmate CAD/CAM master," Theunissen advises.

"From the fabricator's side, this really is a plug-and-play solution," he assures . "All that we require to do an installation is a flat surface on a factory floor, a suitable air compressor and an electricity supply. Following delivery, we can have the system set-up, commissioned and cutting well within one day. On the second day, we will do training, which has never been quicker or easier. We can train a novice to master the operation of a Torchmate cutting system well within that one day," he tells *African Fusion*.

As well as the Torchmate 4400/4800, Lincoln Electric are excited to be entering the South African Plasma market with a range of other cutting machines, which include:

- **The Torchmate 5100 series:** An industrial plasma table that is rugged, fast, and built for all day production – and high definition plasma and a bevel head option are available.
- **The Lincoln Electric MasterPipe Compact:** A plasma profiler that consists of a CNC pipe-cutting machine that can cut and profile pipes and tubes ranging in size from 25 to 200 mm in diameter.
- **Lincoln Electric's PythonX:** The leading Robotic Structural Fabrication System in the world, PythonX is a versatile and complete plasma solution that automates processing operations for structural steel sections in fabrication shops. This 7-axis CNC robotic plasma-cutting machine replaces the beam drill, beam coping machine, band saws, angle and plate cutting systems, and marking machines. The system offers increased productivity, unmatched cut quality, predictable and consistent throughput as well as Lincolns' signature simplicity of operation.

"We believe the introduction of the Torchmate and Lincoln Electric's other plasma solutions into South Africa is a win-win for fabricators, the manufacturing industry and the South African economy," Theunissen concludes.

Cosmo Automation Solutions, which is now operating out of premises in Jet Park, Johannesburg, will be the distributor of Torchmate and other Lincoln Electric cutting systems in South Africa, as well as the point of contact for ongoing service support. The company also has open access to the Lincoln Weld Tech Centre in Midrand for demonstrations and application trials.