

New VRTEX® 360 COMPACT: now with virtual oxyfuel cutting

Petrus Pretorius introduces Lincoln Electric's latest VRTX 360 Compact welding simulator trainer. Exclusively available in South Africa from the Cosmo Group, the new system is now available with an oxyfuel cutting simulation mode.

Lincoln Electric's VRTEX® 360 Compact is a new, compact virtual reality welding simulator for mobile-use in multiple environments. It provides a flexible, powerful, cutting-edge solution for cultivating welding talent quickly and resourcefully. The cost-effective small-sized solution offers graphics that create very realistic and responsive welding puddle feedback and the system convinces with accurate sounds and movements.

With the new VRTEX® 360 Compact, virtual welding training can seamlessly transfer into real-world, hands-on welding training. "Virtual welding helps save not only time and costs, it also offers new opportunities in performance-linked training," says Pretorius.

The system supports learning at different levels – from fundamental skills for beginners to advanced skills for professionals. "Using the VRTEX® Weldometer™, you can immediately see saved lessons from every welder, for every day of every year. This makes a trainer's life a lot easier compared to real welding training sessions, for which only a code certificate or an odd coupon may be kept," he adds.

Highlighting some advantages of using the new Lincoln Electric welding simulator, he notes:

- Reduced training costs due to savings

on welding machines and associated equipment, material, consumables and energy. The VRTX 360 Compact is a cost-efficient compact device compared to any real welding machine.

- Reduced training times. He notes that better training success can be achieved more efficiently in less time, leading to much less training time on real welding machines to qualify a welder.
- Increased certification rates by up to 42%. Compared to traditional welding training on real machines in training schools, more welders can be trained to a higher level of skill when the VRTX 360 simulator is used first.
- Track your welding defects: Welding discontinuities appear when an improper welding technique is used. Virtual bend tests provide results instantly and reveal what caused a weld to pass or fail. These discontinuities are often hidden in a real weld, and will only be made obvious if the weld is thoroughly tested and examined.
- Eco-friendly training: Material waste is minimised; shielding gas, welding electrodes, weld coupons and weld fume removal are not needed; and less energy is consumed than with a traditional welding machine, wire feeder and fume extractor: all of which reduce the

environmental footprint of the training school.

The hardware included in the system includes: a retractable SMAW electrode holder; a GMAW/FCAW torch; a GTAW/TIG torch with filler metal; and adaptive foot pedal devices, which all realistically simulate the look, feel and action of actual welding guns and torches. Flat, horizontal, vertical, overhead (5G) and all-positional 6G pipe welding positions can all be practiced and mastered.

As well as the simulation software, the system comes with welding theory lessons and embedded lessons on safety and measurement. Curriculum and training materials for GMAW, SMAW and FCAW are available for distribution on USB sticks and a welding procedure specification booklet replicates real welding machine set-ups.

The first welding simulator with cutting mode

The VRTEX® 360 Compact also offers virtual thermal oxyfuel cutting. This unique feature enables students to also experience and develop skills in torch cutting before attempting to cut real plate. Every aspect of the thermal oxyfuel cutting feature is designed to address real-world cutting applications – from setting up the torch to executing the cut. Similar to VRTEX® welding, each cutting exercise allows users access to visual cues to assist with aim, angle, distance and speed. Feedback is provided on a laser scoring screen with each single line of data representing the performance parameter of an individual technique.

Fuel choices include propane or acetylene and, for practice in cutting set-up procedures, quick connect valves and fuel pressures need to be set up in a safe sequence. Step-by-step torch lighting sequences follow safety protocols and reinforce the importance of 'reading the flame'.

"The latest VRTEX® 360 Compact helps welders in training to build confidence, reduce mistakes and to weld in a variety of situations and orientations," says Pretorius. "The virtual simulator creates a safe and cost-effective welding environment that enables repetitive welding practice without the time and cost disadvantages associated with tacking plate and generating scrap," he concludes.

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