

# VRTEX® 360

## VIRTUAL REALITY ARC WELDING TRAINER

### THE VIRTUAL WELDING REVOLUTION HAS ARRIVED ... AND IT'S ON THE MOVE!

The VRTEX® systems are virtual reality arc welding training simulators. These computer based training systems are educational tools designed to supplement and enhance traditional welding training. They allow students to practice their welding technique in a simulated and immersive environment. The VRTEX® systems promote the efficient transfer of quality welding skills and body positioning to the welding booth while reducing material waste associated with traditional welding training. The combination of realistic puddle, arc welding sound, and real time feedback tied to the welder's movement provides an exciting, hands-on training experience.

The VRTEX® 360 is a best-in-class, advanced level welding training system. It is designed to provide a full featured, expandable platform in an easy to use and engaging welding training tool. The VRTEX® is ideal for basic to advanced welding training, as a testing, recruitment and engagement tool for educational and industry and for preparation for advanced level evaluation for instructors. The VRTEX® 360 is constantly on the move incorporating additions for your training purposes each year!



### BENEFITS

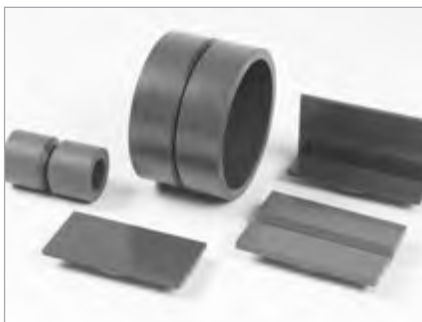
- 1. Flexibility**
  - » Multiple welding processes and positions
  - » Variety of joint configurations
  - » Instructor tools allow modification based on preferred welding program and style
- 2. Innovation**
  - » Realistic appearance of welding puddle and welding sounds
  - » Magnetic tracking system provides accurate measurements for student evaluation
- 3. Classroom Performance**
  - » Visual cues give real-time technique feedback
  - » Record, archive and verify student work and performance
- 4. Consumable and Environmental Savings**
  - » No welding consumables, wire or waste
  - » Track savings with the Weldometer™

### FEATURING

- **Supports All Out of Position Welds** from flat, horizontal, vertical to overhead, the VRTEX® 360 supports all position welding and can be ready in a matter of minutes.
- **User Machine Interaction** provides equipment and procedural set-up with intuitive, buttons, switch and toggle for movement through the simulation software. VRTEX® 360 and VRTEX® Mobile supported functionality is mirrored to make transfer of interaction seamless between the systems.
- **Dedicated Welding Gun and Stinger** provides tactile feedback which adds realism to the simulation. The VRTEX® 360 stinger device retracts at the rate a real stick electrode would melt off to simulate the melting of a real electrode.
- **Tabletop Coupon Stand** allows the VRTEX® 360 welding coupons to be placed in multiple positions with or without the adjustable table to simulate real welding applications.

**LINCOLN**®  
**ELECTRIC**

THE WELDING EXPERTS®



## VRTEX® 360 WELDING MACHINE COMPONENTS AND SPECIFICATIONS

- **Computer**
  - » Windows® XP Professional, SP3
  - » Intel® Core i5 Quad Processor
  - » 2 x 2GB DDR3 Memory
  - » 64 GB Solid State Hard Drive
  - » 2 High Powered Graphics Cards
- **Software**
  - » VRTEX® welding simulation software
- **Monitor & Speakers**
  - » 19 in. LCD Monitor
  - » 4 Watt Output Speakers with 4 ohm drivers, on/off switch and external volume control
- **VRTEX® 360 Stand** - Welding stand with independent table and arm height adjustment offers flexibility and supports multi-position welding. 90, 45 and 0 degree arm positions allow for 2G, 5G and 6G pipe welding
- **VRTEX® 360 Stinger and Gun**

VRTEX® 360 gun is based on the Magnum® 300 welding gun; VRTEX® Stinger device retracts at rate of electrode melt off; Simulates SMAW, GMAW, FCAW-S and FCAW-G

  - » SMAW
    - E6010 (Fleetweld® 5P+)
    - E6013 (Fleetweld® 37)
    - E7018 (Excalibur® 7018 MR®)
  - » GMAW
    - Short Arc: SuperArc® L-56®, 0.035 in. (0.9 mm)
    - Axial Spray: SuperArc® L-56®, 0.045 in. (1.1 mm)
    - Pulse: SuperArc® L-56®, 0.045 in. (1.1 mm)
    - STT®: SuperArc® L-56®, 0.045 in. (1.1 mm)
  - » FCAW
    - Gas-Shielded: UltraCore® 71A85, 0.045 in. (1.1 mm)
    - Self-Shielded: Innershield® NR®-232, 5/64 in. (2.0 mm)
- **Language Support** - English, French, German, Spanish, Turkish, Japanese, Chinese (Mandarin), NEW! Portuguese (Brazilian), and NEW! Russian
- **Welding Coupons** - Tee joint, Flat plate, Groove joint, 6 in. diameter schedule 40 pipe and 2 in. diameter XXS pipe
- **Helmet** - VRTEX® helmet includes face mounted display (FMD) with 3D stereoscopic output and sound output through earbuds







## SET-UP AND INSTALLATION REQUIREMENTS:

- The VRTEX® system requires a space of 8' L x 8' D x 8' H (2.4 m x 2.4 m x 2.4 m).
- When operating multiple units in one location, alternate between standard and alternate frequency systems (unique part numbers are identified).
- The VRTEX® system is not designed for operation in harsh environments. Recommendations are listed in the instruction manual.
- Avoid magnetic fields, conductive and high frequency objects and processes.
- An uninterruptable power supply (UPS) may be required for protection of the system from power irregularities and/or disruptions.

## VRTEX® EXTENSIONS™ SOFTWARE UPGRADE PROGRAM

This upgrade program ensures the development of new and exciting features and functionality to the industry leading welding training simulator. Expand functionality, enhance instructor tools and enrich operational enhancements.

### AD1390-1: VRTEX® 360 Upgrade 1

- THEORY function which explains and defines elements within the virtual environment
- AWS E6013 stick electrode
- Process piping manufacturing virtual welding environment

### AD1390-2: VRTEX® 360 Upgrade 2

- AWS virtual bend test for multi-pass pipe and groove welds and a virtual bend test certificate upon successful completion
- Advanced scoring modules based on the American Welding Society D1.1 or ASME
- Motorsports garage virtual welding environment
- Instructor panning view function

### AD1390-3: VRTEX® 360 Upgrade 3

- GMAW aluminum welding support including visual and audio sound differences
- Shielding gas and THEORY additions specific to aluminum welding
- Video replay for instructor or student review and analysis on the welding process
- Entry, intermediate and advanced welder learning levels are available from the instructor view

### AD1390-4: VRTEX® 360 Upgrade 4

- GMAW stainless welding upgrade includes multiple tolerance levels, equipment settings, discontinuities plus visual and sound differences
- Expanded THEORY functionality
- Demo Weld functionality allows the instructor or student to view an example weld or a demonstration of proper technique, prior to a weld being made
- Expanded support includes 0.052 in (1.3 mm) solid wire and SMAW on thinner material



# VRTEX<sup>®</sup> 360

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### VRTEX<sup>®</sup> 360 Orderable Items

<b>VRTEX<sup>®</sup> 360 System</b>	AD1332-1 – VRTEX <sup>®</sup> 360 Standard Frequency AD1332-2 – VRTEX <sup>®</sup> 360 Alternate Frequency AD1332-4 – VRTEX <sup>®</sup> 360 CE Model Standard Frequency AD1332-5 – VRTEX <sup>®</sup> 360 CE Model Alternate Frequency
<b>VRTEX<sup>®</sup> 360 Demo Crate</b>	AD1332-6 – Wooden crate designed to enclose and protect all VRTEX <sup>®</sup> 360 components in a single location for shipment and storage Dimensions: H 86.5 x W 67.0 x D 49.5 inches Approximate Weight (without VRTEX <sup>®</sup> 360): 400 lbs
<b>VRTEX<sup>®</sup> 360 New Lessons in Arc Welding – SMAW Edition</b>	K3205-1 VRTEX <sup>®</sup> 360 curriculum contains spiral bound guide and DVD video series.

### VRTEX<sup>®</sup> 360 Operating and Shipping Information

<b>Input Power</b>	115/230/1/50/60
<b>Input Current</b>	4 A at 115, 2A at 230
<b>Net Weight</b>	Machine: 360 lbs (163 kg); Stand: 102 lbs (46 kg)
<b>Dimensions (H x W x D)</b>	Machine: 71 x 30 x 50 inches (1803 x 762 x 1270 mm) Stand: 78 x 39 x 47 inches (1981 x 990 x 1194 mm)
<b>Packaged Weight</b>	Crate: 600 lbs (272.2 kg); Skid: 200 lbs (90.7 kg)
<b>Packaged Dimensions (H x W x D)</b>	Crate: 78 x 36 x 52 inches (1981 x 914 x 1321 mm) Skid: 25 x 41 x 49 inches (635 x 1041 x 1245 mm)

#### CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.

### JOIN THE VRTEX<sup>®</sup> COMMUNITY!



Sign up for the *First Pass*<sup>™</sup> Newsletter at [www.VRTEX360.com](http://www.VRTEX360.com):

See upcoming events, customer highlights, Lincoln Electric activity, updates and tips and tricks to help with your implementation of virtual reality welding training in your environment.

[twitter.com/VRTEX](https://twitter.com/VRTEX)

Interact with us on Twitter<sup>®</sup> and let us know how, where and when you are using your VRTEX<sup>®</sup> welding training products.

[facebook.com/VRTEX360](https://facebook.com/VRTEX360)

Join us online and hear what others are saying. Interact and like posts and updates that you find exciting and interesting. We'd be happy to hear from you.

### EXCEPTIONAL CUSTOMER SERVICE

Lincoln Electric has a global network of facilities and people to provide quick response and personalized attention. No matter where your welding operations are located today, no matter where they will be tomorrow, Lincoln Electric experts are ready to provide local support and create and implement solutions to fit your needs.

### SERVICE AND SUPPORT THAT YOU CAN COUNT ON

- 24/7 Phone Support 1-888-935-3878
- Contact us with comments or questions [VRTEX360@lincolnelectric.com](mailto:VRTEX360@lincolnelectric.com)
- Online Tips and Tricks ([www.VRTEX360.com](http://www.VRTEX360.com))
- Warranty and Service Support
- Train-the-Trainer programs held regularly in facilities or on-site training and set-up can be purchased.



THE WELDING EXPERTS<sup>®</sup>

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