



VIRTUAL TRAINING - REAL RESULTS

ACHIEVE A HIGHER STANDARD OF WELDING PERFORMANCE WITH VRTEX[®]

LINCOLN[®]
ELECTRIC

Experience Welding Training on a Whole New Level

Lincoln Electric's VRTEX® virtual reality arc welding trainers provide a powerful, cutting-edge solution for cultivating welding talent quickly and resourcefully. From superior graphics creating the most realistic and responsive welding puddles available, to exceptionally accurate sounds and movements, what can be learned virtually with VRTEX® seamlessly transfers into real-world, hands-on welding training.



VRTEX® Engage

- SMAW, GMAW and FCAW-S
- Includes universal welding handle with attachments for both a welding gun and a manual welding stick electrode holder



VRTEX® Transport™

- Uni-gun™ device is used for SMAW, GTAW, GMAW and FCAW welding. TIG filler metal and adaptive current foot pedal included
- Practice flat, horizontal and vertical welds



VRTEX® 360 Single User

- Retractable SMAW stick stinger, GMAW/FCAW gun and GTAW TIG torch, filler metal and adaptive foot pedal devices realistically simulate the look, feel and action of actual guns and torches
- Practice flat, horizontal, vertical and overhead 5G and 6G

Why Choose VRTEX®?

Build confidence, reduce mistakes and train to weld in a variety of situations and orientations. VRTEX® creates a safe environment in addition to saving on material costs.

Practice repetitive welding without the time needed to tack plate and toss scrap.



NEW! Dual User Feature

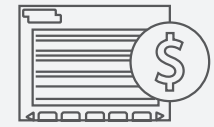
Exclusive to Lincoln Electric!

VRTEX® 360+ Dual User

- Retractable SMAW stick stinger, GMAW/FCAW gun and GTAW TIG torch, filler metal and adaptive foot pedal devices realistically simulate the look, feel and action of actual guns and torches
- Two of each device are included
- Dual stands allow for training two welders at a time on one machine



**Reduce
Training Costs**



ROI Calculator

Track material usage on every weld with the VRTEX® Weldometer™



**42%
Certification
Rate Increase**



**23%
Faster
Training**



Safer

No metal, sparks, heat, gas or fumes



Mobile Learning

*Average increase using virtual reality equipment, according to Iowa State University study.

Welding Processes and Materials

Use VRTEX® to teach welders of varying skill levels to weld using the most common welding processes and materials.

Simulated Processes:

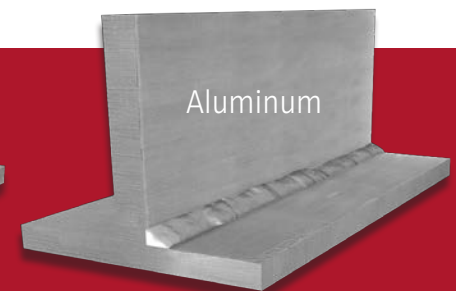
NEW!

GTAW with and without filler metal exclusively on VRTEX® Transport™ and VRTEX® 360 and 360+



Realistic Simulated Materials:

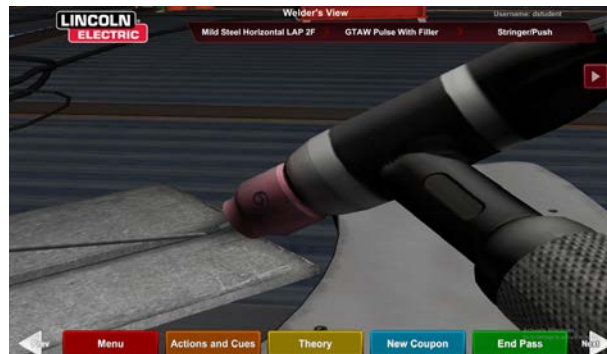
With stunningly realistic look and feel, embedded with actual welding sounds for each alloy.



Learn and Improve Welding Skills With A More Realistic and Valuable Welding Training Experience:

Life-like Welding Environment:

- Realistic puddle and actual welding sound helps welders learn to respond and adjust welding technique.
- Simulates sparks, slag, grinding and weld cooling.
- Welding discontinuities appear when improper welding technique is used.
- Virtual bend test provides results instantly and reveals what causes a weld to pass or fail.



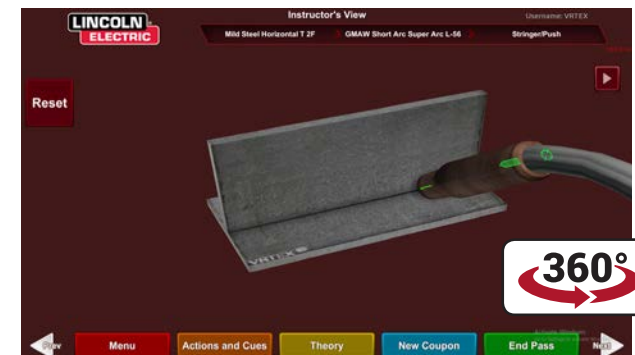
Reinforcement for Students:

- Demos of successful welds.
- Replicates proper machine set-up using a Welding Procedure Specification. Students must select gas type, process, gas flow, amperage/voltage and wirefeed speed.
- Tracks and scores key weld parameters including work angle, travel angle, travel speed, distance and position.



Support for Welding Instructors:

- Encourages more consistent feedback than traditional training.
- Replay mode (in multiple views) helps instructors and welders identify what went wrong or well.
- Intuitive software program designed to bridge welding curriculum with hands-on training.
- Instructors can view and rotate coupon during welding to check for proper angles.



VRTEX[®] Comparison Chart

| Processes/Transfers | Engage | Transport | 360 | 360 + |
|---|--------|-----------|-----|-------|
| GMAW - Short Arc | X | X | X | X |
| GMAW - Axial Spray | X | X | X | X |
| GMAW - Pulse | X | X | X | X |
| FCAW - Gas-Shielded | | X | X | X |
| FCAW - Self-Shielded | X | X | X | X |
| SMAW - E6013 | X | X | X | X |
| SMAW - E7018 | X | X | X | X |
| SMAW - E6010 | | X | X | X |
| GTAW with Filler Metal - NEW! | | X | X | X |
| GTAW without Filler Metal - NEW! | | X | X | X |

| Positions | Engage | Transport | 360 | 360 + |
|-------------------------|--------|-----------|-----|-------|
| 2F | X | X | X | X |
| 3F | X | X | X | X |
| 4F | | | X | X |
| 5F (Pipe on Plate Only) | | | X | X |
| 1G | X | X | X | X |
| 2G | X | X | X | X |
| 3G | | X | X | X |
| 4G | | | X | X |
| 5G | | | X | X |
| 6G | | | X | X |

| Technique | Engage | Transport | 360 | 360 + |
|-------------------|--------|-----------|-----|-------|
| Push | X | X | X | X |
| Drag | X | X | X | X |
| Straight Stringer | X | X | X | X |
| Weave | X | X | X | X |
| Whip | | X | X | X |

| Languages | Engage | Transport | 360 | 360 + |
|------------|--------|-----------|-----|-------|
| English | X | X | X | X |
| Spanish | X | X | X | X |
| German | X | X | X | X |
| French | X | X | X | X |
| Russian | X | X | X | X |
| Portuguese | X | X | X | X |

| Coupons | Engage | Transport | 360 | 360 + |
|--------------------------------------|--------|-----------|-----|-------|
| Practice Plate | X | X | X | X |
| Pad | X | X | X | X |
| Lap Joint | | X | X | X |
| Tee Joint | X | X | X | X |
| Groove 3/8 in. (9.5 mm) | X | X | X | X |
| Groove on 2 in. XXS Pipe (50 mm) | | | X | X |
| Groove on 6 in. Sch 40 Pipe (150 mm) | | | X | X |
| Pipe on Plate | | | X | X |

| Materials | Engage | Transport | 360 | 360 + |
|-----------------|--------|-----------|-----|-------|
| Mild Steel | X | X | X | X |
| Aluminum | | X | X | X |
| Stainless Steel | | X | X | X |

| Features | Engage | Transport | 360 | 360 + |
|---|--------|-----------|-----|-------|
| Discontinuities shown in the weld and scoring | X | X | X | X |
| Scores travel speed, work angle, travel angle, contact tip to work distance, and aim | X | X | X | X |
| Free two-day training at the manufacturer site | X | X | X | X |
| Multi-Pass Welds | X | X | X | X |
| Real Welding Sounds | X | X | X | X |
| Instant Scoring/Performance Feedback | X | X | X | X |
| Theory | X | X | X | X |
| Demo Welds | X | X | X | X |
| Replay Mode | X | X | X | X |
| Lesson Mode - Lessons include Welding Standards, Measurement, Safety, Principles of Welding | X | | | |
| Visual Cues | X | X | X | X |
| Tolerance Levels - User Customization | | X | X | X |
| Bend Test | | | X | X |
| Restarts (Tie-ins) | | | X | X |
| Multiple Users at Once | | | | X |
| Learning Levels | X | X | X | X |
| Additional Score Modules - D1.1 and ASME | | | X | X |
| Virtual Environments | Engage | Transport | 360 | 360 + |
| Pipe Processing Plant | X | X | X | X |
| Motorsports Garage | X | X | X | X |
| Construction Site | X | X | X | X |
| Military Base | | X | X | X |
| Weld Booth | | | X | X |
| Shipyard | | | X | X |



For more product information and specifications,
visit lincolnelectric.com/VRTEX or contact VRTEX@lincolnelectric.com



CUSTOMER ASSISTANCE POLICY

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