

# VRTEX<sup>®</sup> 360 COMPACT

## VIRTUAL REALITY WELDING SIMULATOR



Shown:  
K4914-1

### DISCOVER VIRTUAL WELDING TRAINING IN A COMPACT SIZE

Lincoln Electric's VRTEX<sup>®</sup> 360 Compact tabletop virtual reality welding simulator is small and portable, making it easy to use in multiple settings. Its exceptionally accurate sounds and movements, plus its realistic and responsive welding puddle, make the VRTEX<sup>®</sup> 360 Compact a game changer.

- Improves efficiency by accelerating students' progress and reducing the time required to up-skill, ultimately boosting student confidence quickly
- Reduces costs by eliminating the use of consumables, metal coupons, gas and electricity
- Increases safety with no metal, sparks, heat, gas or fumes
- Allows for more practice which creates efficiency and a quicker route to certification

#### What's Included »

- 22" Custom Touchscreen Monitor
- VR Headset
- VR Welding Devices
  - GMAW / FCAW – MIG wire welding gun
  - SMAW – Retractable stick stinger
  - GTAW - TIG torch and filler with adaptive foot pedal
- 7 different Welding Coupons
- Adjustable Welding Pole for welding positions 0, 45-90°
- Adjustable Table Clamp
- Curriculum on a USB:
  - **K3205-1** First Edition - SMAW Welding Training Curriculum
  - **K3206-1** First Edition - GMAW/FCAW Welding Training Curriculum
  - **K4057-1** VRTEX<sup>®</sup> Project Based Lesson 1 Student Workbook
  - **K4057-2** VRTEX<sup>®</sup> Project Based Lesson 1 Instructor Guide
- Welding Procedure Specification Book for proper machine set up

## KEY FEATURES

- Realistic puddle and actual welding sound helps welder learn to respond and adjust welding technique
- Simulates sparks, slag, grinding and weld cooling
- Welding discontinuities appear in weld and scoring when improper welding technique is used
- Virtual bend tests provide results instantly and reveal what caused a weld to pass or fail
- Replicates proper machine set-up using a Welding Procedure Specification. Students must enter the proper material type, process, gas flow and amperage / voltage / wire-feed speed with the ability for the instructor to change tolerances.
- Tracks and scores key weld parameters including work angle, travel angle, travel speed, contact tip to work distance, aim and position
- Provides demos of successful welds
- The Weldometer™ tracks virtual consumables, base material and gas usage to assist with calculating the cost savings of VR training
- Replay mode helps instructors and welders identify what went wrong or well
- Coupons can be viewed and rotated during welding to check for proper angles. The Instructor-view enables the virtual weld to be rotated and viewed for evaluation.
- Bypass Mode allows the user to quickly demonstrate a weld with or without WPS setup.
- Built-in curriculum with Lesson Mode includes Welding Standards, Safety, Measurement and Principles of Welding

## PRODUCT FEATURES

### Simulated Processes

GMAW – Short Arc  
GMAW – Axial Spray  
GMAW – Pulse  
FCAW – Gas-Shielded  
FCAW – Self-Shielded  
SMAW – E6013  
SMAW – E7018  
SMAW – E6010  
GTAW with Filler Metal  
GTAW without Filler Metal

### Positions

2F/PB, 3F/PF, 4F/PD, 5F/PH (Pipe on plate), 1G/PA, 2G/PC, 3G/PF, 4G/PE, 5G/PH/PJ, 6G/H-L045/J-L045

### Technique

Push, Drag, Straight Stringer, Weave and Whip

### Joint Configurations/Coupons

Flat Plate Coupon  
Tee Joint Coupon  
Lap Joint Coupon  
6" Diameter Pipe Coupon  
2" Diameter Pipe Coupon  
3" Pipe on 6 mm Plate Coupon  
V-Groove Joint Coupon

### Simulated Materials

Mild Steel, Stainless Steel and Aluminum

### Languages

Available in 15 different languages: English, French, Spanish, German, Russian, Portuguese, Polish, Japanese, Chinese, Turkish, Finnish, Italian, Korean, Swedish and Norwegian

**For more information on the benefits of the VRTEX® Virtual Training Platform, see document MC22-34.**

## JOINTS/POSITIONS

Type	Description	Apply to Welding Procedure			
		MMA SMAW	GMAW MAG/MIG	FCAW GAS/SS	GTAW TIG
Groove	Plate V-Butt	X	X	X	
	Pipe V-Butt	X	X	X	
Groove Positions	Plate – PA-1G, PC-2G, PF/PG-3G, PE-4G	X	X	X	
	Pipe – PC-2G, PH/PJ-5G, H-L045/J-L045-6G	X	X	X	
Fillet	T-Plate	X	X	X	X
	Pipe on Plate T-Angle	X	X	X	
Fillet Weld Positions Include	T-Plate – PB-2F, PF/PG-3F, PD-4F	X	X	X	(PB-2F)
	Pipe on Plate – PB-2F, PD-4F, PH/PJ-5F	X	X	X	
Lap	Plate Overlapped	X	X		X
Lap Positions Include	PB-2F (SMAW, GMAW, GTAW), PF/PG-3F (SMAW, GMAW), PD-4F (SMAW 6010)	X	X		(PB-2F)
Plate	PA-Flat	X	X	X	X

## BASE MATERIALS

Type	Description	Apply to Welding Procedure			
		MMA SMAW	GMAW MAG/MIG	FCAW GAS/SS	GTAW TIG
Type of Material	Carbon Steel	X	X	X	X
	Stainless Steel		X		X
	Aluminum		X		X
Material Thicknesses	3 mm – 10 GA	X	X		X
	6 mm – 1/4 in.	X	X	X	
	10 mm – 3/8 in.	X	X	X	
	Schedule 40 and 80 Pipe	X	X	X	(PB-2F)

## FILLER MATERIALS

Type	Description	Apply to Welding Procedure			
		MMA SMAW	GMAW MAG/MIG	FCAW GAS/SS	GTAW TIG
Stick Electrodes	Low Hydrogen E7018 – 2.4 mm – 3/32 in.	X			
	Low Hydrogen E7018 – 3.2 mm – 1/8 in.	X			
	Rutile E6013 – 3.2 mm – 1/8 in.	X			
	Celulosic E6010 – 3.2 mm – 1/8 in.	X			
Mild Steel Solid Wire	ER70S-6 – 0.9 mm – 0.035 in.		X		
	ER70S-6 – 1.2 mm – 0.045 in.		X		
	ER70S-6 – 1.4 mm – 0.052 in.		X		
Flux-Cored Wire	E71T-1 - 1.2 mm – 0.045 in.			X	
	E71T-8 – 2.0 mm – 5/64 in.			X	
Stainless Steel Solid Wire	ER308LSI – 1.2 mm – 0.045 in.		X		
Aluminum Solid Wire	ER4043 – 1.2 mm – 3/64 in.		X		

## FILLER RODS

Type	Description	Apply to Welding Procedure			
		MMA SMAW	GMAW MAG/MIG	FCAW GAS/SS	GTAW TIG
Carbon Steel	ER70S-6 – 1.6 mm – 1/16 in.				X
Stainless Steel	ER308L – 1.6 mm – 1/16 in.				X
Aluminum	ER4043 – 2.4 mm – 3/32 in.				X
TIG (GTAW) Tungsten Electrode	Pure Tungsten				X
	Thoriated Tungsten				X

## POWER SOURCE FEATURES

Type	Description	Apply to Welding Procedure			
		MMA SMAW	GMAW MAG/MIG	FCAW GAS/SS	GTAW TIG
Power Source Settings	AC	X			X
	DC +/- DC – (Polarity)	X	X	X	X
	Voltage		(V/Trim)	X	
	Amperage	X			X
	Wire Feed Speed		X	X	
Arc Striking Modes	Pulse		X		X
	Scratching – Lift Arc	X			X
Shielding Gases	High Frequency				X
	CO2		X		
	Argon-CO2		X	X	
	Argon		X		X

## ANALYSIS AND DIAGNOSTIC

Type	Apply to Welding Procedure			
	MMA SMAW	GMAW MAG/MIG	FCAW GAS/SS	GTAW TIG
Live Action Student Evaluation Report	X	X	X	X
Demo	X	X	X	X
Replay	X	X	X	X
Virtual Bend Test (Mild Steel, Grooved and 150 mm Pipe)	X	X	X	

## RECOMMENDED ACCESSORIES



### Oxy-fuel Cutting Software and Hardware

This unique feature enables students to also experience cutting in a virtual environment. Every aspect of the oxy-fuel cutting feature is designed to address real-world cutting applications – from setting up the torch to executing the cut  
**Order K4485-1**



### VRTEX® Tabletop Armrest

This Tabletop Armrest is an optional piece. This armrest not only stores all of the coupons for the VRTEX® 360 Compact, but it assists the student with their form as they learn the skill of welding.  
**Order K4917-1**



### VRTEX® 360 Compact Stand Kit

This large, optional welding stand is meant to compliment the VRTEX® 360 Compact virtual reality trainer. It includes monitor mount, welding table and arm, adjustable pole and weighted base.  
**Order K4916-1**



### VRTEX® 360 Compact Pelican Travel Cases, Set of 2\*

The VRTEX® 360 Compact Travel Case includes two heavy-duty Pelican™ brand carrying cases to house one machine and all of its accessories. These cases are great for transporting the VRTEX® 360 Compact welding trainer. When stored according to instruction, the content is packed to ensure FAA weight restrictions for baggage, 49 lbs. \*Note, each machine requires two cases.  
**Order K4915-1**

## PRODUCT NUMBERS/ BUNDLE OPTIONS

- K4914-1, single unit
- K4914-5, 5-unit bundle
- K4914-10, 10-unit bundle
- K4914-15, 15-unit bundle
- K4914-20, 20-unit bundle

## TECHNICAL SPECIFICATIONS

Product	Part Number	Specification	Input	Description	Dimensions in (cm)	Weight lbs (kg)
VRTEX® 360 Compact	K4914-1	Power Supply	1 phase 50/60 Hz	115-230 VAC	16.6 x 11.6x 15.1 (42.1 x 29.5 x 38.4)	23 (10.4)  without helmet  23.5 (10.6) with helmet
		Processor		Intel® Core i7		
		Chipset		Intel® Q370 Chipset		
		RAM		4GB DDR4-1600		
		Graphics Card		NVIDIA® GeForce GTX-1050Ti		
		Hard Disk		Solid State, 120 GB SSV NVMe, SATA 2.5 in.		
		Audio		Realtek® ALC888, High Definition Audio		
		Operating System		Windows® 10 Pro		
		Display Size		22 in.		
		Display Resolution		HD LCD 1920x1080		
		Port for External Display/Projector		HDMI		
		Vision Module Resolution		UltraSharp® Headset Resolution, 2160x2160 Per Eye		
		Operating Temperature		0-45 Degrees Celsius		
		Humidity		10-80%		
		Remote Maintenance/Upgrades		Yes		
		Regulations		CE, CSA, RCM, EAC		
		Certifications		ISO 9001, ISO 14001		

For best welding results with Lincoln Electric® equipment, always use Lincoln Electric consumables. Visit [www.lincolnelectric.com](http://www.lincolnelectric.com) for more details.

### CUSTOMER ASSISTANCE POLICY

The business of Lincoln Electric is manufacturing and selling high quality welding equipment, automated welding systems, consumables, and cutting equipment. Our challenge is to meet the needs of our customers, who are experts in their fields, and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or technical information about their use of our products. Our employees respond to inquiries to the best of their ability based on information and specifications 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, or to provide engineering advice in relation to a specific situation. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or communications. Moreover, the provision of such information or technical information does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or technical information, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose or any other equivalent or similar warranty is specifically disclaimed.

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