EDUCATION SOLUTIONS CATALOG

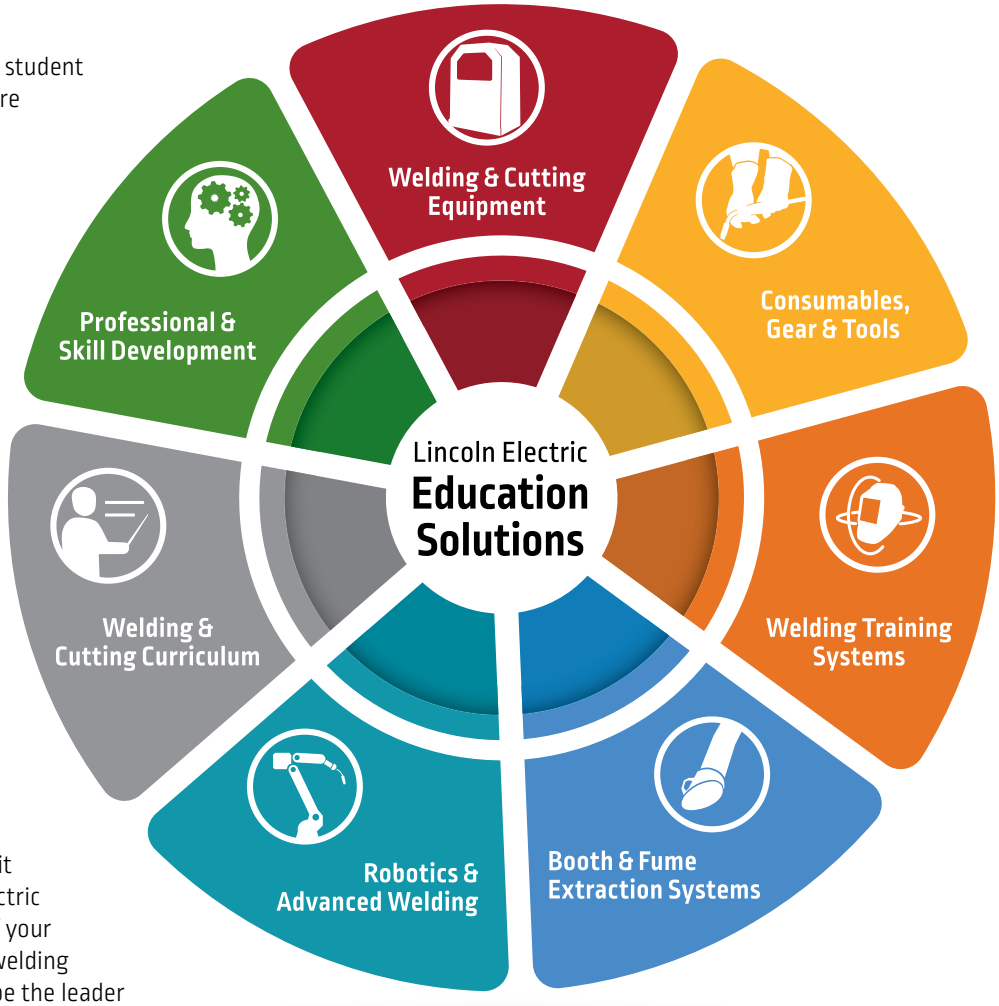
LINCOLN ELECTRIC

One Stop. One Partner.

We offer a full range of training solutions for educators -- teaching aids and curriculum, equipment and consumables for every process, welding training systems, personal protection gear and tools, fume extraction and more. Browse products organized into Levels to help you determine which training tools are right for your program.

One stop, one partner.
No matter what level of welding expertise a student may reach, there's always room to learn more – especially now when industry requires an unprecedented degree of technical and operational knowledge. Lincoln Electric understands this need more than any other welding manufacturer. We've been the leader in welding technology for more than a century, and we've been the leader in welding education for just as long.

We take a three-level approach to welding education that starts at junior high and makes its way up through college. Our web-based U/LINC® curriculum closely matches this three-level structure.



Your single education source
Whatever the needs of your school or training facility – whatever processes your instructors or regional customers specialize in – you need equipment and materials to launch your program and keep it running efficiently. That's where Lincoln Electric comes in, with resources for every aspect of your education program. We were the leader in welding training a century ago, and we continue to be the leader today.

Lincoln Electric is your one stop, your one partner, – your single education resource.

CLASSROOM TEACHING AIDS

Bring Your Classroom to Life

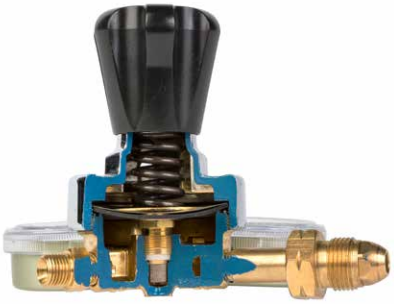
Teaching Aids

- Designed to help you explain how welding tools work and why processes are selected for the job at hand.

Classroom-Pak™ Teaching Aid Tool Box

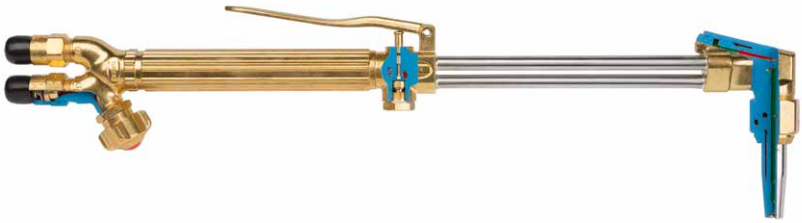
Cutaway Harris® Gas Regulator

- Describe internal tension spring and diaphragm



Cutaway Harris® Oxyfuel Torch

- Show how oxygen and acetelyne are mixed



GMAW Gun

- Fully operational GMAW/FCAW gun with three foot cable and complete front and back-end parts

WELDING AND CUTTING CURRICULUM

Teach Your Trade. We'll Do the Rest.

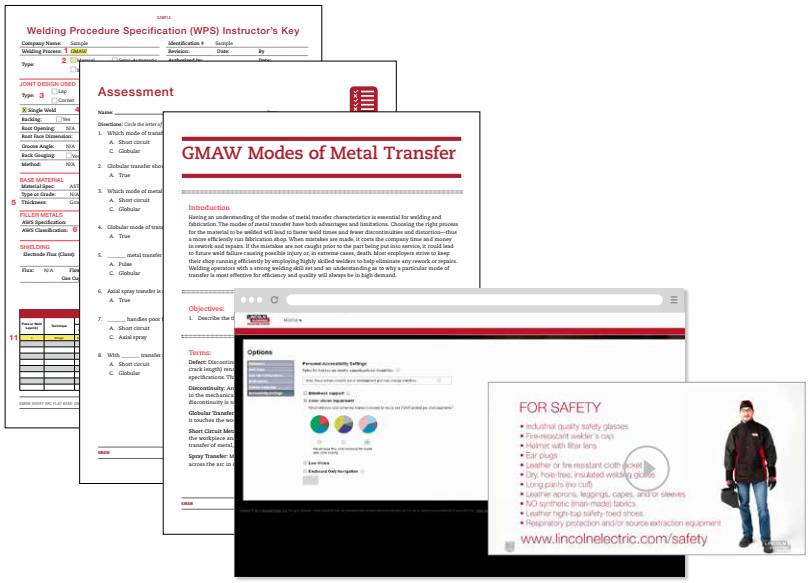
U/LINC® Curriculum

- Stop spending your time developing curriculum -- Use U/LINC AWS SENSE and state competency-aligned materials

- Over 1000 lesson plans, student assessments, lab activities, videos and presentations

- Course Builder module makes curriculum planning easy

- Know exactly which state competencies will or will not been met by your program



WELDING GEAR AND TOOLS

Keeping Students Safe

Welding Gear

Premium quality materials - Fire-resistant jackets, passive or auto-darkening helmets, gloves, caps, safety glasses and more

- Meets U.S. A.N.S.I and other safety standards

- Ready-Pak® student bundles available

Welding Tools

- High quality common tools - Welpers® pliers, brushes, chipping hammers

- Complete line of magnetic fixtures

- Add rod ovens, welding blankets or rust preventative

LINCOLN ELECTRIC EDUCATION PARTNER SCHOOLS (LEEPS)

Exclusive Partner Benefits for Qualified Schools

Become a Lincoln Electric Partner School

- Welding instructors earn certifications to remain current and relevant to changing industry needs

- Qualified schools may host Lincoln Electric train-the-trainer events for profit

- Top schools earn Lincoln Electric Authorized Training Facility status to conduct workshops and seminars in behalf of Lincoln Electric, as well as to attract leading students and key industry advisors

PROFESSIONAL AND SKILL DEVELOPMENT

Keep Your Instructors Current and Relevant

Train-the-Trainer Education

- Attend Lincoln Electric Seminars and Workshops for instructors and education leaders

- Classroom and Lab training techniques and emerging technologies

- Advanced manufacturing robotic automation, CNC plasma cutting and more

- Welding Simulator and Advanced Training System workshops

- AWS Certified Welding Inspector (CWI) and Certified Welding Educator (CWE) training

- Professional Design of Weldments Engineering track

- Teacher/Observer class audit opportunities

WELDING TRAINING SYSTEMS

Engage Students. Accelerate Learning. Reduce Program Costs.

VRTEX® Virtual Reality Welding Simulators

- Classroom or shop placement gets your students welding in less time at lower costs

- Facilitates skills training and the ability to identify and correct welding technique issues

- Student diagnostic capabilities help you assess performance and mastery of skills

REALWELD® Advanced Welding Training System

- Audio Coaching prompts each student to use correct practices and techniques in real time

CNC CUTTING EQUIPMENT

Practice STEM Skills

Torchmate® CNC Plasma Cutting Table Systems

- Teach applied CAD / CAM software and underlying geometry and math skills

- Introduce your students to CNC operations concepts

- Make your shop a complete metalworking operation from cutting to welding to finishing

- Unlimited student software licensing

ROBOTICS

Introduce Advanced Manufacturing

ClassMate™ Robotic Welding Training System

- Robotic cells do double duty in two programs – welding and mechatronic classes

- Teach robotic programming skills as an additional career development path

- Incorporate additional STEM concepts into your curriculum

- Includes curriculum and three days of instructor training

WELDING & CUTTING EQUIPMENT

Teach With Premium Professional Equipment

Welding Equipment

Employers and students agree — It's better to learn on the equipment used at industrial shops or job sites

Stick Welders

TIG/Stick Welders

Wire Welders

Multi-Process Welders

WELDING CONSUMABLES

Premium Electrodes Available at Educational Discounts

Consumables

Available education discounts

- Premium electrode and wire at reduced prices

- Packaged to resist moisture and extend shelf life

- Manufactured by the most vertically integrated supplier in North America

BOOTHS AND FUME EXTRACTION SYSTEMS

Train in a Safer, More Comfortable Environment

Welding Booths/Fume Extraction Equipment

- Correct fume extraction solutions can result in cost savings of up to 30 percent

- Achieve fume reduction through isolation, substitution, personal protection, ventilation for the shop, at the process or at the weld

- Fume extraction systems include 3 year warranty and lowest total cost of ownership

- Freestanding weld booths can be sized and configured to suit your environment

EDUCATION RESOURCE AND PURCHASING PORTAL

Capture Additional Cost Savings for Your Program

Purchase Electrode as low as $1.00/lb

- Exclusive web-based portal for educational institutions

- Get the materials necessary to run welding programs at any level

- Stick electrodes, GMAW and FCAW wire, GMAW guns, GTAW torches, helmets and welding gear, fume extraction filters, arc welding safety materials, classroom training materials

- Affiliate online purchases with a local distributor

- Traceable order status and complete order history

- FREE standard shipping on orders over $500 in contiguous United States

SYSTEM DESIGN SERVICES

Booths and Fume Extraction Systems

Building a New School?
We Can Help.

- Design Services for your new or remodeled lab facilities

- Available complete air quality fume audits

- Design and specify a complete shop-wide ventilation system in addition to other localized fume and process-based solutions

Configure welding booths to fit your footprint, processes and budget

WHAT LINCOLN ELECTRIC PRODUCTS ARE RIGHT FOR ME?

Level 1 INTRODUCTION AND EXPLORATION

Level 1 is meant for exploratory welding programs. It's aimed at students pursuing technical training and industrial arts at the junior high level. This is where educators provide students with their first exposure to welding. Curriculum in exploratory programs focuses on welding awareness, welding safety and introductory metal fabrication concepts. Trainers at this level help students develop a basic familiarity with stick, MIG, flux-cored welding and hand-held plasma cutting.

Level 2 CAREER DEVELOPMENT - INTERMEDIATE

Levels 2 and 3 of the Lincoln Electric curriculum model build on the foundation laid in the first, and focus on career development and advancement.

Level 2 is the intermediate level, tailored to the needs of programs at high schools and career centers. The curriculum is designed for students who are taking a more serious look at welding as a career opportunity, and are seeking to master multiple welding processes – stick, MIG, TIG – to achieve that goal. Often, programs at this level include an introduction to advanced manufacturing and CNC plasma cutting.

Level 3 CAREER DEVELOPMENT - ADVANCED TECHNOLOGIES

The career development track continues at level 3, and focuses on advanced manufacturing processes. Programs are generally tailored to the needs of community colleges and technical colleges. This level facilitates training in all processes covered in the first two levels, but also encompasses robotic programming and welding as well as CNC plasma cutting.

Education Products at a Glance

Level 1 Introduction and Exploration

Level 2 Career Development - Intermediate

Level 3 Career Development - Advanced Technologies

WELDING & CUTTING CURRICULUM

U/LINC® Welding & Cutting Curriculum

TEACHING AIDS

Cutaway Harris® Bottled Gas Regulator

Cutaway Harris® Oxyfuel Torch

Classroom-Pak™ Teaching Aid Tool Box

STICK WELDERS

AC225™

AC/DC 225/125™

Idealarc® 250

TIG/STICK WELDERS

Basic

Square Wave® TIG 200

Precision TIG® 225 Ready-Pak® w/Cart Package

Precision TIG® 275 Ready-Pak® Package

Advanced

Precision TIG® 375

Aspect® 375

WIRE WELDERS

MIG/Flux-Cored Only

POWER MIG® 216 Wire Feeder / Welder

POWER MIG® 256 Wire Feeder / Welder

Level 1	Introduction and Exploration	Level 2	Career Development - Intermediate	Level 3	Career Development - Advanced Technologies

Multi-Process Basic

POWER MIG® 210 MP® Wire Feeder / Welder

Flextec® 350X Standard w/Flex Feed® 84 One-Pak®

Multi-Process Advanced

POWER MIG® 350MP® Wire Feeder / Welder

Power Wave® C300 Education Ready-Pak®

Power Wave® S350 w/Power Feed® 84 Ready-Pak®

PLASMA CUTTING SYSTEMS

Hand-Held

Tomahawk® 625

Tomahawk® 1000

Tomahawk® 1500

CNC Plasma Cutting Table System

Torchmate® 4400 or 4800 EDU

VRTEX® VIRTUAL REALITY WELDING SIMULATORS

VRTEX® Engage®

VRTEX® Mobile

VRTEX® 360 Education One-Pak® Package

REALWELD® ADVANCED WELDING TRAINING SYSTEM

REALWELD® One-Pak® Package

FUME EXTRACTION SYSTEMS

Miniflex® One-Pak®

Statiflex®

Custom Engineered General Filtration System

Level 1 Introduction and Exploration

Career Pathways Programs

Typical Programs

- Agricultural Education
- Technical Education
- Project Lead the Way (PLTW)
- For programs designed to spark an interest in welding

Typical Processes

- Stick
- MIG
- Hand-held Plasma Cutting

Recommended Equipment

Product Type	Description	Product Number	Welding Process
Welding and Cutting Learning Management System	U/LINC® Curriculum	K4244-1, K4244-2, K4244-3, K4244-4	Stick, MIG
Teaching Aids	ClassMate™ Teaching Aid Tool Box	K4442-1	Stick, TIG, GMAW/FCAW, Oxyfuel
Welding Gear	Traditional Welding Gear Ready-Pak®	K3105-S,M,L,2XL,3XL	Stick, TIG, MIG, Flux-Cored, Oxyfuel
Stick Welders	AC225™	K1170	AC Stick
	AC/DC 225/125™	K1297	AC/DC Stick
MIG Welders	POWER MIG® 210 MP® Wire Feeder / Welder	K3963-1	MIG, Flux-cored, DC Stick, DC TIG
	POWER MIG® 216 Wire Feeder / Welder	K2816-2	MIG, Flux-cored
	POWER MIG® 256 Wire Feeder / Welder	K3068-1	MIG, Flux-cored
TIG Welders	Square Wave® TIG 200	K5126-1	AC/DC Pulsed TIG, AC/DC Stick
Plasma Cutting Systems	Tomahawk® 625	K2807-1	Hand-held Plasma Cutting
Virtual Reality Welding Simulators	VRTEX® Engage®	K4299-1, 2, 3, 4	Virtual Stick, MIG, Flux-cored
	VRTEX® Mobile®	AD2436-1	Virtual Stick, MIG, Flux-cored
Portable Fume Extraction Systems	Miniflex® One-Pak®	K4260-2	Stick, TIG, MIG, Flux-cored
	Statiflex®	Call for Package Selection	Stick, TIG, MIG, Flux-cored

Curriculum and Teaching Aids

U/LINC® Curriculum for the Classroom and Lab

- Closely aligned with the welding and cutting processes, principles and activities typically associated with agricultural, career pathways and career development programs
- Expose students to the techniques of welding and cutting technology and welding career opportunities
- Incorporate higher level U/LINC® lesson plans, lab activities and student assessments at any time as your program expands
- AWS SENSE-aligned and compatible with most state competencies and articulation requirements
- Course Builder module makes it easy to complete curriculum planning for one week or up to one year

Virtual Reality Welding Simulators

- Reset and practice welds in seconds
- Reduce your program's cost of plate, electrode and shielding gas
- More easily discover and correct incorrect welding technique issues
- Share visuals of any trainee weld with the entire class to enhance learning
- DEMO and REPLAY Modes allow trainees to visualize optimized and actual welding behavior

Classroom Teaching Aids

Classroom-Pak™ Teaching Aid Tool Box

- Bring welding, inspection and testing concepts to life
- Roll this secure, industrial toolbox into your classroom or lab
- Filled with various weld samples, joint samples, cutaway Harris gas regulator, cutaway Harris® oxyfuel torch, SMAW electrode holder, GTAW torch parts, GMAW/FCAW gun parts and plasma torch parts

Cutaway Harris® Bottled Gas Regulator and Oxyfuel Torch

- Clearly show how these professional tools operate
- Communicate correct oxyfuel or shielding gas safety procedures

Welding Booths

- Available in 5 foot, 6 foot and custom sizes
- Use against a wall or back-to-back in any open space configuration
- Optional welding tables with lockable storage
- Heavy-duty anti-reflective panels reduce reflective glare.

Level 2 Career Development - Intermediate

Typical Programs

- High Schools
- Career and Technical Education (CTE)
- Agricultural Education

Typical Processes

- Stick
- TIG / Pulsed TIG
- MIG / Pulsed MIG
- Flux-Cored
- Advanced Materials
- Hand-held Plasma Cutting
- CNC Plasma Cutting

Recommended Equipment

Product Type	Description	Product Number	Welding Process
Welding and Cutting Learning Management System	U/LINC® Curriculum	K4245-1, K4245-2, K4245-3, K4245-4	Stick, TIG, MIG, Flux-cored
Teaching Aids	Classroom-Pak™ Teaching Aid Tool Box	K4442-1	Stick, TIG, MIG, Flux-Cored, Oxyfuel
Welding Gear	Traditional Welding Gear Ready-Pak®	K3105-S,M,L,2XL,3XL	Stick, TIG, MIG, Flux-Cored, Oxyfuel
Stick Welders	Idealarc® 250	K1053-8	AC/DC Stick
MIG Welders	POWER MIG® 256 Wire Feeder / Welder	K3068-1	MIG, Flux-cored
TIG Welders	Square Wave® TIG 200	K5126-1	AC/DC Pulsed TIG, AC/DC Stick
	Precision TIG® 225 Ready-Pak® w/Cart Package	K2535-2	AC/DC Pulsed TIG, AC/DC Stick
	Precision TIG® 275 Ready-Pak® Package	K2618-1	AC/DC Pulsed TIG, AC/DC Stick
	Precision TIG® 375	K2624-1	AC/DC Pulsed TIG, AC/DC Stick
	Aspect® 375	K3946-2	AC/DC Pulsed TIG, AC/DC Stick
Advanced Multi-Process Welders	Power Wave® C300 Education Ready-Pak®	K2774-4	MIG, Pulsed MIG, Flux-cored
	POWER MIG® 350MP® Wire Feeder / Welder	K2403-2	MIG, Pulsed MIG, Flux-cored, DC Stick, DC TIG
Plasma Cutting Systems	Tomahawk® 1000	K2808-1	Hand-held Plasma Cutting
	Tomahawk® 1500	K2809-1	Hand-held Plasma Cutting
	Torchmate® 4400 EDU Package	Call for Consultation	CNC Plasma Cutting Table System
Virtual Reality Welding Simulators	VRTEX® Mobile	AD2436-1	Virtual Stick, MIG, Flux-cored
	VRTEX® 360 Education One-Pak® Package	AD2434-1	Virtual Stick, MIG, Flux-cored
Advanced Welding Training System	REALWELD® One-Pak® Package	K4344-3	Stick, MIG, Flux-cored
Fume Extraction Systems	Statiflex®	Call for Package Selection	Stick, TIG, MIG, Flux-cored
	Custom Engineered General Filtration System	Call for Consultation	Stick, TIG, MIG, Flux-cored
Rod Ovens	Hydroguard® Bench Welding Rod Oven	K2942-1 (115V) K2942-2 (240V)	Stick, MIG, Flux-Cored

Intermediate

Career Development Programs May Require a Leap in Welding and Training Technology

- When your program expands to include a greater variety of materials, including alloys or heavy plate, think about more capable welding equipment.
- As your area employers demand greater skill development and more proof of those skills, think about augmenting traditional training with Advanced Welding Training Systems.
- As the number of students and welding booths increases, it may be necessary to take to your fume extraction solutions to the next level.
- Level 2 U/LINC® Curriculum closely matches state and AWS intermediate career development guidelines

Advanced Multi-Process Welders

- Tackle more materials, projects and arc welding processes with an advanced welding power source.
- Built-in welding modes help optimize results for more materials, joints and shielding gases.
- Employers demand prospective employees train on the modern, professional equipment used in their shop.
- CheckPoint® production monitoring software will help you evaluate the arc time and consumable usage at every station

VRTEX® 360 Premium Virtual Reality Welding Simulator

- More processes, joints, positions and coupons
- Articulating Stick and MIG devices more closely mimic the feel of actual welding
- Access to VRTEX® Extensions Upgrades program for more environments, welds, coupons and instructor functionality

REALWELD® Advanced Welding Training System

- Audio Coaching is like putting a welding instructor in every booth
- Use Arc ON mode for actual welding practice or Arc OFF mode to practice welds over and over at the lowest possible cost.
- Stick, MIG and flux-cored welding in a number of positions and joints
- Create your own Master Welds to set the standard for your student performance
- Optional 18 inch welds

Level 3

Career Development - Advanced Technologies

Typical Programs

» Career-Focused Community Colleges
» Private Career-Focused Technical Colleges

Typical Processes

» Stick
» TIG / Pulsed TIG
» MIG / Pulsed MIG
» Flux-Cored
» Advanced Materials
» Hand-held Plasma Cutting
» CNC Plasma Cutting
» Robotic Programming and Welding

Recommended Equipment

Product Type	Description	Product Number	Welding Process
Welding and Cutting Learning Management System	U/LINC® Curriculum	K4246-1, K4246-2, K4246-3, K4246-4	Stick, TIG, MIG, Flux-cored
Teaching Aids	Classroom-Pak™ Teaching Aid Tool Box	K4442-1	Stick, TIG, MIG, Flux-Cored, Oxyfuel
Welding Gear	Traditional Welding Gear Ready-Pak®	K3105-S,M,L,2XL,3XL	Stick, TIG, MIG, Flux-Cored, Oxyfuel
Stick Welders	Idealarc® 250	K1053-8	AC/DC Stick
Multi-Process Welders	Flextec® 350X Standard w/Flex Feed® 84 One-Pak®	K3439-1	Stick, DC TIG, MIG, Flux-cored, Arc Gouging
Advanced Multi-Process Welders	Power Wave® C300 Education Ready-Pak®	K2774-4	MIG, Pulsed MIG, Flux-cored
	Power Wave® S350 w/Power Feed® 84 Ready-Pak®	K3005-3	Stick, DC TIG, Pulsed DC TIG, MIG, Pulsed MIG, Flux-cored
Plasma Cutting Systems	Tomahawk® 1000	K2808-1	Hand-held Plasma Cutting
	Tomahawk® 1500	K2809-1	Hand-held Plasma Cutting
	Torchmate® 4400 or 4800 EDU	Call for Consultation	CNC Plasma Cutting Table System
Virtual Reality Welding Simulators	VRTEX® 360 Education One-Pak® Package	AD2434-1	Virtual Stick, MIG, Flux-cored
Advanced Welding Training System	REALWELD® One-Pak® Package	K4344-3	Stick, MIG, Flux-cored
Robotic Welding Training Systems	Classmate™ Robotic Welding Training System - Intermediate	AD2446-2	MIG, Flux-cored
Fume Extraction Systems	Custom Engineered General Filtration System	Call for Consultation	Stick, TIG, MIG, Flux-cored
Rod Ovens	Hydroguard® Bench Welding Rod Oven	K2942-1 (115V) K2942-2 (240V)	Stick, MIG, Flux-Cored

Advanced Technologies

Advanced Systems for Advanced Manufacturing

- Top schools set a mission to prepare the next generation of welding leaders
- Adopt advanced welding and cutting manufacturing technologies now rapidly being adopted across the country
- Deliver knowledgeable job applicants that meet or exceed the technology demands of area employers
- Open wide the career opportunities for your graduates
- U/LINC® Level 3 curriculum covers advanced manufacturing, intro to engineering and more

Robotic Welding Training Systems

- Classroom and Lab Ready -- practice programming in the classroom with 120V input power and move to the lab for welding operation
- Large, expandable work surface
- Full-featured, operational robotic welding power source
- Integrated fume control as well as safety hardware and software

CNC Plasma Cutting Systems

- Complete turnkey system includes training and phone support
- Easy to use CAD/CAM software

WELDING TRAINING SYSTEMS

MODEL	INPUT		JOINT CONFIGURATIONS					POSITIONS								STAND		PROCESS				FEATURES		
	Phase	Voltage	Flat Plate	Tee Joint	Groove Joint	6 in. Diameter Schedule 40 Pipe	2 in. Diameter XXS Pipe	1G	2F	2G	3F	3G	4F	4G	5G	6G	All Position	Tabletop	SMAW	GMAW	FCAW-GS	FCAW-SS	Virtual Reality Helmet	Demo and Replay	VRTEX Upgrades
VRTEX® Engage	1	115/230	●	●	●			●	●	●	●							●	●	●		●			
VRTEX® Mobile	1	115/230	●	●	●			●	●	●	●	●						●	●	●	●	●	●	●	
VRTEX® 360	1	115/230	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●
REALWELD®	1	115/230	●	●	●			●	●	●	●	●	●						●	●	●				

CLASSMATE™ ROBOTIC WELDING TRAINING SYSTEM

MODEL	INPUT	OUTPUT	ROBOT	PROCESS		FEATURES					
	Input Power	Rated Output - amps/volts/duty cycle	Robot	MIG	Flux-cored	3 Day Training	Welding Fixture	Fume Extraction	Project Lessons	WeldPRO™	IR 2D Vision Camera
ClassMate™ Package 1: Basic	120V for Robot Operation and Programming	GMAW: 350A/31.5V/40% GMAW: 300A/29V/100%	6-Axis	●	●	●	●	●	●		
ClassMate™ Package 2: Intermediate	208/230/380-415/460/575/1/3/50/60 for Welding Operation		7 kg Max. Payload	●	●	●	●	●	●	●	
ClassMate™ Package 3: Advanced			0.911 m Reach	●	●	●	●	●	●	●	●

U/LINC® Curriculum

MODEL	CLASSROOM LESSONS															WELD LESSONS									
	Safety	Principles of Welding	GMAW	SMAW	GTAW	FCAW	Thermal Cutting	Manufacturing and Engineering	CNC Plasma Cutting	Robotics	Fabrication	Math in Welding	Blueprint Reading	Careers in Welding	e-Learning	SMAW up to 3F	GMAW up to 3F	SMAW up to 3G	GMAW up to 3G	SMAW up to 4F & 4G	GMAW up to 4F & 4G	FCAW up to 3G	FCAW up to 4F & 4G	GTAW up to 3F	GTAW up to 3G, 4F & 4G
Level 1	●	●	●	●			●				●			●	●	●	●								
Level 2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●		●	
Level 3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

KEY: ● Excellent ◒ Good ○ Optional

HAND-HELD PLASMA CUTTING SYSTEMS

MODEL	INPUT		OUTPUT		AIR	
	Input Power Voltage/Phase/ Hertz	Input Current @ Rated Output	Rated Output: Current/ Voltage/Duty Cycle	Output Range	Air Pressure Required	Air Flow Rate
Tomahawk® 625 w/Hand Torch	208/230/1/50/60	36.8A Pilot Current: 17A	24A @ 89.6V 100% 29A @ 91.8V 60% 40A @ 96.0V 35%	10-40A	80-110 PSI (6.0-7.5 Bar)	70 psi @ 125-200 SCFH 5 Bar @ 80L/min
Tomahawk® 1000 w/Hand Torch	208/230/380-415/ 460/575/1/3/50/60	37.8 (Max.) Pilot Current: 20A	3-Ph / 50% Duty Cycle: 24.6/21.1/11.4/9.3/7.6 3-Ph / 100% Duty Cycle: 17.4/14.9/7.3/6.6/5.4 1-Ph / 50% Duty Cycle: 26.7/24.3/NA/NA/NA 1-Ph / 100% Duty Cycle: 37.8/34.3/NA/NA/NA	20-60A	87-109 PSI (6.0-7.5 Bar)	80 psi @ 275 SCFH 5.5 Bar @ 130L/min.

CNC PLASMA CUTTING TABLE SYSTEMS

MODEL	PLASMA CUTTING POWER SOURCE	INPUT		CUT CAPACITY		TABLE DIMENSIONS W X L X H IN. (MM)	FEATURES		
		Table (volts)	Motion Control (volts/ amps)	Material Capacity - in (mm)	Max. Pierce - in. (mm)@ipm		Integrated Height Control	Touch Interface	CAD/CAM Integration
Torchmate® 4400	FlexCut® 80	1 Ph: 200-208/230 3 Ph: 200-208/230/380/460/575	115/15	0.75 (19.5)	0.25 (6.4)@148 0.5 (12.7)@52 0.75 (19.5)@26	74 x 57 x 63 (1880 x 1448 x 1600)	●	●	●
Torchmate® 4800	FlexCut® 80	1 Ph: 200-208/230 3 Ph: 200-208/230/380/460/575	115/15	0.75 (19.5)	0.25 (6.4)@148 0.5 (12.7)@52 0.75 (19.5)@26	74 x 114 x 63 (1880 x 2896 x 1600	●	●	●

Education Packages include unlimited Educational CAD Licenses and access to private Educator online community

KEY: ● **Excellent** ◒ **Good** ○ **Optional**

STICK WELDERS

MODEL	INPUT	OUTPUT				PROCESS		FEATURES			
	Phase	Mode	Rated Output (amps/volts/duty cycle)	Polarity	Current Range (Amps)	Stick	Arc Gouge	Compact	Tap Control	Continuous Control	Polarity Switch
COMMERCIAL											
AC 225™	1	CC	225/25/20%	AC	40-225 AC	●		•	•		
AC/DC 225/125™	1	CC	125 DC/25/20%, 225 AC/25/20%	AC/DC	30-125 DC 40-225 AC	●		•	•		•
INDUSTRIAL											
Idealarc® 250	1	CC	250/30/30%	AC/DC	40-250 DC 35-300 AC	●	◓			•	•

TIG/STICK WELDERS

MODEL	INPUT		OUTPUT				PROCESS			FEATURES				
	Phase	Auto Sensing	Mode	Polarity	TIG Current Range (Amps)	Rated Output (amps/duty cycle)	Stick	Touch Start TIG®	TIG High-Freq™ Start	Micro-Start™ II	Auto-Balance®	Adjustable AC Frequency	TIG Pulse	Adjustable AC Balance
INVERTER TECHNOLOGY														
Square Wave® TIG 200	1	•	CC	AC/DC	10-200[1]	TIG: DC 125/25%, AC 110/25% TIG: 85/60% Stick: 75/20% Stick: 65/60%	●		●			•	•	•
Aspect® 375	1/3	•	CC	AC/DC	2-375[2]	3 Ph: 330/40%, 300/60% 1 Ph: 240/40%, 225/60%	●	●	●		•	•	•	•
CONVENTIONAL TECHNOLOGY														
Precision TIG® 225	1		CC	AC/DC	5-230	130/40% 110/60%	●		●	•	•		•	•
Precision TIG® 275	1		CC	AC/DC	2-340	275/40% 225/60%	●	●	●	•	•		•[3]	•
Precision TIG® 375	1/3		CC	AC/DC	2-420	3 Ph: 330/40%, 300/60% 1 Ph: 240/40%, 225/60%	●	●	●	•	•		•	•

[1] 230 Volts [2] Three-phase [3] Pulse available with Advanced Pulse Control Panel

KEY: ● **Excellent** ◓ **Good** ○ **Optional**

WIRE FEEDER/WELDERS

MODEL	INPUT	OUTPUT					PROCESS					FEATURES				
	Phase	Current Range (Amps)	Rated Output (amps/volts/ duty cycle)	Wire Feed Speed Range ipm (m/mm)	Solid Wire Size Range in (mm)	Cored Wire Size Range in (mm)	MIG	MIG Pulsed	Flux-Cored	Stick	Touch Start TIG®	Portable	Meters/ Digital Display	Synergic Control	Spool Gun Capable	Push-Pull Model
120/230 VOLT INPUT																
POWER MIG® 210 MP®	1	120V: 20-140 230V: 20-220	120V: 100/19/40% 230V: 200/24/25%	50-500 (1.3-12.7)	0.023-0.035 (0.6-0.9)	0.030-0.045 (0.8-1.2)	●		●	●	●	•	•		•	
208-230 VOLT INPUT																
POWER MIG® 216	1	30-250	170/24/60% 216/22/30%	50-700 (1.3-17.7)	0.023-0.045 (0.6-1.2)	0.030-0.045 (0.8-1.2)	●		●						•	
POWER MIG® 256	1	30-300	250/26/40%	50-700 (1.3-17.7)	0.023-0.045 (0.6-1.2)	0.030-0.045 (0.8-1.2)	●		●				•		•	
POWER MIG® 350 MP®	1	5-350	300/32/60%	50-700 (1.3-17.7)	0.023-0.045 (0.6-1.2)	0.030-0.045 (0.8-1.2)	●	●	●	●	●		•	•	•	•

ROD OVENS

MODEL	INPUT	OUTPUT		PROCESS			FEATURES			
		Temperature Range	Elements	Stick	MIG	Flux-Cored	Adjustable Thermostat	Flexible Interior Configuration	Variable Moisture Vent	Data Logger Capable
HydroGuard® Welding Rod Oven	115 volt or 240 volt	100-550 deg F (38-288 deg C)	2 Element - 1000 Watts Total	●	●	●	•	•	•	•

KEY: ● **Excellent** ◒ **Good** ○ **Optional**

MULTI-PROCESS WELDERS

MODEL	INPUT	OUTPUT				PROCESS							FEATURES					
	Phase	Mode	Polarity	Current Range (Amps)	Rated Output (amps/ volts/duty cycle)	Stick	TIG	MIG	Tandem MIG®	Pulsed	Flux-Cored	Arc Gouge	Waveform Control Technology®	Production Monitoring	CrossLinc®	Pulse Capable	ArkLink® Digital Communication	Integrated Wire Feeder
BASIC																		
FLEXTEC® 350X Construction	3	CC/CV	DC	5-425	350/34/60% 300/32/100%	●	●	●			●	●			●			
FLEXTEC® 350X Standard	3	CC/CV	DC	5-425	350/34/60% 300/32/100%	●	●	●			●	●			●	●	●	
ADVANCED																		
Power Wave® C300	1-3	CC/CV	DC	5-300	300/29/40%	●	●	●		●	●		●	●			●	●
Power Wave® S350	1-3	CC/CV	DC	5-350	350/31.5/40%	●	●	●		●	●	◓	●	●			●	
Power Wave® S500	3	CC/CV	DC	5-550	550/41.5/40%	●	●	○		●	●	●	●	●			●	
Power Wave® S700	3	CC/CV	DC	20-900	900/44/60% 700/44/100%	●	●	●	○	●	●	●	●	●			●	

SEMIAUTOMATIC WIRE FEEDERS

MODEL	OUTPUT			PROCESS					FEATURES			
	Wire Feed Speed Range ipm (m/min) High Speed Low Speed	Solid Wire Size Range: in (mm) High Speed Low Speed	Cored Wire Size Range: in (mm) High Speed Low Speed	MIG	Pulsed MIG	MIG-STT®	Flux-Cored	Submerged Arc	MAXTRAC® Wire Drive System	Gouging (CCAG)	4-Roll Drive	Digital Display
BENCH AND BOOM MODELS *ANALOG*												
Flex Feed® 84	50-700 ipm (1.3-19 m/min)	0.025-3/32 (0.6-2.4)	0.035-0.120 (0.9-3.0)	●			●	●	●	●	●	●
ARCLINK®												
Power Feed® 84	50-700 (1.3-17.8)	0.025-1/16 (0.6-1.6)		●	●	●	●		●		●	●

Industrial wire feeders selected here are sold in recommended power source/wire feeder packages. See Package configurations and ordering information on previous pages.

KEY: ● **Excellent** ◓ **Good** ○ **Optional**

FUME EXTRACTION EQUIPMENT

MODEL	INPUT	FILTER			PROCESS				FEATURES				
	Volts/Phase/Hertz	Airflow (CFM)	System	Size: ft² (m²)	Stick	TIG	MIG	Flux-Cored	Mobile	Start/Stop Sensor	Filter Indicator Gauge	Single Arm System	Dual Arm System
PORTABLE													
Miniflex®	120/1/50/60 230/1/50/60	Low: 95 High: 108	Disposable	118 (11)	◓	●	●	◓	●	●	●	●	
STATIONARY													
Statiflex® 200-M	–	735	Disposable	538 (50)	◓	●	●	◓			●	●	●
Statiflex® 400-MS	–	735	Self-Cleaning	323 (30)	●	●	●	●			●	●	

ROBOTIC SYSTEMS » Formed Extraction Hood

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FIRE SAFETY » Guardian™ Fire Safety Solutions

WELDING BOOTHS

MODEL		PROCESS					FEATURES				
	Height ft. (m)	Stick	TIG	MIG	Flux-Cored	Submerged Arc	Meets AWS Guidelines	Worktable	Welding Curtain	Locking Storage Box	Fume Extraction
5 ft x 5 ft.	7.5	●	●	●	●	●	●	○	○	○	○
6 ft x 6 ft	7.5	●	●	●	●	●	●	○	○	○	○
Custom Sizes		●	●	●	●	●	●	○	○	○	○

WELDING GEAR READY-PAK® PACKAGES

MODEL	WHAT'S INCLUDED								
	FR Cloth Jacket	VIKING® Industrial Passive Black helmet	VIKING® 1840 Black Helmet	Do-Rag	Stick/MIG Gloves	Safety Glasses	Brush	Chipping Hammer	Welper®
Traditional Welding Gear Ready-Pak®	●		●	●	●	●			
Standard Welding Gear Ready-Pak®	●	●		●	●	●	●	●	●

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Publication MC17-39 | 07/17

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