

AugmentedArc®

Augmented Reality Welding System

Quick Specs

Processes

MIG (GMAW)
Flux-cored (FCAW)
Stick (SMAW)
TIG (GTAW)

Material Types

Steel
Stainless
Aluminum

Joints

Bead on plate, T-joint, butt joint, lap joint, pipe-to-plate, butt pipe, V-groove with backing and V-groove without backing

Workpiece Positions

Horizontal
Vertical
Flat
Overhead

Input Power

115 V, 15 A, 60 Hz
230 V, 10 A, 50 Hz

Highly realistic multiprocess welding simulation solution for classroom training.

For beginner to advanced-level weld students, the AugmentedArc system simulates multiple welding processes, blending real-world and computer-generated images into a unique, augmented reality environment.



Includes the following: Welding exercises for OpenBook GMAW, SMAW and GTAW and for NCCER Welding Levels 1–2 curriculum.



AugmentedArc simulator and helmet both feature augmented-reality displays.

Specially coded workpieces provide a wide range of training applications.

Specially designed gun, torch, stinger and filler metal components relay user data to the computer for processing.

AugmentedArc work stand allows for training in out-of-position applications.



Comes complete with:

- AugmentedArc simulator
- Teacher software (see below for description)
- OpenBook™ GMAW, SMAW, GTAW theory content, quizzes and welding exercises
- NCCER Welding Levels 1–2 exercises
- Black Infinity™ AR helmet with premium headgear
- Internal router
- MIG gun with AR nozzle
- SMAW stinger
- TIG torch with AR nozzle
- Two electrode/filler rods with AR tips
- Work stand for out-of-position applications
- Seven workpieces: T-joint, butt joint, lap joint, pipe-to-plate, butt pipe, V-groove with backing and V-groove without backing

Teacher software is a user-friendly and flexible learning management system (LMS) that allows instructors to manage courses, content and students, and maximizes the usefulness of AugmentedArc welding simulators.

- **Create and manage your own welding curriculum**
 - Create quizzes, theories and welding simulation exercises
 - Use pre-developed exercises or fully customize your own exercise parameters, technique and scoring criteria
 - Offline mode allows you to manage the content from anywhere
- **Manage student progress**
 - Review the complete history and detailed results of student activities
 - View real-time results of welding simulations
 - View statistics and download reports for individual students or entire class

System is warrantied for one year, parts and labor.



Miller Electric Mfg. LLC

An ITW Welding Company
1635 West Spencer Street
P.O. Box 1079
Appleton, WI 54912-1079 USA

Equipment Sales US and Canada

Phone: 866-931-9730
FAX: 800-637-2315
International Phone: 920-735-4554
International FAX: 920-735-4125

MillerWelds.com



AugmentedArc® System



Optimize instructor efficiency by using the Teacher software to create a virtual classroom with customized curriculum, quizzes and weld exercises.



Real-time feedback is provided on users' technique to help correct errors. Reinforce proper welding practices and accelerate skill advancement prior to actual live arc welding in a lab.



Reduce overall training time compared to traditional methods, with the realistic welding simulation of the AugmentedArc.

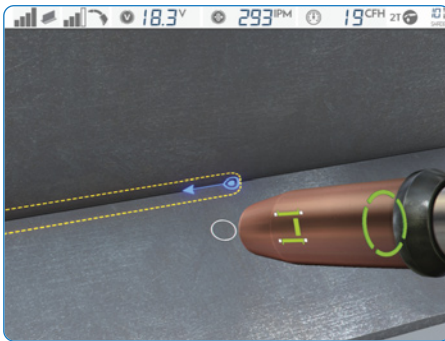


Minimize material cost by saving wire, gas and workpieces in this simulation environment allowing students to refine their welding skills before beginning live arc welding.



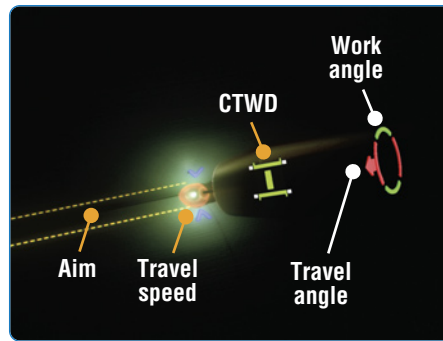
Build a larger, more-skilled welding workforce when computer-savvy individuals are drawn to welding education programs that increase their success with live arc welding.

Augmented Reality Displays



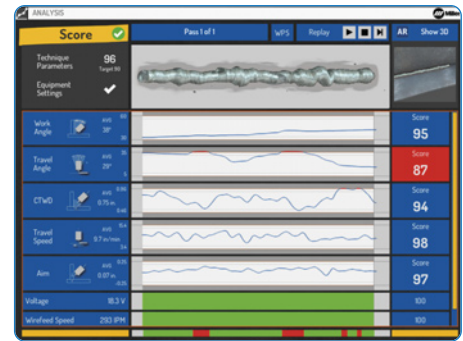
AugmentedArc display

- Helmet's external optical sensor captures and sends images of coded devices and workpieces to AugmentedArc simulator
- Simulator generates three-dimensional images of metal workpieces, augmenting them into a real-world environment
- Display on simulator replicates the view inside helmet to give real-time feedback



Welding simulation screen

- Visual graphical aids guide the user to achieve target parameters
- Adherence to pre-determined or custom welding parameters is monitored, with confirmation when maintained or alerts when exceeded
- Realistic arc sounds from inside helmet speakers accompany the visuals for a truly immersive experience



Post-weld feedback screen

- User's performance is scored, graphed and recorded for playback
- Performance feedback on various parameters is provided
- Video is stored and available for replay for student and instructor review via teacher software

Specifications (Subject to change without notice.)

Input Power	Processes	Welding Positions	Joints			Dimensions	Net Weight
115 V, 15 A, 60 Hz 230 V, 10 A, 50 Hz	GMAW FCAW SMAW GTAW	1F–4F, 1G–6G	Bead on plate, T-joint, butt joint, lap joint, pipe-to-plate, butt pipe, V-groove with backing, V-groove without backing			Simulator H: 21 in. (533 mm) W: 9.38 in. (238 mm) D: 17.25 in. (438 mm)	Simulator 20.7 lb. (9.4 kg) Welding helmet 1.97 lb. (0.9 kg)
Voltage/Amperage Selection	Polarity Selection	Shielding Gas Selection	Wire Speed Selection	Base Material Selection	Workpiece Selection	Stick Electrode Selection	Diameter Selection
GMAW 10–38 V 50–425 A FCAW 10–38 V 50–425 A SMAW 50–425 A GTAW 50–425 A	DCEP DCEN AC	CO ₂ Argon O ₂ Argon CO ₂ Argon	GMAW/FCAW 50–1,000 ipm (1.27–25.4 m/min.)	Carbon steel Stainless steel Aluminum	1/8, 1/4, 3/8 in. (3.2, 6.4, 9.5 mm)	E7018 E6010 E6013	Solid wire .030, .035, .045 in. (0.8, 1.0, 1.2 mm) Stick electrode 1/8, 3/32, 5/32 in. (2.50, 3.25, 4.0 mm) Filler rod 3/32 in. (2.4 mm)

Genuine Miller® Accessories and Replacement Components



AugmentedArc® Controller 301395
Provides the capability to link multiple AugmentedArc systems together into a virtual classroom environment. Includes Classroom router 278181.



Heavy-Duty Transportation Cases 951775
Includes two heavy-duty cases which provide rugged protection for the complete system during transportation or storage. One case holds helmet and AugmentedArc unit, and the second case holds MIG gun, SMAW stinger, TIG torch, workpieces and work stand.



TIG Foot Pedal Kit 286033
Includes TIG foot pedal, connection cable and adapter cable.

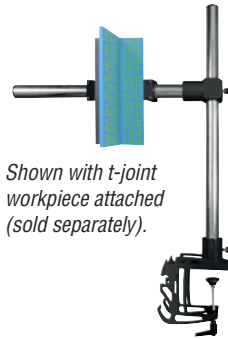
Magnifying Lenses
212238 1.50
212240 2.00
212242 2.50

Replacement Components



AugmentedArc® Router with Ethernet cable 277397 External stand-alone router
Note: All older AugmentedArc systems with serial #MK425018D and earlier require external stand-alone router to connect with WiFi in stand-alone mode.

278181 Classroom router (included with Controller 301395)



Shown with t-joint workpiece attached (sold separately).

Work Stand 277266
Allows for training in out-of-position applications.



MIG Gun 301401
Note: MIG gun AR nozzle sold separately.



MIG Gun AR Nozzle 277269



Shown with electrode/filler rod and AR tip (sold separately).

SMAW Stinger 277268



SMAW Electrode/TIG Filler Rod 277267
Electrode/Filler Rod AR Tip 279460



Shown with TIG torch AR nozzle (sold separately).

TIG Torch 301400



TIG Torch AR Nozzle 283068



Black Infinity™ AR Helmet LED Cover 276240



Gen III Headgear 271325
Headgear with oversized comfort cushion provides extensive adjustability, settings and enhanced support.

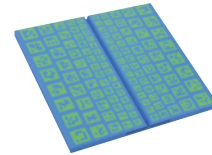


Headgear Suspension Pad 271326
Enhances comfort of Gen II and III headgear.

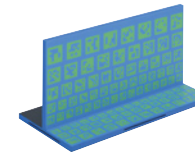


Magnetic Magnifying Lens Holder 286018

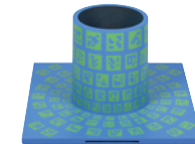
Replacement Workpieces



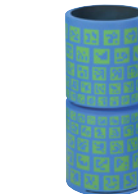
Butt Joint Workpiece 277274



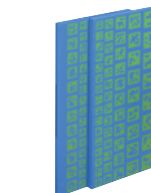
T-Joint Workpiece 277270



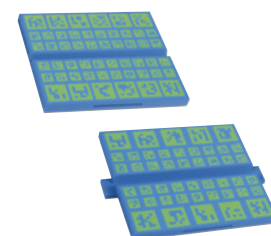
Pipe-to-Plate Workpiece 277276



Butt Pipe Workpiece 277275



Lap Joint Workpiece 277273



V-Groove Workpiece Kit 288210

Additional Information

Visit us on YouTube for
informative videos on:



What it is <https://youtu.be/xCbmFFPSF7o>



Set up <https://youtu.be/AKJfGgRrd2l>

Ordering Information

Equipment	Stock No.	Description	Qty.	Price
AugmentedArc® System	951823	See front page for system components		
Accessories				
AugmentedArc Controller	301395	For multiple system connectivity. Includes Classroom router 278181		
Heavy-Duty Transportation Cases	951775	Package including two cases that protect the complete system		
TIG Foot Pedal Kit	286033			
Magnifying Lenses	212238 212240 212242	1.50 2.00 2.50		
Replacement Components				
AugmentedArc Router with Ethernet cable	277397 278181	External stand-alone router Classroom router (included with Controller 301395)		
Work Stand	277266	For out-of-position applications		
MIG Gun	301401	AR nozzle NOT included		
MIG Gun AR Nozzle	277269			
SMAW Stinger	277268	Electrode and AR tip NOT included		
SMAW Electrode/TIG Filler Rod	277267			
Electrode/Filler Rod AR Tip	279460			
TIG Torch	301400	Filler rod and AR nozzle NOT included		
TIG Torch AR Nozzle	283068			
Black Infinity™ AR Helmet LED Cover	276240			
Replacement Gen III Headgear	271325			
Headgear Suspension Pad	271326			
Magnetic Magnifying Lens Holder	286018			
Replacement Workpieces				
Butt Joint Workpiece	277274			
T-Joint Workpiece	277270			
Pipe-to-Plate Workpiece	277276			
Butt Pipe Workpiece	277275			
Lap Joint Workpiece	277273			
V-Groove Workpiece Kit	288210	V-groove with backing and V-groove without backing		

Date:

Total Quoted Price:

Distributed by:

