

# 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, lap joint, T-joint, butt 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.



#### 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 to simulate lap joint, T-joint, butt joint, pipe-to-plate, butt pipe, V-groove with backing and V-groove without backing

**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.

**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 warranted for one year, parts and labor.



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**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.

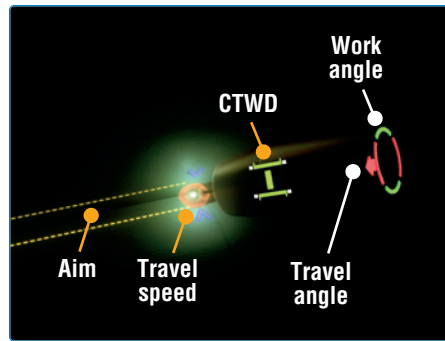
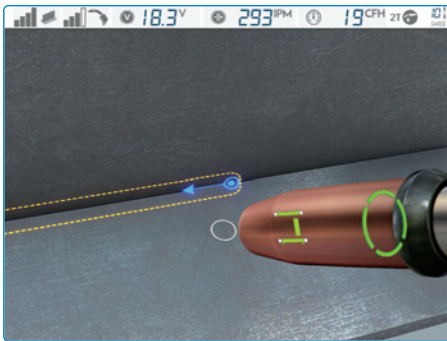


**Minimize material cost** by saving wire, gas and workpieces in this simulation environment allowing students to refine their welding skills before beginning live arc welding.



**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	Joins	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	<b>Simulator</b> H: 21 in. (533 mm) W: 9.38 in. (238 mm) D: 17.25 in. (438 mm)	<b>Simulator</b> 20.7 lb. (9.4 kg) <b>Welding helmet</b> 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
<b>GMAW</b> 10-38 V 50-425 A <b>FCAW</b> 10-38 V 50-425 A <b>SMAW</b> 50-425 A <b>GTAW</b> 50-425 A	DCEP DCEN AC	CO <sub>2</sub> Argon O <sub>2</sub> Argon CO <sub>2</sub> Argon	<b>GMAW/FCAW</b> 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	<b>Solid wire</b> .030, .035, .045 in. (0.8, 1.0, 1.2 mm) <b>Stick electrode</b> 1/8, 3/32, 5/32 in. (2.50, 3.25, 4.0 mm) <b>Filler rod</b> 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.

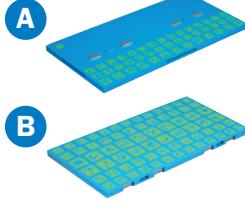


**TIG Foot Pedal Kit 286033**  
Includes TIG foot pedal, connection cable and adapter cable.

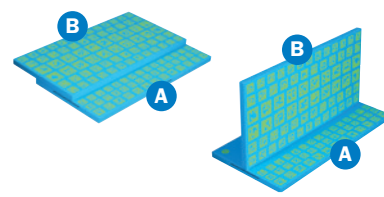
**Magnifying Lenses**  
212238 1.50  
212240 2.00  
212242 2.50

## Replacement Workpieces

### PARTS



### CONFIGURATIONS

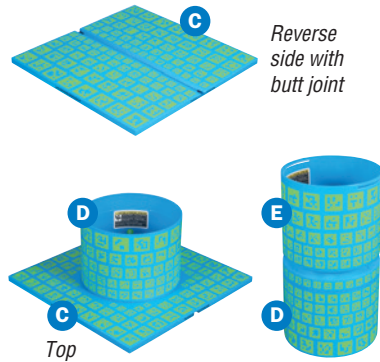


**Lap and T-Joint Workpiece Kit 295835**  
Includes two workpieces that can be configured to simulate a lap or T-joint.

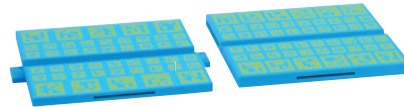
### PARTS



### CONFIGURATIONS



**Pipe and Butt Joint Workpiece Kit 295836**  
Includes three workpieces that can be configured to simulate a butt joint, pipe-to-plate or butt pipe.



**V-Groove Workpiece Kit 288210**  
Includes two workpieces to simulate a V-groove with backing and a V-groove without backing.

## Replacement Components



**AugmentedArc® Classroom Router 278181**  
Included with Controller **301395**.



**MIG Gun AR Nozzle 277269**



**SMAW Stinger 277258**

Shown with SMAW electrode/TIG filler rod (sold separately).



**Black Infinity™ AR Helmet LED Cover 276240**



**Work Stand 277266**

Allows for training in out-of-position applications.  
Shown with workpiece (sold separately).



**Gen. III Headgear 271325**

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

**SMAW Electrode/TIG Filler Rod 277267**



**TIG Torch 301400**

Shown with TIG torch AR nozzle (sold separately).



**Headgear Suspension Pad 271326**

Enhances comfort of Gen II and III headgear.



**MIG Gun 301401**

Note: MIG gun AR nozzle sold separately.



**TIG Torch AR Nozzle 283068**



**Magnetic Magnifying Lens Holder 286018**

## Additional Information

Visit us on YouTube for informative videos on:



**What it is**

<https://www.youtube.com/watch?v=chfDbnrgXgs>



**Set up**

[https://www.youtube.com/playlist?list=PLk\\_D-eUr0YKj90njdCfpCz8WYJAV3AY16](https://www.youtube.com/playlist?list=PLk_D-eUr0YKj90njdCfpCz8WYJAV3AY16)

## Ordering Information

Equipment	Stock No.	Description	Qty.	Price
<b>AugmentedArc® System</b>	<b>951823</b>	See front page for system components		
<b>Accessories</b>				
AugmentedArc Controller	<b>301395</b>	For multiple system connectivity (includes Classroom router <b>278181</b> )		
Heavy-Duty Transportation Cases	<b>951775</b>	Package including two cases that protect the complete system		
TIG Foot Pedal Kit	<b>286033</b>			
Magnifying Lenses	<b>212238</b>	1.50		
	<b>212240</b>	2.00		
	<b>212242</b>	2.50		
<b>Replacement Workpieces</b>				
Lap and T-Joint Workpiece Kit	<b>295835</b>	Two reconfigurable workpieces to simulate a lap or T-joint		
Pipe and Butt Joint Workpiece Kit	<b>295836</b>	Three reconfigurable workpieces to simulate a butt joint, pipe-to-plate or butt pipe		
V-Groove Workpiece Kit	<b>288210</b>	V-groove with backing and V-groove without backing		
<b>Replacement Components</b>				
AugmentedArc Router with Ethernet cable	<b>278181</b>	Classroom router (included with Controller <b>301395</b> )		
Work Stand	<b>277266</b>	For out-of-position applications		
MIG Gun	<b>301401</b>	AR nozzle NOT included		
MIG Gun AR Nozzle	<b>277269</b>			
SMAW Stinger	<b>277258</b>	SMAW electrode NOT included		
SMAW Electrode/TIG Filler Rod	<b>277267</b>			
TIG Torch	<b>301400</b>	Filler rod and AR nozzle NOT included		
TIG Torch AR Nozzle	<b>283068</b>			
Black Infinity™ AR Helmet LED Cover	<b>276240</b>			
Replacement Gen. III Headgear	<b>271325</b>			
Headgear Suspension Pad	<b>271326</b>			
Magnetic Magnifying Lens Holder	<b>286018</b>			

Date:

Total Quoted Price:

Distributed by:

