AdaptARC multi-process welding equipment performing ultra high deposition welds for an Oil & Gas Project. Two tandem weld heads were run simultaneously, laying a total of 160 - 240 lbs. of 1/16” filler wire per day.

“...the welding process we’re using was developed by Tri Tool in conjunction with Sauer especially for this project. Utilizing that method, we’ve been able to not only cut costs, but also make sure the schedule’s been maintained.”

Brian Stahovec, Project Superintendent - Sauer Group

“...the non-destructive testing companies said that they’ve never seen a film that looked so good after we shot the weld - they’re all 100% x-rays.”

Dave Kretin, Project Manager - Sauer Group
You’re in total control with welding equipment that features dynamic configuration options...

- Degree, Time, and Distance Programming
- Precision, User Defined Seam Tracking
- Two Shielded Gas Inputs
- One System with Multiple Processes: GTAW, GMAW-S, GMAW-P, and FCAW
- Wire Speeds Up To 700 Inches per Minute
- Digital Control for Consistent Accuracy

AdaptARC offers maximum operator flexibility with unique multi-process configurability that allows you to switch rapidly back and forth between GTAW & GMAW or FCAW with the SAME weld head and power supply.

All of AdaptARC’s mechanized orbital welding equipment is engineered to deliver the superior precision, control, dependability, and ease-of-use that customers worldwide have come to expect from Tri Tool’s excellent portable machine tools.

Work faster with AdaptARC’s patented features. For instance, use Seam Tracker to pre-set your desired path by setting reference points and upslope. The torch will follow your path for every bead sequence of the weld.

Save time with Tri Tool’s patented Quick Change Torch designed to change over from process to process in a few minutes without removing the head from the track.

Call for more information about the AdaptARC system and discover the Tri Tool® Advantage - for Welding!
The ORBITMASTER weld controller has been designed so that you can program the perfect weld everytime.

This multi-process controller can perform pulsed or non-pulsed GTAW and/or GMAW, as well as FCAW, for maximum selectivity. Switch from GTAW to GMAW-P for the ability to control heat inputs needed for special metal alloys or when FCAW wire is not available and high deposition rates are needed with available solid core wire. Along with conventional bevel joints, the programmable controller is ideal for non-typical seams including multi-axis (saddle-on) type joints, angles, curvatures, indentations, and protrusion welds.

Automatic guidance capability provides control and position recording along a path (from hundreds of points) for rapid, repeatable precision.

Additional advanced features of the ORBITMASTER controller include automatic tip to work piece distance control in all processes, and programmable control is provided for the torch to work piece Arc Voltage Control (AVC), oscillation, travel, wire feed, coolant recirculation and power source/AVC sensing.

The high performance ORBITMASTER feeds wire up to 700 in/min, especially important if the application requires a huge amount of weld deposition.

- Multi-Process Control
- User Defined Seam Tracking
- Dual Inlet Auto-Purge Gas Ports
The DualARC weld head’s design permits rapid change-over from GTAW to GMAW. Automatic steering control provides precision non-symmetrical weld paths for saddle and other special shapes, as well as automatic rewind and bead placement.

- **Rugged Construction for Accuracy**
- **Rapid Process Switching Without Removing Head From Track**
- **Automatic Steering Control**
- **Auto Rewind and Bead Placement**

The weld head traverses on modular guide tracks for accurate and solid positioning, optimal for narrow groove orbital welding. The weld head is perfectly matched to the ORBITMASTER controller for orbital, linear and overlay welding applications.

The weld head travels up to 100 in/min reducing your weld time significantly when positioning the weld head, rewinding, pre-setting a route, or performing a pass.

The DualARC has been designed from the ground up for ease of user maintenance with “off the shelf parts” that can be changed in-place with common tools. Rugged construction delivers the precision and repeatable accuracy so critical for the tight tolerances of the orbital welding process.

![The DualARC weld head performing a critical weld on pre-heated pipe in a nuclear power facility on 16" OD X .844" WT (2 1/4 Chrome) - Pre & Post Weld Heat Treat.](image1)

![The DualARC weld head travels up to 100 inches per minute for positioning, rewinding to starting point, or pre-setting a route, reducing your weld time significantly!](image2)
Reduce Downtime and Costs with:
• Nonstop Welding from Root to Cap
• Program Chaining and Linking
• Reduce E-tech Support
• QC Compliance Monitoring
• Modification Reference Screens

AdaptARC’s modified short arc for open root welding can eliminate the time consuming hot pass.

Chaining and linking programs together allows the next program to begin at the end of the previous program, for a single combination program that welds the root, hot-pass, fill layers, and cap without stopping.

You can also loop programs to allow the same program to repeat multiple times. This is utilized on such beads as the cap, where the same bead characteristics are repeated for a given number of passes.

For reduced E-tech support costs, AdaptARC’s fully digital control system eliminates the frequent calibration that is required on competing systems.

The main screen allows for instant evaluation and monitoring of key parameters including heat input.

In addition, the Modifications screen can be saved and printed for QC compliance to the welding procedure specifications.

If the gas or coolant should be reduced or fail, the system will automatically shut down and produce a warning screen on the operator’s pendant, eliminating porosity issues due to a low bottle or ruptured coolant lines.

ORBITMASTER delivers superior welding performance and results with unprecedented ease and advantages such as precision seam tracking and waveform generation (GMAW) for reduced spatter and smoke.
With AdaptARC cost-effective mounting system you can mount up to three different pipe sizes with just one track. Lightweight, durable tracks are available for any pipe size down to 2”.

Custom designed, non-metallic, polymer coated drive wheels combined with specially designed knurling provide tremendous grip, overcoming oil or other obstructions that may be on the track.

- Each track fits on 3 pipe sizes
- Get secure mounting on pre-heated pipe with optional spring-loaded mounting pads
- Use either curved or flat track with the DualARC weld head

Dynamic roller/track system for straight or curved track operation.
AdaptARC weld programming is simple, straightforward and easy to learn. The programming system was designed by welders to include the controls you are familiar with and expect. The AdaptARC console comes pre-loaded with weld programs for a variety of processes, and sizes, or follow the screen prompts to create a new program.

The fully featured remote pendant is one of the smallest and most welder-friendly pendants on the market.

A High-Low switch allows simultaneous switching of primary/background parameters in place of the more conventional operation of switching these parameters separately; this allows half the pendant switches and provides much easier operations.

The “Pendant Setting” console screen allows the operator to customize the pendant functions including the incremental amperage increase/decrease per button depression.

Add individual notes to any program to identify specified details of that program such as who created it, when, what materials, etc.
Maximum versatility for a wide range of welding solutions

SPECIAL APPLICATIONS

- Development & validation of special weld procedures
- Welder training & certification
- Specialty weld applications

The DualARC weld head can be custom configured for special operations, such as ID cladding.

In the photo at the right, a custom welding fixture was developed for a special cladding application that also required video cameras for remote monitoring of the weld process. The ORBITMASTER’s high performance Pulse Spray Transfer delivered exceptional quality and deposition rates.

The programmable weld controller’s unique capability to reverse travel direction produces rapid, repeatable accuracy with projects involving interrupted openings.

Tri Tool’s experienced Special Engineering support can provide you with comprehensive design and manufacturing for any custom AdaptARC fixtures, accessories and mounting systems you need for your specific welding projects.

Welding Program Development

Tri Tool’s comprehensive service and support goes beyond quality equipment manufacturing. Welding technology support in the form of ORBITMASTER program development for demanding applications, difficult welding process, materials, or situations is only a phone call away. Programs are easily sent and stored in your system.

Support services are available for all your PQR and WPS development.

For program assistance call (916)288-6100
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Weight:</th>
<th>95 lbs (43.1 kg) (Appx.)</th>
<th>Relative Humidity:</th>
<th>10% to 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingress Protection Rating:</td>
<td>IP23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance and Dimensions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height:</td>
<td>20.10&quot; (510.5 mm)</td>
<td>Altimeters:</td>
<td>0 to 10,000 feet (0 to 3048 m) above mean sea level</td>
</tr>
<tr>
<td>Width:</td>
<td>15.63&quot; (397.0 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length:</td>
<td>27.50&quot; (698.5 mm)</td>
<td>Fluid Cooler:</td>
<td>Refer to the manufacturer's Owner's Manual for all information pertaining to the fluid cooler</td>
</tr>
<tr>
<td>Power Requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Power:</td>
<td>110V Nominal</td>
<td>Certification:</td>
<td>A CE certified version of the ORBITMASTER is available.</td>
</tr>
<tr>
<td>50/60Hz - 10A</td>
<td>230V Nominal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50/60Hz - 5A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Air Temperature:</td>
<td>0°F (-17.8° C) to +140°F (+60° C)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Travel
- Maximum Speed: 100 in/min (2.54 m/min)
- Oscillation/Steering Range: 2.00" (50.8 mm)
- Maximum Speed: 180 in/min

AVC
- Range: 2.00" (50.8 mm)
- Maximum Speed: 50 in/min (1.27 m/min)

Wire Feed
- Maximum Speed: 700 in/min (17.78 m/min)

Umbilical Length:
- 32' (9.75 m) (100' Optional)

Wire Sizes:
- .023, .030, .035, .045

Radial Clearance: Includes +/- 0.75" AVC Travel.

Torch
- Lead: 15 deg
- Lag: 15 deg
- Tilt: +/- 15 deg
- Course Radial Position: 5.875 in (149.22 mm)

Power:
- 350A @ 100% duty cycle

Weld Processes:
- FCAW, GMAW, GMAW-P, GTAW

Environmental:
- Designed to IP23

Operating Environments
- Ambient Air Temperature: 0° F (-17.8° C) to +140° F (+60° C)
- Relative Humidity: 10% to 90%
- Altitudes: 0 to 10,000 feet (0 to 3048 m) above mean sea level

Radial Clearance - Standard Configuration*

Without Spool (for Remote Wire Feeder**)

<table>
<thead>
<tr>
<th>Track Size</th>
<th>GTAW</th>
<th>GMAW</th>
<th>Track Size</th>
<th>GTAW</th>
<th>GMAW</th>
</tr>
</thead>
<tbody>
<tr>
<td>in</td>
<td>mm</td>
<td>in</td>
<td>mm</td>
<td>in</td>
<td>mm</td>
</tr>
<tr>
<td>6</td>
<td>152.4</td>
<td>7.9</td>
<td>200.7</td>
<td>7.9</td>
<td>200.7</td>
</tr>
<tr>
<td>12</td>
<td>304.8</td>
<td>7.3</td>
<td>185.4</td>
<td>7.3</td>
<td>185.4</td>
</tr>
<tr>
<td>16</td>
<td>406.4</td>
<td>7.1</td>
<td>180.3</td>
<td>7.1</td>
<td>180.3</td>
</tr>
<tr>
<td>24</td>
<td>609.6</td>
<td>6.9</td>
<td>175.3</td>
<td>7.4</td>
<td>188.0</td>
</tr>
<tr>
<td>30</td>
<td>762.0</td>
<td>6.9</td>
<td>175.3</td>
<td>7.4</td>
<td>188.0</td>
</tr>
</tbody>
</table>

* Contact Tri Tool's AdaptARC Staff if you require more restrictive clearances for your applications.
** Tri Tool Inc. can custom configure a Remote Wire Feeder for your specific requirements, call for more information.

THIS INFORMATION IS PROVIDED AS A GUIDELINE ONLY TO ASSIST WITH THE SELECTION OF EQUIPMENT AND ACCESSORIES. THIS INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT YOUR SALES REPRESENTATIVE FOR SPECIFIC DETAILS OR TECHNICAL SPECIFICATIONS.
Versatility and Reliability for a wide range of welding applications

As an equipment manufacturer that provides special engineering and custom equipment design and manufacturing, Tri Tool is uniquely qualified to configure welding systems that are perfectly matched to your special welding situations.

AdaptARC’s technological advantage is being clearly proven in terms of project productivity and quality, repeatable, certified welds - each and every day.

Tri Tool Services

Tri Tool Services provides a nationwide network of dependable and qualified welding personnel, equipped with reliable and high performance AdaptARC equipment, ready to perform precision on-site code welding - any time and any place. With proven experience and practical knowledge of welding for construction and maintenance, backed by the industry’s finest OEM support. Tri Tool Services is your best choice to stay on-schedule and budget when you require reliable contract code welding services.