

AMI Orbital Welding Equipment Increases Tube-to-Tubesheet Welds by 80% per Shift

Application:

- Heat Exchanger

Material:

- Stainless Steel

Welding Equipment:

Power Supply:

- Model 227

Weld Head:

- Model 6

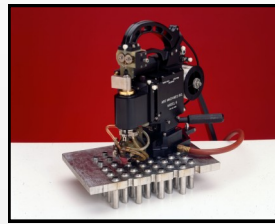
Benefits:

- √ Better penetration
- √ Zero downtime between welds
- √ 80% more welds in a 10 hour shift than by manual welding
- √ Less welding operator fatigue

For further information, call AMI at 1-818-896-9556 or e-mail sales@arcmachines.com



Model 227



Model 6



Welding operator using M227 Heads-Up-Display (HUD)

When Axton Incorporated, a manufacturer and exporter of heat exchangers and other industrial equipment in Vancouver, British Columbia decided to update some of their operations, they selected Arc Machines' orbital welding equipment for the job. Having previous experience with orbital welding, they purchased a **Model 227** Power Supply and a **Model 6** tube-to-tubesheet weld head. AMI trained their lead welders at their facility.

Axton used AMI's equipment for the fabrication of a large stainless steel exchanger for export. The tubesheet had 990 tubes 1.75 in. (44,45 mm) OD with a wall thickness of 0.084 in. (2,1 mm). The vessel was 50 ft. (15,24 m) long with a 140 in. (3,55 m) OD and tubesheets on both ends.

The Model 6 weld head features a chill follower linked mechanically to the torch that is spring loaded to the ID of the tube. This allows the torch to maintain a constant distance from the tube OD even when there is some degree of ovality in the tubes. The chill follower and the torch block are water cooled which removes heat from the ID of the tube. This allows the application of additional heat to the weld resulting in better penetration without melting through the tubes. Efficiency was improved by having two locating fixtures installed and mounted on the tubesheet.

After welding had been completed, the tube-to-tubesheet welds were inspected to ASME (Section VIII). By using AMI's orbital welding equipment, the process achieved 80% more welds in a 10 hour shift than by manual welding, and the welding operators experienced less fatigue.

To read the full story, visit www.arcmachines.com



Advanced Products, Systems & Solutions

AMI
ARC MACHINES, INC.®

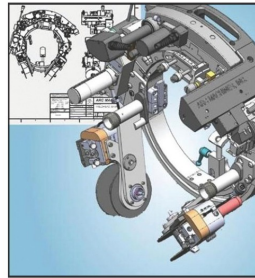
LEADERS & INNOVATORS in Automated Orbital Welding



Cutting Edge Narrow-Groove
Pipe Welding Technology



Advanced Fusion Welding
and Process Control



High-Tech Designs &
Engineering Services



Turnkey Integrated Systems

Advanced Products, Systems & Solutions



With over 3000 customer relationships in over 50 countries, Arc Machines, Inc. has set the standard for Automated Orbital Welding Equipment for over 30 years, combining Quality and Durability with Innovative Engineering and Design. Around the world, leading manufacturers and contractors rely on AMI for their expertise in automated orbital welding and to develop customized solutions for new welding challenges.

www.arcmachines.com

AMI

ARC MACHINES, INC.®

Arc Machines, Inc.
10500 Orbital Way
Pacoima, CA 91331 U.S.A.
(818) 896-9556
fax (818) 890-3724
sales@arcmachines.com

M227 Power Supply

QUICK SPECS

Input Power

100 to 240 VAC
single-phase
50/60 Hz

Weld Current

3 - 100 A DC @ 100/120 VAC input
3 - 225 A DC @ 200/240 VAC input
100% Duty Cycle

Memory Capacity

100 weld schedules maximum,
100 levels per schedule maximum,
100 different passes per level

I/O Device

M-227EMM

Water Cooler

Optional

Dimensions

15" x 23" x 20"
(381 mm x 584 mm x 508 mm)

Weight

88 lbs.
(40 kg)



M6 Tubesheet Weld Head

AVC Stroke

Automatic

Wire Feed Speed

5 - 100 IPM
(13 - 254 cm/min.)

Rotation Speed

0.1 - 10.0 RPM

Tungsten Size:

1/16" or 3/32"
(1,6 mm or 2,4 mm Ø)

Weld Current

200 A (maximum)

Torches

Water-cooled, 200 A
100% Duty Cycle

Wire Manipulator

Vertical, Horizontal and
Angular

Weight

16 lbs. (7,3 kg) less cables

- Gas chamber for welding titanium available
- Compatible with AMI Model 227 and 415 Power Supplies

