

Oil Refinery Relies on Orbital Welding Equipment

Application:

- Oil refinery

Material:

- Inconel® alloy
- 321 stainless steel

Welding Equipment:

Power Supply:

- **Model 227**

Weld Heads:

- **Model 79-6625**
- **Model 79-3500**

Benefits:

- ✓ **Increased productivity over manual welding**
- ✓ **Labor savings**
- ✓ **Low rejection rate**

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



Model 227



Model 79



When construction contractor, CB&I Howe-Baker reviewed the welding requirements for a new hydrogen reformer of Air Liquide's gas processing plant in El Segundo CA, - just a few hundred yards from the beach - they knew it would be difficult if performed by conventional manual welding.

One concern was the 5.3" diameter, vertically mounted catalyst tubes with 0.6" wall thickness. The stubs were already welded to the header; the base material of the tubes was centrifugally cast Inconel alloy, while the base material of the stubs was static-cast Inconel. These castings can be difficult to weld because of casting inclusions and porosity. The 14" diameter inlet distribution headers had 125 outlets. Each pipe outlet had to be joined by a 1" Schedule 40 expansion pipe loop. The other end of each expansion loop was joined to an inlet stub on the top end of the catalyst tube. Physical access to the catalyst tubes was limited. The clearance around the tubes was about 4.5", and structural supports and plates made straight access difficult.

The fabricator used orbital welding equipment from Arc Machines, Inc. to resolve the access difficulty. A **Model 227** power supply and a **Model 79-6625** weld head were used for the 5" tubes, a **Model 79-3500** weld head was used for the 1" pipes. Of 250 welds, none were rejected in the final X-ray. The crew averaged 5 welds per shift, with a high of 8 welds in one shift.

The decreased weld times made it possible to absorb the delays caused by weather conditions and still finish the project on time.

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



Advanced Products, Systems & Solutions



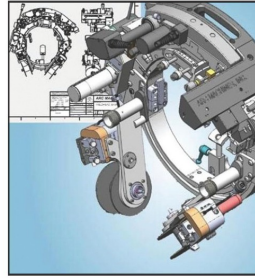
LEADERS & INNOVATORS in Automated Orbital Welding



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 - 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)



M79 Series Weld Heads

OD Range

0.750" - 6.625"
(19 mm - 170 mm)

Water Cooled Torch

200 A continuous
Duty Cycle

Head Weight

11 lbs. - 22 lbs.
(5 kg - 10 kg)

Filler Wire Size

0.030" - 0.035"
(0,762 mm - 0,889 mm)

Rotor RPM

0.1 - 2.0

Wire Spool Size

2 lbs., 4" (0,9 kg; 101,6 mm)

Wire Feed Speed

5 - 100 IPM

➔ Compatible with AMI Model 415 or Model 227 Power Supplies

