

Pipe Welding on Offshore Platforms

Application:

- Riser construction of offshore platforms

Material:

- 3" & 7" diameter structural steels with API 5L X70 pipes & AISI 4130 couplings

Welding Equipment:

Power Supply:

- Model 215

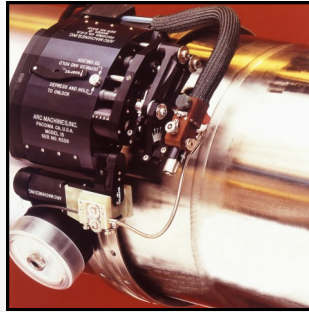
Weld Heads:

- Model 15
- Model 81

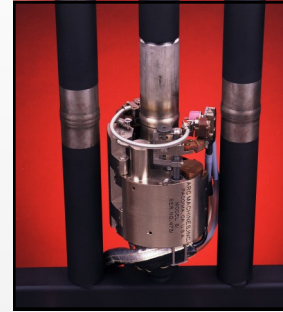
Benefits:

- ✓ Consistent, high quality welds
- ✓ Low failure rate
- ✓ 574 welds by 9 to 10 welders in 3 shifts per day

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



Model 15



Model 81

Haugesund Mekaniske Versted(HMV), one of Norway's leading construction yards for the oil and gas related industry in the North Sea oil field, used advanced orbital GTAW technology for the construction of risers for the Draugen platform, owned by Shell Oil, and the Statfjord platform, owned by Statoil.

The risers are the piping that extend from the well head on the seabed up to the platform hull. They consist of a 3 in. pipe running parallel to a 7" pipe, and are used in maintenance of the oil wells. The total height of the risers for the Draugen platform were 285 m and 146 m for Statfjord. Structural steels, the API 5L X70 (modified) for the piping and the AISI 4130 specified for the couplings were selected on the basis of the strength required. However, these materials required very precise control of the welding standard cycle to maintain favorable mechanical qualities after welding

The welding procedure qualification took two months of trials before all the specification requirements were met, which was facilitated by orbital welding. Weld quality was high with a failure rate of only 1.5% on the AISI 4130. The maximum allowable shrinkage was 0.5 mm in a 15 m line, which was easily accomplished. A total of 574 welds were completed including 287 on the 3" pipe and 284 on the 7" pipe.

A key factor in the success of HMV's riser construction project was the purchase of 3 **Model 215** microprocessor controlled piping welding systems, two **Model 15** weld heads with a C torch that provide for wire feed, and a **Model 81** weld head for the smaller 3" pipe, from Arc Machines, Inc. They were used in production welding around the clock, three shifts per day, operated by nine or ten welding technicians.

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



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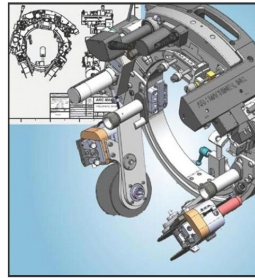
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With over 3000 customer relationships in over 50 countries, Arc Machines, Inc. has set the standard for Automated Orbital Welding Equipment for over 30 years, combining Quality and Durability with Innovative Engineering and Design. Around the world, 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

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M15 Weld Head

QUICK SPECS

AVC Stroke

1.75" (44,45 mm)

Torch Oscillation Stroke

2" (50,8 mm)

Wire Feed Speed

5 to 200 IPM

Radial Clearance Range

3.69" (93,73 mm) (Minimum)
depends on pipe diameter,
torch type and configuration

Axial Clearance Range

11.5" (292,1 mm) (Minimum)
depends on torch type and options

- Single or dual wire feeder options are available
- Several torch types are available



M81 Weld Head

AVC Stroke

1.00" (25,4 mm)

Torch Oscillation

+/- 0.31" (7,87 mm)

Wire Feed Speed

1 to 100 IPM

Radial Clearance Range

1.750" (44,45 mm) (Minimum)
depends on pipe diameter

Axial Clearance

6.325" (160,65 mm) (Minimum)

Carriage Travel

0 to 100 IPM

- Water-cooled body
- Compatible with AMI Model 415 or Model 227 Power Supplies

