# MODEL 81

## SMALL-DIAMETER PIPE WELD HEAD



# The widest range of orbital welding equipment in the world



The Model 81 is used in a wide variety of applications that require high quality welding results in applications with limited axial and radial clearances. Common uses for the Model 81 include shipbuilding and high-pressure steam piping in fossil fuel power plants and many other applications.

The Model 81 is a full function orbital pipe weld head featuring programmable Arc Voltage Control, Torch Oscillation, onboard Wire Feeder and Travel in a very compact package.

The Model 81 in its standard configuration will weld pipe from 1.9" (48 mm) OD to 5.563" (142 mm) OD with as little as 1.750" (45 mm) radial clearance and 6.325" (161 mm) axial clearance.



# QUICK SPECS

## Pipe OD Range

1.9" - 5.563" (48 mm - 141 mm)

## **AVC Stroke**

0.750" (2,4 or 3,2 mm Ø)

## **Tungsten Size**

3/32" or 1/8" (2,4 mm or 3,2 mm Ø)

#### **Torch**

Water-cooled, 200 A DC 100% Duty Cycle (standard)

## **Torch Oscillation Stroke**

0.31" (7,87 mm)

## **Filler Wire Size**

0.030" or 0.035" (0,8 or 0,9 mm Ø)

#### **Axial Clearance**

6.325" (160 mm) minimum

# Torch Cross-Seam Steering Range

0.31" (8 mm) motorized 0.25" (6,35 mm) manual

## Wire Feed Speed

1.0 - 100 IPM (25 - 2540 mm/min.)

#### Wire Spool

0.5 lb. special spool (0,2 kg) other sizes available

#### **Radial Clearance**

1.75" (45 mm) minimum

#### Torch Adjustments

lead / lag +/-15° tilt in / out +/-15°



**Travel Speed** 

(2,5 - 250 mm/min.)

Weight

6 lbs. (2,7 kg)

(less cables)

0.1 - 10 IPM

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## STANDARD FEATURES

- 1. Servo-controlled rotation
- Servo-controlled AVC
- 3. Servo-controlled synchronized wire feed
- 4. Servo-controlled torch oscillation
- Motorized torch steering
- 6. Water-cooled body for use in pre-heated pipes

The unique clamping assembly of the Model 81 weld head increases production rates by minimizing the mounting and dismounting times of the weld head to as little as 30 seconds each.



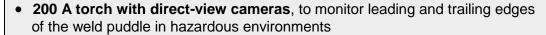








## **OPTIONAL HARDWARE**



- AVC tilt, to allow the AVC motion of the torch to work in the same plane as the torch tilt, to weld flanges, sockets and similar joints
- AVC/OSC: interchange with torch tilt used for mud drum and superheater header welding
- **Adapter kits,** for 1/2" (12,7 mm) pipe through 1.90" (48,26 mm) OD
- **Spool holder**, for larger, 4" (101,6 mm) spools
- Remote-controlled, motorized torch tilt

Model 81 weld head in AVC/Tilt version welding inside the mud drum







## Compatible Power Supplies:

- Model 415 WDR Programmable Multi-Function Power Supply
- Model 227 Portable Pipe Welding Power Supply

# **The Global Welding Company**

For further information please visit our website













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