

D WELD HEAD

Model 420

Orbital Weld Head for
Multi-Pass GTAW Pipe Welding



Use with
• Pipemaster Model 515
Power Source

D Weld Head

Orbital Weld Head for Multi-Pass Pipe Welding

Precision Tools for Perfect, Repeatable Welds

The Magnatech D Weld Head is designed to make pipe-to-pipe and pipe-to-fitting welds. It is "full function" – with the capability of reproducing all the motions of a skilled welder. The D Weld Head is used for applications with radial and axial clearance constraints. Interchangeable Guide Rings provide mounting on the pipe, and allow the D Weld Head to cover a broad size range. The D Weld Head improves productivity by increasing duty cycle, reducing repair rates, and producing welds of consistent quality.

Use on Preheated Pipes.
Heat-tolerant components and water-cooled housing allows use on alloys requiring preheat.

Torch Oscillation (Weave).
Width, speed, and endpoint "dwell" independently programmable. Torch "Cross Seam" steering electronically controlled using Remote Pendant. Pulsed Current automatically synchronized with torch oscillation.

Arc Gap Control (Arc Voltage Control).
Electronically maintains programmed arc length.

Compact Head-Mounted Wire Feeder.
accommodates range of wire diameters

Filler Wire Spool.
Use standard 1kg (2lb..) spools, or special 0.5kg (1 lb..) low profile spool to reduce radial profile

Water-cooled Torch

3-Axis Position Adjustment for Filler Wire Nozzle.
Multiple adjustments provide precise positioning of filler wire entry into weld puddle.

Weld Head Mounting/Rotation.
Metal Guide Rings attach Head to pipe. Positive sprocket drive system guarantees uniform rotation speed.

Features

- Full function Capability (Torch Rotation, Filler Wire Feed, Electronic Arc Gap Control, Electronic Oscillation)
- Broad size range
- Guide Rings available for standard Tube/Pipe sizes
- Waterproof Carry Case/Tool Kit standard
- Water-Cooled Torch uses standard Expendables

Guide Rings mount Head on Pipe.

Available for all nominal pipe sizes
48mm – 356mm
(1 1/2" – 14")
and Tube sizes
44mm – 127mm
(1.75" – 5" O.D.)



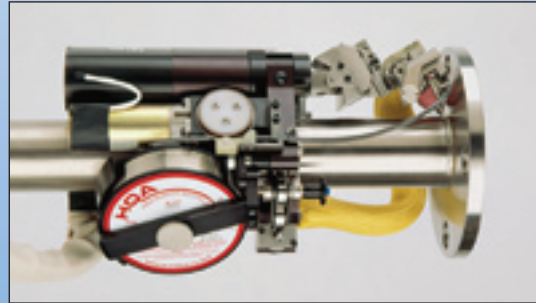
Applications

- Fossil Power Plant Construction/Maintenance
- Steam Generation Equipment Fabrication
- Nuclear Power Plant Construction/Maintenance
- Chemical/Petrochemical Facility Construction/ Maintenance
- Shipyard Construction
- Gas Transmission Pipelines
- Process Piping



Options

- **Socket Weld Kit** allows torch to be angled 45° (does not angle AVC motion).
- **Extensions Cables**
- **Tilt AVC** (Adjustable) allows torch to be pivoted up to 60° for socket/fillet welds. Maintains arc length correction motion along tungsten electrode axis.



- **Guide Ring Adaptor Kits** allow Guide Rings to be used on smaller pipe sizes. Use with oversized Guide Rings on preheated pipe to prevent heat damage.



- **Video Arc Monitoring.** Various configurations allow remote operation.



- **Low Profile Spool Kit** reduces radial profile of D Weld Head to 50mm (2"); Low Profile Wire Spool 0.5kg (1lb.) required.



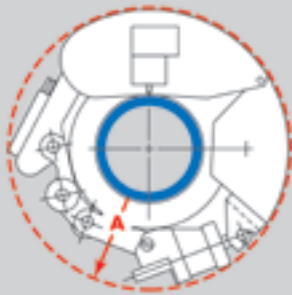
Specifications

Application	Multi-Pass Orbital GTAW pipe-to-pipe, pipe-to-fitting	
Cable Length	8m (25') Standard. Extension cables available	
Pipe (Tube) Size Range	25–356mm (1–14")	
Filler Wire Module	Wire Size:	0.8, 0.9, 1.0mm (0.03", 0.035", 0.040")
	Max. Speed Capability:	254cm (100 IPM)
	Spool Size:	1 kg (2 lb.) Std; 0.5kg (1 lb.) Low Profile
Oscillation Module	Max. Oscillation Stroke Amplitude:	16mm (0.6725")
	Max. Oscillation Speed:	152cm (60 IPM)
	Oscillation Dwell:	0–1 Second
	Cross Seam Adjustment:	±6.4mm (0.25")
Arc Gap Control Module	1.3cm (0.5") Stroke. Additional mechanical adjustment allows welding heavier wall pipe	
Torch Propulsion Module	25cm (10 IPM) Maximum rotation speed	
Water-Cooled Torch	200A Continuous capability	
Torch Adjustment Capability	Torch Lead/Lag Adjustment:	±15 Degrees (Manual)
	Torch Tilt Adjustment:	±10 Degrees (Manual)
Power Supply Compatibility	Pipemaster Model 515	

Dimensions/Weights

Weight	3.6kg (8 lbs.)
Axial Clearance	Torch C/L to Rear Extremity: 22cm (8.51") Torch C/L to Front Extremity: 1 cm (0.41")
"A" Radial Clearance Requirement for Pipe 44.45mm (1.75") and Larger	6.4cm (2.5") with Standard Spool* 5.1cm (2.0") with Low Profile Spool*

* For pipe/tube OD's less than 44.45mm (1.75"), Radial Clearance Requirement increases with decreasing diameter. Contact Factory.



Represented By:

MAGNATECH

Headquarters: **MAGNATECH LLC**
6 Kripes Road, P.O. Box 260, East Granby, CT 06026-0260
Telephone: (+1) 860 653-2573 • Fax: (+1) 860 653-0486
E-Mail: info@MagnatechLLC.com
Web Site: www.MagnatechLLC.com

European Office: **MAGNATECH INTERNATIONAL B.V.**
De Amer 24, 8253 RC Dronten, The Netherlands
Telephone: (+31) 321 38 6670-79 • Fax: (+31) 321 31 4165
E-Mail: info@Magnatech-International.com
Web Site: www.Magnatech-International.com

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