

MAGNATECH

ORBITAL WELDING SYSTEMS

QUICKCLAMP WELD HEADS

Models 432 and 433

Orbital Weld Heads for
Multi-Pass GTAW Pipe Welding



Use with

- *Pipemaster Model 515
Power Source*

QUICKCLAMP WELD HEADS

Orbital Weld Heads for Multi-Pass GTAW Pipe Welding

Precision Tools for Perfect, Repeatable Welds

The Magnatech Quickclamp Weld Heads are designed to make pipe-to-pipe and pipe-to-fitting welds. They are “full function” – with the capability of reproducing all the precise motions of a skilled welder. A continuously adjustable clamp eliminates the need to interchange components when changing pipe sizes. Simply slip the Head over the pipe and clamp with a toggle lever. The Quickclamp Heads improve productivity by increasing duty cycle, reducing repair rates, and producing welds of consistent quality.

Cable Guides

control torch cable wrap up – prevent damage

3-Axis Position Adjustment for Filler Wire Nozzle.

Multiple adjustments provide precise positioning of filler wire entry into weld puddle

Integral Filler Wire Feeder

accommodates range of wire diameters (separate floor-mounted feeder not required)

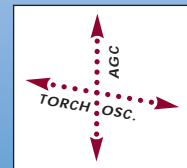
Filler Wire Spool.

Use standard 1kg (2lb.) spools

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.



Water-Cooled Torch

with adjustable Lead/Lag Angle uses standard expendables

Features

- Multipass welding of tubes/pipes in all gravity positions
- Use economical standard 1 kg (2 lb.) wire spools
- Push button clutch for rapid cable unwind
- Heat tolerant steel bearings and chain drive
- Waterproof Carry Case/Tool Kit standard

- Socket Welding Kit and Tilt AVC option for angled torch applications
- Water-Cooled Torch uses standard Expendables

Options

- Extension Cables



TILT-AVC standard. Allows the torch to be pivoted for socket/fillet welding applications, maintaining the arc length correction motion along the tungsten electrode axis (tilt-torch bracket also provided standard).



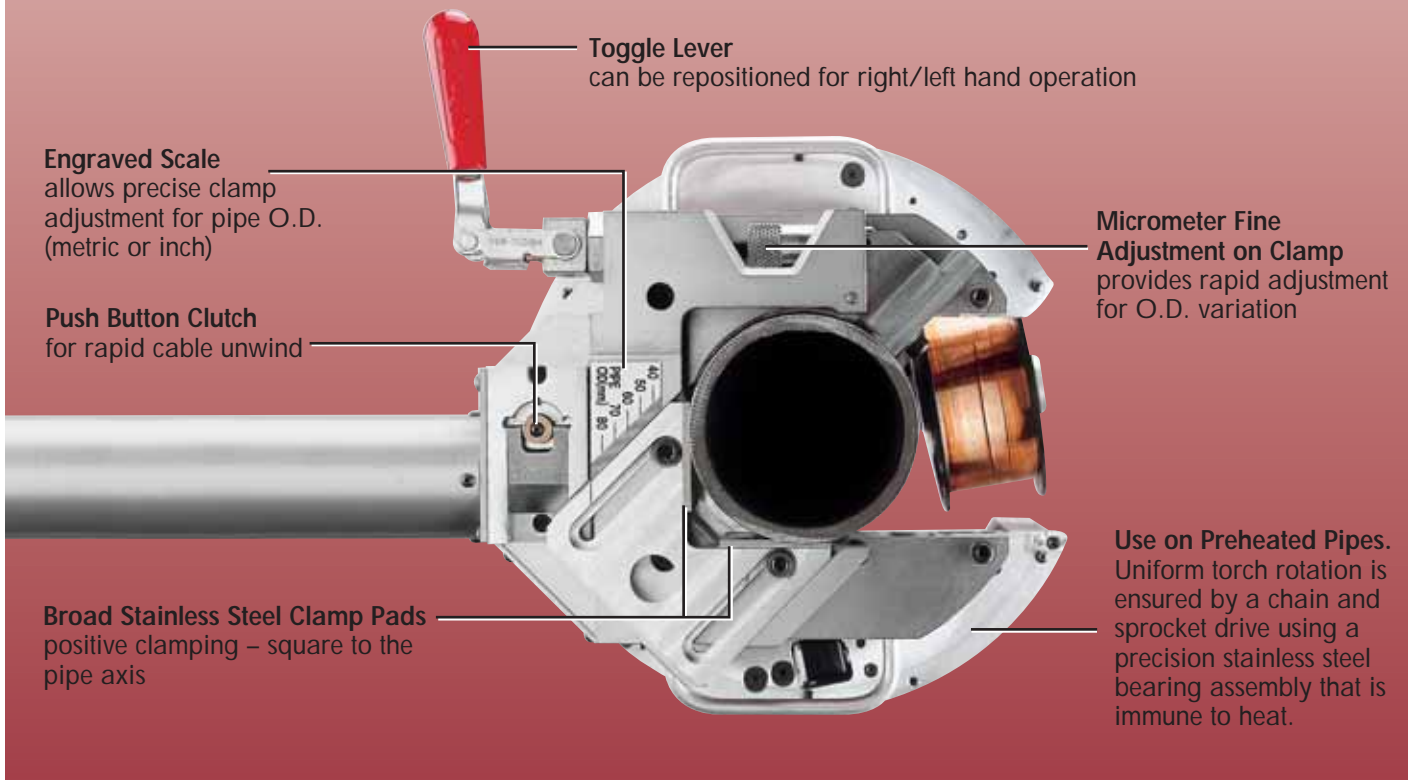
Head mounts entirely on one side of the joint, allowing use for pipe-to-fitting welds.



Pivoting Spool Mount. Unique design maintains tension on wire, prevents bending (not required on Model 433)



Narrow Axial Profile



Applications

- Fossil Power Plant Construction/Maintenance
- Steam Generation Equipment Fabrication
- Nuclear Power Plant Construction/Maintenance
- Chemical/Petrochemical Facility Construction and Maintenance
- Shipyard Construction
- Fabrication Shops
- Process Piping



The Quickclamp is used in diverse industries throughout the world



Weld Head/Controls Specifications

Applications

Pipe (Tube) Size	25mm (1") – 89mm (3.5") OD
Model 432	60mm (2.375") – 168mm (6.625") OD
Model 433	

Filler Wire Module

Wire Size	0.8, 0.9, 1.0mm (.030, .035, .040")
Max. Speed Capability	254cm (100") per minute
Spool Size	Standard 1 kg (2 lb.)

Oscillation Module

Max. Oscillation	
Stroke Amplitude	16mm (0.0625")
Max. Oscillation Speed	152cm (60") per minute
Oscillation Dwell	0–1 second
Cross Seam Adjustment	±6.4mm (±0.25")

Arc Gap Control Module

Stroke	13mm (0.5")
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Torch Propulsion Module

Rotation Speed	
Model 432	0.1 – 1.8 rpm
Model 433	0.05 – 0.9 rpm

Water-Cooled Torch

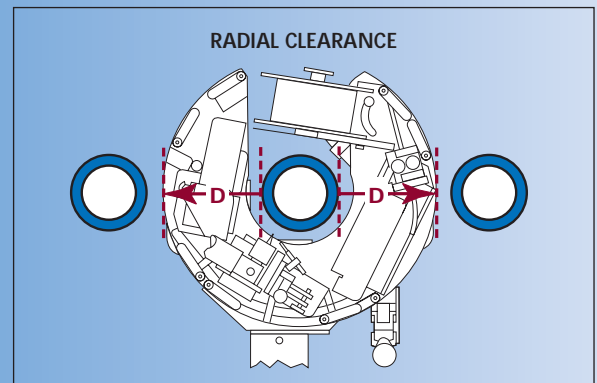
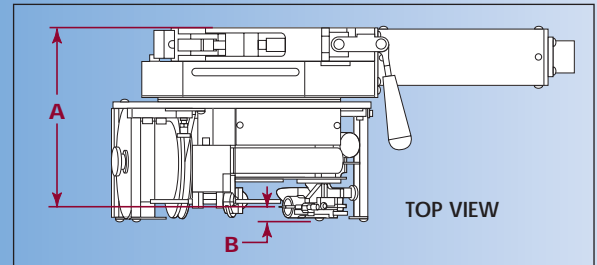
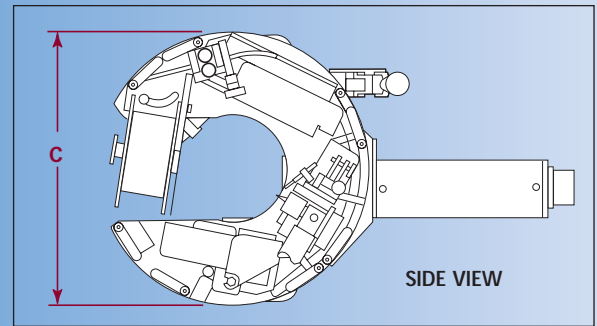
Amperage Capability	200 A Continuous
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Torch Adjust. Capability

Torch Lead/Lag Adjustment	±15 Degrees (manual)
Torch Tilt Adjustment	±10 Degrees (manual)

Power Supply Compatibility

Pipemaster Power Source Model 515



Head Weights & Dimensions

	Model 432	Model 433
A. Axial Clearance (Torch Centerline to Rear Extremity)	158mm (6.24")	158mm (6.24")
B. Axial Clearance (Torch Centerline to Front Extremity)	10mm (0.41")	10mm (0.41")
C. Width	241mm (9.50")	321mm (12.63")
D. Radial Clearance Requirement	$[241\text{mm (9.50") - Pipe OD}] \div 2 = \text{Radial Clearance}$	$[321\text{mm (12.63") - Pipe OD}] \div 2 = \text{Radial Clearance}$
E. Weight	5.9 kg (13.0 lb.)	8.1 kg (17.8 lb.)

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