EZ ORBITAL
517

MAGNATECH

517 EZ ORBITAL

ORBITAL WELD HEADS FOR FUSION WELDING OF TUBE

Magnatech introduces an innovate solution to orbital tube welding with its modular EZ Orbital welding systems. The model 517 is a tube welding controller that integrates the operation of a standard, commercial GTAW power source with the weld head. The new line of weld heads, the 1000 series, with digital control of rotation speed regulation, ensuring perfect repeatability.

Features

WELDING CONTROLLER

- Full color, touch screen operation
- Intuitive symbol-based operation
- Real time head temperature monitoring and over temperature alert
- Visual display of welding cycle
- Simple % adjustment of preset welding parameters
- Diagnostic fault detection system (gas purge, weld head jam, etc)
- Software updates and upgrades available by internet download via USB interface
- Compact and lightweight controller built into waterproof rugged case

WELD HEADS

- Digital rotation motor ensures 100% repeatable speed regulation
- Easy access collet clamp adjustment – optimal grip without deformation
- Flip top viewing port – accurate pre-weld fit up inspection
- Molded silicone switch panel on weld head handle – eliminates need for remote pendant
- Indestructible SS hinge provides rigidity for positive tube alignment
- Collets for all tube sizes/fitting geometries
- Internal water cooling standard – simply connect to a commercial water recirculator for high duty cycle applications

Accessories

- Extension cables allow use up to 12 m (40') from power supply
- Pre-ground tungsten electrodes
- Waterproof carry case
- Bench mount bracket

Tungsten Electrodes

EZ ORBITAL 517

OVER-CENTER CLAMPING USES SOLID COLLETS – NEVER NEEDS REPLACEMENT*

*Patent Applied For

- Flush collets for minimal axial clamping length
- Extended collets for maximum alignment capability

Specifications

Length x width x height	330 x 420 x 170 mm (13 x 16.5 x 6.8")
Weight	6 kg (13 lbs)
Power supply capability	Consult factory for suitable models
Input power requirements	90/240 VAC, 1 Ø, 0.5 A fuse, 50/60 Hz
Unites of measurement	Metric and inch (selectable)
Operating temperature	-18 to 50˚ C (0 to 120˚ F)
Storage temperature	-25 to 60˚C (-20 to 140˚ F)
Humidity	To 98% RH (non-condensing)
Power source	Conventional tig
Weldhead	1030
Pipe (tube) size	25 - 75 mm (1.0/3.0")

HOW EASY IS EZ ORBITAL?

The model 517 Controller has an intuitive symbol-based touch-screen user interface. Operation involves selecting a tube size and wall thickness and pressing the Start Weld switch on the Head. The operator can adjust amperage by a percentage override to accom-modate tube lot variation.

1 From Start Up Display

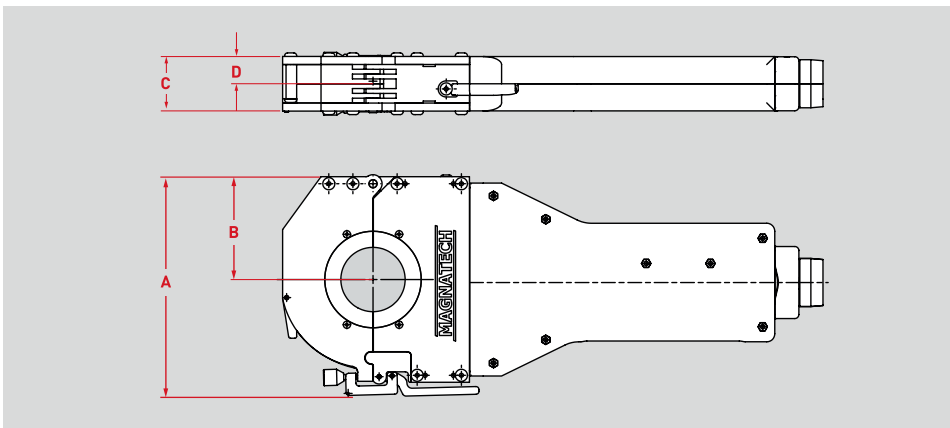
2 Select (Input) Tube O.D.

3 Select Wall Thickness

Dimensions/weights

	HEAD MODEL 1030
Tube Diameter Range	25 – 75 mm (1.0–3.0")
Weight	6.4 kgs (14 lbs.)
"A"	202 mm (7.96")
"B"	96 mm (3.79")
"C"	43 mm (1.70")
"D"	19.5 mm (.77")
Cable length	4.6 m (15') standard. Extension cables available

[1] Distance from nearest flush collet face to tungsten centerline. (Tungsten offset from center)



4 Press Start Weld

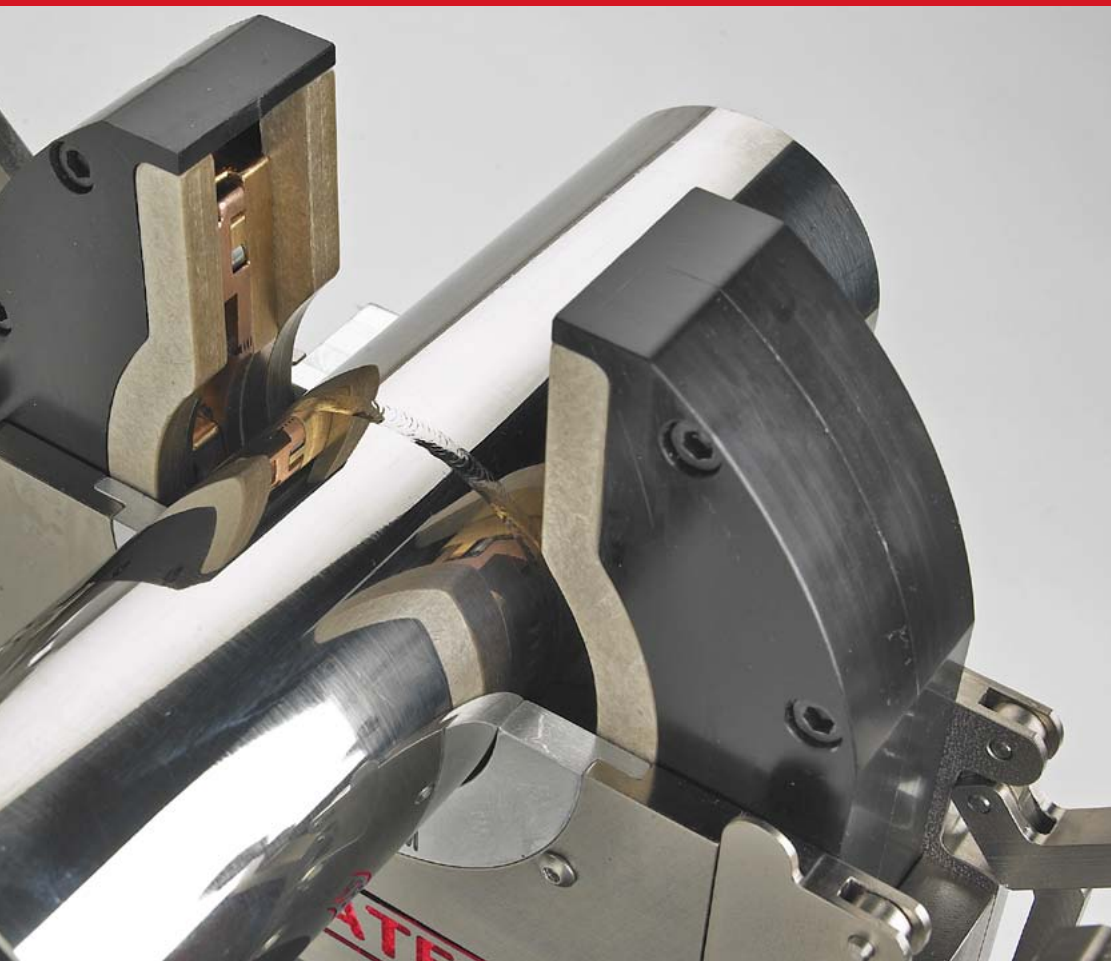
5 ...For a perfect weld every time

WELD HEADS

805 810 820

830 840 860

MAGNATECH



805 810 820 830 840 860 WELD HEADS

ORBITAL WELD HEADS FOR FUSION WELDING OF TUBES

Magnatech introduces an entirely new line of easy-to-operate tools for autogenous tube welding. Five models with overlapping ranges cover tubes from 3 – 152 mm (0,125" - 6") O.D. Magnatech's 800 series heads make tube-to-tube and tube-to-fitting welds in less time with precision and repeatability. The double-clamping design simplifies work piece fit-up and eliminates tack welding in many cases. Collets are available for any tube and fitting size.

Features

- Collets for all tube sizes/fitting geometries
- Waterproof carry case standard
- Bench mount bracket
- Internal weld head cooling standard
- Convenient flip-up view port allows final inspection before welding
- Encoder motors provide precise, repeatable speed regulation
- "Jam" detection/protection.
  If rotation stops for any reason, it is instantly sensed and power to the motor is immediately interrupted. No more damaged motors or drive trains
- Standard 8 m (25') hose pack length
- New rotation drive design tolerant of metal debris
- "Home" position switch automatically readies the head for removal following weldcompletion, and never requires adjustment
- Simple assembly makes field service straightforward

Accessoiries

- Extension cables allow use up to 23 m (75') from power supply
- Pre-ground tungsten electrodes
- Offset Tungsten Holders (Butt weld) allow use when axial clearance restrictions exist (such as short tangent fittings)
- Offset Tungsten Holders (Fillet weld) allow fillet (socket) welds to be made

Tungsten Electrodes

805 810 820 830 840 860 WELD HEADS

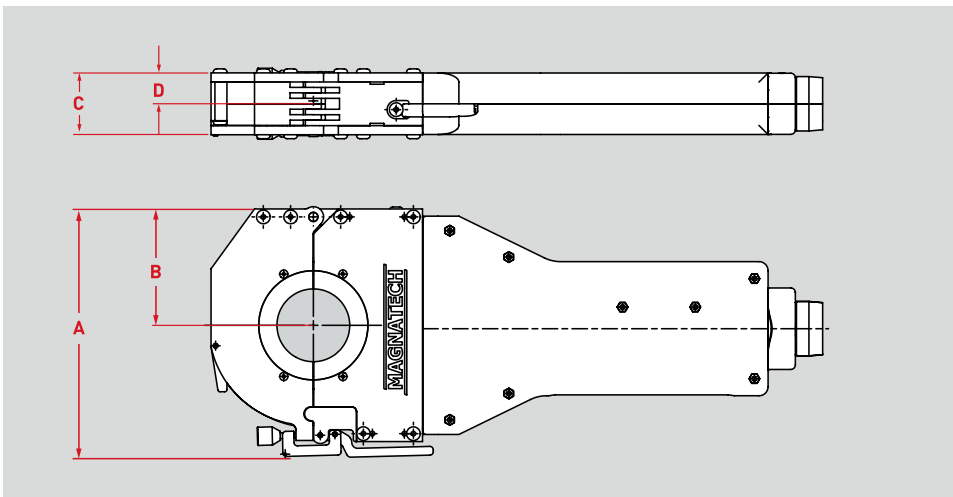
Specifications

Application	Orbital autogenous GTAW welding of tube-to-tube, tube-to-fitting
Cable length	7.6 m (25') standard. Extension cables available
Power supply compatibility	Tubemaster models, Pipemaster models

Dimensions/weights

	805	810	820	830	840	860
Tube Diameter Range	3-16 mm (.125-.625")	3-25 mm (.125-1.0")	6-51 mm (.25-2.0")	9-75 mm (.375-3.0")	12-102 mm (.5-4.0")	50-152.4mm (2-6.0")
RPM Range	1.8 - 2.0	0.6 - 9.5	0.3 - 5.0	0.1 - 2.5	0.1 - 2.3	0.1 - 2.0
Weight	2.5 kgs (5.5 lbs.)	3.2 kgs (7 lbs.)	5.0 kgs (11 lbs.)	6.4 kgs (14 lbs.)	8.2 kgs (18 lbs.)	10.0 kgs (23 lbs.)
"A"	91 mm (3.6")	124 mm (4.90")	175 mm (6.89")	202 mm (7.96")	231 mm (9.10")	297 mm (11.71")
"B"	36 mm (1.4")	62 mm (2.45")	83 mm (3.26")	96 mm (3.79")	110 mm 4.31")	144 mm (5.65")
"C"	31.3 mm (1.3")	42 mm (1.64")	43 mm (1.70")	43 mm (1.70")	43 mm (1.70")	43 mm (1.70")
"D" [1]	15 mm (0.6")	19.5 mm (.77")	19.5 mm (.77")	19.5 mm (.77")	19.5 mm (.77")	19 mm (.75")

[1] Distance from nearest flush collet face to tungsten centerline. (Tungsten offset from center)



EZ ORBITAL 517

ORBITAL WELD HEADS FOR FUSION WELDING OF TUBE

Magnatech introduces an innovate solution to orbital tube welding with its modular EZ Orbital welding systems. The model 517 is a tube welding controller that integrates the operation of a standard, commercial GTAW power source with the weld head. The new line of weld heads, the 1000 series, with digital control of rotation speed regulation, ensuring perfect repeatability.

- Affordable orbital solution
- Easy to operate
- Rugged design

MAGNATECH
AUTOMATIC PIPE WELDING SOLUTIONS

EZ ORBITAL 517

FEATURES

Welding controller

- Full color, touch screen operation
- Intuitive symbol-based operation
- Real time head temperature monitoring and over temperature alert
- Visual display of welding cycle
- Simple % adjustment of preset welding parameters
- Diagnostic fault detection system (gas purge, weld head jam, etc)
- Software updates and upgrades available by internet download via USB interface
- Compact and lightweight controller built into waterproof rugged case

Welding heads

- Digital rotation motor ensures 100% repeatable speed regulation
- Easy access collet clamp adjustment – optimal grip without deformation
- Flip top viewing port – accurate pre-weld fit up inspection
- Molded silicone switch panel on weld head handle – eliminates need for remote pendant
- Indestructible SS hinge provides rigidity for positive tube alignment
- Collets for all tube sizes/fitting geometries
- Internal water cooling standard – simply connect to a commercial water recirculator for high duty cycle applications

SPECIFICATIONS

Length x width x height	330 x 420 x 170 mm (13 x 16.5 x 6.8")	
Weight	6 kg (13 lbs)	
Power supply capability	Consult factory for suitable models	
Input power requirements	90/240 VAC, 1 Ø, 0.5 A fuse, 50/60 Hz	
Unites of measurement	Metric and inch (selectable)	
Operating temperature	-18 to 50° C (0 to 120° F)	
Storage temperature	-25 to 60°C (-20 to 140° F)	
Humidity	To 98% RH (non-condensing)	
Power source	Conventional GTAW	
Weldhead	1030	1040
Pipe (tube) size	9.5 - 76 mm (0.375/3.0")	21.7 - 101.6 mm (0.5/4.0")

MAGNATECH
AUTOMATIC PIPE WELDING SOLUTIONS

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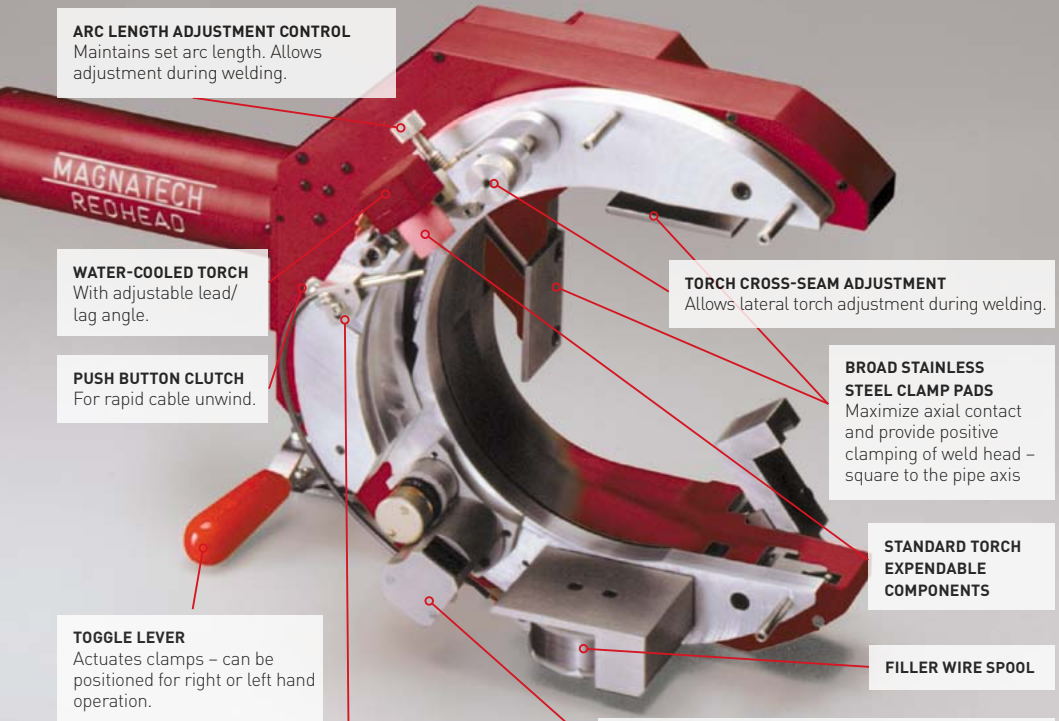
REDHEAD WELD HEADS

427A / 428A 429A

MAGNATECH



ARC LENGTH ADJUSTMENT CONTROL
Maintains set arc length. Allows adjustment during welding.

WATER-COOLED TORCH
With adjustable lead/lag angle.

PUSH BUTTON CLUTCH
For rapid cable unwind.

TOGGLE LEVER
Actuates clamps – can be positioned for right or left hand operation.

3-AXIS POSITION ADJUSTMENT FOR FILLER WIRE NOZZLE
(Vertical, horizontal, angular)

TORCH CROSS-SEAM ADJUSTMENT
Allows lateral torch adjustment during welding.

BROAD STAINLESS STEEL CLAMP PADS
Maximize axial contact and provide positive clamping of weld head – square to the pipe axis

STANDARD TORCH EXPENDABLE COMPONENTS

FILLER WIRE SPOOL

INTEGRAL FILLER WIRE FEEDER
Provides positive, uniform wire feed speed. (Separate floor mounted feeder not required)

427A 428A 429A **REDHEAD**

ORBITAL WELD HEADS FOR FUSION AND WIRE FEED WELDING OF PIPE

Magnatech Redheads are designed to make pipe-to-pipe and pipe-to-fitting welds with precision and repeatability. Redheads can be used for fusion welding, or with filler wire addition – an integral headmounted feeder is standard on all models. Three models cover the size range of 12.7 to 168 mm (0.5 to 6.625") OD. Digital technology forever eliminates the need for periodic calibration – rotation and wire speed remain accurate regardless of wear, and heads can be interchanged without time-consuming recalibration.

MOUNTING

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

CLAMPING

MICROMETER FINE ADJUSTMENT ON CLAMP
Provides rapid Adjustment for Pipe O.D. Variation

ENGRAVED SCALE CLAMP ADJUSTMENT FOR PIPE O.D. (METRIC OR INCH)

TORCH ROTATION

Uniform torch rotation is ensured by a chain and sprocket drive using a precision stainless steel bearing assembly that is immune to heat.

REDHEAD 427A 428A 429A

Options

- Extension Cables
- Fillet/Socket Weld Kit
- Extended Clamping Range Kit R-2 allows welding down to 21mm (0.84 inch) OD
- Extended Clamping Range Kit R-3 allows welding down to 50 mm (2 inch) OD

Applications

- Pharmaceutical
- Sanitary (Hygienic) Process Piping
- Food Processing/Dairy
- Brewery Tubing
- Power Generation
- Chemical



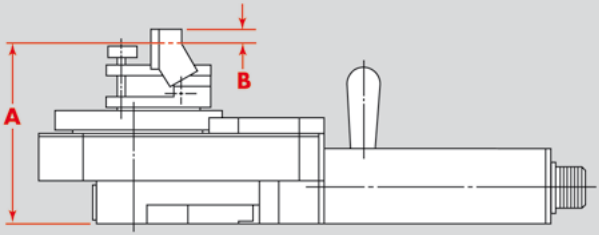
Specifications

	R-1 (MODEL 427A) R-2	R-2 (MODEL 428A)	R-3 (MODEL 429A)
Application	Orbital GTAW welding of pipe-to-pipe, pipe-to-fittings		
Pipe (tube) OD size range	13 – 38 mm (0.5 – 1.5")	33 – 90 mm (1.315 – 3.5")	90 – 168 mm (3.5 – 6.625")
Filler wire module CE standards adopted	Wire size: 0.8 mm (0.03") Max. speed capability: 1900 mm/min. (75 IPM) Spool size: 0.16 kg (0.35 lbs)		
Arc gap control module	Mechanical, adjustable		
Torch propulsion module	0 – 4.0 rpm	0–1.5 rpm	0–0.6 rpm
Water-cooled torch	200 A continuous		
Torch adjustment capability	Torch lead/lag adjustment: ± 15 degrees (manual) Torch tilt adjustment: Requires optional socket weld kit		
Cable length	7.6 m (25') standard. Extension cables available.		
Power supply compatibility	Tubemaster 514, Pipemaster 515, Pipemaster 516		

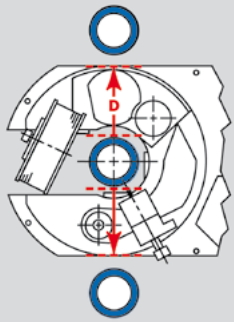
Dimensions/weights

	R-1 (MODEL 427A) R-2	R-2 (MODEL 428A)	R-3 (MODEL 429A)
Weight	3.9 kg (8.5 lbs.)	5.4 kg (12 lbs.)	9.0 kg (20 lbs.)
Axial Clearance (Torch C/L to Rear Extremity) (A)	127mm (5.0")	127mm (5.0")	127mm (5.0")
Axial Clearance (Torch C/L to Front Extremity) (B)	10mm (0.41")	10mm (0.41")	10mm (0.41")
Width (C)	140mm (5.5")	191mm (7.5")	280mm (11.0")
Radial Clearance Requirement (D)	[140mm (5.5") – Pipe O.D.] ÷ 2 = Radial Clearance	[191mm (7.5") – Pipe O.D.] ÷ 2 = Radial Clearance	[280mm (11") – Pipe O.D.] ÷ 2 = Radial Clearance

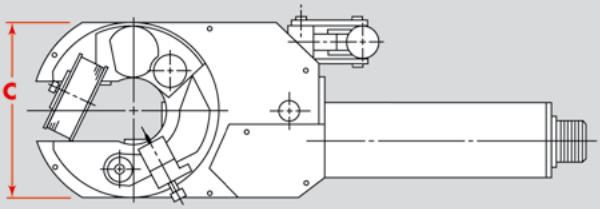
TOP VIEW



RADIAL CLEARANCE

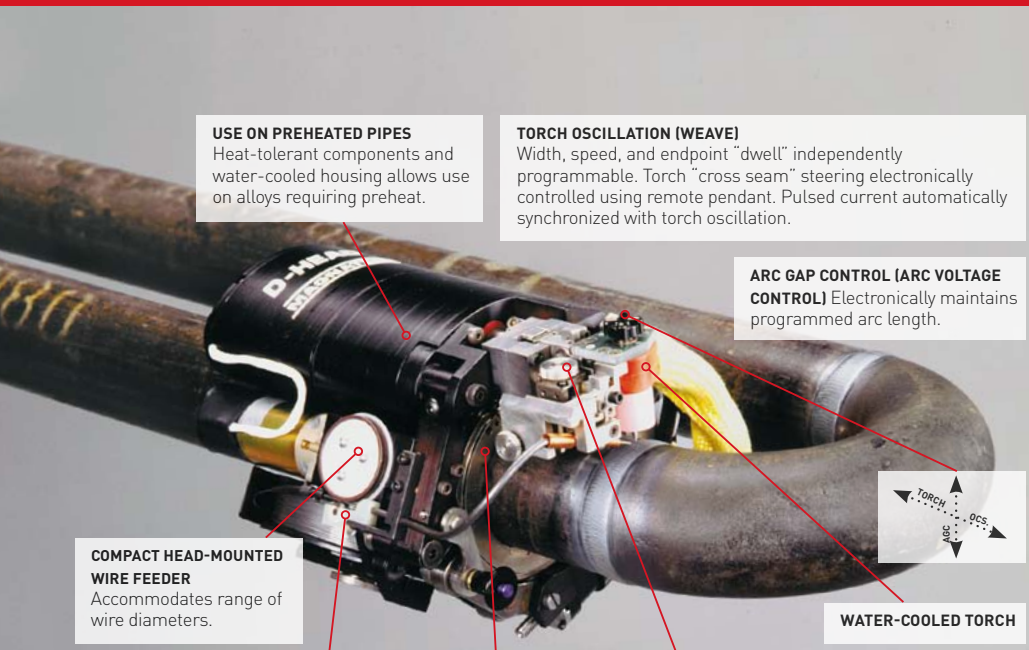


SIDE VIEW



D HEAD 420

MAGNATECH



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.

WATER-COOLED TORCH

FILLER WIRE SPOOL
Use standard 1kg (2 lbs) spools, or special 0.5 kg (1 lbs) low profile spool to reduce radial profile.

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.

420 D HEAD

ORBITAL WELD HEAD FOR MULTIPASS GTAW PIPE WELDING

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: 1" - 14". The D Weld Head improves productivity by increasing duty cycle, reducing repair rates, and producing welds of consistent quality.

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 48 mm – 356 mm (11/2" – 14") and Tube sizes 44 mm – 127 mm (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

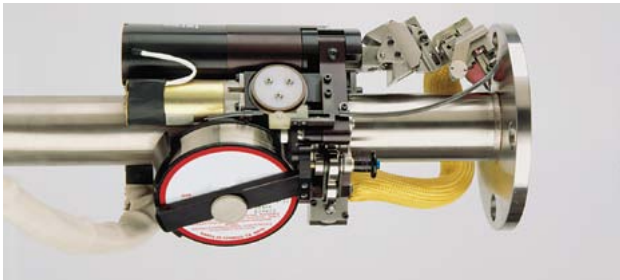
D HEAD 420

Options

SOCKET WELD KIT allows torch to be angled 45° (does not angle AVC motion).

EXTENSION 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.

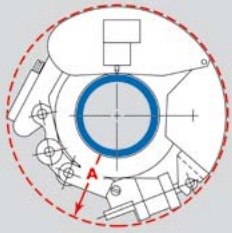
LOW PROFILE SPOOL KIT reduces radial profile of D Weld Head to 50mm (2"); Low Profile Wire Spool 0.5kg (1lb.) required.

420 D HEAD

Specifications

Application	Multi-pass orbital GTAW pipe-to-pipe, pipe-to-fitting	
Cable length	7.6 m (25') standard. Extension cables available	
Pipe (tube) size range	25 – 356 mm (1 – 14")	
Filler wire module	Wire size	0.8, 0.9, 1.0 mm (0.03", 0.035", 0.040")
	Max. speed capability	2540 mm/min. (100 IPM)
	Spool size	1 kg (2 lbs) std; 0.5 kg (1 lbs) low profile
Oscillation module	Max. oscillation stroke amplitude	16 mm (0.6725")
	Max. oscillation speed	1520 mm/min. (60 IPM)
	Oscillation dwell	0 – 1 second
	Cross seam adjustment	± 6.4 mm (0.25")
Arc gap control module	13 mm (0.5") stroke. Additional mechanical adjustment allows welding heavier wall pipe	
Torch propulsion module	250 mm (10 IPM) maximum rotation speed	
Water-cooled torch	200 A continuous capability	
Torch adjustment capability	Torch lead/lag adjustment	± 15 degrees (manual)
	Torch tilt adjustment	± 10 degrees (manual)
Power supply compatibility	Pipemaster 515, Pipemaster 516	

Dimensions/weights



Weight	3.6 kg (8 lbs.)
Axial Clearance	Torch C/L to Rear Extremity: 220 mm (8.51")
	Torch C/L to Front Extremity: 10 mm (0.41")
"A" Radial Clearance Requirement for Pipe 44.45mm (1.75") and larger	64 mm (2.5") with Standard Spool* 51 mm (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.

QUICKCLAMP
432 433

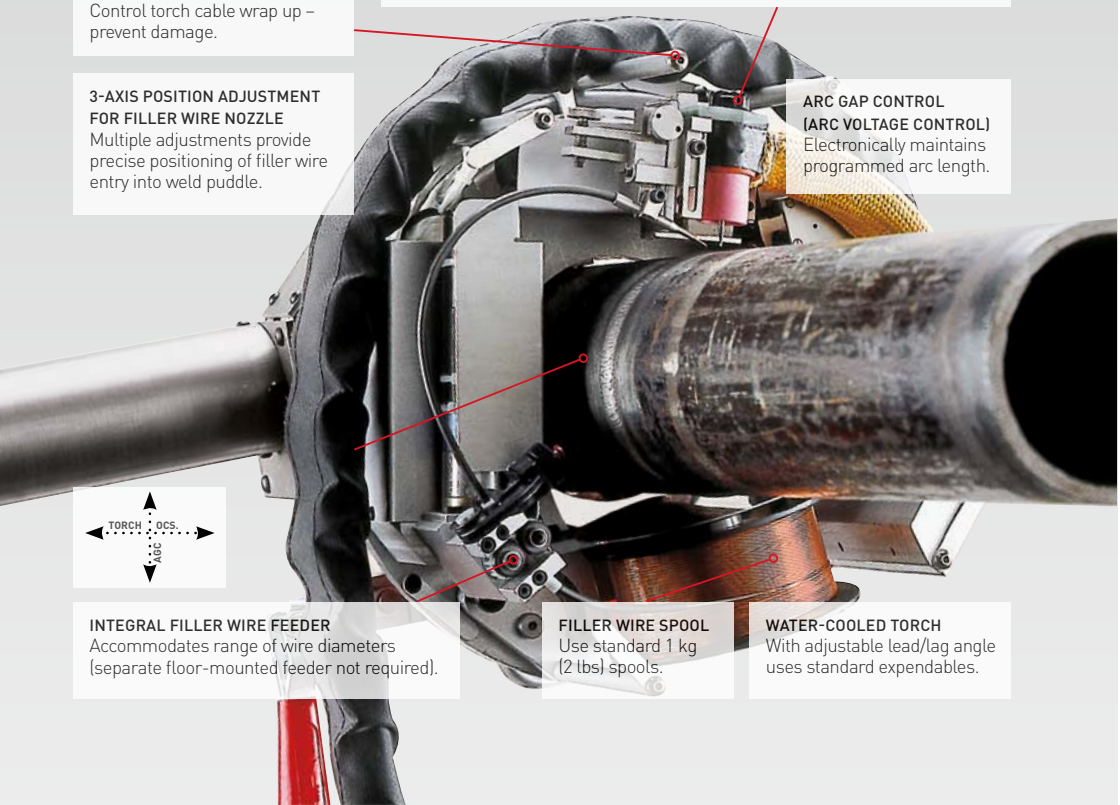
MAGNATECH

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.

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.

ARC GAP CONTROL (ARC VOLTAGE CONTROL)
Electronically maintains programmed arc length.



INTEGRAL FILLER WIRE FEEDER
Accommodates range of wire diameters (separate floor-mounted feeder not required).

FILLER WIRE SPOOL
Use standard 1 kg (2 lbs) spools.

WATER-COOLED TORCH
With adjustable lead/lag angle uses standard expendables.

432 433 QUICKCLAMP

ORBITAL WELD HEADS FOR MULTI-PASS GTAW PIPE WELDING

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.

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 torchapplications
- 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

QUICKCLAMP 432 433

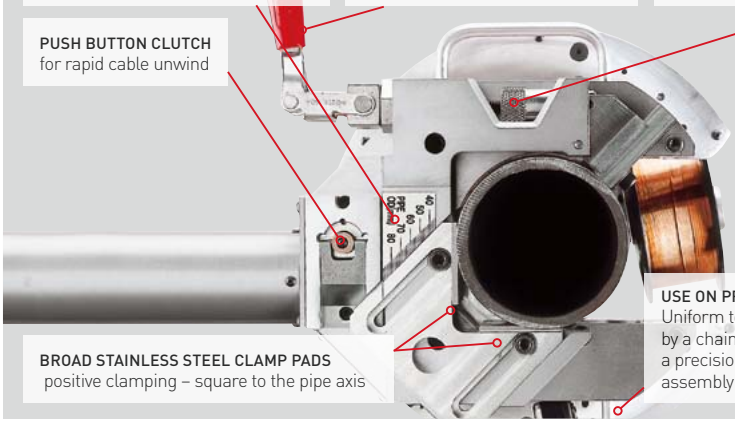
Features

ENGRAVED SCALE allows precise clamp adjustment for pipe O.D. (metric or inch)

TOGGLE LEVER can be repositioned for right/left hand operation

MICROMETER FINE ADJUSTMENT on Clamp provides rapid adjustment for O.D. variation

PUSH BUTTON CLUTCH for rapid cable unwind



USE ON PREHEATED PIPES Uniform torch rotation is ensured by a chain and sprocket drive using a precision stainless steel bearing assembly that is immune to heat.

BROAD STAINLESS STEEL CLAMP PADS positive clamping – square to the pipe axis

Applications

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

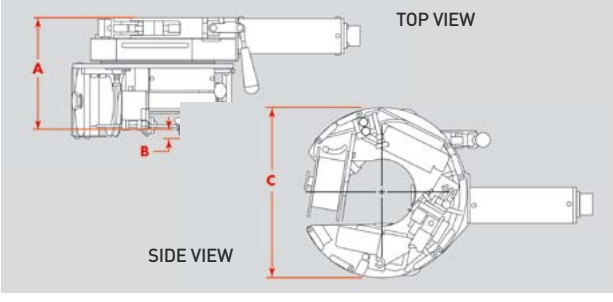
432 433 QUICKCLAMP

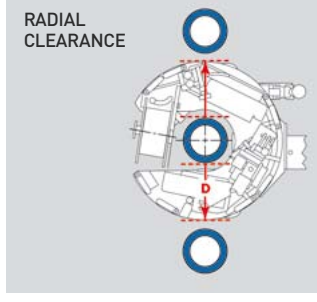
Specifications

	QUICKCLAMP MODEL 432	QUICKCLAMP MODEL 433
Application	Multi-pass orbital GTAW pipe-to-pipe, pipe-to-fitting	
Pipe (tube) OD size range	25 – 89 mm (1.0" – 3.5")	60 – 168 mm (2.375" – 6.625")
Filler wire module	Wire size: 0.8, 0.9, 1.0 mm (.030, .035, .040") Max. speed capability: 2540 mm/min. (100 IPM)	
Oscillation module	Max. oscillation stroke amplitude: 16 mm (0.625") Max. oscillation speed: 1520 mm/min. (60 IPM) Oscillation dwell: 0 – 1 second Cross seam adjustment: ± 6.4 mm (± 0.25")	
Arc gap control module	13 mm (0.5") stroke. Additional mechanical adjustment allows welding heavier wall pipe	
Torch propulsion module	0.1 – 1.8 rpm	0.05 – 0.9 rpm
Water-cooled torch	200 A continuous	
Torch adjustment capability	Torch lead/lag adjustment: ± 15 degrees (manual) Torch tilt adjustment: ± 10 degrees (manual)	
Cable length	7.6 m (25') standard. Extension cables available	
Power supply compatibility	Pipemaster 515, Pipemaster 516	

Dimensions/weights

	QUICKCLAMP MODEL 432	433
Weight	5.9 kg (13.0 lb.)	8.1 kg (17.8 lb.)
Axial Clearance (Torch Centerline to Rear Extremity) (A)	158 mm (6.24")	158 mm (6.24")
Axial Clearance (Torch Centerline to Front Extremity) (B)	10 mm (0.41")	10 mm (0.41")
Width (C)	241 mm (9.50")	321 mm (12.63")
Radial Clearance Requirement (D)	241 mm (9.50") - Pipe OD ÷ 2 = Radial Clearance	321 mm (12.63") - Pipe OD ÷ 2 = Radial Clearance





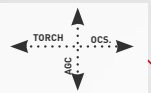
T HEAD
419

MAGNATECH

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.

FILLER WIRE SPOOL
Use standard 1 kg (2 lbs) spools.

HEADMOUNTED WIRE FEEDER
Accommodates range of wire diameters.



3-AXIS POSITION ADJUSTMENT FOR FILLER WIRE NOZZLE
Multiple adjustments provide precise positioning of filler wire entry into weld puddle.

WATERCOOLED TORCH

WELD HEAD MOUNTING/ROTATION
Guide rings* attach head to pipe.

*Guide rings come with a one year warranty

419 T HEAD

ORBITAL WELD HEAD FOR MULTIPASS GTAW PIPE WELDING

The Magnatech T model 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 manual welder. The T Head is used for larger diameter/ heavy wall applications, requiring the precise weld process control of gas tungsten arc welding. Interchangeable guide rings provide mounting on the pipe, and allow the T Head to cover a broad size range. The T model weld head improves productivity by increasing duty cycle and reducing repair rates.

Features

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

Narrow Gap Bevel Geometry
shown on 25 mm (1") wall pipe

Guide Rings Mount Head on Pipe

Options

- Extension cables
- Single or dual wire feeder configurations
- Video Arc Monitoring. Various configurations allow remote operation.

T HEAD 419

Applications

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

Features

GUIDE RINGS ALLOW USE ON PREHEATED PIPE

Mounting the head on an oversize guide ring with adaptor feet allows use on CrMo and other alloys requiring preheat. The adaptor feet create an air space and prevent heat damage to the head.

Adaptors

Adaptor Feet Attach Here

Three types of Adaptors can be simply screwed to each of the standard square tubes which are mounted on the Guide Ring.

- 25 mm (1") Adaptor Square tube
- 50 mm (2") Adaptor Square tube
- 3-12 mm (.13-.5") Adaptor Solid Bar (Magnatech can provide these in any dimension)

FLX-TRACK™

In addition to welding pipe, the T Head is also used for ID and OD welding on larger tanks, vessels, and ductwork.

- Flexible track allows mounting on complex curved surfaces
- Standard 2.3m (7.5') Track sections bolt together for longer lengths
- Magnetic or Vacuum attachment

419 T HEAD

Specifications

Application	Multi-pass orbital GTAW pipe-to-pipe, pipe-to-fitting	
Cable length	7.6 m (25') standard. Extension cables available	
Pipe (tube) size range	168 – 1524 mm (6 - 60") and larger	
Filler wire module	Wire size	Wire size: 0.8, 0.9, 1.0, 1.2 mm (.030", .035", .040", .045")
	Max. speed capability	2540 mm/min. (100 IPM)
	Spool size	1 kg (2 lbs) standard
Oscillation module	Max. oscillation stroke amplitude	16 mm (0.6725")
	Max. oscillation speed	1520 mm/min. (60 IPM)
	Oscillation dwell	0 – 1 second
	Cross seam adjustment	± 6.4 mm (0.25") fine adjustment ± 38 mm (1.5") course adjustment
Arc gap control module	13 mm (0.5") stroke. Additional mechanical adjustment allows welding heavier wall pipe	
Torch propulsion module	250 mm/min. (10 IPM) maximum rotation speed	
Water-cooled torch	300 A continuous	
Torch adjustment capability	Torch lead/lag adjustment	± 15 degrees (manual)
	Torch tilt adjustment	± 10 degrees (manual)
Power supply compatibility	Pipemaster 515, Pipemaster 516	

Dimensions/weights

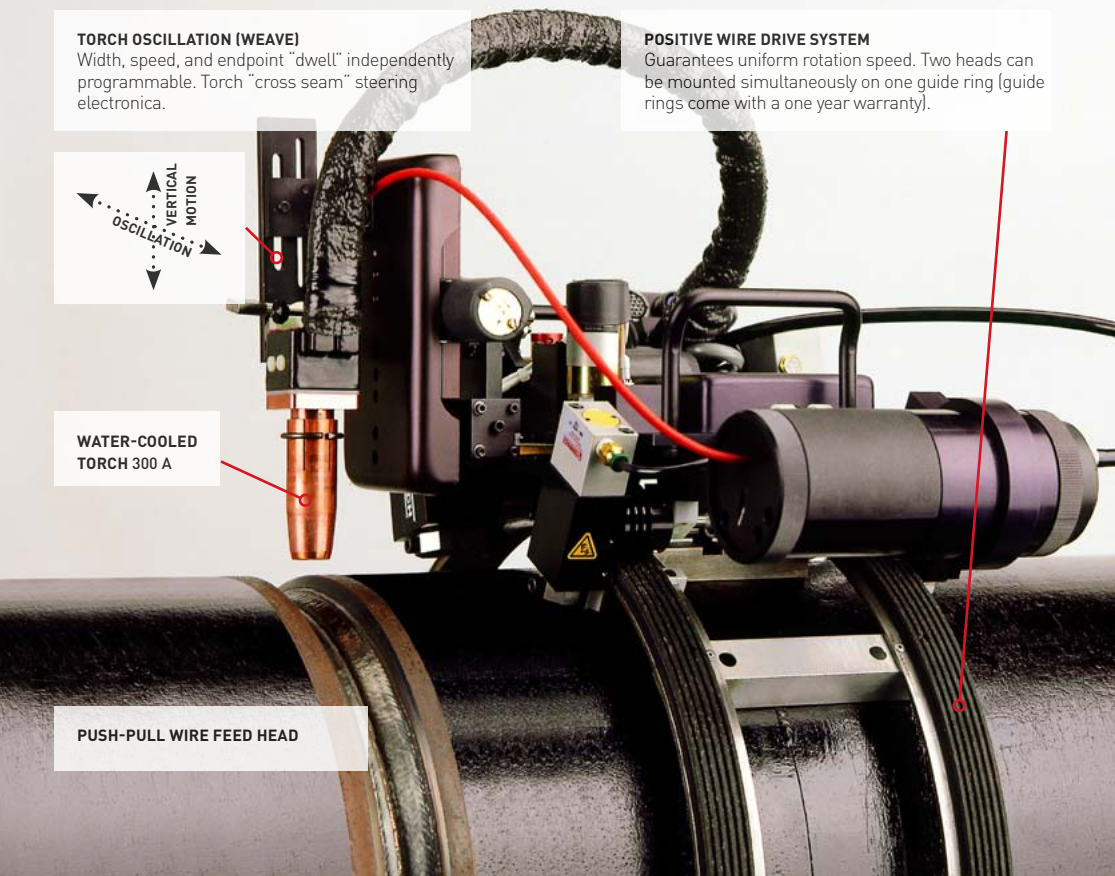
Weight	11.8 kg (26 lbs.) Single wire feeder without wire spool 13.4 kg (29.5 lbs.) Dual wire feeders without wire spools
Axial clearance	Torch C/L to Rear Extremity: 4950 mm (19.5") Torch C/L to Front Extremity: 290 mm (1.1")
Radial clearance	250 mm (9.8")

PIPELINER II
609

MAGNATECH

TORCH OSCILLATION (WEAVE)
Width, speed, and endpoint "dwell" independently programmable. Torch "cross seam" steering electronica.

POSITIVE WIRE DRIVE SYSTEM
Guarantees uniform rotation speed. Two heads can be mounted simultaneously on one guide ring (guide rings come with a one year warranty).



WATER-COOLED TORCH 300 A

PUSH-PULL WIRE FEED HEAD

609 PIPELINER II

ORBITAL WELD HEAD FOR MULTI PASS GMAW/FCAW PIPE WELDING

The Magnatech Pipeliner II is designed to make pipe-to-pipe and pipe-to-fi tting welds. Interchangeable guide rings mount the head on the pipe, allowing a broad workpiece size range from 168 – 1524 mm (6"– 60") and larger.
The Pipeliner II improves productivity by increasing duty cycle, reducing repair rates, and producing welds of consistent quality.

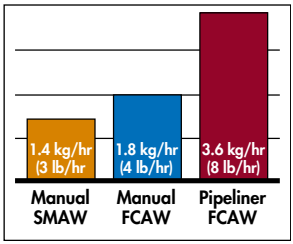
Features

- Full Function Capability (Torch Rotation, Filler Wire Feed, Motorized Arc Gap Control, Electronic Oscillation)
- Broad Pipe Size Range with change of single component – the Guide Ring
- Water-Cooled Torch uses standard Expendables

HIGH DEPOSITION RATE WITHOUT SACRIFICING QUALITY – AUTOMATICALLY

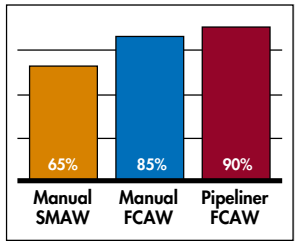
DEPOSITION RATE*

Weld metal deposition per hour



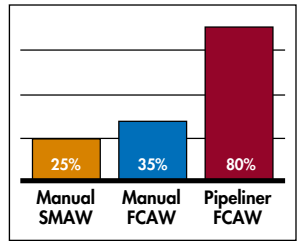
DEPOSITION EFFICIENCY

Ratio of weight of weld metal deposited to the weight used



DUTY CYCLE FACTORS

The ratio of arc hours to clock hours for a welder or welding operator (Arc on Time)



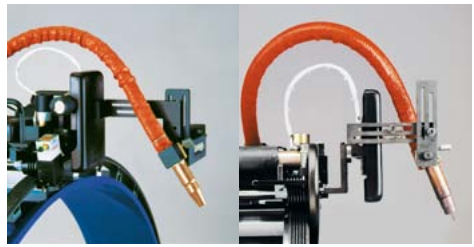
PIPELINER TYPICAL PARAMETERS

- 24–26V; 220–260A
- 5.1–7.6m/min. (200–300 ipm)

PIPELINER II 609

Options

- Pendular Torch Oscillation
- Torch Angle Bracket for Fillet/Socket Welds
- Extension Cables



LEFT Optional Pendular Oscillator positioned for fillet welds
RIGHT Optional Torch Angle Bracket for fillet and socket weld applications

FLX-TRACK™

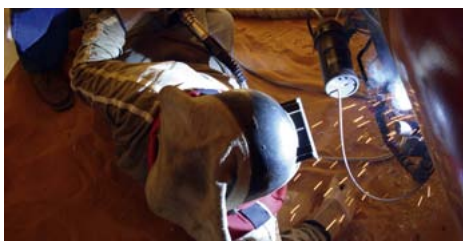
In addition to welding pipework, the Pipeliner is also used for ID and OD welding on larger tanks, vessels, and ductwork.

- Flexible track allows mounting on complex curved surfaces
- Standard 2.3m (7-1/2') Track sections bolt together for longer lengths
- Magnetic or Vacuum attachment

PIPELINER mounted on Flx-Track in 3.3m (11 ft.) diameter stainless steel duct

Applications

- Gas, Oil, Water Pipelines
- Steam Piping
- Chemical
- Large Diameter Vessels
- Flowlines and Risers
- Offshore Platforms – Jackets and Topsides
- Tubular Structures, Pilings



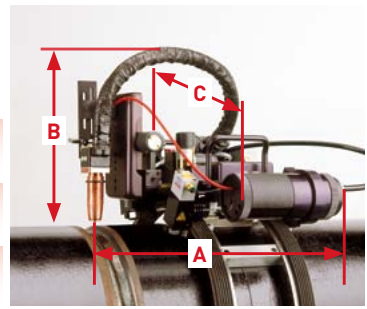
609 PIPELINER II

Specifications

Application	Pipe size – 168 mm (6.625") and larger Pipe wall thickness – unlimited Flx-Track™ for welding on fl at and curved surfaces
OSCILLATION MODULE (LINEAR)	
Output rating	0 – 51 mm (2")
Oscillation speed	0 – 2540 mm/min. (100 ipm)
Oscillation dwell	0 – 1 second. Independently adjustable at both stroke endpoints
Cross seam adjustment	± 25 mm (1.0")
OSCILLATION MODULE (PENDULAR)	Allows sockets/fillet welding
Cross seam adjustment	± 20 degrees
Torch vertical motion module	Stroke: 66 mm (2.625") (motorized) Speed: 1520 mm/min. (60 ipm) maximum
Tractor module	Poly-Track® propulsion (patented)
Speed capability	0 – 762 mm/min. (30 ipm). Higher speed motors available
Travel direction	Switch selectable (on head)
Wire	Wire diameter: 0.8 – 1.6 mm (0.03 – 0.62") Wire feed speed: 0.5 – 22 m/min. (20 – 866 ipm) Wire spool size: 15/16 kg (25/33 lbs)
Water-cooled torch	Amperage capability: 300 amps continuous. Uses standard torch components
Torch adjustment capability	Torch lead/lag adjustment: ± 15 degrees (manual) Torch tilt adjustment: ± 10 degrees (manual) Angle bracket (optional): ± 45 degrees (manual)

Dimensions/weights

	AXIAL LENGTH A[1]	MINIMUM RADIAL CLEARANCE B[2]	OVERALL WIDTH C	WEIGHT[3]
609 WFOF	38.7cm (15.25")	24.8cm (9.75")	30.5cm (12")	9.8 kgs (21.5 lbs)
609 WFPP	37.5cm (14.75")	24.1cm (9.50")	41.3cm (16.25")	11.6 kgs (26.5 lbs)
609 WFOH	66.7cm (26.25")	26.7cm (10.5")	36.8cm (14.5")	14.4 kgs (31.75 lbs)



[1] Center of oscillation stroke
[2] Center of vertical stroke
[3] Weight without wire spool (WFOH). Includes 1.6 kg (3.5 lb.) of Torch Cable Weight (Partial)

TUBESHEET WELD HEADS

424 425 430

MAGNATECH

Model 425

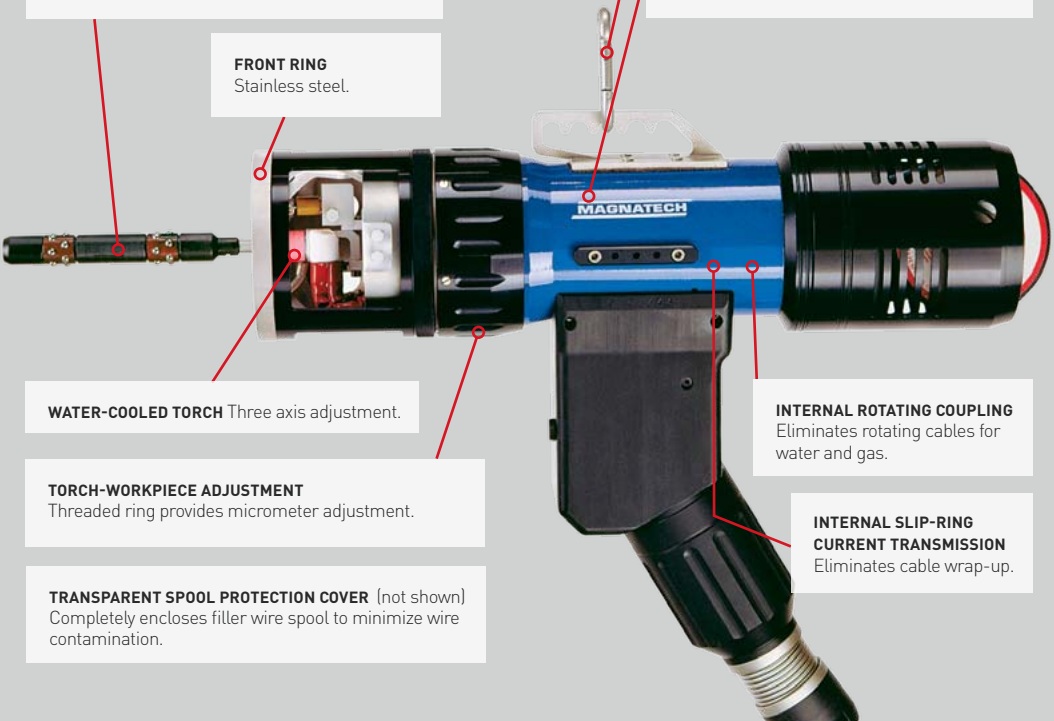
FILLER WIRE NOZZLE Three axis adjustment.

CENTERING CARTRIDGE Spring-loaded, stainless steel balls accommodate tube ID tolerance.

FRONT RING
Stainless steel.

COUNTERBALANCE (recommended).

WATER-COOLED BODY Allows use on preheated tubesheets.



WATER-COOLED TORCH Three axis adjustment.

TORCH-WORKPIECE ADJUSTMENT
Threaded ring provides micrometer adjustment.

TRANSPARENT SPOOL PROTECTION COVER (not shown)
Completely encloses filler wire spool to minimize wire contamination.

INTERNAL ROTATING COUPLING
Eliminates rotating cables for water and gas.

INTERNAL SLIP-RING CURRENT TRANSMISSION
Eliminates cable wrap-up.

424 424 430 TUBESHEET WELD HEADS

ORBITAL WELD HEAD FOR FUSION AND WIRE FEED GTAW PIPE WELDING

Magnatech Tubesheet Heads are designed to make tube-to-tubesheet welds with precision and repeatability. All models can be used for fusion welding. The models 424 and 425 provide for filler wire addition. An integral head-mounted feeder is standard.
Three models cover the size range of 10 to 140 mm (0.4 to 5.52") OD. These weld heads improve productivity by increasing duty cycle, reducing repair rates and producing welds of consistent quality.

Features

MODELS 424 AND 425
- Use standard 1 kg (2 lb.) wire spools
- Torch adjustments accommodate all geometries
- Water-cooled body for preheated tubesheets
- Filler wire feeder rotates with torch – prevents wire flip
- Arc Voltage Control (425 only) allows multipass welding

MODEL 430
- Lightweight Head for fusion welding
- Simple expanding mandrel clamps head in tubes
- Integral Purge Gas Chamber ideal for welding Titanium

Options

- Extension cables
- Purge Gas Chamber for Titanium welding
- Internal bore torches allow ID fusion welds

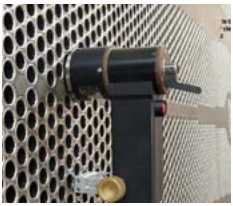
MODEL 424 without feeder/spool mount for fusion welding

OPTIONAL PURGE GAS CHAMBER for Titanium with separate gas input (Model 424)

MODEL 424 with internal bore welding torch

TUBESHEET WELD HEADS 424 425 430

Options



SIMPLE TOGGLE LEVER clamps Head - Model 430

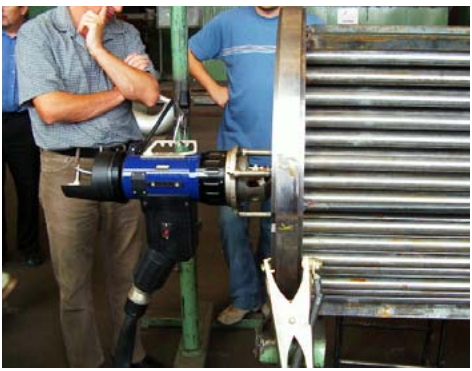
EXPANDING MANDREL Model 430

OVERHEAD APPLICATION Model 430

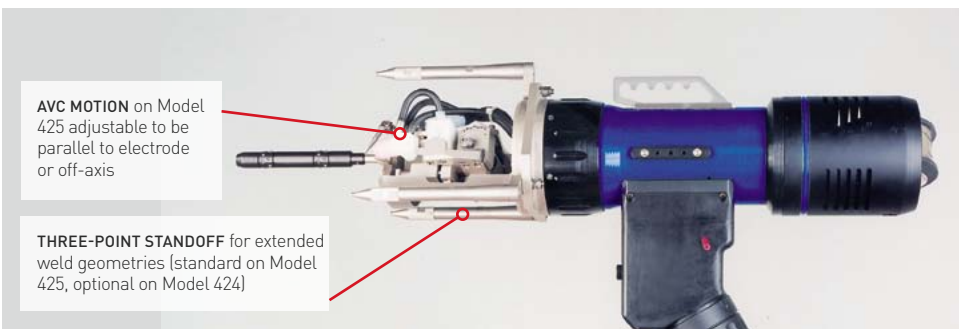
GLASS CHAMBER provides superior gas coverage for titanium - Model 430

Applications

- Heat exchanger seal and strength welds
- Power generation
- Petrochemical
- Sanitary
- Food and beverage



Model 425



424 425 430 TUBESHEET WELD HEADS

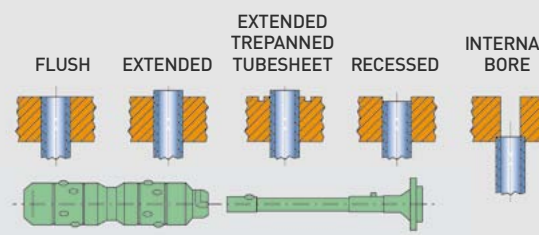
Specifications

APPLICATIONS	MODEL 424	MODEL 425	MODEL 430
Joint design	Extended, flush, recessed and internal bore	Extended, flush, recessed and internal bore	Flush, slightly extended
Pitch pattern	Triangular or square	Triangular or square	Triangular or square
Tube O.D. Size Range	10 – 78 mm (.4 – 3.07")	10 – 140 mm (.4 – 5.52")	10 – 26 mm (.4 – 1.02")
BASIC HEAD			
Rotation speed	0.33 – 6 rpm	0.33 – 6 rpm	0.33 – 6 rpm
Filler wire module	Rotates coaxially with torch	Rotates coaxially with torch	N/A
Wire size	0.8/0.9/1.0/1.2 mm (.030"/.035"/.040"/.045")	0.8/0.9/1.0/1.2 mm (.030"/.035"/.040"/.045")	N/A
Speed capability	0 – 1500 mm/min. (0 – 60 ipm)	0 – 1500 mm/min. (0 – 60 ipm)	N/A
Spool size	1 kg (2 lbs)	1 kg (2 lbs)	N/A
WATER-COOLED TORCH			
Amperage capability	200 A continuous	200 A continuous	100 A @ 60%
Cable length	8 m (25') Extension cables available	Standard 8 m (25') Extension cables available	Standard 8 m (25') Extension cables available
HEAD WEIGHTS			
Weight	8 kg (18 lbs)	9 kg (20 lbs)	1.2 kg (2.65 lbs)
Weight with filler wire	10 kg (22 lbs)	11 kg (24 lbs)	N/A
Arc voltage control	No	Yes	No
Power supply compatibility	Tubemaster and Pipemaster models	Pipemaster models only	Tubemaster and Pipemaster models

TUBE GEOMETRIES

- Model 424 ideal for all tube-sheet geometries
- Model 425 with AVC for multi-pass welding
- Model 430 ideal for fusion welding of flush or slightly extended tubes where where preheat is not required [1]

[1] The model 430 uses an expanding mandrel design



MANDRELS AND CENTERING Cartridges Adapt Heads to Different Tube ID's

TUBEMASTER
514

MAGNATECH

514 TUBEMASTER

PROGRAMMABLE POWER SOURCE FOR ORBITAL WELD HEADS

The model 514 brings the benefits of true digital technology to the orbital welding customer: unparalleled accuracy, repeatability, and reliability. Digital technology forever eliminates the need for periodic weld head calibration – rotation speed remains accurate regardless of head wear, and heads can be interchanged without time-consuming calibration. Software upgrades can be sent by e-mail attachments. The model 514 is "Internet ready" for future enhancements such as web-based diagnostic service.

Features

WELDING CONTROLLER

- 200 amp output
- Up to 100 levels per program
- Stores 100 weld programs internally
- Wire feed capability for wire feed Heads
- AutoProgram automatically generates procedures
- Programmable "override limits" provide supervisory control
- Weld parameter monitoring/reporting for QA/QC purpose
- Transfer programs and data to PCs using USB flash drive
- AutoTack automatically generates tack weld programs
- Large color LCD display
- Stainless steel case with sealed membrane switches/display
- Head mounted membrane switches eliminate remote pendant (certain models only)
- Autoranging: 115/230 V input
- Help files provide immediate information/ assistance
- Password protection of key functions
- Built in printer allows program/QC report printout
- Enter data using a standard USB keyboard

Options

- Cart with bottle rack
- Remote Pendant
- Extension cables
- Rugged Storage/ Shipping Case
- Offline Programming Software
- Manual Tack Welding Torch Kit

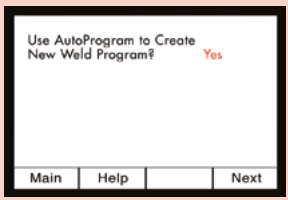
TUBEMASTER 514

AUTOPROGRAM

Programming is simple and intuitive by manual entry or new AutoProgram which self-generates procedures.

Startup display

Automatically create a new weld program



Simply fill in the blanks

Options

- Cart with bottle rack
- Remote Pendant
- Extension cables
- Rugged Storage/Shipping Case
- Offline Programming Software
- Manual Tack Welding Torch Kit

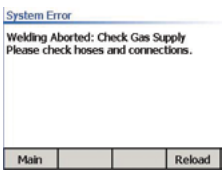
COOLANT RECIRCULATOR

Detachable coolant recirculator mounts beneath power source with integral flow switch protection.

USB PROGRAM AND DATA TRANSFER

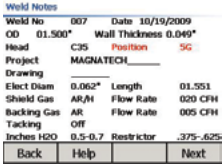
A sealed USB port allows use of a standard USB flash drive for installation of software upgrades, as well as transfer of weld programs and QC reports.

ADVANCED HELP PROVIDES OPERATOR SUPPORT



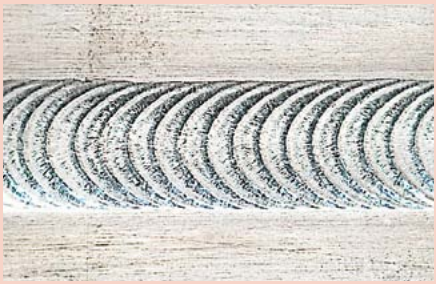
WELD PROGRAM DOCUMENTATION

Additional documentation and notes can be added to weld programs and QC records, providing traceability to individual drawings, projects, and customers.



MODEL 514 NOW OPERATES ANALOG HEADS

The new model has the ability to operate both analog Heads (using tachometer motors), as well as Magnatech's current digital encoder motors. This allows the operation of many weld Heads from other manufacturers, with "drop-down" model selection and Autoprogramming for these other Heads. On-screen calibration of competitor's Heads eliminates trim potentiometer adjustments.



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For a perfect weld, every time

WELD MONITORING/QC

INTEGRAL WELD MONITORING SOFTWARE PROVIDES INSTANT INFORMATION ON WELD QUALITY

Acceptable limits are programmed for each critical weld parameter. At the completion of each weld, a printout records the weld ID number, date and time, the operator's name and whether the weld was performed within the defined limits for acceptable weld quality. If any critical parameter falls outside the defined limits, the operator is immediately notified as to:

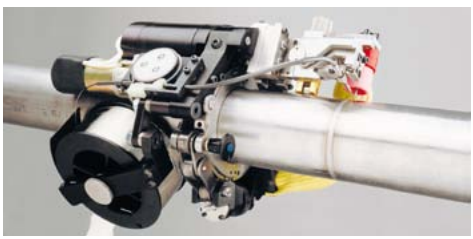
- Out of limit parameter
- Maximum deviation from programmed value
- Maximum deviation time

QC reports are immediately printed following each weld using the built-in printer option. Or, they can be stored internally and downloaded periodically to a PC using a standard USB Flash Drive. Import weld programs and QC data directly into a Word® or Excel® spreadsheet document.

COMPATIBILITY

THE TUBEMASTER POWER SUPPLY CAN BE USED WITH MANY WELD HEAD MODELS

800 SERIES



E-HEAD SERIES

REDHEAD SERIES

TUBEMASTER 514

Specifications

Application	For use with many Magnatech weld head models (GTAW process), welding lathes, and dedicated weld systems
Functions controlled	Welding current output/current pulsing, weld head rotation, Weld head wire feed speed
Output power	0 – 200 amps
Input power requirements (rated load)	115/230 VAC, 1 Ø, 4.0 KVA, 50/60 Hz autoranging (no modifications necessary)
Internal memory capacity	100 weld programs
Units of measurement Metric and Inch (selectable)	Metric and Inch (selectable)
Program transfer	Solid state digital media (USB flash drive/memory key)
Language selection	English, Spanish, German, French, others
Settable override limits	Individually scalable overrides on each function 0 – 100%
Maximum open circuit voltage	80 V
Water and gas flow switches	Standard. Prevent damage to equipment and workpiece
Data recording/printout	Operator ID, weld ID number, program number, material, od, wall thickness, date, time, weld head model, project, drawing, programmed parameters, etc.
QC-parameter monitoring/ recording/printout	Monitors and records any actual deviations from preprogrammed limits recording/printout
Arc start type	HF
Operating/storage temperature	Operating: -18 to 50°C (0 to 120° F) Storage: -25 to 60° C (-20 to 140° F)
Humidity To 98% RH (non-condensing)	To 98% RH (non-condensing)

Dimensions/weights

	MODEL 514 POWER SOURCE	MODEL 904 CIRCULATOR
Length	48 cm (19")	48 cm (19")
Width	28 cm (11")	28 cm (11")
Height	32 cm (12.75")	20 cm (8")
Weight	24.5 kg (54 lbs)	12.2 kg (27 lbs)

PIPEMASTER
515

MAGNATECH

515 PIPEMASTER

PROGRAMMABLE POWER SOURCE FOR ORBITAL WELD HEADS

The latest generation of Pipemaster power sources is the result of a new direction in power source design. The Pipemaster 515 brings the benefits of digital technology to the orbital welding customer: unparalleled accuracy, repeatability, and reliability. The new model is half the size and weight of previous models. Digital technology forever eliminates the need for periodic weld head calibration.

Features

- Multi-pass welding of pipes/tubes/tubesheets
- Full function capability (torch rotation, filler wire feed, electronic arc gap control, electronic oscillation)
- Operates all models of Magnatech weld Heads (GTAW process)
- 200 Amp Output
- Autoranging input eliminates all internal modifications
- Up to 100 levels per program (time-based programs)
- Stores 100 weld programs internally
- AutoProgram automatically generates procedures
- Programming and operation guided by simple prompts
- Teach mode allows rapid program development
- Programmable "override limits" provide supervisory control
- Weld parameter monitoring/out-of-limits reporting for QA/QC purpose
- Transfer programs and QC data to PC using USB flash drive "Memory Key"
- AutoTack automatically generates tack weld programs
- Large color LCD display
- Stainless steel case
- Help Files provide immediate information/ assistance
- Password protection of key functions
- Waterproof Remote Pendant (25'/8m cable)
- Auto rewind feature unwraps cable at weld completion
- All weld Head functions capable of synchronization with pulsed current output
- Selectable Position or Time-based programming
- Integral switch prevents welding without torch gas flow
- Integral printer
- Detachable coolant recirculator with integral flow switch protection
- Meets applicable NEMA, CE, CSA standards

Options

- Cart with bottle rack
- Extension cables
- Rugged storage/shipping case
- Lighter weight 115/230 VAC version

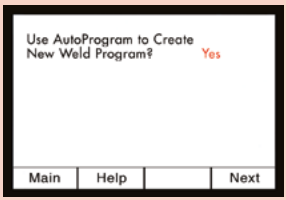
PIPEMASTER 515

AUTOPROGRAM

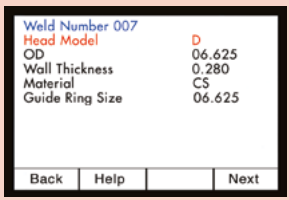
Programming is simple and intuitive by manual entry or new AutoProgram which self-generates procedures.

Startup display

Automatically create a new weld program

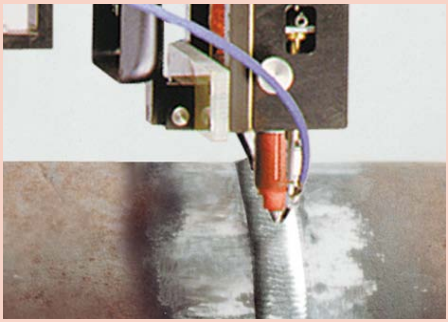


Simply fill in the blanks



REMOTE PENDANT

This handheld control is used to both program and remotely operate the power source. Designed to withstand hard use, the pendant incorporates a completely sealed, waterproof silicone rubber panel keypad, impervious to grinding debris and weld spatter. The color LCD display is protected by a tempered glass shield.
The intuitive switch layout allows the welder to make program override corrections without lifting his hood.



For a perfect weld, every time

COOLANT RECIRCULATOR

Detachable coolant recirculator mounts beneath power source with integral flow switch protection.

TEACH MODE

Teach Mode speeds program development. Approximate parameter values are entered or copied from an existing program. A test weld is then made in Teach Mode. Changes made during welding are temporarily stored and can be "saved" as a new weld program.

PROGRAMMABLE OVERRIDES PROVIDE SUPERVISORY CONTROL

The welder may override programmed parameters but only within preset limits. Password protected override limits are set for each parameter (0–100% of programmed value).

SIMPLIFIED PROGRAMMING

Specifying the weld Head to be used from a "dropdown" menu automatically selects the preferred programming mode – position or time. Time-based programming is generally preferred for weld Heads making simple fusion welds. Multipass pipe weld Heads are operated using position-based programming, eliminating calculations to determine when parameter changes must be made. A sensor in the weld Head provides position information. All welding parameters may be changed at each level.

WELD MONITORING/QC

Additional documentation and notes can be added to weld programs and QC records, providing traceability to individual drawings, projects, and customers.

Weld No	009	Date 9-11-2003	
OD	00.500	Wall Thickness	00.049
Head	C10	Position	5G
Project	P326 03_____		
Drawing	H220_____		
Elect Diam	0.062"	Length	00.292"
Shield Gas	AR/H	Flow Rate	020 CFH
Backing Gas	AR	Flow Rate	005 CFH
Tacking	No	Overrides	No

Back | Help | | Next

PIPEMASTER 515

Specifications

Application	For use with many Magnatech weld head models (GTAW process), welding lathes, and dedicated weld systems
Functions controlled	Weld current output/current pulsing, weld head rotation, weld head wire feed speed, electronic arc voltage
Output power	0 – 200 amps
Input power requirements (rated load)	115/480 VAC, 1 or 3 Ø, 4.0 KVA, 50/60 Hz autoranging (no modifications necessary)
Internal memory capacity	100 weld programs
Units of measurement	Metric and Inch (selectable)
Program transfer	Solid state digital media (USB flash drive/memory key)
Language selection	English, Spanish, German, French, others
Settable override limits	Individually scalable overrides on each function 0 – 100%
Maximum open circuit voltage	80 V
Water and gas flow switches	Standard. Prevent damage to equipment and workpiece
Data recording/printout	Operator ID, weld ID number, program number, material, OD, wall thickness, date, time, weld head model, project, drawing, programmed parameters, user notes
QC-parameter monitoring/ recording/printout	Records actual parameters and deviations from preprogrammed limits
Arc start type	High voltage impulse
Operating/storage temperature	Operating: -18 to 50° C (0 to 120° F) Storage: -25 to 60° C (-20 to 140° F)
Humidity To 98% RH (non-condensing)	To 98% RH (non-condensing)

Dimensions/weights

	MODEL 515 POWER SOURCE	MODEL 905 CIRCULATOR
Length	48 cm (19")	48 cm (19")
Width	35 cm (14")	35 cm (14")
Height	43 cm (17")	27 cm (11")
Weight	41 kgs (91 Lbs)	15 kgs (34 Lbs)
Weight - Model 515	35 kgs (77 Lbs)*	15 kgs (34 Lbs)*

*115/230 VAC Input Model

PIPEMASTER
516

MAGNATECH

516 PIPEMASTER

PROGRAMMABLE CONTROLLER FOR ORBITAL WELD HEADS

The latest generation of Pipemaster controllers are the result of a new direction in power source design. The Pipemaster 516 brings the benefits of digital technology to the orbital welding customer: unparalleled accuracy, repeatability, and reliability. Digital technology forever eliminates the need for periodic weld head calibration – motor speeds and response characteristics remain accurate and stable regardless of wear, and weld heads can be interchanged without time-consuming calibration.

Features

- Multi-pass welding of pipes/tubes/tubesheets
- Full function capability (torch rotation, filler wire feed, electronic arc gap control, electronic oscillation)
- Operates all models of Magnatech weld heads (GTAW process)
- Current programming and pulsing controlled by Pipemaster controller – not the power supply
- Amperage output determined by power source selection
- Autoranging power input eliminates all internal modifications
- Up to 100 levels per program (time-based programs)
- Stores 100 weld programs internally
- AutoProgram automatically generates procedures
- Programming and operation guided by simple prompts
- Teach mode allows rapid program development
- Programmable "override limits" provide supervisory control
- Weld parameter monitoring/out-of-limits reporting for QA/QC purposes
- Transfer programs and QC data to PC using USB flash drive/memory key
- AutoTack automatically generates tack weld programs
- Large color LCD pendant display
- Stainless steel case
- Help files provide immediate information/ assistance
- Password protection of key functions
- Waterproof pendant with 7.6 m (25') cable
- Auto rewind feature unwraps cable at weld completion
- All weld head functions capable of synchronization with pulsed current output
- Selectable position or time-based programming
- Integral switch prevents welding without torch gas flow
- Bluetooth printer option
- Detachable coolant recirculator with integral flow switch protection
- Meets applicable NEMA, CE, CSA standards

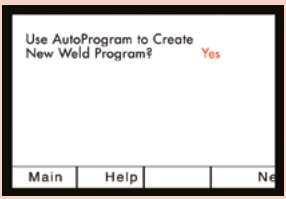
PIPEMASTER 516

AUTOPROGRAM

Programming is simple and intuitive by manual entry or new AutoProgram which self-generates procedures.

Startup display

Automatically create a new weld program



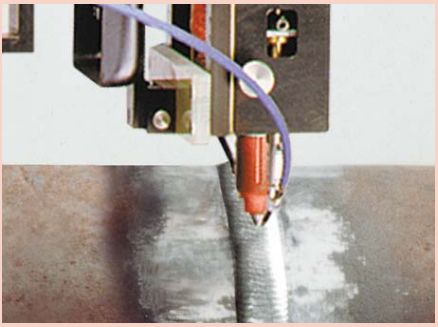
Simply fill in the blanks

Options

- Detachable coolant recirculator mounts beneath
- Controller with integral flow switch protection
- Cart with bottle rack
- Extension cables
- Rugged storage/shipping case
- Freestanding Bluetooth printer
- Data-logging system for Amps, Volts, Travel Speed, Wire Speed, and Gas Flow (available for certain weld Head models only)

REMOTE PENDANT

This handheld control is used to both program and remotely operate the controller. Designed to withstand hard use, the pendant incorporates a completely sealed, waterproof silicone rubber panel keypad, impervious to grinding debris and weld spatter. The color LCD display is protected by a tempered glass shield The intuitive switch layout allows the welder to make program override corrections without lifting his hood. A gasketed storage box for the Pendant is located behind a hinged panel on the front of the Controller.



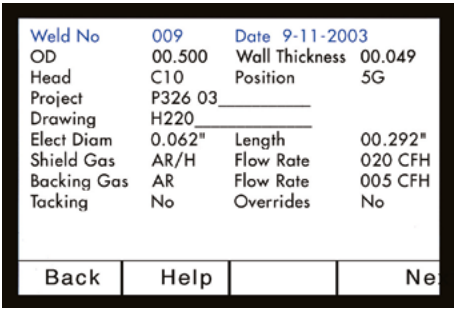
For a perfect weld, every time

SIMPLIFIED PROGRAMMING

Specifying the weld Head to be used from a "dropdown" menu automatically selects the preferred programming mode – position or time. Time-based programming is generally preferred for weld Heads making simple fusion welds. Multipass pipe weld Heads are operated using position-based programming, eliminating calculations to determine when parameter changes must be made. A sensor in the weld Head provides position information. All welding parameters may be changed at each level.

WELD MONITORING/QC

Additional documentation and notes can be added to weld programs and QC records, providing traceability to individual drawings, projects, and customers.



COOLANT RECIRCULATOR

Detachable coolant recirculator mounts beneath the controller with integral flow switch protection.

TEACH MODE

Teach Mode speeds program development. Approximate parameter values are entered (or an existing program copied).
A test weld is then made in Teach Mode. Changes made during welding are temporarily stored and can be "saved" as a new weld program.

SEALED MODULE

All critical electronics are mounted in a completely sealed (IP-65) slide-out module.

PROGRAMMABLE OVERRIDES PROVIDE SUPERVISORY CONTROL

The welder may override programmed parameters but only within preset limits. Password protected override limits are set for each parameter (0–100% of programmed value).

PIPEMASTER 516

Specifications

Application	For use with many Magnatech weld head models (GTAW process), welding lathes, and dedicated weld systems
Functions controlled	Weld current output/current pulsing, weld head rotation, weld head wire feed speed, electronic arc voltage
Output power	0 – 200 amps
Input power requirements (rated load)	115/480 VAC, 1 or 3 Ø, 4.0 KVA, 50/60 Hz autoranging (no modifications necessary)
Internal memory capacity	100 weld programs
Units of measurement	Metric and Inch (selectable)
Program transfer	Solid state digital media (USB flash drive/memory key)
Language selection	English, Spanish, German, French, others
Settable override limits	Individually scalable overrides on each function 0 – 100%
Water and gas flow switches	Standard. Prevent damage to equipment and workpiece
Data recording/printout	Operator ID, weld ID number, program number, material, OD, wall thickness, date, time, weld head model, project, drawing, programmed parameters, user notes
QC-parameter monitoring/ recording/printout	Records actual parameters and deviations from preprogrammed limits
Arc start type	High voltage impulse
Operating/storage temperature	Operating: -18 to 50° C (0 to 120° F) Storage: -25 to 60° C (-20 to 140° F)
Humidity To 98% RH (non-condensing)	To 98% RH (non-condensing)

Dimensions/weights

	MODEL 515 POWER SOURCE	MODEL 905 CIRCULATOR
Length	48 cm (19")	48 cm (19")
Width	35 cm (14")	35 cm (14")
Height	43 cm (17")	27 cm (11")
Weight	41 Kgs (91 Lbs)	15 Kgs (34 Lbs)
Weight - Model 515	35 Kgs (77 Lbs)*	15 Kgs (34 Lbs)*

*115/230 VAC Input Model


MAGNATECH
16.00"
(406.4mm)
MAGNATECH

PIPELINER MPS 4000

MAGNATECH

SYNERGIC OPERATION
Of electrode speed/power output.

400 AMP OUTPUT

AUTORANGING POWER INPUT
Eliminates all internal modifications.

CART WITH BOTTLE RACK

FACTORY OPTIMIZED STORED PROGRAMS
For most materials.

INTEGRAL SWITCH
Prevents welding without torch gas flow.

COOLANT RECIRCULATOR
Coolant recirculator with integral flow switch protection.

4000 PIPELINER MPS

PROGRAMMABLE POWER SOURCE FOR MULTI-PASS ORBITAL GMAW/FCAW PIPE WELDING

The MPS 4000 is a digital inverter power source for GMAW/FCAW process welding applications. The integral weld head controller operates all Pipeliner weld head models. The MPS 4000 provides synergic control of electrode speed and power output – the welder has only to change electrode speed and the power supply will adaptively change the output parameters to maintain a stable process.

Features

- Multi-pass welding of pipes
- Operates all variants of Magnatech Pipeliner weld Heads (FCAW/GMAW process)
- 400 Amp output
- Autoranging power input eliminates all internal modifications
- Pulsed/spray modes
- Integral switch prevents welding without torch gas flow
- Coolant recirculator with integral flow switch protection
- Meets applicable NEMA, CE, CSA standards
- Pendant allows remote operation
- Synergic operation of electrode speed/power output
- Factory optimized stored programs for most materials
- Program development service available for special alloys
- Outdoor job site usage (IP23 rating)
- Cart with bottle rack

Applications

- Fossil and nuclear power plant construction/ maintenance
- Steam generation equipment fabrication
- Gas and oil pipeline construction
- Marine pipeline construction
- Chemical/petrochemical facility construction and maintenance
- Large diameter vessel fabrication
- Shipyard Construction

Options

- Pendular oscillation
- Extension Cables
- Gas mixer kit
- Second bottle rack

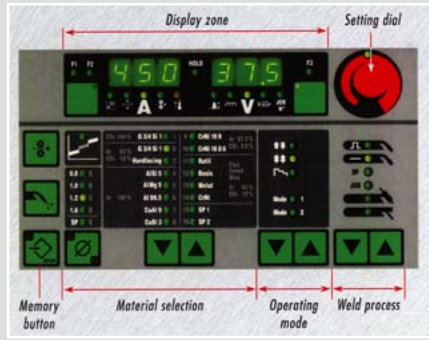
SAFETY AND DURABILITY

Rated IP23 – suitable and safe for field use without special protection. Field proven reliability.

PIPELINER MPS 4000

AUTOPROGRAM

The MPS 4000 comes with welding expertise already built-in. Power Source Controls stand out for their simplicity and ease of operation. Just set the wire diameter and type of material to access the factory preprogrammed optimized parameters that are stored in memory. The single-knob operation in synergic mode makes this job even easier. Power output is precisely synchronized with wire speed and is adjustable through its full range with the turn of a single knob.



PRECISE ARC LENGTH REGULATION – AUTOMATICALLY

Digital technology maintains a constant arc length with microsecond response to change in stick out. Regulated process eliminates spatter.

CONTROL PANEL – TELLS YOU ALL YOU NEED TO KNOW

- Before welding, programmed values are displayed. During welding, actual values are displayed
- At weld completion, actual values are stored and displayed by "Hold" function
- Single point settings of wire speed and voltage can be stored and recalled allowing instant access to optimized par meters for specific jobs
- Warnings are displayed: Over temperature and low water level
- Error codes allow rapid diagnosis of problems

Dimensions/weights

	POWER MODULE	CONTROLLER	WATER CIRCULATOR	WIRE FEEDER
Length	72.5 cm (28.5")	72.5 cm (28.5")	72.5 cm (28.5")	65 cm (25")
Width	29 cm (12")	29 cm (12")	29 cm (12")	29 cm (12")
Height	47 cm (18.5")	23 cm (9")	23 cm (9")	41 cm (16")
Weight	35 kg (77 lb.)	14.5 kg (32 lb)	13 kg (29 lb)	16 kg (35 lb)

4000 PIPELINER MPS

Specifications

Application	For use with all Pipeliner GMAW/FCAW process weld heads
Functions controlled	Power module power output (standard and pulsed) Electrode feed speed Weld head rotation Weld head torch oscillation (linear standard, pendular optional) Weld head electronic cross-seam adjustment Weld head arc gap control
Internal memory capability	80 synergic programs / 99 single point (voltage/wire speed) programs
MPS 4000 POWER SOURCE	
Output rating	400 A @ 50% duty cycle, 320 A @ 100% duty cycle
Max. open circuit voltage	70 V
Cos phi/efficiency	0.99 / 88%
Input power requirements (Rated load)	Volts – 200/230/400/460 (autoranging); amperes 35 A; KVA 12.7; frequency 50/60 Hz
Degree of protection	IP23
Type of cooling	AF (forced Air)
Insulation class	F
Applicable electrical standards	IEC 974-1 (IP-23S); CSA; EMC 89/336/EEC; EN 60 974-1
MODEL 712 WELD HEAD CONTROLLER	
Pendant cable length	7.6 m (25'). Extension cables available
Degree of protection	IP23 (Excluding Remote Pendant)
MPS 4000R WATER CIRCULATOR	
Pump	Centrifugal
Cooling capacity	2000 – 2300 W (at 20 EC/68° F)
Max. delivery capacity/pressure	3.5 liters/min (0.9 gal/min) at 4.2 bar (60 psi)
Coolant volume	5.54 liters (1.46 gallons)
Degree of protection	IP23
MPS 4000 WIRE FEEDER	
Drive type	4 roll (various groove geometries available)
Wire diameter	0.8 – 1.6 mm (0.03 – 0.62")
Wire feed speed	0.5 – 22 m/min (20 – 866 ipm)
Degree of protection	IP23

REMOTE PENDANT

A handheld control is used to both program and remotely operate the system. The intuitive switch layout allows the welder to make program override corrections without lifting his hood.