

TUBEMASTER

MODELS 511 & 512 Programmable Power Sources for Orbital Weld Heads
Use with: • Orbital Tube Weld Heads • Rotary Fixtures • Dedicated Weld Stations

WELDING TOOLS FOR INCREASED PRODUCTIVITY

The Tubemaster is a microprocessor-based programmable GTAW power source with models available in a range of amperage outputs. Designed to be used with weld Head models for tube, pipe and tubesheet welding applications, the compact portable design is equally suitable for shop and field use. Precise and repeatable, the Tubemaster makes welds meeting all quality standards in diverse applications and industries including: aerospace, pharmaceutical, food processing, and power generation.

Whether your concern is meeting applicable quality standards or increasing production, the Tubemaster will bring the repetitive precision and high duty cycle of mechanized welding to your application.

FEATURES

- Microprocessor-based with closed-loop regulation of all parameters
- Programming of weld current, torch rotation speed, and filler wire speed
- 100/150/300 Amp output
- Operates many models of Magnatech weld Heads (GTAW process)
- Fusion welding only or with filler wire
- Simple, intuitive programming and operation guided by simple prompts
- Remote Pendant with 8m (25') cable provides control of all functions at the weld
- Stores 100 weld programs internally with 32 parameter levels in a program
- Programmable overrides limits provides process control



- Keyswitch locks out unauthorized personnel
- Weld parameter monitoring/out-of-limits reporting for QC purposes
- Meets all applicable NEMA, CE, and CSA standards
- Integral switch prevents welding without torch gas flow
- Program transfer using solid-state data card
- Menu selectable language and metric/inch units of measurement
- User-selectable steady state or pulsed current operation
- Teach mode allows rapid "fine-tuning" of programs
- Auto rewind feature returns weld Head to "Home" position at weld completion
- 8m (25') Ground Cable and Inlet Gas Hose included

OPTIONS

- Integral printer
- Detachable coolant recirculator

- mounts beneath power source with integral water flow switch
- Offline programming capability using standard PC also provides structured filing system
- Extension cables available
- Heavy duty cart with bottle rack
- Dual head switcher allows two heads to be used alternately for high duty cycle

APPLICATIONS

- Aerospace
- Pharmaceutical/Biotechnology
- Power Generation
- Sanitary (Hygienic) Process Pipe
- Food Processing/Dairy
- Instrumentation Lines
- Semiconductor/High Purity
- Shipbuilding
- Chemical/Refining
- Welding Lathes

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PROGRAMMABLE CONTROL

The microprocessor-based Tubemaster provides internal storage of 100 weld programs using the latest technology in solid state memory. A standard credit-card sized data card provides external storage of 30 weld

programs and transfer of programs between systems.

SIMPLIFIED PROGRAMMING

Programming is time-based. Each program consists of a maximum of five weld passes, with six parameter levels per pass (32 levels including

upslope/downslope). All welding parameters may be changed at each level.

Programming is guided by simple prompts in plain language.



All weld Heads functions are programmable. The Tubemaster can be used with many models of Magnatech welding Head (GTAW

INTERNAL MEMORY STORES UP TO 100 WELD PROGRAMS

Solid state memory module

FAULT CONDITIONS TRIGGER IMMEDIATE RESPONSE

Arc start prevented and welding immediately terminated by:

- Arc outage
- Inadequate gas flow
- Inadequate coolant flow (if coolant recirculator installed)

PC DATA CARD

- Stores 30 programs
- For program transfer



COOLANT CIRCULATOR (OPTIONAL)

The Model 902 attaches directly below the Tubemaster for applications requiring water cooling.

INTEGRAL PRINTER

Allows print out of programs from memory and QC reports on completed welds

• TEST SWITCH

Allows weld program simulation

• KEY SWITCH

Prevents unauthorized changes to programs, as well as preset limits on operator override and QC parameters

• PURGE SWITCH

Allows thorough purging of entire gas system at first use



process) for orbital tube, pipe, tubesheet, and welding lathe applications. The Tubemaster provides complete control over weld current parameters including Upslope/ Downslope, and Current Pulsing. Weld Head functions of Rotation and Wire Feed operation may be synchronized with pulsed current.

The user selects the weld Head model to be used and enters the desired rotation speed. The total time for one revolution at the programmed speed is immediately displayed, eliminating the need for any calculations. The Next Program to Run feature allows weld programs to be linked together.

MEMBRANE SWITCH CONTROL PANEL AND PENDANT are dust and moisture proof



PROGRAMMABLE OVERRIDES PROVIDE SELECTIVE CONTROL

The welder may override any of the pre-programmed weld parameters, but only within settable limits. The override limits are individually programmed for each parameter (0-100% of programmed value).

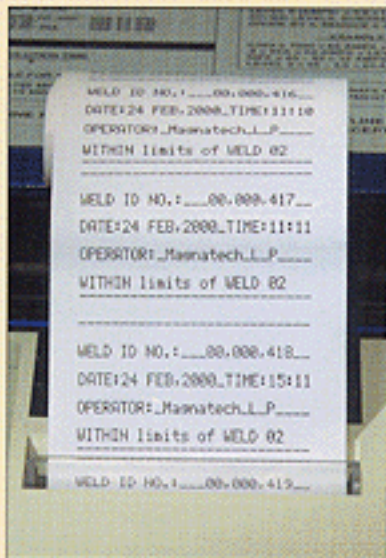


WELD MONITORING/QC

New software provides the welder with instant information on weld quality. Acceptable \pm limits are programmed for each of the critical weld parameters. 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 of the critical parameters fall outside the defined limits, the operator is immediately notified, as well as:

- which parameter was out of limits
- maximum deviation from the programmed value
- maximum time that the error occurred
- exact location in the weld where the error occurred

The print out also indicates whether the operator changed the preprogrammed values during the course of the weld.



QC reports can be transferred to a solid state PC data card and a standard PC. A Windows-based program allows the data to be reviewed by QC personnel and stored for record keeping purposes.



TUBEMASTER Models 511 & 512

SPECIFICATIONS

Application	For use with many weld Head models (TIG process), Rotary Welding Fixtures, and dedicated Welding Systems
Functions Controlled	Welding Current Output/Current Pulsing • Weld Head Rotation • Weld Head Wire Feed Speed
Internal Memory Capability	100 Weld Programs (each program 5 passes with 6 levels per pass)
Units of Measurements	Metric and Inch (selectable)
Program Transfer	Solid State Data Card (PCMCIA)
Language (LCD Display)	English, German, French, Spanish, Swedish
Settable Override Limits	Individually scalable overrides on each function 0–100%
Pendant Cable Length	8m (25'). Extension cables available
Maximum Open Circuit Voltage	70V
Water and Gas Flow Switches	Standard. Prevents damage to equipment and workpiece
Data Recording/Printout	Welder ID, Weld Number, Date, Time, Program Number, Weld Head Model
QC-Parameter Monitoring/Recording/Printout	Current Level, High Pulse Current, Low Pulse Current, Rotation Speed (Available for C-Heads and Redhead Models only)

INPUT POWER REQUIREMENTS (Rated Load)

	Model 511	Model 512
Input Power, Vac	100 – 115 or 200 – 230	208 / 230 / 460 or 380 / 415 or 460 / 575
Phase	1Ø	3Ø (Also 1Ø on 208/230 Input)
Output Power	0 – 100 A or 0 – 150 A	0 – 300 A
Arc Start Type	HV	HV
Frequency	50/60 Hz	50/60 Hz

DIMENSIONS/WEIGHTS

	Model 511	Model 512	902 Water Cooler
Length	48cm (19")	48cm (19")	48cm (19")
Width	56cm (22")	56cm (22")	56cm (22")
Height	34cm (13.5")	49cm (19.5")	17cm (6.5")
Weight	37kg (81 lbs)	62kg (137lbs)	15kg (33lbs)

OPTIONAL EQUIPMENT/ACCESSORIES



Offline programming



Cart with bottle rack



Dual head switcher

New U.S. E-Mail Address:
sales@magnatech-lp.com
info@magnatech-lp.com

MAGNATECH

Headquarters:
MAGNATECH LIMITED PARTNERSHIP
6 Kripes Road, P.O. Box 260
East Granby, CT USA 06026-0260
Telephone: (+1) 860 653-2573
Fax: (+1) 860 653-0486
E-Mail: magnatech.dsd@snet.ne
Web Site: www.magnatech-lp.com

European Office:
HIGH TECH SYSTEMS - MAGNATECH EUROPE
Ambachtshof 15, 8251 KV Dronten
The Netherlands
Telephone: (+31) 321 38 0210
Fax: (+31) 321 31 4165
E-Mail: info@orbiveld.com