



ARC MACHINES, INC.

The widest range of orbital welding equipment in the world

MODEL 415 PROGRAMMABLE MULTI-FUNCTION WELD POWER SUPPLY



- Computer-controlled, built-in Windows™ operating system
- High-speed switching type, precision pulsed GTAW power supply
- Automatic configuration for AMI welding heads
- Easily adaptable to custom-designed and other weld heads and fixtures
- Complete operation and programming in English or user-defined languages
- Simple graphic display of all weld information and function values
- Standard full-function remote operator's pendant with patented "Heads-Up" Display
- Operation via touch-screen display or remote operator's pendant
- Built-in fault detection
- Current pulsation synchronized with oscillation, dwell, wire feed, travel or external inputs
- Up to eight optional multi-function programmable servos

ARC MACHINES, INC.

AMI is an ISO Certified Company

www.arcmachines.com

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MODEL 415 PROGRAMMABLE MULTI-FUNCTION WELD POWER SUPPLY

The Arc Machines Model 415 is designed to be a versatile welding automation control and power supply system. The standard Model 415 can be used to weld all alloys that are weldable with the Gas Tungsten Arc Welding process (GTAW, or TIG) using straight polarity DC current. The basic Model 415 features a complete complement of controls, water cooling and gas control necessary to operate all AMI orbital weld heads for in-place field welding tasks ranging from small diameter fusion tube welds to heavy-duty piping and vessels. All welding tasks are performed with the unparalleled level of precision and repeatability that have become a world-wide AMI trademark.

The Arc Machines Model 415 Windows™ based power supply/controller features the absolute latest state-of-the-art technology, from its 400 ampere second-generation solid-state Thompson buck-converter power supply to its color VGA display with touch screen.

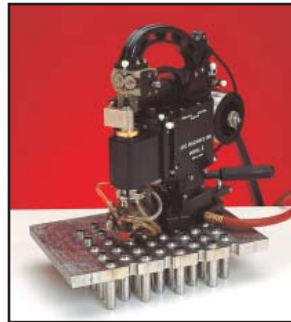
The Model 415 is an extremely capable power supply that is very easy to operate. The heart of its flexibility is our emphasis on user-definability. Almost all function ranges and modes can be defined by the user to exactly match the welding head or fixture being used. These features include the ability to add up to 4 optional closed-loop motor servos and 8 optional open-loop motor manipulator controls that make it ideal for work-cell manufacturing environments or for use with custom welding heads having unique functions.

Remote operation of the Model 415 requires a minimum of additional options. Most remote welding modes and controls such as lighting and video controls are included as standard equipment.

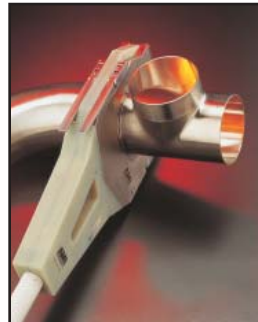
THE MODEL 415 + AMI WELD HEADS = PERFORMANCE



*Nuclear Waste
Canister Welder*



*Model 6
Tube-to-Tubesheet Weld Head*



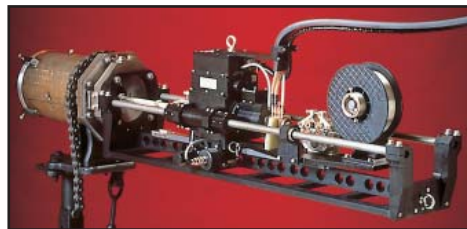
*Fusion
Tube Weld Head*



*Model 79
Full-Function Weld Head*



*Model 15
Large Diameter Weld Head*



Model 94-415 I.D. Cladding Weld Head



Model 2 Modular Production Welding Systems



*Model 81
Small Diameter
Weld Head*

MODEL 415 STANDARD FEATURES



*Model 415 remote welding option
(laptop computer not included)*



*Standard 415 operator's pendant with
built-in "heads-up" display*

- Easy to program and operate with our advanced graphical user interface
- Large, easy to read, color LCD display with touch-screen operation (operable with gloved hands)
- Programmed in English language, other languages can be installed by the user
- Windows™ based micro-processor control
- Solid-state 400 Amp 100% duty cycle air-cooled Thompson buck-converter weld power supply switching at 60 kHz.
- Four (4) standard Servos include programmable control for Travel and Wire Feed speeds, Torch Oscillator position and Arc Length (AVC)
- High-Precision Gas flow sensors
- Built-in water cooler for liquid-cooled torches
- Built-in system diagnostics and fault reporting
- High-Capacity system memory for weld program storage
- Compatible with most Arc Machines' weld heads
- Operates up to 200 feet (60 m) away from weld head or fixture
- Includes full-function operator's pendant with our patented "Heads-Up" display and easy-access control
- User-definable and controlled overrides of weld parameters
- All function ranges and units are user-definable to metric, English or any other measurement system
- External fault sensor inputs are provided
- Weld Project Data Recording / Real-Time Digital Data Acquisition
- Chart recorder output
- 2 Industry-Standard USB Ports

MODEL 415 OPTIONAL FEATURES

Remote welding video systems

Second built-in liquid cooling unit for optional equipment, such as video cameras and fixtures.

Up to eight optional motor servos. Each servo is fully programmable by the user.

- Definable function fault indicators
- Motor current limits
- Closed-loop tachometer feedback
- Closed-loop encoder feedback.
- Closed-loop potentiometer feedback.
- External Voltage feedback
- Definable as position, velocity or amplitude servo

Other options include:

- Eight open-loop low-current “jog” positioning motor outputs
- Remote control computer interface via Ethernet LAN
- Gas Flow Control and measurement outputs.
- Offline programming and data storage via external PC
- Parallel printer interface.
- RS232 serial interface for real time data acquisition

Complies with all applicable international norms and directives, including: ISO/DIS 700; IEC and EN 60974-1 and 60974-10.

Technical Data

Process:	GTAW (TIG)	Arc Start System:	High frequency or touch start
Weld Current:	5 to 400 Amps DC \pm 1% Straight polarity 100% Duty Cycle	Input Power:	200 to 575 VAC service, 3-phase 50/60 Hz.
Arc Voltage Control:	Range user-defined Max. 25 volts at torch @ 400 amps	Dimensions:	Height: 39" (990 mm) Width: 26" (660 mm) Depth: 36" (915 mm)
Travel/Rotation Speeds:	User-defined by weld head type	Weight:	710 lbs. (325 kg)
Wire Feed Speed:	User-defined by weld head type	Memory Capacity:	6.2 GB minimum
Torch Oscillation:	User-defined by weld head type	Applicable Spec.:	Spec. No.: 415
Torch Cooling Unit:	0.3 GPM (1.1 lpm) flow		
Cooling System:	Power source forced-air cooled Water cooling for torches and weld head		

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