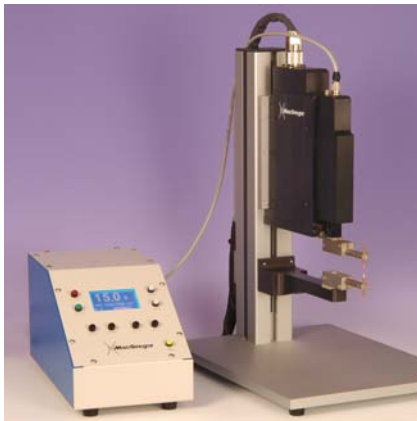


MACH 1 SERIES MOTORIZED WELDING HEADS

Guaranteed Force Control Weld Head Solution for High Value and High Liability Welding Applications



The Mach One range of welding heads provides programmable closed loop force control for both automated and demanding manual welding applications.



Universal Opposed Weld Head



Standard Opposed Weld Head

Features

- Servo driven actuation provides controlled motion with programmed search heights and impact velocity controls
- True closed loop control of welding force via embedded load cell ensures repeatable and accurate force is applied to every weld
- Eliminates variability in applied welding force making the welding process more robust and consistent
- High speed movement with impact force control ensures maximum production speed without damage or shock to welded components
- Unique "weld by wire" foot pedal allows for simulated cable type actuation control giving the operator complete control of the weld head motion without the danger of over force
- 99 stored memory locations containing travel, work height and force information allow for use in multiple applications with assured consistency by eliminating time consuming mechanical set up
- Electronic programming provides simple force setting adjustment
- Weld follow through mode allows servo drive to maintain welding force as the materials collapse during the process.
- 7 trigger ports for use in multiple weld applications in automated assembly
- Metal construction is suitable for use with sensitive components where static energy can cause damage
- Available in opposed and parallel gap configurations

Actuation Options

- **"Weld by Wire" Foot Pedal:** Provides user with simulated manual foot pedal control for precision applications requiring manual alignment and control. Closed loop force system prevents application of weld force in excess of programmed value.
- **Digital I/O Trigger:** Triggers programmed weld head motion based upon memory settings including travel speed, weld search height and welding force. Closed loop force system prevents application of weld force in excess of programmed value.

Typical Applications

- Cross wire welding
- Lead frame and component welding
- Wire and cable termination
- Parallel gap welding on force sensitive substrates
- Solar cells
- Medical devices
- Radar components
- Microwave circuits
- Detonator assemblies



Specifications Mach 1 - 100

Input Voltage	90-260VAC, 50/60 Hz
Digital Inputs	24V, 20mA, 2500 VRMS isolation
Digital Outputs	24V, 20mA, 2500 VRMS isolation
Isolated RS232 Port	Isolation 500V continuously, 1000V for 1 second. Full duplex 600-230400 baud
Minimum Force	5N
Maximum Force	100N
Maximum Module Travel Relative to Weld Head Support	23mm
Maximum Electrode Travel Relative to Module	10mm (Module protection at 9.5mm travel)
Maximum Speed	410mm/s
Force Accuracy	1N
Force Repeatability	1N
External Peripheral Supply	24V, 1A fused
Models Available	Standard Opposed, Universal Opposed, Universal Compliant Tip, Standard Compliant Tip

ALTERNATIVE WELD HEADS BY MACGREGOR

Range Overview

- Modular design offers the ultimate in flexibility, simplicity and functionality
- Weld head types - Standard, Universal, Constant force
- Electrode configurations – Opposed, Twin (parallel gap)
- Actuation methods – manual, pneumatic, motorised (weld-by-wire)
- Weld head modules available –
2-50N Mini, 2-70N Std, 10-500N Hi-Force

Superior Flexibility

- Module units ideally suited for integration in bespoke automation systems
- Functional design allows for simple attachment with preferred actuators
- Displacement option for control and monitoring of weld displacement in critical applications

Superior Maintainability

- Low friction design gives long life
- Simple spring changes and re-configuration
- Modular design allows for simple servicing and replacement of weld head and components

Superior Design

- Ultra low friction bearings ensure weld collapse is precisely followed
- Simple, rugged construction for high duty use without frequent servicing
- Narrow footprint and profile allows multiple heads to be used in confined spaces

Superior Performance

- Ultra light moving mass for rapid electrode follow through and settling
- Precise control of weld force and displacement possible



Representative / Distributor



Approval Certificate N0:910599
Design and manufacture
of precision welding
equipment and sub-contract
micro-welding services

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