

Constant Force Weld Heads



Precision constant force welding heads

The Constant Force Weld Head delivers intelligence, functionality and precision accuracy for small component micro joining.

Intelligent Force Control provides an accurate and repeatable indication of the welding force displayed in grammes, newtons or pounds with user defined force limiting that prevents welds being made when the welding force is outside of the preset tolerance band.

The extremely low dynamic mass and counter balanced perpendicular linear movement delivers very rapid follow through as material displacement changes during the welding cycle. This ensures a repeatable precision contact and force throughout the process.



Constant force weld heads feature :

- ✓ Precision force control with intelligent, real time weld pulse limiting
- ✓ Precision 20mm linear perpendicular electrode travel for sensitive and fine applications such as hybrid circuits.
- ✓ Built in real time force monitor
- ✓ Optional PC link connection for quality control and data collection
- ✓ Standard parallel gap with option for opposed configuration
- ✓ Infinitely variable back support and slide

Intelligent Force control

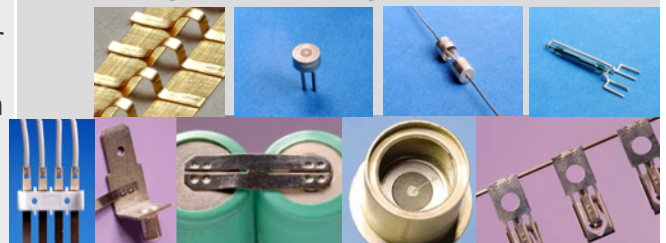


Intelligent Force Control provides an accurate and repeatable indication of the welding force, allowing the system to be precisely adjusted and then monitored for subsequent welds. Tolerance limits may then be set to prevent the head from triggering should the weld force fall outside desired limits.

The welding force reading is displayed on a 4-digit LCD located on the side of the welding head. Force is displayed in real time until the welding head micro switch is triggered after being fully actuated. At this point, the force reading at the time of the weld is locked on the screen until the micro switch is released allowing the operator to read the exact welding force.

Typical Applications

- Cross wire welding
- Lead frame & component welding
- Fine wire terminations
- Parallel gap welding on force sensitive substrates.
- Solar cell manufacture
- Medical device manufacture
- Radar components
- Microwave circuits
- Bridge Wire Welding



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Constant Force Weld Head Specification

Force Range	50 - 1000g
Actuation	Cable
Stroke	20mm
Dimensions	84mm x 250mm x 147mm.
Options :	
Parallel Gap / Opposed	Heads are available as parallel gap standard or optionally configurable for opposed welding.
Mounts	Heads may be mounted separately on third party product or on the standard back supports provided.
Optics	High quality optics are also optional.



Mach 1 : Weld by Wire™ electronic servo based force control

For heavier duty applications and automation, we manufacture and supply high end electronic servo based weld heads. These provide simulated cable feel control with displacement and force overrun protection and programmability.

Benefits of Mach1 Weld by Wire

Weld by wire actuation provides the user with a simulated manual foot pedal control for precision applications requiring manual alignment and control.

The closed loop electronic force and displacement control system prevents the application of weld force in excess of the programmed value while controlling travel and contact velocities.

Available in opposed or parallel gap configuration, these innovative units represent the state of the art in weld head technology and may be connected to computers for SPC quality control and setup.



Universal Opposed Mach 1 Weld Head

The MacGregor Weld Head Range

Accessories & service

MacGregor Systems has a worldwide network of support services and offers a wide range of stock and custom welding electrodes and accessories. Our dedicated engineering team are able to tailor custom weld heads to customer specific Applications and are always pleased to discuss your requirements.



Representative / Distributor

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and sub-contract micro-welding
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