



Heavy-duty moving-gantry FSW machine

Crawford Swift PowerStir bespoke friction stir welding machine

One of the most powerful friction stir welding (FSW) machines in the world with the potential to weld materials up to 150mm thickness in one pass.

Features and benefits

- Removable table for larger components
- Capable of working with bobbin and adjustable probe types
- Three-dimensional capability for complex operations
- Multi-mode process control with data and video logging

Technical specification

- Working envelope: 6000 x 3000 x 500mm
- No. of axes: 12
- Upper head
 - Spindle power: 132kW
 - Spindle speed: 0-1000RPM
 - Spindle torque: 2480Nm
 - Z force: 0-150kN
 - Force other axes: 0-100kN
 - A and B axis tilt: $\pm 15^\circ$
- Lower head
 - Spindle power: 60kW
 - Spindle speed: 0-1000RPM
 - Spindle torque: 1320Nm
 - Z force: 0-150kN
 - Force other axes: 0-100kN
 - A axis tilt: $\pm 15^\circ$

Some applications

- Fabrication of thick-section components:
 - Aircraft wing spars
 - Mobile military bridges
 - Pressure vessels
 - Armour plate
 - Train headstocks
 - Bulkheads
 - Tooling plates
- FSW process development and experimentation

