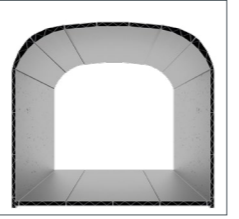




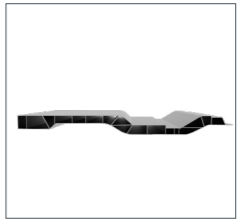
FSW Applications



AEROSPACE PARTS



RAILWAYS PARTS



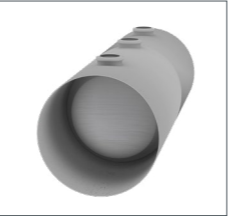
CAR FRAMES



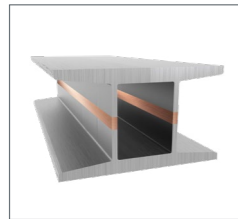
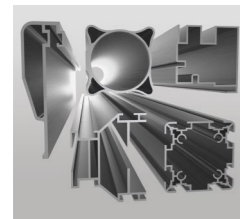
AIRPLANE PARTS



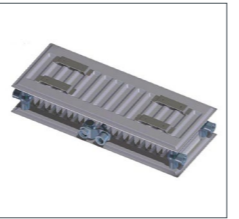
AUTOMOTIVE INDUSTRY



PRESSURE VESSELS



TECHNOLOGY PARTS



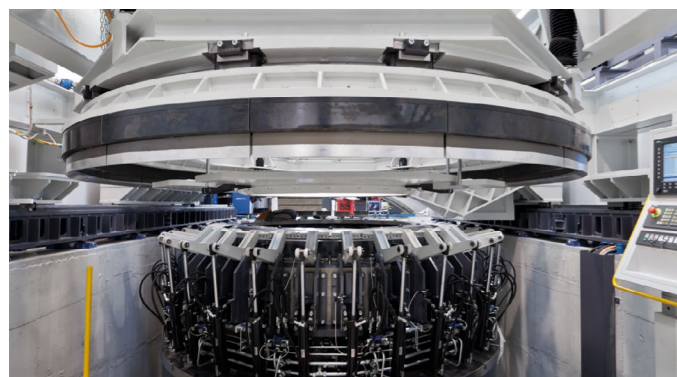
HEAT EXCHANGER AND HEAT SINK

STIRCELL FPT Friction Stir Welding Machine

Superior weld quality thanks to advanced Static Shoulder FSW technology.



FSW Installations



Make your project come true with us!



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FPT brings precision and innovation to Friction Stir Welding.

Break down the limits of conventional welding. Fast, automated, environmentally sustainable with low energy impact.

At FPT Industrie, we have developed our own proprietary Friction Stir Welding technology, the result of decades of expertise in advanced machine tool engineering. This unique know-how allows us to offer FSW solutions that stand out for their quality, reliability and technological innovation.

Our offering goes far beyond machinery. From feasibility studies to production start-up and long-term support, we provide a full range of services to help you implement and manage Friction Stir Welding independently and efficiently.



Advanced 4.5-Axis FSW Machine with Static Shoulder Technology

The research and development activities of FPT Industrie S.p.A. expand the range of machines with the new model for Friction Stir Welding operations, which is based on the experience gained in the field of Friction Stir Welding with the StirLAB, StirWALL, and StirROB machines.

The new cartesian machine is equipped with 4.5 axes for FSW, featuring Fanuc numerical control and 100% FPT-made welding management software.

Built with an electrowelded structure in a fixed bench configuration with a mobile carriage and vertical slide, it is designed to integrate the most performing FSW welding capabilities.

Compact and flexible layout, installable on industrial flooring without the need for specific foundations.

The working area is enclosed by fixed and mobile guards, allowing:

- Easy access for the operator
- Maximum ease for loading and unloading parts

The machine is also suitable for integration into highly automated systems for prototype or series production.

SSFSW Advantages

Reduced Heat Input	→	Up to 40% less thermal input vs traditional FSW
Superior Surface Quality	→	Mirror-like surface finish quality
No Exit Hole Required	→	Retractable pin eliminates exit holes
Complex Geometry Capability	→	T-joints and variable angles welding
Reduced Residual Stress	→	Minimized material distortion

Application fields:

- Aerospace and Aeronautics
- Automotive - E-Mobility
- Railway
- Naval
- Energy - Heat exchangers



Special FSW HEAD

Equipped with *force sensors*

Ready for:

- Fixed pin welding technology
- Stationary Shoulder FSW technology

Optional: retractable pin function

Longitudinal travel	1000-2400 mm
Cross travel	600 mm
Vertical travel	300 mm
Maximum continuous thrust force of the vertical axis	30 kN

Maximum continuous force of the longitudinal/cross axis	20 kN
Maximum nominal welding depth on aluminum	15 mm
Maximum spindle power	7.5 kW
Maximum spindle rotation speed	5000 rpm