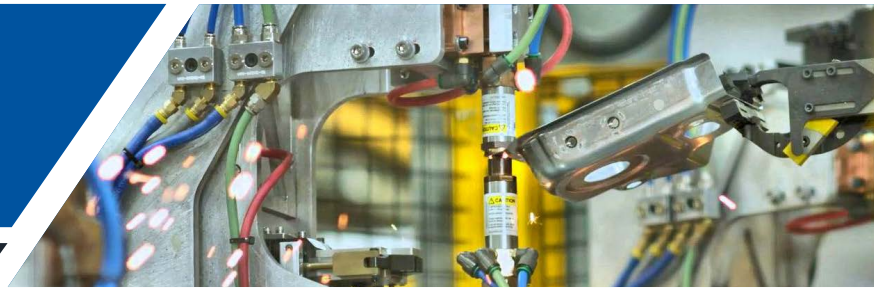


SoftMount™ Gun



IMPROVE UPTIME FOR NUT & STUD WELDING

The SoftMount™ Gun is designed to mechanically fine adjust its position to a stamped hole to consistently projection weld a fastener. It is ideal for robot applications where part dimensions, hole locations, or tooling are slightly inconsistent.

This system is available in two configurations:

Standard Feed Process (SFP) for nut & stud welding applications

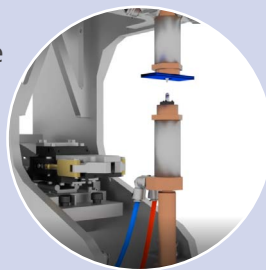
Inverted Feed Process (IFP) for nut welding applications

STANDARD FEATURES

- Patented VeriFast™ LVDT for accurate detection of fastener presence, orientation, and measurement of set down.
- Patented Quick Fastener Placement (QFP) Unit for rapid nut feed in the IFP configuration.
- Upper Stud Feeder (USF) unit for Rapid stud feed in SFP configuration
- Patented C-Frame mounting style to return the gun to initial position without external force.
- Low-impact actuator choices to achieve a wide range of welding forces.
- PedTec™ weld gun stand.
- Full leveling adjustment for reliable setup.

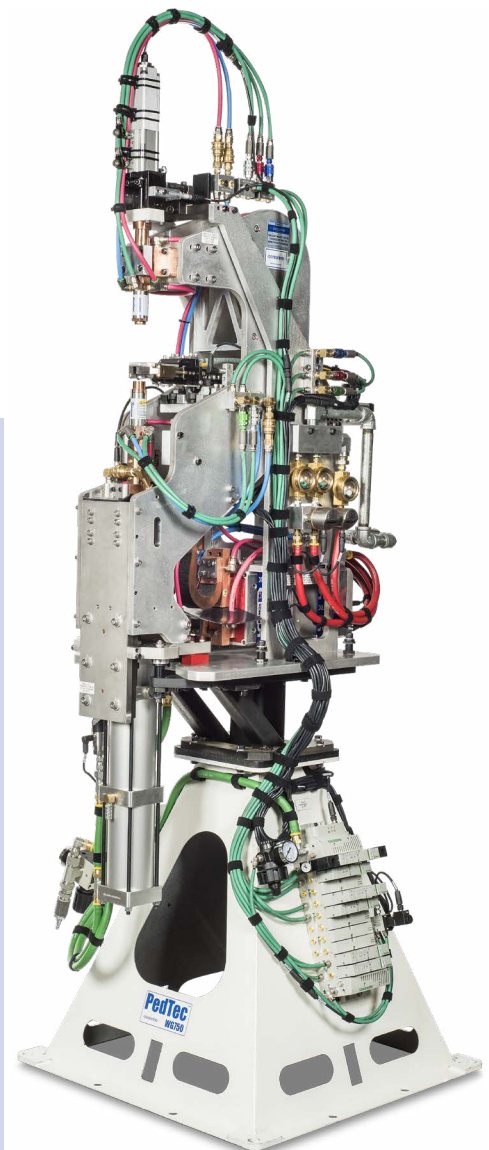
ADVANTAGES

- Nut welding applications using the QFP Unit achieve better cycle times than traditional nut welding. This is due to the **inverted weld nut position and the ability to feed the weld nut during robot moves or idle process opportunities.**
- Reduces downtime and quality issues caused by improperly positioned and, therefore, welded fasteners.
- Reduces side loading on misaligned weld pins which can cause wear or breakage of pins.
- Simplifies the need for meticulous robot teaching thus reducing setup time.
- Uses both VeriFast™ LVDT and LPT monitoring for reliable error detection.
- Equipped with the VeriFast™ MicroView for process monitoring.
- Forgives small dimensional inconsistencies in parts that can occur with hot stamped parts & laser cut holes.
- Eliminates the need for robot-guided vision systems or defining robot offsets to detect weld fastener locations.
- Often allows for simpler and sometimes fewer end of arm tooling (EOAT) designs that can be leveraged across multiple parts.



SoftMount™ Gun Standard Feed Process (SFP)

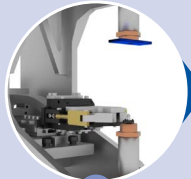
For Nut & Stud Welding Applications



REDUCE CYCLE TIME AND MAINTENANCE FOR NUT WELDING

HOW IT WORKS

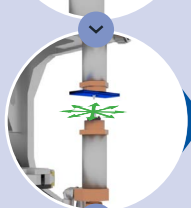
Nut welding process with SoftMount Gun IFP and QFP unit.



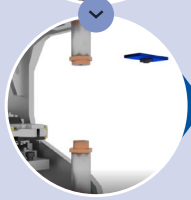
QFP unit loads the fastener as the robot presents the part to the weld gun.



Weld pin advances into the part.



Gun adjusts to a position to allow the pin to fully engage the part. When encountering any misalignment between the weld pin and the hole, the welding pin taper and radius, upon pin advancement, generate a sideways (horizontal) force on the gun. This force and the gun's compliance feature cause the gun to adjust to a position so the pin can fully engage the part.

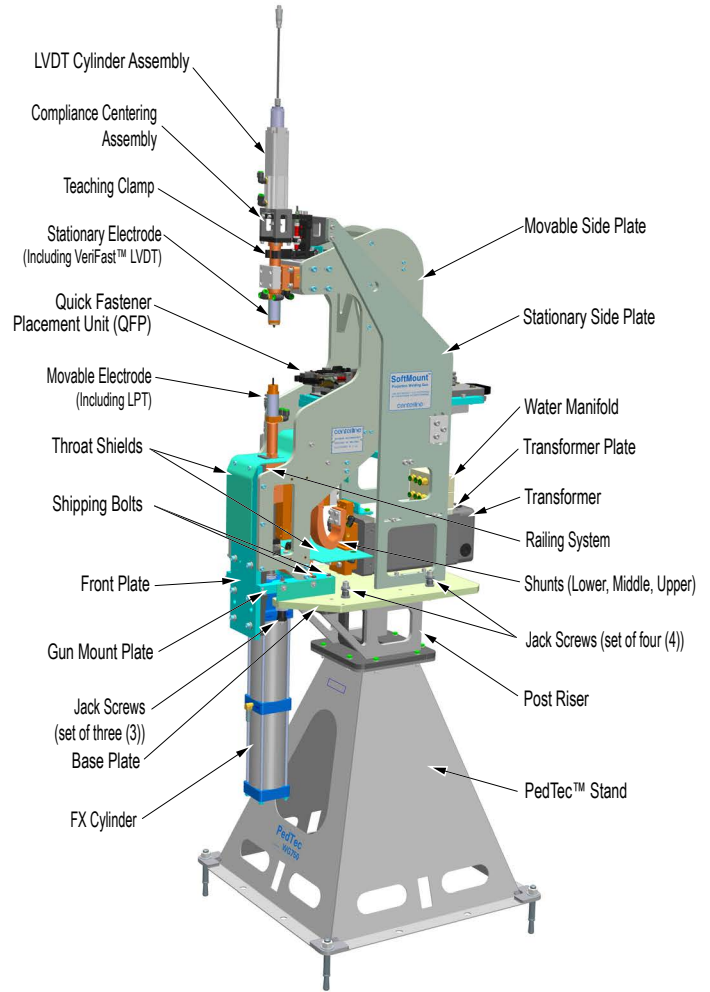


Fastener is welded to the part.

The weld gun's compliance feature and the entire gun design have been optimized to create the best balance between stability and ease of movement. The compliance mount assembly is set far enough from the weld plane that it does not introduce variation to the welding process itself.

SoftMount™ Gun Inverted Feed Process (IFP)

For Nut Welding Applications

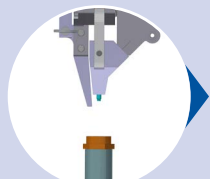


Patent: www.cntrline.com/patent

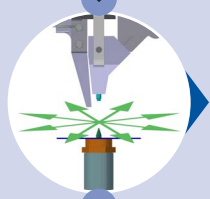
REDUCE CYCLE TIME AND MAINTENANCE FOR STUD WELDING

HOW IT WORKS

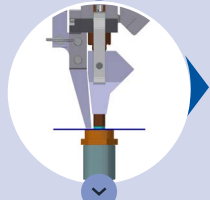
Stud welding process with SoftMount Gun SFP and USF unit.



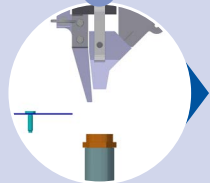
Stud is fed into Upper Stud Feeder as the robot presents the part to the weld gun.



Weld pin advances into the part. Gun adjusts to a position to allow the pin to fully engage the part. When encountering any misalignment between the weldpin and the hole, the welding pin taper upon advancement generate a sideways (horizontal) force on the gun. This force and the gun's compliance feature cause the gun to adjust to a position so the pin can fully engage the part.



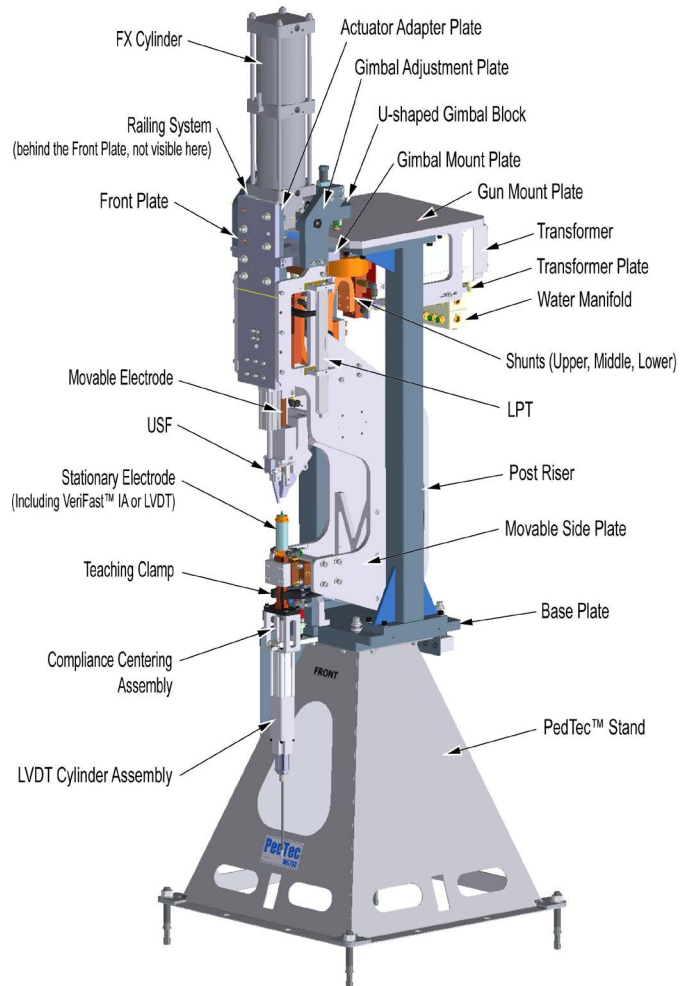
Actuator advance clamping part and pushing stud thru the stamping to the weld position.



Fastener is welded to the part.

The weld gun's compliance feature and the entire gun design have been optimized to create the best balance between stability and ease of movement. The compliance mount assembly is set far enough from the weld plane that it does not introduce variation to the welding process itself.

SoftMount™ Gun Upper Stud Feeder Process (USF) For Stud Welding Applications



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