

PTR's LASVAC (5.9) 362836 LASER BEAM WELDER

PTR-USA's LASVAC Vacuum Laser Welding system includes the following features and specifications:

- IPG YLS 4000-CT (4000 W) fiber laser welding system. Made with high quality diodes that have an expected life >100,000 hours.
- Laser power tunable from 400 W to 4000 W.
- IPG FLW D50 vertical welding head containing the collimating and focus optics. Spot sizes down to 225 μm possible. Capable of varying the work distance based on welding head height.
- System chiller to maintain the laser operating temperature
- High resolution camera allows for direct viewing of the weld in process on the closed circuit 15" digital monitoring system
- Crosshair for visual weld joint alignment.
- LED chamber illuminator for improved viewing of workpiece
- Welded aluminum vacuum chamber with one access door, interior dimensions of:
 - Chamber Length 36" long
 - Chamber Width 28" wide
 - Chamber Height 36" high
- Parts are manually loaded and unloaded by the operator
- Partial vacuum pumping system. Pump down to "Vacuum Ready" pressure of 1×10^{-1} mbar in approximately 3 minutes (chamber clean, dry, outgassed and OEM equipped)



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- Sound enclosure for pumps
- CNC controlled precision XY table:
 - 16" travel in X axis
 - 12" travel in Y axis
- CNC controlled precision linear Z-axis (weld height position) with 4.5" of travel
- Ergonomically designed operator's console with touch-screen control panel for display of vacuum, laser power, beam on/off, as well as operation of machine functions. All parameters are also displayed with axes positions on the CNC
- Fanuc CNC for control of powered axes and parameters including:
 - X, Z, rotary connections (3-axis simultaneous contouring possible)
 - Beam on/off
 - Beam power
- 100 lb rotary/tilt fixture with multiple tailstock options. This precision positioner provides rotary axis CNC control capability. Also, this welder has alternative fixturing depending on the application being welded. The other option is a 12-station rotary, ferris wheel fixture. Both fixtures have 90° tilt capability.
- Basic wire feeder assembly consisting of a drive and reel assembly and a nozzle head assembly. The drive and reel assembly is mounted to the top of the chamber exterior. The manually adjustable nozzle assembly is mounted to the ceiling inside the chamber. The controls for the wire feeder are integrated into the CNC and operator control console.

