

PRECISION MACHINING & WIRE EDM

HIGH-RELIABILITY COMPONENTS FOR MISSION-CRITICAL APPLICATIONS



Tight Tolerances. Complex Geometries. Difficult Materials. Discipline.

For Defense and Aerospace platforms where tight tolerances, complex geometries and supplier responsiveness matter, Libra's precision machining and Wire EDM capabilities support the mechanical side of mission-critical programs — with the documentation discipline, metrology rigor and materials breadth these programs require.

WIRE EDM

Machine Fleet

5 machines: Charmilles 290, Sodick AQ300L, Mitsubishi MV-1200 (x3) + Conventional EDM (Charmilles 31)

Work Envelopes

Up to 15.8" x 11.8" x 8.7" (LxWxD)

Part Depth

Up to 10"

Taper Capability

30° on all Wire EDM machines

Auto-Thread

Available on Sodick AQ300L and Mitsubishi MV-1200

Current

23–32 AMP range across fleet

Best For

Complex contours, thin walls, hardened materials, tight-tolerance cavities, intricate detail work on mission-critical components

PRECISION MACHINING

Tolerances

Standard: $\pm 0.005"$ | Tight: $\pm 0.001"$ | Ultra Precision: $\pm 0.0002"$

Surface Finish

Standard: 124–64 μin | Tight: 32–16 μin | Ultra Precision: $\leq 8 \mu\text{in}$

Axes

3-axis, 4-axis and 5-axis CNC milling — Dayton and Guaymas facilities

Work Envelope

Up to 85" x 30" x 25" (parts up to 3,500 lbs.)

Minimum Feature Size

Hole diameter: 0.020" | Flexure walls: 0.006"

Turning / Mill-Turn

Up to 10" swing, dual spindle, bar feed capability

Grinding

Moore Jig Grinder G-1000 at 150,000 RPM; fine grinding to $\pm 0.0002"$; surface grinding

MATERIALS

Aluminum Alloys

6061, 5052, 2024, 6063, 6082, 7050, 7075-T6, MIC-6

Stainless Steel

13-8PH, 15-5PH, 17-4PH, 303, 316/316L, 410, 416, 420, 440C, Stavax

Nickel Alloys

Inconel, Hastelloy

Engineered Plastics

PEEK, Nylon, ABS, UHMW, Delrin, Nyloil, Vespel

Titanium

Grade 2, Grade 5

Steel Alloys

4130, 4140, 4340, A514, A2 Tool Steel

Copper Alloys

C101, C110, Brass, Bronze

Zinc / Cast Iron

Zinc alloys, Cast Iron

METROLOGY & QUALITY

CMM (4 machines, Dayton) Zeiss Contura (35.4"x70.8"x31.5") + Brown & Sharpe — full CNC & manual control, climate controlled

Vision Systems Keyence IM-7030 $\pm 2\mu\text{m}$ accuracy, Micro-Vu Vertex $\pm 4\mu\text{m}$ accuracy

Romer Arms Multiple arms up to 157" range, $\pm 4\mu\text{m}$ accuracy — for large-scale complex assemblies

Certifications AS9100:2016 | ISO 9001:2015 | ISO 13485:2015 | ITAR Registered

Inspection Types First Article (FAIR/AS9012) | PPAP | Dimensional CMM | Full CMM | Standard Dimensional

Precision component needs on an upcoming Defense program? Let's discuss.

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BUILT TO DELIVER