

CASE STUDIES · CREDENTIALS

SPECIAL PURPOSE MACHINES & AUTOMATION

Power Plant · Transmission and Distribution · Oil & Gas · Water Treatment · Special Purpose Machines

**ENGINEERING
DESIGN**

Cost-Down Redesign of Soft Tool Lens Polishing Machine — Precision Maintained, Cost Eliminated

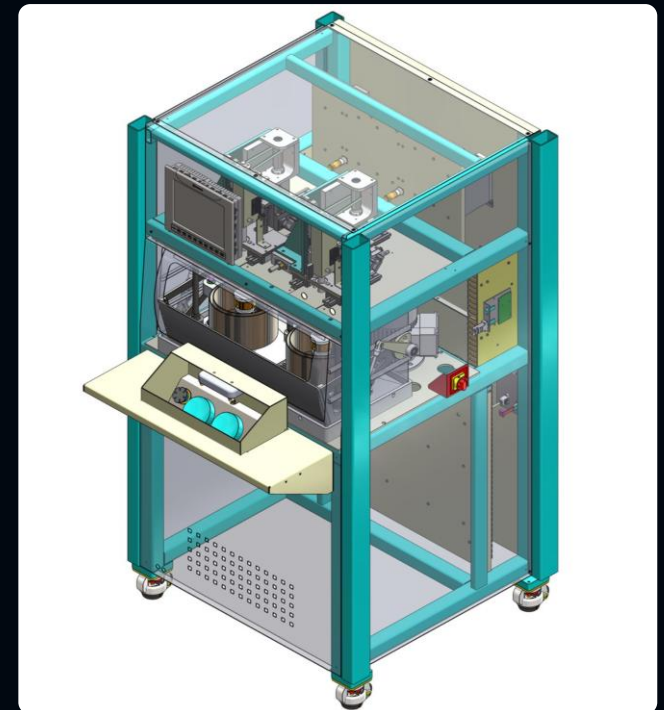
Custom Machine Design for Spectacle lens Polishing - USA , Client : Confidential

SCOPE

Value engineering and product redesign of an existing Soft Tool Lens Polisher — a 4-axis, high-volume production machine for free-form and traditional RX lenses.

PRODUCT DESIGN & VALUE ENGINEERING

- i. Frame construction and structural assembly redesign for material optimisation
- ii. Lap spindle and lens spindle assembly re-engineering
- iii. Bought-out component review and cost-efficient alternative sourcing
- iv. Sub-assembly simplification for ease of manufacture and assembly



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WHAT WE DID DIFFERENTLY

CHALLENGES

- Client's existing machine delivered high precision and haze-free optical output — but was too expensive to manufacture at scale
- Frame, assemblies, and bought-out components were over-engineered for the performance requirement, driving unnecessary cost
- Any redesign had to preserve the machine's core capability: crystal-clear lenses, no post-processing, no hard coating required

SOLUTIONS

- Engineered skid layout around the client's shop floor — no new tooling, no new capital spend
- Optimised piping and component placement for cost-efficient fabrication and easy maintenance
- Delivered a single configurable base design adaptable to different sources, flow rates, and sites
- Full preliminary design completed in 2 months — giving the client early cost visibility and faster time-to-build

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