

For over 70 years, **Koyo High Precision** has earned the trust of high-tech organizations by supplying customer specific high-precision machined metal parts.

Industries served include:

- ✓ Medical Equipment
- ✓ Semiconductor Manufacturing Equipment
- ✓ Industrial Equipment
- ✓ Automobile and Motorcycles



Million Production Capability per Month

- We accept small-volume orders, even one piece while still providing mass production of High-Precision Components to over 1,000,000 units per month
- Manufacturing capabilities include 30 machining centers with over 200 CNC machines that provide a production capacity in excess of 1,000,000 pieces per month



Difficult-to-Cut Materials

- | | | | |
|----------------|-------------------|-------------|------------------|
| • Stainless | • Molybdenum (Mo) | • Inconel | • Nickel |
| • Brass | • Tantalum (Ta) | • Permalloy | • Silver |
| • Aluminum | • Niobium (Nb) | • Alloy 42 | • Copper |
| • Tungsten (W) | • Hastelloy | • Kovar | • Platinum |
| • MAT21 | | | ...and many more |

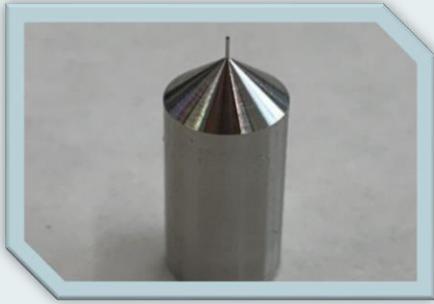


High-Precision Machining

- $\pm 0.003\text{mm}$ ($\pm 0.00011''$) tolerances on Tungsten
- Nozzle with outer diameter 0.2mm (0.0079") and inner diameter 0.15mm (0.006") on Pt
- Through hole $\phi 0.2\text{mm}$ (0.0079") length 40mm (1.57") on Hastelloy

Examples of Koyo's Machined Parts (Unit: mm)

Optical



Platinum Microfabrication

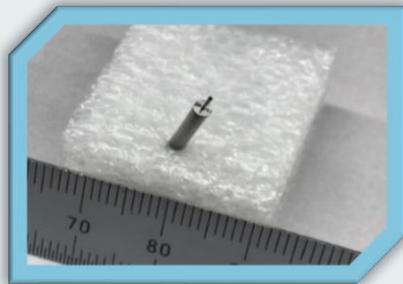
Application: Nozzles for glass lens refining equipment (camera lenses for facial recognition system)
Material: 90% Pt, 10% Au
Tolerance: Tip shaft ϕ 0.2 (+0.03/0) Tip hole ϕ 0.15 (0/-0.03)



Pure Tungsten Precision Machining

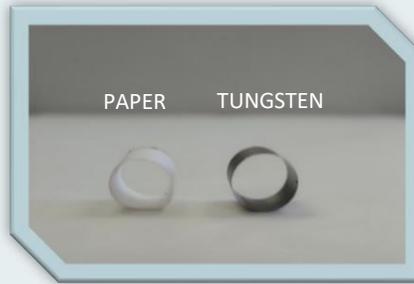
Application: Lamps for movie theaters
Material: Pure Tungsten
Tolerance: Inner ϕ \pm 0.003

Medical Equipment



Molybdenum Pipe Machining

Application: Debridement wound instrument
Material: Molybdenum
Tolerance: Outer ϕ 0.45 (+0.03/0) Inner ϕ 0.4 (0/-0.03)

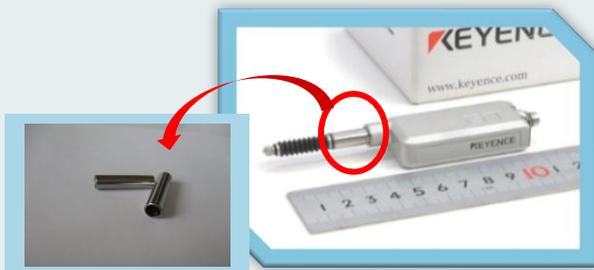


Pure Tungsten Ultra-Thin Machining

Application: Endoscope – precision component to determine accurate instrument location
Material: Pure Tungsten
Tolerance: Outer ϕ 8.6 (+0.03/0) Inner ϕ 8.5 (0/-0.03)



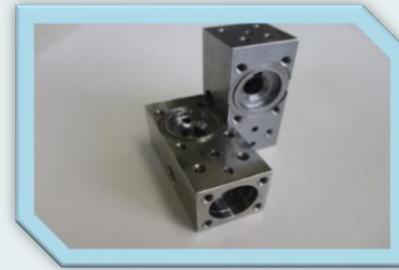
Measurement Instrumentation



Honed Part

Application: Component of a digital contact sensor
Material: SUS440C Heat-treated HRC60
Tolerance: Outer ϕ 7 \pm 0.003 Inner ϕ 5 \pm 0.002

Semiconductor Manufacturing Equipment



Hastelloy Valve Machining

Application: Valves for mass flow limiters
Material: Hastelloy
Tolerance: \pm 0.05 overall



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