



Facilities List

Surface Engineering is a supplier of precision parts and assemblies. Mechanical Engineers and technicians work with state of the art equipment together with you developing efficient manufacturing methods. All manufacturing and inspection is done in a temperature-controlled environment. We produce extremely high quality parts in quantity or small lot sizes. Statistical process capabilities have been established for the machinery and inspection and SPC is used extensively in the facilities. Critical machines are coolant controlled within 1°C.

CNC External Cylindrical Grinding

- 1 Studer CNC S-40 2-wheels, 40" between centers, B-Axis.
- 1 Kellenberger 3-wheels, 40" between centers, B-Axis, OD & ID.
- 1 Studer CNC S-31 3 wheels, with non-round and thread grinding, OD & ID.

CNC Internal Grinding

- 2 Voumard CNC model 150, 4 wheels, full "B" axis 5,000 to 90,000 RPM capable of grinding ID of 27" long part.

CNC Surface Grinding

- 1 ELB with speed stroking as well as creep feed capabilities 12" wide by 24" long.

CNC Hard Turning and Diamond Turning Lathe

- 1 Hembrug .000002 offsets .000002 roundness spindle, temperature controlled coolant and hydraulics, and hydrostatic way system with .000010" accuracy.

CNC Wire EDM

- 1 Charmilles 330F 15.75"X11.81"X15.75" high.

Internal Grinding

- 1 Voumard with two-position turret 6,000 RPM to 60,000 RPM. Multiple bores, faces, and OD's in the same chucking.
- 1 Center grinder.

External Grinding

- 3 Studer 10" diameter by 26" long, gauging with .000010" offsets.
- 3 Studer 30 degree angle profiling, gauging, 3" wide wheel.

Centerless Grinding

- 2 Lidkoping 10 inch wide wheel 25 HP .060" to 2.50" diameter.
- 1 Lidkoping 4 inch wide wheel 10 HP .020" to 1" diameter.

Surface Grinding

- 1 ELB 10" wide by 18" long.
- 1 Chevalier, super precision model, 12" wide by 24" long.

Thread Grinding

- 1 J&L 7" length of thread.

Honing

- 1 Sunnen 1800

Machining Support Equipment

Laser part marking

Various support equipment including cutoff saw, multiple drill presses, second operation machines, specialty machines, tapping machines, Hardinge lathe, Bridgeport milling machine, etc.



Facilities List continued

Balancing

- 1 Schenck 2-plane hard bearing machine for up to 100 lbs.
- 1 Hofmann 2-plane hard bearing microprocessor machine for up to 20 lbs.

Inspection Equipment

- Computer aided roundness machines with 1-microinch capabilities.
- Laser micrometers, 0" to 2" with .000010" accuracy.
- Surface finish analyzing equipment, Taylor-Hobson Talysurf 5 and 10, 5" of travel 100,000 to 1 magnification. Capable of measuring Ra as well as ISO parameters.
- Digital hardness testing.
- 4 electronic amplifier height gauge stations.
- 14 air gauge amplifiers with magnification capabilities to .000008". Inch or metric magnification available.
- Extensive air-ring and air-probe inventory.
- Tool Makers microscopes with thread geometry capabilities.
- 1,800 square feet of HEPA filtered clean room for assembly, inspection and part cleaning.

Manufacturing Aids

- 18-station networked computer system with Quality Data Collection, Shop Loading, Job Costing as well as totally integrated Accounts Receivable, Accounts Payable, and Payroll. Pert-Chart computer-generated scheduling.
- AutoCad 2000 capabilities with interface to programming system.
- DSL full time connection to the internet with e-mail access and web access by all office personnel.