

Facilities List

Date: August 2011

WIRE EDM MACHINES

(2-New) Mitsubishi FA-20S w/45 Deg. Taper Cutting



Fine Finish Power Supply (FM)

Max. Workpiece: 41.3 x 31.5" x 11.86" High

Table Travel: 13.80" x 19.80" x 11.86" High

Mitsubishi FA-20 w/True B-Axis (Rotating Axis)

Max. Workpiece: 41.3 x 31.5" x 11.86" High

Table Travel: 13.80" x 19.80" x 11.86" High

Mitsubishi Wire EDM 110 SZ Table Travel: 12" x 18" x 10.5" High

Fine Finish Power Supply. *Finishes to 4 RMS*

15 Degree Taper Cutting

Mitsubishi Wire EDM FA-10P w/ 0.001 Degree Part Indexer

Fine Finish Power Supply (FM)

Extremely Close Tolerance Capability (Sub Micron)

Table Travel: 9.80" x 13.77 x 8.6" High

Mitsubishi Wire EDM FA-10S

Fine Finish Power Supply (FM)

Close Tolerance Capability

Table Travel: 9.80" x 13.77 x 8.6" High

CAD/CAM & ENGINEERING CAPABILITIES

Esprit \W CAD/CAM Programming System.

Gibbs CAM 3-D Solid Surfacing Programming System for Milling

Smart CAM Turning

SolidWorks 2010

File Capability: Native SolidWorks & Pro Engineer,

IGES, STEP, VDA-FS or SAT (ACIS), AutoCAD 2000 or DXF

AUTOMATION - ROBOTICS

System 3R Work Pal with (3) machine capability including Inspection Station and Part Drying. Allowing 24 Hour/7 Day per week unattended automatic part production capability for production volume requirements. High Precision.

CONVENTIONAL EDM MACHINES

LeBlond Makino EDNC-32 CNC with built in C Axis for Helical EDMing and Indexing Capability. (8) Station Tool Changer

Agietron EMT 1.10 Ultra Precision with Ball Screws, .000040 Digital Readout

Agietron EMT 2.20 (NC) Ultra Precision with Ball Screws, .000040 Digital Readout

VERTICAL MACHINING CENTERS

Mori Seiki SV403 Machining Center with Fanuc 16i Control, 30 HP, 12,000 rpm, Data Server/RISC Processor for 3D Machining, Hi Torque Motor. 30 Position Automatic Tool Changer. Auto Tool Setting Probe System.

Travel: X Axis-22.0" Y Axis-16.1" Z Axis-18.1"; 4th Axis Rotary Table

Mori Seiki FM-1 Machining Center with MSC-521 Control, 10 HP, 10,000 rpm, Spindle, 20 Position Automatic Tool Changer. 4th Axis Rotary Table. Auto Tool Setting Probe System. Travel: X Axis-22.0" Y Axis-16.1" Z Axis-18.1"

Mori Seiki Dura Center 5 Machining Center with Fanuc 18i Control, 20 HP, 12,000 rpm Spindle, Data Server/RISC Processor for 3D Machining 20 Position Automatic Tool Changer. Tool Breakage Detection & 4th Axis Rotary Table

Travel: X Axis-31.5" Y Axis-20.0" Z Axis-20.0"

Supermax Max-1 Rebel Machining Center with Fanuc Control, 15 HP, 8,000 rpm, 193 ft. Lb. Hi Torque Motor. 20 Position Automatic Tool Changer. Auto Tool Setting Probe System. Travel: X Axis-25.6" Y Axis-16.1" Z Axis-18.1"

Fryer MC-5E Machining Center 15 HP, 8,000 rpm, 16 Position Automatic Tool Changer. 4th Axis. Travel: X Axis-25.6" Y Axis-16.1" Z Axis-18.1"

Yasda YBM640V Ultra Precision Hard Mill CNC Jig Bore, , 20,000 RPM Spindle , 30 Position ATC, Auto Tool Setting Probe System,

Travel: Axis-23.6" Y Axis-15.7" Z Axis-13.7"

Hurco VM10 Machining Center 15 HP, 10,000 rpm, 20 Position Automatic Tool Changer. 4th Axis. Travel: X Axis-26" Y Axis-16" Z Axis-20" 3D Machining Part Probing, Tool Breakage Detection & 4th Axis Rotary Table.

MILLING MACHINES

(4) Prototrack DPM A3 Bed Mill with A.G.E. Simultaneous 3 Axis Control

CNC LATHES/MILL TURN CENTERS

SHEET 3

(NEW) Mori Seiki NZX 2000 11 Axis Lathe

Dual Spindle, Dual Turret, Dual 'Y' Axis lathe. 8'' Chucks,
All turret stations with LIVE Tooling

In process Part Probing and Automatic Finished Parts Conveyor

Mori Seiki SL-150 SMC Dual Spindle, Live Milling Turning Center w/Barfeed

Swing: 17''; Distance Between Centers: 16.5''; Max Turning Diameter: 15''

Mori Seiki CL-203B 2 Axis Lathe w/Barfeed

Swing: 23''; Distance Between Centers: 24''; Max Turning Diameter: 17''

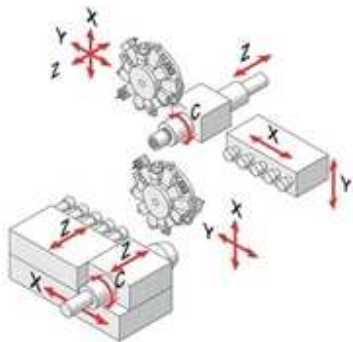
Fryer ET-18 Constant Surface Feed CNC Lathe 18" Swing; 40" Centers.

Hendy 10 x 30 Toolmakers Lathe with Taper Attachment

Hardinge Model HC Dovetail Bed Toolroom Lathe

SWISS AUTOMATICS

Traub TNL 26 Sliding Headstock Swiss Automatic CNC w/Barfeeder. 13 Axis; Dual Spindles, 8000 rpm, Each With True C-Axis; 32mm (1.25'') Bar Capacity; 250mm(9.84'') Max. Turning Length; (4) Tool Carriers (All Can Be In The Cut At Once), Including (2) Turrets With Y Axis And Front Working And Back Working Attachments, With Y-Axis. High Pressure coolant. (34) Total Tooling Stations (All Live).



BROACHING

SunStrand 30'' Stroke

JIG BORER

Moore #2 Jig Bore Machine

JIG GRINDER

Moore G 18 Fully Tooled Up

HONING MACHINE

Sunnen Model # MBB-1660

SURFACE GRINDERS

SHEET 4

Chevalier FSG-1228AD 12" x 28" Travel. 3-Axis Surface Grinder
with .00005 SONY Digital Readout
-Fully Automatic with .00005 Down Feed and Coolant
(2) Mitsui 205MH1 6-18 Surface Grinders with SONY Digital Readouts
Mitsui 612 M with Ball Bearing Ways and .000050 SONY Digital Readout
Harig Super 612 Surface Grinders
Harig Super 618 Surface Grinders, all with Coolant and SONY Digital Readouts

MISCELLANEOUS GRINDERS

Rockwell Delta Carbide Tool Grinder
DoAll Pedestal Tool Grinder
Baldor Tool Grinder
Black Diamond Drill Grinder
Deckel Tool Grinder

SHEET METAL EQUIPMENT

Gerver 6" x 6" Corner Notcher
Gerver 24" Shear & Gerver 24" Brake

CUTTING MACHINES

Grob Model 4V-18 Band Saw
Wellsaw Model 850 Band Cut-off Saw
Rockwell Delta Abrasive Cut-off Saw

DRILL PRESSES

Solberga Model 2414 Drill Press with Power Feed
Rockwell Delta Drill Press

FINISHING EQUIPMENT

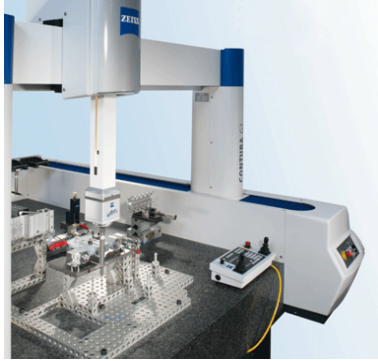
OTEC CF2X-18i-T Rotary Polishing System
EMPIRE BBO-2 Rotary Basket Blaster
MDT Turbine Ultra Lap Model UTR70
SWECO Model FMD-10-2 Vibro-Energy Finishing Mill With Liquid Chemical Metering
Cyclone 22' X 16' Bench Top Abrasive Blast Cabinet
Zero Blast Vapor Honing Machine

MISCELLANEOUS EQUIPMENT

Rockwell Delta 6" Belt Sanders
Dake Arbor Press
Lassy Tapping Machine
Oxygen-Acetalene Torch Set
Yale 3000 lb Fork Lift
Big Joe 1000 lb Pallet Jack
Ruger Mobile Crane 2000 lb
Shop Lifter 600 lb

COORDINATE MEASURING MACHINE

Zeiss Contoura Full CNC Scanning CMM with CALYPSO software



Reverse Engineering Capability
Travel 28" x 28" x 25" Height

VIDEO INSPECTION SYSTEM

OGP SmartScope Flash 200 200mm x 200mm x 150mm with TP20 Touch Probe System
With up to 600X Magnification



INSPECTION EQUIPMENT

- Z Mic Laser Micrometer .000010 Accuracy
- Diatest Bore Gage .121" - .582" Range
- Sunnen Dial Bore Gages .495" - 6.126" Range
- Etalon Internal Tri-Point Micrometer Set .400" - 1.600" Range
- Tessa Tri-Point Micrometer 1.400" - 2.000" Range
- Mitutoyo 2" - 12" Inside Micrometer Set
- Sunnen Gage Setting Fixtures 0-6" Range
- Granite Surface Plates, Laboratory Grade, up to 36" x 48"
-Regularly Inspected and Calibrated
- Deltronic DH 214 Optical Comparator with Edge Detection and 612 R
Digital Measuring Read Out with Statistical Process Control Output
- Bausch & Lomb Toolmakers Microscope
- Starret/Weber 85 piece Inspection Grade Gage Block Set
- Brown & Sharpe 81 piece Inspection Grade Gage Block Set
- Mitutoyo 81 piece Inspection Grade Gage Block Set

DoAll 28 piece Inspection Grade A Slim Gage Blocks
Metric 79 piece Inspection Grade Gage Blocks
Deltronic Gages .0060" - .5000" in .0001" Increments
Starret 24" Vernier
Brown & Sharpe 12" AHite-icator@
Cadillac 6" APla-Chek@
Rockwell Hardness Tester
Mitutoyo 0-12" .0001 Micrometer Set
Mitutoyo Flange Mikes
Mitutoyo Anvil Mikes
Federal Mikemaster 0-1" Indicating Micrometer
Brown & Sharpe, Mahr and Tessa .0001 Indicators
Height Gages up to 24 inches
Tri Roll Thread Check
Various Plug and Ring Thread Gages

PASSIVATION & PARTS WASHING

ESMA E992 Ultrasonic Automated Parts Washer and Passivation System
Nitric & Citric Passivation

LASER MARKING

Control Laser Script 75 Watt YAG Laser. 6" square marking area.

PHYSICAL PLANT

Modern climate control system maintains constant temperatures and low humidity.

QUALITY CONTROL

ISO 13485:2003 Certified
ISO 9001:2008 Certified

This facilities list should be used for reference only. New equipment and tools are being added regularly. Contact KVInc. for your specific requirements.