

FACILITY

Over 160,000 Square Foot Manufacturing Facility
 Manufacturing, Assembly, and Quality Areas
 Partner Engineering Offices with Wi-Fi Access
 CAD/CAM System – Siemens NX System
 Autocad and Solidwork seats
 11 Ton Crane Capacity

Certifications:

AS9100B
 ISO9001:2008
 ITAR and CCAR Registered

MILLING & TURNING
CNC Milling Centers

Haas VF-2 w/4 axis indexer 20" x 14" x 10"
 Okuma MC-40VA VMC w/4 axis indexer
 26" x 16" x 16"
 Mikron VCP 600/3 axis 27" x 21" x 17"
 Mori Seiki MV-1003 VMC w/4 1/2 axis indexer
 95" x 40" x 31"
 OKK HM60/4 axis 28" x 22" x 20"
 Wahli Freres Dixi W100 4 Pallets Full 4th Axis
 19" x 15" x 19"
 Wahli Freres Dixi 150 Full 4th & 5th Axis
 27" x 20" x 27"
 Hurco BMC-20 VMC/3 axis 24" x 14" x 15"
 Makino SNC64 (2)/3 axis 23" x 15" x 15"
 Haas Mini Mill/4 axis 20" x 10" x 10"
 Matsuura MX3 (3) 20" x 14" x 10"

Milling Machines

Bridgeport or DPM 2-3 programmable axis (30)
 Cincinnati Nova80 12" x 60" x 12"

CNC Turning Centers

Doosan 2600LY 12" x 50" centers
 Hardinge Conquest CS-51 Dia. 9.8" x 20" length
 Hardinge Conquest T42 Dia. 9.4" x 14" length
 Takisawa TM-20 Dia. 12" x 20" length
 Mori Seiki SL-25 Dia. 10" x 40" length
 Okuma LC-15 Dia. 10" x 9" length
 Okuma LC-30 Dia. 21" x 25" length

Lathes

Hardinge (6) 10" x 20"
 Hardinge HLV-H (4) 12" x 60" center
 LeBlond Makino (2) 15" x 54"
 EST Ticino 420 Gap 60" x 54" Gap, 36"x200" over bed

Miscellaneous
Radial Arm Drill Press

Summit Model 4
 12" column, 48" arm

Lap System

Hyprez 24 Lap 6" x 6" x 8"
 Hyprez 12 Lap (4) 3" x 3" x 6"

Cleaning

Branson B452R Ultrasonic Cleaner

Saws

Band saws (2)
 DoAll 3613-20 24" vertical band saw
 DoAll 2612-1 36" vertical band saw

ELECTRICAL DISCHARGE MACHINING
Wire EDM

Mitsubishi FX10 (4) 13.7" x 9.4" x 8.5"
 Mitsubishi DWC 90SZ (1) 13.7" x 9.4" x 6.5"
 Mitsubishi SX20 (1) 19.7" x 13.7" x 10.5"
 Mitsubishi 200H (1) 15.7" x 29.5" x 10"
 Mitsubishi FA-20 (1) 19.7" x 13.7" x 11.5"
 EDM CT300 Drill .002" - .250" Holes 12" x 12"

Sinker EDM

Makino EDNC 43 18" x 14" x 14"
 LeBlond Makino EDNC 64 24" x 16" x 10"
 Makino Edge 2 Series 2000 12" x 10" x 10"
 Mitsubishi VX10 14" x 10" x 14"
 Mitsubishi V25FS 10" x 8" x 10"

LARGE MACHINING

Giddings & Lewis PC50 HMC Mill 144"x 40"x 96"
 1120 RPM 80" x 170" x 60" Turntable
 25" dia Contouring Head
 High speed finishing head
 Haas indexable head w/14" swing
 EST Ticino 420 Gap Lathe 150/260 RPM
 60" x 54" Over Gap 30" x 200" Over bed
 20"X 200" Over cross slide
 Monarch 612 Grinder 16" x 168" Over cross slide
 25" x 168" Over bed
 Elb SG88 Grinder 120" x 30" x 33"

PRECISION GRINDING
Surface Grinders

Mitsui 612 (3)
 Brown & Sharpe 616 (4)
 Okamoto Grind X 618
 Brown & Sharpe 818 (2)
 Okamoto 8" x 20"
 Brown Shape 1024 Micromaster 10" x 24"
 Brown & Sharpe 1024 Micromaster 6" x 12"
 Okamoto 20-35 DX
 Okamoto 12-24 DX

Cylindrical Grinders

Studer CNC Lean Pro S36 14" x 40"
 Kellenberger Model 1000U 14" x 40"
 Kellenberger 600U 9.9" x 39.3"
 Fischer ZSM1250 Center Grinder 7.875" x 39.37"
 LeBlond EL-166 12" x 72" centers
 LeBlond EL-530 12" x 72" centers

CNC Jig Grinders

Moore G48 CPR 48" x 24" x 18"
 Moore 1200 CPZ (1) 48" x 24" x 18"
 Moore 450CPR (2) 18" x 11" x 18"
 Moore G-18 Manual

Rotary Surface Grinders

Mitsubishi (3) 6" x 12"
 Okamoto ACC-20-35DX 12" x 24"
 MHT-225 6" x 12"

SHEET METAL & WELDING

DiAcro Model 35-14-72 (2)
 35 Ton Hydraulic Press Brake, 72" Table
 DiAcro Model 75-66
 75 Ton Hydraulic Press Brake, 72" Table
 DiAcro Model 55-6
 55 Ton Hydraulic Press Brake, 72" Table
 Cincinnati 230 AF, 230 Ton, 120" Table 10" stroke
 Cincinnati 2CC06 Power Shear 6" squaring arm
 Grindmaster Type MC5B/B-1300, 24"
 Timesaver Mini Belt 848 Belt Sander
 Cleanomat CLHA Conveyor Washer, 52"
 Strippit Super 30/40 HD Punch Press
 Haeger Model 8U Pem Setter
 MADA CSH-220 Power Notcher
 Wysong Power Shear 48"

Waterjet

Omax 2652 Waterjet 52" x 26" x 4"

Welders

Thermal-Arc 300GTSW Tig (2)
 Thermal-Arc 250GTSW Tig
 Miller Dimension 302
 ESAB Mig (2)
 Lincoln SP 125 Plus
 Black & Decker Spot Welder
 Sciacy Spot Welder
 Erico Stud Welder
 No Mark 5 Stud Welder
 Thermal-Arc PAK 5XR Plasma
 Thermal Dynamics Plasma Cutter
 Hypertherm Plasma Max 40 Cutter

Hydraulic Presses

Dake 908150-4 150T
 Rogers PF 200-72 200T Horizontal

Lasers Marking/Cutting

Cincinnati Model C1500B Laser 48" x 96"
 Mazak Path 4080 Laser 39" x 79"
 Excel Signature-SHG 7" x 3"
 High Mark True View 4" x 3.5"
 Synrad Prolase 6" x 4"
 U.S. Laser Anorad YAG 4024 18" x 10"

PATTERNS/THERMOFORMING
CNC Routers

Thermwood Model 40 CNC Router
 60" x 60", 4 ATC
 Thermwood Model 67 CNC Router
 60" x 120", 50 ATC
 Onsrud A-1136 Pin Router
Thermoforming
 Maag Vacuum Former
 46" x 46", .008"-.375" Material

INJECTION MOLDING
Plastic Injection Molding Machines

Thermo 33T Vertical
 Nissei 1000 Electric 88T
 Triple Melt 154T
 Nissei ES1000 100-Ton
 Nissei FN3000 150-Ton
 Nissei FN4000 197-Ton
 Nissei FN6000 300-Ton
 Nissei FN3000/TN 140-Ton
 Nissei CH30 Vertical Rotary

MATERIALS ENGINEERING

Scanning Electron Microscope

Tescan Vega3

Mechanical

ATS Microhardness
Brinell
Equitip
Microdur
MTS Tensile (1123)
MTS Tensile (4202)
New Age (Digital)
Portable Rockwell
Versitron Rockwell
Versitron Superficial

Metallography

Struers Abrapol
Struers Labopress
Buehler Electromet III
Accutom precision saw
Discotom cut off saw
Linear ACM Wafer Saw

Abrasion

Loop Abrasion
Taber Abraser -Model 503
Calowear Tester

Wear/Friction

Capstan Friction
Paper Clip Friction
Reciprocating Ball on Plane (Wear)
Ring on Block LFW-1
Taber Scratch

Miscellaneous

Erichsen Cup
Metler AT261 balance
Metler P360 balance
Pencil Hardness
Sartorius 2400 balance
Spring Back Tester
Surface Quality Monitor
Danley Tensile Bar Punch/Die
TMI Micrometer

Surface Texture

Kosaka Se3AK
Perthen Concept
Perthen M4pi
Rank Talysurf
Vacuum Coater
Wave Scan
Wyko Roll Scope
Zygo New View
Dektak 8 – 3D profilometer

Microscopes

Reichert Metallograph MeF3
Reichert Polyvar
Zeiss (Stereo Scope)

NDE Inspection

Niton Alloy Analyzer – Model XLp818
Borescope Extendable
Borescope Miniature
Fischer Thickness Gage
Inframetrics Model 760 Thermal Imager
Penetrant Test
T-Mike UT Tk
USD-10 Flaw Det.
USL-38 Flaw Det.
Vacuum Box Leak Det.

Plastics Corrosion

Gardner Gloss Meter
Shore A Durometer
Shore D Durometer
Stress Rupture Tester
Wedge Bend Impact Tester

QUALITY RESOURCE LAB

Coordinate Measuring Machines

Zeiss UC 850	72" x 33" x 24"
Zeiss UPMC850	33" x 27" x 24"
Sheffield Endeavor 9.9.7	36" x 36" x 26"
Brown and Sharpe	25" x 38" x 24"

Vision Systems

OGP Avant AT5600	24" x 18"
Smart Scope FOV	
Smart Scope MVP (2)	

RAPID PROTOTYPING

Stereolithography

3D Systems Viper Si2	10" x 10" x 10"
3D Systems 3500 Series 10	13.8" x 13" x 15.7"

Selective Laser Sintering

3D Vanguard SLS3 with Hi-Q12.5" x 10.5" x 16"

Wax/Plastic Models

3D Systems Thermo Jet 3i	10" x 7.5" x 8"
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EQUIPMENT DIAGNOSTICS

ME Scope Modal Analysis Package
IRD Model 880 Analyzer/Balancer
Dynamics Research Balance stand W/2000LB & 5000LB heads
CSI Consultant Analyzers (6)
CSI 2120 Analyzers (5)
SP395 Analyzer
CV395B DynamicPro Signal Analyzer
Larson Davis Handheld Sound Analyzer
IRD Model B01 Balance Stand
TEAC Model RD-130T 8 Channel Digital Recorder
TEAC Model RD-135T 8 Channel Digital Recorder
Flir P-60 Infrared Camera
Data Physics Signalcalc Mobilyzer 15 channel Analyzer
Data Physics Signalcalc Mobilyzer 4 channel Analyzer
CSI Motor Status units (6)
Bently Nevada Adre Analysers (2)
Monarch Palm Strobes (2)
Monarch Strobes (3)
CSI 444A Strobe
TEC Laser Tach (4)
Monarch Laster Tach Model PLT200 (2)