

3-Dimensional Services Group

THE UNBELIEVABLE PROTOTYPING COMPANY

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3-Dimensional Services Group

The 3-Dimensional Services Group is comprised of 3-Dimensional Services, Urgent Plastic Services and Urgent Design & Manufacturing. All three companies are full-service engineering, design and rapid prototyping firms that specialize in producing prototype parts and limited production runs for industries such as military, automotive, furniture, medical, communication, biomedical research, household appliances, packaging and toys.

Embracing and utilizing the most current technologies available, the group provides customers with capabilities such as: CAD terminals that have the capability for surface and solid modeling; computer data transfer information equipment to receive and send information immediately; rapid prototyping equipment including stereolithography, laminated object manufacturing, laser sintering and metal lamination to produce working solid part replicas; laser processing to cut, weld, drill, surface treat and assemble; waterjet and EDM technologies for cutting, CNC machining centers for power, speed and accuracy; stamping and forming presses for parts fabrication, including hydroforming and exotic metal stamping; injection molding machines to 850 tons; assembly operations to accommodate up to sizes for vehicle frame and chassis; and a pattern and model shop to create diverse molding applications.

History Overview:

- Company founded in 1992. Started with five employees.
- One of the first applications of laser systems was cutting 3/8" thick armor plate for law enforcement vehicles.
- In cooperation with Michigan State University, company developed and manufactured portable natural grass playing surfaces in 1992 for use at indoor World Cup soccer matches. Product is designated Turfbox Pallet System. From concept to completion, over 1,000,000 pounds of steel were processed in three months.
- Incorporated an in-house pattern and model shop for casting and molding applications.
- 1995 expansion doubled floor space. Additional equipment included expanded machining and laser processing capabilities plus forming systems. Employment increased to over 150 people.
- Shortly after expansion, ceiling was raised and foundation set to accommodate acquisition of 7000 ton stamping press, joining a host of other, varying capacity presses and press brakes.
- Achieved ISO 9001 certification in only eight months, approximately ½ the average time for design and manufacturing firms.
- 1997 formed Urgent Plastic Services to handle prototyping plastic components.
- Complete CAM capabilities to process prototype parts from concept to final product, including quality assurance, laser systems, CNC machining and rapid modeling programming are utilized.
- Achieved QS-9000 compliant certification in August 1998.
- Formed Urgent Design & Manufacturing in 2000, a full-service engineering, design and rapid prototyping firm with specialty in assembly and fabrication/ forming.
- Establish weld analysis center and proprietary hydroforming systems in 2001.
- 2004 facilities expansion to bring the total to over 250,000 sq.ft. of prototype and low volume production capability and capacity with over 250 employees.
- Established European office in 2005 to service extended global market.
- Launched new website, www.3dimensional.com in 2008.

Contact Information

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[map](#)

Design & Engineering



Our design and engineering department utilizes over 30 high-speed terminals all with advanced software to allow us to work from virtually any data files. Our software packages include CATIA, Delcam, Mastercam, Unigraphics, SolidWorks and ProEngineer to name a few and we are specialized to meet a wide variety of complex process steps including multi-axis machining, welding, tool mold and pattern work.

We can work from a sketch, blueprint or CAD files and can process your files from DAT, cartridge and reel stored CAD drawings. If more expedient data transfer is needed, we're online to move even the largest CAD files. Our project teams consist of highly qualified design and manufacturing engineers along with skilled machinists, toolmakers and assembly technicians all putting innovative theory into manufacturing process.

Equipment

- (30+) CAD Terminals Capable of surface and solid modeling, and computer aided manufacturing
- ProE Wildfire 3.0
- Nx Ideas 6.0
- Unigraphics 6.0
- Catia V5 Rev 19
- Powershape 8.0.80
- PowerMill 9.0.03
- Solid View 3.53
- ImageWare Surfaces 8.0
- Camax Alps 5.14
- Mechanical Desktop
- Solidworks 2009
- MasterCam 10.0
- Finite Element Analysis (FEA) Capable
- Mechanical Desktop
- Solidworks 2009
- MasterCam 10.0
- Finite Element Analysis (FEA) Capable
- SDRC I-DEAS 12
- Unigraphics 4 & 6
- Ideas 11 & 12
- IGES to STL Translation
- Reverse Engineering
- Tool Path Generation

Rapid Prototyping



When a single part and immediate turnaround are critical we turn to one of our four conventional rapid prototyping technologies—stereolithography (SLA), laminate object manufacturing (LOM), selective laser sintering (SLS) and metal laminating. Each technology produces a solid working model of the design—critical for hands on review of form, fit and function. An SLA's laser beam cures light sensitive polymers into the shape of the part. The LOM's laser cuts thin layers of paper which are then laminated together to form the part. The SLS hardens powdered materials into part replicas and metal laminating layers metal into the shape of the part. These rapid modeling capabilities allow us to produce models that range in size up to 32" x 22" x 20"

Equipment

- (2) Paper Laminated Object Manufacturing Systems (LOM 2030H) with a 32" x 22" x 20" Work Envelope
- (2) Stereolithography Apparatuses (SLA 500) with a 20" x 20" x 24" Work Envelope
- DTM Sinterstation 2000 with a 13" Diameter x 15" High work envelope (SLS process)
- DTM Sinterstation 2500 with a 12" Diameter x 15" Work Envelope (SLS process)
- UV Light Box with 32" Diameter x 24" Area
- Lindberg "Sinter-All" Hydrogen Box Furnace

Injection Molding



One of the hallmarks of 3-Dimensional Services is that when we see a need, we respond. And we saw a need for fast plastic parts development. We answered the call with quick service and even faster turnaround. We have over a dozen injection molding machines from 30 to 850 ton. Shots are controlled to production standards and can include embedded parts such as clips, fasteners and reflex tooling for lighting and lens packages. We're also able to formulate our own resins to ensure the customer has the best production-like alternative available. And our EDM department houses over a dozen die-sink and wire machines to provide highly accurate tooling for the injection molding process.

Equipment

- Cincinnati Milacron 850 Ton Horizontal Injection Molding Machine with 54" x 45" x 36" Bed Size
- Cincinnati Milacron 500 Ton Horizontal Injection Molding Machine with 35" x 33" x 46" and 54 oz Shot
- Cincinnati Milacron 400 Ton Horizontal Injection Molding Machine with 29" x 29" x 44" and 44 oz Shot
- (2) Cincinnati Milacron 250 Ton Horizontal Injection Molding Machine with 26" x 24" x 32" and 13 oz Shot
- (6) Cincinnati Milacron 220 Ton Horizontal Injection Molding Machine with 21" x 19" x 25" and 17 oz Shot
- (3) Cincinnati Milacron 85 Ton Horizontal Injection Molding Machine with 16" x 14" x 22"
- BOY 30 Ton Horizontal Injection Molding Machine with 2.5 oz Shot
- (2) EDM 3-Axis CNC Controlled Carbon Burners with 24" x 36" Table
- EDM 3-Axis CNC Controlled Carbon Burners with 36" x 48" Table
- EDM 3-Axis CNC Controlled Carbon Burners with 40" x 76" Table
- (3) 3-Axis FANUC Series 18i-W Wire EDM with 15" x 11" x 12" Table
- 3-Axis FANUC Series 16-W Wire EDM with 20" x 14" x 12" Table
- 3-Axis Makino EU64 Wire EDM with 23.5" x 16" x 12" Table
- 3-Axis HansVolt Wire EDM with 20" x 12" Table
- 3-Axis Belmont Maxicut Hole Burner with 12" x 24" x 12" Table

CNC Machining



We've invested in over 43 CNC machining centers, not to mention 75 knee mills and lathes. We're able to machine hardened tool steels to 60 Rockwell at federates of up to 20,000 millimeters per minute, as well as machine and finish grind with a machining center that provides a 40,000 rpm spindle with 30,000 millimeters per minute feed rate, and 5-axis cut with a machining center with an envelope of 5 feet by 7 feet. Our machining offers a multitude of capabilities for prototype die and mold build. Our machines deliver power, speed and accuracy to any job with tool paths, tool geometry, fixturing data and locating parts all developed to ensure that set ups are quick and dimensions consistent. Our standard of precision reduces secondary work and avoids project delays.

Equipment

- Breton NC800 2T 5-Axis Machining Center with a 63" x 63" x 30" Travel
- (2) Awea SP3016 Vertical Milling Machine with a 120" x 63" x 63" Travel
- Awea LG 5030H Milling Center with a 192" x 108" x 48" Travel
- (2) Viper Sumo 1000 Vertical Machining Centers with a 84" x 44" x 40" Travel
- (6) HASS VF-9 Vertical Machining Centers with a 84" x 40" x 30" Travel @ 10,000 RPM
- (8) HASS VF-6 Vertical Machining Centers with a 60" x 30" x 30" Travel
- HASS VF-4 Vertical Machining Centers with a 48" x 18" x 24" Travel
- HASS VF-3 Vertical Machining Centers with a 18" x 48" x 24" Travel
- (5) HASS VF-2 Vertical Machining Centers with a 30" x 16" x 16" Travel @ 7,500 RPM
- (5) HASS VM 3 Mold Makers with a 24" x 54" x 24" Travel
- (2) HASS Super MiniMill with a 12" x 27" Travel @ 15,000 RPM
- Hurco Hawk 5M CNC Mill with a 12" x 36" x 16" Travel
- (3) Hurco 3017 BMC Milling Center with a 30" x 30" x 18" Travel
- Rödgers TEC RMF-1000 with a 40" x 32" x 25" Travel @ 30,000 RPM
- Rödgers TEC RMF-1000S with a 40" x 32" x 25" Travel @ 40,000 RPM Z-Axis Swivel
- Makino a51 Horizontal Milling Center with Pallet Changing System
- (2) Makino V56 with a 36" x 22" x 18" Travel @ 20,000 RPM
- HASS EC 400 Horizontal Mill with Pallet Changer 60 Pocket SMTC
- HASS EC 300 Horizontal Mill with Pallet Changer 40 Pocket SMTC
- Toshiba BTD-110 Boring Machine with a 80" x 60" x 60" x 20" Travel with 90 Tool Changer
- Toshiba BTD-110 Boring Machine with a 80" x 60" x 60" x 20" Travel with 38 Tool Changer
- TechnoDrill Gun Drill Machine with a 72" x 48" x 66" Travel
- Woton Horizontal Boring Mill with a 81.5" x 51" x 35.5" x 27.5" Travel
- Bridgeport Ez Lathe with 8" Cap
- Bridgeport Lathe with 10" Cap
- (2) Hass TL 1 CNC Lathe with 10" Cap
- Sharp 1640 Lathe with 10" Cap
- LeBlond Lathe with 10" Cap
- LeBlond Lathe with 12" Cap
- Clausing Lathe with 8" Cap
- Jet Lathe with 6" Cap
- Emco Maximat Super Lathe with 6" Cap
- Jet GH 1880ZX Lathe with 10" Cap
- LeBlond Lathe with 6" Cap
- Bridgeport Knee Mill with Proto Trac Auto Feed
- (41) Bridgeport Knee Mills
- Knuth KSR 40 Radial Drilling Machine with 42" Diameter x 24"
- Knuth R60 Radial Arm Drill with 60" Diameter x 48"
- (2) Lincoln TPR 1230 Radial Arm with 48" Diameter x 24"
- Clausing Drill Press with Standard Travel

- Wilton Strand Drill Press with Standard Travel
- Powermatic Drill Press with Standard Travel
- Westhoff Horizontal Drill Press with 8" x 8" x 12" x 0.25" Cap Travel
- Walker Turner Drill Press with Standard Travel
- Wilton VSG Twenty Drill Press with Standard Travel

Forming and Fabricating



Our forming and fabricating operations manufacture parts through stamping, laser processing, hydroforming, tube bending and waterjet cutting. Our stamping area, with presses from 20 to 7000 ton surpasses many production shops. We're well equipped to handle simple bends to complex tooling. We produce formed parts using both hydraulic and mechanical presses, as well as press brakes and shears. Our expertise in all facets of forming provides keen insight not only into prototype part development, but particularly into low-volume production runs. Our lasers—both 3 and 5 axis, can cut through thick armor plate or slice through thin sheet metal—all with amazingly tight tolerances. 3 axis laser cutting systems provide speed, accuracy and flexibility, while the 5-axis systems are ideal for cutting complex contours and shapes. Our most robust laser boasts a 5 feet by 10 feet work envelope. We have even designed, developed and produced many of our own systems in house, including an ultra high-speed cutting system with cutting speeds up to 50,000mm per minute. And the newest member of our fabricating arsenal is a waterjet cutting system with four heads, 8 feet by 12 feet travel and 11 inches thick cutting capacity—ideal for cutting composites and fabrics, as well as metal applications. We also produce formed parts through high-definition stamping, hydroforming and tube bending. These technologies maximize a material's elongation properties which allow intricate forms and optimum material performance. Our unique hydroforming system accommodates pressures up

to 60,000 psi to accomplish part development in a wide range of shapes and sizes. Our tube bending allows up to 5" OD with a 1.5 to 10" centerline radius range.

Equipment

- 7,000 Ton Hydraulic Press with 72" x 144" Bed
- 5,000 Ton HPM Hydraulic Press with 72" x 120" Bed
- 3,000 Ton Williams & White Hydraulic Press with 60" x 84" Bed
- (2) 2,000 Ton St. Lawrence Hydraulic Press with 53" x 115" Beds
- 1,600 Ton Birdsboro Hydraulic Press with 60" x 60" x 48" Bed
- 1,500 Ton St. Lawrence Hydraulic Press with a 108" x 192" x 96" Bed
- 1,500 Ton Macrodyne Hydraulic Press with a 62" x 96" Bed
- 1,200 Ton Birdsboro Hydraulic Press with 48" x 48" Bed
- 1,200 Ton Hamilton Hot Stamping Hydraulic Press with 60" x 120" Bed
- 1,100 Ton Williams & White Hydraulic Press with 52" x 72" Bed
- 1,000 Ton Williams & White Hydraulic Press with 68" x 82" Bed
- 1,000 Ton Williams & White Hydraulic Press with 28" x 30" Bed
- 800 Ton Dake Hydraulic Press with 70" x 100" Bed
- 750 Ton Lake Erie Hydraulic Press with 80" x 120" Bed
- 600 Ton Lake St. Lawrence Hydraulic Press with 60" x 67" Bed
- 600 Ton Clearing Mechanical Hydraulic Press with 108" x 72" Bed
- (4) 600 Ton Link Hydraulic Press with 36" x 64" Beds
- (6) 500 Ton APT Hydraulic Press with 51" x 96" x 31" Cushions
- 500 Ton USI Mechanical Hydraulic Press with 84" x 60" x 40" Bed
- 500 Ton Erie Hydraulic Press with 60" x 72" Bed
- (5) 500 Ton Williams & White Hydraulic Press with 36" x 48" Beds
- 300 Ton Danly Hydraulic Press with 72" x 48" Bed
- 300 Ton Doyle Hydraulic Press with 60" x 60" Bed
- 300 Ton Dake Hydraulic Press with 48" x 42" Bed
- (2) 300 Ton H.P. Hydraulic Press with 36" x 48" Beds
- 200 Ton Savage Hydraulic Press with 28" x 30" Bed
- (9) 200 Ton Knuth Hydraulic Press with 27" x 48" Beds
- 200 Ton HPM Hydraulic Press with 36" x 36" Bed
- 200 Ton Williams & White Hydraulic Press with 48" x 72" Bed
- 200 Ton Stamtec Mechanical Hydraulic Press with 32" x 72" Bed
- 175 Ton Bliss Mechanical Hydraulic Press with 30" x 48" Bed
- 150 Ton Knuth Hydraulic Press with 24" x 35" Bed
- (3) 135 Ton Metal Muncher Hydraulic Press
- 110 Ton Stamtec Mechanical Hydraulic Press with 24" x 36" Bed
- 100 Ton Bliss Mechanical Hydraulic Press with 27" x 42" Bed
- 100 Ton English & Miller Hydraulic Press with 24" x 24" Bed
- 100 Ton Hydraulic Press with 20" x 30" Bed
- 100 Ton MillUtensil CNC Spotting Press with 55" x 47" x 43" Bed
- (10) 100 Ton Knuth Hydraulic Press with 24" x 36" Beds

- (15) 100 Ton Accurpress 8' Press Brakes
- 90 Ton Cincinatti 6' Press Brake
- (3) 75 Ton Knuth Hydraulic Press with 20" x 32" Beds
- 70 Ton Bliss Mechanical Hydraulic Press with 20" x 30" Bed
- 60 Ton Greenard Hydraulic Press with 16" x 36" x 32" Bed
- 60 Ton Stamtec Mechanical Hydraulic Press with 20" x 30" Bed
- 60 Ton Kukil Mechanical Hydraulic Press with 18" x 28" Bed
- (5) 60 Ton Accurpress 6' Press Brakes
- (9) 30 Ton Enerpac C Frame Hydraulic Press
- (2) 24 Ton Accurpress 24" Press Brakes
- (25) 20 Ton Custom Built Red M Frame Hydraulic Press
- (9) 12 Ton Accurpress 24" Press Brakes
- (3) 5 - 20 Ton Custom Built Bottle Jack Press
- (2) VSI TM25 Spin Riveters @ 1,200 RPM
- Baltec RN 281 Spin Riveter @ 1,680 RPM
- (2) Branson 921 ae Intelligent Actuator
- (5) Haeger 618 Hole Popper Press
- J.M. Montgomery Roller Press
- ICE 58,000 psi Hydroformer
- Ward Jet Water Jet Cutting Machine 3-axis with 4 heads and 96" x 144" Travel with 11' Thick Cap
- NTC TLV 714 3-Axis, 5000 Watt Laser Cutting System with 84" x 168" Work Envelope
- NTC TLV 510 3-Axis, 5000 Watt Laser Cutting System with 60" x 120" Work Envelope
- LaserDyne 890 5-Axis, 3500 Watt Laser Cutting System with 72" x 96" x 48" Work Envelope
- (2) NTC TLZ 510 3-Axis, 3000 Watt with Two Bed Pallet System
- NTC TLN 510 3-Axis, 3000 Watt Fanuc
- (8) NTC TLM 610 5-Axis, 2500 Watt PRC Laser Cutting System
- NTC TLM 610 5-Axis, 2200 Watt PRC Laser Cutting System
- NTC TLM 610 5-Axis, 2000 Watt PRC Laser Cutting System
- NTC TLM 610 5-Axis, 2000 Watt Rofin Laser Cutting System
- (3) NTC TLM 610 5-Axis, 1700 Watt Rofin Laser Cutting System
- NTC TLV 3-Axis, 2000 Watt Laser Cutting System with 60" x 120" Work Envelope
- Aerotech 3-Axis, 2000 Watt TCF1 & Trumpf 8000 Watt Custom Cutting/Welding Station
- Hydroforming system with up to 60,000 psi capacity
- Eagle CNC Tube Bender with Y-Axis assist
- Eagle CNC Tube Bender without Y-Axis assist

Patterns, Models and Castings

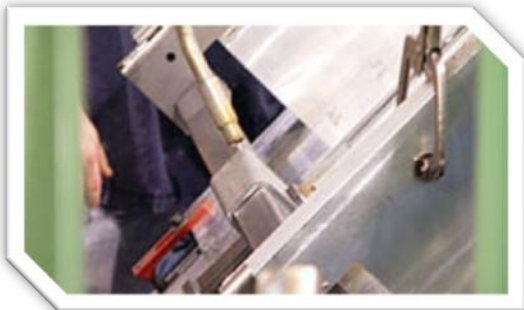


Our in-house pattern and model shop constructs tools using urethane, sand, wood and plaster used to produce cast and molded prototypes. We also have a rapid spin casting machine that allows us to use low cost and fast-to-complete dies made of rubber polymers.

Equipment

- 15 Gallon, 30 Gallon, & 230 Gallon Pressure Chambers
- (3) Vacuum Chambers (12" x 12" x 12" to 24" x 30" x 72")
- (3) Reactionary Molding Machines
- Grieve 48" x 48" x 72" 500° Oven
- Red Devil 5 Gallon Paint Mixer
- (2) Red Devil 1 Gallon Paint Mixers
- (3) Bridgeports with Volstro Rotary Heads and Readouts
- 12" Rotary Table
- Zimmerman Overhead Router
- Northfield 16" Jointer
- Rockwell 20" Thickness Planner
- 13" Clausing Colchester Gear-Heat Lathe
- Wilton 20" Drill Press
- Delta/Rockwell 20" Band saw
- PowerMatic 20" Band saw
- Tannewitz 26" Band saw
- Moak 36" Band saw
- SSC Panel Saw
- Do-all 16" Band Saw
- Delta/Rockwell 10" Table Saw
- Delta 12" Radial Arm Saw
- Rubber Wheel Chop Saw
- Master Spindle Sander
- (2) 24" Disk Sanders
- Zimmerman Belt Sander
- 20" Disc Sander
- Baldor Pedestal Grinder
- 50 hp Air Compressor
- 25 hp Air Compressor
- (2) Dust Collectors
- Mitutoyo 24" / 600mm Height Gage
- (2) Mitutoyo 18" / 450mm Height Gage
- 36" x 72" Cast Iron Surface Plate
- 36" x 72" Granite Surface Plate
- 48" x 72" Granite Surface Plates
- (3) 48" x 96" Granite Surface Plates
- (2) 56" x 120" Granite Surface Plates
- Tekcast spin-caster

Welding



One of our specialties is welding. Our capabilities include laser systems for not only welding but also assembly. A high-power laser welding assembly system allows us to join similar and dissimilar materials, and stocks of different thickness that results in a high integrity weld with minimal heat affected zones. We also have a number of robotic welding stations, TIG and MIG welders and spin riveters. When appropriate, we conduct certified weld inspections. We have, on staff, five certified inspectors along with a specialized software program that helps identify and measure penetration depths so critical inspection can be completed in house.

Equipment

- IK-12 Max 3 Line Burner Welding System
- Oxy-Acetylene Torch System
- (2) Oxy-Propylene Torch System
- (2) Powermax 1000 Plasma Cutter
- PPT X-Cytation Micro Resistance/TIG Welder
- (5) Miller Deltaweld 302 MIG 400 Amp Welder
- Miller Invision 350 MP Steel/Aluminum Welder
- (2) Miller Invision 456 MP TIG 350 Amp Welder
- (2) Miller Syncrowave 351 AC/DC TIG 300 Amp Welder
- (4) Miller Syncrowave 250 AC/DC TIG 300 Amp Welder
- Lincoln Ideal Arc CV-300 MIG
- Miller Syncrowave 250DX TIG 300 Amp Welder
- (10) Cp-302 MIG 400 Amp Welder
- Lincoln Ideal Arc SP-250 MIG
- Lincoln Wire Matic 255 MIG Welder
- (3) Miller Millermatic 251 MIG 250 Amp Welder
- (4) Miller Dynasty MIG 250 Amp Welder
- Miller Millermatic MIG 250 Amp Welder
- Daytron 150 Amp Arc/TIG Welder
- Miller Maxstar STH Arc/Tig 150 Amp Welder
- (4) Alphil Spot Welder 230 kva
- Sciaky PMCR 4ST Spot Welder 200 kva
- (2) Alphil Spot Welder 170 kva
- H&H Spot Welder 100 kva
- Sciaky PMCO Spot Welder 90 kva
- DT Industrial Spot Welder 85 kva
- (3) British Federal Spot Welder 75 kva
- (2) Smith Cobun Spot Welder 65 kva
- ARO Hanging Spot Welder 36-51 kva
- (6) Panasonic VR-006L Robot Welder
- (2) Fanuc Gantry Style Dual Arm Robot Welder
- Panasonic VR-008AV IIRobot Welder
- Panasonic Robot Welder With Rotary Table
- Branson VW-6 Vibration Welder 15 HP 22" x 46" x 16"
- Solidica Aluminum Ultrasonic CNC Welder

Assembly



Whether it's prototype or low-volume production we can manufacture the components then employ various resources to assemble these systems, both large and small. We've successfully assembled truck frames, chassis and cradles—as well as toys and furniture. We're able to assemble similar or dissimilar materials and stocks of different thickness with our proprietary high-power laser welding assembly system. We also have 10 articulated arm robotic welding cells, and a vibration welding system to fuse and assemble multiple component parts.

Quality Control



In our QC department we follow strict quality standards and our fully equipped inspection department, with over ten CMM's, guides our ISO 9001 and QS 9000 certified quality assurance programs. We strive for consistent, first piece, in process and final inspections to ensure that quality is designed into every part we make, right from the beginning. Adherence to quality standards is no longer a guideline. It's an expectation.

Equipment

- Wilson B,C Scale Rockwell Tester Model 1 JR
- Starrett B,C Scale Rockwell Tester
- (5) Mitotoyo Quality Inspection Machines with 0-24" Height Gauge
- (2) Mitotoyo Quality Inspection Machines with 0-48" Height Gauge
- (5) Brown and Sharp Tesa-Hite 600 with 36" Height Gauge
- (7) Brown and Sharp Tesa-Hite Micro-Hite with 0-36" Height Gauge
- Brown and Sharp Tesa-Hite 600 with 48" Height Gauge
- (2) Brown and Sharp Tesa-Hite with 0-24" Height Gauge
- Scherr Tumico 22-2500 Optical Comparitor
- Kodak Model 30 Optical Comparitor
- Mitotoyo SJ-400 Surface Finish Tester with 16" x 10" table
- Mitotoyo 0-12" Micrometer Set
- Qtest 50LP 10 Ton Material Strength Tester
- Macbeth Spectralight III X-Rite Light Viewing System
- Cincinatti Sentinel F-21 Leak Tester
- (4) Brown & Sharp (Oryzo) coordinate measuring machines (CMM) yielding a 70" x 101" x 55" (xyz) Work Envelope
- Brown & Sharp coordinate measuring machine (CMM) yielding a 112" x 68" x 64" (xyz) Work Envelope
- (2) Brown & Sharp Micro Val coordinate measuring machines (CMM) yielding a 16" x 24" x 16" (xyz) Work Envelope
- (2) Brown & Sharp Global coordinate measuring machines (CMM) yielding a 32" x 64" Table
- Mitotoyo BHN 715 coordinate measuring machine (CMM) with 36" x 96" Table
- Brown & Sharp Vento coordinate measuring machine (CMM) yielding a 60" x 192" x 84" (xyz) Work Envelope
- Sheffield Discovery II coordinate measuring machine (CMM) yielding a 32" x 42" x 24" Work Envelope