Process Capabilities:

- CNC Milling – 3 to 5 axis with automatic pallet changing
- High Speed CNC Milling - 42,000 RPM with 1.0g acceleration
- CNC Turning & Mill/Turn multitasking
- Wire EDM – work pieces up to 16.7" thick
- Sinker EDM – 4-axis CNC
- Precision Surface Grinding
- CNC Coordinate Measuring Machines – complex inspection & reporting
- AS9100D/ISO 9001:2015 registered

Products & Services:

- Dies - stamping, forming, compacting, extrusion, fine blanking
- Mold Cavities and Cores - plastic, die-cast, compression, injection
- Prototype Components – defense, aerospace, medical, and energy
- Production Manufacturing – automated machining with pallet changing
- Exotic materials – ceramics, carbide, refractory metals, nickel alloys
- EDM electrodes - graphite, copper, copper-tungsten
- Inspection Services - Zeiss CMM, Calypso, FAI, PPAP
- Hard Die Milling – hardened material up to HRC 65
- Reverse Engineering – CAD models created from sample parts
CAD/CAM Systems & Shop Management

Mastercam 2019
➢ 3D Solid modeling with toolpaths for 5-Axis milling, turning and EDM.
➢ Import of IGES, DXF, Parasolids, VDA, STEP, DWG and SAT.

SpaceClaim 2019
➢ 3D Direct modeling
➢ Photorealistic rendering

CAMplete
➢ 5-Axis simulation / verification and post processing.

ShopTech E2 Shop Management System
➢ Estimating, Scheduling, Quality, Document Control, and Accounting

Wire EDM Systems

+GF AgieCharmilles Progress VP3
➢ Automatic wire threading
➢ +/- 30 degree taper cutting
➢ Fine Wire capability to 0.002" diameter
➢ Fine Finish capability to 4 Ra
➢ 20" x 14" x 16.7" thickness capability

+GF AgieCharmilles Classic 3 HS
➢ Automatic wire threading
➢ +/- 30 degree taper cutting
➢ 20" x 14" x 16.7" thickness capability

+GF AgieCharmilles Classic 3 V
➢ Automatic wire threading
➢ +/- 30 degree taper cutting
➢ 20" x 14" x 16.7" thickness capability

CNC Sinker EDM Systems

+GF AgieCharmilles Advance 3
➢ 4-axis CNC with automatic electrode changer
➢ 8 microinch surface finish
➢ 37.8" x 25.6" x 10" workpiece (2200 lbs.)
+GF AgieCharmilles Advance 4
- 4-axis CNC with automatic electrode changer
- 8 microinch surface finish
- 43.3” x 29.5” x 14.5” workpiece (4400 lbs.)

+GF AgieCharmilles Drill20
- CNC High Speed EDM Drill
- Hole diameters 0.3mm to 3.0mm

CNC Milling Systems

Mikron HSM-400U - 5-Axis Machining Center
- Laser tool measurement
- 18 hp 42,000 RPM Spindle w/ HSK 40E taper
- Probing System
- 18-Station Robot Pallet Changer for unattended machining
- True simultaneous 5-Axis capability
- 19.7” x 9.5” Working Area

Mikron UCP-600 VARIO - 5-Axis Machining Center
- Laser tool measurement
- Probing System
- Thru Spindle Coolant (Hi-Pressure)
- 30 hp 20,000 RPM Spindle w/ HSK 63A taper
- 7-Station Robot Pallet Changer for unattended machining
- True simultaneous 5-Axis capability
- 23.6” x 17.7” Working Area

Mikron HEM-500U – 5-Axis Machining Center
- Tool measurement
- Probing System
- Thru Spindle Coolant (Hi-Pressure)
- 20 hp 12,000 RPM Spindle
- 3+2 capable with 440 lb work piece
- 20” x 18” x 16” Working Volume

Mikron VCP-600
- Laser tool measurement
- 18 hp 42,000 RPM Spindle w/ HSK 40E Taper
- Graphite Dust Extraction System
- 23.6” x 17.7” Working Area
Mikron VCP-1000
➢ Laser tool measurement
➢ 30 hp 20,000 RPM Spindle w/ HSK 63A taper
➢ Probing System
➢ 40” x 25.5” Working Area
➢ Fixed Table w/ max. work piece weight of 3500 lbs.

Haas VM-3 Machining Center
➢ 40 station tool changer
➢ 12,000 RPM direct drive spindle w/ 30 hp
➢ Probing System with Tool Length Measurement
➢ 40” x 26” Working Area
➢ 210mm Rotary Table (4th Axis)

CNC Turning

DMG Mori NLX 2500/700 SY
➢ Dual Spindle, Y-axis multitasking lathe
➢ 10,000 RPM milling tools
➢ 3.1” thru bore
➢ Automatic Bar Feeder

Okuma 1060 Big Bore Turning Center
➢ 25 HP 10” diameter chuck
➢ 12 station turret
➢ Programmable tail stock

Grinding

Supertec STP-1428ADCII Automatic Surface Grinder
➢ 12” x 24” grinding area
➢ 3 HP spindle with 12” dia. x 1 ¼” wheel
➢ 0.00008” down feed resolution
Inspection Systems

Zeiss Contura - Aktiv
- Measuring range 39.4" x 47.3" x 23.7"
- VAST XTR Probe with active scanning
- Scanning Speed 5”/second
- Automatic probe changing
- Temperature controlled environment

Zeiss Eclipse 550 ST CMM
- Zeiss ST 3D dynamic touch probe (with fully automatic probe changing)
- 0.00008" linear accuracy, 0.00022" volumetric accuracy
- 20” x 21.5” x 20” work envelope
- Temperature controlled environment

Deltronic Optical Comparator
- 14” Screen
- 25x Magnification
- Heidenhain glass scales
- Quadra Chek 200 Digital Measurement System

Traceable Standards
- Gage Blocks and Surface Plates calibrated and traceable

Software
- Inspection Xpert
  - Bubbled drawings
  - Excel format characteristic lists
  - AS9102 forms
  - PPAP documentation
  - Automated import of CMM data
- Zeiss ERS + MiniTab
  - SPC – statistical data collection and reporting
  - Gage R&R