QUALITY, CAPABILITY, SPEED

Norman Noble, Inc. is your single source solution for manufacturing complex medical implants with tolerances of +/- .0001". We utilize the newest machining technologies in dedicated Process Development Centers to take you from concept to production fast!

✓ Fully Validated Processes
✓ NiTinol, CoCr, PEEK, Titanium, Stainless, Tungsten and Platinum Materials
✓ Electropolishing, Titanium Anodizing, Passivation and Pickling
✓ Cannulated Screws, Polyaxial Screws, Anchors and Bone Plates
✓ Process Development Centers for New Projects and Prototypes

VERTICALLY INTEGRATED CONTRACT MANUFACTURING:

- Process Development Centers
- Swiss Machining
- 5-Axis Contour Milling
- Wire & Conventional EDM
- NiTinol Shape Setting
- Athermal Laser Machining
- Laser Micromachining
- Laser Welding
- Electropolishing
- Cleanroom Assembly & Packaging

ISO 13485:2016 / FDA REGISTRATION #1531050

PHONE: 800-474-4322 • EMAIL: SALES@NORMANNOBLE.NET • WWW.NNOBLE.COM
MICROPRECISION
CONTRACT MANUFACTURING
OF MEDICAL DEVICES AND IMPLANTS

LASER MICROMACHINING
- Laser ablation of metal alloys, Nitinol and bioabsorbable materials
- Laser cutting of tubular and flat sheet materials
- Laser welding, including process validation

SWISS MICROMACHINING
- Single operation turning and milling
- All specialty materials, including Nitinol, CoCr, platinum, titanium and implant grade PEEK
- Gun drilling to 7"

5-AXIS MILLING
- Single operation contour milling
- All specialty materials, including Nitinol, CoCr, tungsten, titanium, and implant grade PEEK
- 3D profiling capability

NITINOL SHAPE SETTING
- Design For Manufacturing (DFM) services
- Engineering design of custom form tooling
- Validated thermal processing of superelastic and shape-memory Nitinol

ELECTRICAL DISCHARGE MACHINING
- Wire and sinker EDM
- Small hole EDM
- Electrochemical grinding

PROCESS DEVELOPMENT CENTERS
- Dedicated equipment and engineering teams
- Prototype manufacturing
- Design For Manufacturing (DFM)

SURFACE FINISHING
- Automated electropolishing
- Automated passivation
- Mechanical and chemical deburring

PROCESS VALIDATION
- Custom designed / validated processes
- Quality engineering team provides strategy, protocols, testing and reports
- IQ, OQ, PQ, MSV, TMV, DOE, PFMEA
- Available for all machining, laser welding, surface finishing, cleaning and other special processes

ASSEMBLY & PACKAGING
- ISO Class 8 cleanroom
- Micro assembly including laser welding
- Custom packaging and labeling

AUTOMATED MANUFACTURING
- Vascular Stent Implants – laser machining, electropolishing and inspection systems
- Orthopedic Implants – Swiss turning, 5-axis micro milling, surface finishing and inspection systems

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Microprecision Medtech Manufacturing

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