



ORCHID

ORTHOPEDIC SOLUTIONS

Speed.
Value.
Innovation.

How

we make a difference.

Speed. Value. Innovation.

That's what Orchid Orthopedic Solutions brings to medical device companies around the world. With over 250,000 square feet of manufacturing space, 900-plus skilled employees, and a culture of continuous improvement, we make it our job to provide you with the newest technology and the best total supply chain value.



At Orchid, we specialize in implants, instruments and innovative technologies for:

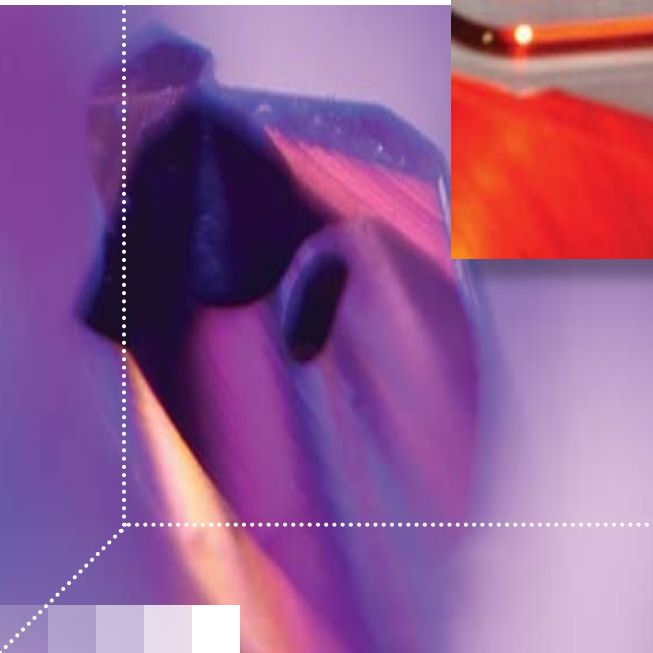
- Reconstruction
- Trauma
- Spine
- Sports Medicine
- Orthobiologics
- Extremities
- Dental
- Medical Devices



The Orchid Companies

Orchid Orthopedic Solutions consists of ten divisions that are leaders in the technologies they offer. Orchid technologies and divisions include:

- Design:** Orchid Design
- Forging:** Orchid Stealth
- Machining:** Orchid Anzon
Orchid Keller
Orchid MPS
Orchid Unique
- Plastics:** Orchid MACDEE
- Coatings:** Orchid Bio-Coat
Orchid Bio-Vac
Orchid StealthCoat



Innovative
Design
and Development

ORCHID DESIGN

Capabilities

- **Comprehensive concept development**
- **Thorough feasibility confirmation**
- **Innovative design services**
- **Prototyping**
- **Qualification testing**
- **Design for manufacture**
- **Small-scale/Pilot manufacturing**
- **ISO 13485: 2003**

Typical Projects

- Complete implant and instrument systems
- Design troubleshooting
- Minimally invasive instruments
- Biologics delivery systems
- Customs and specials – design and manufacture
- Design for manufacturing/cost reductions
- Gage design and fabrication

Relevant Division:
Orchid Design
DesignSales@orchid-orthopedics.com



Near-Net

Forging

ORCHID STEALTH

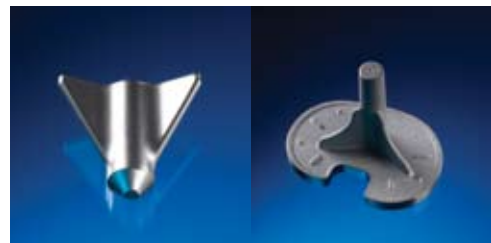
Capabilities

- **Innovative engineering**
- **Net and near-net forging**
- **Complete machining capabilities**
- **Lean manufacturing**
- **Project management**
- **Alloys:** titanium, cobalt-chromium molybdenum, stainless steel and zirconium
- **ISO 13485: 2003**

Typical Projects

- Acetabular cups
- Femoral hip stems
- Femoral knee components
- Tibial base components
- Various trauma and fusion plates
- Extremity parts (ankles, elbows and shoulders)
- Forged blanks for further machining

Relevant Division:
Orchid Stealth
StealthSales@orchid-orthopedics.com



Advanced

Machining

**ANZON
KELLER
MPS
ORCHID
UNIQUE**

Capabilities

- **The latest in machining technology:** turning, milling, grinding and EDM machines, as well as automated measuring systems
- **Special processes:** color coding, laser welding and etching, diamond coating, gundrilling and micro deburring
- **Vertical integration**
- **Engineering support**
- **Inventory stocking programs**
- **Packaging and labeling**
- **Project management**
- **ISO 13485: 2003**

Typical Projects

- Orthopedic implants
- Surgical drill bits, reamers, cutting burs and blades
- Fracture fixation plates, rods, screws and cages
- Spinal screw, hook and rod systems
- Intramedullary nails
- External fixation assemblies
- Bone screws, plates and anchors
- Joint replacements of the wrist, elbow, ankle and toe
- Surgical instruments

Relevant Divisions:

Orchid Anzon
AnzonSales@orchid-orthopedics.com
Orchid Keller
KellerSales@orchid-orthopedics.com
Orchid MPS
MPSSales@orchid-orthopedics.com
Orchid Unique
UniqueSales@orchid-orthopedics.com



Medical-Grade

Plastics

ORCHID MACDEE

Capabilities

- **CNC plastics machining**
- **Experience with a wide range of medical-grade plastics:**
UHMWPE, PEEK, PMMA, high-temperature resistant engineering plastics, thermoplastic resins and biodegradable polymers
- **Injection molding**
- **Portable Class 10,000 controlled environment rooms**
- **Cleaning, assembly and packaging**
- **Boxing, labeling and shrink-wrapping**
- **ISO 13485: 2003**

Typical Projects

- Medical devices
- Implants
- Trial components
- Delivery systems
- Acetabular liners
- Tibia plateaus
- Glenoids



Relevant Division:
Orchid MACDEE
MACDEESales@orchid-orthopedics.com

Implant Coatings and Surface Treatments

BIO-COAT
BIO-VAC
ORCHID *STEALTH COATING*

Capabilities

- **Hydroxylapatite (HA) coating on titanium, cobalt chrome or stainless steel**
- **Titanium plasma spray (TPS) coating on titanium or cobalt chrome substrates**
- **Resorbable blast media (RBM) surface treatment on titanium substrates**
- **Composite coatings**
- **Porous, spherical bead and particle**
- **Passivation per ASTM F86**
- **Custom coating technologies**
- **ISO 13485: 2003**

Typical Projects

- Joint implants
- Dental implants
- Spinal implants

Relevant Divisions:
Orchid Bio-Coat
Bio-CoatSales@orchid-orthopedics.com
Orchid Bio-Vac
Bio-VacSales@orchid-orthopedics.com
Orchid Stealth Coating
StealthCoatingSales@orchid-orthopedics.com



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