

Manufacturing

The Experts in Turbomachinery



Engineering
 Software
 Manufacturing
 Training

Concepts NREC

For over 50 years, Concepts NREC has been partnering with the world's leading OEMs to improve the performance and manufacturability of turbomachines. We are the only company in the world whose in-house capabilities span the entire process — from conceptual design through manufacturing, testing, and installation. This creates powerful synergies that drive innovation across our entire offering. Our clients benefit from having a trusted partner who can see the big picture and provide valuable insights that save them time and money.

We are ISO 9001:2008 certified, and committed to providing our customers with products and services that meet international quality standards.

Advancing the State of the Art in Turbomachinery

Concepts NREC maintains a robust in-house research and development program. We hold over 70 patents worldwide, with numerous patents pending. Concepts NREC is also the leader of the global *Advanced Centrifugal Pump and Compressor Consortium for Diffuser and Volute Design*, an internationally-sponsored research venture dedicated to advancing diffuser and volute design.

At Concepts NREC, we push past what *has* been done to explore what *can* be done. We have the vision to create great designs and a hard-earned reputation for delivering them.

Engineering

- Design Optimization
- Design Services
- Engineering Audits
- Equipment Rerates and Upgrades
- Feasibility Studies
- Laboratory Testing

Software

- 3D CFD Flow Analysis
- 5-Axis CNC Machining
- Design Optimization
 - FEA Stress and Vibration Analysis
 - Integrated Preliminary and Detailed Design Solutions
 - Rotordynamics

Manufacturing

- Balance Testing
- CMM Inspection
- Component Assembly
- Concurrent Engineering/Manufacturing
- Modal Analysis
- Prototypes
- Reverse Engineering
- Short or Long Production Runs

Training

- Customized Training
 Design Software Workshops
- Free Webinar Series
- Manufacturing Software Workshops
- Professional Development Courses
- Textbooks

Value-Added Manufacturing Solutions

Concepts NREC's manufacturing capabilities extend far beyond simply cutting metal. Our highly skilled machinists are backed by experienced design engineers with diverse technical backgrounds and software engineers who have produced industry-leading CAE and CAM programs. This broad expertise enables us to suggest more efficient manufacturing methods, materials, processes, and designs that meet customer needs while lowering their production costs.

Concepts NREC's state-of-the-art manufacturing center features 3- and 5-axis milling machines, horizontal and vertical numerical controlled lathes, and high-end inspection equipment. Our specialty is delivering prototypes and short production runs of our clients' most challenging turbomachinery parts.

Capabilities

- 5-axis machining of blades, blisks, inducers, propellers, impellers, and other turbomachinery parts
- Component assembly
- Concurrent manufacturing/engineering
- Coordinate Measuring Machine (CMM)
 inspection
- Dynamic balancing and modal analysis
- Inspection and testing to validate integrity and performance
- Machining complex shrouded (enclosed) impellers for pumps and compressors
- Prototypes and shorter production runs
- Reverse engineering of obsolete parts

Your Trusted Partner

Our design and manufacturing capabilities make us the first choice for many of the world's leading manufacturers.

- Large OEMs trust us to concurrently engineer/manufacture the blisks and vanes for their newest product designs.
- International pump companies rely on us for our consistent quality and timeliness with their shrouded (enclosed) impellers.
- Users across a broad spectrum of industries leverage our expertise to reverse engineer obsolete turbomachinery parts.
- Early-stage start-ups work with us to build and improve their prototypes.

How can we help you? Contact us today to discuss your manufacturing needs.













The Experts in Turbomachinery



★ Worldwide and regional headquarters. We also have sales offices and representatives strategically located throughout the world to support our global clients.

We Offer

- CAE Software
- CAM Software
- Design Audits
- In-house Laboratory Testing
- Manufacturing Services
- Precision Prototypes
- Research and Development
- Scoping Studies
- Specialized Products

Our Focus

- Air Dynamometers
- Compressors
- · Fans and Blowers
- Gas Turbines
- ORC Turbine Generators
- Pumps
- Steam Turbines
- Superchargers
- Turbochargers

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