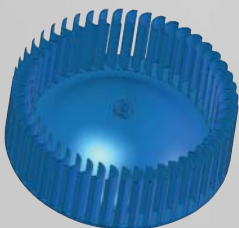
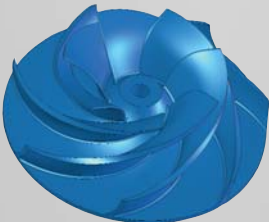
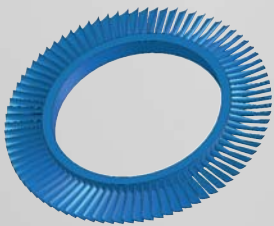
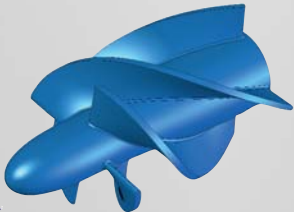


ANSYS BLADEMODELER 10.0

All kinds of rotating machinery can be designed with BladeModeler...



www.ansys.com

A Geometry Design Tool for Rotating Machinery

ANSYS BladeModeler software is a specialized, easy-to-use tool for the rapid 3-D design of rotating machinery components. Incorporating ANSYS, Inc.'s extensive turbomachinery expertise into a user-friendly graphical environment, the software can design axial, mixed-flow and radial blade components in applications such as pumps, compressors, fans, blowers, turbines, expanders, turbochargers, inducers and others.

An Integrated Blade Design System

BladeModeler provides the essential link between blade design and advanced simulation including computational fluid dynamics and stress analyses. BladeModeler contains a rich set of tools and functions for designing a turbomachinery blade from scratch, using industry-specific tools, workflow, and language that the blade designer expects.

If you already design the basic blade geometry using your own tools, BladeModeler can import your design data and prepare it for rapid or detailed design simulation and analysis, as well as further modifications. Once a basic blade design exists within BladeModeler, a true 3-D CAD solid model can be created including the hub metal, blade fillets, cutoffs and trims. Additional 3-D CAD components can also be combined with the blade solid model, such as the blade root or complex 3-D tip regions.



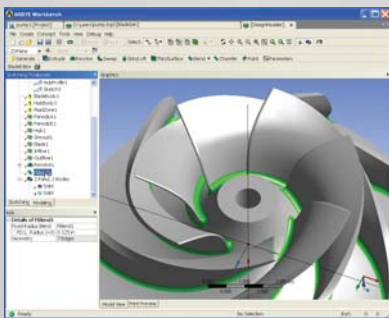
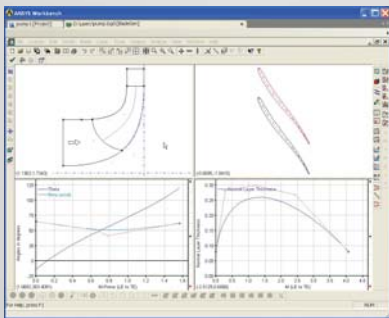
Some images courtesy of Siemens and Engineered Machine Products.

Basic or Rich Geometric Detail

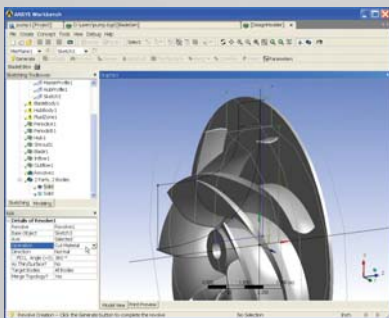
For rapid analysis the most basic blade sketch can be meshed and analyzed. If and when needed, detailed 3-D solid modeling geometry components can be included for the analysis, for maximum accuracy when assessing a particular design. The geometric level of detail required is your choice to make. Depending on your design process and need, the blade geometry can be analyzed for aerodynamic performance, or mechanical behavior using state-of-the-art ANSYS® CFX® or ANSYS® Mechanical™ products, all while staying inside an integrated single environment... ANSYS® Workbench™.

ANSYS BLADEMODELER 10.0

BladeModeler gives you access to turbo-machinery-specific geometry expertise.



With fillets



Before fillets

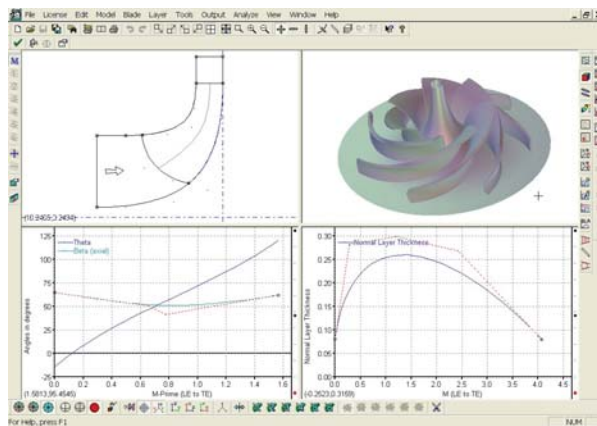
An Interactive Blade Design Tool

BladeModeler is a truly interactive blade design tool. You see your design modifications immediately and clearly. The relevant design information is conveyed in a number of 2-D and 3-D views, as well as via quantitative information such as blade angles, sweep angles, throat diameter and so on.

Radial machinery designers, typically use BladeModeler in angle/thickness mode, optimize blade designs by defining meridional profile, blade wrap (blade angle), thickness distribution, and leading/trailing-edge shape. Axial turbine designers, who typically work in pressure side/suction side mode, can use BladeModeler to create improved blading through independent description of the blade pressure side and suction side curves.

Working Environment

BladeModeler is divided into several views that break down the blade definition into simpler, 2-D components. The **Meridional View** allows easy definition of the meridional profile. The **Angle Distribution View** facilitates description of the blade wrap angle along any layer (meridional streamline). The **Thickness Distribution View** specifies the normal or tangential thickness distribution of the blade along any meridional streamline. The **Pressure/Suction View** permits design of the two sides of a blade independently. An **Auxiliary View** displays a large number of geometry diagnostics of the blade. A large toolbox of useful functions for blade design is provided.



Data Connectivity

The blade geometry designed in BladeModeler can be analyzed immediately within the ANSYS Workbench, including any 3-D CAD solid modeling operations performed within ANSYS® DesignModeler™. Import and export to third party formats is also available, such as AutoCAD™, IGES, Pro/ENGINEER®, Parasolid™, etc. in order to pass your blade design forward in your specific design process.