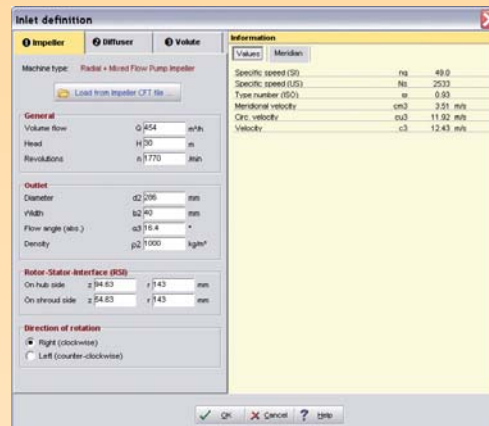


VOLUTES – MAJOR DESIGN STEPS

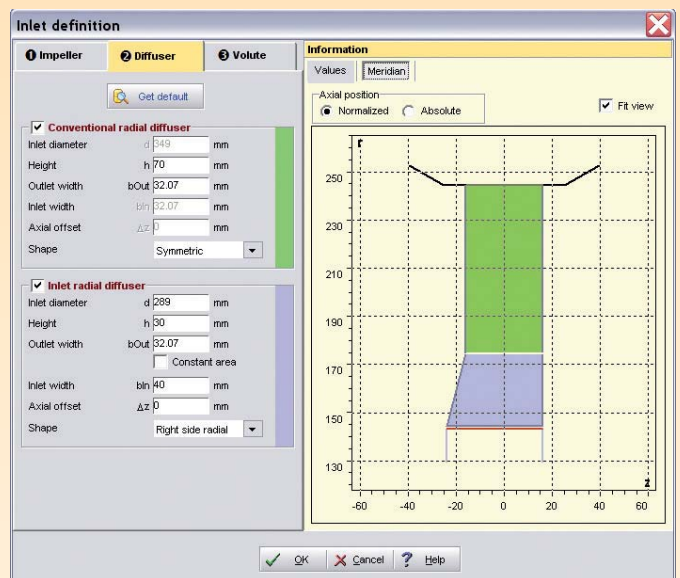
1. Volute inlet

- Impeller definition by manual input or import from a CFturbo-impeller file
- Adaptation of design flow rate if specified
- Definition of inlet width and inlet diameter of the volute



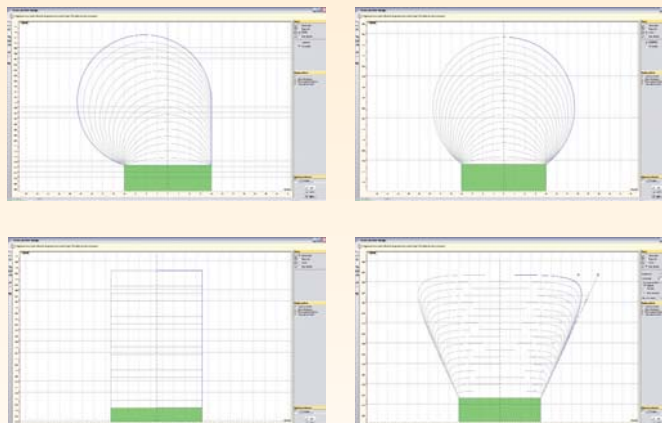
2. Radial diffuser design

- Import and adapt impeller parameters
- Free design of widths and diameter relations
- Conventional or pitch-type non-bladed diffuser
- In-compressible or compressible streamline
- Computation of velocity components



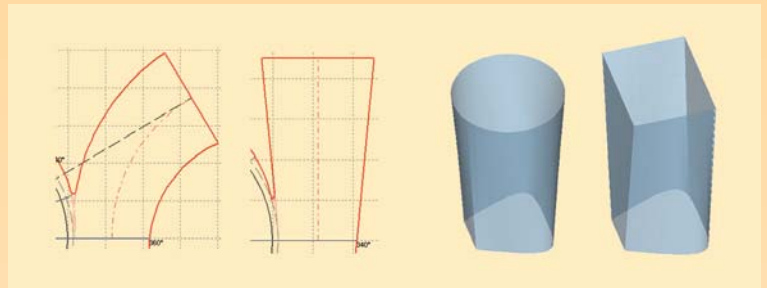
3. Volute cross-section shapes

- Rectangular, trapezoid or arc
- Various free-form geometries
- Asymmetric or symmetric



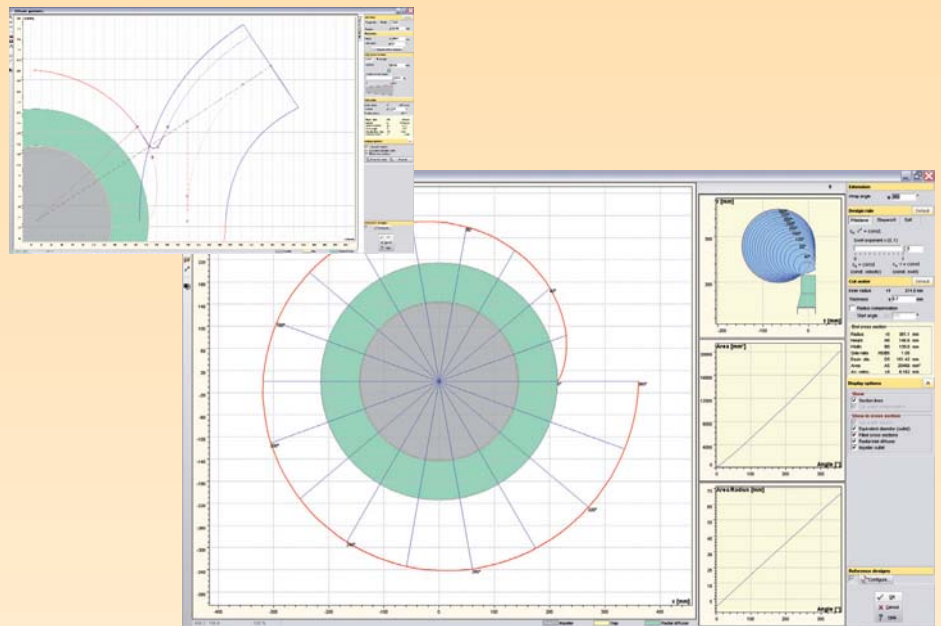
4. Pipe diffuser modeling

- Tangential or radial direction
- Round or rectangular end cross section
- Free-form modeling
- Diffuser length



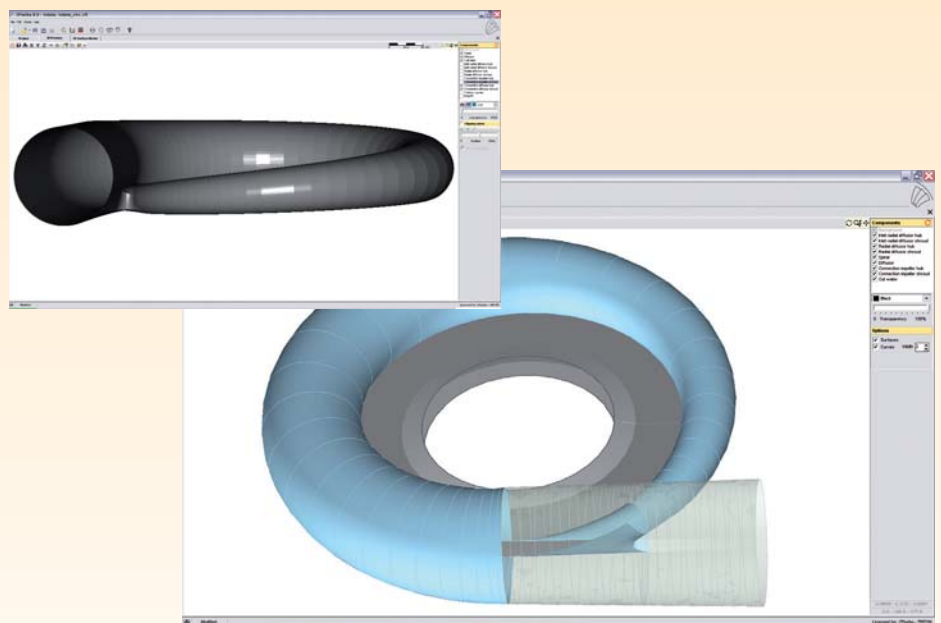
5. Volute shape and cutwater design

- Definition of start angle and wrap angle
- Design by Pfleiderer, Stepanoff or own rules
- Cut-water modeling



6. 3D-view

- Dynamic 3D-representation (rotate, move, zoom)
- Partial views
- Cutting plane
- Assembly view



7. Data export

- Export of points, curves and surfaces
- Neutral formats like IGES, STEP, DXF supported
- Direct interfaces to major CAD/CAE/CFD-systems
- Special export formats available on customer request