

Conceptual Design and Optimization of PUMPS

Axial Pumps

- AxSTREAM Hydro software helps with creation of new designs, analysis of existing design and retrofitting.
- Design the flow path of axial and radial pumps from scratch using a small number of basic parameters and a set of geometric constraints.
- Simple and intuitive access to all design parameters.
- Custom measurement units setting.
- Preliminary design and sizing with functionality to pre-screen, visualize and verify hundreds of designs. Capability to optimize passage dimensions and blades number.
- Calculation model may include various elements, including blade, duct, L-channel, volute etc.
- Flowpath meanline analysis and optimization, which supports “as-designed” and “off-design” operational conditions.
- Meanline and through flow analysis of multistage pumps.
- Performance maps generation.
- Wide variety of profiling methods with support of interactive editing.
- 3D airfoil design in automatic and interactive modes with geometric and strength criteria monitoring. Custom stacking.
- Volute design. Creation and export of spatial volute geometry.
- Export of airfoils geometry to CAD/CAE programs in IGES and STL.
- Easy end versatile copy/paste system for elements exchange between the projects.
- Experimentally confirmed empiric and custom loss models utilization.
- Multidisciplinary optimizer AxPLANbased on design-of-experiment methodology. Helps to search for optimal solution for multi-criteria problems.
- Generation of cascades with interactive editing and optimization. Flow and boundary calculation.
- AxSTRESS module for express structural and modal analysis with automatic mesh generation.
- AxSLICE module for automatic recognition of CAD and laser-scanned objects. Really useful for retrofitting, reverse engineering and benchmark tasks based on existing machines.
- Possibility to create, manage and store experiments to compare design solutions.
- User-friendly window interface with project management capabilities.
- Automatic custom report generation.
- Bundle licensing structure allows client to choose one of two task-oriented software packages.

Radial Pumps

