

## Flow Field Visualization of a Single-Blade Centrifugal Pump Using PIV-Method - Comparison to Numerical Results

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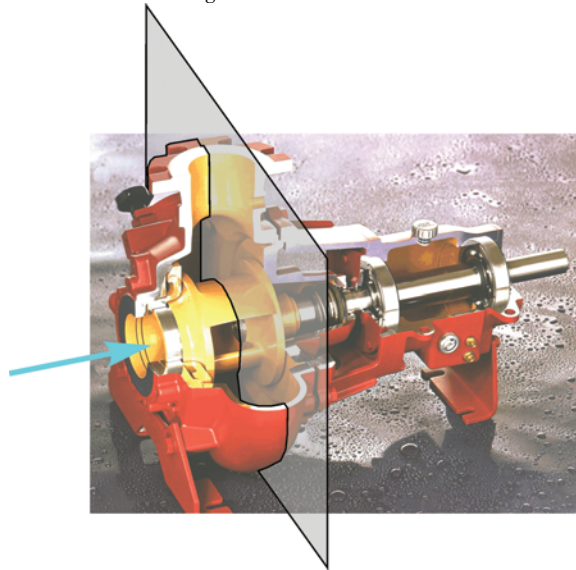


Fig. 1. Single-stage sewage water pump with single-blade Impeller for dry installation with observation plane.

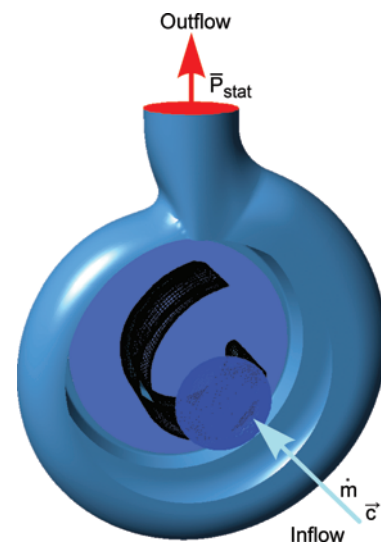


Fig. 2. Computational model of single-blade pump.

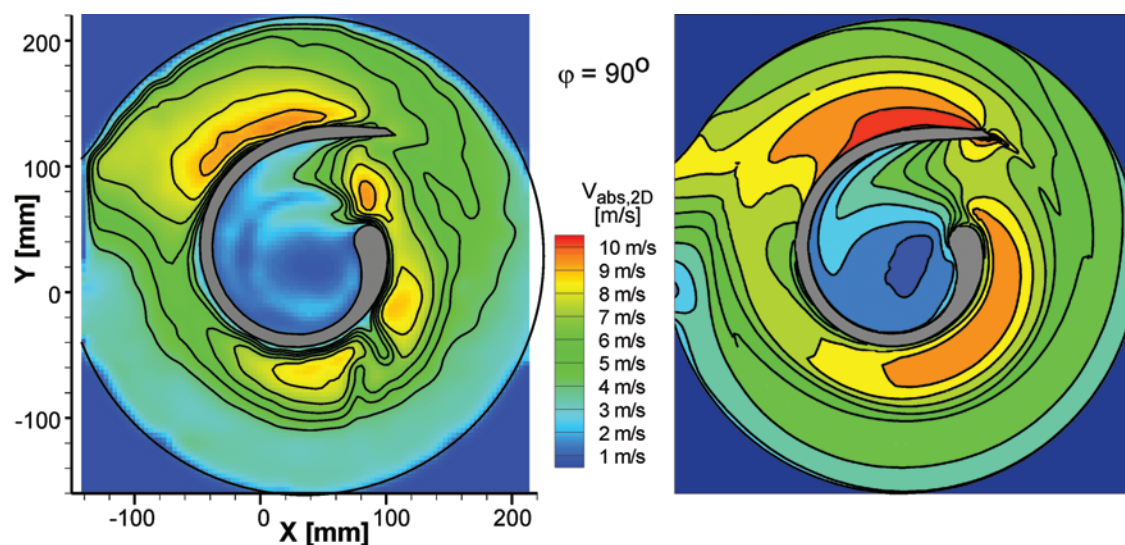


Fig. 3. Comparison of measured (left) and calculated (right) absolute velocity field at design flow conditions at blade position 90 deg.

These figures show the observed geometry and the visualized absolute velocity in the observation plane. The experimental results are obtained by PIV measurements. The calculation is done with a commercial CFD code solving the time dependent Reynolds averaged Navier-Stokes equations (URANS).