



Technical Paper

Mixers

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Optimization of mixers for sewage plants

Author:

Frank Holz
Manager ARTEC Fluid Mechanics
Wilo AG
44263 Dortmund, Germany

Co-Author 1:

Dr. Franka Schneider
Research Engineer
Wilo AG
44263 Dortmund, Germany

Co-Author 2:

Dr. Frank-Hendrik Wurm
General Manager
Wilo AG
44263 Dortmund, Germany



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Summary

Submersible mixers are applied in a wide area in order to stabilize liquid and solid suspensions over time. In waste water treatment plants mixers are installed for the process of homogenisation, suspension and to generate a flow velocity.

The amount of the life cycle costs (LCC) depends on one hand side on the thrust-power-ratio of the mixer itself. On the other hand the interaction of the mixer with the installation inside the tank has a large influence on the LCC as well.

A minimum of LCC can be achieved by utilising a high efficient mixer, characterised by a high thrust-power-ratio, placed in a tank this way, that a minimum of thrust is needed in order to fulfil the mixing requirements.

This paper presents a comparison between CFD analysis and measurements of a mixer. It is necessary to validate the CFD in order to utilise it as a tool during the optimisation process for the mixer blade development.