

 **Stelzer**[®]



IMPELLERS

ALPHA to ZETA

Covering your special requirements



SPXFLOW[®]

STANDARD IMPELLERS



Marine Propeller

Blending and suspension of low to medium viscous media as well as liquid/liquid dispersion for low droplet size generation.



**Pitched Blade Turbine
2, 4, 6 Blades**

Blending low to medium high viscous media, suspension of solids or heat transfer to inner coils or tank wall.



Rushton Turbine

Standard fermentation processes for high specific power inputs to generate maximum mass transfer number.



Trapezoidal Impeller

Used for low shear mixing in pharmaceutical and food related industries and used for medium to higher viscous media in blending, suspension and heat – transfer applications.



SIGMA Impeller

Used for demanding blending, suspension, crystallization and heat transfer applications.



ALPHA Impeller

Creates all over the tank a forced driven flow with constant mixing times independent from flow number. Can be assembled into tanks through each manhole.



Tooth Disc Turbine

Used for high shear rates to create maximum shear and power input in a specific volume area in order to disperse powders into fluid.



ZETA Impeller

For low shear mixing of sensitive products in food or pharmaceutical industries.



Anchor Impeller

Used for good heat transfer to the vessel wall for heating/cooling of product .

With over 60 years of manufacturing agitators the Stelzer brand is one of the leading companies in agitation technology and a sought-after solutions partner for project-specific process technology solutions. Many decades of experience, research and development have provided us with extensive process knowledge and integrated systems knowledge in a variety of applications. Our core business was and is the technical design and production of custom-made agitators.

SPECIAL IMPELLERS



PRL-3 and PRL-5 Draft Tube Impellers

Used for draft tube mixing applications for crystallization processes, suspensions or highly viscous material.



Curved Back Turbine

Used in specific industries like pharmaceutical production with easy cleanability or PVC production as one bottom turbine generating a strong axial flow effect in combination with special baffles.



Segment Impeller

Used in small to medium size fermenters with extremely low shear rates preventing medium damage.



THETA

Optimized for extremely large tank blending and suspension at lowest energy demand. It prevents both, solid suspension and floating layers in bio-gas processing.



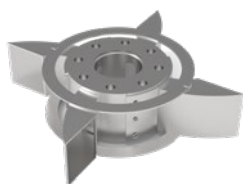
Visco-Propeller

Used for medium to demanding mixing duties for blending, suspension and heat transfer.



DELTA-Pharmaceutical

Used for magnetic drives in pharmaceutical, cosmetic, food and chemical processing. Riboflavin approved cleanability for CIP and SIP.



Gas Generator GasGEN₄

Unique hollow shaft turbine for gas dispersion into liquids or suspensions by integrated gas generation effect in hydrogenation, ethoxylation, carbonization processes.



GD6(B) Concave Gassing Turbine

Used for fluid and gas acceleration to generate highest specific mass transfer areas for maximum mass transfer gas/fluid/solid.



GasSol4®

Used for down pumping or up-pumping, patented turbine for unique performance in multiple phase mixtures with fluid/gas/solid contents.



HySol3®

Used for up-pumping, patented gassing turbine used solely for medium gassing rates or in combination with the GD6(B) turbine for highest gassing performances.

We achieve optimal results by building on our established process technology experience and on further developments based on tests under realistic conditions in our in-house laboratory in combination with CFD computer simulations. The process engineering for each agitator is individually optimised, using detailed problem and process analysis as a reliable base.

TECHNOLOGY LABORATORY

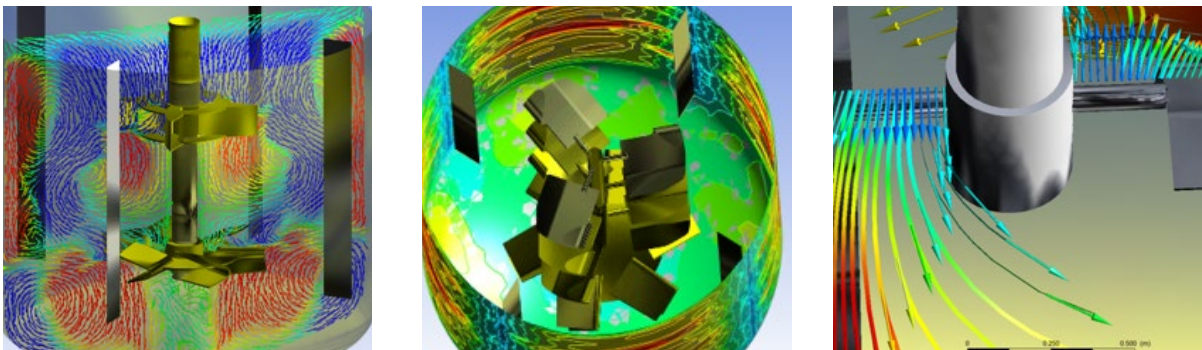
A laboratory with modern equipment is available for our tests. Suitable testing areas, already equipped with glass and stainless steel vessels in different sizes, are available for all test arrangements. The vessels can be optionally heated or cooled. Our standard agitators of various kinds include axial, radial, tangential and countercurrent flow impellers. They cover a viscosity range up to 1 million mPas.



COMPUTATIONAL FLUID DYNAMICS (CFD) SIMULATIONS

CFD simulations are used for conceptual studies of new designs, product developments, verification of agitator engineering design and supplementation of tests under realistic conditions in the laboratory. They can be used to simulate tests that are not possible with real media for safety reasons. This may be due to toxic, explosive or carcinogen effects of the product.

CFD simulations are used to assess the flow conditions in the vessels and determine whether a given agitator will perform as required. It is a further advantage that the model is running using the actual dimensions and not the model dimensions. The combination of the CFD investigations with conventional agitator software ensures maximum safety regarding the process engineering design for the agitator.



SPXFLOW®

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