Mixing Operations in Industrial Process

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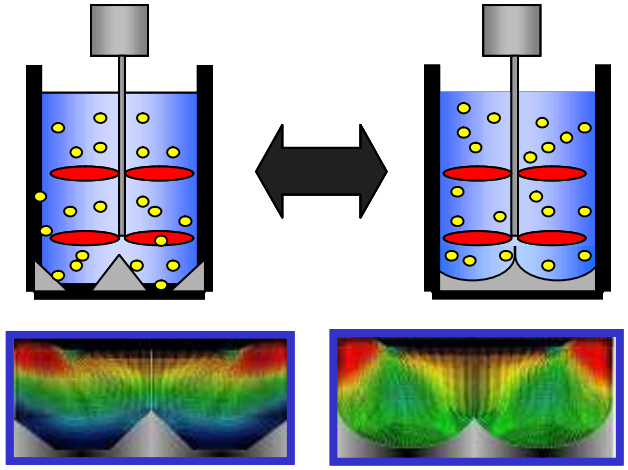
Large Impeller, suitable for mixing of high viscosity liquids.

Conventional Impeller, suitable for mixing of low viscosity liquids.

Effect of impeller shape on mixing efficiency.

Investigation of bottom shape of agitated vessel by experiment and simulation.

Unsuitable bottom shape leads stagnation flow, which results bad mixing.



Effect on bottom shape of agitated vessel for solid-liquid mixing.

Content：

Mixing is a central feature of many processes in the food, pharmaceutical, paper, plastics, ceramics, rubber and bio-industries. Mixing operations are encountered widely throughout productive industry in processes involving physical and chemical change. Liquids, solids, gases and powders have to be mixed in all combinations to satisfy a very variable process or product quality requirement.

But academic discipline of mixing is not established, But academic discipline of mixing is not established, because the wide range of mixing equipment available for the enormous variety of mixing duties required in the industries.

Therefore effective fluid mixing operation have been investigated. The influence of instrumental condition – i.e. impeller shapes, bottom shapes of agitation vessels, baffles, operational condition –i.e. agitation mode - steady/unsteady agitation, chaotic agitation and eccentric agitation were investigated by experiment and computer simulation.

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