

— MIXRITE —

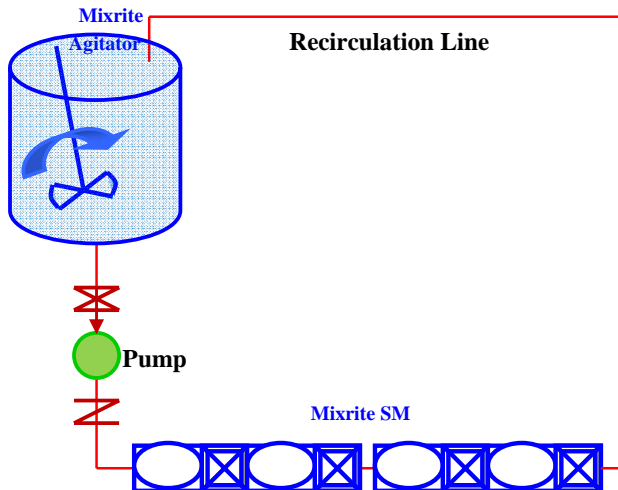
Cutting Oil Emulsion

CASE STUDY



PROBLEM

Cutting Oil -- Oil / Water emulsion in the cutting oil process is an important unit operation. This is a complex and sensitive blending operation and calls for reasonable shearing of droplet size to ensure that the two phases do not separate out. On the basis of earlier experience, the customer had been successfully using High Shear Mixer [Rotor-Stator mixer] for this application. Since this high shear mixing system appeared to be inherently expensive, they were receptive to a substitution by an economic yet effective mixing solution.



Emulsion Hybrid Mixing System

SOLUTION

Hybrid Mixing system comprising combination of Agitator and Static Mixer as shown in the above configuration was successfully implemented by Mixrite on the basis of value analysis

The combination of Rotary Agitator and Static Inline Mixer gave the desired shearing for this oil water emulsion application. Both these mixers are kept in simultaneous operation.. Since the agitator is operated under turbulent conditions, it was adequately sized and designed to withstand the unbalanced hydraulic forces imparted by the recirculation stream.

The above combination of Static Mixer and Mechanical Agitator gave excellent oil / water emulsion , which was confirmed by testing in the Centrifuge Separator. This system is successfully operating at production facility of one of the reputed global brands in India.

MIXRITE MIXING SYSTEMS

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SALIENT FEATURES

- Simple And Compact In Construction.
- Low Capital And Operating Cost .
- Low Power Consumption.
- Low Operating Speed And Hence Easy To Maintain.
- Easy To Install.
- High Energy Efficiency.
- Designed To Have Practically No Dead Spots In The Tank.
- High Degree Of Operational Safety.
- High Degree of Mixing per unit of Expended Energy.

CONCLUSION

High Speed Stirrers and Static Mixers used for the above application offers excellent emulsion and thereby improving the productivity. The overall batch time is reduced and consistency in emulsion for all the batches is achieved.

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