



Static mixers: Mechanisms, applications, and characterization methods - A review

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| Résumé en anglais | <p>Static mixers and multifunctional heat exchangers/reactors (MHE/R) are qualified as efficient receptacles for processes including physical or chemical transformations accompanied by heat transfer due to their high productivity and reduced energy expenditures. The present work reviews recent conceptual and technological innovations in passive static mixers and continuous in-line reactors. Current industrial applications are discussed from a process intensification perspective, focusing on mixing and mass transfer performance. Typical experimental techniques employed to characterize and quantify the mixing process are explored. The work is complemented by a review of mixing fundamentals, knowledge of which allows the development of theoretical models crucial for the analysis of experimental data, like the chemical probe mixing assessment method. Considering the development of continuous flow equipment in numerous processes, advances in this field will certainly be of increasing interest to the scientific and industrial communities.</p> |
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[1] [http://okina.univ-angers.fr/publications?f\[author\]=15369](http://okina.univ-angers.fr/publications?f[author]=15369)

- [2] <http://okina.univ-angers.fr/t.lemenand/publications>
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=15326](http://okina.univ-angers.fr/publications?f[author]=15326)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=15328](http://okina.univ-angers.fr/publications?f[author]=15328)
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