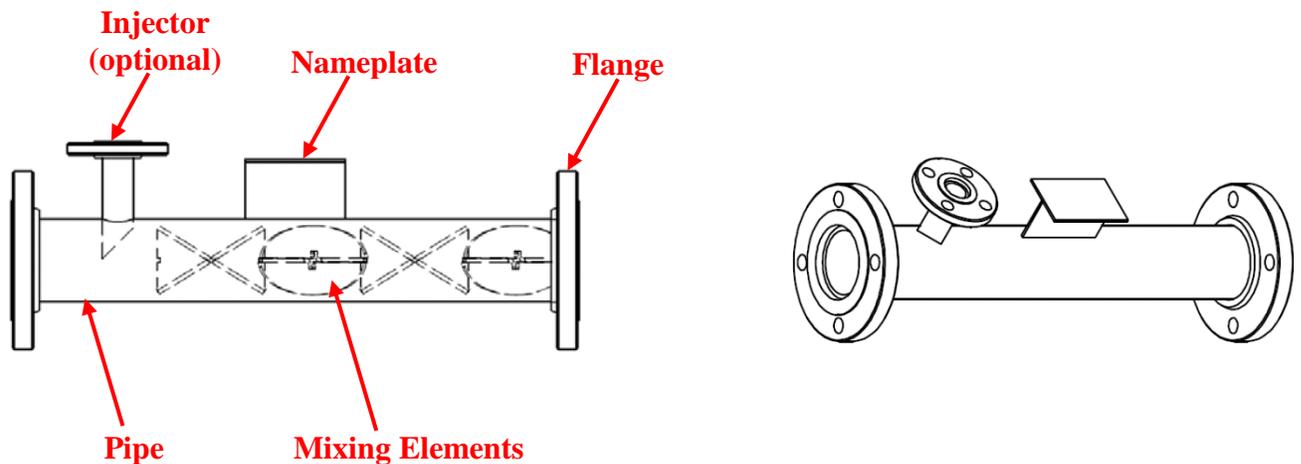


Learn about Static Mixers

Static mixers are a terrific, time-tested solution for in-line mixing of both miscible and immiscible fluids, providing both reliable and predictable mixing. They are capable of mixing process fluids with multiple liquid streams, multiple gases streams, or a combination of liquid and gas. Static mixers perform well in all flow regimes, from creeping laminar to highly turbulent. They have no moving parts, need no direct energy, and require no maintenance. They are economical in terms of capital, operation, and maintenance costs.

Static mixers are used primarily in continuous flow processing, but they can also be used in batch processing (such as in a recirculation loop outside a tank).

Common Static Mixer Components



Fiberglass Static Mixer

How a Static Mixer Works

Static mixers are named as such because they have no moving parts. The mixing elements located inside the pipe do not move or twist. Instead, the mixing elements force the process fluids to flow in certain ways that promote mixing. For turbulent flow applications of both miscible and immiscible fluids, the mixing mechanisms are fluid splitting and radial mixing. For laminar flow applications, the main mixing mechanism is simply flow splitting.

Static mixers do not need any direct energy. They do, however, create a pressure loss in the line. This pressure loss is overcome by a pump, upstream of the mixer.

In most cases, static mixers are capable of providing a uniform mixture with a relatively small pressure drop. (Of course there are exceptions to this rule, such as if the process fluid has a high viscosity.)



Sanitary Static Mixer

Static Mixer Advantages

- *Reliable, predictable performance
- *Require no direct energy
- *Allow for continuous processing
- *Easy to install
- *Maintenance free
- *Suitable for all flow regimes
- *Enormous variety of materials of construction

How to Design a Static Mixer

Since static mixers provide reliable performance with low capital and operating costs, they are an ideal solution for continuous, inline mixing. At UET Mixers, all of our static mixers are made to order. Our static mixers are designed to be perfect for your application, based on your specific process conditions. In order to accomplish this, UET Mixers uses a combination of experience and proprietary design programs. We take into account your specific process fluids, flow rates, fluid properties, and operating conditions.

To request a quote or find out more about static mixers, please contact us. We're always excited to talk about mixing!