Chemical processes

In-line static mixer, heat exchanger for chemical processes

PRIMIX static mixers can be used for the mixing and diluting of various chemicals, such as ammonia and caustic soda. Also, the mixing of ammonia in water under formation of substantial heat effects is possible with the static mixer. In addition, with a static mixer concentrations, pH and Redox, are often set. At the exit of the mixer the concentration is measured in-line, after which a regulator administers a dosage at the input.
General applications of the static mixers and heat exchangers are:

- Reactors
- Hydrogenators
- Heat transfer processes
- Crystalliser
- Multi-Stage processes
- Draft Tubes
- Pilot plants / research centres (R&D)

Static mixers and heat exchangers for chemical processes

Within this field of application parameters like pressure drop, residence time, plug -flow, corrosion and heat transfer are often of importance. In the sizing programme, drafted on the basis of empirical data, all of these parameters are variable. In PRIMIX's draft proposal, an overview of these parameters in the form of data sheets is included, so the client understands which choices can be made.

Advantages of the PRIMIX static mixer - tubular mixer

- Chemical savings
- Lower energy consumption
- No moving parts
- Maintenance free
- ATEX
- No direct drive required
- No extra tanks
- Simple installation
- Little space needed
- Totally closed piping system
- Can be manufactured with optional injectors
- Optional sheath for heat exchange
- Worldwide support

Application areas static mixers for chemical processes

- Chemicals - liquid mixing and dilution
- Tube reactors
- Mixing of gas flows
- Vaporization
- Absorption and dispersion in order to obtain mass transfer
- Gas - liquid contacting
- Dilute with water checked for density.
- pH correction by adding alkali or acid
- Blending a catalyst for the start of a reaction
- Blending a de- activator to stop a reaction
- Extracting a component from a liquid or a gas
- Dissolving a gas into a liquid
- Blending ammonia into waste gas for DeNOx catalyst bed
- Mixing ammonia gas in hot air for the production of nitric acid
- H_2SO_4 dilution
- Static mixer for hot mills
- Good control of exothermic or endothermic processes

Mixers for explosion hazardous processes - ATEX

The PRIMIX static mixers can be manufactured optionally with an ATEX certification. The “Ex II 2DG” classification means in practice that the PRIMIX mixers can be used anywhere except in mine shafts. We take into account all possible hazardous situations and take measures to prevent them; a HAZOP is drawn up and you receive a comprehensive guide that will keep you fully informed about the do's and don'ts of this product. Finally, you will receive the ATEX certificate.

Pharmaceutical industries

Static mixer for detergents & pharmaceutical applications

Static mixers and heat exchangers for pharmaceutical industry - CIP cleaning
PRIMIX is a manufacturer and supplier of static mixers and heat exchangers for the pharmaceutical industry. With over 30 years of experience we offer through static mixer solutions for the mixing and production of various types of pharmaceutical products, including medicines.

Within the pharmaceutical industry aspects such as CIP cleaning, smooth and / or polished surfaces and sanitary fittings, are of importance to achieve the lowest possible germ count. Reality has shown that by applying static mixing elements and by the achieved increased product velocity alongside the inner wall of the tube, the by PRIMIX applied mixing element with respect to an empty tube after CIP Cleaning, provides a considerably cleaner result. The subsequently measured bacterial count is minuscule. PRIMIX static mixers can be produced with very small diameters at a high-quality, so they are also suitable for smaller scale processes within the pharmaceutical industry.

Applications

Applications of the PRIMIX static mixers and heat exchangers are as follows:

- Penicillin production
- Inhalable insulin production
- Cooling and / or heating steps
- Detergent production
- Production or mixing cosmetics
- Pasteurisation and/or sterilisation
- Mixing additives into soap
- Continuous reactor processes
- Producing pharmaceutical intermediate products