



SULZER



Sulzer Chemtech

Static Mixers in the production of man-made fibers



Why actually static mixers?

In fiber production, static mixers from Sulzer Chemtech are used to ensure optimal mixing and homogenization of the melt. This provides a basis for the economic production of man made fibers of consistently high quality.

Minimal maintenance effort

The principle of static mixing is based on the continuous splitting, extension and transposition of the melt flow over the flow cross-section. Since no moving parts are involved, maintenance costs are reduced to a minimum. The energy required for mixing is supplied by the feeding units such as extrusion screw or gear pump.

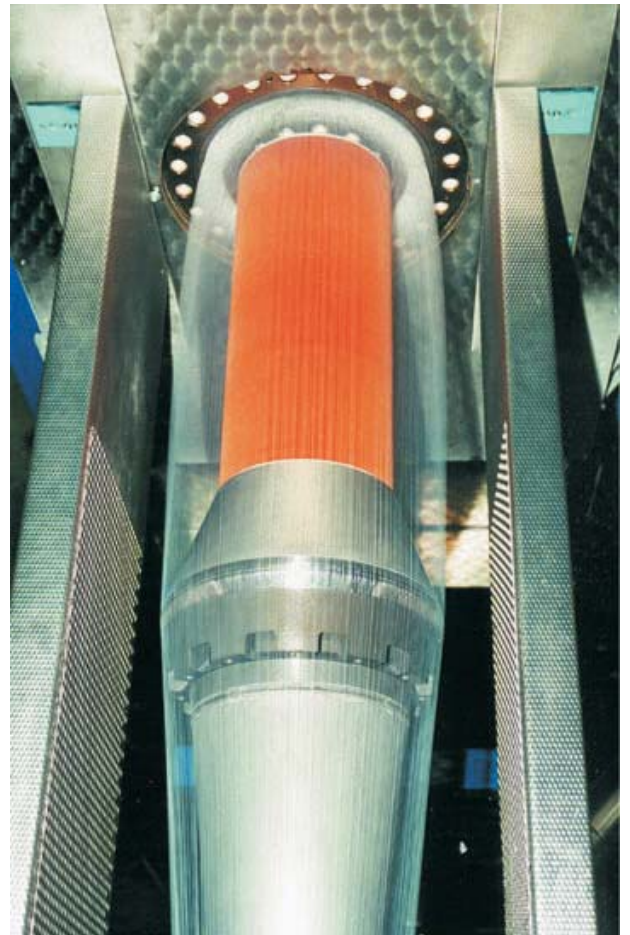
Consistent quality

Production of high-grade man-made fibers of consistent quality is only possible if it can be assured that the polymer melt flow is of optimal quality.

The installation of static mixers from Sulzer Chemtech provides a guarantee for perfectly homogenized melt.

Confidence through experience

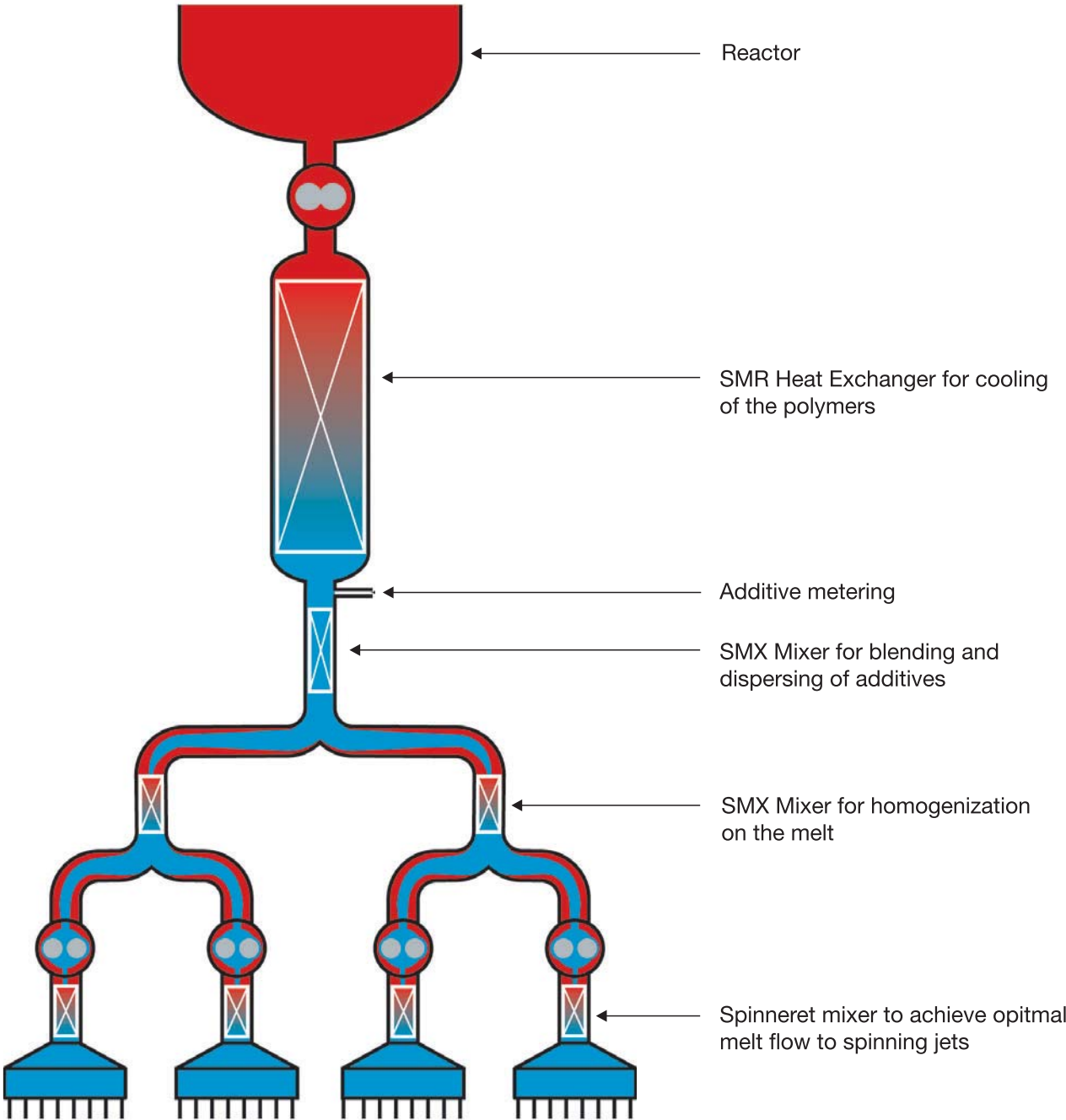
Over the past 30 years, Sulzer mixers have been at the cutting edge of static mixer design to meet the changing requirements of the market. Static mixers fulfil important tasks in a wide variety of industries. Sulzer Chemtech is a leading manufacturer of static mixers and with its global presence guarantees rapid and competent solutions to your problems.



Radial outflow quench of Inventa Fischer

Static mixers in man-made fiber plants

The following example of a direct spinning plant shows where static mixers can be successfully incorporated within the process:



The SMX Mixer

Admixing of additive

The continuous and efficient blending of additives to the melt prior to the spinneret block offers outstanding flexibility with minimal change-over times. The highly effective mixing and dispersion characteristics of the SMX mixer prevent unnecessary over dosing of additives resulting in substantial savings.



SMX Mixer for continuous blending of additives into the melt



3D module for homogenization of the melt

Improved Temperature Homogeneity

In the manifold of the spinning plant, 3D modules fully homogenize the melt before each flow split. This guarantees a uniform melt quality at all spinneret blocks.

Spinneret

In the spinneret the compact spinneret mixer homogenizes the melt. The result is consistent product quality and a significant reduction in down time due to fiber breakage.



Mixer for installation in the spinneret

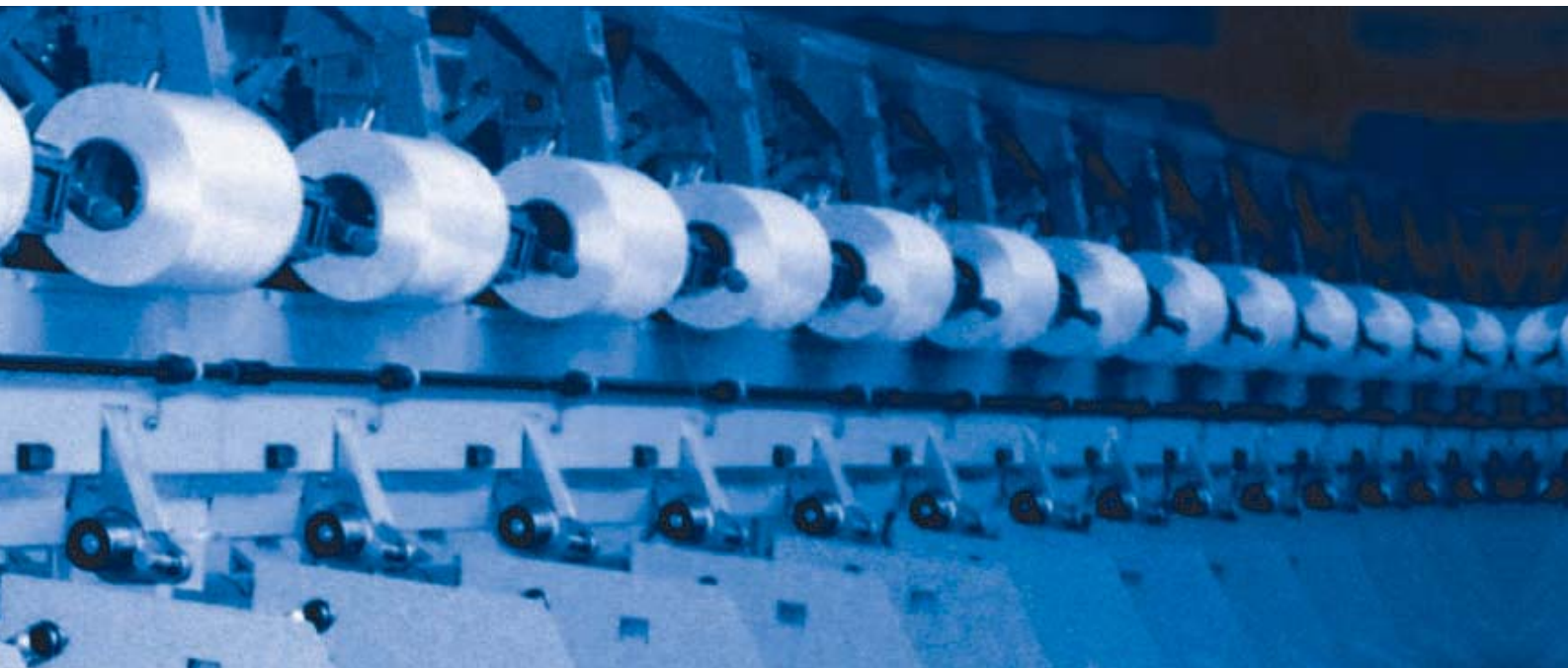
The SMR Heat Exchanger

Heating of the high-viscosity polymer melt places high demands on any heat exchanger. The SMR Heat Exchanger consists of mixing elements made of hollow tubes arranged crosswise inside a pipe. Heat transfer medium flows through the tubes. The tube elements generate radial mixing in the product flow and at the same time transfer heat to the product through their large surface area.

Due to the narrow residence time distribution and low axial backmixing, there are no stagnant zones in the SMR Heat Exchanger. This ensures that the temperature of the polymer melt can be accurately controlled.



SMR Heat Exchanger for accurate control of product temperature eliminating stagnant zones.



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Sulzer Chemtech Ltd, a member of the Sulzer Corporation, with headquarters in Winterthur, Switzerland, is active in the field of process engineering and employs some 1200 persons worldwide.

Sulzer Chemtech is represented in all important industrial countries and sets standards in the field of mass transfer with its advanced and economical solutions.

The activity program comprises:

- Process components such as packings, trays and internals for separation and reaction technology
- Systems and plants in the field of distillation, absorption, desorption and extraction
- Engineering services for separation and reaction technology such as optimizing energy consumption, plant optimization studies, pre-engineering for governmental approval, basic engineering
- Processes and plants for the separation and purification of chemicals by means of fractional crystallization and pervaporation
- Mixing and reaction technology with static mixers
- Catalyst supports and systems for many applications

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