

Food mixers can be used to homogenise product flows in the food industry to ensure a homogeneous composition or stable temperature measurement.

### Background

In many production plants for liquid food products large heat exchangers are used for cooling or heating of the products. Due to the viscosity of the product, laminar flow patterns can occur resulting in a non-homogeneous composition of the product. This results in difficult process control or quality problems. Examples can be found in tomato ketchup lines or in ice-cream preparation

### The Challenge

Design a static mixer to homogenise a product flow combined with optimal cleaning possibilities.

### Design

The housing of the static mixer is designed according to common practice in the food industry where the type of couplings depends on the specification. The element-chain is removable for inspection purposes and electro-polished with several retaining methods available. Surface roughness of the mixer is typically below  $Ra < 0.8\mu m$

### Solution

Directly after the heat exchanger a Primix static mixer is installed. The type of mixing element and the number of mixing elements is determined by the Primix engineers based on the application. The cleanability of the mixer is ensured due to round element edges, electro-polished mixing elements and a removable element chain.

