STATIC MIXER

SMX Model

High shearing

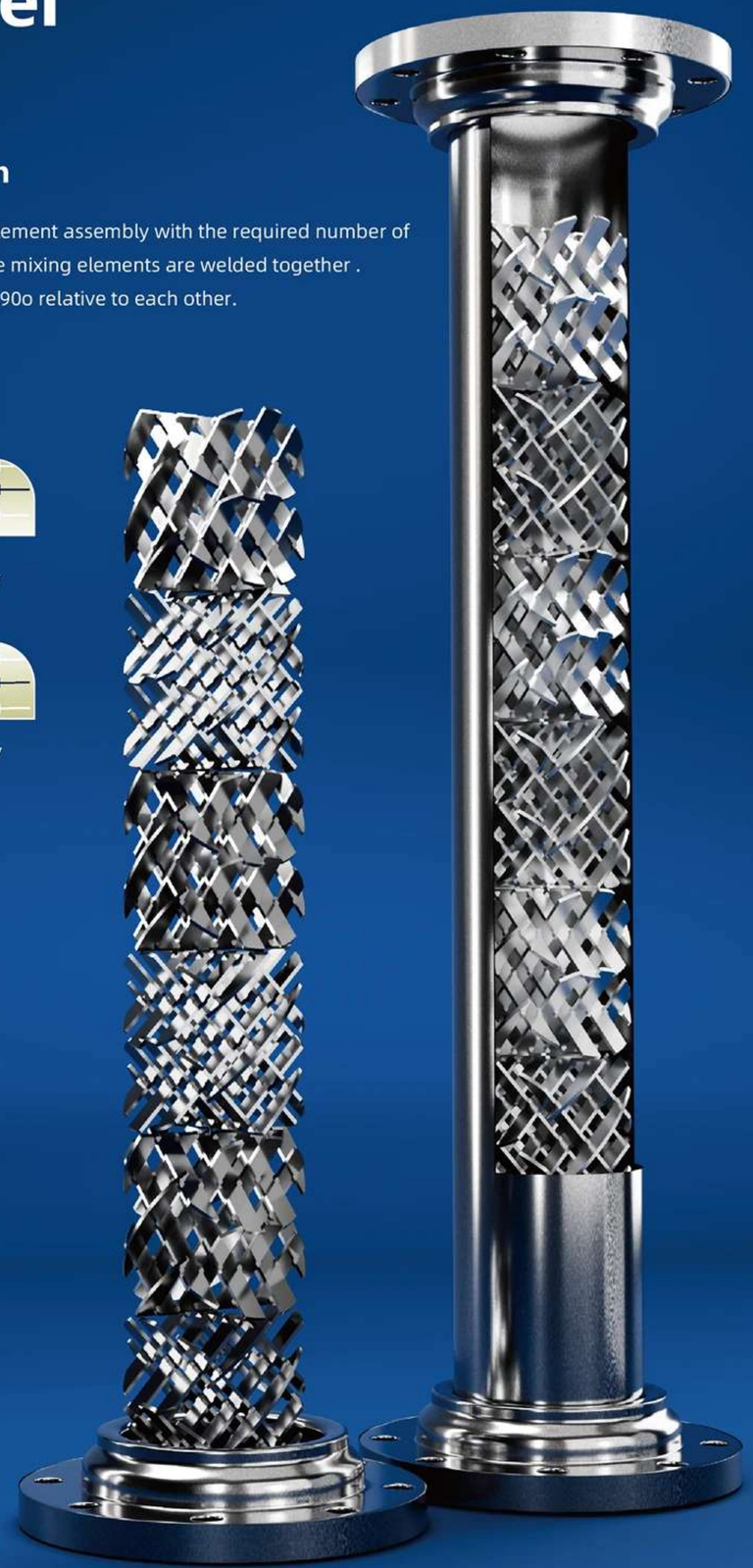
▶ Product Introduction

OMORIS-SMX model creates a mixing element assembly with the required number of mixing elements for the application, the mixing elements are welded together . Adjacent mixing elements are oriented 90o relative to each other.

▶ Operating Principle

Mixing of blue and white resins in an empty pipe - Internal without any elements .

Mixing of blue and white resins in an empty pipe - Internal with SX model elements .



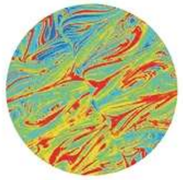
▶ Operating Principle

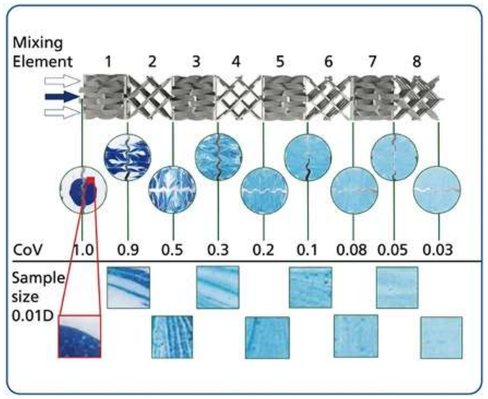
Dispersing and Contacting:

Dispersing two or more products for scrubbing processes, reactions, mass transfer. Contacting of liquids with gases to create high mass transfer surface area and high rates of absorption, reaction,vaporization and condensation.

Laminar mixing:

Laminar mixing is achieved by repeated division, transposition and recombination of liquid flowing around a static mixer. Thecomponents to be mixed are spread into a large number of fine layers.A static mixer consists of several identical mixing elements. The more mixing elements, the finer the layers.The finer the layers, the better the homogeneity of the mixture.





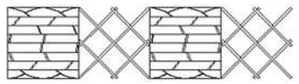
Mixing Sample of Blue and White viscous resins

(1:1 volumetric ratio and similar viscosity) is demonstrated where the blue resin is injected into the center of the tube containing the Type SX static mixing element assembly.

The cross-sectional cuts along the mixing length show the rapid increase of layers formed.

The degree of mixing achieved at the outlet of each mixing element is shown along with its corresponding degree of mixing achieved which is noted as the Coefficient of Variation of mixing (CoV) as described in Tables.

Notice the blending of the blue-and-white resinsfollows the geometric pattern of the eight mixing bars within each mixing element.



$$\triangle P = f \frac{\rho c}{2 \varepsilon^2} w^2 \frac{L}{dh} \qquad Re\,\varepsilon = dh\,\rho c \frac{W}{\mu \varepsilon}$$

Applicable to viscosity ≤ 104 CP

Suitable for High viscosity liquid-liquid mixing, reaction absorption mixing process or production of polymer fluid absorption, reaction mixture, process or production of polymer fluid reaction process, especial for high capacity flow rate have better processing.Nonuniformity coefficient α√X≤ 5%

▶ Flowing Type And Reynolds Numbers

Laminar fow section	Scope	$Re\,\varepsilon < 13$
	Relation formula	$f = 285/Re\,\varepsilon$
Transient fow section	Scope	$13 < Re\,\varepsilon < 70$
	Relation formula	$f = 74.7\,Re\,\varepsilon^{-0.478}$
Turbulence section	Scope	$70 < Re\,\varepsilon < 2000$
	Relation formula	$f = 22.3\,Re\,\varepsilon^{-0.194}$
Total turbulence section	Scope	$Re\,\varepsilon > 2000$
	Relation formula	$f = 5.11$