FENIX

FENIX®

An ISO 9001:2008 Company

Mixing Technology At its Best.

FXStaticMix

Static Mixer
For Blending Of Fluids

Introduction :

Static mixers are well known in the process industry for mixing, blending and related tasks. It is a device which has a series of fixed, geometric elements enclosed within a tubular cylindrical or square housing. The fluids to be mixed are fed at one end of the housing. The internal elements impart flow division and the fluids are directed both outward and inward due to the geometry of the elements. Thus radial mixing of the fluids occur while flowing forward to the other end to produce uniformly mixed desired product. Simultaneous heating or cooling can be done by imparting a jacket outside.

Both elements consisting of a series of baffles and housing are made from metal or a polymer. Stainless steel and other exotic metals, polypropylene, PTFE (Teflon), polyvinylidene fluoride (Kynar), polyacetal (Delrin), FRP etc. are used.

In static mixer, materials flowing are mixed solely by redirecting fluid flow to follow the geometry. The only power required for static mixers is the external pumping power that propels the material through the mixer. Static mixers employ the principle of dividing the flow and recombining it in a geometric sequence. It is also called a 'Motionless Mixer'.

The overall system design is dependent on many variables including the physical properties of fluids, mixer length, tube inner diameter, the number of elements and their geometrical design.

Fenix™ Static Mixer :

Fenix™ offers static mixers in wide ranging capacities for various applications, flow properties and varying pressure drops. We manufacture them in SS and other exotic metals and alloys, and PTFE-lined material.

♦ FMV Static Mixer

FMV mixers are appropriate for:

- Mixing low viscosity gases and liquids
- Dispersing immiscible liquids
- Contacting gases with liquids
- Mass transfer operations and chemical reactions

♦ FMX Static Mixer

FMX mixers are suitable for:

- Mixing high viscosity fluids
- Mixing and dispersing liquids
- Homogenizing plastic melts in extruders and injection moulding machines
- Control of reaction with narrow residence time distribution

Economy without compromise for high performance

Static Mixer

Jacketed Mixer

Teflon Mixer

Teflon Element

PTFE Lined Mixer

Housing with Elements

Types of mixers

- FMV
- FMX
- FMXL

Selection of Fenix™ Static Mixer:

The pressure drop is probably the most important design parameter for static mixers, because it is responsible not only for the size (and cost) of the equipment but also the energy consumption of the feed pumps for the fluids to be mixed. And the volumetric flow ratio of the fluids determines the size in terms of Number of Elements for the Fenix™ Static Mixer.

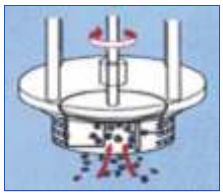
FXShearMix

Fenix™ Motorised Shear Mixer

Fenix FXShearMix range of mixers are based on the concept of mixing head for intense shear of ingredients. This mixer has a separate chamber at the bottom through which the mixing ingredients are drawn in. The high speed rotating head pushes the ingredients through specially designed perforated head at a very high velocity. This helps the fluid to break into small particles which flows through the peripheral cavity to the top. The fluid is kept in suspension in the chamber by rotating blades and flows out through the top nozzles.

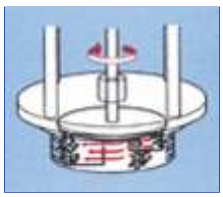
The entire liquid contact parts of the mixer are constructed in stainless steel 316. The mixer is provided with a mechanical seal for shaft sealing and a drive motor. The speed of the motor can be varied by a variable frequency drive.

Fenix™ high shear mixer works on the principle of drawing the materials through the specially designed mixing head and shearing this through another specially designed rotating assembly.



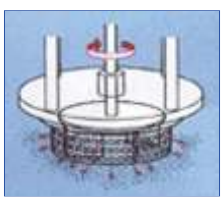
Stage 1

The high-speed rotation of the impeller draws material through the suction of the mixing vessel.



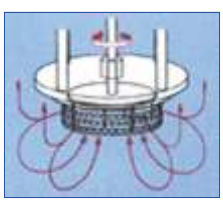
Stage 2

Centrifugal force drives material towards the periphery of the impeller where it is subjected to a milling action in the clearance between the ends of the impeller blades and the stator head.



Stage 3

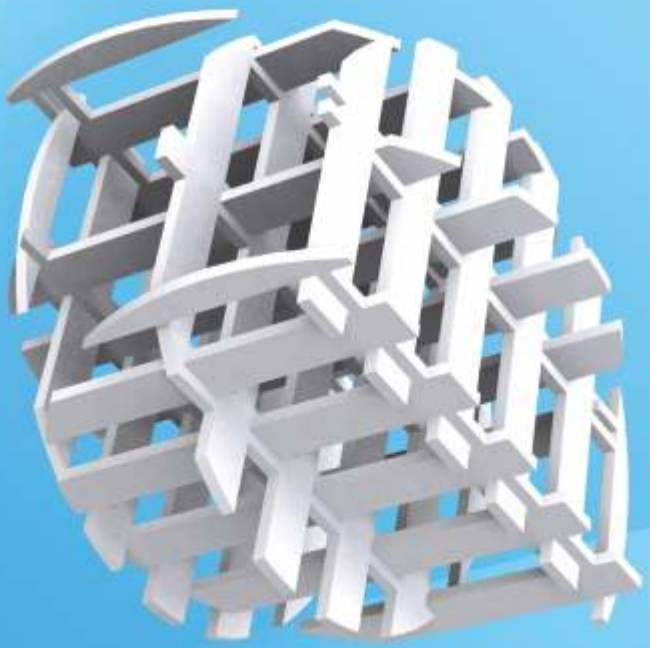
This is followed by intense shearing of the material which is forced, at high velocity, out through the perforations in the stator head.



Stage 4

The material expelled from the head flows up at high speed towards the sides of the mixing vessel. The impellers at the top of the mixing head keeps the material in suspension.

Technical Data – FX M03
MOC Body - Shaft - Shear Head
SS 316
MOC Motor Stand - Supports
Carbon Steel
Motor Details
5 HP 1500 RPM TEFC IP 55
Flow Range
5 m3/hr max
Operating Temperature
100 deg C max
Operating Pressure
5 bar g max
Shipping Dimensions
1800 mm X 700 mm
Gross Weight
90 kg



FXMix

Delivering the ultimate in mixing technology

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