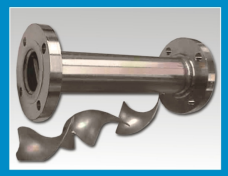
SHREEWIRE

SHREEWIRE NETTING



Static Mixer

Working :

Laminar Flow

In case of two miscible liquids in laminar flow, the main mechanism in a static mixer is flow division. The elements are helical are arranged in a series of alternating left and right hand 180 twists.

Turbulent Flow

- In case of two miscible liquids in a turbulent flow, the main mechanism is radial mixing fluids are constantly moved from the pipe centre to the pipe walls and the fluid change direction with each succeeding element.
- In case of two immiscible liquids in a turbulent flow, the radial mixing mechanism reduces radial differences in velocity and in droplet sizes.

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Model Type -1

SW-SMx-01 : using for low viscosity. The faster the fluid moves, the faster mixing. Great for mixing products into water or water like fluids.

Type : Blade design Mixer
Material : SS - 316
Viscosity range : less than 1500 cps
Reynolds no. : greater than 500
Size range : ½ " to 14"

Application : Mixing products into water or water like fluids.

Blade design mixer

Size	ID	OD	Length (6 elements)	Length (12 elements)
1/2"	.370	.500	4"	8"
3/4"	.620	.750	7"	11"
1"	.870	1	7"	14"
1.1/2"	1.370	1.500	12"	24"
2"	1.870	2	15"	30"

Model Type - 2

SW-SMx-02 : using for high viscosity blending application and when fluid moves more slowly through the mixer

Type : Helical design Mixer
Material : SS - 316
Viscosity range : greater than 1500 cps
Reynolds no. : less than 500
Size range : ½ " to 14"

Application : Epoxy blending, Fruits into yogurt, Cookies into ice cream, Thermal homogeneity, slurry suspension, Folding/stripping .

Length of Static mixer in different size

Model, NB	ID (mm/inch)	Length (mm)	Element
NB-50 SS-316	50/2"	275	4
NB-65 SS-316	65/2.5"	380	4
NB-80 SS-316	80/3"	450	4
NB-100 SS-316	100/4"	550	4
NB-100 SS-316	150/6"	850	4

Customer Benefits

- Excellent mixing and dispersing even with widely differing fluid
- viscosities
- Compact designs
- Reduced product degradation due to very short residence time
- Mixing of sensitive products under minimal shear stress
  No deposits and blockages due to excellent cross-mixing

Advantage

- Static mixers deliver a high level of mixing efficiency, formation of byproducts can be dramatically reduced.
- Low energy consumption
- Installation is very easy
- Static Mixers are available in all standard pipe sizes and in the case of open channel designs, are available in any size with no upper limit.

Industry Served

- Pulp and Paper Processing
- Pharmaceuticals
- Oil Refining
- Petrochemicals
- Food Processing
- Natural Gas Processing
- Water and Waste Water Treatment

Design Calculation

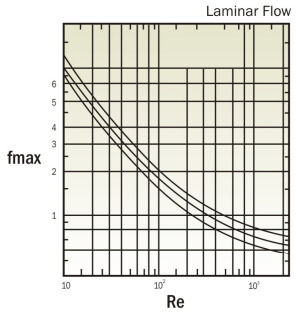
- For calculating element following criteria used :
  Reynolds no.= $Dv\rho/\mu$
- Re<10 = 24-36 element
- 10<Re<100 = 18 element
- 100<Re<1000 = 12 element
- 1000<Re<10000 = 6 element
- Re>10000 = 4 element

Pressure Drop Calculation

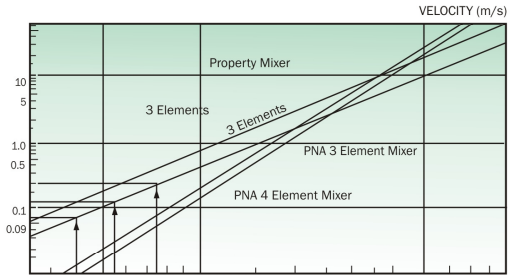
$\Delta P = 3.061 \times 10^{-6} f_{nsm} \rho x(u)^2 xE$

- G value calculation
  $G = \sqrt{(h_f g \rho / \mu t)}$
- Pipe diameter
  (D)in meter = v(4Q/pv)

Friction factor calculation using Reynolds number



For Headloss Calculation



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