



FABTECH
INNOVATIONS

Liquid Dispersing & Mixing

Inline Emulsifier Mixer

Fabtech Inline Emulsifier Mixer (which is also called **Inline High Shear Mixer**) is applied for the mixing, dispersing and homogenizing of solid & liquid, liquid & liquid in a circulating or continuous way. Different from a **Batch High Shear Mixer**, the mixing occurs in the mixing chamber, thus energy is introduced onto materials in the most efficient way. This also cuts the process times by up to 90% compared with conventional blending methods



HOW IT WORKS:

Same as **High Shear Mixers**, there are also four steps to explain the working principle of the

Emulsifier Mixers:

Step 1. When the rotor is driven by the motor, it rotates at a very high speed of several thousands rpm. A powerful suction is generated at its center and draws both solids and liquids from the inlet pipe into the working chamber

Step 2. Centrifugal force leads the materials to the periphery. Materials are subjected to intensive squeezing and milling at the precision machined clearance between rotor and stator. High pressure is created there too due to the gathering of materials, which makes the impact between particles more remarkable

Step 3. Followed is another intense hydraulic shear as the materials are forced out through the openings in the stator at very high velocity. When material particles arrive outside of the stator, they tend to explode into thousands of even smaller ones as the pressure drops down sharply.

Step 4. Fresh materials are continually drawn into the stator-rotor maintaining the circulation or single-pass flow.



STATOR/ROTOR SYSTEM:

Fabtech also designs two types of **Stator & Rotor** systems: V type and K type. Both types have several sub-types to deal with different applications. These designs of stator & rotor systems provide more selections for our customers to choose for the most suitable one to deal with the specific liquids and solids.





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We offer Perfect Mixing Technologies!

Inline Emulsifier Mixer

MULTI-ROW & MULTI-STAGE:

- **Rows:** Every stator and every rotor have one or several rows of "teeth", or "blades" or "screens"
- **Stages:** **Fabtech** supplies Single-stage Inline Mixer, Multi-stage Inline Mixer. Inline Mixers have three sets of stator & rotor. Standard Mixer includes sets of coarse, intermediate and fine stator & rotor assemblies. Inline Mixer is applied to deal with difficult-to-disperse materials, or when customers require single-pass processing.



FEATURES & OPTIONS:

- High speed, belt driven mixer

Fabtech standard **Inline Emulsifier Mixer** has its shaft connected directly to the motor, thus limits its speed to 3,000rpm @ 50Hz. In order to achieve multiple rpm to offer more intensive shear force, **Fabtech** designs the

- Double mechanical seals & Thermosyphon

The **Fabtech** Thermosyphon is used to store and cool the buffer liquid for the double mechanical seals, operated as a closed circuit. It is able to compensate the leakage of the buffer liquid at the double mechanical seals to avoid drying running of the seals, thus improve the

- Other options including but not limited to: Interchangeable stators
- A variety of inlet/outlet connection standard (ISO, DIN, etc)
- Mobile version with trolley
- Additional rotary lobe pump for viscous materials
- Contact part by SS304, SS316L and other metal materials
- Variable speed control
- Stator/rotor to be specially treated for corrosion or abrasion
- Motor shroud made by stainless steel





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SPECIFICATION TABLE (Single-stage):

Model	Watts ,KW	RPM,@50hz	Max , Capacity	size(DN)	
			L/HR@1cPs	Inlet	Outlet
RSA - 1/100	2.2	3,000	3,000	40	32
RSA - 1/140	5.5		5,000	50	40
RSA - 1/165	7.5		8,000	50	40
RSA - 1/180	11		12,000	65	50
RSA - 1/185	15		18,000	65	50
RSA - 1/200	22		25,000	65	50
RSA - 1/210	37		35,000	80	65
RSA - 1/230	55		50,000	100	80
RSA - 1/245	75		75,000	100	80
RSA - 1/265	90		90,000	125	100
RSA - 1/280	110		110,000	125	100
RSA - 1/290	132		130,000	150	125
RSA - 1/300	160	1500	140,000	175	150
RSA - 1/360	185		160,000	175	150

SPECIFICATION TABLE (Three-stage):

Model	Watts ,KW	RPM,@50hz	Max , Capacity	size(DN)	
			L/HR@1cPs	Inlet	Outlet
RSA - 3/100	7.5	3,000	8,000	50	40
RSA - 3/120	11		12,000	65	50
RSA - 3/140	15		18,000	65	50
RSA - 3/165	22		22,000	65	50
RSA - 3/200	37		30,000	100	80
RSA - 3/220	55		40,000	125	100
RSA - 3/240	75		55,000	125	100
RSA - 3/260	90	1,500	65,000	125	100
RSA - 3/300	110		80,000	150	125
RSA - 3/360	132		100,000	150	125
RSA - 3/380	160		120,000	150	125
RSA - 3/400	185		140,000	150	125
RSA - 3/420	200		155,000	200	150
RSA - 3/440	250		180,000	200	150

1. Actual liquid capacity will vary depending on the liquid type and different stator rotor system.
2. Rattan offers bigger capacity according to customer requests.
3. Rattan reserves the right to modify the design without notice.