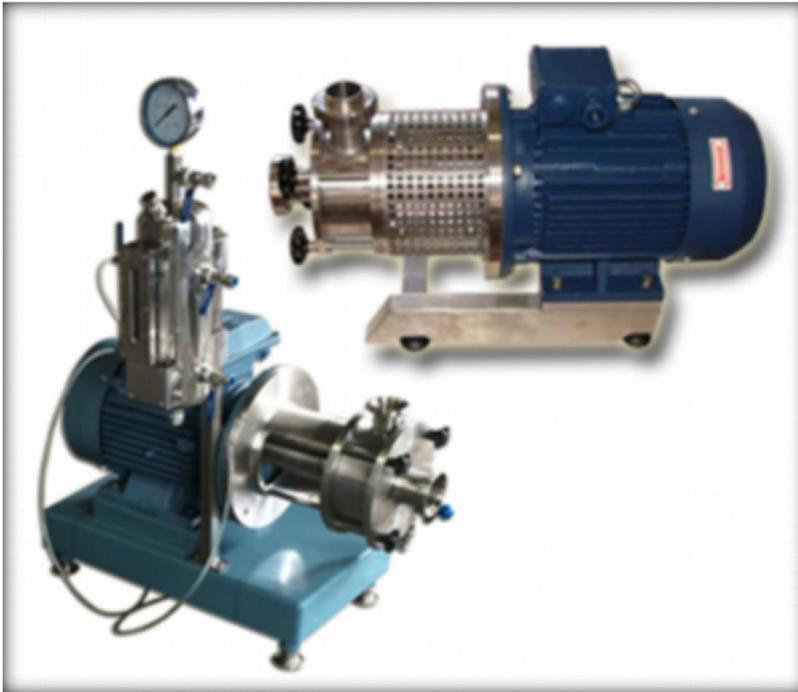


PC - Inline Emulsifier Mixer

Introduction:

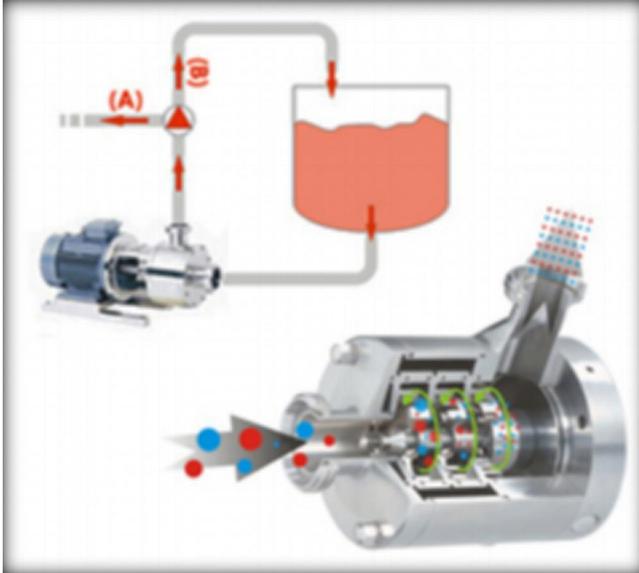


An inline mixer is a high shear mixer for inline or continuous operation. In the Inline process, the mixer is installed outside the tank. This makes it easy to be built into an existing production line with normal inlet/outlet connections.

In the case to deal with liquid with a low viscosity, the inline mixer can pump the liquid without an additional pump. That is why it is also called High Shear Pump.

The mixer can be used to deal with the product in a single pass or with several circulations to make the product better.

How It Works:



Inline Mixers work with a special designed stator/rotor working head. When it works, this stator/rotor head is able to draw the materials from outside of the working chamber through the inlet, and then push them radially out of the working chamber through the outlet. When the materials are within the stator/rotor area, they are subject to an action of intensive milling and shearing and are deagglomerated, homogenized and dispersed into each other even though they are immiscible by traditional agitation.

Multi-stage & Multi-row Stator/Rotor:



The multi-stage (usually three-stage) inline mixer has three sets of stator/rotor systems to enhance its shearing performance. This design dramatically reduce processing time, and in some cases only one pass through the mixer can lead to satisfied products.

Depending on the materials to be processed and customer requirements, for each stator/rotor, there

can be only one row, or multi-row of teeth. Besides, PerMix provides coarse, medium and fine teeth to achieve different shearing intensity.

Special Design with Ultra-high Speed:



PerMix designs the ultra-high speed inline mixer with the tip speed of about 40m/s. The ultra-high speed inline mixer is belt driven to increase the rotation speed of the rotor up to 13,000rpm (Model: PC-1/60, pilot size).

Thermosiphon for Double Mechanical Seal:



The thermosiphon 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 performance and duty life of the seals.

The buffer liquid flows to the thermosiphon from the double mechanical seals with the principle of

Thermosiphon Effect (or by forced circulation), and returns to the seals being exchanged and cooled.

The thermosiphon is built in SS304 or SS316L, with pressure gauge, sight glass, all necessary connection nozzles and brackets for easy installation. The tank can be built with or without cooling coil with the purpose to cool the buffer liquid by cooling water.

Applications:

Inline Emulsifier Mixers are widely used by a variety of industries in different stages of the processing. They are highly efficient to save a lot of energy and time compared with traditional mixing methods.

- Food & Beverage

Reconstituted milk, Salad dressing, Mayonnaise, Ice cream, Cheese, Yogurt, Fruit juice

- Pharmaceuticals & Biology

Drug synthesis, Vaccine, Fat emulsion, Injectable suspension, Veterinary medicine, Cell extraction

- Cosmetics & Daily Care

Detergent, Body gel, Shampoo, Cream, Lotion, Tooth paste, Soap

- Chemicals & Oil Industry

Synthetic rubber, Resin, Bitumen, Silicon oil, Dye, Pigment, Coating, Ink, Nano material

Specifications:

Single stage, PC-1:

Model	Watts, kW	RPM, @50Hz	Max. Capacity	Size [DN]	
			[L/hr] @ 1 cPs	Inlet	Outlet
PC-1/100	2.2	3,000	3,000	40	32
PC-1/120	4		4,000	40	32
PC-1/140	5.5		5,000	50	40
PC-1/165	7.5		8,000	50	40
PC-1/180	11		12,000	65	50
PC-1/185	15		18,000	65	50
PC-1/200	22	3,000/1,500	25,000	65	50
PC-1/210	37		35,000	80	65
PC-1/230	45		45,000	100	80
PC-1/245	55	1,500	75,000	100	80
PC-1/260	75		90,000	125	100
PC-1/275	90		110,000	125	100
PC-1/280	132		130,000	150	125

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

Three-stage, PC-3:

Model	Watts, kW	RPM, @50Hz	Max. Capacity	Size [DN]	
			[L/hr] @ 1 cPs	Inlet	Outlet
PC-3/100	7.5	3,000	5,500	50	40
PC-3/120	11		8,000	65	50
PC-3/140	15		11,000	65	50
PC-3/165	22	3,000/1,500	15,000	65	50
PC-3/200	37		27,000	100	80
PC-3/220	55	1,500	40,000	125	100
PC-3/240	75		54,000	125	100
PC-3/260	90	1,000	65,000	125	100
PC-3/300	110		80,000	150	125
PC-3/360	132		96,000	150	125

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

Gallery:



www.permix-mixing.com

PC Inline Mixer with Trolley



www.permix-mixing.com

PC Inline Mixer After Dismantling



www.permix-mixing.com

Variable Stator/Rotor of PC Mixer



www.permix-mixing.com

Ultra-high Speed Inline Mixer (13,000rpm)