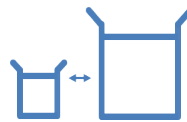
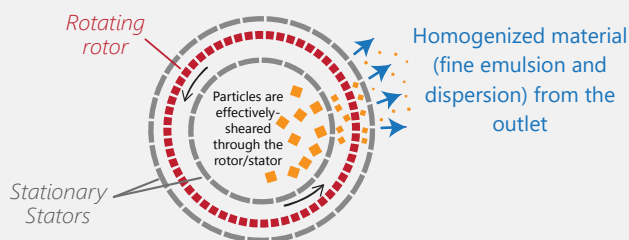




Multimix™ Inline Lab High Shear Mixer

The Multimix IHSM Lab Series is a lab scale inline high shear mixer with two stage rotor/stator design. It is perfect for R&D experiments and laboratory work before scaling the ratio of raw materials to a bigger scale with production scale inline high shear mixer.

Multi Stages High Shear Mixing



Upscaling

Perfect for R&D / pilot study before upscaling to production scale mixing



Quality

Elimination of 'fish eye' which is undesirable for quality product perception



Efficiency

Production of fine emulsions or dispersions within minutes compared to conventional mixers

Repeatable results from lab to full production

This lab scale inline mixer is specially designed for small scale inline high shear mixing and simulation. This enables R&D engineers to fine-tune their ratio of raw materials with less wastage and reproduce fine emulsions or dispersions using the production scale inline mixer later on.

Designed for efficiency

Greatest advantage of the multi-stage stator design is its ability to produce very fine emulsion and dispersions in little time with minimum investment costs.

Fast and hassle-free

The hopper enables the effortless input of raw materials (powder/liquid) into the high shear mixing circulation without any extra suction pipes/fittings.

Safe, durable and long lasting

All wetted parts are in grade 316 stainless steel (GMP compliant).

Easy for cleaning

The built-in clean-in-place (CIP) port can be retrofitted with an external discharge system enabling the inner mixing chamber to be cleaned without disassembly.

Model	IHSM 403
Mixing capacity	1 -25 Litres
Machine dimensions (LxWxH)	829 x 250 x 364 mm
Weight	~55kg
Motor	3HP (2.2kW)
Power supply	Three phase, 415V, 50/60Hz
Nominal speed	1000rpm & above
Speed range	0-3000rpm (variable speed electronically controlled)
Wetted parts material	Food and medical grade stainless steel 316L
Impeller	Rotor and slotted stator (2 stages)
Clearance	0.5mm / 0.25mm (optional)
Inlet / Outlet dimensions	1.5" / 1"
Machine base	Corrosion resistant SS304 base with height adjustable feets / Mobile trolley with castor wheels (optional)

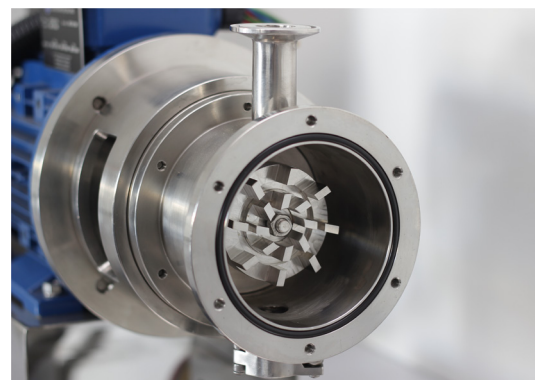


Figure 1 & 2 : At the heart of each inline high shear mixer lies the precision engineered rotor and slotted stator assembly for maximum shearing action. (up to 4 stages for production scale inline mixer)

Inline High Shear Mixer (IHSM)



Figure 1 : Inline High Shear Mixer 430 model with panel control and trolley configuration.

Multimix Inline High Shear Mixer (IHSM) Series is a versatile and multipurpose mobile high shear mixer designed for the production of fine emulsion and dispersion. The machine is delivered with a mobile stainless steel trolley which makes transportation a breeze and also a stainless steel hopper for ease of inserting the mixing materials. This unit is GMP compliant and capable of flow rates reaching up to 180,000 litres per hour (depending on the model). At the core of each IHSM lies a precision engineered "slotted" stator, designed in double stage up to a maximum four stages. Coupled with the vortex generated by the rotor inside, such design allows maximum shearing of particles as they are sucked and pushed through the sharp edges of the slots.

Main Advantages

- Fine emulsion (less than 1 micron particle size)
- Fine dispersion without "fish-eye"
- Reduction of batch processing time
- Outstanding stability and homogeneity
- Flexible capacity ranging as small as 25 litres up to 20,000 litre in a single machine
- Can be configured for vacuum mixing
- Compact and high mobility
- Vacuum transfer of powder materials eliminates dust pollution

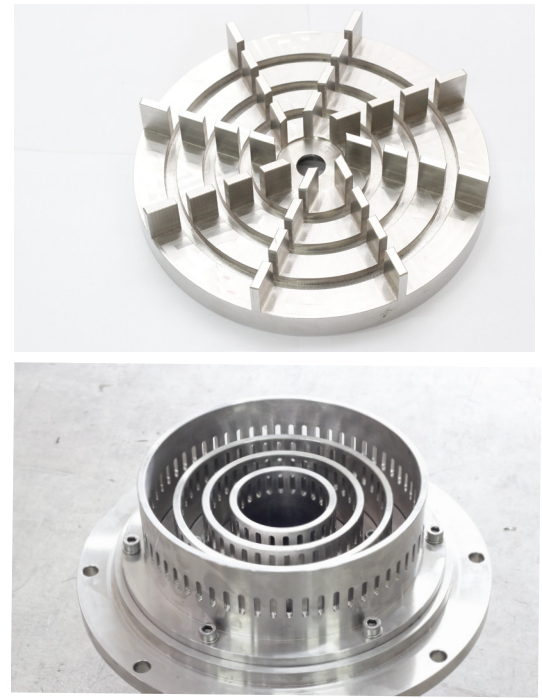
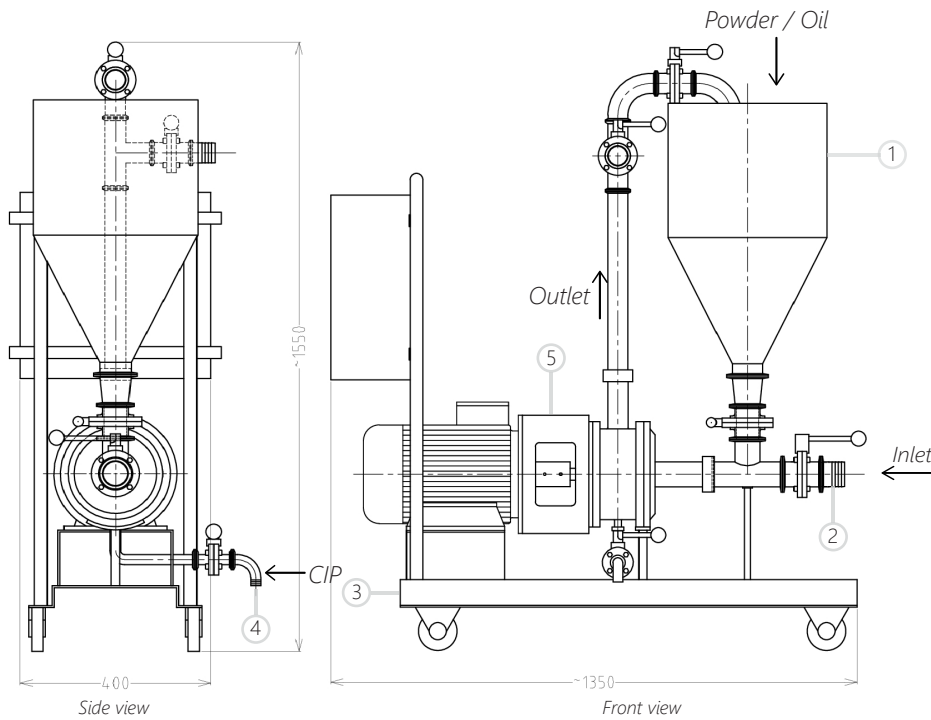


Figure 2 & 3 : At the heart of each inline high shear mixer lies the precision engineered rotor (top) and slotted stator (bottom) assembly, up to 4 stages for maximum shearing action.

1. Fast and hassle-free

The hopper enables not only the transfer of powder/liquid using vacuum mechanism but also serve as discharge system.

2. Easy maintenance

All valves are of butterfly design which is known in industrial applications for its high reliability and low maintenance cost.

3. Higher mobility

Fitted on a stainless steel trolley with caster wheels, the unit can be effortlessly transported around the factory. Once in place, the wheels can be locked as security measure.

4. Easy for cleaning and sampling

The clean-in-place (CIP) system with butterfly valve enables the interior surfaces of pipes, fittings and valves to be cleaned without disassembly and also allows ease of sampling of product during/after mixing.

5. Designed for efficiency

Greatest advantage of the multi-stage stator design is its ability to produce very fine emulsion and dispersions in little time with minimum investment costs.

IHSM

Mixing capacity	25 up to 20,000 Litres
Power supply	Three phase, 380V/415V, 50/60Hz
Nominal speed	1000rpm and above
Clearance of rotor/stator	0.25 - 0.5 mm
Seal	Single/double mechanical seal with Viton tungsten carbide
Wetted parts material	Food and medical grade stainless steel 316L
Machine base	Fitted with stainless steel mobile trolley and safety locking mechanism

Model	IHSM 403	IHSM 405	IHSM 410	IHSM 425	IHSM 430	IHSM 450
Motor in HP (equivalent kW)	3HP (2.2kW)	5HP (3.7kW)	10HP (7.5kW)	25HP (18.5kW)	30HP (22.5kW)	50HP (37.5kW)
Speed range (variable speed electronically controlled)	3000rpm	3000rpm	3000rpm	2500rpm	2500rpm	1500rpm
H ₂ O Flow Rate	500 litre/min	700 litre/min	1000 litre/min	1300 litre/min	2000 litre/min	3000 litre/min
Inlet / Outlet Dimensions	1.5" / 1"	2" / 1.5"	2.5 / 2"	3" / 2.5"	4" / 3"	5" / 4"
Stator Design	Slotted 2 stage	Slotted 2 stage	Slotted 3 stage	Slotted 4 stage	Slotted 3 stage	Slotted 3 stage

Add-Ons (optional)

- A. Touch screen panel control
- B. Clean-in-place (CIP) sample and discharge system with butterfly valve
- C. Stainless steel hopper (available in 25, 50 or 100 litres) with fitting and valves
- D. Sanitary (GMP) design
- E. Special double mechanical or gas-purged seals
- F. Vacuum/pressure mixing
- G. Jacketed vessel (for heating and cooling)
- H. Digital countdown timer
- I. Explosion proof motor and remote control station