



# S. S. ENGINEERING

Manufacturers & Exporters of Chemical Plants & Machinery



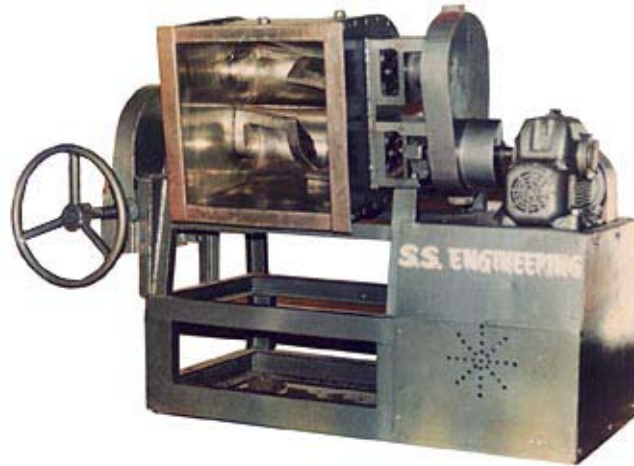
## MIXER

- Sigma Mixer
- PVC High Speed Mixer
- Ribbon Blender Mixer
- Contra Mixer (Shear Bar Mixer)
- Planetary Mixer
- High Speed Stirrers
- Plough Shear Mixer

## SIGMA MIXER

**S. S. ENGINEERING** introduces the most sturdy, heavy duty SIGMA MIXER for trouble free long term operation for various application like mixing, kneading, grinding, dispersion, drying etc.

Our **SIGMA MIXERS** have application to process Viscous to highly Viscous material in various industries viz. Adhesives, Brake lining, Chemical, Confectionery, Carbon Black, Ceramic, Dyes & Pigments, Food Products, Fibre Glass, Grease, Lead Storage Battery, Magnetic Tape Coatings, Paint, Polymers Plastic, Putties, Plastic, Pharmaceuticals, Printing ink, Resin, Rubber, Soap & Detergent etc.



## **CONSTRUCTION**

SIGMA MIXER consist of "W" shaped container made of either Mild Steel or Stainless Steel 304 or 316 with jacket of Carbon Steel covering two side for heating or cooling application & dust free cover to get Vacuum if desired or normal cover.

The mixing elements (Blades) are of Sigma type Steel casted and duly finished two in number which contra rotate inward fitted at close or specified clearance with the container to give thorough and uniform mixing. There is a Gland pusher of Gun Metal Bush which ensure minimal friction and extend the life of mixing elements (Blades) Shaft.

## **DRIVE**

The Drive Consists of Motor of type TEFC Or TEFC Flameproof of Specified HP.1 440 RPM, Reduction Gear Box Of Reputed Make having suitable size and ratio, Spur Gears, are also provided of adequate size and having machine cut teeth, between the front and rear blade complete with guard suitable for grease lubrication.

## STAND

The complete Mixer is Mounted on Steel Fabricated stand of suitable strength to withstand the vibration and give noise free performance.

## FEATURES

SIGMA MIXER as the name suggests contains mixing element (Blades) of Sigma type two in number which contrarotates inward to achieve end to end circulation & thorough & uniform mixing at close or specified clearance with the container. The mixed product can be easily discharged by tilting the container by hand lever manually either by system of gears manually operated or motorised.

## STANDARD MIXER - DESIGN FEATURES

MODEL	CAPACITY - LTRS.		MOTOR HP
	WORKING	BRIM	
SS-01	10	15	1
SS-2.5	25	40	3
SS-5	50	80	5
SS-7.5	75	110	7.5
SS-10	100	150	10
SS-15	150	200	15
SS-20	200	300	20
SS-40	400	550	30
SS-50	500	750	40
SS-75	750	1150	50
SS-100	1000	1500	60
SS-150	1500	2100	75
SS-200	2000	2600	80
SS-300	3000	3800	100

[PVC HIGH SPEED MIXER](#)

[UNDER CONSTRUCTION](#)



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## RIBBON BLENDER MIXER

Ribbon Blender are mostly used by Chemicals, Plastic, Pharmaceutical, Paints and food industries. The Ribbon Blender does homogenous mixing of powder and semi-wet material of different densities. The ribbon blades of different designs are used to suit the need of different materials. The Blender consists of a Semi-cylindrical shell inside which rotates a Shaft fitted with spiral inner and outer ribbons.

Ribbon Blenders are fabricated in capacities ranging from 50 liters to 5000 liters in MOC Mild Steel and Stainless Steel.

**RIBBON BLENDER**



**RIBBON BLADE**





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## CONTRA MIXER / SHEAR BAR MIXER



Contra Mixer as the name suggest works on the principle of Contra rotation of Blades for simultaneous beating and scraping operation The mixer is highly versatile and mostly used for manufacturing toothpaste, creams, cosmetics and viscous products.

The Mixing Assembly consists of series of paddle type blades of appropriate shape to move the material back towards the centre of the container. The paddle type blades are provided on the central shaft which runs through a hollow shaft on which other sets of blades are welded. Both the sets of blades intermeshes with each other and rotates in clockwise and anti-clockwise direction respectively and one sets also scraps the container wall for thorough and uniform mixing of the material.

The mixer is so designed to withstand high vaccum applied during the process for optimum mixing. Contra Mixer is provided with a jacket for cooling or heating as per the application.

We manufacture Contra Mixer with Capacity ranging from 5 litres to 5,000 litres in Material of construction SS 304 or 316.



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## PLANETARY MIXER

Planetary mixers are used for highly viscous material for mixing in paste form. The mixing Unit assembly rotates with a Planetary Motion contains two sets of Blades viz one set of blade rotates as well as revolves and the other blade sweeps the entire circumference of the container.





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## HIGH SPEED STIRRERS

High Speed Stirrers /High Speed Dispenser are extensively used for varied mixing needs of Chemicals Pharmaceutical, Foods, Dairy, Paints, Coatings .Pigments, Varnish, Adhesives industries. We manufacture High speed Stirrers in Mild steel. Stainless Steel 304 or 316. with different types of Blades for different types of function viz. Saw Tooth Blade, Impeller Blade, Propeller Blade, Stator Rotor type Blade, Turbine Blade, Pitch Blade etc Different types of function of Mixing, Dispersion, Shearing, Emulsifying etc can be achieved by using different kinds of Blades.

We also cater to the tailormade requirement other then the standard machines manufactured using branded T.E.F.C or Flameproof Motors.

			
<b>Saw Tooth Blade</b>	<b>Stator Rotor Impeller</b>	<b>Propeller Blade</b>	<b>Pitch Blade</b>

		
<b>Folding Propeller Blade</b>	<b>Turbine Blade</b>	



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## PLOUGH SHEAR MIXER



S.S Engineering Plough Shear Mixer has a horizontal cylindrical shape with flat end plates. The main shaft passes through the axis of the vessel and is supported at the end plates in specially designed bearing housing. The plough shaped mixing elements are arranged concentrically on the main shaft. The clearance between the ploughs and shell wall is minimum, to facilitate better mixing.

### APPLICATION CHEMICALS

**MINERALS**

**FOOD**

**BREAK LINING AND INDUSTRIAL GASKETS**

**GLASS INDUSTRIES**

**ANIMA FEED**

**FIRE EXTINGUISHING POWDER**

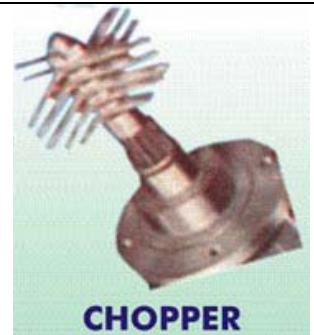
**FERTILIZERS**

**DYES AND INTERMEDIATES**

### WORKING PRINCIPLE

The Mixer consists of a cylindrical shell, fitted with series of ploughs rotated on the central shaft which incorporates ploughing motion. This pattern results in collisions and blending of both dry and wet materials. Plough Shear Mixer is long term operation for various applications like mixing, grinding, dispersion etc.

Multiple Choppers are fitted on the mixing vessel between ploughs. Choppers can be with multiple blades or simple depending on the applications.. They prevent lump formation and better mixing. For controlling the mixing, the Chopper motor can be switched on and off independently.



**CHOPPER**

### NOZZLES

Generally a feed inlet nozzle is provided at the top of the mixer with quick opening lid Rotary valve, Butterfly valve etc. can be provided depending on application. Discharge nozzle is provided at the bottom of shell for discharging wet or dry material Operation of Discharge door shall be operated manually. This can be pneumatic or hydraulic depending on application. Besides this one or more Flat type Inspection doors can be fixed, on the front side of the mixer.

**Jacket**

Blender can be designed with jacket or without jacket for heating or cooling application.

**Vacuum / Pressure**

The Equipment can be designed for pressure and vacuum application where in solid/Liquid/gas phase reaction can be carried out.

**Drive**

Fluid Coupling is fitted in between motor and gear box to prevent shock loading on gear box, prevents the drawing of large current by the motor and damage to the drive elements due to frequent starting and stopping of motor.

**CONTROL PANEL**

On off switching for plough and chopper. Ammeter, Voltmeter, Temperature indicator Pressure indicator Audio Visual Alarm is housed in the panel.

**PLOUGH****MULTIPLE CHOPPER****SERRATED PLOUGH****CHOPPER****TECHNICAL DATA**

MODEL	WORKING CAPACITY	HP (Plough Shear)	HP (Chopper)
SSP 100	25 - 80	3 HP	1 HP x 1 HP
SSP 200	60 - 200	5 HP	2 HP X 2 HP
SSP 300	130 - 300	10 HP	3 HP X 3 HP
SSP 500	160 - 500	15 HP	5 HP X 5 HP
SSP 700	250 - 700	20 HP	5 HP X 5 HP
SSP 1000	400 - 1000	25 HP	7.5 HP x 7.5 HP
SSP 1500	500 - 1500	40 HP	7.5 HP x 7.5 HP

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