

This series of bead mill has excellent design and shape, compact and reasonable structure. It's easy to operate and clean the working chamber. In the closed working chamber, the material can be continuously milled, which can effectively prevent the material from drying up and solvent volatilization, while protecting the health and environment of workers from pollution. Our bead mills do not need a mounting foundation and can change the installation position as needed.

There are a group of cylindrical agitating parts-rod installed on the hollow agitator shaft and combined with the horizontal grinding cylinder to form a high-density energy grinding chamber. The rod pins are made of different materials according to different material properties. When running, the hollow stirring shaft drives the rod pin to do high-speed operation, and the rod pin drives the medium and the material to carry out fierce collision and grinding, the material is subjected to strong impact force and high shear force, and finally the grinding and dispersing effect is efficient and remarkable. This series of rod pin horizontal bead mill are suitable for grinding materials that are extremely difficult to disperse, as well as medium and high viscosity superfine grinding needs.



### Silicon Carbide Inner Milling Cylinder (optional)

In addition to the rotor assembly and zirconium beads, the grinding inner cylinder is another important part of the bead mill involved in the grinding process. The grinding inner cylinder must be made of good abrasion resistant material, otherwise, the grinding inner cylinder is easily perforated during the grinding process due to heavy wear, or the inner cylinder material is corroded and mixed with the material to be milled, resulting in contamination and discoloration of the material. This is a serious quality problem for some materials with high color requirements (especially pure white). Many commercially available agitator bead mills use metal as the material for the grinding chamber, even if it is made of carbide, which makes it difficult to avoid discoloration of the material.

In the SeFluid series of bead mill, we have used strictly silicon carbide ceramic, sintered over many days at high temperatures, as the material for the grinding chamber. The hardness of the silicon carbide is second only to diamond, which is highly wear resistant and long lasting. The inner barrel liner made of silicon carbide ceramic liner has high strength, high hardness, excellent wear and corrosion resistance and good temperature resistance (-50°C to 1350°C). In addition, the flat surface of silicon carbide ceramics can prevent scaling and dust accumulation, which is an ideal material for milling parts.



### Rotor Assembly Material Of SeFluid Bead Mill Series (optional)

The rotor assembly is one of the key parts of an agitator bead mill. It is also the final kinetic energy conversion device assembly. Due to the high speed of rotation, the rotor assembly of an agitator bead mill must be highly resistant to fatigue, corrosion and abrasion. In order to meet these requirements, the rotor assemblies of SeFluid's series of rod pin bead mills are made of special materials and subjected to many rigorous tests, depending on the customer's material requirements. This ensures that our range of agitator bead mills achieves consistent and efficient grinding performance.

### Application Of High Quality Zirconia Beads

Zirconium beads are the main consumable of a bead mill. The size of the zirconium beads determines the final grinding fineness of the



material. The smaller the diameter of the zirconium beads, the smaller the grinding fineness that can be achieved and. The working principle of the bead mill dictates that the zirconium beads must be made of a high strength wear resistant material. Unlike the zirconium beads used in most other agitator bead mills on the market, each zirconium bead in the SeFluid bead mills is made of zirconium oxide of up to 95% purity, sintered over a long period of time. Our zirconium beads have higher hardness, lower wear and finer grinding results than other brands. In turn, our bead mill users can spend less maintenance cost in the later maintenance process.

### High Efficiency Cooling Systems

Good cooling is necessary to ensure the long-term stable running of a bead mill. During the running of the bead mill, a large amount of heat will be generated. The heat mainly comes from two aspects:

1. *The mechanical seal end face which rubs with the high speed rotation of the shaft;*
2. *The high intensity friction between the rod pin, zirconium bead and the material in the milling inner cylinder.*

If these large amounts of heat are not removed in time, the mechanical seal and milling parts of the bead mill are easily damaged. At the same time, the material to be milled can also change its physical or chemical properties due to the high temperature. In the SeFluid series, we have specially designed two efficient cooling systems: an oil circulation cooling system for the mechanical seals and a jacket cooling system for the grinding inner cylinder. This is complemented by a highly efficient, long-life circulating pump and temperature and pressure monitoring instruments, which allow the user to keep track of the temperature rise and ensure the long-term stability of the machine.



## Features

### Inlet & Outlet

Stainless steel tube (easy clamp- type connection)

### Batch Production Volume

10-100L, feeding flow adjustable depend on viscosity and finenes

### Electric Control System

Standard electronic control system : Host Electric Control Cabinet, with on-site control box, easy for spot operation. Schneider main electric components.

### Mechanical Seal

Cartridge Double End Mechanical Seal (dedicated& customized for bead mill). Easy to remove & assemble, no need professional people to change, with independent cooling system, and auto-stop function when cooling level is low.

### Cooling System

1) High efficiency large cooling surface 2)spiral ribbon type jacketed water circulation chamber wall cooling 3) Discharging end cover cooling 4) Mechanical seal pressurized tank cooling & heat exchange cooling (optional)

### Milling Beads

Pure Zirconia Beads (more than 95% zirconium content) for bead mill.

### Feeding Pump

Pneumatic Diaphragm Pump, all aluminum alloy housing, Teflon membranes.

### Material Discharging

ACC centrifugal turbine, static large area radial direction sieve; High output, no beads damaged or blocked.

### Chamber & Material

Inner milling cylinder material: various high-nickel wear-resistant material for option; Outer materials: SUS304/SS316 or else, mirror polished.

### Meters of Bead Mill

Electric Pressure Meter (low pressure & high pressure , double contact point) and electric Temperature Meter (With temperature protection & pressure protection, auto-stop function).

**Technical Specification**

ITEM	VOLUME (L)	POWER (kw)	VISCOSITY (Pa.s)	KEY SHAFT SPEED (r/min)	COOLING WATER (M <sup>3</sup> /H)	WEIGHT (KGS)	SIZE (L×W×H)	OUTPUT (KG/H)	INLET DIAMETER	COOLING WATER INLET DIAMETER
<b>SESM10</b>	10	11	≤10	1200	1	800	1430×1120×1325	20-400	G1"	G1/2"
<b>SESM15</b>	15	15	≤10	1200	1	830	1430×1120×1325	20-400	G1"	G1/2"
<b>SESM20</b>	20	18.5	≤10	1200	1	890	1460×1120×1325	20-400	G1"	G1/2"
<b>SESM30</b>	30	22	≤10	1100	1.5	1200	1570×1200×1390	50-600	G1 1/2"	G1/2"
<b>SESM40</b>	40	30	≤10	1100	1.5	1270	1740×1200×1390	50-600	G1 1/2"	G1/2"
<b>SESM50</b>	50	37	≤10	900	2	1350	1790×1220×1530	100-1000	G1 1/2"	G1/2"
<b>SESM60</b>	60	37	≤10	900	2	1400	1890×1220×1530	100-1000	G1 1/2"	G1/2"
<b>SESM80</b>	80	45	≤10	700	2.5	1900	1890×1300×1690	120-1200	G1 1/2"	G1/2"
<b>SESM100</b>	100	55	≤10	700	2.5	2100	2010×1300×1690	150-1500	G1 1/2"	G1/2"



**Normal Volume (10-30L)**



**High Volume (40-100L)**