

Nano Grinding and Dispersion

{ Media Agitation-type Ultrafine particle dispersion Grinder }

MSC Mill

Features

Microbeads adaptable* (*adaptable to beads of \sim 0.015-0.2mm)

By applying a centrifugal separation system that separates beads and slurry, clogging problems that occur in gap and screen methods have been solved.

Small L/D (tank length / tank diameter)

A soft and even dispersal system is essential for nano-level dispersion. The small L/D and special rotor structure of the MSC mill provides even and effective grinding and dispersion of microbeads.

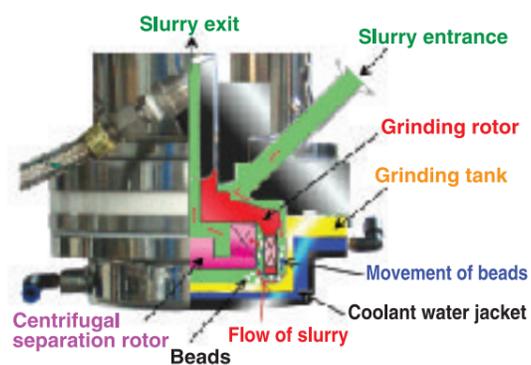
Easy disassembly and cleaning

With fewer parts and simple construction, disassembly and washing can be done easily. Also, the load required for disassembly and cleaning operations can be reduced because the grinding room can be taken down.

Applications

For various inks, special inks (resist inks, etc), paints, pigments, color toners, PZTs (for piezoelectric substance, etc), ITOs (for transparent conductive membrane, etc), titanium oxide, barium titanate, various metallic oxides, various metals, glass, etc.

cross-section diagram of grinding room

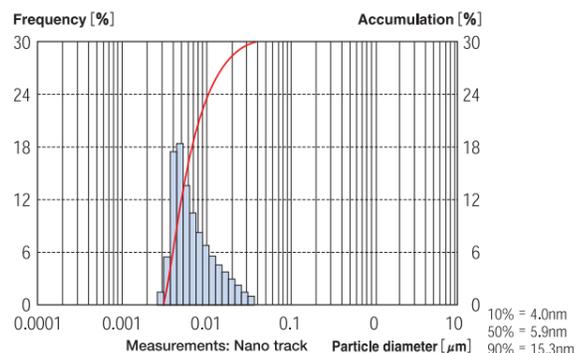


Dispersion of titanium oxide



17.2nm dispersion liquid (left) and material 2μm (right)
Particle diameter measurement : Microtrack UPA

Single nano dispersion of inorganic substance



Submicron-Nano Grinding and Dispersion

{ Large quantity circulating type grinding dispersion machine }

SC Mill

Reduces energy loss while achieving smooth and large flow circulation processing. This new type ultrafine grinding machine integrates slurry flow with the centrifugal force of the rotor, evenly dispersing the slurry using small diameter media. Stable large flow circulation is performed while controlling localized heat generation.

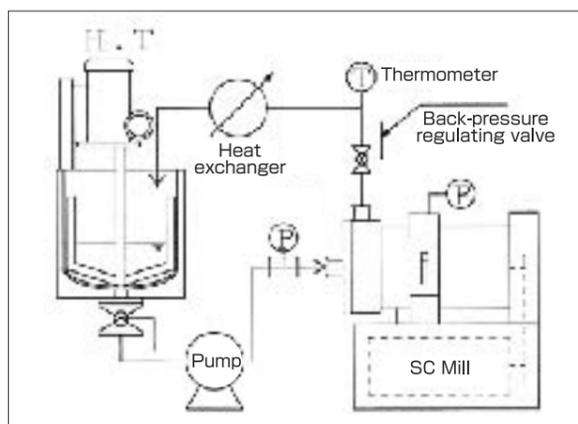
Features

1. Powerful grinding using small diameter media and the effective use of centrifugal force.
2. Sharp grain size distribution and stable quality can be ensured.
3. The simple construction allows for easy assembly and cleaning and is suitable for high-mix low-volume production.
4. High energy efficiency is achieved by even media movement.
5. Automated system operation by timer is possible, greatly reducing labor costs.
6. Additives can be arbitrarily added while confirming processing conditions.
7. By installing a special heat exchanger in the circulation system, temperature control can be achieved.

Applications

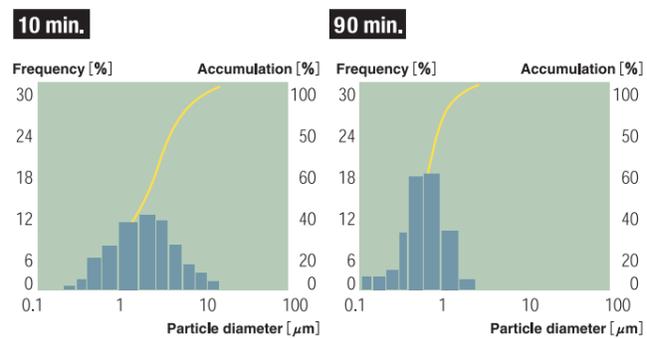
Various inks, special ink, paint, pigment, color toner, PZT, barium titanate, ferrite, various metallic oxides, various salts, various ceramics, catalytic agent for cars, metallic flattening, glass, calcium carbonate (Gcc and Pcc)

Grinding system

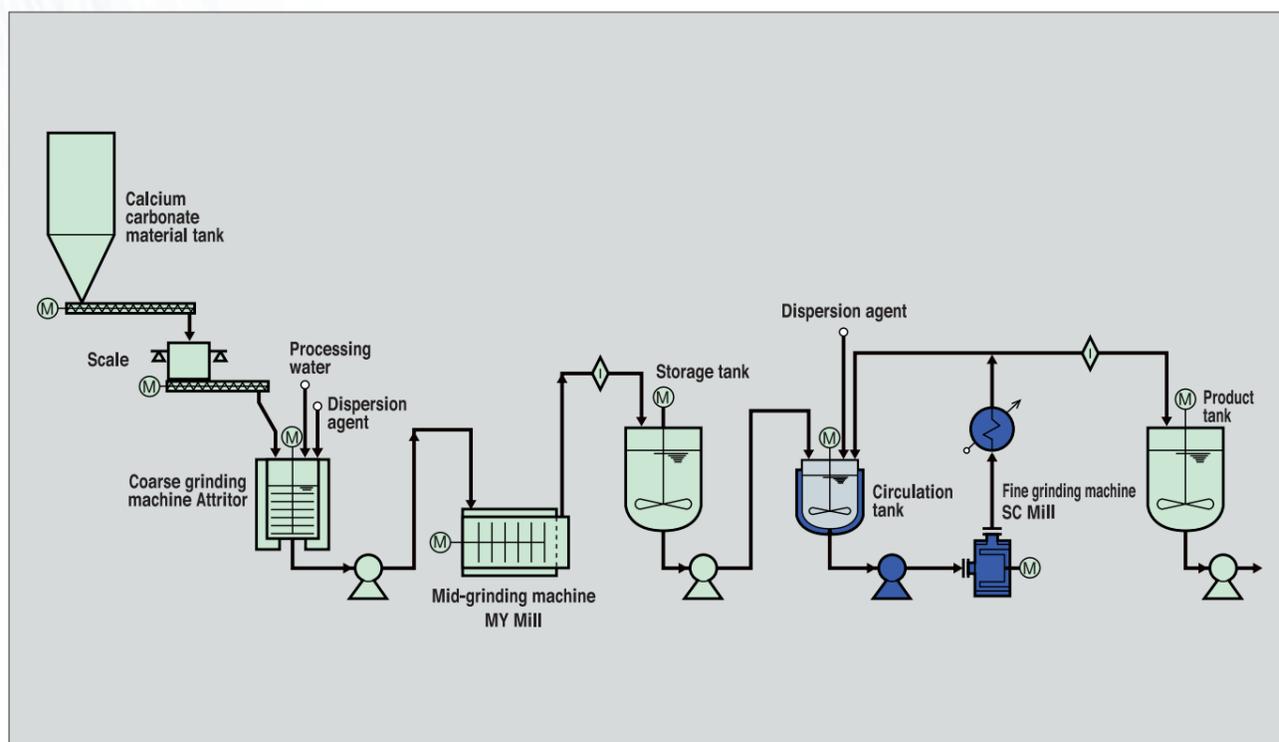


Note) SC50, SC100 types do not require a pump.

Grain size distribution measurement results of calcium carbide



Calcium Carbonate Grinding Equipment



Conventionally, many grinding machines are needed for calcium carbonate grinding.

This flow uses high-efficiency grinding machines in each grinding process, so the number of grinding units can be reduced, resulting in an energy-saving process.

The high-performance SC mill was developed by our company to be used for the fine grinding. A drastic reduction in electricity cost in comparison to conventional systems has been achieved. Also, it is easy to adapt to changes in grain size of the grinding product.

Installed capacity: 500-5,000 tons/month