round vibratory separator with mirror polished surface

round vibratory separator has a compact structure, flexible operation, and can be customized in many ways according to the characteristics of different materials, and is suitable for fine screening, filtration, and grading treatment of a variety of materials, such as powder, granules, and liquids.

Round Vibratory Separator

The Round Vibratory Separator offers high-efficiency, precise screening for a wide range of industrial powders, granules, and liquids. With customizable sizes, materials, and cleaning systems, it is ideal for applications from laboratory batches to large-scale production in chemical, food, pharmaceutical, ceramics, environmental, metallurgy, plastics, and rubber industries.

Features

1. **Variety of sizes:** Sifter diameters from 400mm to 2000mm cover laboratory to large-scale production needs.
2. **Rich choice of materials:** SUS304, SUS316L stainless steel, or carbon steel options for corrosion and cleanliness requirements.
3. **Diverse surface treatments:** Mirror polishing, sandblasting, or brushed finishes for hygiene and aesthetics.

4. **Wide range of screen mesh:** 4 mesh to 500 mesh precision; ultrasonic system recommended for 100 mesh and finer.
5. **Low operating noise:** Machine noise ≤70 dB, suitable for noise-sensitive environments.
6. **High screening efficiency:** Standard configuration achieves ≥90% screening efficiency.
7. **Excellent sealing:** Fully sealed structure prevents dust and material leakage.
8. **Versatile screen cleaning:** Rubber ball, rotating brush, pneumatic, or ultrasonic self-cleaning options.
9. **Adjustable discharge direction:** 360° discharge port angle for flexible process connection.
10. **Convenient mesh change:** Tool-free mesh replacement with ergonomic frame design.

Working Principle

Driven by a vertical motor with unequal mass eccentric hammers, the separator generates multi-directional compound vibration—horizontal, vertical, and inclined. This power transfers to the screen, flexibly controlling material movement (linear, spiral, vortex) via phase angle adjustment of the eccentric hammers for varied screening effects. For fine or easily blocked materials, an ultrasonic system can be added to create high-frequency micro-vibrations, breaking particle adhesion and enabling efficient nanometer or submicron screening.

Typical Application Areas

1. **Chemical industry:** Resin, pigment, additive, PVC, PVA, silica gel, and paint classification and impurity removal.
2. **Food industry:** Screening flour, starch, powdered sugar, milk powder, juices, sauces, seasonings for purity and uniformity; compliant with hygiene standards.
3. **Pharmaceutical industry:** Screening/classifying Chinese medicine powder, liquids, and granules; pharmaceutical-grade stainless steel; GMP-compliant.
4. **Ceramics & grinding:** Fine screening of quartz powder, alumina, ceramic slurry to improve quality and densification.
5. **Papermaking & environmental protection:** Pulp, white mud, wastewater impurity screening and recycling.
6. **Metallurgy & mining:** Aluminum, copper, manganese, alloy powders, abrasives; wear-resistant and welding materials screening.
7. **Plastics & rubber:** Plastic granules, recycled materials, rubber powder for product uniformity and stability.