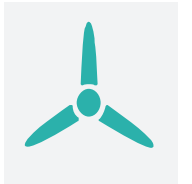


All-Process-Adaptive Integrated Equipment for Powder Mixing, Grinding, and Plasticizing

High-Speed + High-Efficiency
All-in-One Hybrid Solution



Multi-Speed Precise Control

High-speed / Medium-speed / Low-speed compatible with all processes



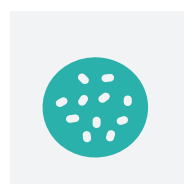
Vacuum Sealed Mixing

Inert atmosphere protection, compatible with sulfide electrolytes and sensitive powders



Whole-Area Temperature Control

Multi-temperature control: Ambient / Low-temperature / Sub-zero



High-Shear Mixing

Meet the requirements of coating and fiberization processes

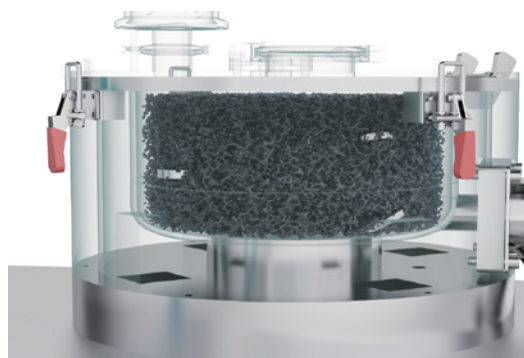
Additional Extension Options

Supports customizable extension features, available as optional accessories.

- Weighing cell
- Suction-type heated stirrers
- Hydraulic tool lifter
- Nitrogen inerting
- External container tempering system
- Oxygen concentration measurement
- Explosion-proof system
- Data logging and analysis /Remote maintenance

Primary Functions of High-Speed Mixers

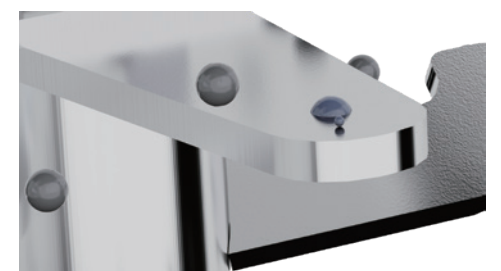
01/ Ensuring uniform mixing of materials



The high-speed rotation of the agitator paddle drives the material to climb along the wall before falling back under gravity, repeating this cycle. Baffles obstruct the circular motion, increasing turbulent mixing and enhancing overall homogeneity.

02/ Crushing material

The high-velocity material flow causes intense friction and collision between particles, thereby breaking down agglomerates and crushing bulk materials into finer particles.

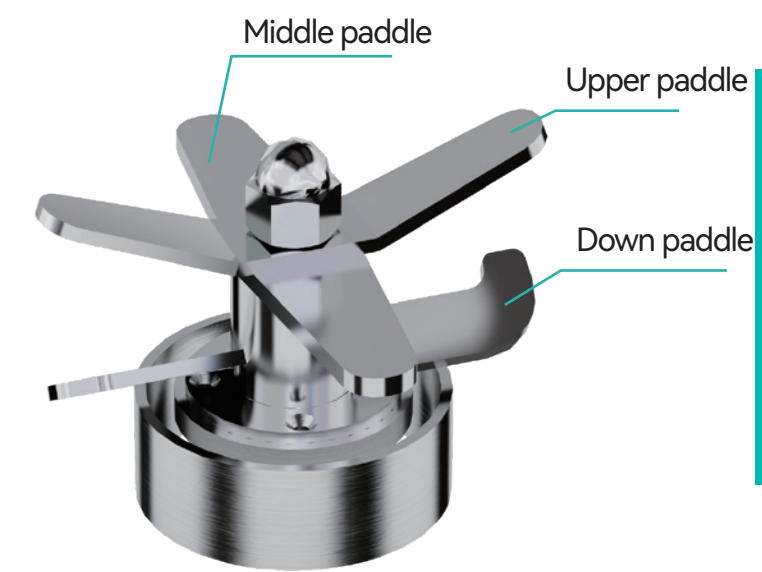


03/ Partially plasticize the material



During material motion, friction is generated between the material itself, the mixing blades, and the inner wall of the mixing chamber, producing heat that melts low-melting-point components. In addition to mixing and crushing, the high-speed mixer also enables partial plasticization of the materials.

One-stop nanomaterials solution provider



Hybrid System

The Boyee High-Speed Mixer achieves material circulation, shear dispersion, and deep mixing through the coordinated operation of its lower, middle, and upper paddles.

Down Paddle Feed Cycle

The paddles are designed for high-speed rotation based on fluid dynamics principles. Driven by centrifugal force, materials are pushed upward along the vessel wall and then fall back under gravity, forming a continuous vortex circulation field. This dynamic “push-fall” cycle effectively eliminates material accumulation and ensures full-coverage, uniform mixing.

Middle & Upper Paddle Shearing and Dispersion

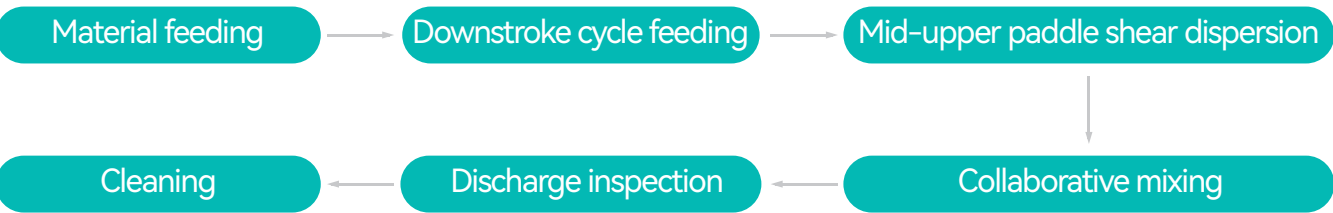
The middle and upper paddles are precisely positioned along the material flow path and operate at high speed. Through strong shear and impact forces, they break up agglomerates carried by the lower paddle, reducing larger particles into fine, uniform powder. This process rapidly eliminates mixing inconsistencies and significantly improves material fineness and dispersion.

Triple-Paddle Synergistic Mixing

Through the coordinated operation of all three paddles, the feeding action of the lower paddle and the crushing action of the middle and upper paddles are fully synchronized. Within the vortex circulation, materials are subjected to intense centrifugal and shear forces, promoting thorough collision and dispersion.

At the same time, stable air pressure and continuous temperature control ensure a controlled, consistent, and highly efficient mixing process.

High-Speed Mixer Structure and Process Flow



Application Areas

Centered on ideal mixing technology, precisely tailored to meet diverse process requirements across multiple fields, covering a wide range of application scenarios.

- ✓ New Energy Sector: Sulfide solid-state electrolytes, other battery materials
- ✓ Industrial and Consumer Manufacturing Sectors: Food, plastics, ceramics & metals, construction materials, pharmaceuticals
- ✓ Fine Chemicals and High-End Materials Sector: Colorants, pigment, liquid crystal glass, cosmetics

Technical Specifications

Model	Volume	Linear velocity	Motor power	Weight	Dimensions
BYHH -5L	4L	15-42m/s	2.2KW	500kg	1200×600×1300
BYHH -10L	8L	15-42m/s	4KW	800kg	1300×700×1400
BYHH -20L	16L	15-42m/s	11KW	1000kg	1400×750×1500
BYHH -50L	42L	13-42m/s	15KW	1500kg	1600×800×1700
BYHH -100L	85L	13-42m/s	18.5KW	1800kg	1800×900×1800
BYHH -200L	170L	15-40m/s	22KW	2000kg	2000×950×1900

High-Speed Mixer

Powder processing equipment integrating uniform mixing, grinding, and plasticizing

