HMP Planetary Mixer

Product Overview

HMP Planetary Mixers: High-Speed, Dead-Zone-Free Mixing for Premium Concrete and Specialty Mortars

When your production requires absolute uniformity, high speed, and reliable dispersion of every trace ingredient, traditional mixers often fall short. HMP planetary mixers are specifically designed to address this challenge—delivering efficient mixing for high-quality concrete, ultra-high-performance concrete (UHPC), and a wide range of specialty mortars.



Technical Specifications

Model Number		HMP 50	HMP150	HMP250	HMP330	HMP500	HMP750
Discharge Capacity (L)		50	150	250	330	500	750
Feed Capacity (L)		75	225	375	500	750	1125
Output Weight (kg)		120	360	600	800	1200	1800
Rated Power of Mixer (kW)		3	7.5	11	15	18. 5	30
Hydraulic Discharge Power (kW)		Manual	Manual/Hydraulic	Pneumatic /Hydraulic	Pneumatic /Hydraulic	Pneumatic /Hydraulic	Pneumatic/ Hydraulic
Number of Planetary/Mixing Arms		1/2	1/2	1/2	1/2	1/2	1/3
Side Scraper		1	1	1	1	1	
Discharge Scraper		1	1	1	1	1	1
Elevator Hopper Power (kW)		1	2.2	3	4	4	7.5
Dimensions	L	945	1650	1850	1850	2200	2500
	W	780	1430	1600	1800	2000	2300
	H	115	1600	1750	1820	1895	2150
Mixer Weight (kg)		680	1295	1450	1980	2350	3850

铨航机械设备有限公司
ao Quanhang Machinery Co., Ltd

Model Number		HMP 1000	HMP1500	HMP2000	HMP3000	HMP4000	HMP5000
Discharge Capacity (L)		1000	1500	2000	3000	4000	5000
Feed Capacity (L)		150	2250	3000	4500	6000	7500
Output Weight (kg)		2400	3600	48:00	7200	9600	12000
Rated Power of Mixer (kW)		37	55	75	110	160	250
Hydraulic Discharge Power (kW)		Hydraulic 3 kW	Hydraulic 3 kW	Hydraulic 4 kW	Hydraulic 4 kW	Hydraulic 4 kW	Hydraulic 4 kW
Number of Planetary/Mixing Arms		2/4	2/4	3/6	3/9	3/9	3/9
Side Scraper		1	1	-1	1	1	1
Discharge Scraper		1	1	2	2	2	2
Elevator Hopper Power (kW)		11	15	22	37		
Dimensions	L	2850	3025	3195	3880	4530	4540
	W	2550	2775	2850	3500	4100	4100
	H	2200	2250	2450	2690	3150	3900
Mixer Weight (kg)		6155	7685	8300	11800	16410	18355

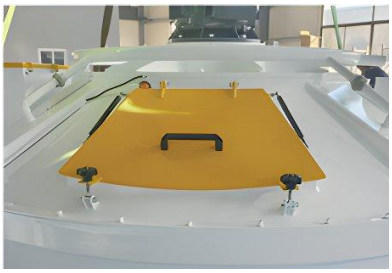
铨航机械设备有限公司
ao Quanhang Machinery Co., Ltd

Transmission



The drive system consists of a motor driving a hard-tooth-surface reducer. An elastic coupling or coupler is optionally installed to distribute power evenly and efficiently to each mixing unit, ensuring the mixer operates with high efficiency and low noise. It also features high stability and low maintenance costs.

Maintenance door



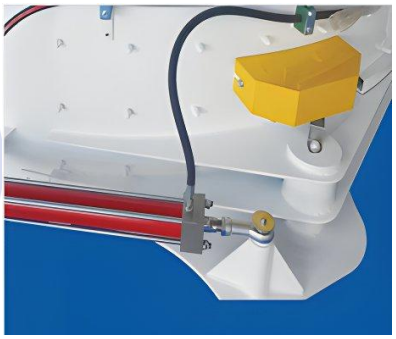
To facilitate equipment inspection and cleaning for customers, a large-sized maintenance door has been specially designed and equipped with safety control devices, ensuring safe and convenient operation during maintenance.

Hydraulic pump station



The specially designed hydraulic pump station can meet the requirement of configuring multiple discharge gate switches for the mixer and features a manual discharge function. In case of emergency, the discharge gate can be opened manually.

Unloading device



Depending on different customer requirements, the discharge gates can be opened and closed using pneumatic, hydraulic, or other methods. A sealing device is also incorporated into the design to ensure a tight and reliable seal. The maximum number of discharge gates that can be opened simultaneously is three.

青岛铨航机械设备有限公司
Qingdao Quanhang Machi

Mixing unit



The specially designed mixing device uses a planetary shaft installed inside the cylinder to drive the mixing blades, which perform thorough mixing by means of compression and flipping actions on the materials.

Waterway device



The water circuit adopts a bottom-mounted design, and the nozzles are spiral-conical, providing fine, uniform atomization with a large coverage area, ensuring more even mixing of the materials.

Key Benefits and Features of the Product

Why the HMP Mixer Outperforms Standard Mixers

The HMP's core advantage is simple: fast stirring combined with true three-dimensional, zero-dead-corner blending. This isn't just a claim—it's engineered into the unique planetary transmission at the heart of the machine. Unlike single-shaft or pan mixers, the planetary movement simultaneously generates three powerful material actions:

Intense Shear: Rapidly breaks down agglomerates and evenly disperses fibers, pigments, and micro-silica.

High-Efficiency Convection: Circulates the entire batch from top to bottom and center to edge, leaving no stagnant zones.

Rapid Diffusion: Blends constituents at a molecular scale, ensuring perfect homogeneity even with trace additives.

Applications

Chemical Industry: Pigments, coatings, plastic pellets, and premixed additives

Building Materials Industry: Dry-mixed mortar, joint compound, and insulation materials

青岛铨航机械设备有限公司
Qingdao Quanhang Machinery Co., Ltd

Food Industry: Seasonings, milk powder, and protein powder blending

Pharmaceutical Industry: Pharmaceutical powders and raw material blending for nutritional supplements

Feed Industry: Production of premixes and concentrated feed

Why Choose Us?

Expert Technical Team: Over 10 years of experience in R&D of mixing equipment, providing customized solutions

Quality Assurance: Rigorous quality control system; ISO 9001-certified company

After-Sales Service: Global service network, 24-hour response, and lifetime technical support

Success Stories: Serving over 500 companies across more than 20 countries and regions

Customer Testimonial

1.

★★★★★ Production Manager, a ready-mix concrete plant (United Arab Emirates)

We switched to the HMP250 planetary mixer for our UHPC and special mortar line last year, and the difference is night and day. The mixing is genuinely uniform with no dead zones — even our trace additives disperse perfectly. Batch cycle time dropped noticeably, which directly boosted our daily output. Solid, low-noise transmission and easy maintenance access. Highly recommended for anyone with strict uniformity requirements.

2.

★★★★★ Director of Procurement, a concrete manufacturing plant (Saudi Arabia)

We run two HMP1000 units in our ready-mix plant. What sold us was the hydraulic discharge with manual backup — during a power fluctuation we opened the gate manually and avoided a full batch loss. The build quality is heavy-duty and the hardened-tooth reducer has been trouble-free. Elite's team was responsive throughout installation and commissioning. A reliable long-term investment.

青岛建航机械设备有限公司
Qingdao Quanhang Machinery Co., Ltd

3.

★★★★☆ Plant Engineer, a building materials factory (Nigeria)

The HMP500 handles our high-viscosity mixes far better than our old twin-shaft mixer. Segregation issues we used to fight with are basically gone, and cleanup through the large maintenance door is quick and safe. Delivery took a little longer than expected, but the machine's performance more than made up for it. Would buy again.

FAQ

1.

Q: What is the minimum order quantity for your products?

A: For larger equipment such as mixers, our minimum order quantity is one unit; for smaller products such as valves and fittings, the minimum order quantity ranges from 50 to 100 pieces. Please contact our sales representatives to confirm the specific minimum order quantity.

2.

Q: From which port do you ship?

A: Since our company is located in Qingdao, most of our shipments depart from the Port of Qingdao.

3.

Q: Are you a factory or a trading company?

A: We are a manufacturing company with our own factory; all our equipment is produced in our factory's production lines.

4.

青岛铨航机械设备有限公司
Qingdao Quanhang Machinery Co., Ltd

Q: What products can your mixers produce?

A: Our mixers can be used in a wide range of industries to produce various products.

Classified by industry and material type (dry or wet):

Dry materials:

Building materials industry: dry-mix mortar, putty powder, gypsum powder, cement, dry refractory castables

Food industry: flour premixes, starch, milk powder, powdered sugar, instant coffee powder, powdered beverages, chicken bouillon powder

Pharmaceutical Industry: Tablet granules, capsule filling powders, traditional Chinese medicine powders

Chemical Industry: Powder coatings, pigments, dyes, plastic additive premixes

Metallurgical Industry: Metal powders (iron, aluminum, copper, titanium) mixed with lubricants

Feed Industry: Complete compound feed, premixes, concentrates

Wet Materials:

Building Materials Industry: Concrete, wet mortar, self-leveling mortar, foam concrete slurry, refractory slurry

Coatings/Ink Industry: Water-based/solvent-based coatings, emulsion paint, printing ink, UV ink

Adhesives/Sealants Industry: Epoxy AB adhesives, polyurethane adhesives, silicone sealants, hot-melt adhesives

Cosmetics/Personal Care Industry: Shampoo, body wash, face cream, lotion, toothpaste, makeup pastes

Pharmaceutical Industry: Ointments, creams, gels, oral suspensions, injectable emulsions

Food Industry: Tomato sauce, mayonnaise, chocolate paste, jam, honey crystallization treatment, meat paste

Rubber/Plastics Industry: Compounded rubber, PVC paste resin, color paste, masterbatch wet premixing

青岛铨航机械设备有限公司
Qingdao Quanhang Machinery Co., Ltd

Battery Industry: Lithium battery anode and cathode slurries (wet vacuum mixing)

Environmental Protection Industry: Fly ash solidification slurry, sludge stabilization slurry, water treatment chemical solutions

5.

Q: Can your mixers be customized to meet my specific needs?

A: Yes, all our mixers can be customized. We will tailor them to your specific requirements based on the raw materials you use, the products you manufacture, and your desired output.

6.

Q: How often do the mixing blades in your mixers need to be replaced? Is it easy to obtain replacement parts?

A: In theory, replacement is recommended every six months to a year, though there is no fixed replacement schedule. The raw materials used in production vary, and different materials cause varying degrees of wear on the blades. Additionally, the daily operating hours of the mixer differ. Therefore, we recommend checking the wear on the blades through the inspection window to determine the replacement frequency. All mixing blades in our mixers are made of wear-resistant materials and are reinforced with wear-resistant welds, resulting in a longer service life than standard mixing blades on the market. The mixing arms and blades inside the mixer are all secured with bolts, making it very convenient to replace parts.

7.

Q: There are many types of mixers. How should I choose the right one?

A: Generally, horizontal mixers are used for mixing powders, granules, pastes, and high-viscosity materials; vertical mixers are used for low- to medium-viscosity liquids, slurries, and suspensions; disc mixers are primarily used for high-hardness and highly abrasive materials; and ribbon mixers are commonly used for powders, granules, pastes, and high-viscosity materials.

8.

Q: Aside from equipment sold separately, do you offer design, manufacturing, and installation services for complete production lines?

A: Yes. We have customers in over 20 countries worldwide who use production lines that we have designed, manufactured, and installed.

青岛启航机械设备有限公司
Qingdao Quanhang Machinery Co., Ltd

9.

Q: What is the measurement accuracy of this precision measurement system?

A: Typically ±0.2%. (Higher measurement accuracy can be customized upon request.)

10.

Q: How do I choose the right type of packaging equipment for my products?

A: When selecting packaging equipment, the following factors should be considered:

1. Product characteristics: including product dimensions, shape, weight, and material

2. Packaging format: such as bagging, boxing, bottling, or canning

3. Production capacity requirements: Determine the equipment speed based on the production line’s output needs

4. Level of automation: Choose between fully automatic, semi-automatic, or manual equipment

5. Budget range: Select the equipment with the best cost-performance ratio based on your investment budget

6. Space constraints: Consider equipment dimensions and workshop layout requirements

11.

Q: How can we verify that the quality of equipment packaging meets standards?

A: Packaging quality verification primarily includes the following aspects:

• Sealing test: Checking the integrity of the packaging seal

• Visual inspection: Ensuring the packaging appears neat and free of wrinkles

• Measurement accuracy: Verifying that weighing or measurement meets standards

• Production efficiency: Confirming that the nominal production speed is achieved

• Pass rate statistics: Calculating the pass rate after continuous production of a certain quantity

• Stability testing: Assessing stability during 8 hours of continuous operation

青岛铨航机械设备有限公司
Qingdao Quanhang Machinery Co., Ltd