

Wenzhou Qiangzhong Machinery Technology Co.,Ltd.

QiangZhong Technology is Committed to a China's professional provider of dairy, food, beverage, daily chemical, agrochemical, bio-pharmaceutical, etc. industries.

SHEARING HOMOGENIZED EMULSIFYING MACHINE

High-shear emulsifier/high-shear dispersing emulsifier uses high-speed rotating shear gear and static shear gear to quickly and fully emulsify, homogenize and disperse the mixed liquid and mixture in the tank. It is widely used in food, dairy, beverage, bio-pharmaceutical, fine chemical, paint, etc. industries. It mixes and emulsifies materials to improve production efficiency and material quality, especially for CMC, glues, powders and other additives that are difficult to dissolve.



High Shear Emulsifier Type I



High Shear Emulsifier Type II



High Shear Emulsifier Type III



Jet Type Emulsifier



Basket Grinder



FSF High Speed Disperser



WRL Bottom Mixer



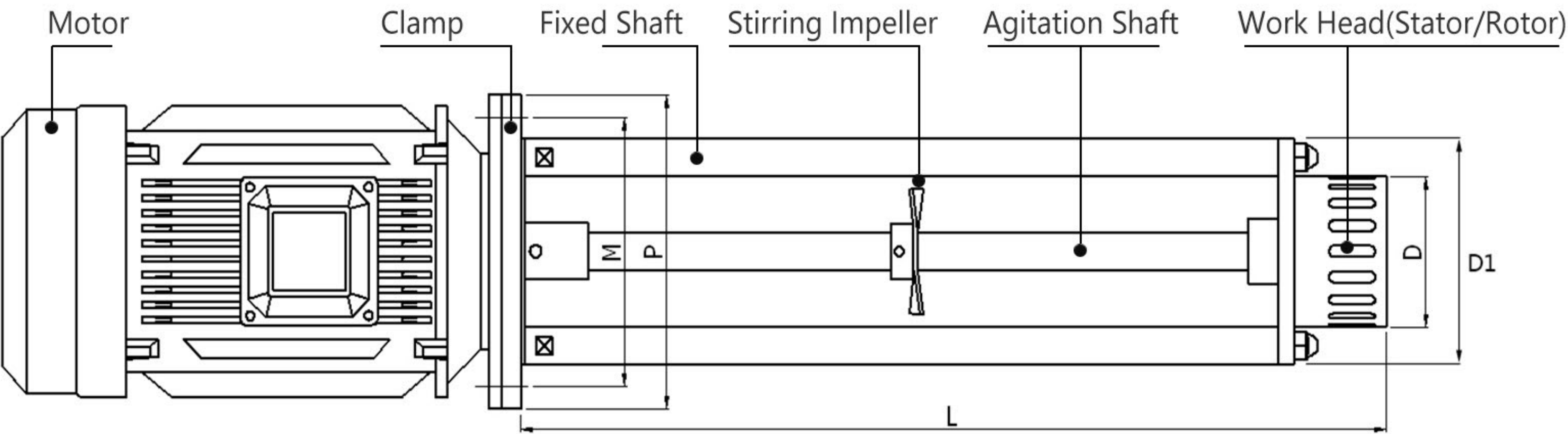
Propeller Agitator



High Shear Mixer

Blending Separate Emulsification Homogenization Transport

The high-shear emulsifier is a vertically installed emulsification equipment. The stator and rotor are designed with a claw-type coupling structure. The materials are sucked from the upper and lower parts of the work head at the same time, and they are thrown around by centrifugation, which doubles the efficiency of shearing and homogenization and avoids the problem of dead corners in the upper part of the tank. This equipment is suitable for homogenization, fineness, and emulsification on various large and small reactors and common vessel, and it can also be used for mobile hoisting for small volume emulsification.



Technical Parameters:

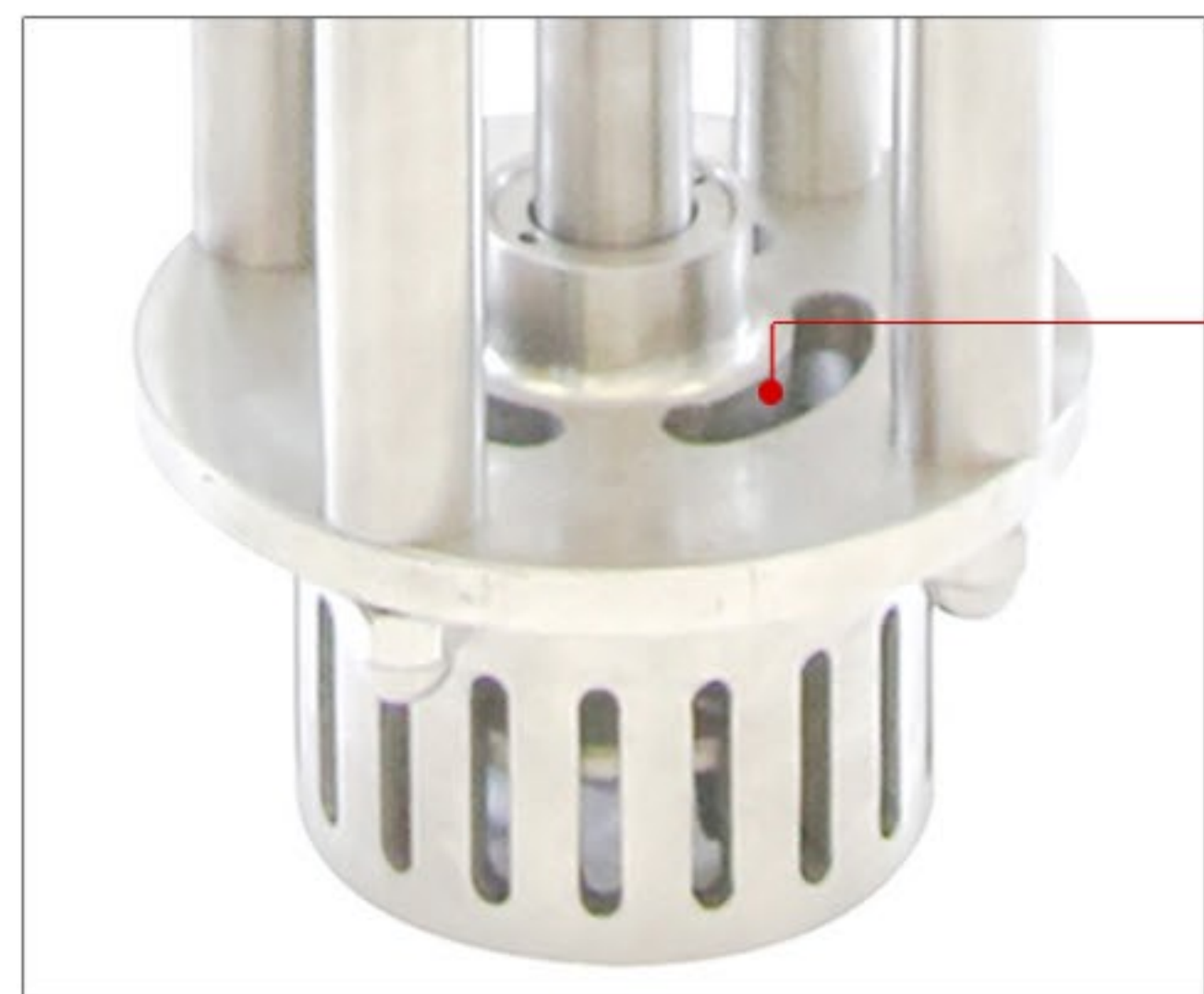
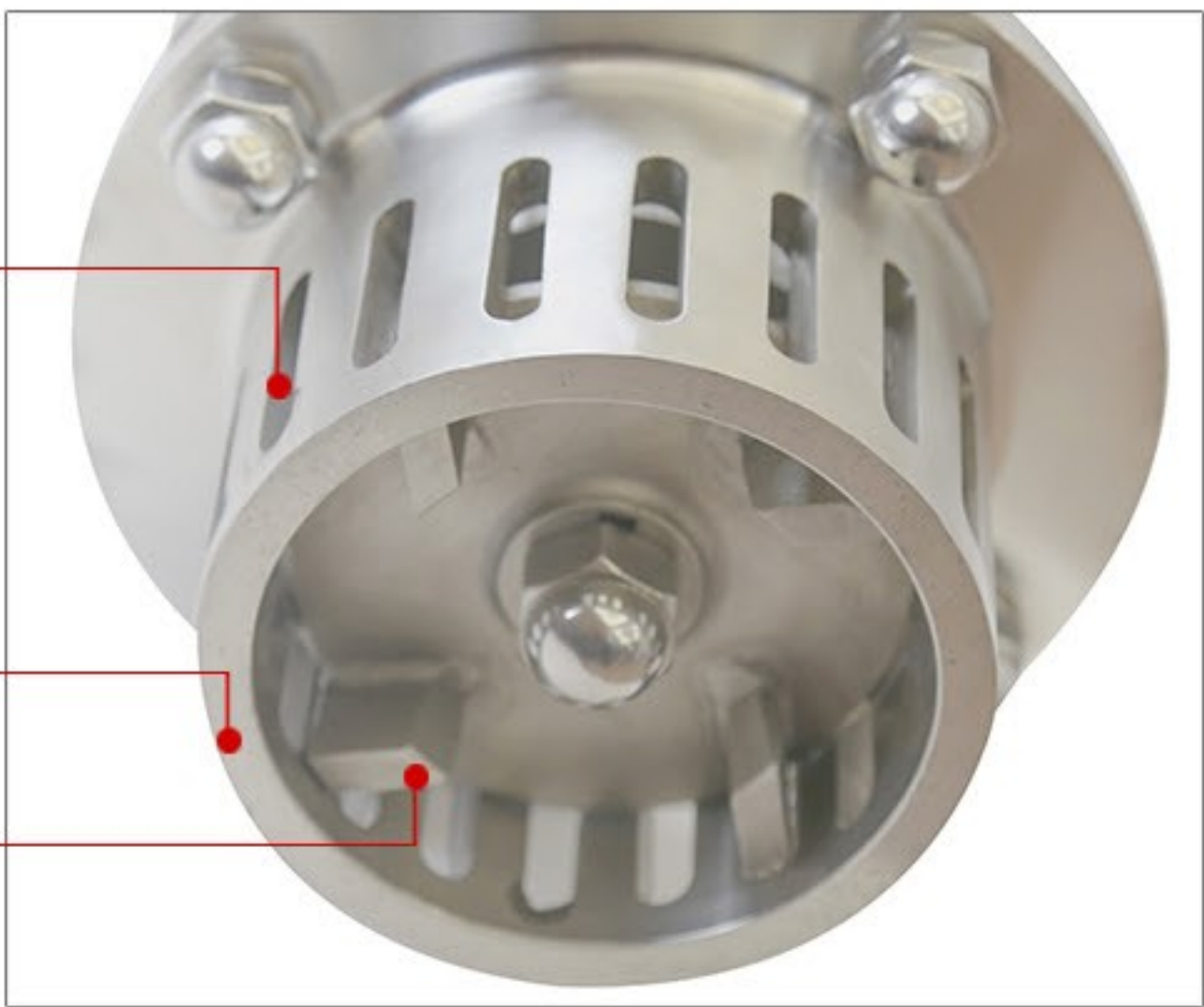
Model No.	Motor Power (kw)	Capacity (L)	Motor Speed (r/min)	D	D1	P	L	M
WRL-90	1.5	10~50	2900	80	140	200	355	165
WRL-100	2.2	50~100		88	145	200	650	165
WRL-120	4	100~300		120	180	250	750	215
WRL-140	7.5	300~800		140	210	300	900	265
WRL-160	11	500~1500		160	230	350	1050	300
WRL-180	18.5	600~2000		180	260	350	1200	300
WRL-200	22	800~2500	1450-1500	200	270	350	1200	300
WRL-220	30	1000~3500		240	320	400	1355	350
WRL-240	37	1500~5000		260	340	400	1395	350

Liquid material is ejected from the slot
The liquid material is sucked into the rotor from the bottom

The gap between the rotor gear and the stator gear is only 0.5mm, very high precision, making the shear emulsification effect better.

Rotor Gear

Stator Gear



The upper liquid material is sucked into the rotor by the crescent-shaped opening

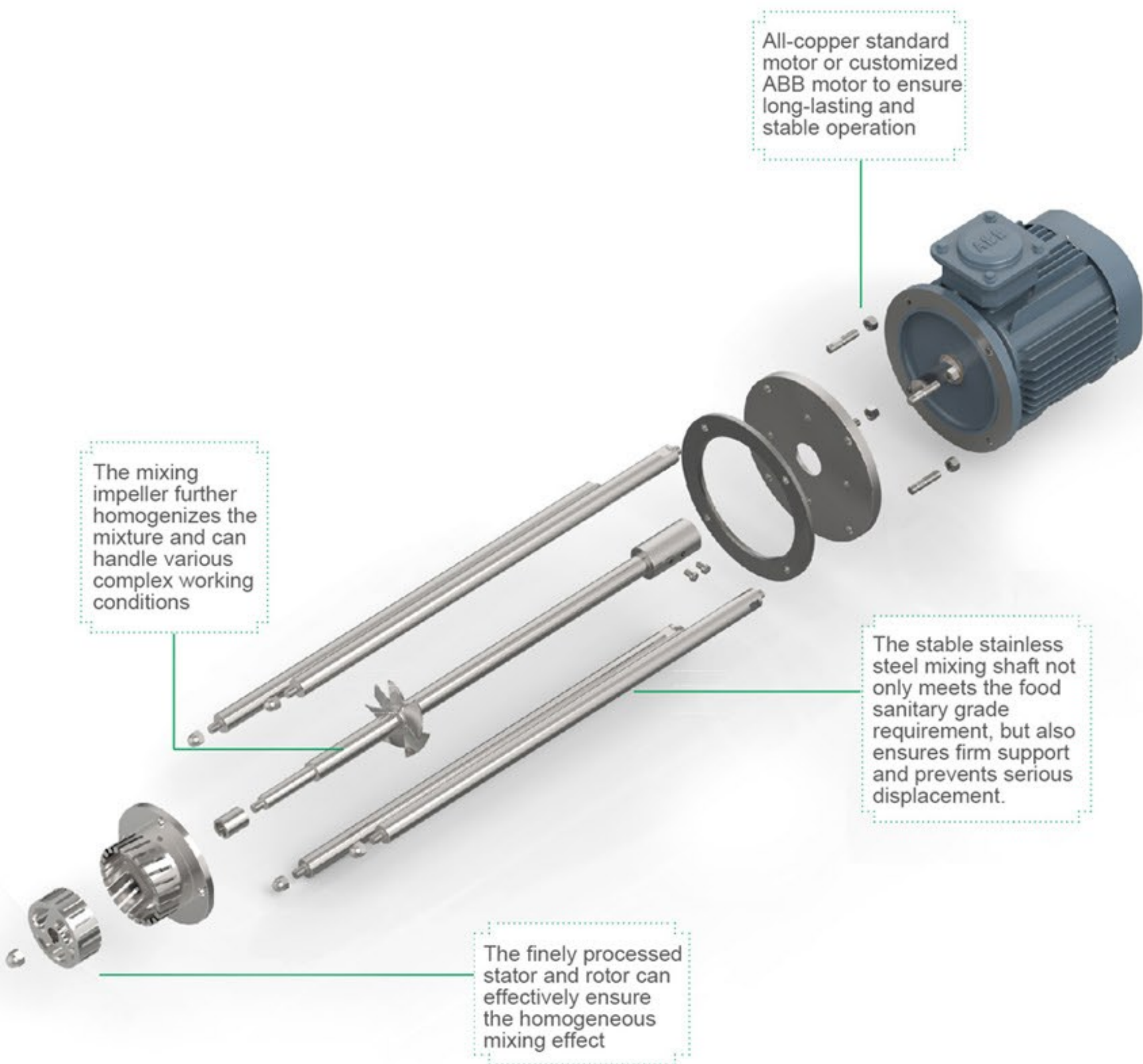
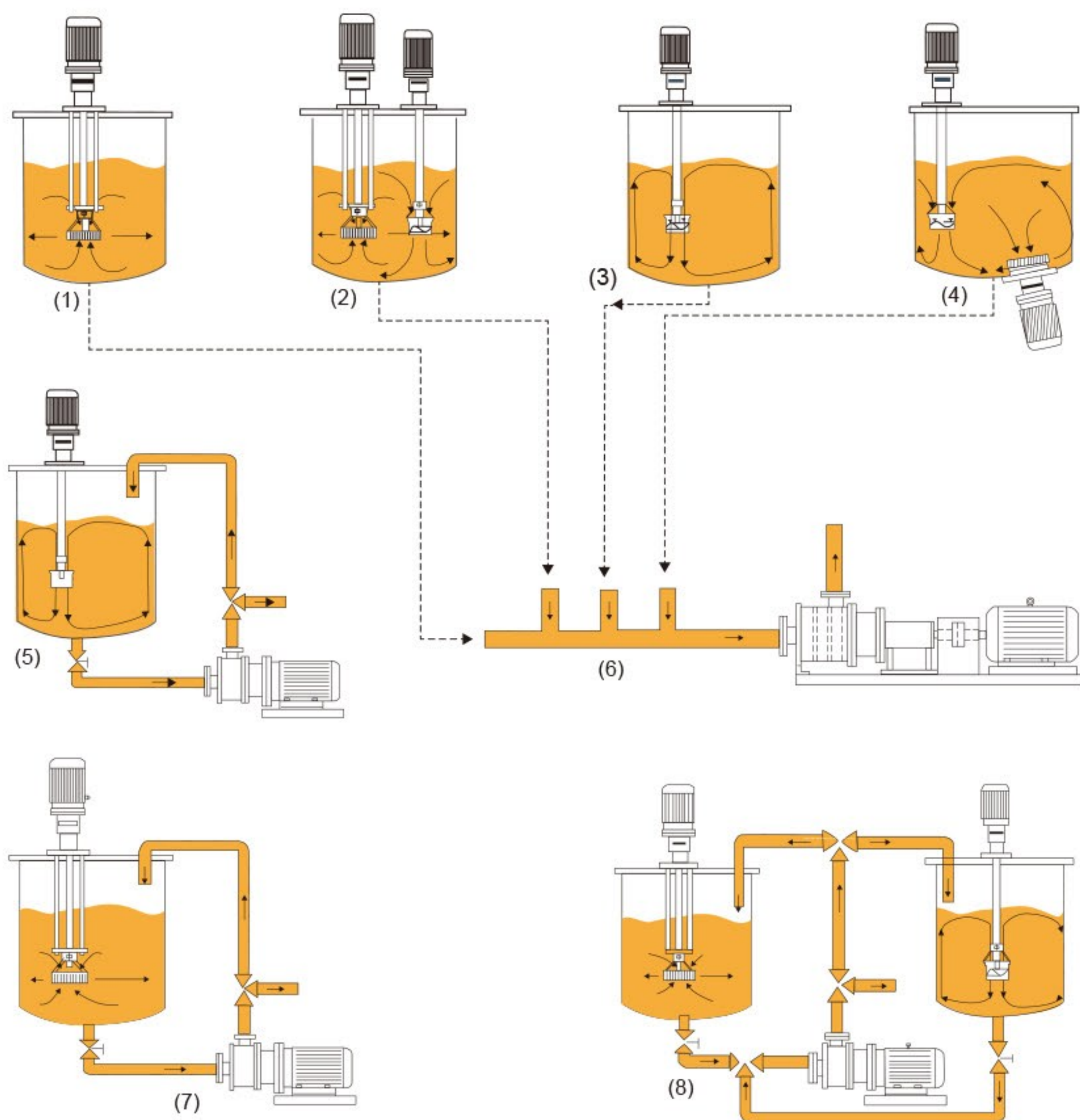
Integrate dispersion, mixing, shearing, emulsifying, etc.

The high-shear emulsifier quickly and uniformly distributes one or more phases in at least another continuous phase. Through the strong kinetic energy brought by the machine, the material in the narrow gap between the stator and the rotor can withstand hundreds of thousands of hydraulic shearing, centrifugal extrusion, impact, tearing and other combined effects per minute, so that it can be uniformly dispersed and emulsified in an instant. After high-frequency reciprocation, a fine and stable high-quality product without bubbles is finally obtained.

The machine is compact in structure, small in size, light in weight, easy to operate, low in noise and stable in operation. Its biggest feature is that it does not grind materials in production, and combines high-speed shearing, mixing, dispersing and homogenizing.

The shearing head adopts a claw type and two-way suction structure, which avoids dead angles and eddies caused by difficulty in inhalation of the upper material. The high-speed rotating rotor produces a strong shear force that causes the material to break radially into the narrow, precise gap between the stator and the rotor. The material is subjected to centrifugal extrusion, impact and the like, thereby being sufficiently dispersed, mixed, and emulsified.

Note: If the machine is used in a vacuum or on a pressurized container, an additional mechanical seal is required.



Stator/Rotor form: The emulsifier is equipped with stator heads of different shapes to obtain different emulsification effects to meet the needs of different processes.

It could be specifically divided into the following categories:

- **Claw Stator Head:** The two-way suction method forms a bidirectional hyperbolic large-circulation vortex in the container, which avoids dead corners caused by the difficulty in inhaling the material on the reactor, achieving a better effect of emulsification and homogenization.
- **Long-hole Stator Head:** Suitable for rapid comminution of medium solid particles and mixing of medium viscosity liquids, and the long holes provide the largest area for surface shear and good circulation.
- **Mesh Stator Head:** suitable for mixing low viscosity liquid, and with the maximum shear rate, it's most suitable for processing emulsion, crushing and dissolving small particles in the liquid.
- **Circular-hole Stator Head:** Its round hole provides the best circulation effect. It is suitable for processing higher viscosity materials, general mixing and crushing large particles.



Common Structural Types

According to the characteristics of the materials and the user's process requirements, we will choose the appropriate structural type and speed.



▲ Jet Work Head WRL-JQ



▲ Jet Work Head WRL-JX



▲ Jet Work Head WRL-JF



▲ Batch Work Head WRL-JQ



▲ Batch Work Head WRL-JX



▲ Batch Work Head WRL-JF

Scope of Application:

Mixing: vitamin pulp, shampoo, washing liquid, fruit juice concentrate, yogurt, dessert, mixed dairy products, ink, enamel.

Dispersion and Mixing: methyl cellulose dissolution, colloid dissolution, carbide dissolution, oil-water emulsification, pre-mixing, seasoning production, stabilizer dissolution, smoke, salt, alumina, pesticides.

Dispersion: Preparation and depolymerization of suspension, pill coating, drug depolymerization, paint dispersion, lipstick, vegetable soup, mustard mixture, catalyst, matting agent, metal, pigment, modified asphalt, nanomaterial.

Emulsification: medicated lotion, ointment, vanishing cream, facial mask, cream, emulsified essence, oil-water emulsification, emulsified asphalt, resin emulsification, wax emulsification, water-based polyurethane emulsification, pesticides.

Homogenization: medicated lotion, ointment, vanishing cream, facial mask, cream, tissue homogenate, milk product homogenization, fruit juice, printing ink, jam.

Note: If the medium viscosity or consistency is high, it is recommended to use it in conjunction with an online high-shear homogenizing emulsifier.

For any special working conditions such as high temperature, high pressure, flammable, explosive, corrosive, etc., the accurate parameters should be provided for correct selection and customization. And the correct parameters are subject to the actual product provided.

Combination And Collocation:



Stainless Steel Hydraulic Lift Stand



Hydraulic Lift Stand



Pneumatic Lift



Manual Lift



Electric Lift

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