

KVM 50 Emulsifying Mixer

Technical Specification



Equipment Overview

Model: KVM 50 Emulsifying Mixer

Application: Industrial emulsification, mixing, and homogenization

Control System: Siemens PLC

Sealing Structure: Flange sealing type

1. Mixer Assembly

1.1 Mixer Tank Construction

Layer	Material	Thickness
Inner	316L Stainless Steel	4 mm
Middle	304 Stainless Steel	3 mm
Outer	304 Stainless Steel	3 mm

Total Wall Thickness: 10 mm (Triple-layer construction)

1.2 Mixing & Emulsifying System

Component	Specification
Mixing Type	Two directions frame-wall mixing with scraper
Mixing Motor Power	1.5 kW
Mixing Speed	0–63 rpm (Variable speed control)
Homogenizer Power	4 kW
Homogenizer Speed	0–2960 rpm (Variable speed control)
Vacuum System	0.81 kW
Heating Method	Electric heating
Sealing Structure	Flange sealing type

2. Control System

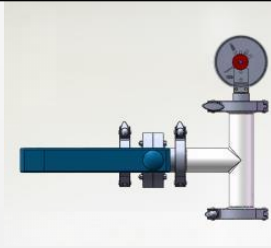
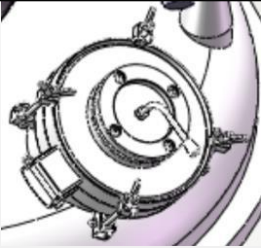
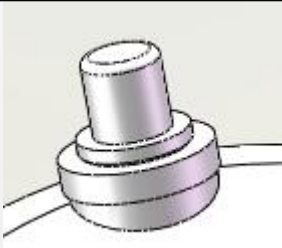
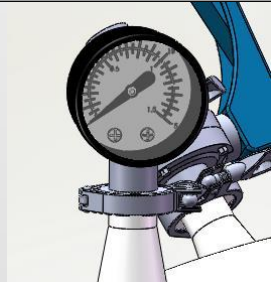
Component	Specification
PLC Control	Siemens
Operation Mode	Automated

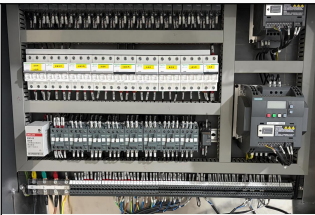
3. Platform & Access

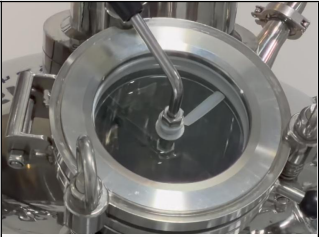
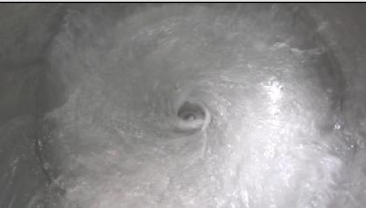
Component	Material
Platform Staircase	SS304 Stainless Steel
Size (no lifting)	1850*850*1850mm

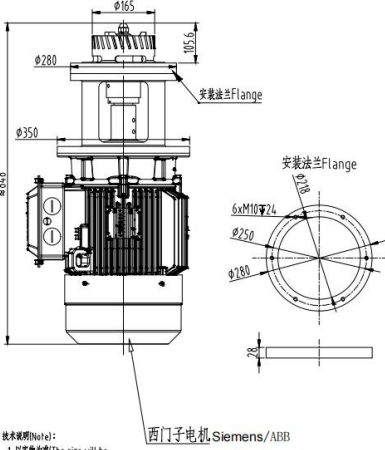
Technical Highlights

- **Enhanced Tank Design:** 4 mm inner layer (316L) for superior corrosion resistance and durability
- **Bidirectional Mixing:** Two-direction frame-wall mixing with scraper for thorough emulsification
- **Dual Motor Configuration:** Independent 1.5 kW motors for flexible processing control
- **High-Performance Homogenizer:** 4 kW motor with variable speed up to 2960 rpm
- **Integrated Vacuum System:** 0.81 kW vacuum pump for degassing and improved product quality
- **Steam Heating:** Efficient and uniform temperature control for optimal emulsification
- **Flange Sealing:** Enhanced sealing integrity for vacuum and pressure operations
- **Premium Automation:** Siemens PLC for reliable, precise process control

Tank cover with all function ports			
			
Vacuum pressure gauge and valve: to set the vacuum data and control on and off	Cleaning system: Connect the 360° rotated cleaning ball.	Sight glass and manhole: Be used to observe inside the pot condition	Viewing light: To facilitate the observation of the inside tank work.
			
Spice inlet: To add the spice or small amount material.	Air filter: To avoid outside air into the tank during the working condition.	Vacuum Sensor: to avoid the cover be lifted when vacuum.	Material Inlet: to suck the material from the other tank to the main tank via the pipe.
			

No.	Item.	Configuration and parameter	Remark
1.	Pressure	Working pressure in the pot: $-0.85-0.02\text{Mpa}$ Working pressure in the jacket: $\leq 0.2\text{Mpa}$	
2.	Material	A. Internal layer: SUS316L Double side welding between dished head and main tank, mirror polish.	
		B. Middle layer: SUS304 Cooling water: Bottom-In and Top-Out	
		C. External(Insulation) layer: SUS304 Double size welding between Middle side and Outside.	
3.	Control cabinet	Organized and in compliance with electrical standards	
4.	Sealing type	Mechanical seal	
		Double end water cooled mechanical seal	
5.	Cooling type	Tap water cooling or cold water cooling	Working pressure normal
6.	Polishing level	Internal and external sanitation polishing, Fully meet the requirement of GMP hygiene standards.	$\geq 300\text{mesh}$
7.	Cleaning way	Adopting the water pressure of 360° rotating type automatic cleaning ball	

8.	Material feeding way	Vacuum feeding; Or add from the manhole.	
9.	Discharging way	Bottom manual valve discharge / Tilt discharge / Rotor Pump Discharge (optional)	
10.	Mixer scrapper type	Teflon scrapper	
11.	Vacuum system	Water circulations	
12.	Homogenizer way	Bottom Type	
13.	Homogenization effect demonstration		Stationary state
			Whirlwind state

			High power state
14.	Homogeneous motor drawing design	 Technical drawing (Note): 1. 以本图为准 (The drawing shall be the basis) 西门子电机 Siemens/ABB	Copyright belongs to our company

ELECTRIC CONTROL SYSTEM			
No.	Item.	Configuration and parameter	Remark
1	Shell material	Stainless steel: SUS304 Thickness: 2mm	
2	Control way	Button control	
MACHINE COMBINATION			
1	Main pot	Equipped with hopper and filter	
2	Vacuum pump	Water cycle	
CONFIGURATIONS			

1	Relay	DELIXI	
2	Motor	ABB	
3	Main electric components	Schneider Electric	
4	Inverter	SIEMENS	

Safety & Maintenance

Note

All materials comply with food-grade and pharmaceutical industry standards (GMP compliant).

Quality Assurance

Equipment designed for continuous operation with minimal downtime.

Service & Support

Installation, commissioning, operator training, and ongoing technical support available.

Customization Options

- Heating/cooling jacket configurations
- Additional sensors and instrumentation
- Custom water oil tank volumes and dimensions
- Integration with existing production lines

For inquiries, technical support, or customization requests, please contact Kosmix engineering team.