

Multimix™  
www.multimix.com.my



# Multimix™ VM 2108

Let the ordinary be **EXTRA**ordinary 5 in 1

VACUUM

+

MIXING | DISPERSING | EMULSIFYING | MILLING

The revolutionary vacuum mixer (VM2108) Series are specially designed for processes that require vacuum in the laboratory uses. It is widely used in the food, cosmetics, pharmaceutical and chemical industry such as making creams, lotions, silicone emulsion, epoxy coating etc.

Vacuum condition is necessary to eliminate any kind of air during mixing which will affect the texture of product output and at the same time helps to maintain the consistency of product's net weight. Furthermore, at the heart of each VM unit lies a highly precise engineered rotor & stator head with either single or double vortex design which is key to high shear mixing for emulsifying or homogenizing processes. The patented "V-type" stator design enables significant reduction of process and mixing times up to 90 percent compared to conventional ones, saving precious resources and accounts for higher production efficiency.

Mixing will never be the same again with Multimix® VM mixer.



**Efficiency**

Fast and hassle-free transfer of powder/liquid using vacuum mechanism.



**Quality**

Elimination of air bubbles in the product.



**Ease of use**

Interchangeable attachments using the SAME mixer.

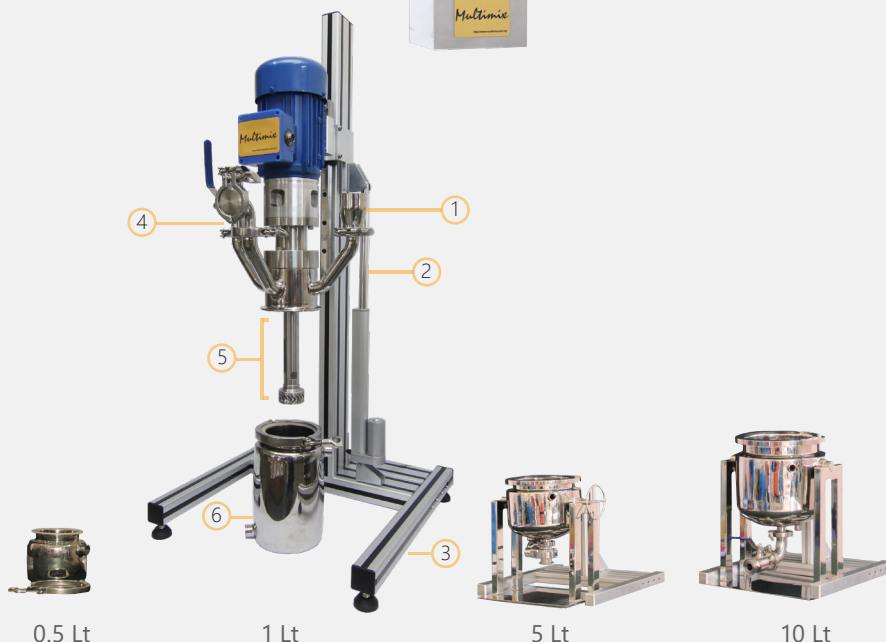


**Convenience**

Suitable for any kind of emulsion and dispersion applications.



SPEED CONTROL UNIT



**1. Fast and hassle-free**

The hopper enables the transfer of powder/liquid using vacuum mechanism.

**2. Ergonomically designed**

Using an up-down switch on the control unit, the mixing head can be effortlessly raised and lowered.

**3. Light and easy**

Its lightweight construction of corrosion-resistant aluminium makes this unit easy to be transported around. Smooth edges of the stand and base are not just for aesthetic reason but also make cleaning an effortless task. The base is also fitted with non-slip rubber feet which are height-adjustable for increased stability.

**4. Convenience**

Additional inlet for input material other than the hopper. Can serve also as material outlet if necessary.

**5. Safe, durable and long-lasting**

All parts in contact with mixing liquids/solids are in grade 316 stainless steel (GMP compliant).

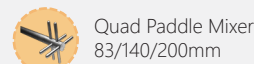
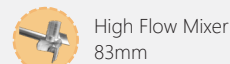
**6. Designed for vacuum mixing**

For some industries, having air bubbles in the end product is not desirable. Mixing under vacuum solves this problem. Depending on the model's capacity, each unit comes with a dedicated jacketed vessel.

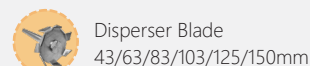
Model	VM 2108HSM05	VM 2108HSM1	VM 2108HSM5	VM 2108HSM10
Mixing capacity	0.5 Litres	1 Litres	5 Litres	10 Litres
Machine dimensions (LxWxH)	500 x 480 x 1050 mm			
Weight	34 kg	35 kg	49 kg	56 kg
Motor	1HP (0.75kW)			
Power supply	Single phase, 220V, 50/60Hz			
Nominal speed	1000rpm & above (6000rpm under full load)			
Speed range	0-6000rpm (variable speed electronically controlled)			
Motor height adjustment	Electrical			
Mixing component material	Food and medical grade stainless steel 316L			
Rotor diameter / stator design	45mm / Single vortex		65mm / Double vortex	
Disperser blade diameter (optional)	43mm		63mm	83mm
Additional included items	Vacuum jacketed vessel integrated with observation glass window, discharge valve and hopper		Vacuum jacketed vessel integrated with observation glass window, discharge valve and hopper together with dedicated stand	
Machine base	Corrosion resistant aluminium base with height-adjustable non-slip rubber feet			

**Quick Interchangeable Attachments/ Accessories (optional)**

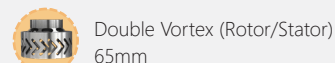
**MIXING**



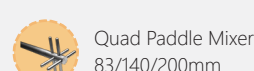
**DISPERSING**



**EMULSIFYING**



**MILLING**



**PORTABLE VACUUM PUMP WITH FITTINGS**

# Multimix™ DSM Lab Vacuum Mixer

The Multimix DSM Lab Vacuum Mixer Series is a lab scale vacuum mixing vessel with dual counter-rotating mixing impeller systems in concentric shaft design.

It consists of two impellers:

- Outer anchor mixer with multiple Teflon scrapers
- An inner Paddle Mixer /High Speed Dispenser / High Shear Mixer.

The anchor mixer is equipped with Teflon scrapers in order to remove materials from inner side of vessel and at the same time pushes the mixture back into the center where high speed dispersing or high shearing action takes place.

Model	DSM Lab Vacuum Mixer
Mixing capacity	5 litres, 10 litres, 25 litres
Wetted Parts Material	Food and medical grade stainless steel 316L
Vacuum range	-600 mmHg (0.8 bar)
Vessel	Double wall (jacketed) for heating/cooling

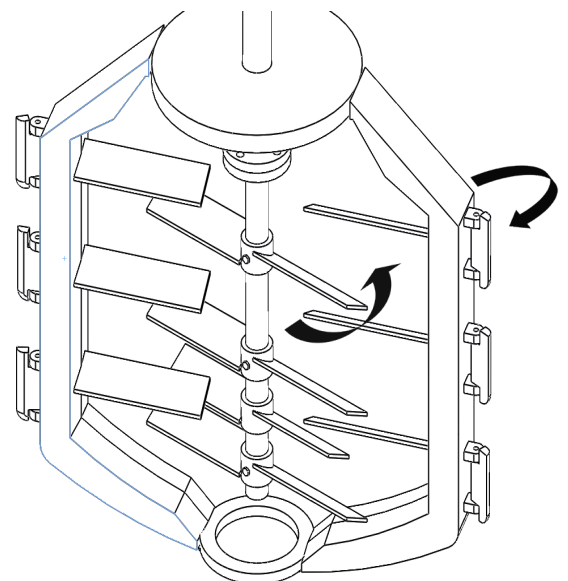
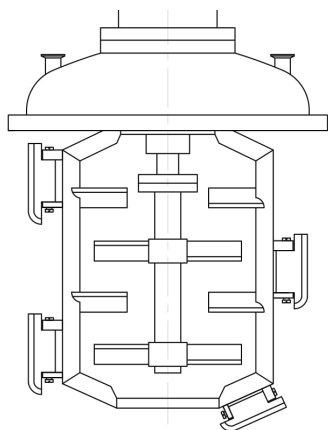


Figure 1 : The outer anchor and inner paddle mixers are counter rotating at opposite direction promoting an even more uniformed mix resulting in unparallelled homogenous product.

## VACUUM MIXER

Depending on the product's viscosity and process requirements, there are 3 DSM models to choose from :

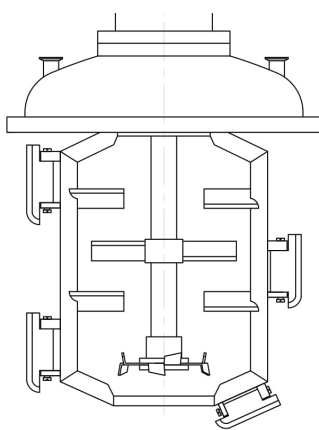


DSM Paddle Mixer

Anchor Mixer with Teflon scraper + Paddle Mixer

For process requiring high torque mixing.

Mixing viscosity: high, up to 1million cps.

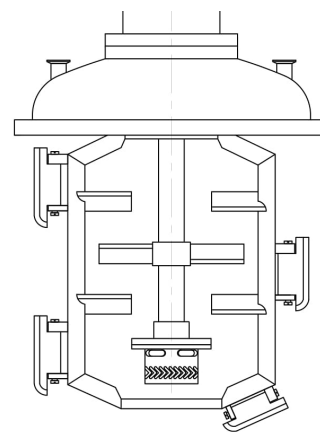


DSM High Speed Dispenser

Anchor Mixer with Teflon scraper + High Speed Dispenser

For process requiring fine dispersion involving powder incorporation into liquids or vice versa.

Mixing viscosity: low to medium, up to 250,000 cps.



DSM High Shear Mixer

Anchor Mixer with Teflon scraper + High Shear Mixer with patented "V" rotor/stator design

For process requiring fine emulsion (less than 1 micron particle size) consisting of oil and water phases and super fine dispersion without 'fish-eye' and agglomerates problem

Mixing viscosity: low to medium, up to 50,000 cps.



Figure 2 : Multimix DSM Lab Vacuum High Shear Mixer (5L) with pneumatic lifting.

### 1. Ease of use

The mixers' speed can be easily adjusted and monitored via touch screen on panel control. Additional timer can also be requested to control mixing duration.

### 2. Ergonomically designed

The vessel lid can be effortlessly raised and lowered via pneumatic hand lever valve/push button/touch screen (optional as add-ons).

### 3. Improved product quality

Vacuum mixing is necessary to eliminate any kind of air bubbles which will affect the texture of product's output and helps to maintain consistency of product's net weight.

### 4. Safe, durable and long-lasting

All wetted parts are in grade 316 stainless steel (GMP compliant).

### 5. Fine dispersion, emulsion and stable suspension

As the rotor turns at a high speed within the stationary stator, materials are drawn from below and sheared through the precision-engineered clearance between the ends of the rotor blades and inner wall of stator, producing very fine droplets which are important in keeping an emulsion stable.

### 6. Convenience and time saving

Jacketed vessel allows indirect heating of product via steam for example which accelerates the mixing process for especially high viscous materials. Hence no need to move mixing tank in and out the heating/cooling room.