

# 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:

- a) Outer anchor mixer with multiple Teflon scrapers
- b) An inner Paddle Mixer /High Speed Disperser / 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

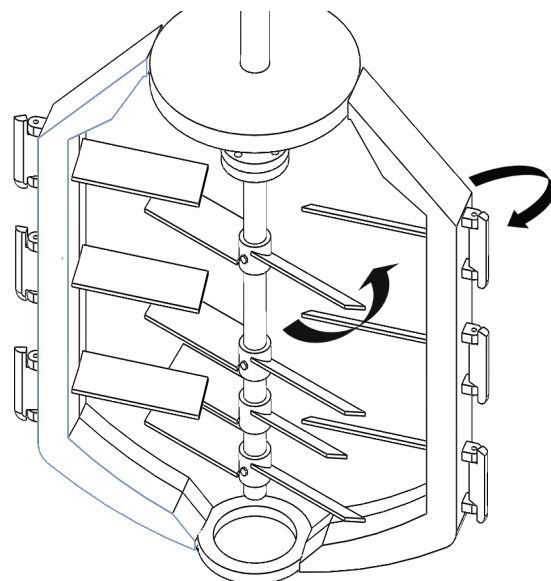
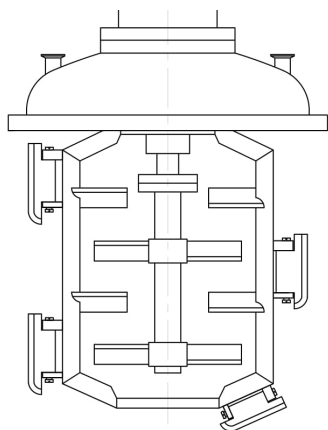


Figure 1 : The outer anchor and inner paddle mixers are counter rotating at opposite direction promoting an even more uniformed mix resulting in unparalleled homogenous product.

## VACUUM MIXER

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

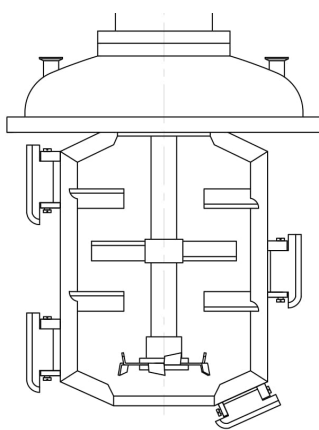


DSM Paddle Mixer

Anchor Mixer with Teflon scraper + Paddle Mixer

For process requiring high torque mixing.

Mixing viscosity: high, up to 1million cps.

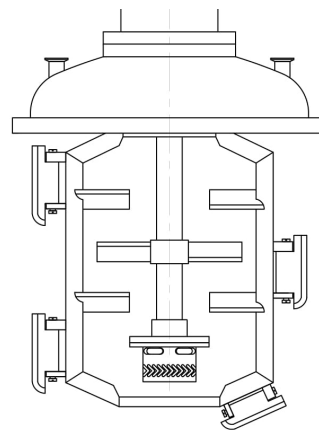


DSM High Speed Disperser

Anchor Mixer with Teflon scraper + High Speed Disperser

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.