

# **DSM Vacuum Mixer**



Figure 1: DSM (fixed tank version).

The new Multimix DSM Series is a versatile vacuum mixing tank with dual counter-rotating mixing system, consisting always of an anchor mixer for the outer part and either a paddle/high speed disperser/high shear mixer for the inner part. 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. The combination of two mixers in such design results in the best from both mixing technologies. It can be used for a great variety of applications in almost all industries from processing of mayonnaise in food industry to cough syrup in pharmaceutical industries.

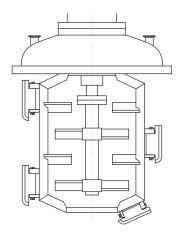


Figure 2 : DSM (Lifting version).

### **Main Advantages**

- Elimination of air bubbles in the product with vacuum mixing
- · High flexibility and configurability
  - Available with lid lifting system or fixed tank version
  - Selection of three DSM models (Paddle, High speed disperser, High shear mixer)
  - Additional inline high shear mixer (see DSM Inline)
  - All in one vacuum mixing with heating / cooling
- · Homogenous and uniformed mixing through dual counter rotating motion
- Low to very high (~1 million cps) mixing viscosities
- Handles low level liquid mixing requirement well
- · Low raw material losses with no dead mixing spots
- GMP and hygienic (CIP) compliant design
- · Low noise level

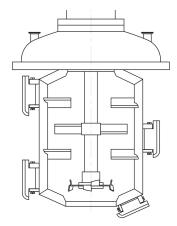
The DSM (both fixed tank and lid lifting versions) can be delivered in the following three models



#### DSM Paddle Mixer

Anchor Mixer with Teflon scrapers + Paddle Mixer

For process requiring high torque mixing.

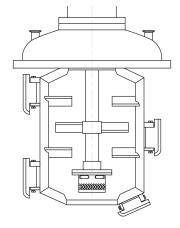


#### DSM High Speed Disperser

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

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.

#### Mixing viscosity: high, up to 1million cps.

Model

| Model                 | DSM Vacuum Mixer   |
|-----------------------|--|
| Mixing capacity       | 25 up to 20,000 Litres   |
| Power supply          | Three phase, 380V/415V, 50/60Hz  |
| Wetted Parts Material | Food and medical grade stainless steel 316L                            |
| Vessel                | Single / Double wall (jacketed) for heating/cooling                    |
| Lid lifting system    | Pneumatic / Hydraulic  |
| Insulation material   | 25 to 50mm mineral wool  |
| Heating medium        | Hot water/steam/thermal oil  |
| Vacuum pressure       | ±600mmHg (0.8bar)  |
| Machine base          | Static / Mobile vessel with castor wheels and safety locking mechanism |

## Add-Ons (optional)

- Vacuum/pressure mixing
- Jacketed vessel for heating or cooling
- Support system and lid lifting system
- Explosion proof motors with remote control station
- Weighing system
- CIP/SIP cleaning system e.g. spray balls
- Special seals, valves, pipings and fittings
- Touch screen panel control
- PLC control
- Inline High Shear Mixer with multi-stages "slotted" stator design (either side / bottom entry)
- Timer



Figure 3 : Vacuum gauge for vacuum mixing



Figure 5: LED light for observation glass/manhole



Figure 4 : Adjustable touch screen panel



Figure 6 : Spray ball for CIP cleaning

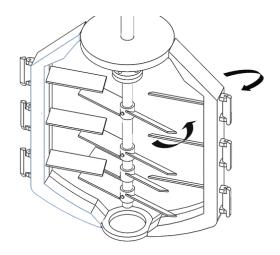


Figure 7: The outer anchor and inner paddle mixers are counter rotating at opposite direction promoting an even more uniformed mix resulting in unparalleled homogenous product.

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