

Design Emulsions in small batches

Flexible, efficient & accurate



Combining ingredients correctly is a key step to formulating and scaling up new products. Inadequate mixing can even create lumps & fat separation. The ability to mix powders and liquids homogeneously is a critical aspect of product quality, safety, and shelf life. With the MPV231-EF, our cost-effective and time-saving system will enable you to easily create stable emulsions with the finest possible droplet size. The high level of automation ensures a reliable mixing process and guarantees that trial results can be reproduced every time. The unique size of only 20L batches and the flexibility of this mixing vessel makes it invaluable for any application lab and R&D center.

Unique Features

- Dosing, heating/cooling and mixing is HMI controlled
- Automatic & precise dosing of powders & ingredients under vacuum
- Cleaning-in-Place / CIP-program built-in
- Stainless-steel industrial design
- Easy integration into the production line
- Highly flexible configuration
- Optional pH control and fermentation program

Applications

- Recombined milk
- Plant-based drinks
- Ice cream pre-mix
- Yogurt-based applications
- Sauces
- Personal care products

Working principle

The OMVE MPV231EF is a very compact blending tank & emulsifier with 2 tanks, a powder funnel and an ingredients funnel. The main pressurized tank has a high shear bottom mixer and a low speed agitator with scrapers. The atmospheric double jacketed oil tank has a high-speed propeller mixer. By vacuum, the oil is inserted at the right temperature into the main tank, directly at the bottom of the high shear bottom mixer to obtain the finest possible droplet size. Powder can also be inserted under vacuum close to the high shear mixer. The on-board heating system enables both tanks to be set at a specific temperature.

Based on your recipe you can insert powders, oil or ingredients under vacuum into the emulsifying vessel at the high shear mixer. The low speed agitator prevents burn-on at the wall and ensures homogeneous mixing of the product.

Standard accessories

Product tank – with

- Double jacket
- 2 Ingredients funnels
- Vacuum system
- High-shear mixer
- Anchor mixer with scrapers

Second (oil) tank

- Double jacket
- Automatic feeding of the product tank



Specifications

Capacity

Blending tank size(s)	30 liter (product 20 liter net)
Oil tank size	10 liter

Heating temp. tank (optional)	Up to 160°C [320°F]
Heating temp. oil tank	Up to 95°C [203°F] optional up to 160°C [320°F]

Overall dimensions

Dimensions LxDxH*	1590 x 1180 x 2070 mm [62.60 x 46.46 x 81.50"]
Weight*	485kg [1069.3lbs]

*depending on final configuration

Required Utilities

Electrical supply	400Vac /3ph+N+E /50Hz/ 16A or 200-240Vac /3ph+E /60Hz/ 32A
Soft water	2-4 bar [29-58psi] , 800L/h
Water supply	2-4 bar [29-58psi] , max. 240L/h
Air supply	7-9 bar [102-130psi]
Coolant (glycol / water)	2-4 bar [29-58psi] , 300L/h
Drains	Required

Equipment family

OMVE's Multi-Purpose Vessels are used in a very broad range of applications. Each application has its own specific requirements, but these can also be combined in one vessel. For more detailed information, our staff will be happy to help you. There are 4 main groups of equipment:



MPV-BL
Blending & Mixing Vessels



MPV-BC
Batch Cooking
Batch Processing



MPV-AB / HB
Aseptic Buffer Vessels
Hygienic Buffer Vessels



MPV-FE
Fermentation Vessel

Why OMVE

- ✓ Since 1993, we have **specialized** in supplying manufacturing R&D and pilot-plant equipment.
- ✓ OMVE is a **preferred supplier** to leading multinationals worldwide.
- ✓ OMVE systems are designed and manufactured according to the **highest industry standards**.
- ✓ OMVE systems come with a **two-year** warranty.
- ✓ OMVE systems carry **CE certification**.
- ✓ OMVE offers the **most comprehensive service** available on the market.