

Design Emulsions in Small Batches

MPV231EF & MPV251EF

Flexible, efficient & accurate

Creating stable emulsions is a critical step in the development and scale-up of new liquid formulations. Poor emulsification can lead to phase separation, uneven texture, and compromised shelf life—ultimately affecting product quality and consumer acceptance.



OMVE's MPV-EF series are compact, cost-effective solutions designed to produce high-quality emulsions with exceptionally fine droplet sizes. Its advanced automation ensures a consistent and repeatable emulsifying process, making it easier to translate successful trials into scalable results. With batch sizes from 47 op to 200L, the MPV-EF range is perfectly suited for R&D labs and application centres seeking precision, reliability, and real production insight at small scale.

Features & Benefits

- 9.6" Touch screen & PLC
- Fully controllable emulsifying process
- Stainless-steel industrial design
- Easy connection to other OMVE equipment
- Highly flexible configuration
- Built in CIP-program

Applications

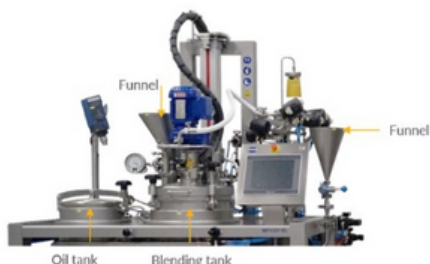
- Recombined milk
- Plant-based drinks
- Ice cream pre-mix
- Yogurt-based applications
- Sauces
- Personal care products

Working Principle

The OMVE MPV231EF and MPV251EF are compact, high-performance blending and emulsifying systems with two vessels: a pressurized main tank and an atmospheric oil tank. Each unit includes funnels for powders and liquid ingredients.

The main tank features a high-shear bottom mixer and a low-speed agitator with wall scrapers for consistent, burn-free mixing. The oil tank, with double jacket and propeller mixer, preheats the oil before it is drawn under vacuum into the main tank, where it's emulsified into ultra-fine droplets.

Powders and other ingredients can also be added under vacuum directly at the mixer. Combined with precise temperature control, this setup ensures fast, repeatable, and homogeneous emulsions—ideal for R&D and application labs.



Optional Accessories

- Funnel for ingredients (connection on top or bottom of vessel)
- (Heated) feed hopper for oil dosing (with optional propeller mixer)
- Automated cooling
- Aseptic execution
- Automation upgrades
- Datalogging

Specifications

Product Code	MPV231EF		MPV351EF
Blending tank size(s)	43L		75L
Oil tank size	10L		
Heating temp. tank (optional)	Up to 160°C [320°F]		
Heating temp. oil tank	Up to 95°C [203°F]		
Weights & Dimensions			
Weight*	475kg [1047lbs]		470kg [1036lbs]
L x W x H*	1620 x 1000 x 1900mm [63,8 x 39,4 x 74,8"]		
Required utilities			
Electricity	400Vac/ 3ph+N+E/ 50Hz/ 16A or 200-240Vac/ 3ph+E/ 60Hz/ 32A		
Soft water	2-4bar [29-58psi], 800L/ hr		
Water supply	2-4bar [29-58psi], max. 240L/ hr		
Air supply	7-9bar [102-130psi]		
Coolant (glycol/ water)	2-4bar [29-58psi], 300L/ hr		
Drains	Required		

*Dependent on final configuration



MPV231EF, HT220 and CRA226

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Lab & Pilot Equipment 