

Design Emulsions in Small Batches

MPV3101EF & MPV3201EF

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 100 up 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
- CIP-ready

Applications

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

Working Principle

The OMVE MPV3101EF and MPV3201EF are advanced blending and emulsifying systems designed for high-performance applications in R&D and product development.

Each unit features a double-jacketed tank equipped with a high-shear bottom mixer. Ingredients—including powders—are introduced via a vacuum-fed funnel and drawn directly into the mixer zone, ensuring immediate dispersion and optimal mixing. The system also supports connection to an external oil vessel, allowing oil to be dosed under vacuum and emulsified into ultra-fine droplets.

A built-in spray ball and CIP program enable efficient cleaning-in-place when connected to an external CIP system.



Optional Accessories

- Automated heating and cooling
- Funnel for ingredients
- External oil tank
- External CIP
- Datalogging

Specifications

Product Code	MPV3101EF	MPV3201EF
Blending tank size(s)	100L	200L
Heating temp. tank	Up to 90°C [194°F], optional SIP is 121°C [250°F]	
Weights & Dimensions		
Weight*	500kg [1102lbs]	600kg [1323lbs]
L x W x H*	2070 x 1100 x 2000mm [81,5 x 43,3 x 78,7"]	2300 x 1100 x 2360mm [90,6 x 43,3 x 92,9"]
Required utilities		
Electricity	400Vac/ 3ph+N+E/ 50Hz/ 32A or 200-240Vac/ 3ph+E/ 60Hz/ 32A	
Soft water	2-3bar [29-44psi], 1000L/ hr	
Air supply	6-7bar [87-101psi]	
Coolant (glycol/ water)	2-3bar [29-44psi], 300L/ hr	
Drains	Required	
Steam for SIP [optional]	2-3bar [29-44psi], 15kg/ hr	

*Dependent on final configuration



HT320, MPV3201EF and FS211

OMVE Netherlands B.V.
Gessel 61
3454 MZ, De Meern
The Netherlands
Tel +31 30 241 00 70
sales@omve.com
omve.com

OMVE Americas Inc.
251 Main Street East, Suite L01
Milton, ON L9T 1P1
Canada
Tel +1 416 986 8442
sales@omve.com
omve.com

Lab & Pilot Equipment



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