

Homogenizes and Emulsifies

HP203 Pilot 3-Piston In-Line Homogenizer

Accurate Production Simulation for Higher Stability

The OMVE HP203 in-line high pressure homogenizer is designed to provide maximum levels of accuracy and repeatability, thanks to its innovative use of 3 pistons on lab scale. The more pistons, the lower the pressure fluctuations will be. The higher the number of pistons, the lower the pressure fluctuations will be. This way, the valve wear is minimized and consistent particle size is achieved. The introduction of the third piston maximizes processing time using fewer RPMs. This results in minimum wear & tear, reduced service frequency and cost savings. The homogenizer can seamlessly be connected to our range of HTST/UHT systems or be used as a stand-alone solution.



Features & Benefits

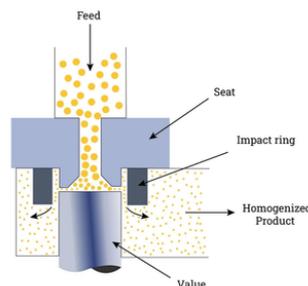
- 3 Plungers for minimum pulsation
- Durable, corrosion-resistant, chemically non-reactive ceramic pistons
- Money-saving plug & play system (water not required for lubrication)
- Easy operation with HTST/UHT systems
- Suitable for CIP and SIP
- High level of automation for effortless operation
- Two-stage homogenization valves
- Minimum of dead volumes

Applications

- Dairy
- Plant-based beverages
- (Vegetable) creams
- Juices
- Nutraceuticals

Working Principle

The homogenizer operates by forcing the liquid through a narrow, high-pressure gap between a stationary and a rotating component. This process subjects the liquid to intense shear and pressure, breaking down particles and droplets into smaller, uniform sizes (of 0.2 to 2 microns). The turbulence and mechanical forces generated during this process lead to thorough mixing and stabilization of the product.



Optional Accessories

- Aseptic execution
- Automation upgrade
- By-pass for higher flow-rate during CIP
- Compliance with 3A/FDA
- Feed hopper for stand-alone functionality
- Low pressure alarm

Specifications

Product code	HP203-30	HP203-50		
Adjustable flow rate	15-45L/hr	30-80L/hr		
Homogenization pressure	600bar [8700psi]	400bar [5800psi]		
Homogenization stages	2			
Number of plungers	3			
Max. viscosity (in-line)	Approx. 2000cPs			
Max. particle size	0,5mm			
Operating temperature	< 90°C [194°F]			
Pressure reading	Digital (analogue on request)			
Minimum feed pressure	1bar(g) [14,5psi] 0bar(g) under not stand-alone			
Cleaning temp. @ 30 min.	90°C [194°F]			
Sterilization temp. @ 30 min. SIP	140°C [284°F]			
Aseptic lubrication	Water (continuous)			
Materials				
Product side	Stainless Steel 316 High Performance Super Duplex SS			
Weights & Dimensions				
Weight	262kg [578lbs]			
L x W x H	990 x 900 x 1520mm [39 x 35,4 x 59,8"]			
Required utilities	Sanitary Execution	Aseptic Execution	Sanitary Execution	Aseptic Execution
Electrical supply	370-400Vac/ 3ph+N+E/ 50Hz/ 16A or 200-240Vac/ 3ph+E/ 60Hz 16A			
Water supply (only aseptic, w/filter)	-	2,5bar(g) [36psi]	-	2,5bar(g) [36psi]
Steam (only aseptic)	-	3,5bar(g) [51psi]	-	3,5bar(g) [51psi]



Integrated homogenizer, controlled by the HMI of the UHT system

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Lab & Pilot Equipment 