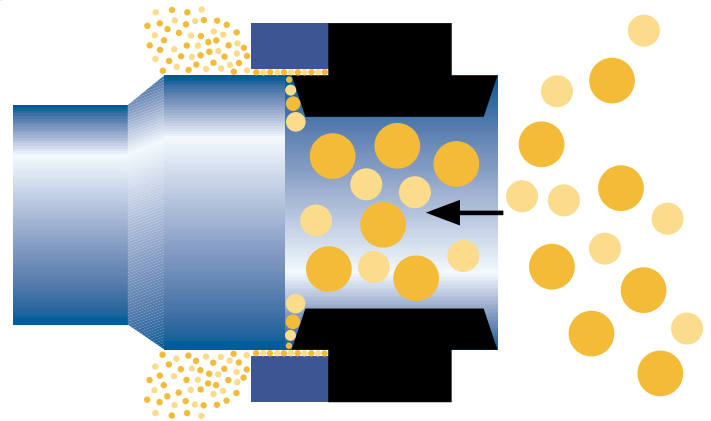


Improved product quality with high-pressure homogenizers

A liquid/liquid emulsion or a solid/liquid suspension is pressurized to between 100 and 700 bar by a high-pressure diaphragm pump. In a homogenization valve located downstream the product passes through a narrow annular gap, where the stored energy is released resulting in extremely high acceleration.

Turbulence, shearing, high-energy jetstreams and, primarily, the cavitation resulting from the sudden pressure drop are the decisive factors in drop size reduction.

Two-stage or multi-stage homogenizers are used, depending on the application.



Homogenization principle

Applications

- Paraffin, silicone, wax, oil and photographic emulsions
- Latex, PVC, lubricants, polishes
- Lotions, creams, liposomes
- Cell disintegration, proteins, enzymes
- Fruit products, ketchup, sauces, dressings
- Baby food, ice cream, liqueurs, milk products
- Intravenous preparations

MEGANIZER pump technology

A high pressure homogenizer has two key components: the homogenizer head and the high pressure pump which provides the necessary pressure energy. MEGANIZER homogenizers use the NOVAPLEX range of process pumps.

NOVAPLEX hydraulically supported diaphragm pumps in all gear sizes. Flow rates are from a few hundred litres to > 30 m³/h, pressures up to 700 bar, and process temperature from -20°C to +150°C.

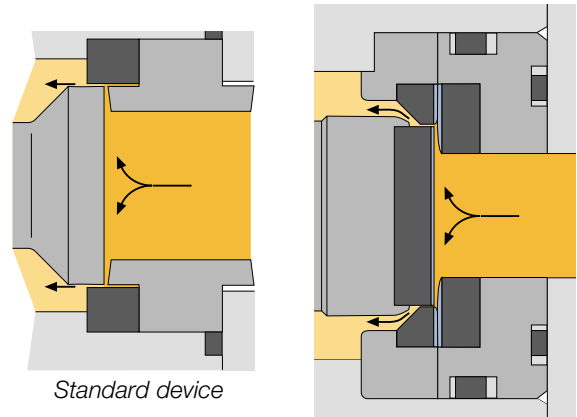
Homogenization pressure

The homogenization pressure is generally produced by a pressure-limited hydraulic system. This eliminates damage from faulty operation or accidental overload. The standard range incorporates

Homogenizer types

Different types of homogenizer heads are available, optimized for particular applications. Examples include the classical flat or conical configuration for producing oil-in-water emulsions, and the highly wear-resistant patented PCD-models with surfaces of polycrystalline diamond.

Homogenizer types



Standard device

PCD-device

- Product **before** homogenization
- Product **after** homogenization