

# COSMOS 250

## EMULSIFYING REACTOR SKID

High-performance, compact, plug-and-play system

### Advanced process technology

The COSMOS 250 skid has been developed for the efficient production of fine emulsions, suspensions and high-viscosity products, integrating all the elements required for a complete process into a single system. Its design allows operation under vacuum or pressure, providing a robust and efficient solution that ensures maximum homogeneity, repeatability and ease of operation.

Especially designed for companies seeking process reliability, consistent product quality and maximum return on investment.

### Functions

#### Homogeneous mixing

Efficient agitation via FULLVISC laminar-flow mixing system with scrapers, designed for medium and high-viscosity products.

#### Loading and discharging

System designed for efficient handling of liquids and solids under vacuum or pressure



#### Emulsification

Particle size reduction and efficient dispersion via high-shear inline processing.

#### Cleaning and inspection

CIP via recirculation and integrated spray balls, featuring a hygienic design and optimized access for maintenance operations.

# Equipment configuration

## Main reactor

- 250-liter working capacity reactor
- Jacket for connection to customer thermal utilities
- Operating pressure up to 2 bar
- Integrated vacuum system (up to -950 mbar)
- Mirror-polished internal finish
- CIP spray balls for in-place cleaning
- Hydraulic lifting of the top head
- Load cells integrated into the support legs

## FULLVISC mixing system

- Positive-displacement laminar agitator
- Exclusive 3-arm design with scrapers
- Efficient mixing of high-viscosity products
- Nominal speed: 40 rpm / Power: 4 kW

## Inline homogenization system

- M.X.O.N. 120 high-shear emulsifier
- Excellent full-batch processing
- Mechanical seal with safety sealing system
- Nominal speed: 2,900 rpm / Power: 5,5 kW

## Performance

- Processing of products up to 70,000 cP
- Final particle size down to 10  $\mu\text{m}$
- Complete processing of the entire product volume
- Vacuum powder intake system
- PLC and HMI touchscreen
- Manual or recipe-based automatic control
- Compact skid-mounted design
- Easy handling using pallet truck or forklift
- CE-compliant design
- AISI 316 stainless steel construction on all product-contact parts

## Main applications



### Cosmetics

- Face and body creams
- Lotions and cosmetic milks
- Sunscreens
- Gels and serums
- Ointments and balms
- Hair care products



### Pharmaceutical

- Pharmaceutical emulsions
- Suspensions
- Medicinal gels
- Pastes
- High-viscosity formulations



### Chemical

- Specialty chemicals
- Detergents
- Cleaning products



### Food

- Liquid additives and preparations
- Sauces
- Cream-based products
- Food emulsions

## Optional accessories

- **Temperature control unit:** Independent unit for process heating and cooling.

