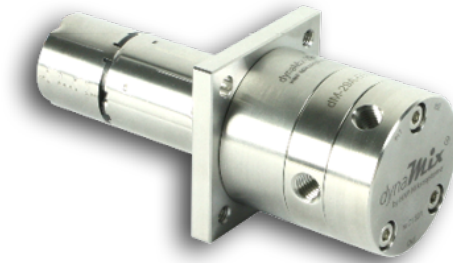


## Product information

### dynaMix® - Mixing small volume flows - Mixer



#### Description

#### Mixing small volume flows

**dynaMix® - The dynamic micromixer for fast mixing sensitive reactions, antisolvent nucleation, and nanoparticle synthesis**

The dynaMix is a dynamic micromixer specifically designed for the active mixing of small volume flows. The innovative mixing technology allows the adjustment of mixing times from 300 ms to less than 5 ms, independent of volume flow rates. Its modular design with a variable number of inlets enables flexible process integration in a wide range of industrial applications, including in the cosmetics, chemicals and pharmaceuticals sectors.

#### Applications for active mixing

- Pharmaceutical and vaccine production
- Nanoparticle synthesis
- Cosmetics
- Mixing sensitive reactions
- Solvent / Antisolvent methods
- Lithiations including flash reactions
- Research and development

#### Technical data

- Specific power of up to 20 MW/m<sup>3</sup>
- Volume flow rate of up to 200 ml/min (depends on fluid)
- Adjustable mixer speed up to 12,000 rpm
- Pressure drop of less than 20 mbar at 10 ml/min and 1 mPas
- Mixing chamber volume: 7 µl

## Advantages of the dynamic micromixer dynaMix

- High mixing quality - Independent of flow rate
- Lower clogging risk – Significantly better than static mixers
- High-quality mixing – Even with fluids of different viscosities
- Sustainability - Can be rinsed and dismantled for cleaning and reuse
- Corrosion-resistant materials - Stainless steel, ceramics, fluor elastomers
- Modular design – Various mixing elements, 2 – 4 inlets optional
- Increased efficiency – Reduces material waste, enhances product quality
- Compact design – Easy process integration into existing systems

## Patents and trademarks

Our products are protected by the following national and international patents: DE 10 2018 129 631.2 B3; EP 3 884 162; CN 113 302 399 B; DE 10 2018 129 633.9 B3; EP 3 884 160; CN 113 272 553 B; DE 10 2018 129 634.7 B3; EP 3 884 527; DE 10 2018 129 635.5 B3; EP 3 762 165; DE 10146 793.1; EP 1 354 135 B1; US 7,698,818 B2; DE 10 2011 051 486 B4; EP 2 726 740 B1; US 9,404,492 B2; CN 103 732 921B; EP 2 640 977 B1; US 10,012,220 B2; CN 103 348 141 B; HK 1 185 648 B.

HNP<sup>®</sup>, mzi<sup>®</sup>, MoDoS<sup>®</sup>,  $\mu$ -Clamp<sup>®</sup>,  $\mu$ Dispense<sup>®</sup>, LiquiDoS<sup>®</sup>, smartDoS<sup>®</sup>, colorDoS<sup>®</sup>, MSM<sup>®</sup>, TrueFlow<sup>®</sup>, dynaMix<sup>®</sup>, are registered German trademarks of HNP Mikrosysteme GmbH.

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