

# Technical Specifications

## Extraction and Membrane Separator



Zeton has partnered with Zaiput to bring the high-performance SEP-3000 membrane separator into the ContiUnity® ecosystem, delivering compact, high-throughput phase separation with exceptional precision.

Zaiput Flow Technologies' patented membrane technology enables continuous separation of immiscible phases; liquid-liquid or gas-liquid, by leveraging differences in wetting properties on a porous membrane. Multi-stage configurations are easily implemented to meet demanding extraction requirements.

The ContiUnity® extraction and membrane separator module handles all process control, utilities, and seamless integration with other modules, offering a true plug-and-produce experience.

Implement with ContiUnity® for:

- Integrated continuous Flow Chemistry
- Hybrid Batch-continuous processing
- High flexibility throughout early development & commercial production

## Key advantages of the SEP-3000 Membrane Separator

### Patented Membrane Technology:

- Continuous separation of immiscible phases (liquid-liquid or gas-liquid)
- Based on wetting properties, not density
- No electrical power required

### Compact & Scalable Design:

- Small footprint with high throughput
- Easy integration in multi-stage setups
- Suitable for lab to production scale

### Chemical Compatibility:

- Resistant to a wide range of solvents and process conditions



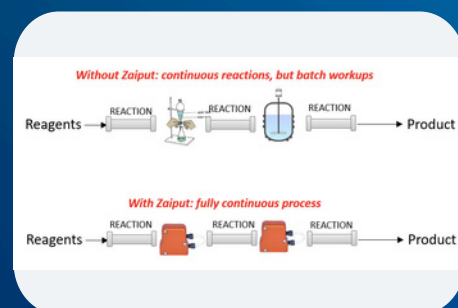
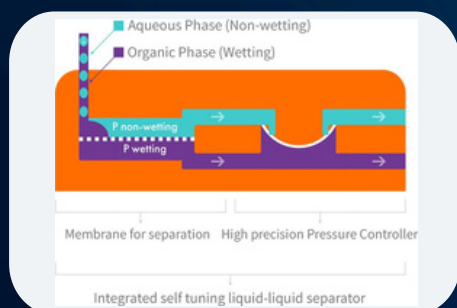
- Reliable performance under demanding environments

### Process Efficiency

- Precise and consistent phase separation
- Enables process intensification in extraction workflows
- Supports hybrid batch-continuous operations

### GMP-Ready

- Suitable for pharmaceutical and fine chemical applications
- Low-maintenance and robust for long-term use



# Technical data and product features

## Module

Module Model number	EMS-A1
Module Options:	Filter process inlet

## Process

Extraction type	Liquid-Liquid
Mixer design	Kenics helical static mixers
Mixer length	5x (25cm of static mixer + 75 cm of empty tube)
Separation types	Liquid-Liquid/Gas-Liquid
Separator design	Membrane separator
Separation principle	Interfacial tension and membrane selective wettability
Separator equipment model	Zaiput SEP-3000
Membranes	PTFE Hydrophobic & PTFE hydrophilic in different pore sizes

## Mechanical

Process Design pressure	-1 ÷ 20 bar(g)
Process Design temperature	10 ÷ 50 °C
Module process wetted material of construction	C276/C22   SS316L
Module surface roughness	<0.8 µm Ra
Process wetted seals and gaskets	White FFKM / PTFE
Main process connectors	Staubli Quick couplings   VCO
Frame material of construction	Aluminium ITEM® profiles   SS316L box profile welded   SS304 ITEM® profiles
Frame dimensions w x d x h	1000 x 600 x 1950 mm
Frame features	Castor wheels / drip tray / one shelf for other module
Frame options	Enclosure
Module weight	400 kg incl. heat exchanger outlet option

## Electrical properties & interfaces

Control platform	ContiUnity®   MTP   Remote input/output
PLC	Beckhoff with TwinCAT 3 runtime
Power connector	Stahl miniCON
Control connector	Stahl miniCON
Communication protocol	OPC-UA
HMI	Emerson DeltaV / Web interface for stand-alone use e.g. maintenance / TwinCAT 3 HMI
Rated voltage	24 VDC
Rated current	6 A

## Marking, approval & standard

Marking	CE
ATEX rating	II 3G Ex h IIB T4 Gc
Material certification	3.1 material certification, FDA approved soft goods & lubricants, TSE declaration

Symbol legend: | = OR, / = and, ÷ = range

\*Subject to change without notice

