ContiUnity®
by ZETON

# Technical Specifications Plug Flow Reactor Plate

Zeton has partnered with Chemtrix to bring the cutting-edge Plantrix® reactor into the ContiUnity® ecosystem—delivering a powerful solution for short residence time reactions, even with highly corrosive substances.

Thanks to the modular Plantrix® design, we can select the ideal plate configuration to precisely tailor mixing, residence time, and heat transfer to your specific chemistry—ensuring optimal performance.

The ContiUnity® plug flow reactor module handles all process control, utilities, and seamless integration with other process 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 Plantrix® MR260 – High-Performance SiC Flow Reactor

CHEMTRIX
Scalable Flow Chemistry

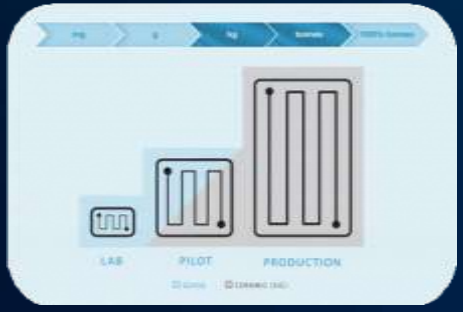
Reactor modules constructed from 3M™ Silicon Carbide (SiC)
• High chemical resistance to acids, bases, and solvents
• Pressure-resistant and wear-resistant

Integrated Heat Exchanger:
• Efficient heat transfer
• Precise temperature control
• Safe handling of exothermic reactions

Modular Plate Design:
• Identical flow architecture from lab to production scale
• Easy scale-up without redesign
• Compact footprint

Process Intensification:
• Enhanced mass and heat transfer
• Shorter residence times
• Higher conversion and selectivity

GMP-Ready:
• Suitable for pharmaceutical applications
• Low-maintenance design for long-term operation




# Technical data and product features

## Module

| | |
|---|---|
| Module Model number | PFR-A1 Plate |
| Module Options: | Process inlet 4 / Heat exchanger inlets / Heat exchanger outlet |

## Process

| | |
|---|---|
| Reaction type | Up to 4 in – 1 out |
| Reactor model | Chemtrix Plantrix® MR260 |
| Default Plantrix® MR260 plate set | 1x Mixing module (2,9 ml) / 3x Residence time modules (33,6 ml) / 1x Residence time module (16,9 ml) / 1x Quench module (8.6 ml) |
| Temperature zones in reactor | 1 temperature zone |
| Operating temperature | -20 ÷ 145 °C |
| Operating pressure | -0.9 ÷ 12 bar(g) |
| Operating reactor volume | 0 ÷ 0.13 l with default plate set |
| Operating temperature heat transfer fluid inlet | -25 ÷ 150 °C |

## Mechanical

| | |
|---|---|
| Process Design pressure | 0 ÷ 16 bar(g) |
| Process Design temperature | -30 ÷ 175 °C |
| Module process wetted material of construction | C276/C22 \| SS316L |
| Module surface roughness | <0.8 µm |
| Reactor process wetted material of construction | 3M® SiC |
| Reactor surface roughness | 3.5 µm |
| Process wetted seals and gaskets | White FFKM / PFTE / Chemraz® SD517 |
| 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 | 2010 x 600 x 2000 mm |
| Frame features | Castor wheels / drip tray |
| 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 T3 Gc X |
| Material certification | 3.1 material certification, FDA approved soft goods & lubricants, TSE declaration |

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

*Subject to change without notice