**Microreactors**

**Modular Functional Design**

The Microreactors are designed by combining these functional compartments. Several microreactors with standard functional compartments are currently available. Other combinations and specifications are possible as custom products.

### Currently available microreactors

Our range of Microreactors are:

- Fully compatible with the FlowStart and FlowScreen
- The best way to start your flow chemistry experiments and screen reaction parameters
- All fitted with special mixing units to ensure excellent mixing
- Supplied in a green cartridge for easy handling and installation.

### Applications

Continuous production of chemical compounds by microreactors has proven to have benefited for many applications. A short selection of reactions which benefit from continuous flow:

- Ultrafast and selective Swern oxidation of alcohols
- Nitration of aromatic compounds
- Paal-Knorr pyrrole synthesis
- Exothermic esterifications and hydrolyses

### Benefits:

- **Rapid mixing**
- **Better temperature control**
- **Smaller footprint**
Whether you need multiple inlets, special channel geometries for droplets or particles, or different internal volume for specific chemical applications, reactor designs can be made to customer specifications. Please contact our experts to discuss your special requirements.

**Basic Microreactor**

This microreactor type is the most basic and is designed for general two component chemical reactions.

<table>
<thead>
<tr>
<th>Inlets</th>
<th>Internal volume</th>
<th>Flow rates*</th>
<th>Reaction time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>100 μL</td>
<td>2-400 μL/min</td>
<td>15 s - 50 min</td>
</tr>
</tbody>
</table>

**Basic Quench Microreactor**

The addition of a third inlet enables you to quench the reaction that takes place inside the microreactor.

<table>
<thead>
<tr>
<th>Inlets</th>
<th>Internal volume</th>
<th>Flow rates*</th>
<th>Reaction time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>92 μL</td>
<td>2-400 μL/min</td>
<td>14 s - 46 min</td>
</tr>
</tbody>
</table>

**Short Quench Microreactor**

The small internal volume ensures that short reaction times can be achieved, making this microreactor perfect for fast, highly exothermic chemical reactions.

<table>
<thead>
<tr>
<th>Inlets</th>
<th>Internal volume</th>
<th>Flow rates*</th>
<th>Reaction time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1 μL</td>
<td>0.5-1160 μL/min</td>
<td>0.05 s - 2 min</td>
</tr>
</tbody>
</table>

* These values are indications. Actual ranges depend on several parameters, including liquid viscosity.

The FlowStart is not designed, intended, or authorized for use in applications or as system components intended to support or sustain human life, as a clinical medical device for humans, or as a device in food or pharmaceutical applications.

**Custom Microreactor**

Whether you need multiple inlets, special channel geometries for droplets or particles, or different internal volume for specific chemical applications, reactor designs can be made to customer specifications. Please contact our experts to discuss your special requirements.

**Features**

- Easy installation
- Visualisation of reaction channels
- For a wide range of chemical reactions

[www.futurechemistry.com/webshop](http://www.futurechemistry.com/webshop) or call +31 (0) 24 711 4029