

# Faster Structural Information in Real Time with ReactIR™ DS Micro Flow Technology



## Continuous Flow Chemistry

Containing an integrated ATR sensor (diamond or silicon), the DS Micro Flow Cell is built for sub-millimolar sensitivity and is compatible with the broadest range of chemistry. An integrated temperature sensor allows measurement and trending of flow cell contents.



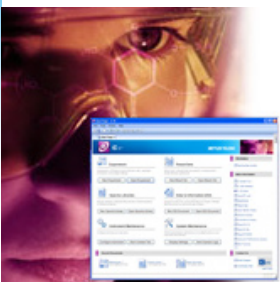
## Seamless Integration

Seamless integration into your flow chemistry. Heating and cooling option to keep the stream at desired temperature to ensure highest quality measurements are obtained. Pressure applications and high flow rates can be accommodated with optional flow cell heads.



## Maximized Flexibility

Maximize time and throughput by running two flow experiments with a single instrument. Alternatively, monitor multi-stage flow processes all with one ReactIR™ and DS Micro Flow Cell.



## Real-Time Information

Continuous flow chemistry is challenging enough to maintain at steady-state, much less controlling via offline analyses. iC IR™ is a real time reaction analysis software package that allows an instantaneous view of reaction progression, dispersion characteristics, side-reactions, etc. with or without prior knowledge of the chemistry.



## DS Micro Flow Cell

Continuous flow chemistry is valuable for improving product quality and yield, as well as increased personal safety. Combining the highly molecular specific nature of FTIR to continuous flow chemistry enables researchers, scientists and engineers to quickly and easily develop continuous flow processes for their products that would otherwise be considered a traditional batch method. ReactIR™ with the DS Micro Flow Cell is a seamless, *in situ* measurement and monitoring solution for continuous flow chemistry processing. DS Micro Flow Cell provides real time chemistry knowledge for virtually any class of compounds that other spectroscopy technologies cannot provide, with the minimum amount of material.

Technical data

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### Size

DS Micro Flow Cell is designed to fit as seamlessly as possible with your continuous flow system, while consuming the least amount of valuable lab space.

### Flexibility

Whether your needs are to monitor a single continuous process at a time, multiple processes or multiple points within a process, the DS Micro Flow Cell and MultiplexIR technology meet any of these requirements. Optional flow cell heads afford another level of flexibility with heated, cooled, pressure, etc. options. DS Micro Flow Cell is as flexible to best meet your needs as it is seamless to your workflow.

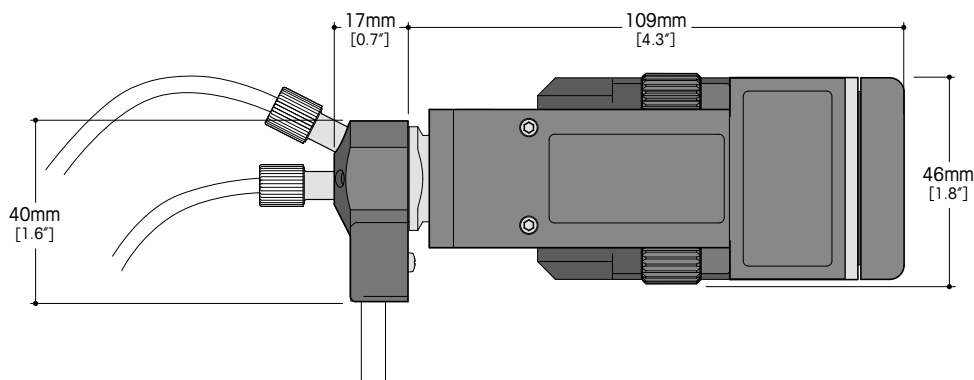
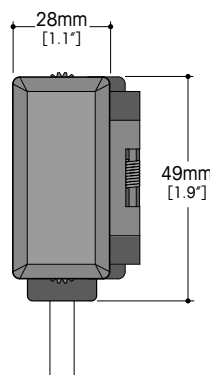
### Application Area

Examples of the knowledge gained by this solution include:

- Steady-state determination
- Dispersion characteristics
- Ratio of unreacted starting material to product(s)
- Screening – kinetics, temperature profile vs product quality, etc.
- Efficiency improvement – a day versus days of time to complete screening studies when conducted as batch

### Utilities

Optional heating/cooling flow cell is controlled via an external controller. No other utilities required.



### System Specifications

- 28w x 126d x 49h (mm)
- Weight: 0.45kgs (1lb)

Specifications	DS Micro Flow Cell
Pressure range	Ambient to 30 bar (435 psi)
Heating	Ambient to 60°C
Cooling	TBD (Cooling option available soon)
Inlet/Outlet Fittings	¼-28 Flat-Bottom (OmniFit style)
Internal volume	10 & 50µL
Integrated temp sensor	Measure temperature of flow cell contents (Not applicable to ReactIR™ iC10 and 4000 systems)
Wetted materials	Diamond (Silicon to be available soon), Gold, Alloy C22, Kalrez o-ring (flow cell head seal)



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For more information