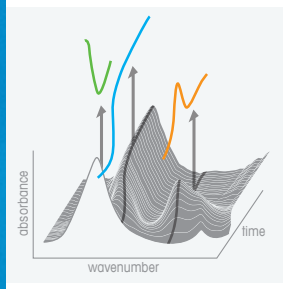
In Situ Spectroscopy

Improve Reaction Understanding

with Real-Time *In Situ* Analysis



Reaction Understanding

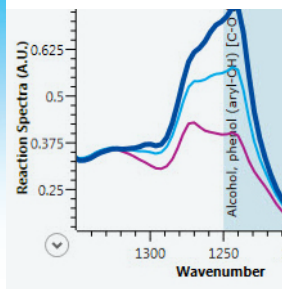
In situ reaction monitoring enables the tracking of concentration changes of key reactive and transient species to understand mechanism pathway, determine kinetics and detect major reaction events for real-time process optimization.

Eliminate Offline Sampling

Suitable for nearly all reactions, ReactIR 15 provides real time, *in situ* monitoring of key information for a comprehensive understanding and control of reactions without the need for extractive sampling.

Reaction Monitoring

A range of sampling technology options enable the successful monitoring of gas or liquid phases under any process conditions such as: acidic, corrosive, high pressure chemistries, low temperature, and more.



iC IR™

iC IR software provides a fast, graphical way to describe the characteristics of a chemical reaction and optimize chemistry. Built specifically to analyze reactions, iC IR guides users through the optimal data manipulation process. The Find Trends function profiles a reaction with One Click™, reducing the analysis time taken from hours to a few minutes.

ReactIR™ 15

A real-time, *in situ* mid-infrared based system, ReactIR 15 is designed to study reaction progression and provide specific information about reaction initiation, conversion, intermediates and endpoint. The comprehensive nature of the data makes it ideal for kinetics analysis. ReactIR 15 delivers in-depth reaction information helping organic chemists and scientists improve the research and development of chemical compounds, synthetic chemical routes and processes.

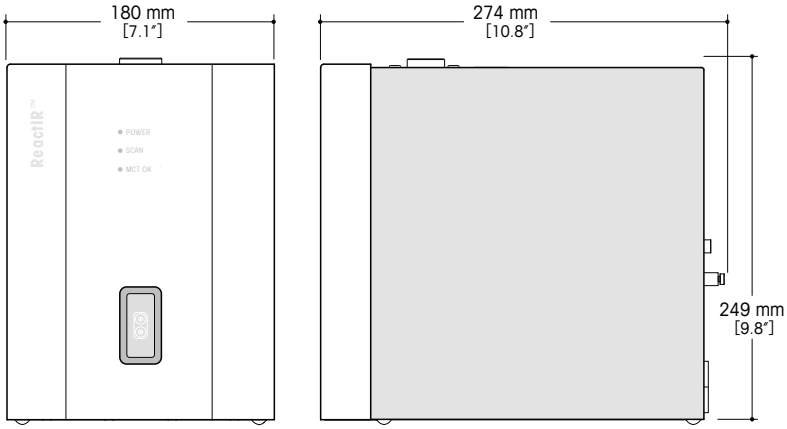
METTLER TOLEDO

Improve Reaction Understanding
with Real-Time *In Situ* Analysis

Technical Data

Optical Range	4000 cm^{-1} to 650 cm^{-1}
Probe Wetted Materials	C-22, Gold, PTFE, Diamond, Silicon
Probe Sensor	DiComp or SiComp
Probe Tip Temp Range	-80 °C to 300 °C* (see below)
Probe Pressure Rating	Vacuum to 350 barg* (see below)
Field Unit Weight	9 kg [20 lb]
Field Unit Temp Range	19 °C to 25 °C (optimal operating), 50 °C (max ambient)
Power	100-240 VAC, 50/60Hz, 1.2A (max)
Purge	No purge required
Detector	LN2 MCT or SEMCT
Laser Classification	Class 1 Laser Product; Compliant with 21 CFR 1040.10 and 1040.11

Base Unit Dimensions



Sampling Technology

A wide range of sampling technologies are available including FiberConduit™ probes, flow cells, gas cells and specialized probes for high pressure and temperature reactors.

		Fiber Length			Sensor		Probe Length				
		1.0 m	1.5 m	2.0 m	DiComp	SiComp	216 mm	305 mm	457 mm	Temperature Range	Pressure Limit
	DST Series 9.5 mm AgX FiberConduit (also available in 3m and 4m DiComp configurations)		•	•	•	•	•	•	•	-80 °C to 180 °C	69 barg
	DST Series 6.3 mm AgX FiberCoduit		•	•	•	•	•	•		-80 °C to 180 °C	69 barg
	25.4 mm Sentinel™ (FiberConduit)	•	•				28.6 mm**			-80 °C to 200 °C (300 °C optional*)	100 barg (350 barg optional*)
	DS Micro Flow Cell				•	•				Ambient to 60 °C	35 barg

*Contact METTLER TOLEDO for information about special needs including custom sizing, extreme-temperature, high-pressure or hazardous area applications.

www.mt.com/ReactIR

For more information

METTLER TOLEDO Group
Automated Reactors and *In Situ* Analysis
Local contact: www.mt.com/contacts