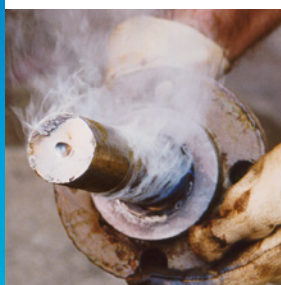


Advanced Reaction Characterization with Real-Time *In Situ* Analysis



Improve R&D

In situ reaction analysis tools enable chemists to develop safe, robust processes. Integrated sampling technology ensures easier setup and reproducible results leading to faster process development and safer scale-up.



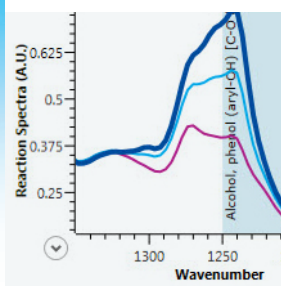
Sampling Technology

Study reactions under a wide range of conditions (high and low temperatures, high pressures) and manage gas formation, evolution and catalyst particles being present. The Multi-plexIR module enables sampling with two probes simultaneously to measure different reactions or phases.



Complete Characterization

ReactIR 45m is temperature-stabilized providing high quality data and chemical information during long reactions – improving baseline and providing accurate quantitative analyses.



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™ 45m

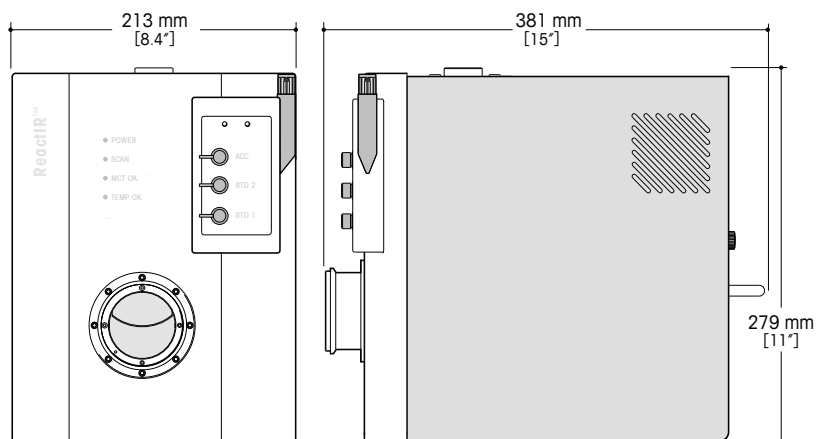
Chemists and chemical engineers require in-depth reaction information to fully understand and optimize chemical reactions. This information has traditionally been obtained via offline techniques. However, the time taken to gather offline samples and analyze can often be a disadvantage. ReactIR 45m enables the real-time *in situ* monitoring of reactive chemistry allowing researchers to track the formation and degradation of chemical species in real time without the need for sampling.

Advanced Reaction Characterization 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	16 kg [35.3 lb]
Field Unit Temp Range	19 °C to 25 °C (optimal operating), 40 °C (max ambient)
Power	100-240 VAC, 50/60Hz, 2.0A (max)
Purge	Instrument grade air or Nitrogen; Dewpoint: -50 °C; Flow Rate: 4.7 Lpm
Detector	LN2 MCT
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			Temperature Range	Pressure Limit
		1.0 m	1.5 m	2.0 m	DiComp	SiComp	216 mm	305 mm	457 mm		
	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 FiberConduit		•	•	•	•	•	•		-80 °C to 180 °C	69 barg
	16 mm Comp™ ATR (K6 Conduit)				•	•	178 mm, 299 mm, 362 mm			-80 °C to 200 °C (300 °C optional*)	100 barg (350 barg optional*)
	25.4 mm Sentinel™ (K4 Conduit)				•	•	28.6 mm**			-80 °C to 200 °C (300 °C optional*)	100 barg (350 barg optional*)
	25.4 mm Sentinel™ (FiberConduit)	•	•								
	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

Subject to technical changes
© 06/2017 METTLER TOLEDO. All rights reserved