



IRmadillo[™]
FTIR Spectrometer

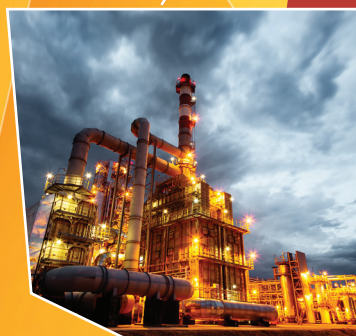


Fit for the Process Environment

**Vibration proof
for manufacturing
floor**



**Compact, rugged
& solid state**



**Certified for
hazardous
environments**



**In-line process
monitoring**

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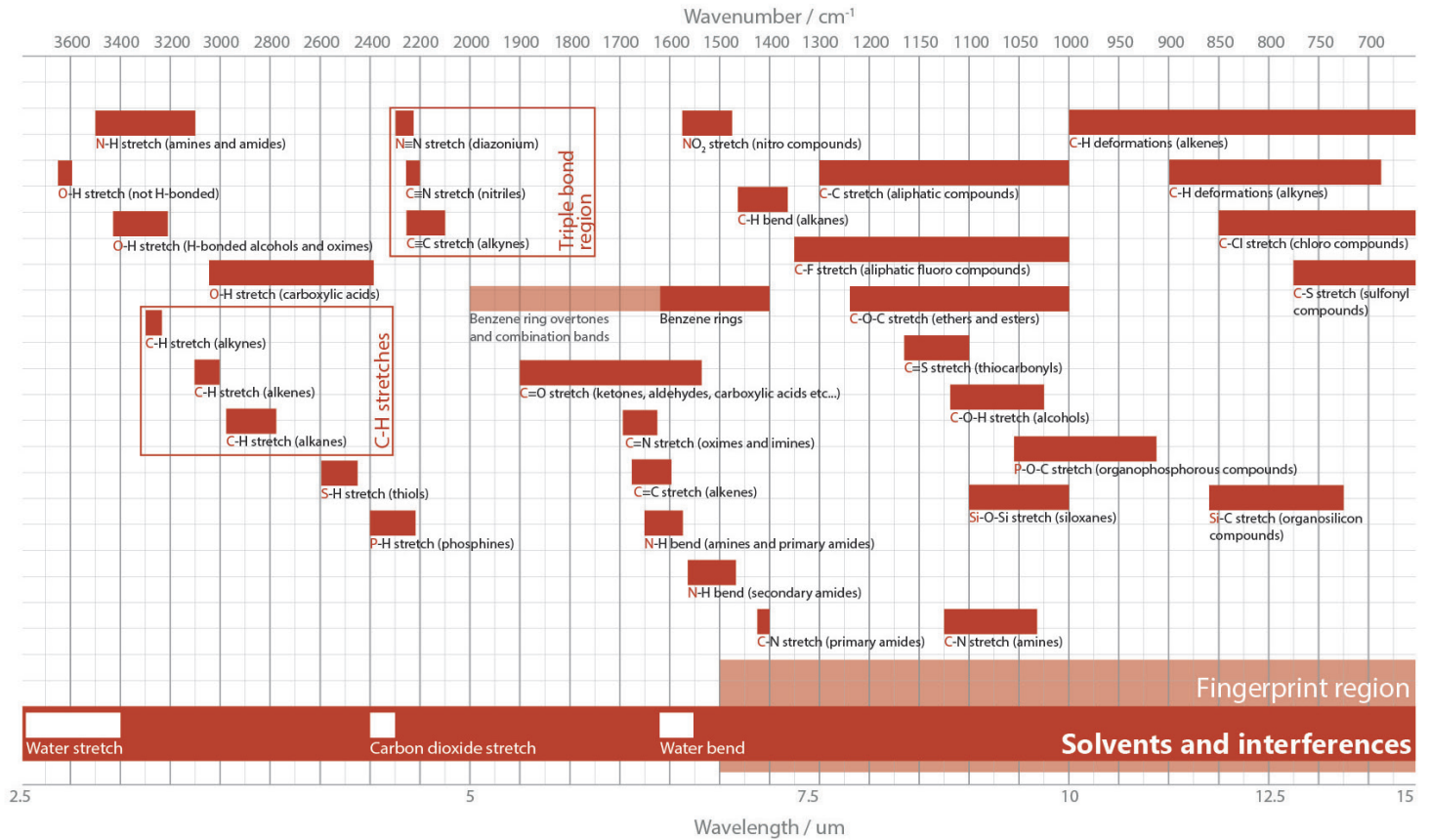
**QUANTUM
ANALYTICS**

3400 East Third Avenue, Foster City, CA 94404
650-312-0900 LQA@LQA.com
www.LQA.com



IRmadillo[™]
FTIR Spectrometer

Power of Mid-Infrared



- Compact
- Certified
- No MIR fibre optics
- Solid state
- Response time
- Drift free
- Sensitivity
- Stability



Fixed Probe

- AMTIR ATR crystal
- Inert Hastelloy
- Temp. (ambient) -15°C to +40°C
- FFKM O-rings (20 bar)
- Long-life optical source



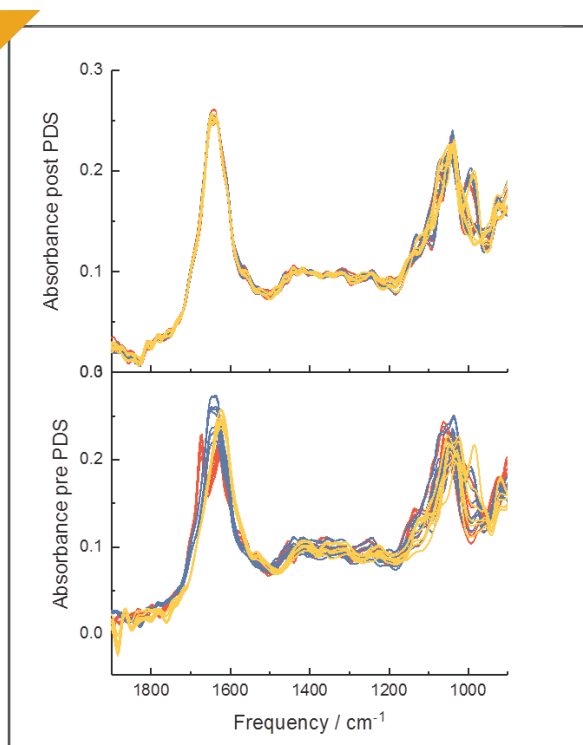
Uniquely Rugged & Compact Body

- Solid-state sensor
- Compact body length (310 mm), probe length (25 mm)
- Certified safe for use in hazardous and potentially explosive environments
- Suitable for indoor or outdoor use
- Low maintenance, low power

Rugged On-line Quantification

The Keit IRmadillo™ FTIR spectrometer excels in the manufacturing environment due to its solid-state design and suitability for use in hazardous environments.

Industry	Chemical Analysis
Petro-chemicals	Water in glycol, aromatics (benzene, toluene and xylene), mono and poly-glycerides, alcohols (methanol, ethanol, glycerol), esters, fatty acids
Fermentation/Biorenewables	Sugar, alcohols (ethanol, butanol), carboxylic acids (ethanoic / acetic acid, butyric acid), ketones and aldehydes (acetone), proteins, esters, anhydrides and carbonates
Pharmaceuticals	APIs, reagents, reaction intermediates
Bulk Chemicals	Acetic acid, PPD
Agro-chemicals	Pesticides, fertilisers
Polymers & Plastics	Additives in hot melt
Food & Beverages	Sugars, proteins, acids, fatty acids, oils
<ul style="list-style-type: none"> ▶ Beer, Wine, Tea & Coffee ▶ Chocolate ▶ Dairy ▶ Tobacco 	<ul style="list-style-type: none"> Alcohol, caffeine, sugars & polysaccharides, acids Fats, proteins, sugars Fats, proteins, sugars Nicotine, humectants
Municipal Solid Waste (MSW)	Soluble cellulose, organic matter



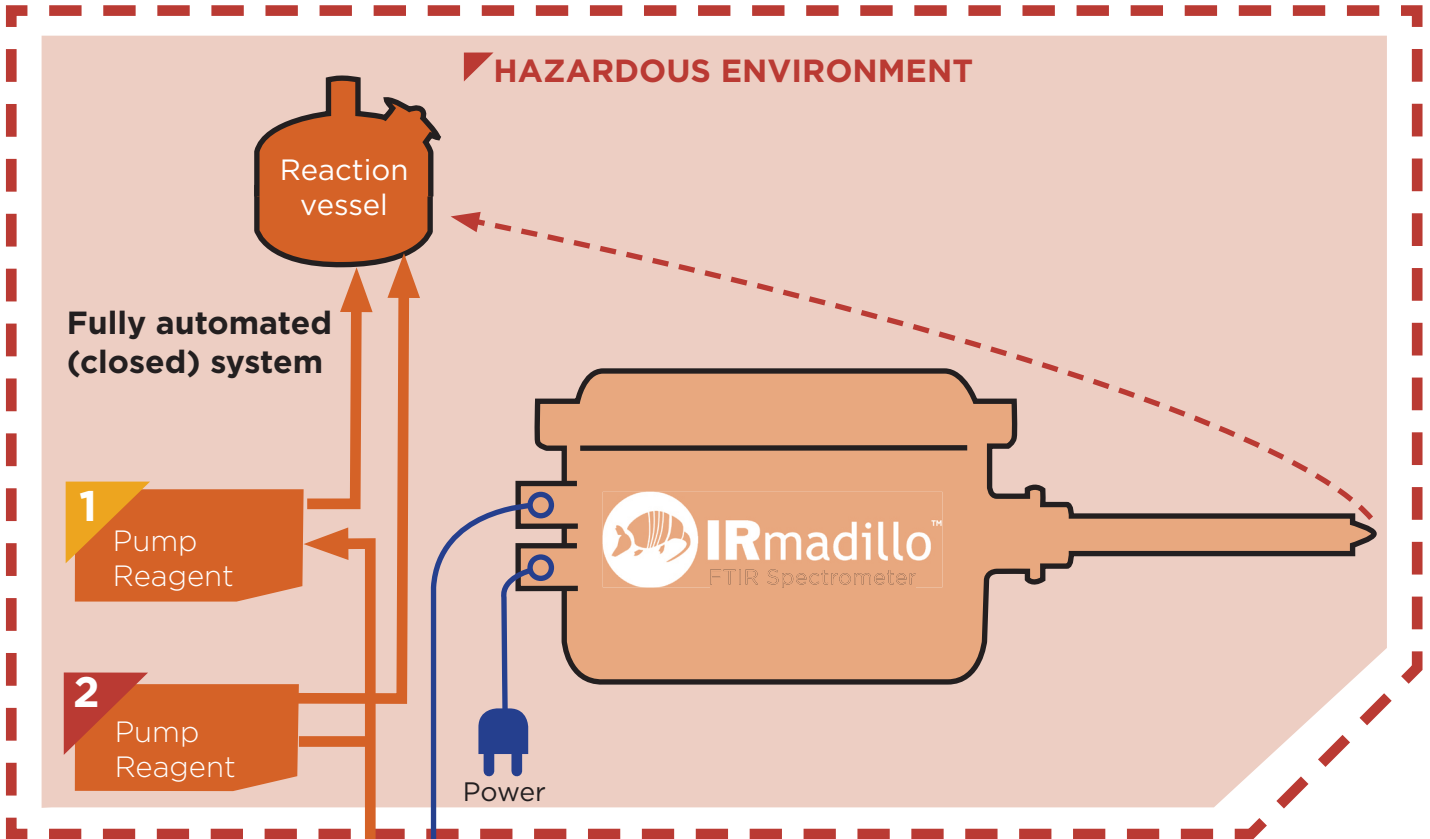
Universal Calibration Transfer

Multiple instruments can be programmed to behave the same regardless of location, environment or age.

The patented solid-state design of the IRmadillo makes calibration transfer a reality. The robust optical arrangement within the spectrometer does not drift or change with time.

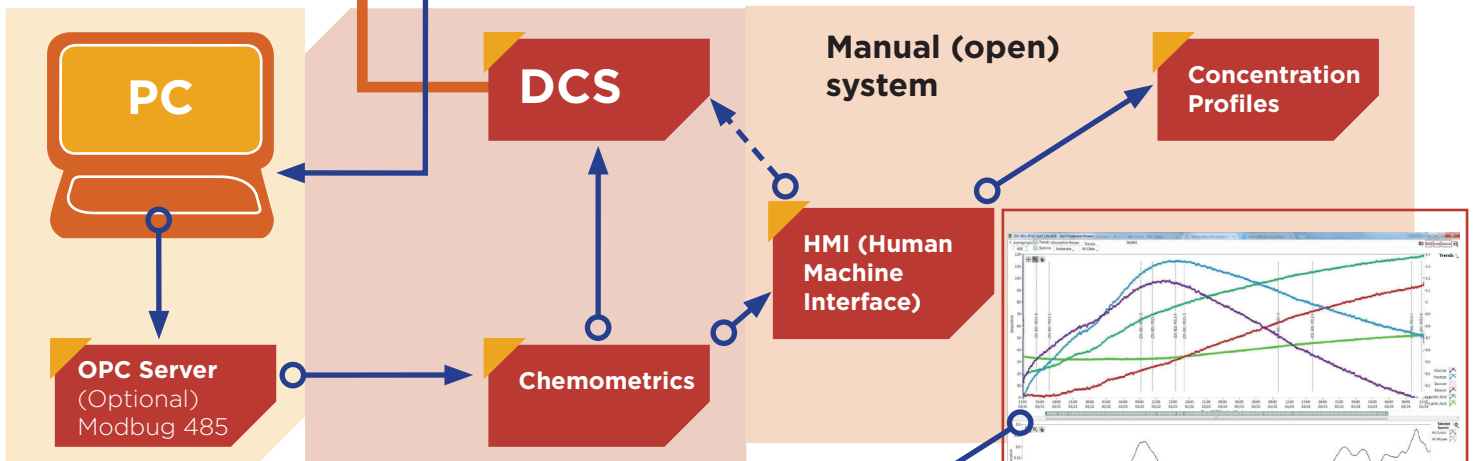
The figure on the left shows spectra before (bottom) and after (top) a calibration transfer algorithm was applied. This means you only need to build the model once.

Fit for the Process Environment



Sensor for Production Environment

Certified safe for use in hazardous environments, the IRmadillo™ FTIR spectrometers works directly in your process environment to provide real-time, continuous information.



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Application Note

Monitoring an industrial fermentation process with a solid-state FTIR sensor

Application Note

Measuring water in glycol during glycol dehydration

Real-time monitoring of water level

Application Note

Identification of multiple sugars

Solid-state FTIR sensor

Introduction

Many biochemical processes make use of sugar molecules. For example as a feedstock for fermentation processes. There are many different types of sugar molecules. All with similar structures, but with small differences between them. A

Here we report the use of the solid-state IRmadillo™ spectrometer as a sugar sensor designed to differentiate and quantify a mixture of seven different sugars at the same time.

Experimental conditions