Brochure

ThermoFisher SCIENTIFIC

Process Raman Spectroscopy

for downstream applications in oil and gas industries

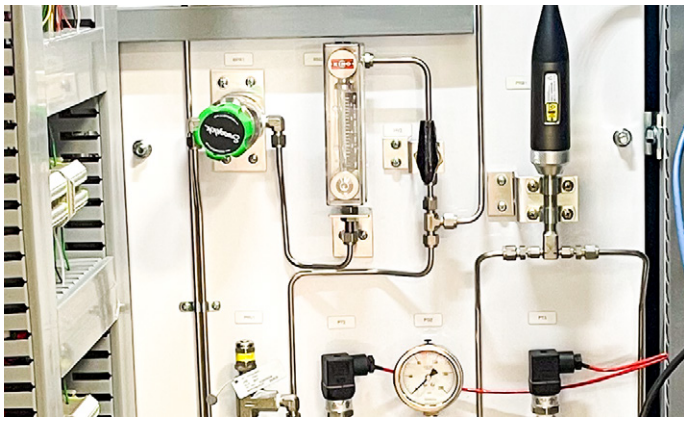
thermo scientific

Expediting Quality Assurance (QA) with Raman spectroscopy

A refinery's onsite QA lab constantly analyzes samples and verifies the quality of their products prior to distribution. Throughput is a main challenge for these labs as the speed samples can be processed is dictated by the lab's measurement technology.

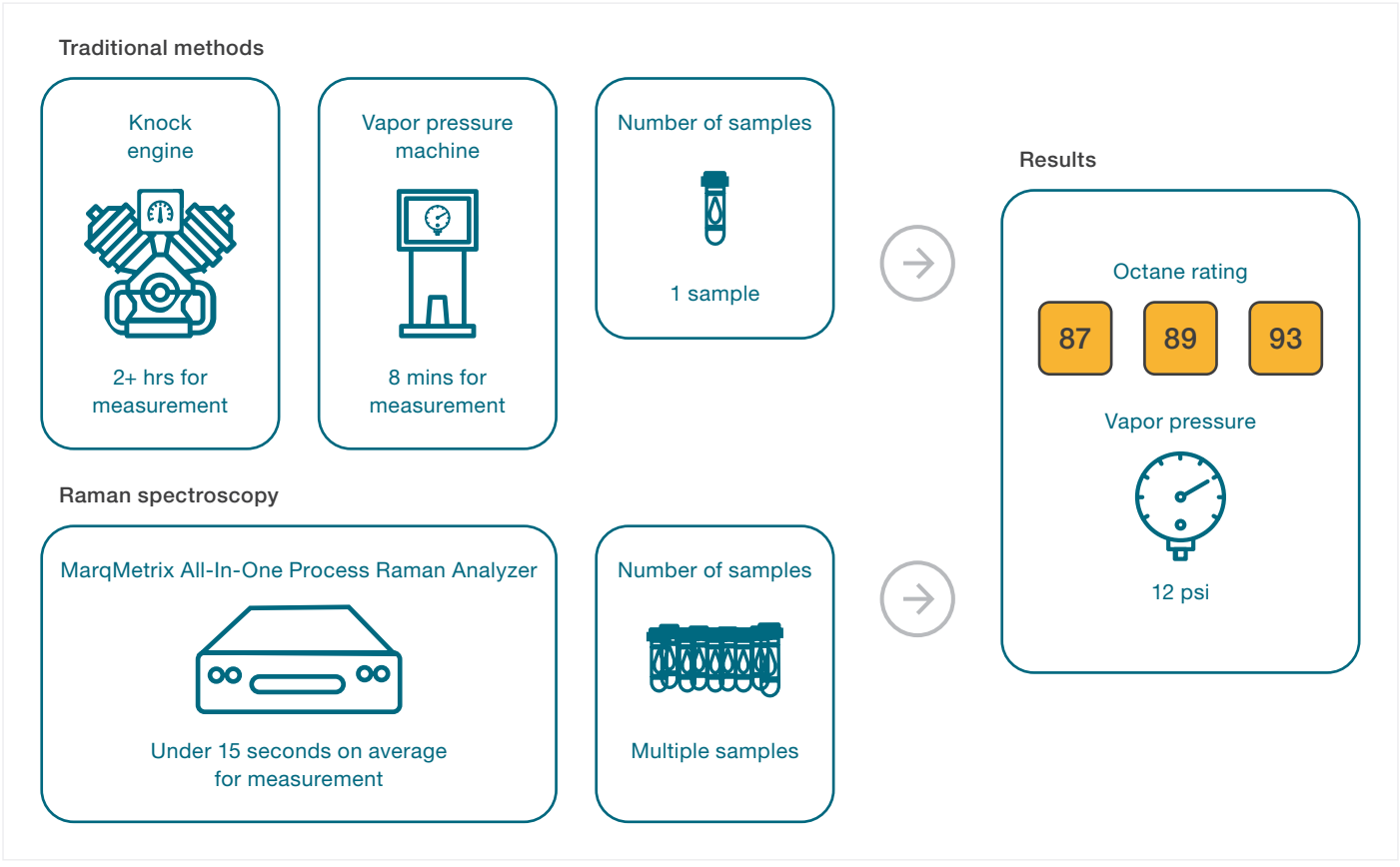
Traditional methods, such as a knock engine, vapor pressure analyzer, and gas chromatography can require several hours to provide results.

Raman spectroscopy can reduce the analysis time for multiple samples. The technique is also flexible given multiple analysis methods can be run simultaneously.



A solid-state Raman spectroscopy system, the MarqMetrix All-In-One Process Raman Analyzer has no moving parts, making it ideal for continuous process monitoring, including in-line, at-line, or off-line and routine laboratory analysis.

Measuring octane numbers



MarqMetrix All-In-One Process Raman Analyzer

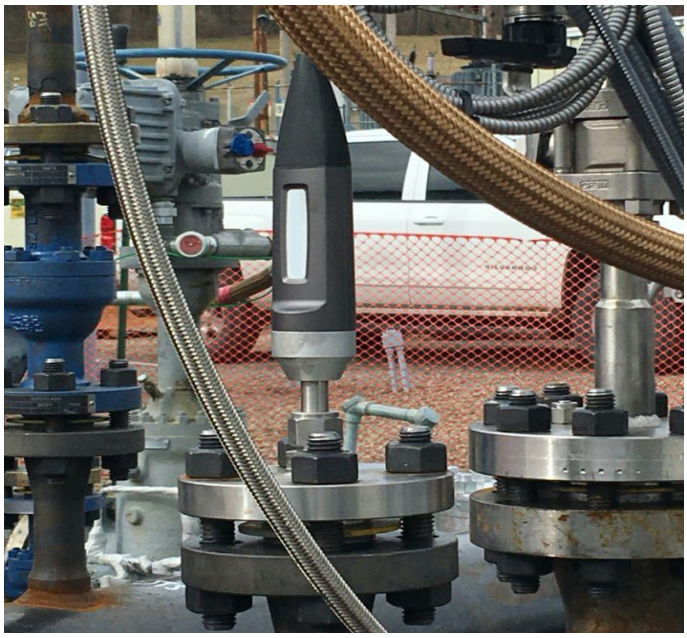
Benefits

- Small footprint
- Complementary analysis to: knock engine, vapor pressure tester and gas chromatography
- Measurements are correlated to the relevant ASTM standard

With a small footprint and no moving parts, the MarqMetrix All-In-One Process Raman Analyzer makes Raman spectroscopy analysis portable and puts decision-makers at the point of measurement.

Industry uses

A US-based refinery is using the Thermo Scientific™ MarqMetrix™ All-In-One Process Raman Analyzer to certify rack batches while the knock engine is running in the background to produce the custody transfer documentation. By doing this, the refinery is bringing gasoline to the market faster.



Selected applications for refineries

The MarqMetrix All-In-One Process Raman Analyzer allows refineries to:

- Certify gasoline blends
- Analyze Naphtha pretreats
- Identify sulfure peaks
- Analyze CO_1, CO_2, and oygen level contentrations
- Simulate distillation

Specialty probes

Lab applications

Thermo Scientific™ MarqMetrix™ Proximal Probe Sampling Optic & vial holder

- Non-contact probe
- Accommodates a 20ml scintillation vial

Lab & process applications

Thermo Scientific™ MarqMetrix™ FlowCell™ Sampling Optic

- Measure volatile fluids in-line
- Quick connection to pressurized cylinders

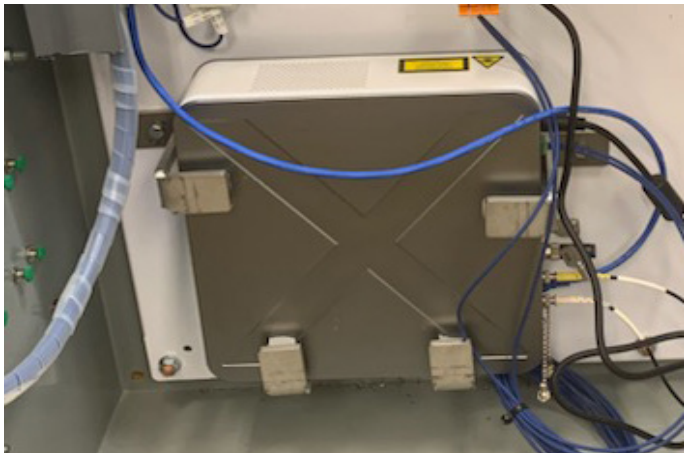
Process applications

Thermo Scientific™ MarqMetrix™ Process BallProbe™ Sampling Optic

- Measure fluids in the process piping
- Wide range of chemical compatibility and resistance to high temperatures

Additional accessories

- Hazardous location enclosures for additional protection



Learn more at **thermofisher.com/marqmetrixAIO**

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