

Process Raman analysis

MarqMetrix 0.25 in. BallProbe Sampling Optic

0.25 in. (6.35mm) diameter, for small-diameter laboratory & light process applications utilizing our patented TouchRaman Immersion Technology

Designed for lab & light-process settings

Thermo Scientific™ MarqMetrix™ 0.25 in. BallProbe™ Sampling Optic is a smaller-diameter variant of our robust TouchRaman™ immersion contact probe.

Designed for moderate chemical environments in laboratory and light-process settings, this probe is constructed from stainless steel 316L, UV grade-sapphire, and an epoxy seal with wide chemical compatibility. The probe is designed to fit in cuvettes and other narrow access vessels, while providing the same optical performance as the Thermo Scientific™ MarqMetrix™ Process BallProbe™ Sampling Optic – 0.5 in. diameter.

Simply touch & measure

TouchRaman Immersion Technology utilizes an exclusively sourced, high-grade spherical sapphire lens. The short focal length of the spherical optic allows for TouchRaman—where users simply touch the probe to the sample—yielding highly reproducible sampling of liquids, solids, slurries, powders and heterogeneous mixtures.

The simplicity of design is especially important in process applications where measurement accuracy and reproducibility are mission critical.

Reduced sampling variation,
extreme durability and
remarkable ease-of-use

Features and benefits

- Immersion contact probe for touch measurements in moderate chemical environments
- Measures liquids, solids, slurries, powders, and heterogeneous mixtures
- Simple design for measurement accuracy and reproducibility
- Designed to fit cuvettes and other narrow access vessels

Applications

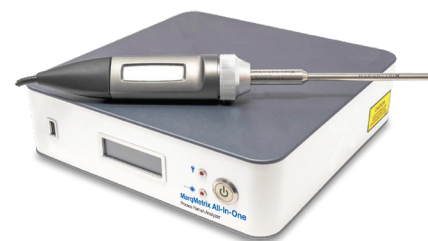
- Biopharmaceutical manufacturing
- Pharmaceutical manufacturing
- Food and beverage processing
- Polymer and plastic manufacturing
- Hazardous chemical applications



Each probe accommodates a high-precision 6mm UV-grade sapphire ball lens and an internal focusing lens. The internal focusing lens improves performance and acts as an additional barrier against upstream chemical ingress.

The curvature of the sapphire ball facilitates material exchange near the surface of the lens, preventing the buildup of materials that interfere with spectral acquisition. The form factor and ‘self-cleaning’ properties make the BallProbe an ideal choice for process flow applications.

The utility of the BallProbe is optimized when paired with our filtered fiber-optic interface, creating the Thermo Scientific™ MarqMetrix™ Fiber BallProbe™ Sampling Optic — a complete sampling solution for accurate and repeatable Raman measurements.



Wetted materials

Probe body	0.25 in. (6.35mm) OD Stainless steel 316L
Immersion Optics	6.00mm diameter UV-grade sapphire ball
Sealing materials	High-temperature epoxy

Optical properties

Made with high purity UV-grade sapphire ball lens aligned along the C-axis, eliminating response variability due to birefringence

Operating conditions

Suitable for intermittent exposure to most dilute and concentrated acids (hot & cold), bases and most organic solvents including ethanol, THF, ethyl acetate, acetone, DCM, toluene, pentane and acetonitrile

Avoid exposure to aqua regia, heated formic acid, mixed acid, TFAA

Related products

Thermo Scientific™ MarqMetrix™ All-In-One Process Raman Analyzer

Thermo Scientific™ MarqMetrix™ Process BallProbe™ Sampling Optic

Thermo Scientific™ MarqMetrix™ Fiber BallProbe™ Sampling Optic filtered fiber optic interface specifically designed for the MarqMetrix BallProbe and MarqMetrix All-In-One Process Raman Analyzer

Thermo Scientific™ MarqMetrix™ Proximal Probe Sampling Optic

Specifications

Standard probe length	4 in. (102mm)
Probe OD (Outside Diameter)	0.25 in. (6.35mm)
Sample working distance	TouchRaman (Sample contacts BallProbe lens)
Continuous operating temperature range	-20°C to 150°C
Pressured design condition	6,000psi (413 bar)
Compatible wavelengths	500-1100nm



Learn more at thermofisher.com/MarqMetrixAIO

thermo scientific