



MARQMETRIX®

MEASUREMENT MADE SIMPLE

CONTACT US

## PROCESS BALLPROBE® - 0.375 IN.

0.375 in. diameter for demanding laboratory and process applications, with TouchRaman® immersion technology

### DESIGNED FOR HARSH ENVIRONMENTS

The MarqMetrix® Process BallProbe is our most robust TouchRaman immersion contact probe. This 0.375 in. (9.5mm) diameter Hastelloy C-276 probe features a gold-compression seal with a pressure design condition of 6,000psi, allowing the probe to be used in extremely challenging chemical, pressure, and temperature conditions.

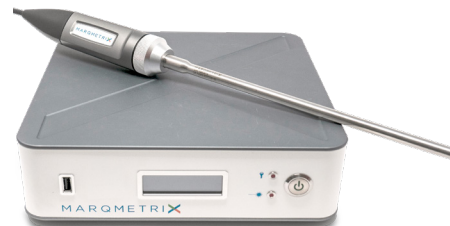
The use of corrosion resistant Hastelloy C-276, gold, and sapphire as the only wetted materials allow the Process BallProbe to withstand the harshest chemical environments.

### SIMPLY TOUCH & MEASURE

MarqMetrix BallProbe 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.

Users simply touch the probe to the sample — yielding highly reproducible sampling



### FEATURES & BENEFITS

- Immersion contact probe for touch measurements
- Measures liquids, solids, slurries, powders, and heterogeneous mixtures
- Simple design for measurement accuracy and reproducibility
- Designed to withstand challenging chemical, pressure, and temperature conditions

### APPLICATIONS

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



For more information contact:

206-971-3625

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The power of Raman, the simplicity of MarqMetrix

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## PROCESS BALLPROBE - 0.375 IN.

0.375 in. diameter for demanding laboratory and process applications



The Process BallProbe was inserted in 350°C hydrothermal vents at the bottom of the Pacific Ocean to obtain Raman data for the monitoring of biomass conversion in supercritical fluids.

The curvature of the UV-grade 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 Process BallProbe is optimized when paired with the MarqMetrix Fiber BallProbe—a complete sampling solution for accurate and repeatable Raman measurements. However, any BallProbe can be purchased as a standalone product for use with existing probes or open-optic configurations.



### Specifications

Probe Immersion Length	8.5 in. (216mm)
Probe OD (Outside Diameter)	0.375 in. (9.5mm)
Sample Working Distance	TouchRaman (Sample contacts BallProbe lens)
Continuous Operating Temperature Range	-20°C to 300°C
Pressured Design Condition	6,000psi (413 bar)
Compatible Wavelengths	500-1100nm

### Operating Conditions

Suitable for continuous exposure to 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

### Wetted Materials

Probe Body	0.375 in. (9.5mm) OD Hastelloy C-276
Immersion Optics	6.00mm diameter UV-grade sapphire ball
Sealing Materials	Gold

### Optical Properties

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

### Related Products

**All-In-One Process Raman System** - A single-unit spectrometer, laser, and acquisition computer

**Performance BallProbe**® - designed to withstand moderate chemical environments in laboratory and industrial settings

**Fiber BallProbe**® - filtered fiber optic interface specifically designed for the MarqMetrix BallProbe and MarqMetrix Raman All-In-One

**Proximal BallProbe**® - Non-contact sampling probes for the analysis of in-motion samples through physical barriers

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