



MARQMETRIX®

MEASUREMENT MADE SIMPLE

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## FLOWCELL™

with BallProbe® technology

### CONTINUOUS FLOW-THROUGH APPLICATIONS

The MarqMetrix® FlowCell is a Raman BallProbe® intended for demanding process flow-through applications. The unibody design places the patented BallProbe spherical optic directly in the flow path, minimizing dead volume and sample handling requirements while taking full advantage of the optical efficiencies.

FlowCell is designed for easy integration into continuous flow applications. Plumbing connection are made with standard 1/8 in. tube fitting connectors (e.g. Swagelok, Parker A-lok, Hoke, etc.) Each FlowCell is individually pressure tested so that you can quickly and confidently integrate powerful Raman measurements into your continuous flow process.

### DESIGNED FOR HARSH ENVIRONMENTS

The use of high-performance Hastelloy and sapphire makes FlowCell resistant to harsh chemical environments. FlowCell has been installed in commercial applications ranging from cryogenic environments to boiling concentrated acids.

High-performance Hastelloy  
and sapphire makes FlowCell  
impervious to harsh chemical  
environments



### FEATURES & BENEFITS

- Ideal for flow-through, continuous flow applications
- Minimizes dead volume and sample handling requirements
- Simple design for easy integration
- Designed to withstand challenging chemical 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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## FLOWCELL™

with BallProbe® technology

The curved shape of the sapphire ball facilitates material exchange near the surface, preventing the buildup of materials that interfere with spectral acquisition.

The form factor and 'self-cleaning' properties of the design make the FlowCell an ideal solution for Raman measurements in process flow applications.

FlowCell is optimized to integrate with the MarqMetrix Fiber BallProbe, but can be used with other fiber optic probes that have a collimated excitation beam co-linear with the collection path.

### Specifications

Fluid Connectors	Compatible with 1/8 in. Swagelok or Parker A-lok fittings
Body Dimensions	W 35mm W 20mm D 13mm
Fiber Probe Interface	80mm long optical connection compatible with MarqMetrix Fiber BallProbe
	Also available with 80mm long 0.5 in. (12.7mm) straight tube connection
Continuous Operating Temperature Range	-20°C to 250°C with perfluoroelastomer seal
	-20°C to 350°C with gold seal
Individual Pressure Test Rating	500 psi (34 bar) with perfluoroelastomer seal
	2500psi (170 bar) with gold seal
Compatible Wavelengths	500-1100nm
Flow Path Volume	200uL

### Wetted Materials

Probe Body	Hastelloy C276
Optical Interface	6mm diameter UV-grade sapphire ball BallProbe
Sealing Materials	Perfluoroelastomer (Kalrez®)
	Gold option for higher pressure applications



### Optical Properties

Optimized for use with the MarqMetrix Fiber BallProbe®

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

### 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 (gold option)

### Related Products

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

**Process BallProbe®** - designed to withstand demanding environments

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

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