

# RAMAN FLOWCELL

with BallProbe® technology

## Wetted Materials

<b>Probe Body</b>	Hastelloy C22
<b>Optical Interface</b>	6mm diameter UV-grade sapphire BallProbe
<b>Sealing Materials</b>	Perfluoroelastomer (Kalrez®)
	Gold option for higher pressure applications

## Specifications

<b>Fluid Connectors</b>	Compatible with 1/8 in. Swagelok or Parker A-lok fittings
<b>Body Dimensions</b>	W 35mm H 20mm D 13mm
<b>Fiber Probe Interface</b>	80mm long optical connection compatible with MarqMetrix Fiber BallProbe.
	Also available with 80mm long 0.5 in. (12.7mm) straight tube connection.
<b>Clear Aperture (max. Laser Beam Waist)</b>	0.22 in. (5.6mm)
<b>Continuous Operating Temperature Range</b>	-100°C to 250°C with perfluoroelastomer seal
	-100°C to 350°C with gold seal
<b>Individual Pressure Test Rating</b>	500 psi (34 bar) with perfluoroelastomer seal
	2500psi (170 bar) with gold seal
<b>Compatible Laser Wavelengths</b>	500-1100nm
<b>Flow Path Volume</b>	200uL

## 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.

The MarqMetrix 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.



A medium-pressure FlowCell is available compatible with pressures up to 15,000psi, and temperatures up to 400°C. Please call MarqMetrix to discuss your application requirements.

For more information call:

**206-971-3625**

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The power of **Raman**, the simplicity of **MarqMetrix**

# RAMAN FLOWCELL

with BallProbe® immersion technology



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

Additionally, 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.

The Raman 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.

## Optical Properties

Optimized for use with the MarqMetrix Fiber Probe

Accepts a collimated laser beam up to 5.6mm (0.22 in.) diameter

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 prolonged exposure to aqua regia (gold option)

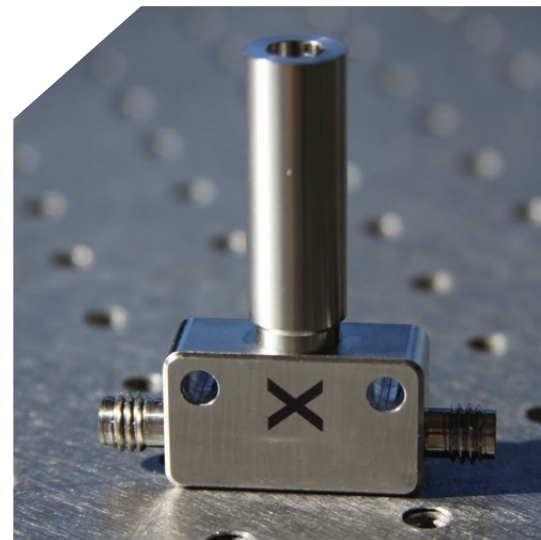
## Related Products

**Process BallProbe** – 0.5 in. diameter, for more demanding environment

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



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



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