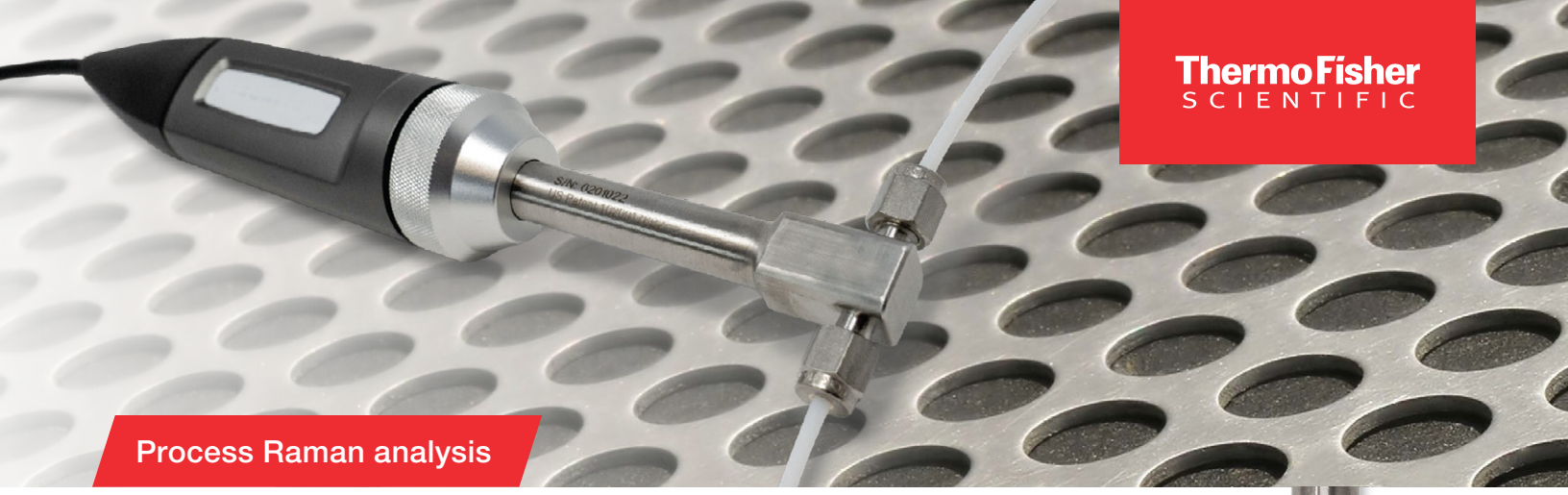

Process Raman analysis

MarqMetrix FlowCell Sampling Optic

Continuous flow-through applications

The Thermo Scientific™ MarqMetrix™ FlowCell™ Sampling Optic is 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.

MarqMetrix FlowCell Sampling Optic 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 MarqMetrix FlowCell Sampling Optic 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 MarqMetrix FlowCell Sampling Optic resistant to harsh chemical environments. MarqMetrix FlowCell Sampling Optic has been installed in commercial applications ranging from cryogenic environments to boiling concentrated acids.

Features and 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

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

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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 MarqMetrix FlowCell Sampling Optic an ideal solution for Raman measurements in process flow applications.

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

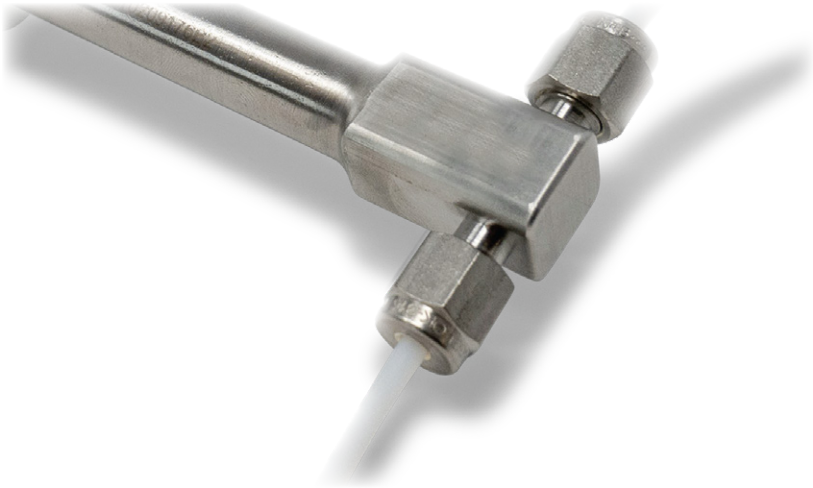
Wetted materials	
Probe body	Hastelloy C276
Optical interface	6mm diameter UV-grade sapphire ball BallProbe
Sealing materials	Perfluoroelastomer (Kalrez®)
	Gold option for higher pressure applications

Optical properties
Optimized for use with the MarqMetrix Fiber BallProbe Sampling Optic
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

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

Specifications	
Fluid connectors	Compatible with 1/8 in. Swagelok or Parker A-lok fittings
Body dimensions	Swagelok or Parker A-lok
Fiber probe interface	fittings
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



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

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