

Process Raman analysis

# MarqMetrix BioReactor BallProbe Sampling Optic

## Utilizing TouchRaman™ Immersion Technology

### Engineered for repeatable measurements

Thermo Scientific™ MarqMetrix™ BioReactor BallProbe™ Sampling Optic is designed specifically to meet the requirements of the bioprocess industry. With the durability to handle the rigors of sterile practices, including CIP/SIP and offline autoclaving, the MarqMetrix Bioreactor BallProbe Sampling Optic is precisely manufactured for repeatable measurements batch-to-batch, probe-to-probe, and month-to-month.

### Sanitary construction for bioprocessing

Made from sanitary finished (15Ra) 316L stainless steel and exclusively sourced high-purity sapphire optics, the simplicity of design prompts an ease of use that eliminates user-to-user variation.

The form factor of the MarqMetrix Bioreactor BallProbe Sampling Optic matched to the classic design of dissolved oxygen (DO) bioprocess probes—12mm diameter, Pg13.5 fittings, with 220mm and 120mm immersion lengths.

MarqMetrix Bioreactor BallProbe Sampling Optics are available with an integrated flange. The flange provides a mechanical stop that creates a fixed immersion length (120mm or 220mm) and prevents the probe from backing out of the port under pressure.

Simple design for ease of use and consistent measurements

### Features and benefits

- Accurate and repeatable measurements
- Durable design, resistant to sterilization (CIP/SIP)
- Protective cap shields the probe's internal optics during autoclaving and storage
- Compatible with standard Pg13.5 ports
- Ease of use eliminates user-to-user variation

### Applications

- Biopharmaceutical manufacturing
- Pharmaceutical manufacturing



The utility of the MarqMetrix BioReactor BallProbe Sampling Optic 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.

However, the MarqMetrix BioReactor BallProbe Sampling Optic can be purchased as a stand-alone product for use with existing fiber-optic Raman probes.

Wetted materials	
Probe body	OD Stainless Steel
Optics	Sapphire sampling lens
Sealing Materials	High temperature composite adhesive

Specifications	
Standard probe length	220mm or 120mm (immersion)
Probe OD (Outside Diameter)	0.472 in. (12.0mm)
Sample working distance	TouchRaman (sample contacts BallProbe lens)
Continuous operating temperature range	-20 to 150°C
Pressured design condition	6,000psi (413 bar)
Compatible wavelengths	500-1100nm
Fittings	Pg13.5, with beveled Teflon washer and viton o-ring



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	

Related products	
Thermo Scientific™ MarqMetrix™ All-In-One Process Raman Analyzer	
Thermo Scientific™ MarqMetrix™ Fiber BallProbe™ Sampling Optic	

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