

Process Raman analysis

Single-Use Bioreactor BallProbe®

with TouchRaman™ immersion technology

Sterile construction for high value batches

Made from sanitary finished (15Ra) 316L stainless steel and exclusively sourced high-purity sapphire optics, the Single-Use Bioreactor BallProbe® offers accurate and precise Raman measurement without compromising the sterility of your high-value batches.

Packaged in tear away bags, the probe can be sterilized via autoclave, steam-in-place (SIP), EtO or integrated into larger single-use systems and gamma sterilized (50kGy). Designed for ease of use, it is simple to connect the sterile probe to the fiber optic interface of the Raman system enabling powerful real-time chemical insights. To ensure batch purity, simply dispose of the probe when process is complete.

Engineered for bioprocessing conditions

Created to meet the requirements of the bioprocessing industry, the Single-Use Bioreactor BallProbe® is compatible with standard Pg13.5 ports. Measure media nutrient levels, viable cell density, and more with probes that match the form factor of dissolved oxygen (DO) bioprocess probes. The standard configuration includes a welded flange that prevents the probe from backing out of the port and fixes the immersion lengths at 220mm or 120mm.

Sterile, single-use design
for batch purity



Standard probe lengths:
120mm and 220mm (immersion)

Features and benefits

- Accurate and repeatable measurements
- Single-use, disposable probe for high-value batches
- Sterilizable via autoclave, SIP, EtO, gamma (not provided sterilized)
- Compatible with standard Pg13.5 ports
- Customization available for integrators

Applications

- Biopharmaceutical manufacturing
- Pharmaceutical manufacturing
- Cultivated meat production
- Industrial fermentation

The Single-Use Bioreactor BallProbe® can also be customized to meet integrators' specific application needs.

The Single-Use Bioreactor BallProbe® is easily coupled to the MarqMetrix FiberHeadSU – the fiber optic interface to the MarqMetrix All-in-one Raman measurement device.

The newly designed FiberHeadSU has a proprietary fitting that makes securely attaching and detaching the Single-Use Bioreactor BallProbe® a breeze. End users must have a FiberHeadSU to use Single-Use Bioreactor BallProbe®s (standard FiberHeads can be converted to the FiberHeadSU model).



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Product contacting materials

Probe body	12.0mm diameter 316L Stainless Steel Sanitary finish 15Ra
Immersion optics	8.00mm diameter UV-grade sapphire ball
Sealing materials	USP Class VI and ISO 10993-5

Specifications

Standard probe length	Fixed immersion length: 220mm or 120mm (optionally, probes can be purchased without a fixed flange - allowing variable immersion length up to 220mm)
Probe OD (outside diameter)	0.47 in. (12.0mm)
Sample working distance	TouchRaman (sample contacts BallProbe lens)
Continuous operating temperature range	5°C - 150°C
Pressured design condition	6,000psi (413 bar)
Fittings	Pg13.5, with silicone o-ring
Compatible sterilization methods	Autoclave, SIP, EtO, Gamma (50kGy)

Operating conditions

Suitable to intermittent exposure to standard bioprocess cleaning solutions, organic solvents, and most dilute acids and bases

Related products

All-in-one process Raman system - a single-unit spectrometer, laser, and acquisition computer

FiberHeadSU - filtered fiber optic interface specifically designed for the MarqMetrix Single-Use BioReactor BallProbe® and All-in-one system

Learn more at thermofisher.com/ramina

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