

Approved materials, which are resistant under sterilization processes

Screw attaches to Ingold port of bioreactor



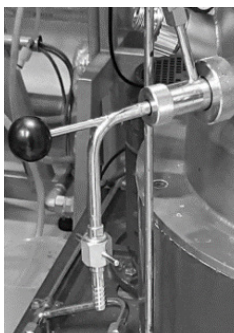
Premium steel frame

Hermetically sealed optical window

# ViewPort® Spectrometer Interfaces

## Reduced Contamination Risk and Higher Process Yield in Bioreactors

Revolutionary ViewPort® process analytical technology (PAT) components act as spectrometer interfaces on bioreactors without compromising the sterile boundary. ViewPort® provides a hermetically sealed optical window that enables in-situ monitoring of bioprocesses. This reduces contamination risk and enables higher process yield.



### FROM Conventional physical sampling

- Risk of cell culture contamination
- Offline analysis required
- Limited flexibility

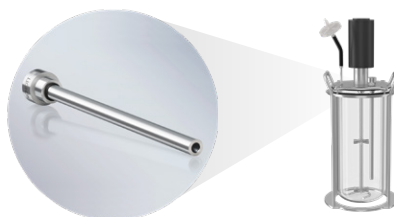
### TO In-situ monitoring with ViewPort®

- Measurement through optical window
- Enables real-time in-situ process control
- Flexibility to change and recalibrate sensors

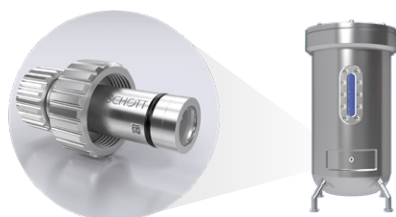


## Product variants

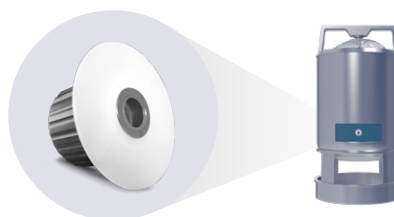
ViewPort® is available in standard versions for well-established multi-use bioreactors as well as customized versions for single-use bioreactors.



**ViewPort® PG 13.5**  
for multi-use glass bioreactors



**ViewPort® Ingold**  
for multi-use stainless steel bioreactors



**ViewPort® Single-Use**  
for single-use bioreactors

## Approved materials

ViewPort® conforms with applicable regulations and guidelines and is manufactured using materials in accordance with pharma industry best practices.

## Sterilizable

The components are conveniently sterilizable under  $\gamma$ -radiation and steam-in-place (SIP) together with entire bioreactor assemblies, removing the need for additional sterilization of the spectrometer probe.

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glass made of ideas

# Flexible, continuous process monitoring with ViewPort®

## How ViewPort® is used



1. Connected to standard ports
2. Sterilizable with bioreactor
3. Interface for sensors or spectrometers
4. Real-time monitoring through optical window
5. Exchangeable at any time, while cultivation is running - sterile integrity is maintained
6. Continuing real-time monitoring

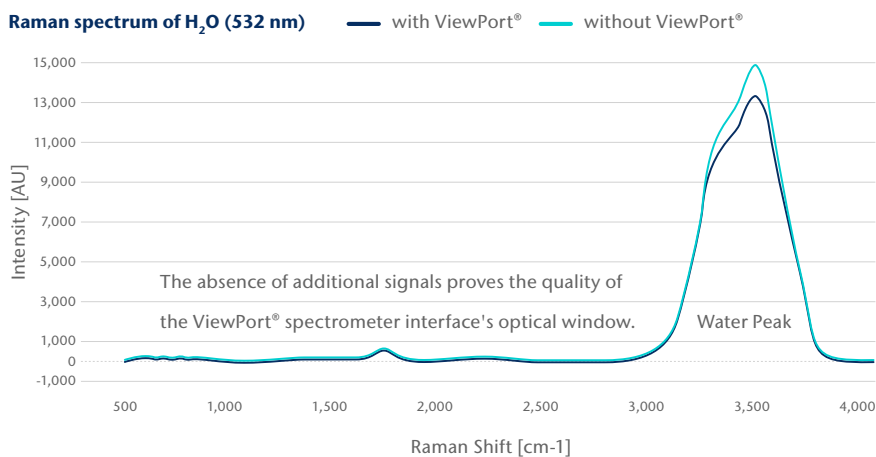
## Real-time monitoring

Control and adjustment of key process parameters (e.g., glucose, biomass or lipid concentration) in real-time enables optimized yield. SCHOTT is collaborating with reputable spectrometer companies providing compatible probe systems with ViewPort®.



## High-performance optical measurements

Made with high-quality SCHOTT glass, the optical window enables the precise transmission of optical signals between sensors and reactants.



## Technical details

	ViewPort® PG13.5	ViewPort® Ingold (G 1 ¼ ")	ViewPort® Single Use
Raman spectroscopy	✓	✓	✓
Fluorescence spectroscopy	✓	✓	✓
UV / VIS / NIR	✓	✓	✓
Autoclaving / SIP / CIP	✓	✓	—
Gamma-resistant	✓	✓	✓
Body material stainless steel 316L	✓	✓	—
Body material PE (USP Class VI)	—	—	✓
Sapphire optical window	✓	✓	✓

[schott.com/viewport](http://schott.com/viewport)

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