# CIP/SIP ATR Fiber Probe for Bioprocess (Shaft-in-shaft design)

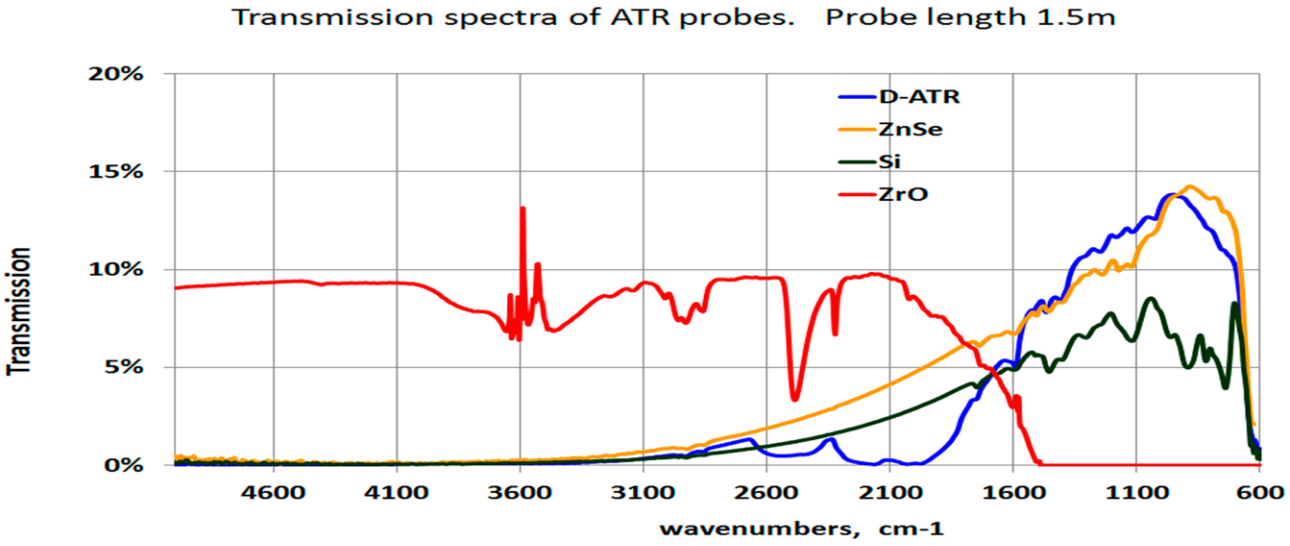
art photonics




Sterilizable ATR Fiber Probe is a new product of art photonics' ***FlexiSpec***® product line. These ATR Probes are produced with any type of ATR element and for any type of FTIR spectrometers.
Unique Shaft-in-Shaft design enables use of ***FlexiSpec***® ATR Probe in Bio process where sterilization is required without having to forgo the renown advantages of Mid-IR FTIR spectroscopy.

**Applications:**

- Reaction Monitoring in real time
- Process Analytical Technologies (PAT)
- Remote Polymerization Control
- Crystallization Process Screening
- In-situ IR-Spectroscopy for PAT in Chemical, Petrochemical, Atomic, Biopharmaceutical & Food Industry




## Specification of Fiber Optic Immersion ATR-Probes *FlexiSpec*®

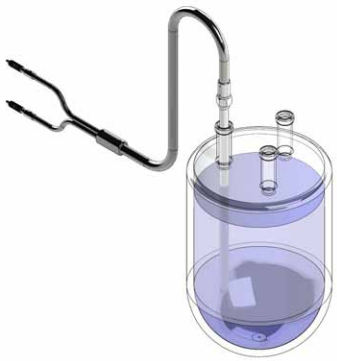
| Probe type | **Diamond ATR** | **ZnSe ATR** | **Silizium ATR** | **Cubic Zirconium ATR** |
|---|---|---|---|---|
| **Transmission range** | 5.2-17µm (600-1900cm $^{-1}$) | 3.2-17µm (600-3100cm $^{-1}$) | 3.2-17µm (600-3100cm $^{-1}$) | 1.1-6.5µm (650-9000cm $^{-1}$) |
| **Fiber type** | PIR-900/1000 | PIR-900/1000 | PIR-900/1000 | CIR-500/550 |
| **Temperature range** | -150°C / + 140°C | -150°C / + 140°C | -150°C / + 140°C | -150°C / + 90°C |
| **Pressure (max)** | 200Bar, 300 Bar on request | 10Bar | 100Bar | 100Bar |

## Common Parameters of Fiber Optic ATR-Probes *FlexiSpec*®

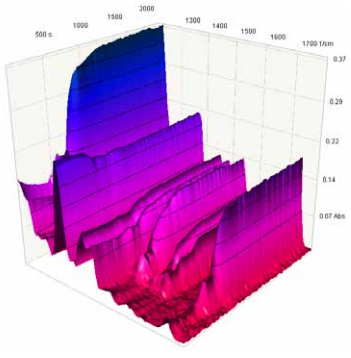
| | |
|---|---|
| **Total Length** | 1.5m (opt.: 1m to 5m)* |
| **Shaft Length** | 300mm (opt.: 100mm to 700mm)* |
| **Shaft Diameter** | 12mm, 6.3mm* |
| **Shaft Material** | Hastelloy C22 |
| **Length of Legs** | 500mm (opt.: 500mm) |
| **Protective Tube Material** | Liquid Tight SS-Conduit, KOPEX-Tube |
| **Minimal Bending Radius** | 130mm |
| **Input / Output Connectors** | Long SMA (opt.: any other type) |



*Customized dimensions are available on request.







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