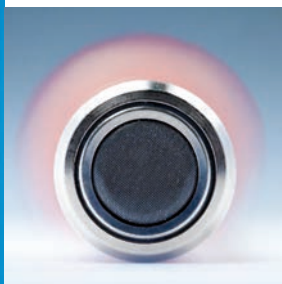


In-Line CO₂ Measurements For Cell Culture and Fermentation



Maximize Bioreactor Productivity

In situ measurement of CO₂ with the InPro 5000i allows immediate reaction to CO₂ changes to help maximize productivity in cell culture.



Sterilizable and Autoclavable

The InPro 5000i is fully SIP resistant and autoclavable. It is made of FDA compliant materials, making it optimal for pharmaceutical processes.



Easy to Handle and Maintain

This CO₂ sensor uses a membrane body concept to dramatically limit maintenance time. The inner body, a pH electrode, can easily be replaced on site.



High Performance Measurement

The InPro 5000i provides a fast response time and high signal stability when measuring CO₂ in bioreactors. It is designed to help you achieve real-time process control and maximize the productivity of your cell culture/fermentation.



InPro 5000i Compliant in-line CO₂ Measurement

The InPro™ 5000i is an on-line carbon dioxide sensor with ISM™ that allows for accurate measurement and control of dissolved CO₂ in biopharmaceutical applications. It is based on the widely accepted Severinghaus principle of CO₂ measurement.

This CO₂ sensor uses Intelligent Sensor Management (ISM) technology. This provides pre-batch diagnostics for the best measurement performance and full traceability for complete documentation. The Plug and Measure feature supports seamless integration.

The InPro 5000i is steam sterilizable and autoclavable, making it optimal for pharmaceutical bioreactors. It is made of FDA compliant materials and is EHEDG certified for cleanability.

Technical Data of the InPro 5000i

Measurement Parameter	Dissolved Carbon Dioxide
Primary Media/Application	Pharmaceutical/Life Science Production
Measurement Technology	Potentiometric Severinghaus
Measurement Range – Concentration	10 ... 1000 mbar (0.145...15.4 psi) pCO ₂
Accuracy (10–1000 mbar)	±10% of the reading + 2 mbar
(10–200 mbar)	± 5% of the reading valid for ± 100 mbar of calibration point
Response Time t ₉₀ at 25 °C (77 °F)	< 120 s
ISM (Digital) or Analog	ISM (Digital)
Cable Connector	K8S
Process Connection	Pg 13.5
Sensor Diameter	12 mm
Sensor Lengths	120 mm, 220 mm, 320 mm, 420 mm
Wetted Metallic Material	316L Stainless Steel
Surface Roughness of Wetted Material	N5/R _a 16 (R _a = 0.4 µm / 16 µin)
O-ring Material	Viton®, Silicone
Measuring Temperature Range	0 ... 60 °C (32 ... 140 °F)
Mechanical Temperature Range	0 ... 135 °C (32 ... 275 °F)
Operating Pressure	0.2 ... 2 bar (2.9 ... 29.0 psi)
Wetted Membrane Material	PTFE
Autoclavable/Sterilizabile	Yes
Design Pressure	3 bar (44 psig)
IP Protection Class	IP 67
Certificates and Approvals	Quality Certificate, Material Certificate 3.1, Surface Finish Certificate, FDA/USP Class IV
Hygienic/Biocompatibility Approvals	EHEDG EL Class 1, USP Class VI/FDA/USP Class 6

Ordering Information

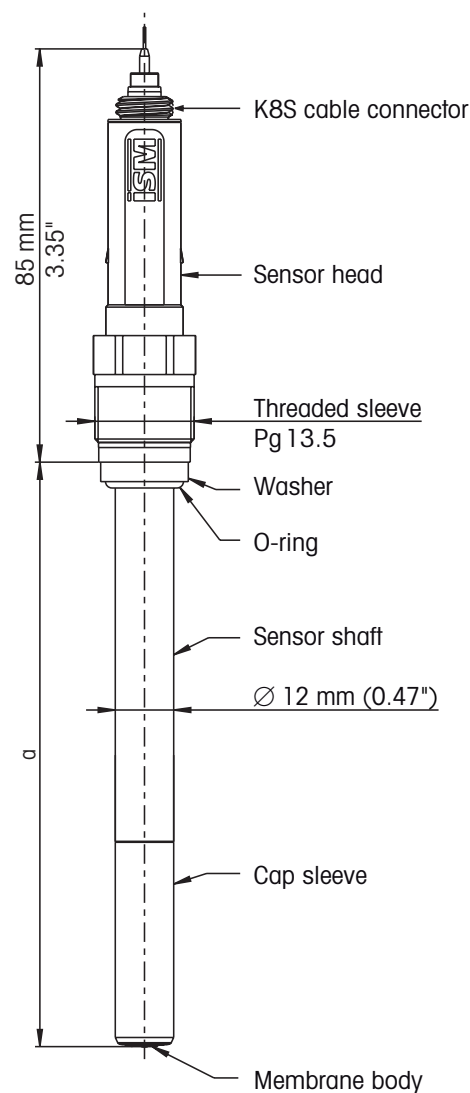
Description	Sensor Length (a)	Order Nr.
InPro 5000i/12/120	120 mm	30 013 606
InPro 5000i/12/220	220 mm	30 019 005
InPro 5000i/12/320	320 mm	30 019 006
InPro 5000i/12/420	420 mm	30 748 118

InPro 5000i Consumables

Interior Body InPro 5000i Kit	120 mm	30 019 049
Interior Body InPro 5000i Kit	220 mm	30 019 170
Interior Body InPro 5000i Kit	320 mm	30 019 175
Interior Body InPro 5000i Kit	420 mm	30 749 397

InPro 5000i Accessories

Membrane Kit InPro 5000i (4 Membrane Bodies, 1 O-Ring Set, 25 ml Electrolyte)	52 206 055
Cap Sleeve without Protective Cage, N-type 1.4435	52 201 153
Cap Sleeve with Protective Cage, P-type 1.4435	52 201 154



Technical drawing of the InPro 5000i

► www.mt.com/InPro5000i

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Viton is a registered trademark of Du Pont Performance Elastomers LLC.



Management System
certified according to
ISO 9001 / ISO 14001

METTLER TOLEDO Group

Process Analytics
Local contact: www.mt.com/contacts

Subject to technical changes.
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For more information