

DO₂ Sensors

Measurements of dissolved oxygen (DO₂) in biotechnological processes is a basis for process optimization and allows to maximize the product yield. A microorganism or cell responds to the oxygen concentration in regulating its overall metabolism. Therefore the knowledge of the DO₂ concentration and the proper control during the process are of great importance. The AppliSens DO₂-sensor is specifically designed for long-term, stable and accurate measurements in bioprocesses. The DO₂-sensor has a titanium membrane module to minimize the measurement drift. The autoclavable polarization module allows polarizing of your DO₂-sensor while autoclaving your bioreactor system, resulting in reduced start-up time for your culture.

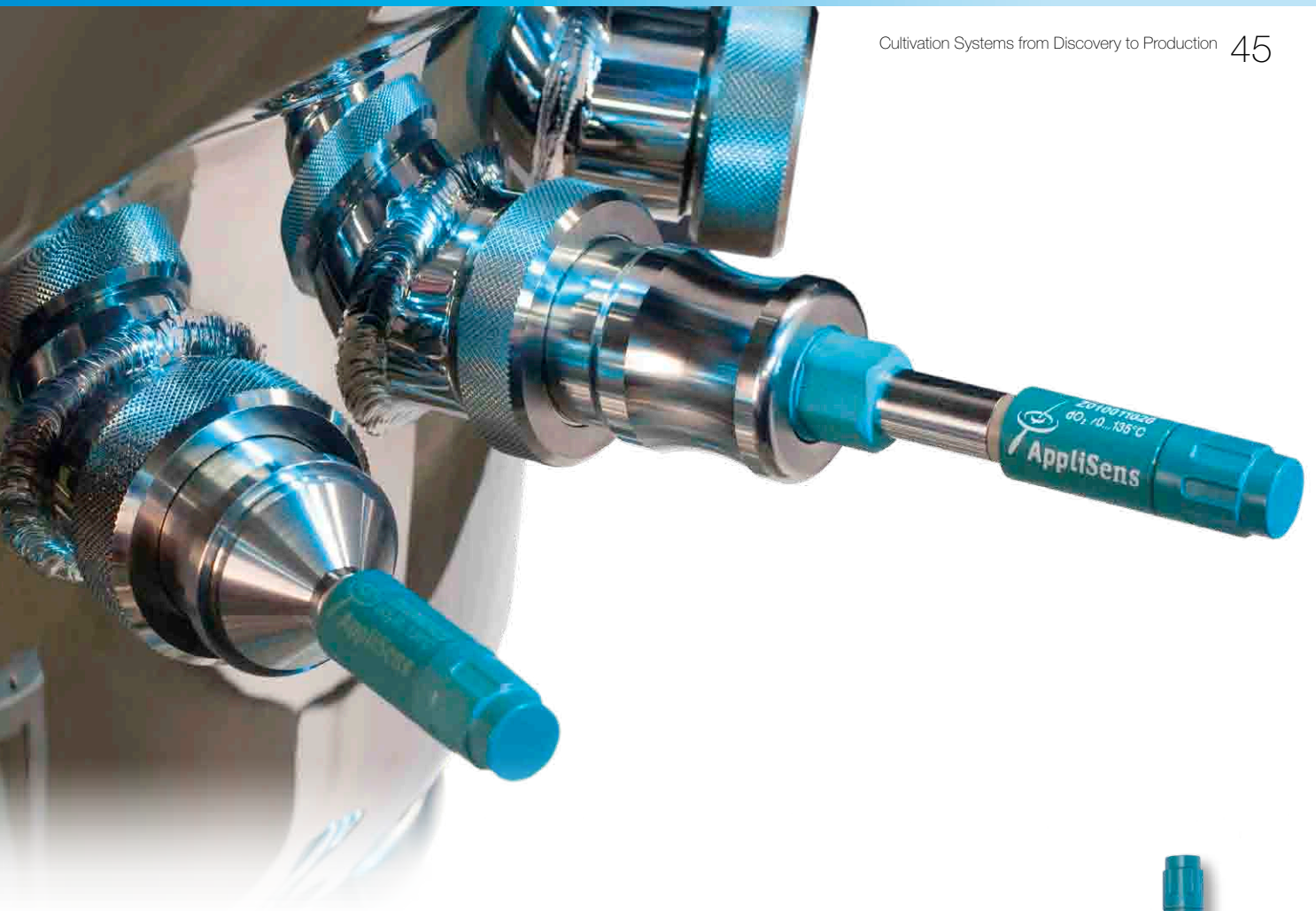
Features

- Titanium and PEEK materials guarantees low drift
- cGMP compatible by using FDA approved materials
- Electropolished surface roughness finish of 0.4 µm eases cleaning
- Short response time
- Withstands repeated SIP and CIP cycles
- Standardized PG 13.5 connection guarantees interchangeability with other bioreactor brands

Applications

- Microbial cultures
- Cell cultures
- Batch
- Fed Batch
- Continuous cultures
- Perfusion cultures





Specifications

Optimum polarization potential	- 800 mV @ 40°C	
Polarization potential amplifier	- 675 mV	
Max. pressure where linearity is guaranteed	4 bar	
Max. sterilization temperature	135°C	
Minimum polarization time	30 minutes	
Minimum polarization time after autoclaving	4h	
Optimum polarization time after autoclaving	Overnight	
Polarization current	Air / 25 °C / 1.013 bar / 100 % RH	(33 - 66) nA
Polarization current	Air / 40 °C / 1.013 bar / 100 % RH	(65 - 98) nA
Polarization current	O ₂ / 40 °C / 1.013 bar / 0 % RH	(300 - 350) nA
Response time gas phase 20 °C	t (90%)	(20 - 30) s
Response time gas phase 40 °C	t (90%)	(10 - 20) s
Response time gas phase 60 °C	t (90%)	(5 - 10) s
Drift between 15h - 5 days	< 0.2 % / day	
Drift between 5 days and 7 days	< 0.1 % / day	
Drift between 7 days and 30 days	< 0.05 % / day	
Insertion length ø 12 mm sensors:		
Z010011025	insertion length 110 mm, 215 mm total length (used with Tracfix sensor holder)	
Z010015420	insertion length 154 mm, 259 mm total length	
Z010023525	insertion length 235 mm, 340 mm total length (Bioreactor 1-5 L)	
Z010032525	insertion length 325 mm, 430 mm total length (Bioreactor 7 L)	
Z010042525	insertion length 425 mm, 530 mm total length (Bioreactor 15 L)	
Z010059025	insertion length 590 mm, 695 mm total length (Bioreactor 20 L)	
Insertion length ø 8 mm sensors:		
Z010015080	insertion length 150 mm	
Z010017080	insertion length 170 mm	

