

# pH Sensors

In the biotech- and pharmaceutical industry it is vital to have precise information about the pH value of the bioprocess. The pH level directly affects viability, productivity, stability of the cells and it influences analysis of active ingredients.

The AppliSens pH<sup>+</sup> sensor is specifically designed for long-term, stable and accurate measurements in bioprocesses. The pH<sup>+</sup> sensor has a fixed sleeve diaphragm that reduces the influence of the culture medium on the pH measurement.

Compared to classic diaphragm types, the sleeve diaphragm increases measuring accuracy and increases the lifetime of the sensor which is vital for long lasting biotech cultivation processes.

## Features

- Robust design by using tempered glass shaft
- Sensor head uses minimal space on bioreactor topplate
- Accurate measurement
- Low sensitivity to fouling due to sleeve diaphragm
- Stable signal over longer time
- FDA approved materials
- 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

Parameter	As Delivered
pH range	0 - 12 pH
Temperature range	0 - 135°C
Electrode zero point (E7)	+/-15 mV
Electrode slope (S4/7)	> 98%
Isothermal Intersection- pH (Eiso)	6.5 - 8
PH Range	4 - 9
Membrane resistance @ 25°C (ohm)	<1200
Membrane resistance @ 37°C (ohm)	<500
Calibration drift in Buffer 9 (mV / min)	< 2
Stirring Error (Buffer 9 @ 25 °C - pH)	< 0.05
Drift 72 hours after Autoclaving pH	< 0.13
Zero-point drift per week in PBS (pH)	< 0.05
Response Time (pH 9 to 4 @ 25 °C in Seconds)	< 90
Response Time 90% (pH 9 to 4 @ 25°C in Seconds)	< 45
Response Time (pH 9 to 4 @ 37°C in Seconds)	< 45
Response Time 90% (pH 9 to 4 @ 37°C in Seconds)	< 45
<b>Insertion length ø 12 mm sensors:</b>	
Z001012051	insertion length 120 mm, 170 mm total length (used with Tracfix sensor holder)
Z001023551	insertion length 235 mm, 285 mm total length (Bioreactor 1-5 L)
Z001032551	insertion length 325 mm, 375 mm total length (Bioreactor 7 L)
Z001042551	insertion length 425 mm, 475 mm total length (Bioreactor 15 L)
Z001059051	insertion length 590 mm, 640 mm total length (Bioreactor 20 L)
<b>Insertion length ø 8 mm sensors:</b>	
Z001015080	insertion length 150 mm
Z001017080	insertion length 170 mm
<b>Sensor electrical connection</b>	K9



pH Sensor in TracFix retractable sensor holder

