

Specifications

pH Flow Cells

1 PH SENSOR SPECIFICATIONS

Only valid in physiological solutions (ionic strength = 150mM) at 25°C for 2-point calibrated sensors. Specifications are valid for pH flow-through cells (item no.: PHFLOW-PK5, PHFLOW-PK6, PHFLOW-PK7, PHFLOW-PK8).

1.1 General Characteristics

Response Time (t_{90}) at 25°C¹ Flow > 10mL/min Flow < 10mL/min	<90 sec (-PK5, -PK8); <120 s (-PK7, -PK6) <120 sec (-PK5, -PK8); <150 s (-PK7, -PK6)
Temperature Range	-1°C (30°F) to 50°C (122°F)
Pressure Range	0 to 3 bar (differential pressure)
Tubing Connectors (Luer-Lock)	ID tubing 3.2 or 4.8 mm
Recommended flow rate	1-500 mL/min
Influence of Salinity	Specified for measurements between 20-500 mM ionic strength. Response time and accuracy at lower or higher salinities are not specified. Rough compensation is enabled in the software.
Calibration Modes	1-point calibration or 2-point calibration (recommended), pre-calibration mode ²
Calibration Solution	PyroScience buffer capsules or a self-made buffer (details on request) must be used
Background Fluorescence	Minimized due to REDFLASH technology
Optical Isolation	The sensor is equipped with an optical isolation to minimize interference from strong external illumination and light-sensitive / fluorescent samples.

Materials of FLOW cell (apart from sensing layer)	Polycarbonat and Polyamid
Application Areas	Laboratory, industry, research. NOT for medical or any safety-critical application. NOT for application in humans. NOT for application in food intended for human consumption.

¹ time for 90% of the total sensor signal change in stirred media

² sensors can be used once without manual calibration (reduced accuracy), only in combination with pre-calibration ready **FireSting-PRO** devices (labeled with "precal pH")

1.2 Specifications

PK5 - Version

Specifications	
Item No.	PHFLOW-PK5
Measuring Range Optimum Maximum	4.0 - 6.0 3.5 - 6.5
Accuracy after 2-point calibration pH 4-4.5 pH 4.5-6	±0.1 ±0.05
Accuracy pre-calibration pH 4-4.5 pH 4.5-6	±0.2 ±0.1
Resolution at pH 5.0	0.003
Drift at pH 5.0	< 0.005 / day at 25°C

PK6 - Version

Specifications	
Item No.	PHFLOW-PK6
Measuring Range Optimum Maximum	5.0 - 7.0 4.5 - 7.5
Accuracy after 2-point calibration pH 5-5.5 pH 5.5-7	±0.1 ±0.05
Accuracy pre-calibration pH 5-5.5 pH 5.5-7	±0.2 ±0.1
Resolution at pH 6.0	0.003
Drift at pH 6.0	< 0.005 / day at 25°C

PK7 - Version

Specifications	
Item No.	PHFLOW-PK7
Measuring Range Optimum Maximum	6.0 - 8.0 5.5 - 8.5
Accuracy after 2-point calibration pH 6-6.5 pH 6.5-8	±0.1 ±0.05
Accuracy pre-calibration pH 6-6.5 pH 6.5-8	±0.2 ±0.1
Resolution at pH 7.0	0.003
Drift at pH 7.0	< 0.005 / day at 25°C

PK8 - Version

Specifications	
Item No.	PHFLOW-PK8
Measuring Range Optimum Maximum	7.0 - 9.0 6.5 - 9.5
Accuracy after 2-point calibration pH 7-7.5 pH 7.5-9	±0.1 ±0.05
Accuracy pre-calibration pH 7-7.5 pH 7.5-9	±0.2 ±0.1
Resolution at pH 8.0	0.003
Drift at pH 8.0	< 0.005 / day at 25°C

2 APPLICABILITY AND CROSS-SENSITIVITY

	Applicability	Cross-Sensitivity	NO Cross-Sensitivity
Water/Aqueous solutions	X		
Hydrogen peroxide (H ₂ O ₂)		X	
Chlorinated Water		X	
Diluted Ethanol (<5%)	short-term		
Other organic solvents		X	
Charged surfactants (e.g. sodium dodecyl sulfate)		X	
Calibration buffers for pH electrodes		X	
Certified Reference Materials (CRMs)*		X	
Uncharged antifoam agents (e.g. polyethylene glycol, Tween80)			X
Phenol red			X
Ammonium > 25 mM		X	
pH 2-11			X

* except TRIS buffer solution in synthetic seawater (Dr. A. Dickson)

3 CLEANING & STORAGE

Cleaning	Deionized water
Sterilization	<ul style="list-style-type: none">• delivered pre-sterilized with 25kGy beta-radiation• further beta or gamma sterilization is <u>not</u> possible• 2% glutaraldehyde solution treatment is possible• autoclavation is <u>not</u> possible
Storage	Original packaging: 6 months at room temperature

Contact

PyroScience GmbH
Kackertstraße 11
52072 Aachen
Deutschland

Tel.: +49 (0)241 5183 2210
Fax: +49 (0)241 5183 2299
info@pyroscience.com
www.pyroscience.com