Smart pH Cuvettes

Turn Your Spectrometer into a Drift-free pH Meter

Our newest transducer materials are designed to encapsulate pH dyes for optical pH sensing. These materials can be applied to various sampling devices and combined with fiber optic spectrometers and accessories for convenient, non-intrusive monitoring.

Consider our Smart pH Cuvette – a 1 cm x 1 cm cuvette, available in PMMA or quartz – that's embedded with pH sensing material. Smart pH Cuvettes are great for the biological pH (5-9) range samples, are semi-disposable and require very little maintenance.

Each Smart pH Cuvette has an immobilized indicator dye that is encapsulated into a robust sol gel matrix, allowing for the diffusion of ions while preventing leaching of the dye. Unlike traditional pH electrode meters, Smart pH Cuvettes can be used for monitoring low-conductivity samples such as boiler water. In addition, fully integrated Smart Cuvette pH systems provide full spectral analysis to help eliminate errors from changes in turbidity, temperature and ionic strength. The physical roperties of the immobilized indicator dye eliminate the need for frequent calibration.

Also, our pH-sensitive materials can be formulated as self-adhesive patches and integrated into various sample containers.

Smart pH Cuvettes	
Sensor type:	Colorimetric indicator dye coated onto 1-cm square cuvette
Dimensions:	1 cm x 1 cm
Materials:	PMMA (general-purpose use), quartz cuvettes (high-temperature measurements)
Sample volume:	4 mL PMMA cuvettes, 3.5 mL quartz cuvettes
pH range:	Biological range (5-9)
Temperature range (coating):	-5 °C to +70 °C
Measurement setup:	Recommend any UV-VIS spectrometer w/200 µm slit and either white light source (w/blue filter) or white LED
Sensor signal:	Absorbance at 620 nm and 750 nm
Accuracy:	<1% of reading
Resolution:	0.01 pH
Response time:	90% step response in 10 s
Factory calibration:	All cuvettes come with factory calibration
User complete calibration option:	Users calculate the pKa value of their solution and perform their own calibration
Usage lifetime:	Multiple uses possible; cuvettes should be discarded and replaced once the maximum absorbance at pH 11 falls below 0.1
Sterilization:	Gamma, EtO
Temperature compensation:	van't Hoff Correlation, used for both discrete measurement pH correction and continuous pH correction
Cuvette options:	SC-PH-CVFL -- BCG-coated 3.5 mL quartz cuvette
	SC-PH-VIS1M-SAM -- BCG-coated 4 mL PMMA cuvettes; 8-pack
	SC-PH-VIS1M-50 -- BCG-coated 4 mL PMMA cuvettes; 50-pack
	SC-PH-VIS1M-100 -- BCG-coated 4 mL PMMA cuvettes; 100-pack
Kit options:	JAZ-PH-DESKTOP-KIT: Pack of 8 PMMA cuvettes with 10-cm pathlength cuvette holder, two optical fibers and SpectraSuite software; for use with USB-series spectrometers
	SC-PH-JAZ-KIT: Pack of 8 PMMA cuvettes with 10-cm pathlength cuvette holder, two optical fibers and Jaz pH software application; for use with Jaz-series spectrometers

Note: We also can apply oxygen-sensitive RedEye patches to cuvettes. Options include a 2.5 mL quartz cuvette (SC-FOXY-CVFL) and 4 mL polystyrene cuvettes in packs of 8 (SC-FOXY-VIS1M-SAM) and 100 (SC-FOXY-VIS1M).