FoxyKits for Oxygen Sensing

Fully Integrated Systems for Your Probe or Patch Applications

We've packaged everything you'll need for probe- or patch-based oxygen sensing applications into two convenient kits.

NEOFOX-KIT-PROBE and NEOFOX-KIT-PATCH are complete, out-of-the-box solutions for a variety of benchtop applications in research environments, teaching labs and commercial labs. Each kit allows you to set single- or multi-point calibration and to display oxygen readings in percent oxygen, partial pressure, moles per liter and more.

You'll note that we selected HIOXY sensor formulation for both the NeoFox probe and patch kits. HIOXY is our newest, most robust sensor coating chemistry and is compatible with oils, alcohols and hydrocarbon-based vapors and liquids. It's an excellent choice for a variety of applications. If HIOXY is not appropriate for your applications, you can always opt for one of our modular oxygen sensing systems with a different coating formula.

Here's what you get with each kit:

NEOFOX-KIT-PROBE

- NeoFox Phase Fluorometer
- NeoFox Viewer software
- NeoFox-TP temperature probe (thermistor)
- 1000 µm bifurcated optical fiber and SMA 905 splice bushing for coupling NeoFox to the probe
- HIOXY-R multipurpose probe with robust HIOXY sensor coating

Probe kits are great for applications involving biological samples such as tissue and organic matter, foods and beverages and liquids in natural environments.

NEOFOX-KIT-PATCH

- NeoFox Phase Fluorometer
- NeoFox Viewer software
- NeoFox-TP temperature probe (thermistor)
- 1000 µm bifurcated borosilicate optical fiber
- 5-unit package of 8 mm diameter, self-adhesive HIOXY sensor patches

Patch kits are useful anywhere non-intrusive and through-package oxygen measurements are necessary: headspace in food packaging, process monitoring in bioreactor environments and partial pressure of oxygen in biomedical vessels.

Technical Tip
Calculating Drift in Ocean Optics Oxygen Sensors

Because our optical oxygen sensors use an LED to excite the fluorescence in the oxygen-sensitive coating, the systems do experience some drift. The drift will vary by sensor formulation – FOXY, FOSPOR or HIOXY – and is reported in the NeoFox specifications table on p. 165 of this section.

You can calculate drift for your experiment by adding just a few experiment parameters to a simple formula. For example, imagine you have a FOXY Probe and need to measure your sample every 2.5 hours for 100 hours. To excite the fluorescence in your sensor coating, you turn on the LED and ideally, keep it on as long as you can; this helps to ensure a good average reading.

For purposes of our example, let's say you can leave the LED on for 1 minute. You now have all the data you need to calculate drift:

New drift = reported drift * duty cycle on/duty cycle off
New drift = 0.01%/hr. (from table on p. 165) * (1 minute/(2.5 hrs.*60 minutes/hr.)

We normalize the time units to minutes; 2.5 * 60 minutes/hr. converts into 150 minutes.

New drift = 0.01%/hr. * (1 minute/150 minutes)
New drift = 0.01%/hr. * (0.0066)
New drift = 0.000066%/hr.

We want to run the experiment for 100 hours, so to calculate the drift:

New drift = 0.000066%/hr. * 100 hrs.
New drift = 0.006%