Quick and Easy Calibration with EXO Sonde and KOR Software Features

YSI
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Situation: Small things can make a big difference. A long row of water quality instruments that require set up and calibration in the lab can be what stands between you and where you really want the instruments to be -- in the field collecting data.

Technology: YSI EXO sondes bring several new features to those who handle and prepare water quality instruments on a regular basis.

Hardware features include smart sensors and ports, which allow you to plug any EXO sensor into any port and the system automatically recognizes it. Extra steps of identifying the sensor through the software have been eliminated. Tough materials -- such as sealed probes, replaceable metal connector threads, and wet-mateable impulse connectors -- allow the equipment to stand up to repeated use, both in the lab and the field. Finally, EXO instruments communicate wirelessly, eliminating cables from the often crowded lab environment.

Process: "We've listened to feedback from our customers," notes YSI Technical Sales Representative Chris Heyer, "and improving day-to-day operations was a main concern. With EXO, the calibration process is much faster."

EXO1 and EXO2 sondes communicate wirelessly to an EXO handheld or computer for a safe, tangle-free calibration process

To begin, the EXO calibration cup fits directly over the sensor guard and attaches with a simple twist. The sensor guard protects the sensors, especially a fragile unguarded pH bulb, during the repeated removal of the calibration cup to rinse and switch standards during the calibration process. By calibrating the EXO sonde with the sensor guard in place, your calibration now more closely mimics the deployment conditions that the sensors will perform in. An additional benefit is that the guard and cup displace more solution, meaning you use less solution, a saving that adds up over time.

During calibration, the sonde and sensors can communicate with KOR software via Bluetooth wireless communication. This feature allows you to set up your

calibration process in a safe and convenient manner, keeping the sensors and solutions on a wet bench and the computer or handheld display on a dry bench. Also, "being cable-free reduces the chances that a user will accidentally knock over bottles or other items with a heavy cable," notes Heyer. It is also easy to grip a lighter-weight EXO sonde and swish around standards when it is unattached.

KOR software provides guided prompts to not only speed up the calibration process but also reduce the opportunity for errors.

Throughout the calibration process, visual indicators (red and blue lights) on the sonde itself provide immediate feedback to confirm that the system is connected to Bluetooth and taking sample readings.

The smooth design of the probe housings, both the faces and the sides, make the probes easy to wipe clean with a cloth. The standardized length of the probes allows them to be calibrated with the same amount of standard each time, another way to reduce costs.

Smart Sensors: EXO sensors store their calibration data internally, not in the sonde. This feature creates a big savings in time for programs with batches of sensors to calibrate. You can plug in the same type of sensor into one sonde, for example 6 dissolved oxygen sensors, and calibrate at the same time, then transfer those 6 sensors into different sondes in the field.

Results: Calibration procedures are an important part of preparing water quality equipment, and can require significant time, reagents, and attention to detail to be done correctly. The EXO platform provides many improvements to individual steps of the calibration process, resulting in better calibrations, better quality data, and adding up to a greater savings in time and ease-of-use for the user.

This focus on improving the instrument calibration stage gets the user to the deployment stage more quickly and aids in the collection of better water quality data.