



TDG Maintenance and Calibration Video Transcript

Function

The TDG sensor, or Total Dissolved Gas, is a sensitive pressure transducer attached to a tube of gas permeable membrane. The pressure of the gas dissolved in the water will reach equilibrium with the gas inside the membrane where an accurate measurement can be taken.

The maximum depth rating for the sensor is 60 meters. If the sonde will be sent below 60 meters, remove the membrane cartridge and install the protective cap on the sensor base.
Close up of membrane cartridge removal and installation of cap

Maintenance

The primary maintenance concern is cleanliness. To clean the sensor, remove the membrane cartridge by unscrewing it from the base. The membrane is very delicate and should not be bent, poked, pinched, or squeezed. Always install the protective cap on the sensor base when no membrane is attached.

Fill a small bucket with water and add a few drops of dishwashing liquid or other mild detergent. Clean the membrane by vigorously but carefully “stirring” the water with it. If more cleaning is required, a brush with very soft bristles can be used to gently dislodge stubborn debris.

Rinse the membrane in a dilute bleach solution for 5 minutes to kill any biological growth, then rinse in clean tap water. Inspect the membrane for damage and for the presence of water inside the tubing. Replace a damaged or water logged membrane with Hydrolab part# 003423.

If the sonde is going to be stored for longer than two weeks, place the membrane in a safe, dry location (not sealed) and leave the protective cap installed on the sensor base. If you are going to deploy the unit, it must be calibrated first.

Calibration

Remove the membrane cartridge if it is installed.

Establish a connection to the sonde with Hydras 3LT. Click the button labeled '**Operate Sonde**'. When the sonde finishes its initialization, click the '**Calibration**' tab, then click one of the tabs labeled '**Total Dissolved Gas**': measured in either '**mmHg**' or '**Psia**'. You will see a picture of the TDG probe, the current value in the units selected, the date and time, and the current temperature.

When the current value is stable, type the actual barometric pressure into the box and click the '**Calibrate**' button. A “Calibration successful” message will appear.





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5600 Lindbergh Drive
Loveland, CO 80539
Tel: 970-669-3050
Fax: 970-461-3921
www.hachenvironmental.com

The TDG sensor is now calibrated.

If the sonde is going to be deployed, install the membrane cartridge by gently threading it onto the base. Installing the membrane cartridge increases the pressure inside, so the unit must be allowed to rest for at least four hours before deploying while the pressure equilibrates. If the sonde is going to be stored for longer than two weeks, place the membrane in a safe, dry location (not sealed) and leave the protective cap installed on the sensor base.

