

Testing Specific Gravity

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tips for professional test results

Measuring specific gravity is essential to maintaining proper water quality in saltwater aquariums. There are many ways to measure specific gravity, including floating hydrometers, swing-arm hydrometers, portable refractometers and even high-tech electronic monitors. However, test results from precision equipment can be inaccurate if proper technique was not employed. The following testing tips will help increase test accuracy so you can provide proper water parameters for your saltwater aquariums.

PROFESSIONAL TIPS FOR ACCURATE RESULTS:

- **Condition new swing-arm hydrometers** - Soak new [swing-arm hydrometers](#) in saltwater for 24 hours before use. This process helps condition or "season" the hydrometer for accurate test results.
- **Prevent salt and mineral buildup** - Rinse swing-arm hydrometers thoroughly in fresh water after each use. Salt and calcium deposits that accumulate on the swing arm (pointer) will affect accuracy. Rinse with fresh water and air dry.
- **Rinse swing-arm hydrometers with sample saltwater before use** - Many hobbyists often clean hydrometers with fresh water before use; however, any residual fresh water can dilute the sample water. If you rinse your hydrometer with fresh water, be sure to rinse it again with the sample saltwater to prevent false results due to dilution.
- **Test, Test, & Retest** - It is very difficult to confirm the accuracy of a single test measurement. Variables, including user error, can inadvertently skew test results. Confirm results by performing the same test three times. The average of the three test results will give you a more precise measurement.
- **Calibrate refractometers before use** - The [53.0 mS Calibration/Reference Fluid](#) from American Marine Inc. matches the refractive index of 35 ppt (parts per thousand) seawater. This standardized fluid is the ideal reference solution to calibrate refractometers.

What is the best way to prepare a synthetic saltwater mix?

A. Whenever possible, produce saltwater in larger quantities using reverse osmosis water. Allow the salt mix to dissolve and aerate thoroughly. Always test specific gravity before use.