

VST_{inc}

Digital Refractometer

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VST Coffee Reference Solutions Use Instructions

IMPORTANT:

KEEP CAPS TIGHTLY CLOSED WHEN REFERENCE SOLUTIONS ARE NOT IN USE. STATED ACCURACIES ARE SPECIFIED AT 20.0 Deg C. FOR BEST ACCURACY STORE AND USE INSTRUMENT, REFERENCE SOLUTIONS and DISTILLED WATER at 20.0 +/- 0.5 Deg C.

General Notes and Recommendations

The VST Reference Solutions Kit includes reference solutions at 1.40% and 9.70% TDS. Other reference solutions may be available by special request.

Accuracy

The VST reference solutions are specified for accuracy as follows:

1.40 +/- 0.02% at 20.0 Deg C
9.70 +/- 0.03% at 20.0 Deg C

Both reference solutions are tested on instruments that maintain sample temperatures to +/- 0.01 Deg C and measure refractive index to accuracies of +/- 0.00001 nD.

STORAGE

If not in use for long periods of time, keep tightly capped reference solutions in the refrigerator. Accuracy is warranted to remain within specification w/in 30-days after opening, provided the caps are in place at all times except when dispensing into the sample well of the refractometer.

Note: After use, and before capping, wipe the outside of the nozzle and the inside of the cap dry to prevent solids from precipitating out of solution and building up onto the nozzle and or cap. These solids, if not removed, can flake off into the sample well and alter the TDS of the reference sample.

USE Guidelines

Make sure the sample well of the refractometer is clean and dry. If necessary, use 90% isopropyl alcohol to clean and dry. Then rinse with distilled water and dry. Be certain the distilled water, instrument and reference solutions are all stable at 20.0 Deg C +/- 0.5 Deg C for the most accurate results.

Measurement

1. Zero-set the instrument using distilled water in accordance with the refractometer instruction manual. It is recommended that at least 45-seconds be allowed for the water and prism to equilibrate before zero-setting. Check to confirm the instrument measures the distilled water at 0.00-0.01% TDS. If available on your refractometer, confirm the temperature is 19.5 - 20.5 Deg C. Remove the water sample and dry the refractometer, taking care not to warm the prism or sample well while doing so.
2. Apply either 1.40% or 9.70% reference solution to completely cover the prism surface and then an additional 0.2-0.3 mL. Allow 20-30 seconds for temperature to equilibrate.
3. Measure the reference solution 2-3 times to confirm a stable measurement. The results of the measurement are intended to provide an indication of your instruments general accuracy. The error of the Reference Solution in combination with the error of the instrument are additive. An instrument with a stated accuracy of +/- 0.05% at 1.40% should display a result ranging from 1.35 - 1.45% *not including the accuracy of the reference solution*. Assuming a temperature of 20.0 Deg C, the instrument should display 1.33-1.47%, including the accuracy of the reference solution.