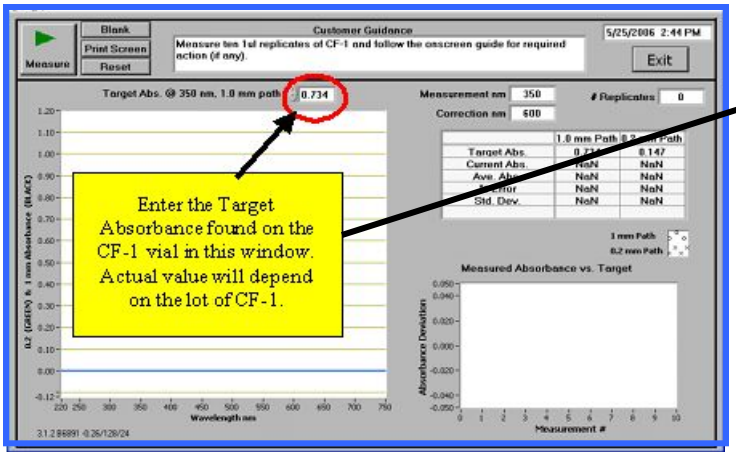
Calibration Check

A vial of CF-1 (aqueous potassium dichromate ($K_2Cr_2O_7$) solution) is required to run the calibration check procedure for the Thermo Scientific NanoDrop 2000/2000c and NanoDrop 1000 Spectrophotometers.

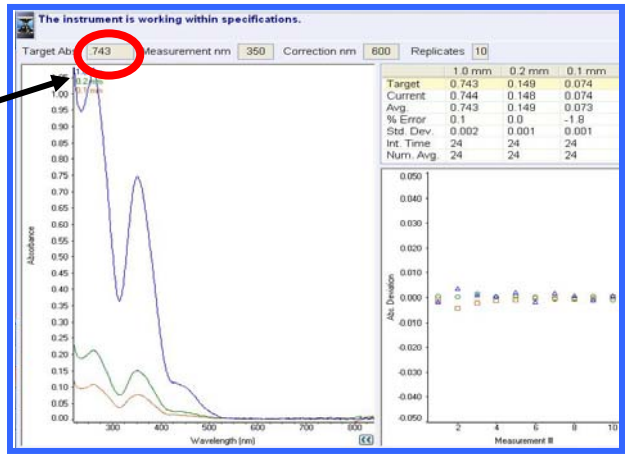
Procedure

1. Ensure the measurement pedestals are clean and that a **1ul** water sample "beads" up on the lower pedestal.
2. Remove any lint build-up from around the instrument solenoid by following the instructions on the back page of this document.
3. Open the Calibration Check Software and follow the prompts in the Customer Guidance text box of the software.
4. Enter the Target Absorbance found on the CF-1 vial as directed in the images below.
5. Add **1ul** of deionized water and select "Blank".
6. Before opening the ampoule of CF-1 Calibration Fluid, shake vigorously to ensure solution is thoroughly mixed. Ensure all solution is collected in the bottom portion of the ampoule.
7. Carefully break the neck of the ampoule to open the CF-1 Calibration Fluid.
8. Follow the on-screen prompts in the Customer Guidance text box. Using individual **1ul** samples of the CF-1 Calibration Check Fluid, measure 10 replicates.
9. After the 10th measurement, the calibration check results will be displayed on-screen in the Customer Guidance text box. If the instrument does not pass the calibration check using **1ul** samples, immediately rerun the procedure (step 8) using **2ul** samples.
10. The NanoDrop™ 2000/2000c software will archive the results in the autosave file at *C:\Documents and Settings\All Users\Documents\Thermo\NanoDrop2000\AutoSave\CalibCheck*.
11. The NanoDrop 1000 software will archive the results will in the NanoDrop data folder at: *C:\NanoDrop Data\Calib check.*.
12. If using the NanoDrop 1000 calibration check specific software downloaded from our website, the results are not automatically archived and must be manually saved to retain a record.
13. If recalibration is required, contact us @ 302-479-7707 or by email at nanodrop@thermofisher.com.

Note The CF-1 Calibration Fluid is supplied in a single use vial. The CF-1 must be used within one hour of opening the vial. Exposure to the environment or transferring of the fluid to another container may cause a significant concentration change.



NanoDrop 1000 Calibration Check Screen



NanoDrop 2000/2000c Calibration Check Screen

Cleaning and Reconditioning the Pedestals

Pedestal Cleaning

Clean the pedestals of all NanoDrop Spectrophotometers using the following procedure:

1. Apply 3-5 ul of dH_20 solution to the bottom pedestal.
2. Lower the upper pedestal arm to form a liquid column; let it sit for approximately 2 minutes
3. Wipe away the water from both the upper and lower pedestals with a clean lab wipe.

Typically dH_20 is sufficient for removal of samples that have dried on the optical pedestals of a NanoDrop Spectrophotometer. In the case of dried samples such as proteins, we recommend that 0.5M HCl be substituted for dH_2O in the above procedure. After using HCl, repeat the process with 2-3 ul of dH_20 to remove any residual HCl.

Do not use detergents or isopropanol as cleaning agents as their use may result in the pedestals becoming unconditioned. When the pedestal becomes unconditioned sample droplets will 'flatten-out' instead of 'beading up' when applied to the bottom pedestal.

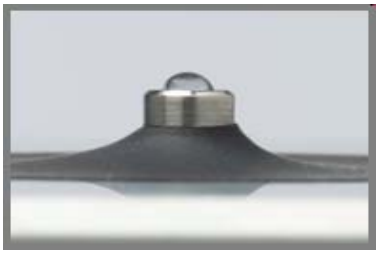
Some buffer components and reagents as well as detergents may cause the pedestal surfaces to become unconditioned. We have noted that routine use of the Bradford reagent may result in difficulty forming columns with 1 ul samples.

Pedestal Reconditioning

Use the instrument pedestal reconditioning kit, PR-1, as a rapid means of reconditioning the pedestals when the surface properties have been compromised and liquid columns break during measurement.

1. Open the vial containing PR-1 and use the applicator provided in the kit to remove a pin-head sized amount of the compound. Apply a very thin, even layer of PR-1 to the surface of the upper and lower pedestals and let dry (30 secs).
2. Fold a clean, dry laboratory wipe into quarters and remove the PR-1 by rubbing the surface of the upper and lower pedestals until all compound residue is removed. Note: The appearance of black residue on the lab wipe is normal.
3. Remove the excess lint around the pedestal and used canned air to clean the santoprene seal of the NanoDrop 2000/2000c.
4. Test the effectiveness of the re-conditioning by pipetting a 1ul sample of dH_2O (using a calibrated 2 ul pipettor) onto the lower measurement pedestal.

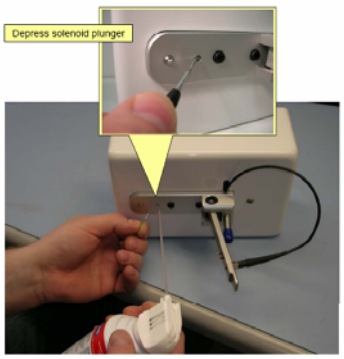
The figure on left shows a flat bead of water on an un-conditioned pedestal. The figure on the right is a1ul sample of dH_2O on a properly conditioned pedestal



Solenoid Cleaning (NanoDrop 1000 only)

Field experience has shown that some brands of lab wipes may shred during the cleaning process and may which could result in a build-up of lint under the instrument solenoid . A significant build-up of lint may alter the absorbance pathlength, resulting in erroneous measurements.

1. Lay the instrument on its side with the source fiber (black fiber optic cable) facing up and open the sampling mechanism. (Refer to the image on the right)
2. Using a paperclip or a small screwdriver, manually depress the solenoid plunger and spray compressed air down the solenoid plunger hole. Be sure to keep the can of compressed air upright so as not to spray the propellant into the instrument.



For Technical Support, contact us at 302-479-7707 or nanodrop@thermofisher.com. Rev 2/09