



Cleaning the HED

5973A/N MSD

Purpose:

This document is a process for cleaning a “noisy” HED (G1099-80001). Often when an HED causes an MSD to fail Autotune, an operator may scrap the entire HED. Unless the HED actually has a physical defect such as a bad crimp or broken connector, it is usually not necessary to replace the HED. Cleaning the HED is effective in reducing the number of scrapped HED’s and it takes about the same amount of time to clean an HED as it does to remove the entire HED assembly and replace it with a new one.

It is possible to clean the HED without removing the analyzer. This is preferred since it will minimize the possibility of contamination, but has the drawback that it may be inconvenient to remove the screws. If you feel comfortable disassembling the HED without removing it, proceed in that way.. In the following photos, for demonstration purposes, the entire HED has been removed.

Once you have verified an HED failure, indicating the HED needs to be cleaned, the following steps of the process can be followed. Gloves must be worn through all steps of the process.

Note: Rule out or repair all air leaks before starting.

Steps of the Process

1. Vent the instrument.
2. Open the door to the analyzer so that you have easy access to the HED.

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3. Find the long high voltage wire that protrudes from the top of the HED. This wire connects to a ceramic plate on top of the HED that is held in place with two M2 hex head screws.



4. Using a hex head Allen wrench or driver (not a Torx driver) carefully remove both screws and set them aside.



5. Remove the ceramic assembly from the top of the HED and notice the stainless steel button at the bottom of the assembly. This is the part that is going to be cleaned.



6. Using a lint-free cloth and isopropyl alcohol, wipe off the button. Blow off the button with nitrogen to dry it and remove any lint that your “lint-free” cloth may have left behind.



7. Reassemble the ceramic top on the HED and tighten the hex head screws.



8. Carefully inspect the HED to make sure that the ceramic piece did not crack when you tightened the screws down. Reconnect any wires that you may have disconnected.

You are now ready to pump your instrument back down and rerun your test.