Recommendations for LTM Column Module Lifetime Improvement

LTM Column electrical components have a limited lifetime warranty of 90 days or 2,000 cycles, whichever comes first. If you have flexibility in your method, the following four recommendations are provided to improve your LTM column module lifetime:

1. Lowering the maximum temperature of your LTM method will result in longer module lifetimes. Avoid temperatures above 300 °C if possible. If you must use temperatures above 300 °C, please be advised that the lifetime of the module will decrease due to increased thermal stress.

2. Lowering the ramp rate during heating will improve your module life. Temperature ramp rates at 300 °C/min or lower are recommended. Avoid ballistic temperature ramp rates.

3. Minimize the amount of time the module spends at maximum temperature. This reduces thermal stress on the module and may increase lifetime. Decrease final hold times where possible. Condition new modules by performing several repeat cycles of the temperature program used for your method.

4. Shorter column lengths in the same LTM method may result in longer lifetimes. Lower thermal mass columns require less energy to reach and maintain ramp and final hold settings. Shorter columns also decrease the time needed to elute material from the column, and can help reduce time spent at the final program temperature which may result in longer module lifetime.

Contact Technical Support if you have questions or need assistance in modifying your method.

**Note to 5975T Users:**

Maintain the transfer line oven temperature at or below 250 °C while operating with the Energy Saver Mode “On” to maximize column lifetime. Turning Energy Saver Mode “Off” and operating at transfer line oven temperatures above 250 °C may result in premature failure of the columns in the transfer line oven.

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