

REVISION:

202-001-441

PRODUCT INFORMATION BULLETIN

FULL DISTRIBUTION REQUIRED

REVISION DATE:

ORIGINAL DATE: 03-29-22

1. SUBJECT:

Conversion from Helium to Argon

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2. INSTRUMENT(S) AFFECTED:

736-series Nitrogen and Oxygen Analyzers

836-series Nitrogen and Oxygen Analyzers

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3. S/N EFFECTIVITY:

Not applicable

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4. PARTS REQUIRED:

None

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5. DETAILS:

Prior to switching gas type

- *To switch from Helium to Argon on x36 Cornerstone instruments, the TC cell must be capable of switching from Helium to Argon. The TC Cell must show "He/Ar" as an option in the "Info" tab at the top right screen.*
- *Precision may differ based on the input carrier gas used. Please refer to instruction manual for specification.*
- *For x36 Cornerstone instruments with serial numbers (3419 and below) using only He TC cells, the instruments must have the 625-712-180 He/Ar TC Cell Upgrade Kit and the 778-252 5000 cc Furnace Manifold Restrictor installed prior to switching to Argon gas.*

About Argon Carrier Gas

- *Argon or helium can be used as carrier gas. The system is designed to automatically adjust the gas flow based on the setting in this field. If results look incorrect, the gas flow rate should be checked.*
- *Argon causes the furnace to produce more soot and graphite dust. The electrodes should be cleaned carefully. The disc filter and vacuum filters may also need increased maintenance.*
- *Switching between argon and helium on a regular basis is not recommended. If the gas type is changed, it is advised to replace all heated and non-heated reagents.*
- *Argon can cause the temperature inside the crucible to rise if the power level of the method is kept the same. This can lead to increased graphite/soot as well as poor results due to crucible breakdown. Typically, power levels should be dropped by at least 600 watts. Guidance on method parameter differences relative to argon versus helium carrier gas can be found for many matrices in 736/836 LECO Application Notes at <https://www.leco.com/knowledge-library>.*
- *Argon can cause slightly different fusion behavior in the furnace. Method timing parameters might require some slight adjustment when changing carrier gases.*

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Configuring Settings

1. Select "Instrument" and then select "System."
2. On the System screen for "Other System Settings", select the parameter field next to "Gas Type".
3. Select the carrier gas type.
4. Select Enter to close the keyboard.

Configuring Method

1. Select "Settings" and then select "Methods".
2. Highlight your method.
3. Select "Edit".
4. Select "General Parameters".
5. Select the parameter field next to "Gas Type".
6. Select Carrier gas type.
7. Turn ON gas. Let the instrument stabilize for 20 minutes and then calibrate the method per the instruction manual.

NOTES:

- *LECO recommends that a new method be created for the new carrier gas incorporating the changes outlined above.*
- *A new calibration will be required for the new carrier gas.*