



Excellence in electron and ion optics

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Product Change Notification
PCN 2017-12-08_1
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Dear Kimball Physics Customer,

This letter is to inform you of supply issues and alternatives regarding the ES-525 Yttria Coated Iridium Cathode on AEI base.

Affected Products: ES-525 Yttria Coated Iridium Cathodes on AEI base

Description of Change: ES-525 is to be replaced with ES-535W and ES-535 as described here:

- 1) **ES-535W** substitutes 0.003 in diameter W wire for 0.003 in Ir wire. The change in wire material from Ir to W results in a change in recommended vacuum environment from 1e-4 torr or better to 1e-5 torr or better. The overall cathode height above the base (0.256 in) remains the same. All other specifications remain the same as the ES-525, including disc size, coating material, emission area, emission current, heating current and voltage.
- 2) **ES-535** substitutes 0.004 in diameter Ir wire with 0.2 in leg length for 0.003 in diameter Ir wire with 0.11 in leg length. This option is available for vacuum environments above 1e-5 torr. The overall cathode height above the base (0.256 in) remains the same. All other specifications remain the same as the ES-525, including disc size, coating material, emission area, emission current, heating current and voltage, and recommended vacuum environment.

Reason for Change: Kimball Physics is unable to obtain new 0.003 in diameter Ir wire that is appropriate for robust cathode assembly.

Impact on Cathodes: Impact on cathodes depends on the configuration as described here:

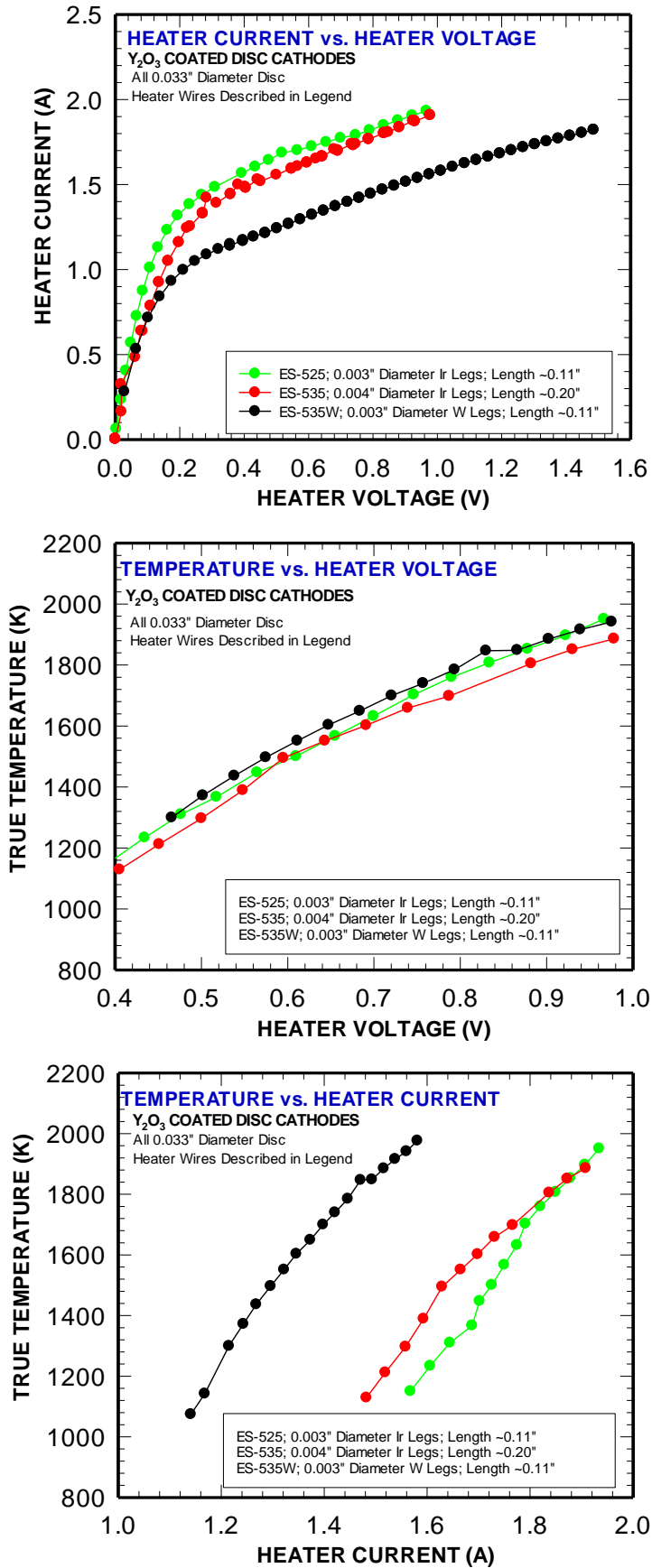
- 1) **ES-535W**: Recommended vacuum level changes due to the W wire. Recommended vacuum is reduced from 1e-4 torr to 1e-5 torr. Heating characteristics and lifetime remain about the same, though less heating current is required to achieve temperatures due to the higher resistivity of W compared to Ir.
- 2) **ES-535**: No impact is anticipated.

Expected Date: The remaining supply of ES-525 is expected to be gone by the end of 2017. The ES-535 and ES-535W are available immediately.

Whom to Contact

at KPI with Questions: Kimball Physics is committed to providing excellent and reliable yttria coated cathodes. We are interested in your concerns or comments. If you have questions, please contact Margaret Charpentier (pcharpentier@kimphys.com).

Figure 1: Test data for new configurations ES-535 with 4 mil Ir wire, ES-535W with 3 mil W wire and original ES-525 with 3 mil Ir wire:



ES-535W data based on ES-042 with same disc and leg dimensions