

# Electron Emitters


## WM059252 – WM059254

Stellant offers a full range of high-performance Electron Emitters for medical, industrial, and research applications. In LINAC (Linear Accelerator) systems, they generate x-rays where a high-energy electron beam hits a target, stimulating emissions of x-rays. They are also used in traveling wave tube amplifiers (TWTAs) for microwave frequencies.



### SPECIFICATIONS

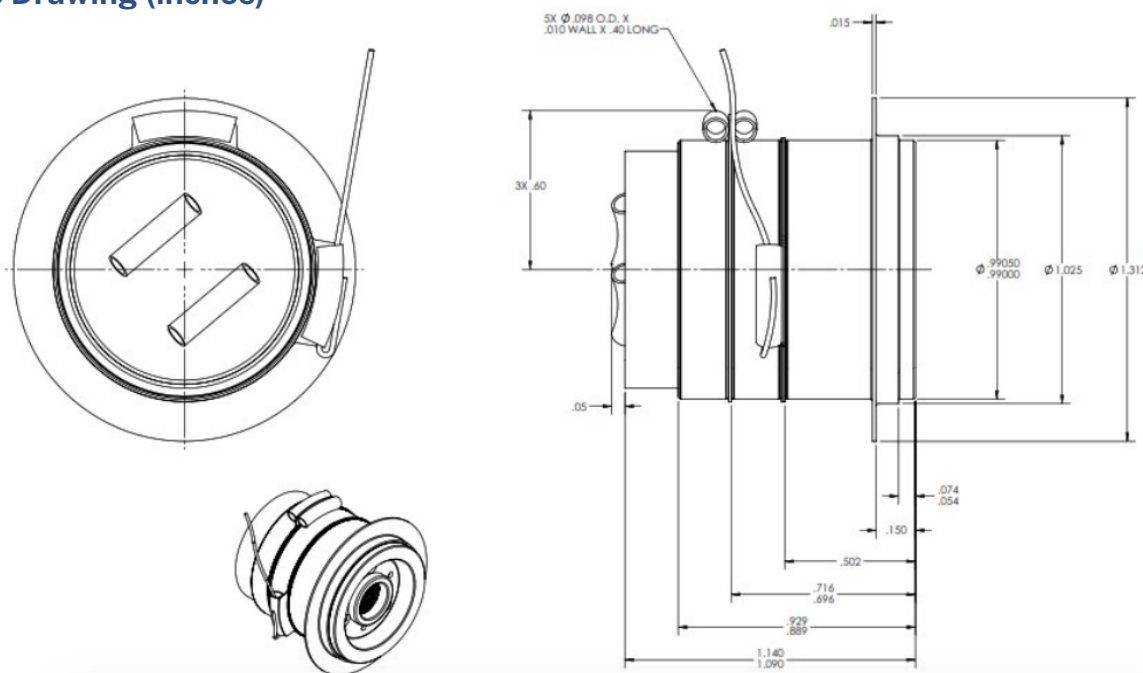
Mechanical	
Cathode Diameter	0.250 inch
Half Angle	34°
Beam Minimum Diameter	0.026" nominal @ 0.4 inch from cathode center
Cathode	
Cathode Type	Dispenser
Coating	M-type coating
WM059252: Mix 3:1:1	BaO, CaO, Al <sub>2</sub> BaO, CaO, Al <sub>2</sub> , O <sub>3</sub>
WM059254: Mix 5:3:2	BaO, CaO, Al <sub>2</sub> BaO, CaO, Al <sub>2</sub> , O <sub>3</sub>
Peak Emission Density	10 A/cm <sup>3</sup> Max

Model	Optional Kovar Weldment Ring Part # SP-0547340 
WM059252: Mix 3:1:1	Ring typically excluded unless requested on PO.
WM059254: Mix 5:3:2	Ring typically excluded unless requested on PO.
App Note	Typically customers can optionally braze the ring flanges to the anode and then weld the egun to the flange where located on their machines.

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### Outline Drawing (inches)



Intercepting Gridded Pierce Gun		
Description	Nominal Value*	Range
Cathode Voltage	12 kV	9 kV – 15 kV
Grid Cutoff	-60 V	-55 V to -65 V @ 12 kV typical
Grid Drive	+60 V for 1.2 A Ik	50 V to 70 V typical
Grid Current	12% Ik	10% - 15% Ik
Grid Power Dissipation	1.0 W max	—
Heater Voltage	6.3 V max	—
Heater Current	2.0 A max	—
Perveance	0.9 micropervs	0.01 to 1.4 micropervs
Pulse Width	100 µs	—
Duty Cycle	0.04 max	—
Beam Current	1.4 A	—

Detailed outline drawings are available on request. Specifications and features are subject to change without notice.

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