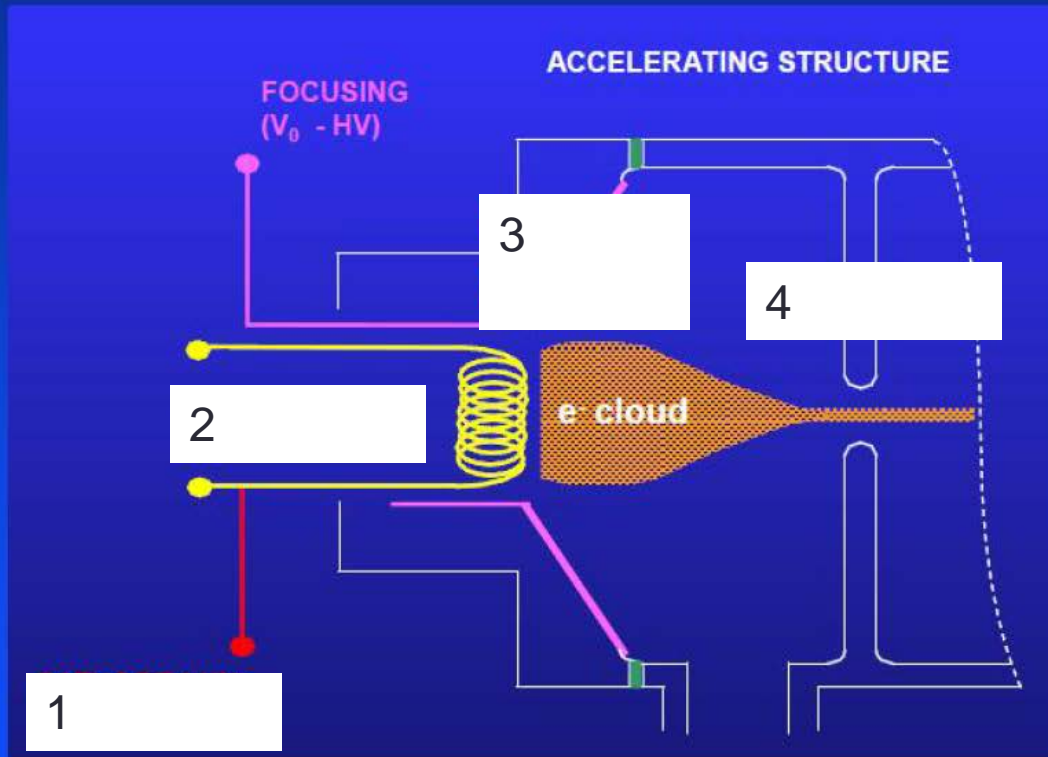
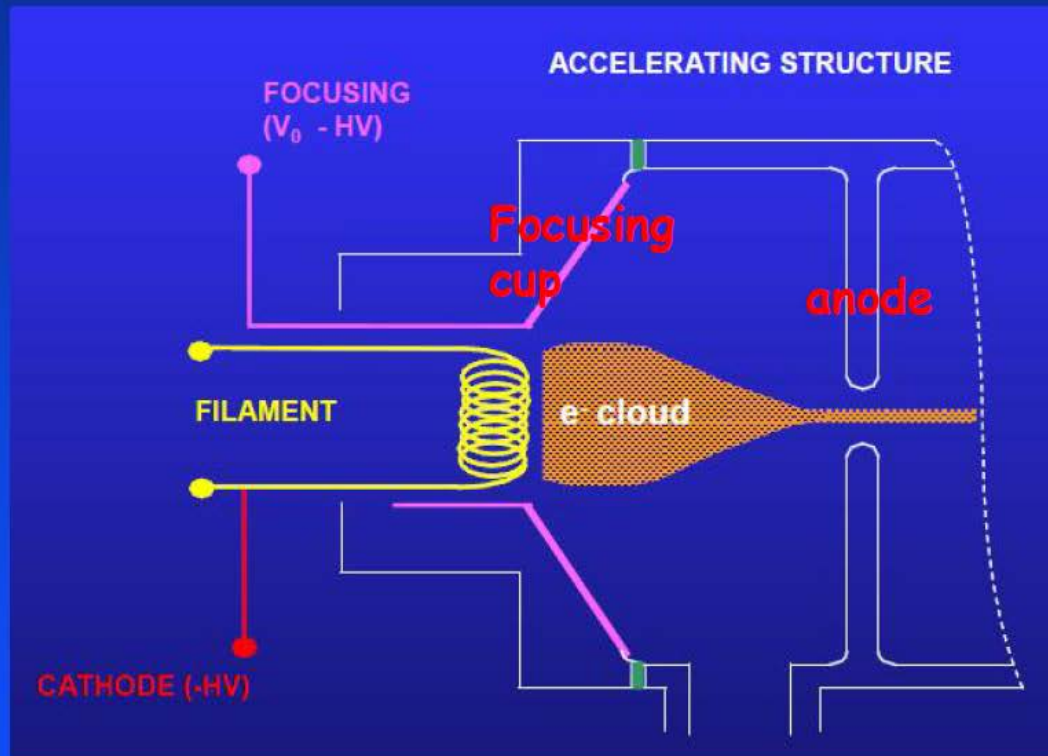


# *Electron gun – Diode gun*

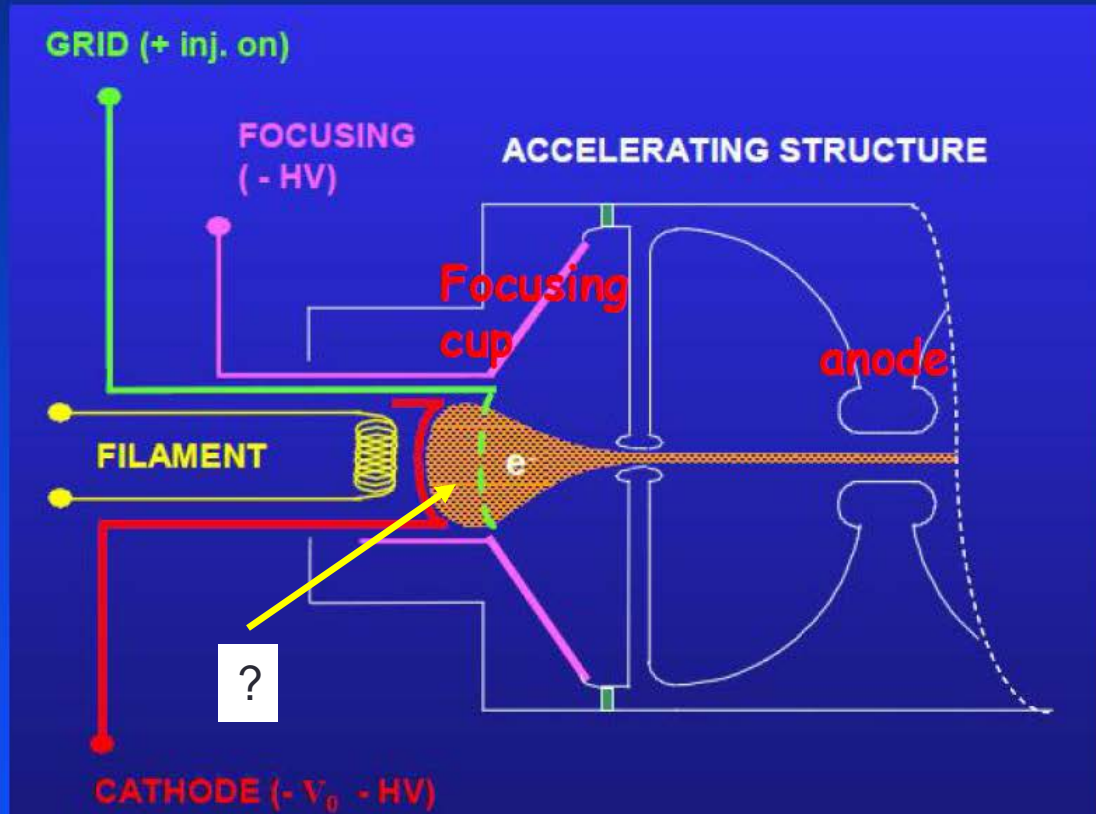


# Electron gun – Diode gun

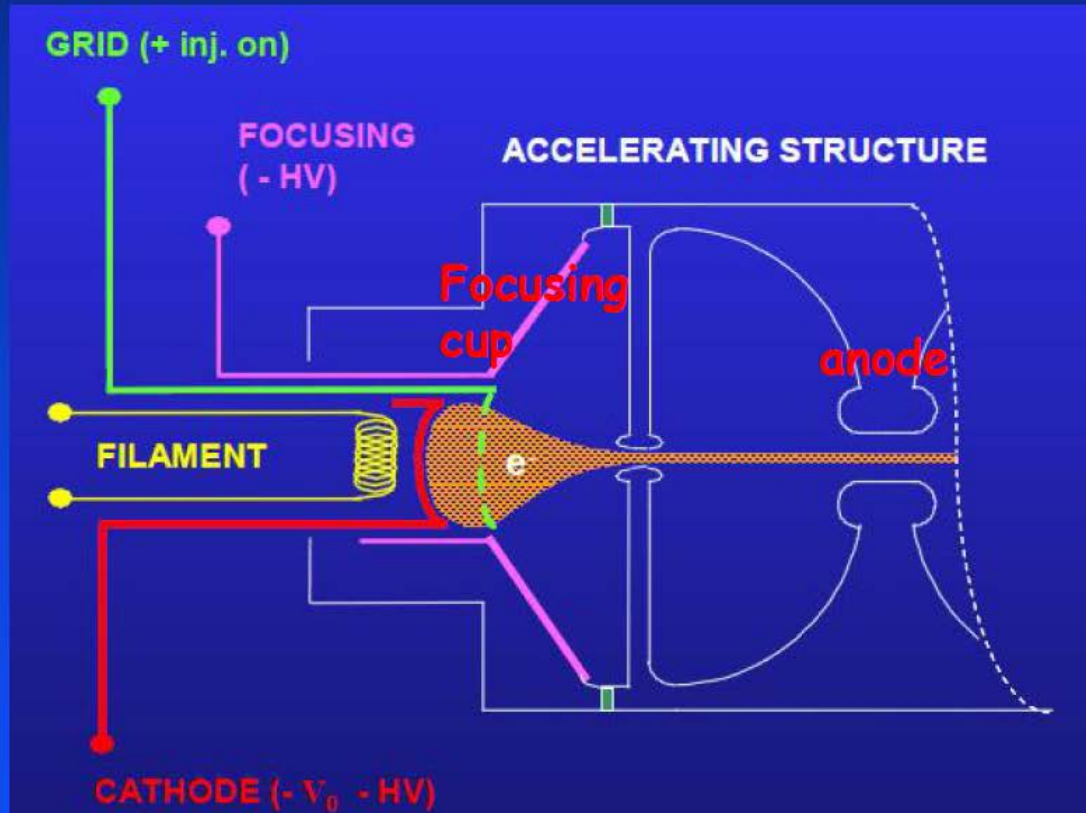


- Electrons are emitted through **thermionic emission** from heated filament
- **Accelerated** toward perforated anode by an electrostatic field (**50 KV  $\rightarrow$  0.4 c**)
- Focusing cup is used to **concentrate** the electron pencil beam
- **Synchronized** with RF microwave to enter accelerator waveguide

# *Electron gun – Triode gun*



# Electron gun – Triode gun



- **Grid with negative potential to hold off e<sup>-</sup> beam; a slight delay to allow the waveguide to fill in RF power and stabilize**
- **Synchronized with RF microwave (achieved through grid)**
- **Independent regulation of cathode and grid**