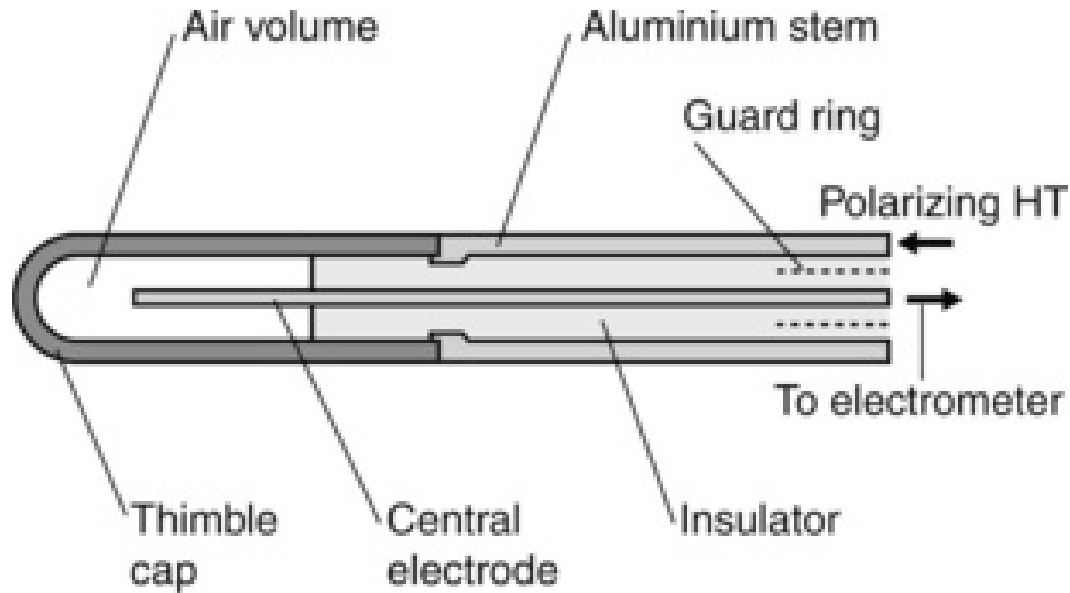
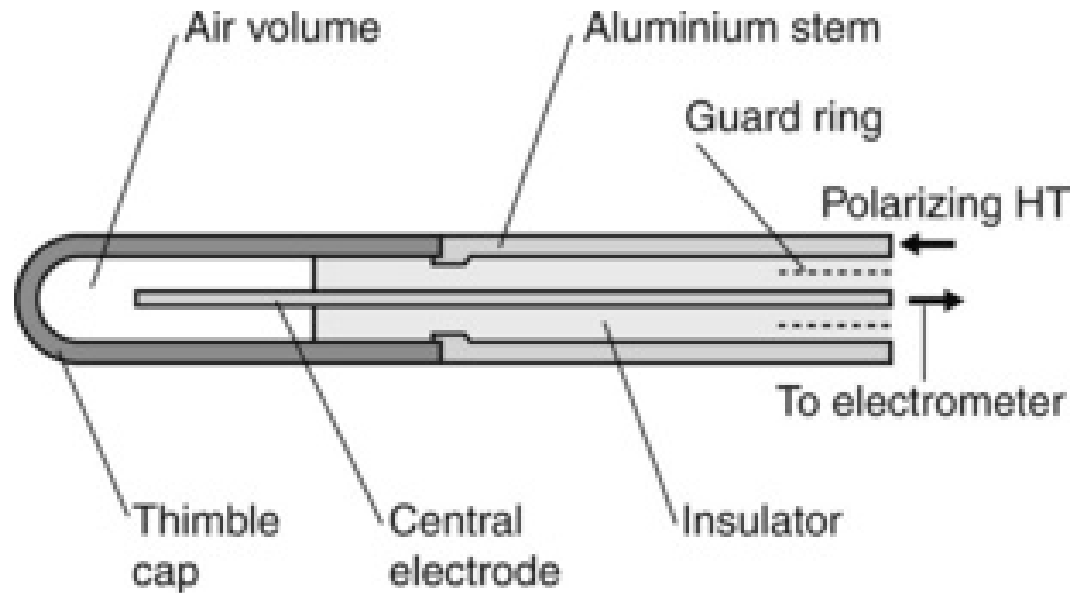


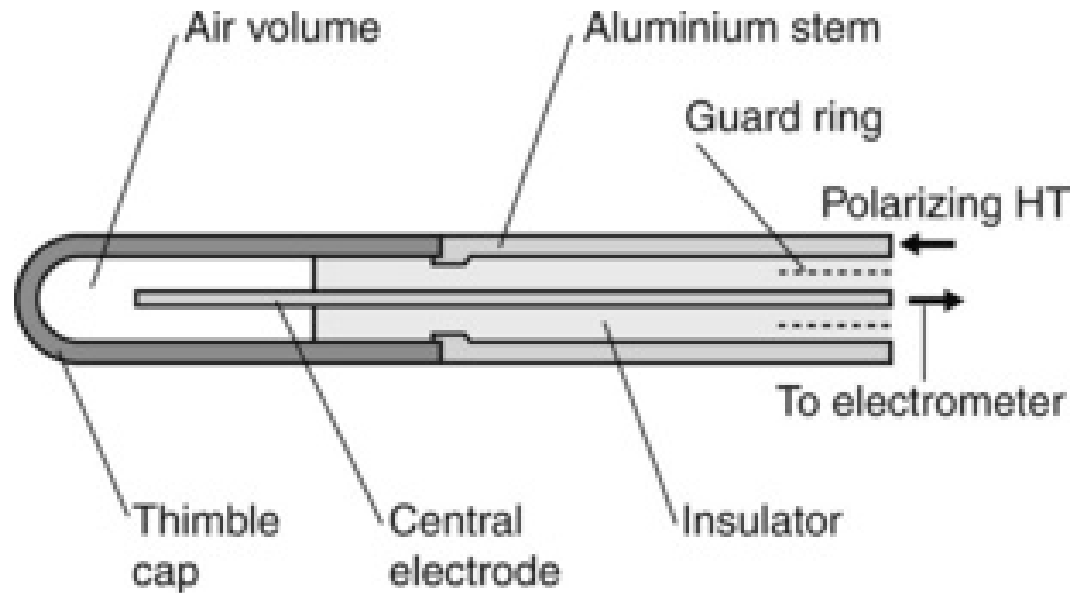
- Label the different parts of ion chamber
- What is stem effect?
- The stem effect includes two parts, what are they?
- Is stem effect energy dependent?
- How much is stem effect for a well guarded chamber



- Stem effect is caused by interactions of radiation with air near the chamber end, or with dielectric in the chamber stem or cable.



- Stem scatter arises from the effect of scattered radiation in the stem that reaches the chamber volume
- Stem leakage arises as a consequence of a direct irradiation of this chamber volume as well as of the insulators and cables of the chamber



- Stem effect is energy dependent, I guess it is because of the stem scatter?
- Stem effect is also field size dependent

Type of chamber	Length of unguarded stem (cm)	Stem Effect in %
Unguarded	7.0 to 8.5	0.3 to 0.6%
Guarded	1.0 to 1.5	0.1 to 0.3%
Well Guarded	< 1.0	< 0.1%