27. A method as claims in Claim 24, whrein the hot cathode electron source is a heated cathode filament.

28. A method as claimed in Claim 27, wherein the heated cathode filament is formed in a loop.

29. A method as claimed in Claim 24, wherein the hot cathode electron source is a disc cathode thermionic emitter.

30. A method as claimed in Claim 24, further including surrounding the electron source, the anode structure and the collector electrode with an envelope.

31. The ionization gauge of Claim 11, configured to operate in a pressure range of between 10^{-1} and Torr 10^{-4} Torr

32. The ionization gauge of Claim 11, wherein the hot cathode electron source is a heated cathode filament.

33. The ionization gauge of Claim 32, wherein the heated cathode filament is formed in a loop.

34. The ionization gauge of Claim 11, wherein the hot cathode electron source is a disc cathode thermionic emitter.

35. The computer gauge of Claim 11, further including an envelope surrounding the anode structure, the electron source and the collector electrode.

27. A method as claims in Claim 24, whrein the hot cathode electron source is a heated cathode filament.

28. A method as claimed in Claim 27, wherein the heated cathode filament is formed in a loop.

29. A method as claimed in Claim 24, wherein the hot cathode electron source is a disc cathode thermionic emitter.

30. A method as claimed in Claim 24, further including surrounding the electron source, the anode structure and the collector electrode with an envelope.

31. The ionization gauge of Claim 11, configured to operate in a pressure range of between 10^{-1} and Torr 10^{-4} Torr

32. The ionization gauge of Claim 11, wherein the hot cathode electron source is a heated cathode filament.

33. The ionization gauge of Claim 32, wherein the heated cathode filament is formed in a loop.

34. The ionization gauge of Claim 11, wherein the hot cathode electron source is a disc cathode thermionic emitter.

35. The corrugation gauge of Claim 11, further including an envelope surrounding the anode structure, the electron source and the collector electrode.