

Working: \Rightarrow Ionization of argon^{gas} atoms is obtained by applying very high potential difference (400V) across the tubes via metal caps at either ends for a fraction of second. This is achieved by the placing the start button on the lamp. \rightarrow Once the argon has been ionized normal mains voltage between the electrode causes the positive and negative particles to move through the burner constituting and electric current.

The electrons move to the positive terminal and then around the circuits, the (+) ions move to the (-) terminal and collect electrons.

As the two way movement of charged particles takes place collision between moving ions and neutral argon atoms cause further ionisation.

So that there is a continuous generation of

ionized particles to sustain the ~~the~~ current flow across the tube.

The current flow can be seen as flow discharge and considerable amount of heat is produced.

The produced heat is sufficient to vaporise the liquid mercury inside the tube and mercury vapours itself ionized.

UVR is produced is recombination of electrons and positive mercury ions and partly by photons released when excited electrons return from higher energy shell to their normal shell to their mercury atom.

At the same time visible rays and IRR are also produced.