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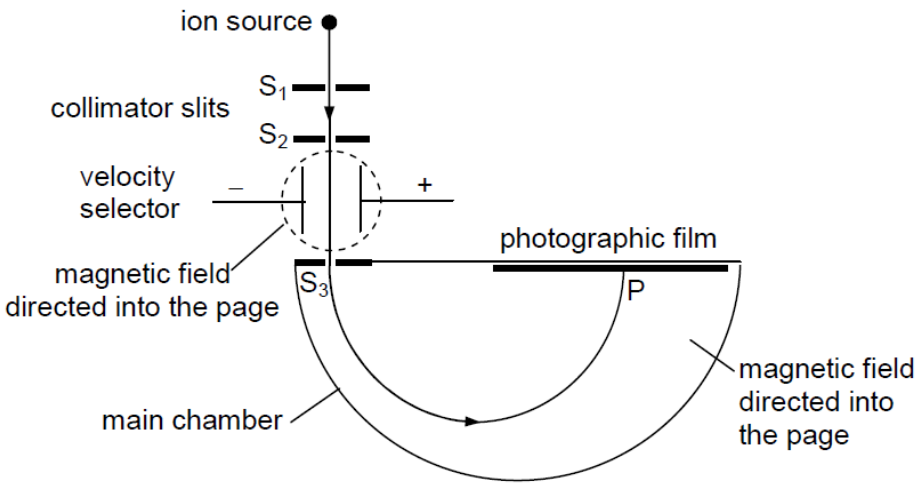
The diagram shows a mass spectrometer in which singly-charged positive ions of mass 1.93×10^{-25} kg pass through slits S_1, S_2 and S_3 before entering the main chamber. Between S_2 and S_3, the ions pass through a velocity selector in which an electric field of intensity 20 kV m^{-1} and a magnetic field of flux density 0.25 T are applied.

The selected ions are deflected by a uniform magnetic field of flux density 0.40 T, within the main chamber and arrive at the point P.



What is the distance between P and slit S_3?

A

0.24 m

B

0.39 m

C

0.48 m

D

0.77 m