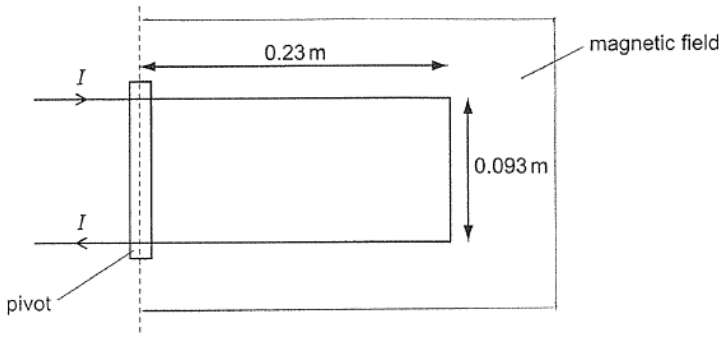
22 A current, *I* of magnitude 9.6 mA is passed into a current balance which consists of a U-shaped wire of negligible mass placed in a region of constant magnetic field which is in the plane of the paper and perpendicular to the pivot.

The U-shaped wire has length 0.23 m and the arms are 0.093 m apart, as shown in the diagram below.



The U-shaped wire experiences a turning moment about the pivot of value 4.7×10^{-6} N m

What is the magnitude of the magnetic flux density of the constant magnetic field?

A 5.27 mT **B** 22.9 mT **C** 45.8 mT **D** 4.37 T