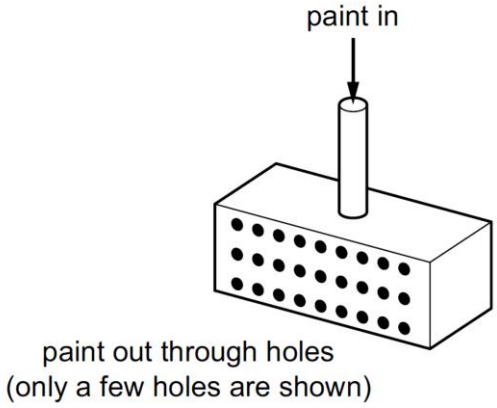
8 A device for spraying paint consists of a box with its axes horizontal and vertical. One of its vertical faces contains small holes. Paint is fed into the box under pressure via a vertical tube and exits through the holes as fine streams moving horizontally.



The paint is ejected at a speed of 3.0 m s^{-1} through 27 holes, each of area 0.4 mm^2. The density of the paint is 900 kg m^{-3}.

What is the horizontal force required to hold the device stationary as it ejects the paint?

A 21 mN **B** 29 mN **C** 44 mN **D** 87 mN