5.2

$v_d = \mu_H E_0$ $\qquad E_H = \frac{V_H}{d}$

$E_0 \longrightarrow e^+$ move in $+\hat{x}$

$B_0 \longrightarrow e^+$ experience force in $\vec{v} \times \vec{B}$ direction

$\hat{x} \times \hat{z} = -\hat{y}$

$E_H \longrightarrow e^+$ experience force in $+\hat{y}$, equal and opposite to $\vec{F}_{B_0}$

$$q \vec{v_d} \times \vec{B_0} = q E_H$$

$$\mu_H E_0 B_0 = \frac{V_H}{d}$$

$$\boxed{\mu_H = \frac{V_H}{d E_0 B_0}}$$