***Assuming*** **the velocity and pressure is both zero on the surface on a large tank :**

$$\cancel{\frac{P_1}{\rho g}} + \cancel{\frac{v_1^2}{2g}} + h_1 = \cancel{\frac{P_2}{\rho g}} + \cancel{\frac{v_2^2}{2g}} + \cancel{h_2} + head\ losses$$

$h_1 = head\ losses$

$head\ losses = 76m$

***Now we must use the equation below to find the velocity***:

$$h_f = \frac{4 \times C_f \times L \times v^2}{2 \times g \times d}$$

$$\therefore 76 = \frac{4 \times C_f \times L \times v^2}{2 \times g \times d} + minor\ losses$$

$$76 = 4 \times 0.009 \times 700 \frac{v^2}{2 \times 9.81 \times 0.2} + 0.5 \times \frac{v^2}{2 \times 9.81} + \frac{v^2}{2 \times 9.81}$$

***simplify***:

$$0.5 \times \frac{v^2}{2 \times 9.81} + \frac{v^2}{2 \times 9.81} = 1.5 \times \frac{v^2}{2 \times 9.81}$$

$$\therefore 76 = 4 \times 0.009 \times 700 \frac{v^2}{2 \times 9.81 \times 0.2} + 1.5 \times \frac{v^2}{2 \times 9.81}$$

***simplify further***:

$$4 \times 0.009 \times 700 \frac{1}{2 \times 9.81 \times 0.2} = 6.42202$$

$$1.5 \times \frac{v^2}{2 \times 9.81} = 0.07645$$

$$\therefore 76 = 6.42202 + 0.07645 = 6.49847v^2$$

$$v^2 = \frac{76}{6.49847} = 11.695m/s$$

$$\therefore v = \sqrt{11.695} = 3.4198m/s$$

$$\boldsymbol{v = 3.4198m/s}$$

$$\dot{V} = v \times A = 3.4198 \times \frac{\pi \times 0.2^2}{4} = 0.1074m^3/s$$

$$\boldsymbol{\dot{V} = 0.1074m^3/s}$$