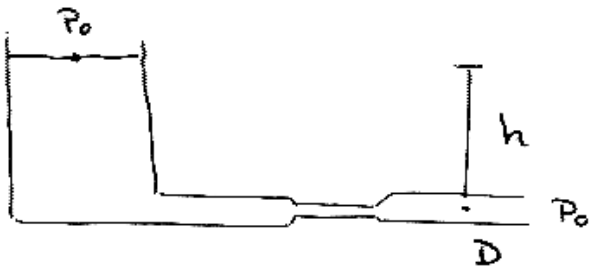
SOLUCIÓN EJERCICIO 18



velocidad del fluido en D

$$\cancel{P_0} + \rho g h = \cancel{P_0} + \frac{1}{2}\rho v_D^2 \quad \Rightarrow \quad v_D = \sqrt{2gh}$$

(1 pto) (0.5 ptos)

continuidad:

$$A_C v_C = A_D v_D \quad \text{(0.5 ptos)}$$

pero

$$A_C = \frac{A_D}{2} \quad \Rightarrow \quad v_C = 2 v_D$$

(0.5 ptos)

ec. de Bernoulli:

$$P_C + \frac{1}{2}\rho v_C^2 = P_0 + \frac{1}{2}\rho v_D^2 \quad \text{(1 pto)}$$

$$P_C = P_0 + \frac{1}{2}\rho (v_D^2 - v_C^2)$$

$$P_C = P_0 - \frac{3}{2}\rho v_D^2$$

$$P_C = P_0 - 3\rho g h \quad \text{(0.5 ptos)}$$

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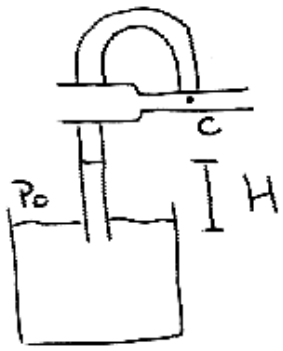

$$P_0 = P_c + \rho g H \qquad \text{(1 pto)}$$

$$\Rightarrow \quad \cancel{P_0} = \cancel{P_0} - 3\rho g h + \rho g H$$

$$\therefore \quad \boxed{H = 3h} \qquad \text{(1 pto)}$$