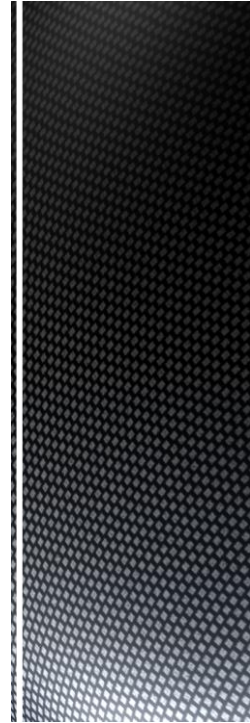


Física I

Laboratorio nº6
Fluidos

2020



Densidad de líquidos
(picnómetro)





$$\delta_r = \frac{\delta_x}{\delta_a} = \frac{m_x/V_x}{m_a/V_a}$$

y como

$$V_x = V_a \Rightarrow \frac{\delta_x}{\delta_a} = \frac{m_x}{m_a} \Rightarrow \delta_x = \delta_a \frac{m_x}{m_a}$$

Si se toma:

$$\delta_a = 1 \frac{g}{cm^3} \Rightarrow \boxed{\delta_x = \frac{m_x}{m_a} 1 \frac{g}{cm^3}}$$

Densidad de líquidos (tubo en U)

$$P = P_0 + g \delta h$$

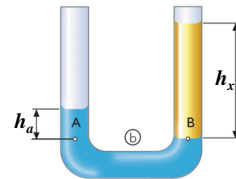
$$P_A = P_B$$

$$\cancel{P_0} + g \delta_a h_a = \cancel{P_0} + g \delta_x h_x$$

$$\cancel{g} \delta_a h_a = \cancel{g} \delta_x h_x \Rightarrow \frac{\delta_x}{\delta_a} = \frac{h_a}{h_x}$$

Si se toma:

$$\delta_a = 1 \frac{g}{cm^3} \Rightarrow \delta_x = \frac{h_a}{h_x} 1 \frac{g}{cm^3}$$

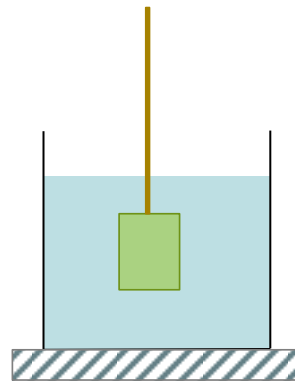


Densidad de sólidos (cálculo directo)

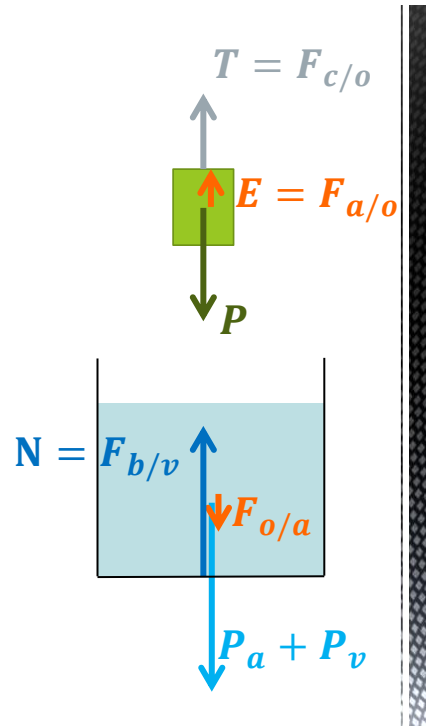
$$\delta_x = \frac{m_x}{V_x}$$

Densidad de sólidos

(leyes de newton y principio de Arquímedes)



$$E = \delta_a g V_x$$



$$E = \delta_a g V_o$$

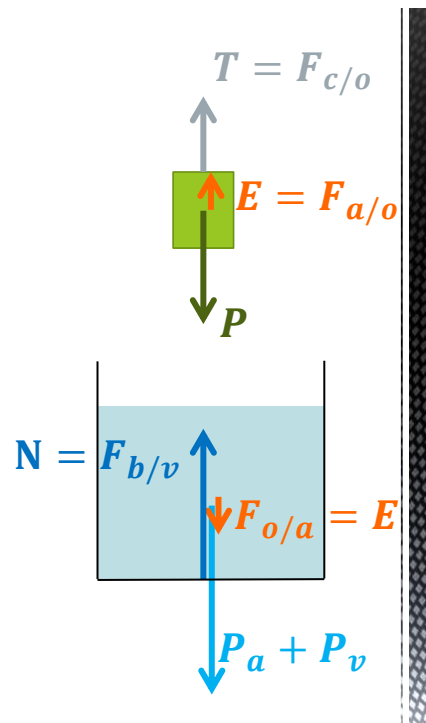
$$E = \delta_a g \frac{m_x}{\delta_x}$$

$$\Sigma F_y = N - P_a - P_v - E$$

$$E = N - P_a - P_v$$

$$\delta_a g \frac{m_x}{\delta_x} = N - P_a - P_v$$

$$\frac{\delta_a}{\delta_x} = \frac{N - P_a - P_v}{g m_x}$$



$$\frac{\delta_a}{\delta_x} = \frac{N - P_a - P_v}{g m_x}$$

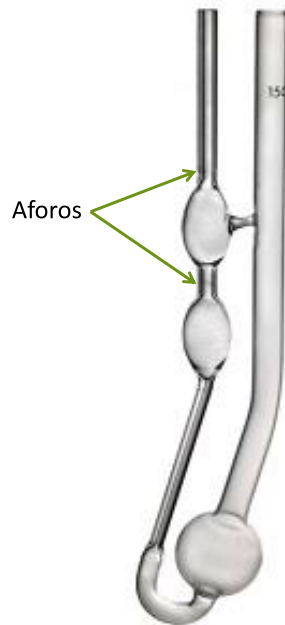
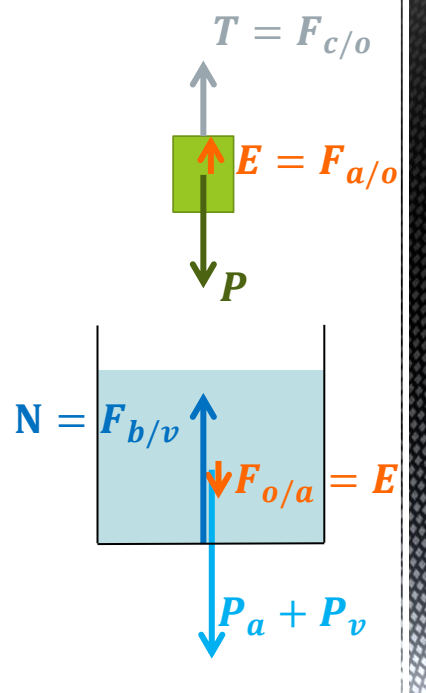
$$\frac{\delta_a}{\delta_x} = \frac{lec_{bal} - m_a - m_v}{m_x}$$

$$\frac{\delta_x}{\delta_a} = \frac{m_x}{lec_{bal} - m_a - m_v}$$

Si se toma:

$$\delta_a = 1 \frac{g}{cm^3}$$

$$\delta_x = \frac{m_x \cdot 1 \frac{g}{cm^3}}{lec_{bal} - m_a - m_v}$$



Viscosímetro de
Ostwald

Medimos tiempos

