

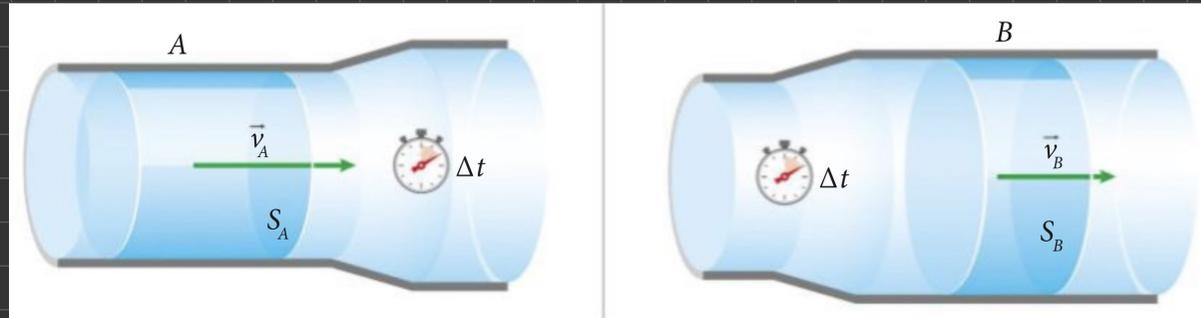
EQUAZIONE DI CONTINUITA'



LEZIONI DI FISICA - F3055

CONSIDERIAMO UN LIQUIDO (ACQUA). E' NOTO CHE IL SUO VOLUME RIMANE COSTANTE, CIOE' NON SI COMPRIME

IN UN TUBO PUMENTA LA SEZIONE DA S_A A S_B IL VOLUME DI LIQUIDO CHE CON VELOCITA' v_A ATTRAVERSA



LA SEZIONE S_A IN 1 S E LO STESSO CHE ATTRAVERSA S_B IN 1 S CON UNA VELOCITA' v_B .

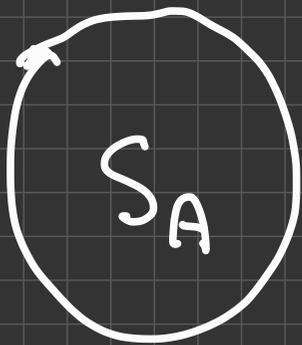
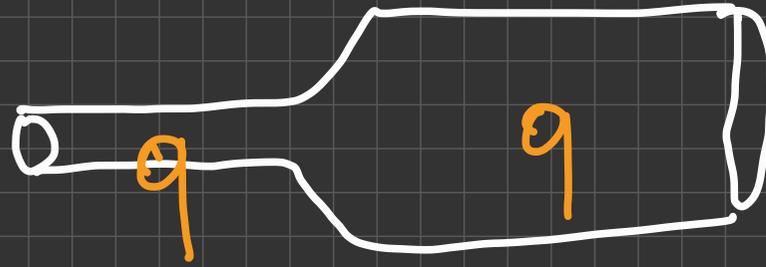
LA PORTATA: $q = \frac{V}{\Delta t} \rightarrow \text{costante}$ } LA PORTATA IN 1 S
 $\Delta t \rightarrow 1 \text{ S}$ } E' COSTANTE

q E' ANCHE: $q = S \cdot v = \text{costante IN 1 S}$

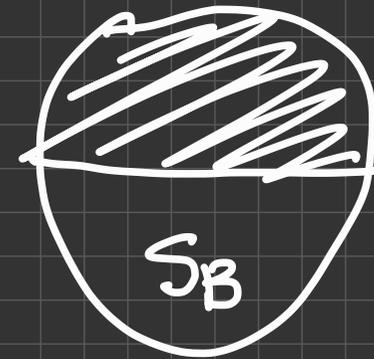
LA PORTATA DI UN LIQUIDO E' COSTANTE

$$S_A \cdot V_A = S_B \cdot V_B$$

EQUAZIONE DI CONTINUITÀ



V_A



V_B

$$S_A = 0.2 \text{ cm}^2$$

$$V_A = 4 \frac{\text{m}}{\text{s}}$$

$$S_B = 0.1 \text{ cm}^2$$

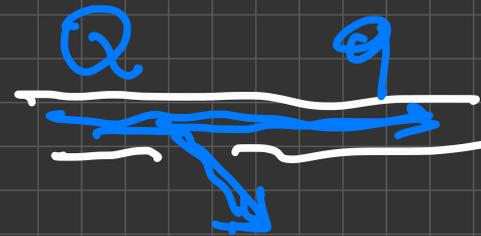
$$V_B = ?$$

$$S_A \cdot V_A = S_B \cdot V_B \quad \text{EQ. CONTINUITÁ}$$

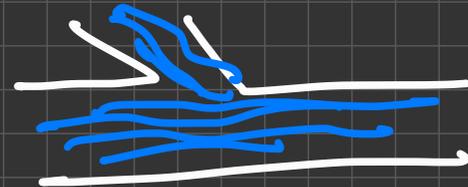
$$0.2 \cdot 10^{-4} \text{ m}^2 \cdot 4 \frac{\text{m}}{\text{s}} = 0.1 \cdot 10^{-4} \text{ m}^2 \cdot V_B$$

$$V_B = \frac{0.2 \cdot 10^{-4} \text{ m}^2 \cdot 4 \frac{\text{m}}{\text{s}}}{0.1 \cdot 10^{-4} \text{ m}^2} = 8 \frac{\text{m}}{\text{s}}$$

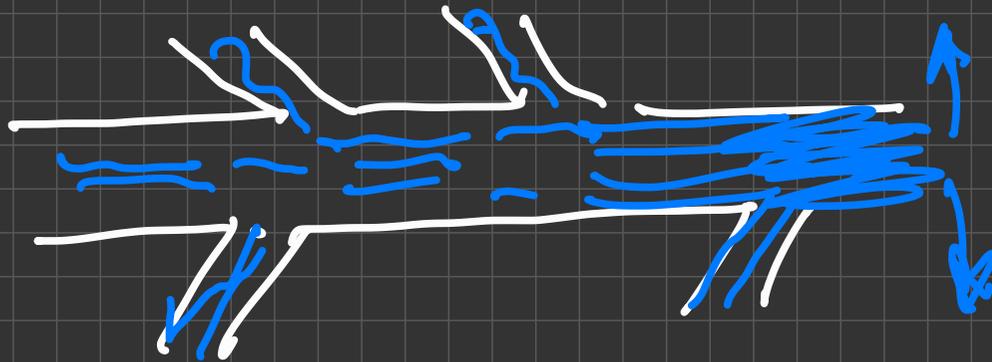
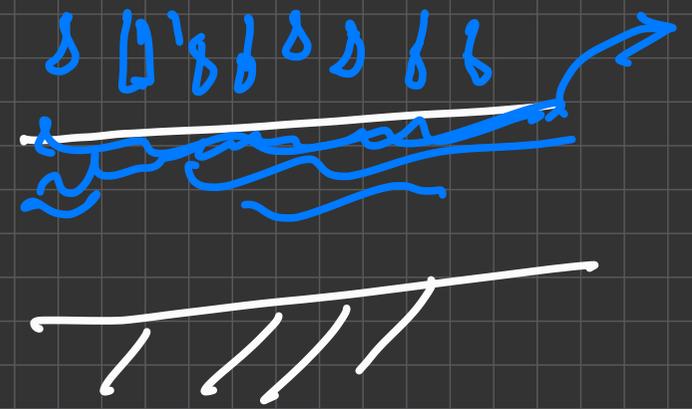
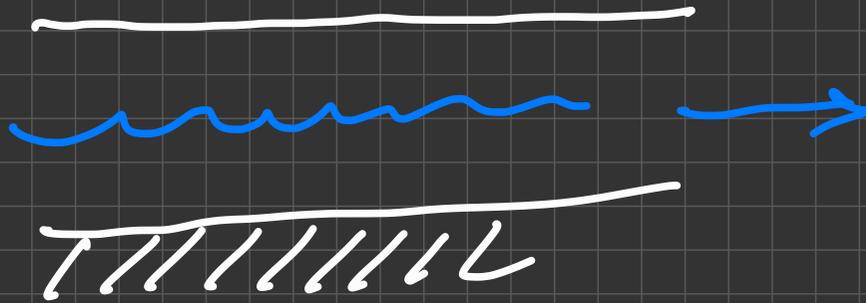
LA PORTATA É COSTANTE SE :



NO



NO



NON CI SONO PERDITE
O FONTI