

Demonstração da equivalência entre

$$\frac{N}{C} = \frac{V}{M}$$

$$N = \text{kg} \cdot \frac{M}{s^2} ; \quad A = \frac{C}{s} \Rightarrow C = A \cdot s$$

$$\frac{N}{C} = \frac{\text{kg} \cdot \frac{M}{s^2}}{A \cdot s} \Rightarrow \boxed{\frac{N}{C} = \frac{\text{kg} \cdot M}{A \cdot s^3}}$$

De  $P = V \cdot i$  temos que  $V = \frac{P}{i}$

$$\therefore [V] = \frac{W}{A} = \frac{\frac{J}{s}}{A} = \frac{J}{A \cdot s} = \frac{J}{C}$$

De  $G = F \cdot d$  temos que  $J = N \cdot m$

$$\therefore [V] = \frac{N \cdot m}{C} = \frac{\text{kg} \cdot \frac{M}{s^2} \cdot m}{A \cdot s} = \frac{\text{kg} \cdot M^2}{A \cdot s^3}$$

$$\text{Assim } \frac{V}{M} = \frac{\frac{\text{kg} \cdot M^2}{A \cdot s^3}}{M} = \frac{\text{kg} \cdot M^{\cancel{2}}}{M \cdot A \cdot s^3} = \frac{\text{kg} \cdot M}{A \cdot s^3}$$

$$\therefore \boxed{\frac{V}{M} = \frac{\text{kg} \cdot M}{A \cdot s^3}} \quad \frac{N}{C} = \frac{V}{M}$$