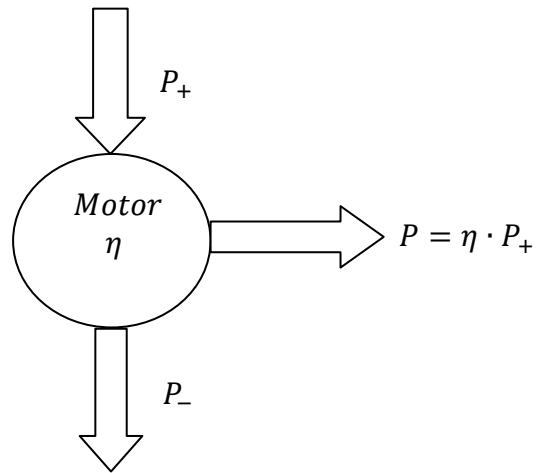




a)

$$P_+ = 6 \frac{\text{Liter}}{h} \cdot \frac{1h}{3600s} \cdot 40000 \frac{\text{kJ}}{L} = 66,67 \frac{\text{kJ}}{s} = 66,7kW$$

b)

$$P = \eta \cdot P_+$$

$$\eta = \frac{P}{P_+} = \frac{30kW}{66,7kW} = 0,449 \approx 45\%$$

c)

$$\eta = \frac{\frac{-A}{t}}{\frac{Q}{t}} = \frac{P_-}{P_+}$$

$$\leftrightarrow P_- = \eta \cdot P_+ = 0,45 \cdot 66,7kW = 30kW$$