

- 13** To cool down the electrical generator of a nuclear power plant, cold water enters the heat exchanger of the generator at 3 °C and leaves at 11 °C. The rate of heat removed by the water is 4.0×10^{11} J per hour. The specific heat capacity of water is $4200 \text{ J kg}^{-1} \text{ K}^{-1}$.

What is the rate of water flow?

- A** $\frac{4.0 \times 10^{11}}{4200 \times 8 \times 60 \times 60} \text{ kg s}^{-1}$
- B** $\frac{4.0 \times 10^{11} \times 60 \times 60}{4200 \times 8} \text{ kg s}^{-1}$
- C** $\frac{4.0 \times 10^{11}}{4200 \times 8 \times 60} \text{ kg s}^{-1}$
- D** $\frac{4.0 \times 10^{11} \times 60}{4200 \times 8} \text{ kg s}^{-1}$