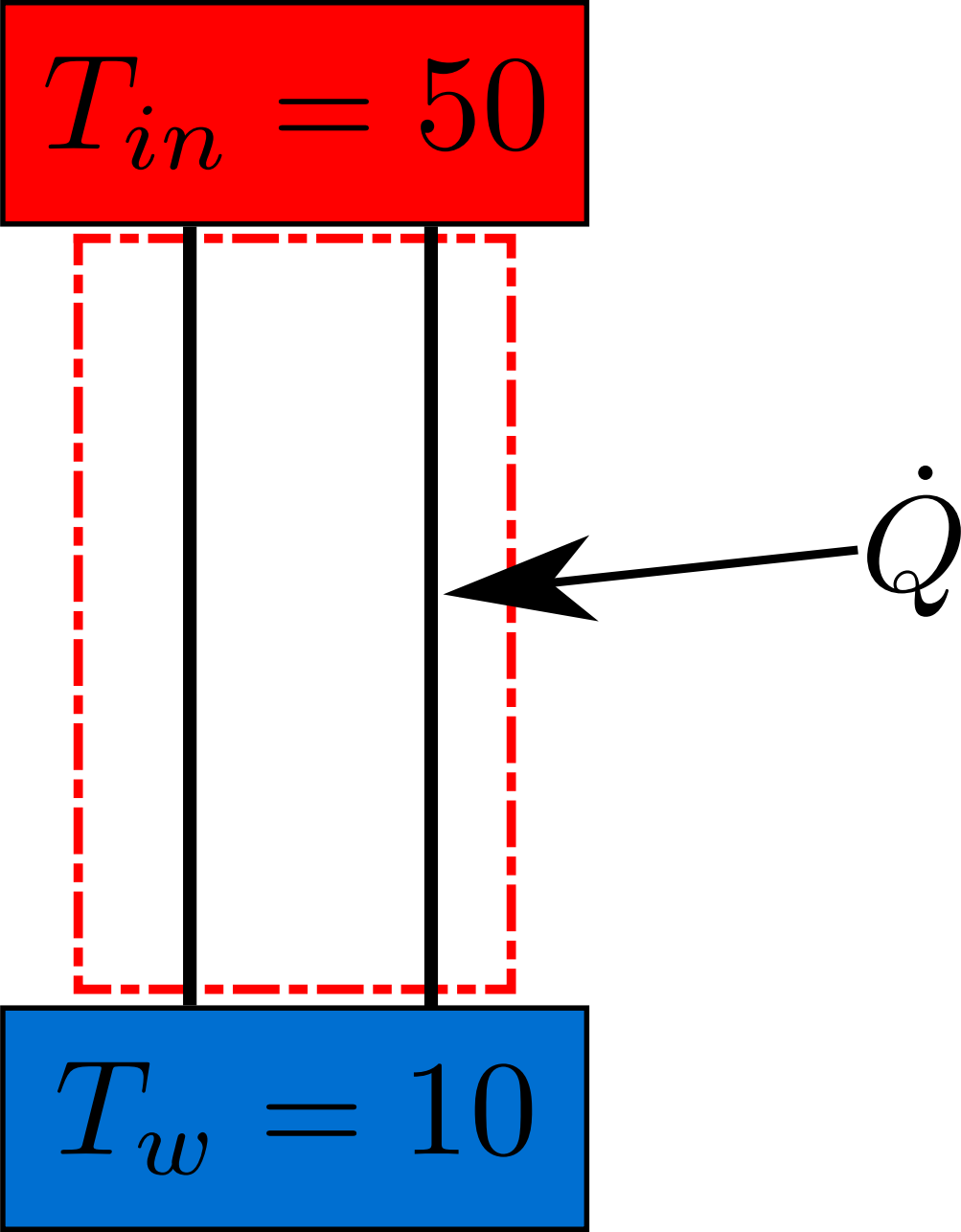


$$T_{in} = 50$$


A schematic diagram of a heat exchanger. At the top is a red rectangular reservoir labeled $T_{in} = 50$. At the bottom is a blue rectangular reservoir labeled $T_w = 10$. Two vertical black lines represent the tubes of the heat exchanger, extending from the blue reservoir to the red reservoir. A dashed red rectangle encloses the two tubes. An arrow labeled \dot{Q} points from the right tube to the left tube, indicating heat transfer.

$$T_w = 10$$