$$\frac{dQ}{dt} = -kAt\frac{\Delta T}{\Delta x} = -(120 \text{ W/m}-\text{K})(0.5 \text{ m}^2)(3600 \text{ s/h})\left(\frac{-100 \text{ K}}{15 \text{ x } 10^{-3} \text{ m}}\right)$$

 $= 1.44 \text{ x } 10^9 \text{ J/h} (1.36 \text{ x } 10^6 \text{ Btu/h})$

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