## Example

Air at a pressure of 6 kPa and a temperature of $300^{\circ} \mathrm{C}$ flows with a velocity of $10 \mathrm{~m} / \mathrm{s}$ over a plate of length 0.5 m . Estimate the cooling rate per unit width of the plate needed to maintain it at a surface temperature of $20^{\circ} \mathrm{C}$.


