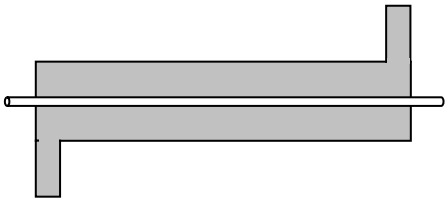
Example

A counter-flow double-pipe heat exchanger is to heat water from 20°C to 80°C at a flow rate of 1.2 kg/s. The warmer fluid is geothermal water available at 160°C and a flow rate of 2 kg/s. The inner tube is thin-walled with a diameter of 1.5 cm. If the **overall heat transfer coefficient** is 640 W/m²-C°, find the required heat exchanger length.



Example

Reconsider the last example, but this time make the heat exchanger a *parallel flow* design. As before, the heat exchanger is a double-pipe design, and is used to heat water from 20°C to 80°C at a flow rate of 1.2 kg/s. The warmer fluid is geothermal water available at 160°C and a flow rate of 2 kg/s. The inner tube is thin-walled with a diameter of 1.5 cm. If the overall heat transfer coefficient is 640 W/m^2-C°, find the required heat exchanger length.