

---

**EXAMPLE: Brayton cycle with regeneration**

Reconsider the **air-standard** Brayton cycle from the last example. The following conditions still apply: compressor inlet: 100 kPa, 300 K; turbine inlet: 1 MPa, 1300 K. Now add an **ideal regenerator** to the system.

- (a) Find the new heat transfer rate (per unit mass flow rate) into the high pressure heat exchanger and the new cycle efficiency.
- (b) Find the rate of entropy generation for the regenerator.
- (c) Repeat (a) and (b) if  $\eta_{\text{regen}} = 0.85$ .



