

## Brayton Intercooling

Indicate which of the following statement about a Brayton cycle is true

Answer: Intercooling increases net work output.

Explanation: Intercooling increases the net work output as the work input in the compressor is decreased by intercooling. The work output is not affected and as  $W_{net} = W_{out} - W_{in}$  in the net work output  $W_{net}$  will increase. That the work input in the compressor is decreased by intercooling is because the specific volume of the colder air is smaller than the volume of hotter air and the work is proportional to the volume. The efficiency decreases as the average temperature at which the heat is added decreases.