

SPG course MJ2405

Exercise 3: Steam Cycle with steam extractions and feedwater preheaters

TASK:

For the steam cycle shown below, calculate the overall electrical efficiency from fuel to net electrical output. Neglect pressure losses and heat losses, neglect also the energy consumption of the pumps.

The given parameters are listed below or are given in the figure:

Isentropic efficiency of turbine	75%
Mechanical efficiency of turbine	96%
Efficiency of electrical generator	95%
Thermal efficiency of the boiler	92%

