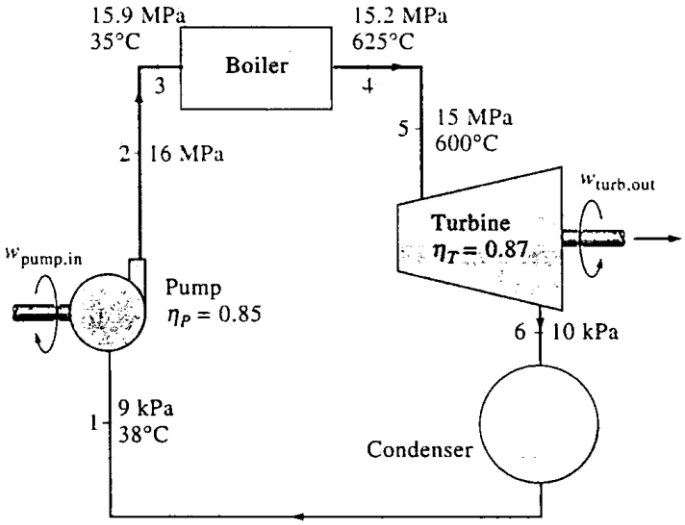
3. Actual cycle, reheating.

Ex1: Calculate the steam power plant – the actual one. If the isentropic efficiency of the turbine is 87% and the pump is 85%. Draw the cycle on T-s diagram, determine the thermal efficiency of the cycle, calculate the power output of the plant where the mass flow rate of the steam is m=15kg/s



Ex2: Consider power plant : the power plant is working with the RC where the steam flow to the High Pressure turbine have 15MPa and 600C. Than steam goes to reheating section in the boiler and reach the same temperature, after it goes to the Low Pressure turbine and on the exit of that turbine the moisture content in the steam is not exceed 10.4 %. The pressure in the condenser after LP turbine is 10kPa. Draw the skim of power plant, draw the graph on T-s diagram. Determine the pressure at which steam should be reheated, the thermal efficiency of the cycle.