Enthalpy Difference

The inlet of a turbine is steam at P1 = 2MPa and T1 = 400°C and the outlet has the properties P2 = 15kPa and x = 0.9. Neglecting the potential and kinetic energy, calculate Δh

Answer: Δh = 887.4 kJ/kg.

Explanation: h1 = 3248.4 kJ/kg from table A6 and h2 = hf + x · hfg = 2361.01 kJ/kg. That means difference is around 887.4 kJ/kg.