

Ideal gas manipulation

Ideal gas with a mass flow of 2 kg/s is compressed in an adiabatic process from 1 Bar and 20 degree Celsius to 10 Bar. Then it is heated in an isobaric process to 920 degree Celsius, expanded to 1 bar and cooled down to 20 degree Celsius. Calculate the change in the total enthalpy H .

Enthalpy is a state function and therefore it only depends on the state it is in. The process is a cyclic process and return to the same state, so the enthalpy has not changed. The right unit is kW as it concerns the total enthalpy and not specific enthalpy.