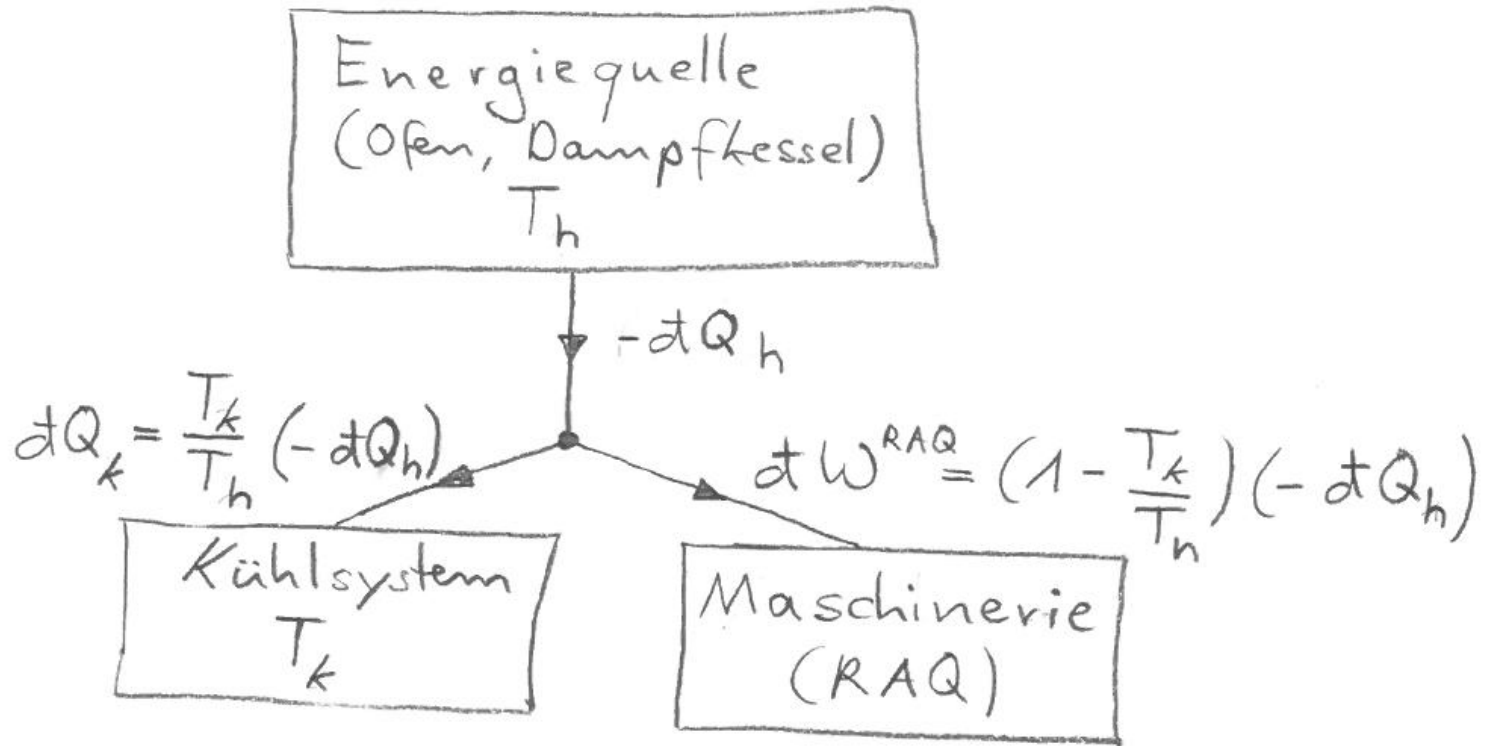


Kapitel 5

Thermodynamische Prozesse und Maschinen

4.4 Wirkungsgrade von Maschinen

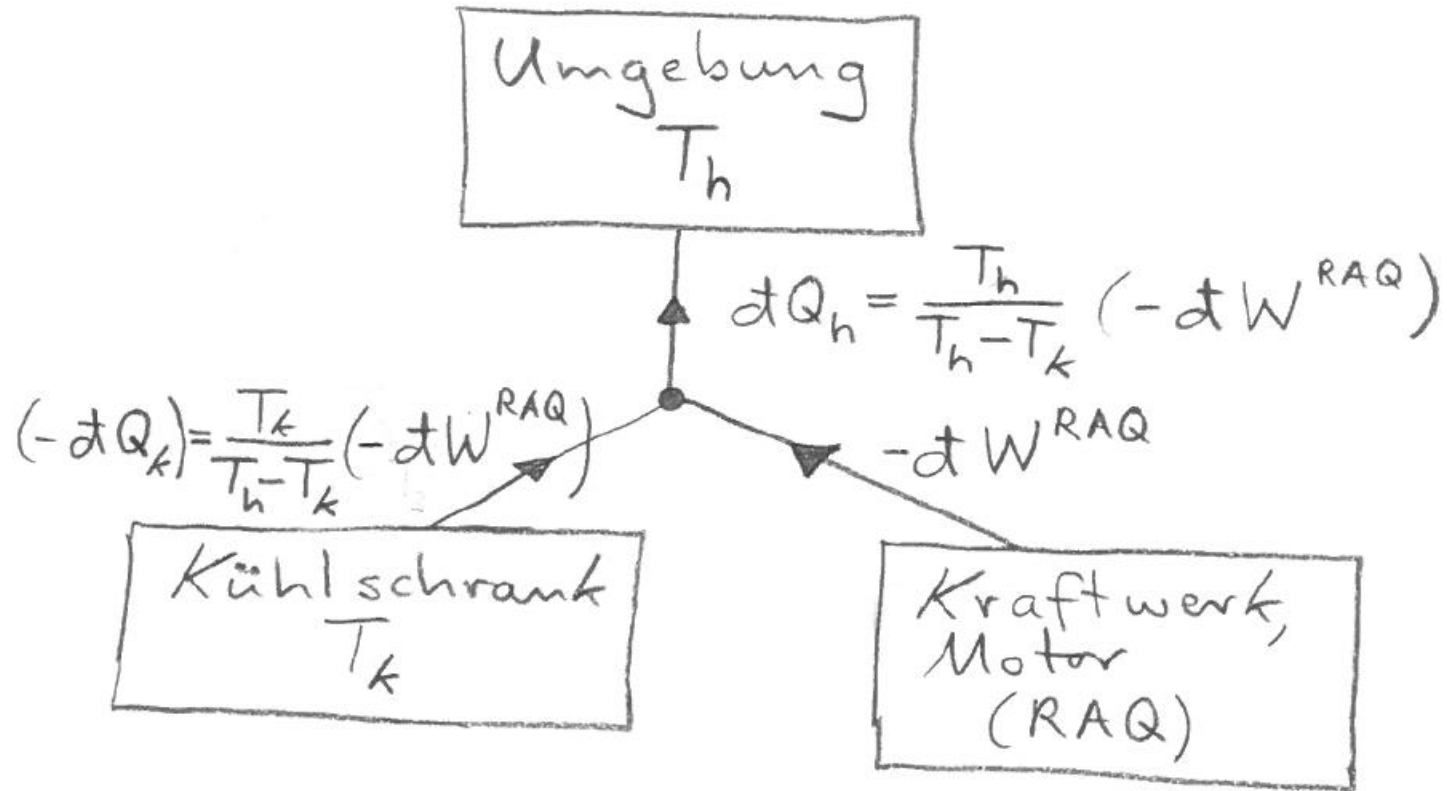
a) Thermodynamische Maschine:



1. HS: $dQ_h + dQ_k + dW^{RAQ} = 0$

2. HS: $dS_h + dS_k = 0 \iff \frac{dQ_h}{T_h} + \frac{dQ_k}{T_k} = 0$

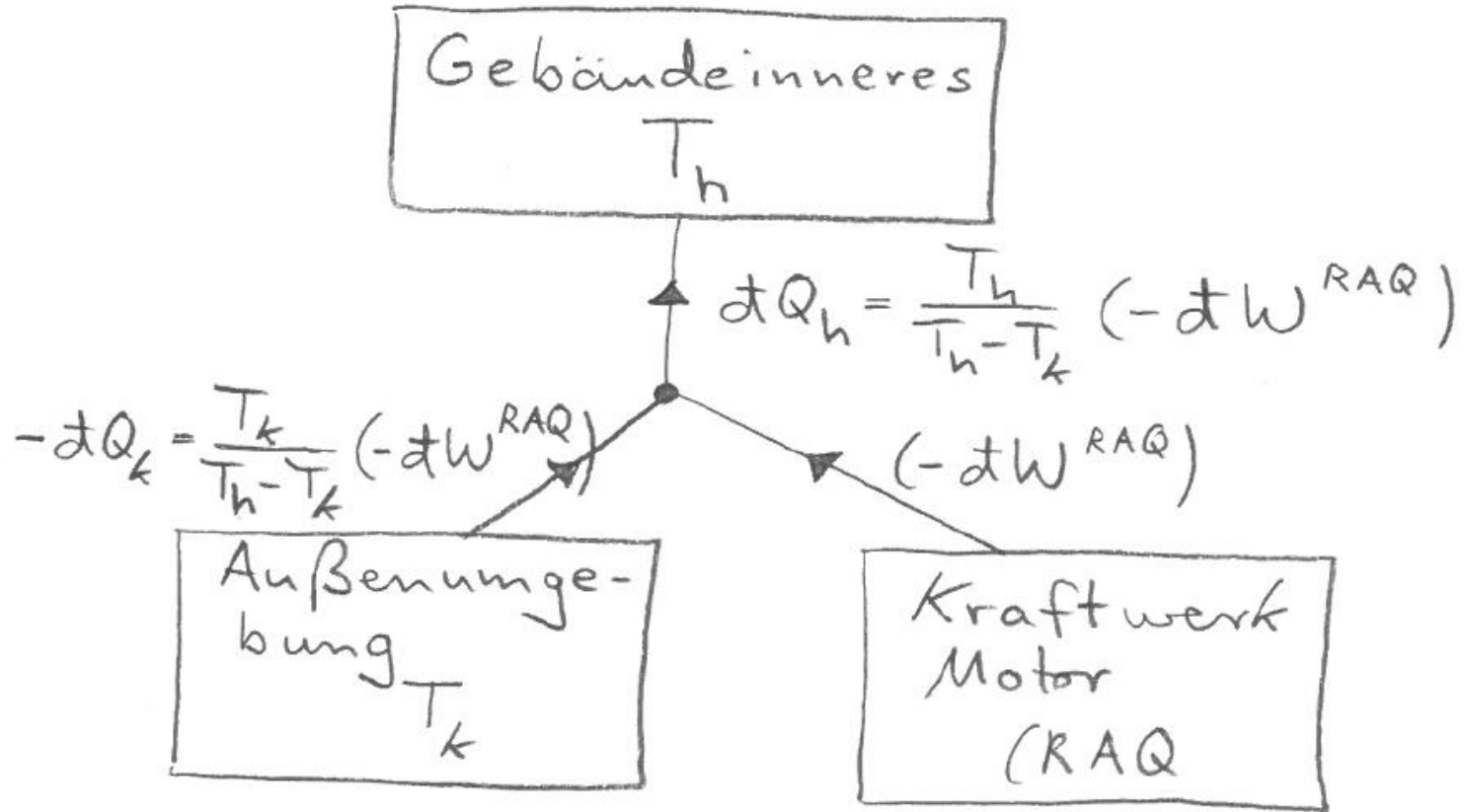
b) Kühlschranks:



1. HS: $dQ_h + dQ_k + dW^{RAQ} = 0$

2. HS: $dS_h + dS_k = 0 \iff \frac{dQ_h}{T_h} + \frac{dQ_k}{T_k} = 0$

b) Wärmepumpe:



1. HS: $dQ_h + dQ_k + dW^{RAQ} = 0$

2. HS: $dS_h + dS_k = 0 \iff \frac{dQ_h}{T_h} + \frac{dQ_k}{T_k} = 0$