

Note with Robert

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$$QPow - TermHS - PCBHS - LT - LPCB - CoreQPow = 0$$

Where

$QPow$: Q pulse Power in Watts measured at Pi Filter. The power that is going into the Q pulse board and termination

$TermHS$: Termination Heat Sink Power
calculated by

Termination Heatsink Flowrate LPM

Termination Heatsink H2O In T

Termination Heatsink H2O Out T

$PCBHS$: Q Pulse PCB Heatsink Power
calculated by

Q PCB Heatsink Flowrate LPM

Q PCB Heatsink H2O In T

Q PCB Heatsink H2O Out T

LT : Loss of TermHS, and $LT = \lambda_T * TermHS$

$LPCB$: Loss of PCBHS, and $LPCB = \lambda_P * TermHS$

$$Q_{reaction} = (Q_{flow} + Q_{loss}) - (Q_{heater} + Q_{pulse})$$

Where $Q_{reaction}$: heat flow from reaction

Q_{flow} : heat flow captured by the calorimeter's jacket

Q_{loss} : heat flow to the ambient air

Q_{heater} : heater power Q_{pulse} : power dissipated into the reactor core from electric pulse

Replace equation by helium and no QPulse Hydrogen and Helium then minus helium and No QPulse for Hydrogen and Helium, we have:

$$Q_{reaction} = (Q_{flow} + Q_{loss})_h - (Q_{flow} + Q_{loss})_{he} - Q_{pulse}_h - ((Q_{heater})_h - (Q_{heater})_{he} - Q_{heater_{noQ}})_h - Q_{heater_{noQ}}_{he}$$