



Heat calculation for electronic portion of QuadBlocks[™]

Each QuadBlock produces 90 watts or 307 BTUs. This is the heat output of the transformer, switching units and internal electronics. The cell temperature is determined by the cooling water temperature. Cool blocks at 62 def F water temperature do assist in cooling the enclosure but have not been included in this analysis in order to ensure a worst case cooling condition. Here is our cooling analysis for the existing enclosure:

Based on a 100 degree ambient temperature with an internal temperature of 110 degree and each QuadBlock at 100% Power, the numbers are as follow:

- With four (4) Quad blocks the heat dissipation required is 360 watts
 - Required Air flow for cooling in this enclosure (79" x 34" x 39") is 201cm/h (118 CFM)
- With six (6) Quad blocks the heat dissipation required is 540 watts
 - Required Air flow for cooling in this enclosure (79" x 34" x 39") is 301cm/h (177 CFM)

The High Performance Pagoda Exhaust Vent on the top of this enclosure will do a minimum 400 cm/h (200 CFM).

This is based on a static pressure of 1.5 inches of water. This enclosure has oversized inlet grilles which should reduce the static pressure to nearly 0. As the static pressure drops the air flow will increase.

Ensure the inlet grille filters stay clean to ensure minimum static pressure within the enclosure.

If possible, I'd like to know following temperatures:

1. Ambient temperature inside of the electrical enclosure.
2. Typical Heat Sink Temperature under running conditions
3. Typical Cell Temperature under running conditions