Cooling Calculations

Tu(°C)= Ambient Temperature = 21.1

Ti(°C)= Desired Enclosure Temperature = 10

T(°C)= Tu – Ti = 11.1

F(m3K/Wh)= Altitude factor = 3.3

Qv(W)= Heat Radiated in Enclosure =50w x 2

V(m3/h)= air flow required to cool enclosure

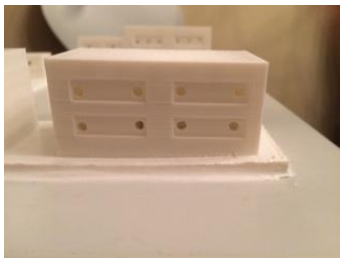
$$V = \frac{f \times Q_v}{T}$$

$$29.73\frac{m3}{h} = \frac{3.3 \times (50Watts \times 2)}{11.1\,C}$$

$$29.73\frac{m3}{h} = 17.5CFM$$

Conclusion: Need a cooling system that provides at least 17.5 CFM

Enclosure: Ventilation



Oversized exhaust fan to pull hot air from inside 3D printed buildings out