OnSite RGS Fairmount Executive Summary

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In October 2021, OnSite conducted a test of the Genesis Air RGS unit to determine its effectiveness at inactivating biological contaminants in a room. The test procedure consisted of the Genesis Air RGS unit being placed in the main room of a Physical Therapy Clinic. The Genesis Air RGS unit operated at a fan speed of 825 CFM. The test compared the RGS to an EcoQuest Fresh Air DuctwoRx UV system installed in the building HVAC system.

The test involved breaking the room up into multiple zones and measuring the infection risk in each zone. Figure 1 shows the infection risk in the room with the RGS turned off. Figure 2 shows the infection risk with the RGS turned on. In addition, Figure 3 shows the average colony forming units per cubic meter that were identified in each trial. Finally, airborne particles of various sized were measured and graphed in Figure 4.

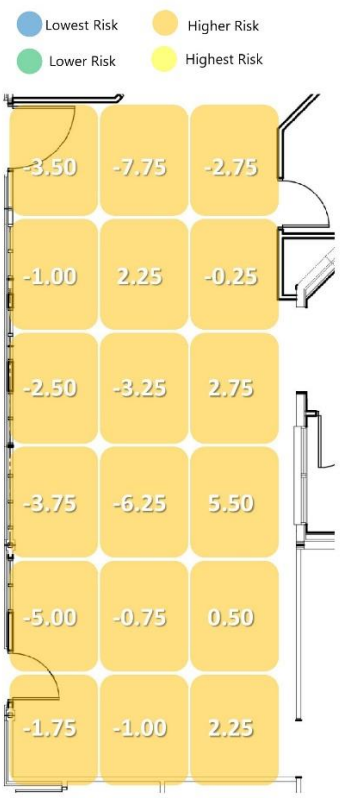

Figure 1: GA Off

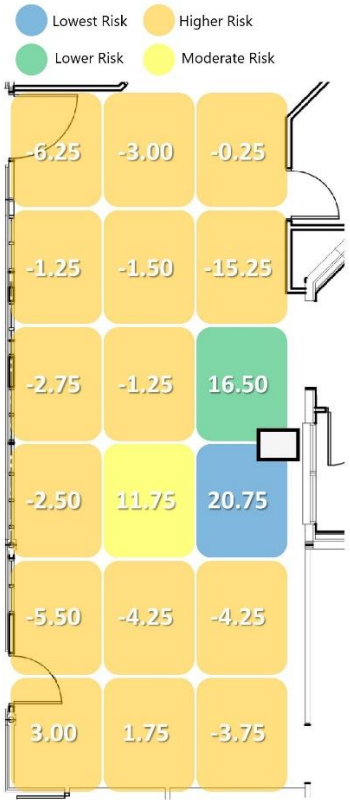

Figure 2: GA On

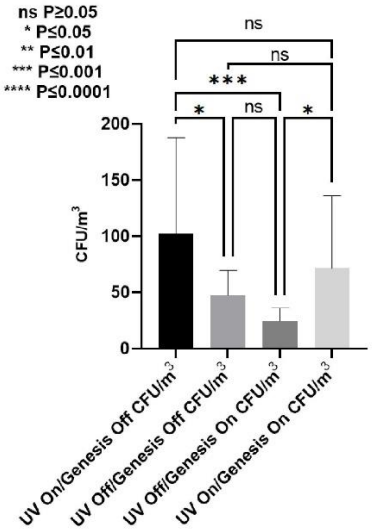

Figure 3: Microbial Analysis

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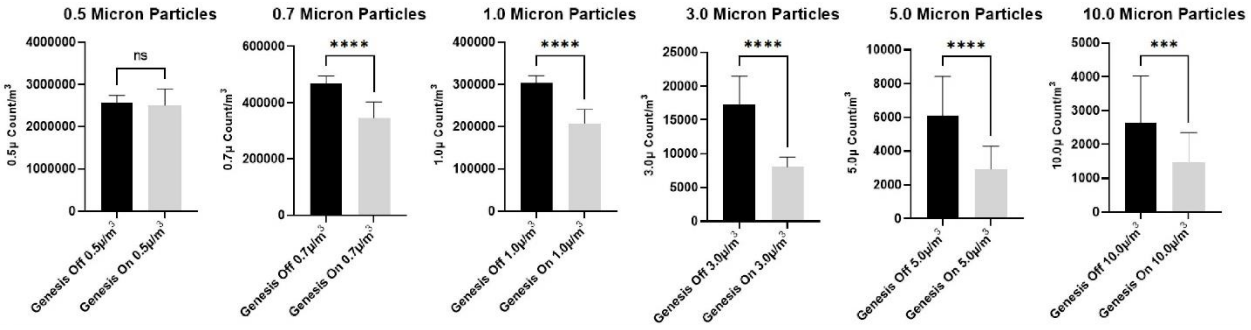

Figure 4: Particle Count Analysis

The Genesis Air RGS could lower the risk in the immediate vicinity of the unit. The surrounding air was not affected by the unit. This was a result of the unit's inability to project clean air throughout the room. If the RGS design is changed to include louvers to the outlet grille, the unit could be more effective at cleaning air within the room. Using the RGS alone was the most effective method for removing CFU's from the air. **Figure 3 shows that Genesis on with EcoQuest off had the lowest number of CFU's recorded.** Figure 4 shows that the RGS could remove a high percentage of particles in the +3.0-micron range. Particles smaller that 3.0 microns where more difficult to remove because they are small enough to pass through the MERV 13 pre-filter.