

Minimum Fresh Air Requirements

10 Liters Per Second (L/s) per person is recommended = 21.19 Cubic Feet Per Minute (CFM)

(<http://www.kylesconverter.com/flow/liters-per-second-to-cubic-feet-per-minute>)

100 people need approximately 2000 CFM in normal circumstances

2000 people need approximately 40,000 CFM in normal circumstances

Studio – Air Handling Unit 2

Air Handling Speed Max is 17,000 CFM circulated

Air Handling Speed Low is 8,000 CFM circulated

Volume of room = 108,000 CF

Air exchange per hour is about 9 times at max.

Hall – Air Handling Unit 1

Concert Hall Max – 65,000 CFM

Concert Hall Low – 45% to 65% of maximum performance

Volume 1,009,000 CF

Air exchange per hour is about 4 times at max.

Turbulent air flow: can not control direction of airflow

Founders Room – Air Handling Unit 3

Air flow: 180 L/s (normally) = 381.4 CFM

Volume of room: 15,400 CF

Air exchange per hour is about 1.5 times at max.

Practice Rooms part of AH 3

Air flow: approximately 100 L per second (each room) = 212 CFM

Volume: Room # 021 : 1450 Cu Ft

025 : 1300 Cu Ft

027 : 1300 Cu Ft

029 : 1300 Cu Ft

Air exchange per hour is about 9 times at max.

Practice rooms are part of Air Handling Unit #3 which is connected to admin offices.

Grand Hall (lobbies) – Air Handling Unit 4

Air flow: 66,000 CFM

Volume of lobbies: 301,715 CF

Air exchange per hour is about 13 times at max.

Outside air and recirculated air

We can do air intake of 100% outside air. It is normally 50% outside and 50% recycled. Although it is more economical to use recycled air, studies have shown outside air intake is better to reduce risk.

Our air intake is on the roof in/by the cooling tower enclosure (on top of NE stairwell – 3 floors up)

Filters and UV lighting

Filter: red industrial (BGE) (<https://bgecleanair.com/products/air-filtration/secondary-filters/red-industrial/>)

Final Filter: rigid-pak RP85 MERV 13 (BGE) - 89-90% efficient and typically control contaminants like droplet nuclei also known as sneeze. (<https://bgecleanair.com/products/secondary-filters/rigid-pak/>)

Our air filtration is regularly inspected and there are pressure gauges to indicate operational effectiveness.

- In the summer, filters are more often changed (every two to three months, sometimes every month)
- In the winter, filters are less often changed (maximum two changes every winter period)

Humidity

Higher humidity levels are believed to decrease viral transmission. Studies have shown the ideal humidity to reduce transmission to be 50%. This will be the target humidity of the Winspear Centre. Previously, our humidity setting was a target of 40%.