

Yale Facilities

To: Yale Design Teams

From: Yale Engineering

Subject: Design Directives for Ventilation and Filtration

Date: February 22, 2021

All projects must address guidance for reducing airborne infectious aerosol exposure as follows:

1. Mechanical ventilation: All spaces must comply with CT Building Code 2018 ventilation requirements which are aligned with International Mechanical Code 2015 and ASHRAE Standard 62.1-2013.
2. Natural ventilation: All naturally ventilated spaces with operable windows must be explicitly evaluated to ensure that fresh outdoor air is consistently provided while maintaining comfortable thermal conditions. Required open window area must be calculated based on the square footage of the area window is serving. If it is not reasonable to maintain open windows, then projects must include strategies for tempered ventilation such as local energy recovery ventilators. All natural ventilation strategies must be reviewed with Facilities Engineering & Operations.
3. Filtration: Recirculating air handling units shall be equipped with MERV 13 filtration at a minimum. If outside air minimums are less than 20% of total supply air, then the unit must be equipped with MERV 14 filtration.
4. Equipment scheduling: All ventilation equipment shall include scheduled operation through the BAS graphical user interface. All applicable operating schedules shall be configured and commissioned by the project team.
5. Toilet exhaust: Toilet exhaust fans serving multiple zones must include scheduled operation through the BAS graphical user interface. All applicable operating schedules shall be configured and commissioned by the project team. Toilet exhaust fans serving a single zone shall be configured with two means of control tied to the BAS: scheduled operation and occupancy operation. Occupancy operation, which is preferred under typical circumstances, provides exhaust only when a restroom is occupied. If manual control only of the toilet exhaust is preferred by switch in space, exhaust must not be tied to lighting and needs a dedicated switch to allow for 24/7 operation.
6. Demand controlled ventilation: Control sequences that allow outside airflow rates below IMC/ASHRAE prescribed minimums must be identified and provided with the ability to enable and disable through the BAS graphical user interface.

7. Zone control: Individual zones shall be configured with two means of control on the BAS: scheduled operation and occupancy operation. Scheduled operation allows a VAV to provide airflow in advance of occupancy. Occupancy operation, which is preferred under typical circumstances, provides airflow only when space is occupied or in need of thermal conditioning.
8. Power: Consideration shall be given to location and power for local HEPA filtration units and local humidification units if deemed necessary within shared spaces.