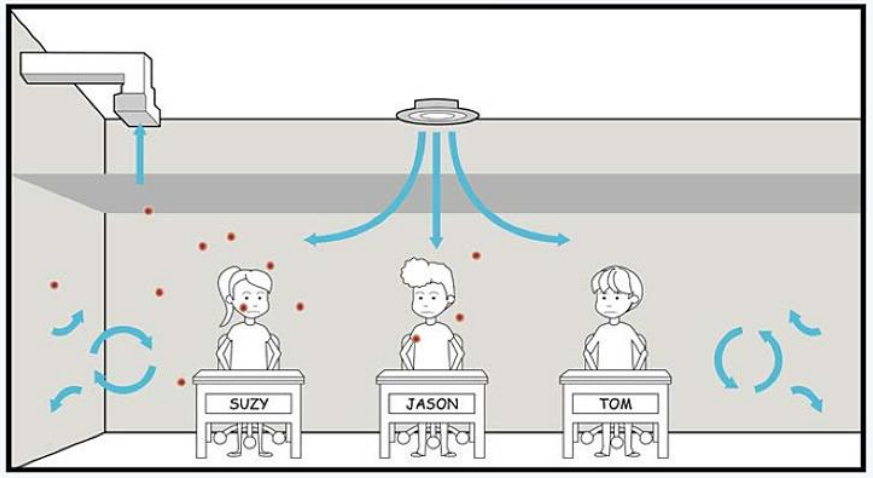
Potential HVAC Strategies

Overview

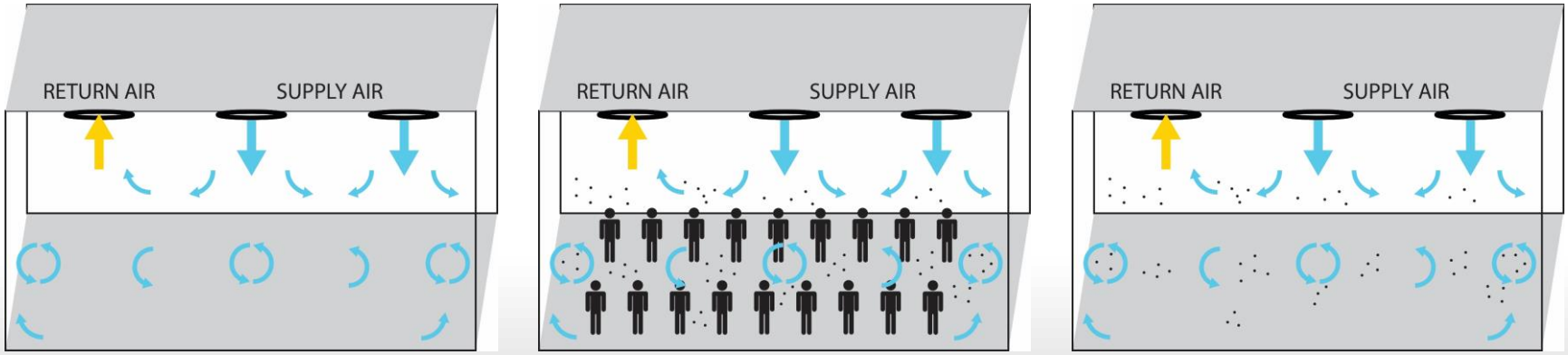
- Building Flush
- Eliminate Demand Control Ventilation
- Increased Outdoor air and ventilation to the central air handling equipment
- Increasing MERV rating (filter efficiency)
- Consider utilizing laboratory spaces if possible



HVAC Dilution Strategies

Building Flush

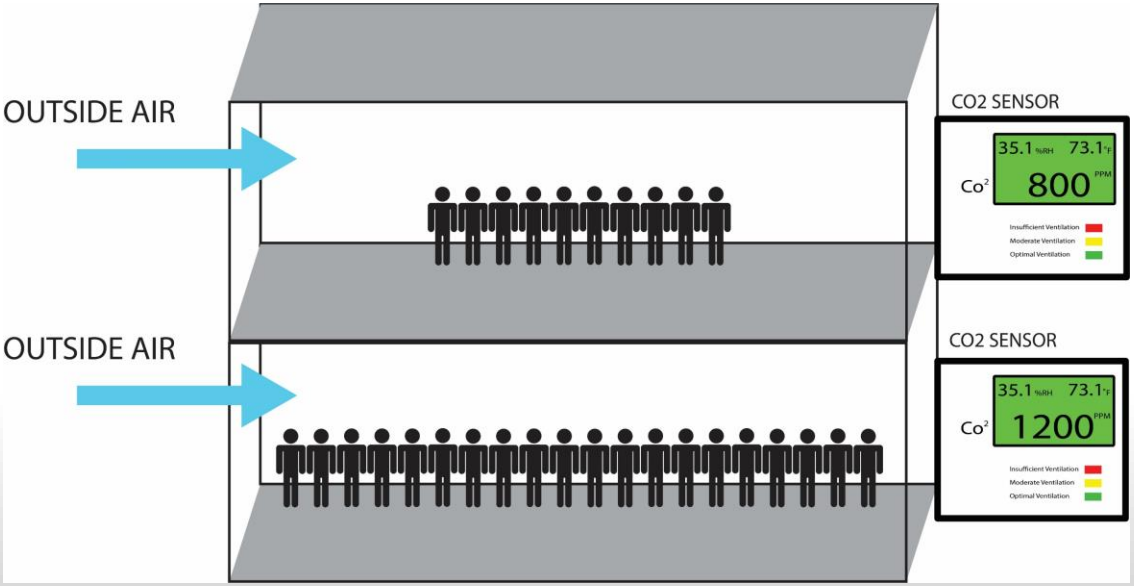
- Run HVAC fans continuously, run the system on minimum outside air when unoccupied.
- Open outside air intake dampers for flushing two hours before and post occupancies
- Older buildings often lack outside air intakes and exhaust.
- Depends on the time of year, local climate, conditions of the outside air, and the capability of the HVAC equipment so that the system is able to maintain acceptable indoor temperature and humidity



HVAC Dilution Strategies

Disable Demand Control Ventilation

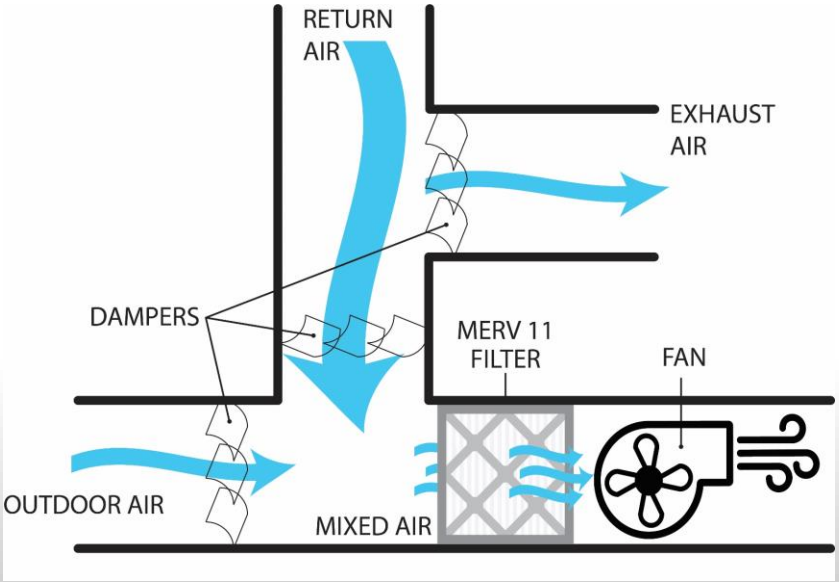
- Demand ventilation based on occupancy using CO2 monitoring saves energy and $$$
- Fewer people in spaces create less exhaling and reduces CO2 levels
- Now recommend minimum outside air damper positions should be 20% or higher
- Now recommend minimum 5 CFM per person and 0.06 CFM per square foot for occupied office

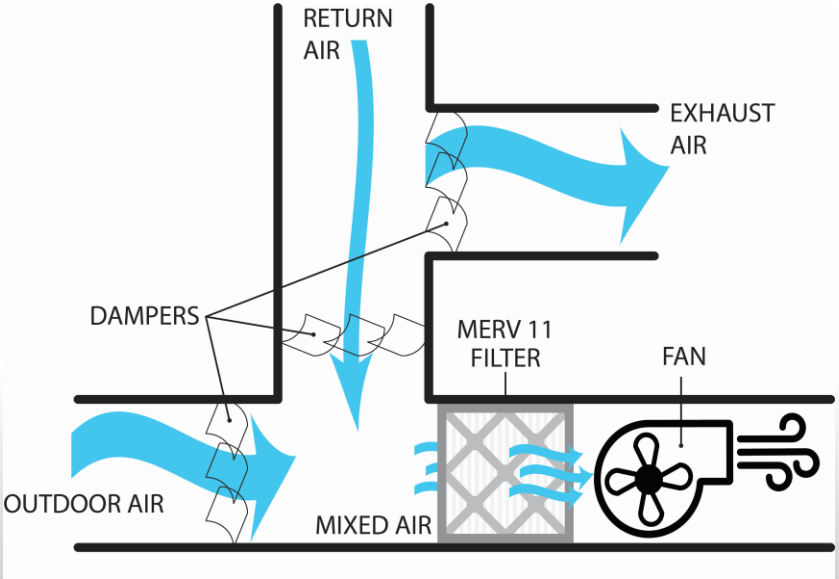


HVAC Dilution Strategies

Increased Outside Air

- Reduce the recirculated air and increase outside air to a building using the central air conditioning and heating.
- If available, open operable windows when outdoor conditions allow
- Provide as much ventilation as possible without creating adverse conditions such as higher humidity and thermal stress of occupants.

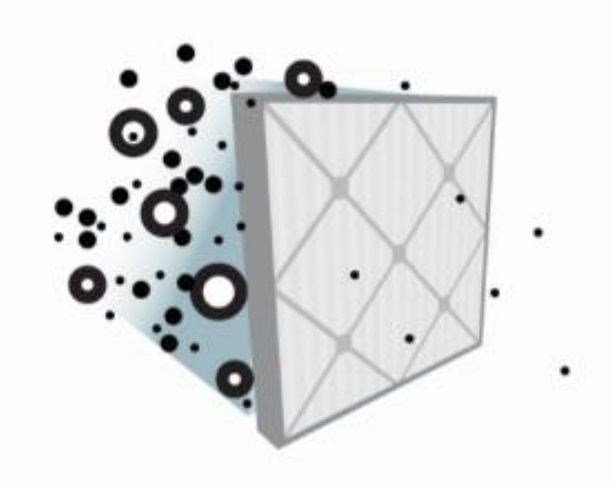


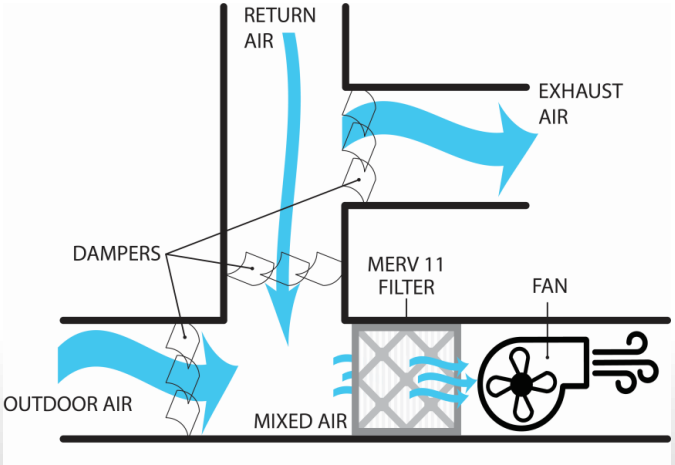


HVAC Filtration Strategies

Increased Air Filtration

- Higher MERV Rating for a filter captures more and smaller particles.
- Use MERV 8 (capture 85%, 3-10 micron) or better filters if possible
- Inspect and replace dirty air filters.
- Check return and exhaust grilles for cleanliness, remove any dust or debris buildup.
- Filter selection is dependent on equipment type and fan capacity.





HVAC in Laboratories

High Level of Ventilation and Filtration

- Most have a higher dilution rate
  - Fans run continuously
  - High amount of outside air with little or no recirculation
  - High room air change rate
- Most have higher MERV Rating for a filter captures more and smaller particles
  - MERV 14 or better (capture 90%, 1-3 micron)