rzero

Updated Guidance from ASHRAE & CDC

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Meet the presenters

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Agenda

- Bios
- Basics
  - What are the new guidelines?
  - Why are they needed?
  - What are the new ventilation targets?
- What does it mean for you?
  - What technologies can be used?
  - What steps should I take?
- Q&A

Basics

What's going on?

ASHRAE Standard 241P: *Control of Infectious Aerosols*

- ASHRAE is a professional organization of HVAC engineers that is responsible for setting the standards that form the nation's **building codes**
- Draft of 241P Standard released publicly with **final version** to targeted for approval by the end of **June 2023**
- Purpose is to **control of infectious aerosols to reduce risk of disease transmission**
- Requires enhanced ventilation **during times of high risk** (i.e., "Infection Risk Management Mode")
- Represents a **significant increase** in non-infectious air relative to previous standards *(discussed on next slide)*

CDC: *Ventilation in Buildings*

- Center for Disease Control and Prevention (CDC) provides **guidelines to protect the nation's public health**
- Recommends at least **5 eACH** for all occupied spaces
- Updated the minimum filter recommendation to Minimum Efficiency Reporting Value **(MERV) 13**.
- **CDC guidance sets an expectation of quality** demanded by relevant stakeholders, but it does not typically affect building code

Why now?

- Covid-19 brought **unprecedented attention to IAQ**
- Big changes take time. These new standards that **will mitigate airborne transmission of pathogens for the long-term**
- Adhering to the new standards will help **protect us from the next pandemic as well as more common outbreaks of RSV, flu, and more**

"We might be on the **verge of an indoor air quality revolution**, and it could be among the **most important public health victories of the 21st century**"

-Joseph Allen, director of Healthy Buildings program at Harvard University's T.H. Chan School of Public Health

How different is it?

Comparison of eACH requirements across standards and space types, assuming typical occupant density

	Current 62.1/170	Forthcoming 241P	% Increase or Multiple
Education	2.8-3.5	8.3	**2.4-3.0x**
Healthcare	Exam Room - 6 Patient Room - 4 Waiting Room - 12	Exam Room - 8 Patient Room - 24 Waiting Room - 40	**Exam Room - 33%** **Patient Room - 6x** **Waiting Room - 3.3x**
Office	0.5	1.1	**2.2x**
Other	Public Assembly - 5.4 Religious - 4.4	Public Assembly - 20 Religious - 24	**Public Assembly -3.7x** **Religious - 5.5x**

Relevant ASHRAE Ventilation Standards

62.1 - Ventilation for Acceptable Indoor Air Quality | Non-Residential & Non-Health Care Spaces | CFM/person*
170 - Ventilation for Health Care Facilities | Health Care | ACH
241P - Control of Infectious Aerosols | All Occupied Spaces | EOA/person

CFM - cubic feet per minute
ACH - air changes per hour
eCFM/eACH - equivalent CFM/ACH
EOA - equivalent outdoor air

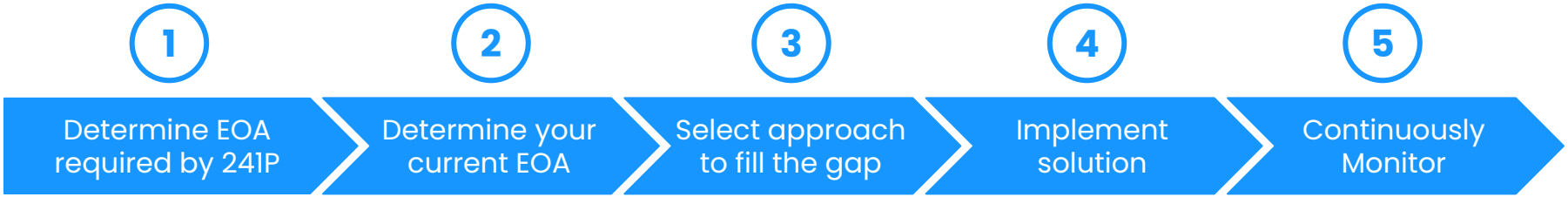
*ASHRAE 62.1 uses a combination of CFM/person and CFM/area

What does it mean for you?

Determine best approach for compliance

Increased Ventilation (HVAC)	Portable Air Filters	In-Room GUV
		
⊕ 1-2 eACH added	**⊕ 1-3 eACH added**	**⊕ 10+ eACH added**
Typical HVAC systems operate at 70-80% of capacity. Forcing them to operate at 100% only add a few ACH.	Most portable air filters are inadequately-sized for the volume of air they clean. Typical filters add 1-3 ACH.	In-room GUV disinfects large volumes of air at once enabling 10+ eACH in a 500 sq. ft. space with a single device.
Limitations		
• Significant energy costs and GHG emissions • Can affect occupant comfort • Increases wear and tear, requiring add'l maintenance • Not targeted to highest-risk spaces	• Noisy • Obstructive • Frequent maintenance for filter replacements • Not considered a permanent solution as it's not installed	• Safety commissioning required upon installation • Unfamiliar technology for many

Typical steps to compliance



- **Multiply** the CFM/occupant required by ASHRAE 241P for your space type by the number of occupants

- **Measure your HVAC** system's current ventilation (CFM)
- **Add supplemental EOA** you've implemented (e.g., portable air cleaner, GUV)

- Consider **cost**, **implementation**, ongoing **maintenance**, and **sustainability** for your unique situation

- Schedule and conduct installation to **minimize disturbance to building occupants**
- For PACs, determine placement, maint. schedule, and protocol for **preventing misuse by occupants and operators**

- Conduct inspections manually as necessary or **use sensors for real-time, continuous monitoring**

Q&A

Thank you!

Stay informed and up-to-date with the latest developments in ASHRAE and CDC's IAQ standards by following us on LinkedIn and Twitter as well as by subscribing to our newsletter.

Scan QR code to add to our question bank that we'll be addressing in future webinars, newsletters, and social & web content in easy-to-understand terms!