



# Airzone: ASHRAE 15 Compliance Made Easy

NAVIGATE NEW REFRIGERANT STANDARDS WITH CONFIDENCE

# New Refrigerant Standards Are Here: **Are You Ready?**

As a mechanical engineer, you're facing significant changes with the transition to A2L refrigerants under ASHRAE Standards 15 and 34. Stricter safety regulations and lower refrigerant charge limits mean **conventional VRF systems designs may no longer comply.**

## Why Switch to A2L Refrigerants?

The HVAC industry is transitioning to A2L refrigerants as a response to growing environmental concerns and stricter regulations. With lower global warming potential (GWP) and ozone depletion potential (ODP) compared to traditional A1 refrigerants, A2L options like **R-32** and **R-454B** align with global efforts to reduce carbon emissions and promote sustainability. However, as A2L refrigerants are considered 'mildly flammable,' stricter design limits and safety measures are required, presenting new challenges for HVAC professionals.

## Refrigerant Concentration Limit (RCL)





**A1**  
(R-410A)

OLD STANDARD

- GWP 2,088
- Toxicity A
- Flammability 1



**A2L**  
(R-32)  
(R-454B)

NEW STANDARD

- GWP 675
- Toxicity A
- Flammability 2L

## Higher Stakes in Every Project



### Delivering the same quality

You're now tasked with meeting strict new refrigerant limits while delivering the same high-quality HVAC applications your clients expect.



### Balancing performance and safety

This means every installation must carefully balance performance and safety, ensuring that even in the event of a leak, refrigerant concentration stays within the set limits.



### Increased complexity

Navigating these restrictions adds complexity to your designs and installations, increasing the risk of delays, compliance issues, and costly mistakes.

## Airzone: Your Partner for Easy ASHRAE 15 Compliance

Airzone's advanced zoning systems for Inverter/VRF AHUs offer a smarter, more efficient way to navigate the challenges of new refrigerant regulations.



### Optimized Applications Design

Airzone systems optimize the design of HVAC applications to match the building's **real demand**. This ensures only the necessary refrigerant is used, lowering the refrigerant charge.



### Fewer Units, Less Piping

By enabling precise zoning, Airzone allows the same space to be air conditioned with fewer AC units. This reduces the amount of piping required, minimizing potential leakage points and installation complexity.

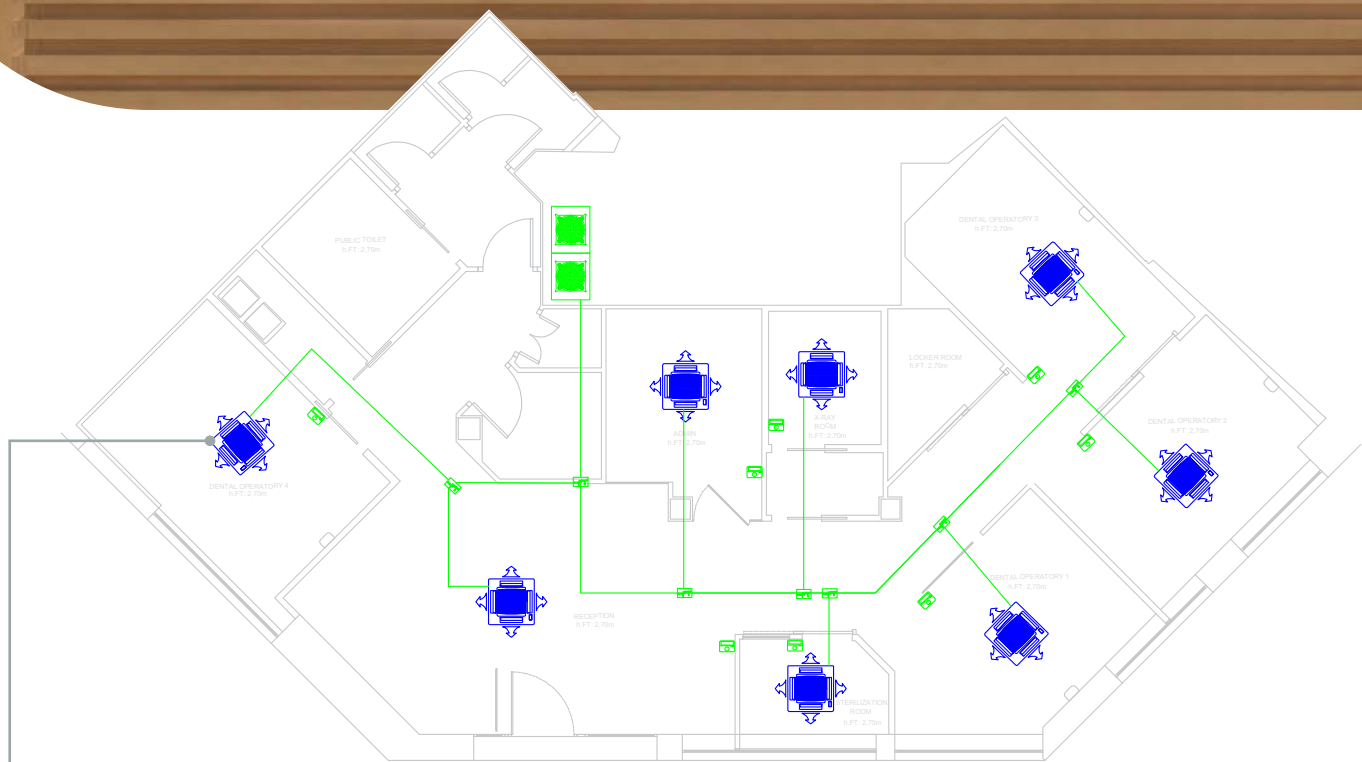


### Reduced Refrigerant Concentration

Airzone's solution uses ducted units to air condition multiple zones from a single system. In the event of a refrigerant leak, the volume of the ceiling plenum is factored into the calculations for refrigerant concentration, effectively increasing the total volume considered. This, combined with the **lower refrigerant charge** of a zoned system, helps to ensure that refrigerant concentrations remain within the permitted limits under ASHRAE Standard 15.

## CASE STUDY >> DENTAL CLINIC

### Conventional VRF Installation VS Airzone's Advanced VRF Zoning Solution



#### CONVENTIONAL VRF INSTALLATION



**8 cassette units**



**339.9 ft of piping**



**69,000 BTU/h**  
 > Outdoor Unit Capacity



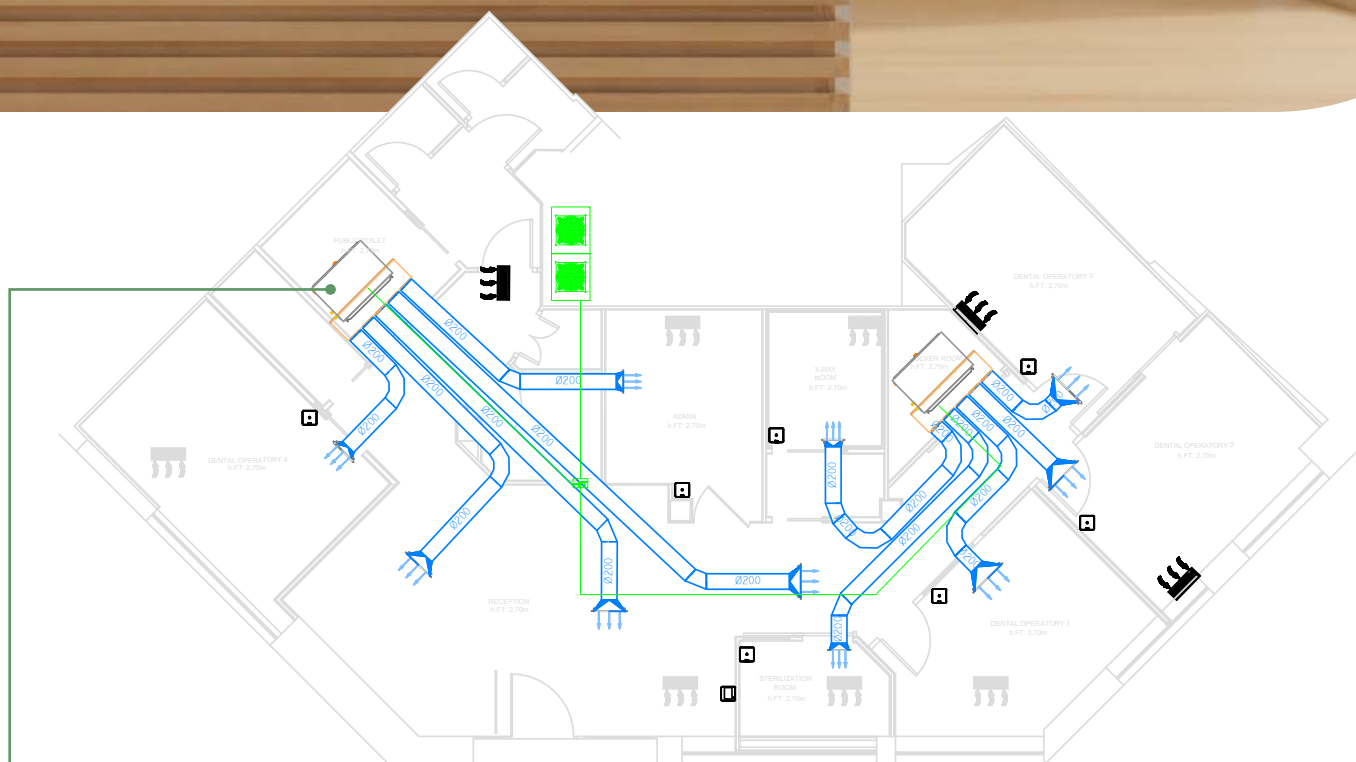
**16.03 lbs of R-32**



Required EDVC: **3,337.50 ft<sup>3</sup>**



Concentration in case of total leakage:  
**41'7 lbs/1000 ft<sup>3</sup>** > 4'8 lbs/1000 ft<sup>3</sup>



### AIRZONE VRF ADVANCED ZONING SOLUTION



**2 Ducted Units**  
 > With Airzone's Zoning Solution



**221.1 ft of piping**



**52,000 BTU/h**  
 > Outdoor Unit Capacity



**10.29 lbs of R-32**



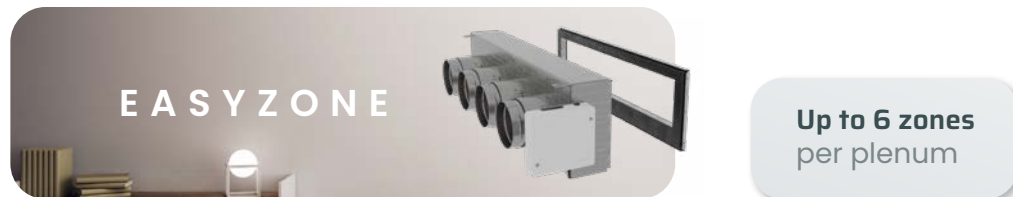
Required EDVC: **2,143.49 ft<sup>3</sup>**



Concentration in case of total leakage:  
**2 lbs/1000 ft<sup>3</sup> < 4'8 lbs/1000 ft<sup>3</sup>**

# Airzone Zoning Solutions

Airzone solutions integrate seamlessly with leading Inverter/VRF HVAC units, dynamically adjusting temperature and fan speed of the Air Handling Unit (AHU) to match real-time installation demands. Each Airzone zoning control solution uses a dedicated communication gateway to control the HVAC unit according to its manufacturer's communication protocols, allowing for enhanced system efficiency and comfort while eliminating the need for bypass dampers or pressure sensors.



## Plug & Play Zoning for Ducted AHUs

The Easyzone Plug & Play zoning solution is an all-in-one plenum box specifically designed to adapt to **ducted horizontal, multi-position, and vertical AHUs**, offering an efficient and flexible approach to HVAC management. Pre-wired and ready to install, the system simplifies setup, reduces the risk of installation errors, and helps prevent delays and unnecessary labor costs. With features like dynamic fan speed adjustments and real-time temperature control, Easyzone enhances comfort in every zone while optimizing energy efficiency.



## Loose Damper Zoning Solution for Vertical, Horizontal, and Multi-Position AHUs

Airzone's VAF provides efficient control for **hybrid ducted and ductless HVAC units**, offering a flexible solution for zoned temperature management. The system integrates air conditioning with **zone-specific supplemental heating control**, delivering enhanced comfort and energy efficiency. Designed for seamless integration with major Inverter/VRF manufacturers, Airzone VAF ensures compatibility with a wide range of HVAC configurations, simplifying both installation and operation.



# Why Professionals Choose Airzone

## Simplified installation:

Fewer units, pre-wired systems, and shorter piping mean faster installs with less complexity.



## Lower labor costs:

Pre-wired components and reduced piping translate to less time on-site, saving both effort and expenses.



## Customer satisfaction:

Deliver projects that exceed energy efficiency and comfort expectations while ensuring full compliance with industry standards.





# Contact Airzone

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