

Webinar: Daikin & Multifamily: There is a Better Way!

Q&A with the Presenters

JS Rancourt, Patrick Haydon, and, Jon Hacker

- 1. How does piping length effect system efficiency?**
 - a. There are capacity losses due to pipe lengths which affect the efficiency but it often is a small percentage. This amount of depends on the type of system - centralized VRV vs separate split system

- 2. Is the 300 ft. rule of thumb?**
 - a. The maximum vertical piping length can go up to 295ft vertical for VRV central systems.

- 3. Which piping system is easier to maintain with regard to leaks or routine maintenance?**
 - a. Lot to think about with this, with the centralized VRV you can isolate branch box ports going to each suite to either perform maintenance or to test for leaks. With split systems it's also easy to isolate the indoor units to perform maintenance. Routine maintenance - for the split systems you will have a lot more condensing units with coils to clean, whereas the VRV will have less condensing units/footprint. On the indoor unit side in terms of routine maintenance it will be the same for both options.

- 4. Is there a significant COP difference between the two system types? I've seen primary research that the average heating usage is much lower in buildings that use single splits.**
 - a. The centralized VRV typically win with efficiency.

- 5. I would like to get more info on the cold VRV. Thanks**
 - a. More information is available at <http://www.daikinac.com/content/commercial/vrv/vrv-aurora/>

- 6. How do these units do in very climates if these units are outside -20F to -30F in climate zone 8?**
 - a. We have now have cold climate VRV that have heating data down to -22F. With these there is no hard cutoff temp so the condensing unit will likely still operate below this at the rated performance.

- 7. Would these systems be suitable for schools?**
 - a. Yes, we have done many schools utilizing central VRV systems both Heat Pump and Heat Recovery approach.

- 8. Which type would be best for a school?**
 - a. Our last webinar, on April 13th will focus on commercial applications. I think we'll have some interesting school projects to highlight then. I hope you can attend.

9. Why don't you like roxsul?

- a. Roxul has much more embodied carbon than Wood fiber insulation. I believe the wood fiber also has better performance

10. What is the MERV rating of the air filtration systems? – Thanks

- a. It really depends on the type of indoor unit however with our ducted units we have options for up to MERV 13 rated filters.

11. In a central VRF system how is thermal comfort controlled?

- a. For centralized VRF in a multi-res building we always try to use a heat recovery system which allows for simultaneous heating and cooling. So each indoor unit can independently heat and cool which can be controlled locally on the thermostat

12. Is the VRV inherently a heat recovery machine (you show 3 pipes)

- a. With VRV systems they can come in heat pump or heat recovery (simultaneous heating and cooling) systems. Heat pump systems are 2 pipe changeover systems where all fan coils would need to be in the same mode (heating or cooling) off of the same system. Heat recovery systems are 3 pipe systems to the branch selector boxes and 2 pipes from the branch boxes to the indoor units enabling the systems to be able to simultaneously heat and cool.

13. Does Daikin have water source units for geo?

- a. Yes, we have water source VRV heat pump and heat recovery systems available, and have used these for geothermal applications.

14. Who is the vendor for CO2 heat pump water heater?

- a. Sanden - <https://foursevenfive.com/sanco2/>

15. Could info on the CO2 heat pump water heater that was used on one of the example projects be shared?

- a. Sanden - <https://foursevenfive.com/sanco2/>