

# Daikin Webinar: Making a Difference in Single Family Homes

## Q&A with the Presenters

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### Questions are organized by topic:

- Installation (1-3)
- Performance and Efficiency (4-7)
- Product Related (8-14)
- General (15-18)

#### **1. Does Daikin offer design services for equipment installation in new construction?**

- a. Daikin has multiple levels of assistance in the design phase and can help with equipment selection, however the system capacities will need to be provided by the installing contractor after proper load calculations are completed. For more information please contact the Daikin Design Center at (516) 206-1596.

#### **2. Do installers need to be certified by Daikin?**

- a. Installation classes are always strongly recommended, but Daikin ductless and Skyair equipment are available to all HVAC contractors. More sophisticated products, such as VRV, do require completion of installation and service training courses before that equipment can be purchased.

#### **3. Any problem with windblown snow getting into the condenser coil and hindering heat transfer?**

- a. The outdoor condenser is significantly above the snow as it is hung high on the foundation, which is ideal for a heat pump installation. This avoids any significant snow build up that could hinder heat transfer. I also added the wind baffles that I believe to be an essential accessory for my installation as the unit is exposed to direct wind.

#### **4. The wind baffle on the outdoor unit. Can you explain how it gives you more BTUs? How does the wind effect the efficiency of the unit?**

- a. Wind can negatively impact the heat transfer over the outdoor condenser unit's coils by not allowing the air to flow over the coils as intended.

#### **5. Do you have the COP at -15/0/15/30 degrees?**

- a. Performance data for our heat pumps is available for a variety of outdoor conditions. This information can be found in our Capacity Tables within our Engineering Manuals. Engineering Manuals are available at <http://www.daikinac.com/>. Navigate to the appropriate product and you can find the documentation in the "Resources" section.

**6. If you have this thermostat in a dual heat source gas/electric system, can it calculate over time the optimum run ratio of gas to electric to minimize energy costs?**

- a. Determining the changeover point will vary for each system and should be determined through a discussion with the owner to better determine their needs and desires for the system. Some may want to control the system so the heat pump is used as much as possible, others may want to optimize for operating costs, while others may want to optimize for comfort. To optimize the system for cost, the controller would need to know the energy costs in real time and also the performance of both the heat pump and non-heat pump system.

**7. How large is the heat pump? KBTU? Efficiency?**

- a. The VRV Life outdoor condenser is a 5-ton unit and is matched up with two 3-ton indoor air handlers. According to NEEP, this configuration has a SEER of 16, HSPF Region IV of 10.5, EER 9.2 and a COP at 5F of 2.53.

**8. Is there any plan to offer a high temperature WTW heat pump for retrofit in hydronic radiator systems?**

- a. Heat pumps are generally challenged to efficiently provide hot water in the range of 180F, which is typically required for retrofit applications of hydronic heating systems. Hot water temperatures can be more efficiently obtained if water only needs to reach about 140F. To efficiently use a heat pump in an application like this and not replace all the radiators or coils, the homes would likely need some dramatic air sealing and insulation work.

**9. Can this system be utilized with a Geo thermal system?**

- a. VRV Life is Daikin's most flexible system for residential applications. It can be utilized with another geothermal system, however the controls and interoperability of the two systems needs to be carefully considered.

**10. Can the Daikin multi-zone system heat and cool simultaneously?**

- a. Simultaneous heating and cooling can only be achieved on three-pipe Heat Recovery equipment. All two-pipe heat pump equipment, Residential and VRV require the entire system to be in either heating or cooling.

**11. How many zones can be utilized with one outdoor unit?**

- a. The VRV Life system can be connected to up to nine zones.

**12. Is Daikin developing products that avoid fluorinated refrigerants to address those concerns?**

- a. Daikin supports for the adoption and proliferation of environmentally friendly refrigerants. I would encourage you to go to <https://www.r32reasons.com/> to learn more.

**13. How many zones do the two heat pumps supply? Just two?**

- a. In Mr. Nissman's home, he has one VRV Life system, which consists of two centrally ducted zones. The VRV Life system however, is capable of controlling up to nine zones.

**14. Is it possible to retrofit the ONE+ to the previous 4T on air handlers?**

- a. The Daikin One+ thermostat is backwards compatible and nearly universally accepted by all Daikin communicating systems.

**15. How tight was Jonathan's House?**

- a. Blower door measured at 2800 CFM @ 50pa. The min. ventilation is 2478 CFM.

**16. Do you have a ridge vent in the attic? What do you use for attic ventilation?**

- a. There is no ridge vent or attic ventilation as the attic is sealed up completely.

**17. How do you predominantly push preventative maintenance (heat transfer coil cleaning, filter replacement, etc.) for energy savings, indirect emissions reduction, and equipment operational benefits? (Source: <https://k-cep.org/wp-content/uploads/2018/03/Optimization-Monitoring-Maintenance-of-Cooling-Technology-v2-subhead....pdf>)**

- a. The appropriate preventative maintenance recommendations are generally provided in the product documentation or in our technical publications, for example our Aluminum Coil Cleaning Approved Cleaners' List TP-109B available at <https://hvacdirect.com/hvac/pdf/ARUF-Tech-Pub.pdf>.

**18. Are you now recommending that we include non-heat pump backup?**

- a. The decision whether to use back-up heating is one that is best made by the installing contractor, system designer, and/or owner of the system. There are many instances of successful installations of Daikin inverter heat pumps that both use and do not use back-up heating.