



Turn to the experts

Carrier Puron Advance™ – FAQ Document

Equipment

Q: Is R-454B a R-410A drop-in?

A: No, Puron Advance is not a drop-in replacement for Puron. The pressures and temperatures are close to Puron, but they still require new compressors and expansion devices for ideal operation, therefore R-454B should not be used in R-410A systems.

Q: Will Carrier Fan coils have leak detection sensors like other brands have implemented?

A: All Carrier fan coils will have full leak detection systems already installed in the equipment when shipped.

Q: Will the thread pattern be reversed from the standard set of residential service gauges?

A: Gauges, will not have reverse threads. A thread adaptor will be needed for the cylinder that can be purchased through Replacement Components.

Q: Are we getting away from torches and going with all compression fittings?

A: Mechanical fittings will be standard on all R-454B equipment.

Q: Do contractors need to use new/different reclaim tanks? What is recommended when a contractor will be re-using an existing lineset?

A: Rulings on reclaim came out from the EPA but were challenged in court and overturned. New rulings are in process. Best practice for reclaim tanks is to use only one type of refrigerant to avoid contamination. Linesets can be reused as long as they continue to meet local building codes. There isn't a need to replace them from a system standpoint as R-454B uses POE oil as well.

Q: Are the R-454B coils/TXV's compatible with R-410A condensing units?

A: Full furnace coils are not interchangeable. The refrigerant designed for the indoor coil must match that of the outdoor unit. Replacement Components will offer replacement coils only that can be used to replace either R-410A or R-454B coils.

Q: Will the new equipment come dry or with charge in it?

A: The new equipment will come with charge in it much in the same way that our current R-410A equipment comes today.

Q: Will an existing gas furnace be required to be replaced on a split AC system replacement using R-454B or will add on components be available to ensure that the furnace is in compliance?

A: The dissipation controls will intercept the signal from the thermostat. The furnace will not operate any differently than designed. The dissipation control will change the inputs into the furnace based on any need for dissipation. There will be no extra add on items needed to make changes to the furnace.

General Questions

Q: Does R-454B contain propane?

A: There is no propane present in R-454B. It is a blended refrigerant much like R-410A, but it's made of 68.9% R-32 and 31.1% R-1234yf.

Storage & Transportation

Q: How can we store multiple containers of R-454B in our unconditioned warehouse? Will we need sprinklers and obtain a local fire dept. inspection and certification first?

A: The current ruling says that 20,000 lbs. of refrigerant can be stored in a single control area in an unconditioned warehouse without a sprinkler system. To increase storage capability, fire-rated walls can be installed to establish additional control areas, or a sprinkler system can be installed.

Q: How must we transport it in service and installation vehicles?

A: The transport of A2L refrigerants will be similar to that of R-410A. There will be a need for a Class B dry powder fire extinguisher.

Q: How should you transport and store R-454B in a service truck?

A: Up to 440 pounds of refrigerant can be transported without need for DOT placards. Refrigerant can be transported in horizontal or vertical orientations. If you haven't yet, we encourage you to stay up-to-date on the latest courses available about R-454B including the Safety, Storage & Transportation course available.

Service, Maintenance & Installation

Q: What new tools and procedures will be required for the business and its service, maintenance, and installation when technicians when working with R-454B?

A: Electronic tools will need to be verified to be spark-proof. Contact your tool manufacturer for this information. Saturation temperature visual aids will need to be updated. An inverted thread adaptor will need to be used on refrigerant cylinders only. Required procedures moving forward will be the best practice procedures that are in place for R-410A equipment. Refer to Launch Kit for a full list.

Phase-In, Phase-Out

Q: When will we see the new Equipment? Will the New Air Handlers be R-410A and R-454B Compatible like the R22-R-410A models were previously?

A: New equipment will become available for orders starting in March of 2024 and product launches will continue throughout the year. Equipment cannot be used for both refrigerants, but we are investigating a conversion kit that will allow for the change from R-410A to R-454B.

Q: Are we asking the government for an extension of the changeover? If yes, how will this affect the distributors and dealers?

A: We are proposing that we move to a 1-year sell-through on what the government has defined as systems. We are expecting any changes that may come out of this conversation to occur around Q1 of 2024. The impact will be that there will be some relief on inventory management as we move into 2025.

Q: How long before R-410A gets phased out completely? Is R-410A compatible with the new R-454B?

A: The EPA has indicated that the transition dates for R-454B equipment will be January 1, 2025. Sell-through dates will vary by product.

Q: When will gauges be available for Puron Advance™?

A: Gauges are currently available via our Replacement Components division.

Repairs and Replacements

Q: After December 31, 2024, if the existing R-410A system has a small evaporator leak, can the evaporator be replaced, or must the whole system (evaporator and outdoor unit) be replaced?

A: Individual components will still be available to service R-410A equipment. If the entire coil needs to be changed, then with the current ruling from the EPA a replacement unit can be purchased "For service only".

Q: How will repairs be made to the current R-410A equipment with the changeover to R-454B?

A: All R-410A equipment that is available today will have replacement parts available through Replacement Components for the intended service life of that product.

Q: What are the requirements concerning refrigerant line sets when replacing an existing residential or commercial central five-ton split system that relies on R-454B?

A: Local building codes will regulate what will be needed for refrigerant runs. For high-rise buildings fire breaks will be required. From a system standpoint, you will not need to replace linesets with R-454B as it uses the same POE oil as R-410A as long as the lineset meets the current building code.

Q: How are you supposed to effect repairs, say a compressor replacement, when there is potential residual freon left in the unit/oil and this stuff is explosive/fire hazard?

A: Puron Advance™ is not explosive, it is mildly flammable. The refrigerant is only capable of igniting when the concentrations in air are between the LFL of 11.3% and upper flammability limit of 23.6%. The refrigerant left absorbed in the oil is not capable of reaching these limits. Proper safety procedures will be to reclaim the refrigerant before service.

Efficiency & Global Warming Potential

Q: What are the high/low side operating pressures as an average reading you would expect to see compared to the past refrigerants?

A: The operating pressures of R-454B are slightly lower than those of R-410A.

Q: Is R-454B expected to be a more efficient SEER2 rating?

A: SEER2 ratings will be similar to those of R-410A.

Q: If R-410A has always had a high Global Warming Potential and accelerated leakage rates with higher pressure, then why use the same refrigerant (R-32) that is already a large component of R-410A? Why is this only a problem when the patent ran out?

A: R-410A was selected for use because it had zero ozone-depleting potential. After its introduction, Global Warming Potential became more readily understood. The driving factor of R-410A's high GWP is the R-125 constituent. R-454B replaces that with R-1234yf, which has a very small GWP.