HVAC SOLUTIONS

2025 Carrier Equipment Transition Guide

A2L Refrigerant Ready

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R-410A TO R-454B EQUIPMENT TRANSITION

Summarizing the EPA's Final EPA Ruling: What You Need to Know

As anticipated, the EPA's final ruling, released in late 2023, sets the new global warming potential (GWP) for residential HVAC products and systems at a maximum of 700. The ruling includes final dates of manufacturing and dates of install, guidelines for servicing existing systems with Puron® (R-410A) and makes the distinction between "products", "parts", and "systems" under the terms of the ruling.

NOTABLE HIGHLIGHTS

Takes effect January 1, 2025:

On this date, all newly manufactured or imported HVAC indoor units, outdoor units, SPP, Mini-VRF, VRF, and light commercial products must be designed for use with a low GWP refrigerant.

VRF vs. Mini-VRF:

Mini-VRF (<65k BTU) now follows the January 1, 2025, systems compliance date vs. January 1, 2026, for VRF (≥65kBTU).[3]

Last date of manufacture or import for R-410A products:

Manufacturing or importing of new products or system components using R-410A is to be discontinued after December 31, 2024.

One-year sell-through for split systems:

You can install existing inventory of new, pre-2025 R-410A split systems until December 31, 2025, as long as the outdoor unit and indoor coil were manufactured or imported into the United States prior to January 1, 2025.

Three-year sell-through for SPP and light commercial rooftops:

You can install existing inventory of pre-2025 R-410A SPP and light commercial products until December 31, 2027. In Washington state, however, there is a one-year sell-through restriction with December 31, 2025, as the cutoff for installing these products.

Service provisions:

Any component of an R-410A system including a complete indoor or a complete outdoor unit can be serviced at any time as long as the servicing does not qualify as a new system installation per the new ruling. The following situations would qualify as a new system installation and would require new R-454B product: 1) Assembling a system for the first time from new or used components; 2) Increasing the cooling capacity, in BTU per hour, of an existing system; or 3) Replacing 75% or more of evaporators (by number) and 100% of the compressor racks, condensers, and connected evaporator loads of an existing system.

In order to meet the DOE efficiency requirements, residential R-410A AC/HP splits must be labeled "For Service Only" and meet the "Outdoor Unit With No Match" (OUWNM) test procedure.[4] Carrier will continue to manufacture R-410A indoor coil components in 2025 and beyond for indoor coil replacements only, and these individual components will be available through RC.

Requirement	Final Rule - As of 12/26/23			
	Packaged	Splits	Mini-VRF (< 65k BTU)	VRF (≥ 65k BTU)
GWP	700	700	700	700
RNC Date	1/1/2025 Date of Manufacture or Import	1/1/2025 Date of Manufacture or Import	1/1/2025 Date of Manufacture or Import	1/1/2026 Date of Installation
AOR New Systems Date	1/1/2025 Date of Manufacture or Import	1/1/2025 Date of Manufacture or Import	1/1/2025 Date of Manufacture or Import	1/1/2026 Date of Installation
AOR Service Restrictions	Parts Only	Parts + Indoor Coil + Complete R-410A Outdoor Unit[1,2]	Parts + Indoor Coil + Complete R-410A Outdoor Unit[1,2]	Parts + Complete R-410A Outdoor Unit[1,3]
R-410A Inventory Sell-Through	Three-Year	One-Year (New) Indefinite (Service)	One-Year (New) Indefinite (Service)	Indefinite (Service)

[1] New R-410A air conditioners and heat pumps will not be allowed for service in the state of California or Washington after January 1, 2025.
[2] Outdoor units must be labeled "For Service Only" and meet the Outdoor Unit With No Match (OUWNM) test procedure.
[3] VRF (≥65kBTU) with R-410A can be manufactured for one additional year, but new systems must be installed with R-454B starting January 1, 2026.
[4] OUWNM testing requirements only apply to residential products.

R-410A TO R-454B EQUIPMENT TRANSITION

Air Conditioners & Heat Pumps

Air Conditioners

	R-410A					R-454B (Puron Advance™)			
Tier	Model	Stage	Region	Coastal Option		Model	Stage	Region	Coastal Option
Infinity	24VNA6	VS	All	No		Use 27VNA3 Heat Pump as an alternative			
	24VNA9	5	All	No		26VNA1[1]	VS	All	No
Performance	24TP(A/B)7	2	All	Yes		26TPA8[2]	2	All	Yes
	24SPA6	1	All	No		26SPA6[2]	1	All	No
Comfort	34SCA5	1	All	No		Use 37MURA/37MUHA as an alternative			
	24SCA5	1	All	Yes		26SCA5	1	All	Yes
	24SCA4	1	North	No		26SCA4	1	N	No
Builder	GA7TAN4	2	All	No		GA8TAN5	2	All	No
	GA5SAN4	1	All	No		GA5SAN5	1	All	No
	GA4SAN4	1	North	No		GA4SAN5	1	N	No
3-Phase Comfort	24ABB3	1	All	No		26SCA4	1	All	No
	24AHA4	1	All	No					
3-Phase Builder	CA16(P/E)	1	All	No		Use GH8T 3-phase Heat Pump as an alternative			

[1] Infinity Fully Communicating
[2] =InteliSense Connected Technology

Heat Pumps

	R-410A					R-454B (Puron Advance™)			
Tier	Model	Stage	Region	Coastal Option		Model	Stage	Region	Coastal Option
Infinity	25VNA4[1]	VS	All	No		27VNA3[1]	VS	All	No
						27VNA1[3]	VS	North CCHP	No
	25VNA8[1]	5	All	No		27VNA0[1]	VS	All	No
Performance	25TP(A,B)7	2	All	Yes		27TPA8[2]	2	All	Yes
	25SPA5	1	All	No		27SPA6[2]	1	All	No
	38MURAQ**AB3	VS	All	No		37MUHAQ[4]	VS	All	No
Comfort	25SCA5	1	All	Yes		27SCA5	1	All	Yes
	38MURAQ**AA3*	VS	All	No		37MURAQ[4]	VS	All	No
Builder	GH7TAN4	2	All	No		GH8TAN5	2	All	No
	GH5SAN4	1	All	No		GH5SAN5	1	All	No
3-Phase Comfort	25HPB6	1	All	No		Use GH8T 3-phase heat pump as an alternative			
3-Phase Builder	25HCE4	1	All	No		27SCA5	1	All	No

* **38MURAQ**AA3** - this model was previously performance tier.

[1] Infinity Fully Communicating
[2] InteliSense Connected Technology
[3] Cold Climate Heat Pump. 100% heat capacity at 0 degrees. Available in 4.5 ton only.
[4] 37MUH Performance series high heat. 37MUR Comfort series standard heat.

R-410A TO R-454B EQUIPMENT TRANSITION

Fan Coils & Furnace Coils

Fan Coils

	R-410A					R-454B (Puron Advance™)			
Tier	Model Family	Motor	Metering Device	Stage		Model Family	Motor	Metering Device	Stage
Infinity	FE4B[1]	VCA	TXV	VS	»	FE5B[1]	VCA	TXV	VS
Performance	FT4B[2]	VCA	TXV	2	»	FT5[2]	VCA	TXV	2
						45MUHAQ†	ECM	EEV	Multi- Speed
Comfort	FJ4D	FCT-5	TXV	1	»	FJ5	FCT-5	TXV	1
	40MUAAQ*	ECM	EEV	Multi- Speed		45MUAAQ[3]	ECM	EEV	Multi- Speed
Multifamily	FMA4X	FCT-5	TXV	1	»	FMA5X	FCT-5	TXV	1
	FMA4P	PSC	Piston	1		FMA5L	PSC	TXV	1
	FM(C/U)4Z	FCT-5	TXV	1		FM(C/U)5Z	FCT-5	TXV	1
	FM(C/U)4X	PSC	TXV	1		FM(C/U)5X	PSC	TXV	1
Builder	FG4	VCA	TXV	2	»	FG5	VCA	TXV	2

* **40MUAAQ** - this model was previously performance tier.

[1] Infinity Fully Communicating
[2] InteliSense Connected Technology
[3] This coil is to be used with the 37MUHAQ and 37MURAQ heat pumps only.

Furnace Coils

	R-410A				R-454B (Puron Advance™)		
Tier	Model Family	Orientation	Cased		Model Family	Orientation	Cased
A-Coil	CAPVU	Vertical	No	»	CAAVU	Vertical	No
	CAPMP	Multi-Poise	Yes		CAAMP	Multi-Poise	Yes
	40MULAQ	Multi-Poise	Yes		45MULAQ*	Multi-Poise	Yes
N-Coil	CNPVP	Vertical	Yes	»	No Puron Advance Conversion		
Slab Coil	CSPHP	Horizontal	Yes	»	CSAHP	Horizontal	Yes
V-Coil	CVPVA	Vertical	Yes	»	CVAVA	Vertical	Yes
	CVPMA	Multi-Poise	Yes		CVAMA	Multi-Poise	Yes

* This coil is to be used with the 37MURAQ and 37MUHAQ heat pumps only.

Carrier

R-410A TO R-454B EQUIPMENT TRANSITION
Small Packaged Products

Small Packaged

	R-410A					R-454B (Puron Advance™)			
Tier	Model Family	Type	Cool Stage	Heat Stage		Model Family	Type	Cool Stage	Heat Stage
Standard						Standard			
Performance	48VG	YAC	2	2		48NG	YAC	2	2
	50VG	PAC	2	N/A		No Puron Advance Conversion			
	48VR	DF	2	2		48NR	DF	2	2
	50VR	PHP	2	2		50NR	PHP	2	2
Comfort	48VL	YAC	1	1		48NL	YAC	1	1
	50VL	PAC	1	N/A		50NL	PAC	1	N/A
	48VT	DF	1	1		48NT	DF	1	1
	50VT	PHP	1	1		50NT	PHP	1	1
MH	50ZP	PAC	1	N/A		50NP	PAC	1	N/A
	50ZH	PHP	1	1		50NH	PHP	1	1
Low NOx						Low NOx			
Performance	48VG	YAC	2	2		48NG	YAC	2	2
	48VR	DF	2	2		48NR	DF	2	2
Comfort	48VL	YAC	1	1		48NL	YAC	1	1
	48VT	DF	1	1		48NT	DF	1	1
Ultra-Low NOx						Ultra-Low NOx			
Performance	48VG	YAC	2	2		48NG	YAC	2	2
Comfort	48VL	YAC	1	1		48NL	YAC	1	1

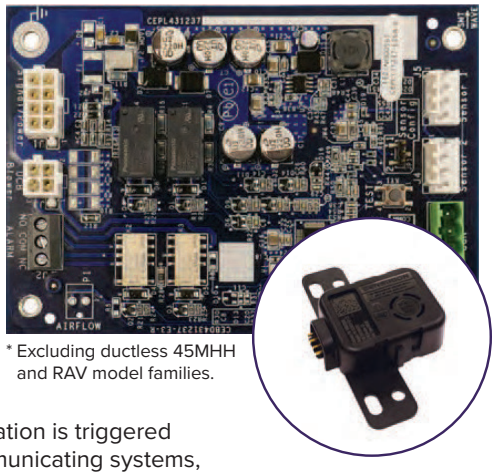
R-410A TO R-454B EQUIPMENT TRANSITION

Understanding Active Dissipation:

WHAT IT IS

All products and systems designed for Puron Advance will require an active dissipation system to mitigate refrigerant leaks.* Our active dissipation system includes a factory-installed leak sensor and a factory- or field-installed dissipation control board (depending upon the system) that overrides the thermostat when a leak is detected.

Our active dissipation system exceeds industry expectations and ensures customer peace of mind with additional sensitivity than what is required by UL Solutions. For additional peace of mind, homeowners may choose to purchase an optional, field-installed audible notification accessory, available for all tiers – Infinity® System, Performance™ Series and Comfort™ Series.



* Excluding ductless 45MHH and RAV model families.

HOW IT WORKS

- For ducted products, the leak sensor triggers active dissipation when it detects the presence of refrigerant at a concentration of 20% of the lower flammability limit (LFL)* – which is lower than required by regulation for added safety. For ductless products, active dissipation triggers at a concentration of 10% of the LFL.
- The dissipation control board shuts off potential ignition sources – heating operation and high voltage outdoor units. For ductless multi-head units, all unaffected heads will be shut off during the dissipation cycle.
- Simultaneously, the indoor blower is activated to dilute the leaked refrigerant. Once refrigerant is sufficiently diluted, normal operation will resume after a five-minute blower off period.
- During a dissipation event, Carrier zoning equipment will remain open. Once the dissipation event is over, normal zoning operation will resume.
- If the refrigerant levels rise above the trigger point during the blower-off period, the system will continue to run the blower and monitor the refrigerant sensor.

* Dissipation sequence may vary by unit.

- When active dissipation is triggered on one of our communicating systems, notifications are sent to both the Infinity System Control and the Connected Portal. Portal notification assumes the homeowner has opted in to data sharing and dealer notifications through the portal.
- A test button will be included on the dissipation board which will allow you to check that the system executes a dissipation cycle. Additionally, the previous seven error codes can be viewed by holding down the test button.
- If the audible notification feature is present, it will alert homeowners that the dissipation system has activated. They should then contact their dealer for service.

DISSIPATION SYSTEM

included with Furnace Coil

- Sensor factory installed
- Board and Housing in box shipped with coil

Extra plug to be included in Deluxe Furnace spare parts bag Q4 2024

Audible Notification Accessory

(Optional)

R-410A TO R-454B EQUIPMENT TRANSITION
FAQ's

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.

Source: PURON ADVANCE™ A NEW REFRIGERANT FOR A BETTER FUTURE, CARRIER

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