

## Experience the Future of Refrigeration with HTPG's A2L Technology

American Walk In Coolers is partnered with Russell HTPG “Heat Transfer Products Group” in leading the way in sustainable refrigeration with our a new line of A2L-compatible products. Designed to meet the latest environmental standards, our innovative solutions offer unparalleled energy efficiency, reduced global warming potential, and cutting-edge safety features.

Whether you’re upgrading to stay ahead of regulatory changes or seeking to enhance your operational efficiency, HTPG A2L technology is your reliable partner for a greener, smarter future.

Explore our product lineup and see how we’re transforming the industry while empowering your business to thrive sustainable.



# Regulatory Landscape & New Products

January 2025

The image features a dark blue, circular fan grille with a grid-like pattern of concentric and radial lines. The word "Regulatory" is centered in the middle of the grille in a white, sans-serif font. The top half of the image is a plain white background.

Regulatory

# EPA's New Federal Refrigeration Regulations

HTPG is consistently working to provide you the most up-to-date compliance guidelines and information to stay ahead of the upcoming regulatory changes. The changes will provide many opportunities for the industry to support and maintain more environmentally friendly products and we will constantly work to innovate and be prepared for the upcoming changes.

## AIM Act: Part 1 – Allocation

### Hydrofluorocarbon (HFC) Reduction

- Mirrors Kigali Amendment – which was recently passed/signed by the US
- Canada and Mexico have signed the Kigali Amendment
- Allocates the amount of Refrigerant that can be produced each year

## AIM Act: Part 2 – EPA Regulation

### Step #1

- New equipment installed Jan 1, 2026 or later
  - System charge under 200 lbs. max refrigerant GWP: 300
  - System charge 200 lbs. and above max refrigerant GWP: 150
- See Technical Transition Slide for Further Detail

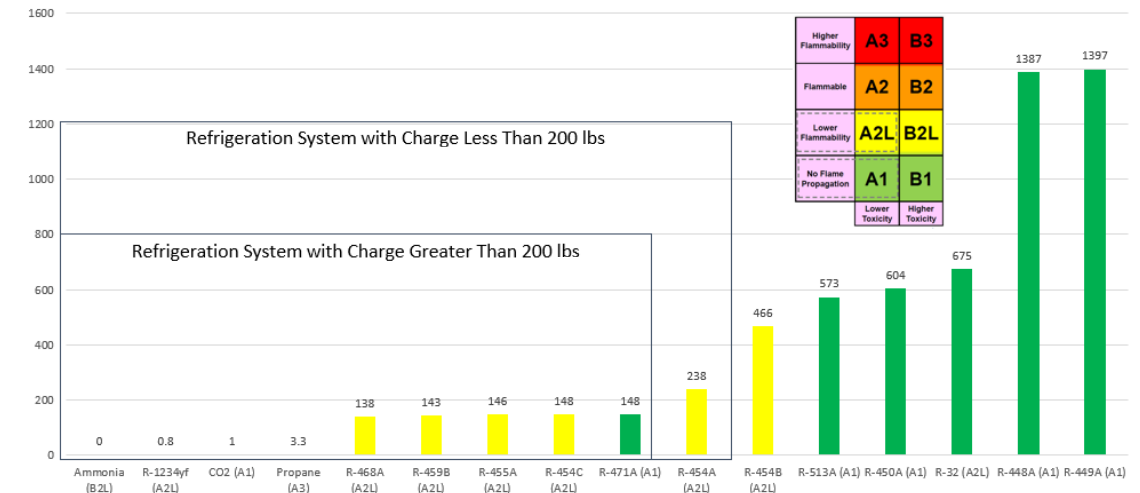
### Step #2

- SNAP 26 now released allowing use of refrigerants
- Allows A2L refrigerants for Commercial Refrigeration
- Increases A3 refrigerant charge to 500 grams

HFC Phase Down Schedule		
Base Line	% Base Line	MTCO2e
2021	–	375
2022 – 2023	90%	337.5
2024 – 2028	60%	225
2029 – 2033	30%	112.5
2034 – 2035	20%	75
2036 –	15%	56.25

Baseline quantities derived from 2011 – 2013 average demand

## GLOBAL WARMING POTENTIAL





# Final AIM Rule Outcome

## WHAT CHANGED

- For self-contained products: no sale, distribution, import, or export 3 years after compliance date.
- Specified components can continue to be manufactured, sold, imported and exported, on the condition that they only be used to service existing equipment and are subject to labeling and reporting requirements
- Refrigeration compliance dates delayed for many subsectors



**Self-Contained Products**  
1/1/2025 (Man. Date)



**Remote Condensing Units**  
1/1/2026 (Install Date)

*Includes Associated Components Required to Complete System*



**Supermarkets & IPR**  
1/1/2027 (Install Date)

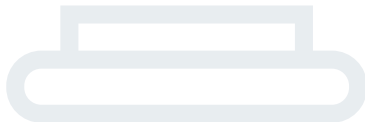
*Includes Associated Components Required to Complete System*

## WHAT STAYED THE SAME

- Refrigeration systems must comply based on the date of installation
- No exemptions for export of non-compliant equipment

## NEW INSTALLATION REQUIREMENTS

- **New Installation Criteria**
  - Cooling Capacity of System is Increased; OR
  - 75% of Evaporators (by number) AND 100% of Compressor Racks, Condensers (Includes Remote Condensing Units) & Connected Evaporator Loads
- EPA is allowing 1 additional year for installation of system in 4 subsectors (Retail Food Refrigeration, Supermarkets, Cold Storage Warehouses & Ice Rinks) with a 1/1/2026 Compliance date if Building Permit Issued Before the Date of Signature of This Final Rule



# Important Category Definitions

Category	Description	EPA Examples	Compliance	Sell Through
<b>Product</b>	Equipment that is completed or otherwise functional upon leaving the factory	Self-contained refrigeration and AC appliances: Packaged systems that combine an evaporator, compressor, and condenser in one frame; some rooftop AC units (e.g., those where the conditioned air is ducted to supply multiple spaces), PTACs, PTHPs, window AC units, portable room AC units, and wall mounted self-contained ACs	Date of factory manufacture	3 Years From Date Of Manufacture
<b>Systems</b>	Assemblage of separate components that are connected and charged in the field with a regulated substance	Split systems: ducted and non-ducted mini-splits, multi-splits, VRF, and ducted unitary splits.	Date of field installation	None
<b>Specified Components</b>	Major mechanical elements of all RACHP systems	Condensing units, condensers, compressors, evaporator units, and evaporators	Manufacture and import for service or repair only	Indefinite With Proper Labeling Post Compliance Date

A dark blue, circular fan grille with a grid pattern of concentric and radial lines. The text "A2L Products" is centered in white. The top half of the image is a plain white background.

A2L Products

# A2L Products Timing

EVAPORATOR



- 6 Products Line Releases
- All-Temp, Center Mount & Low Velocity – Oct. 24
- Medium Profile – Dec. 24
- Large Unit Coolers & ASL – Feb. 25



- 4 Product Line Releases
- Mini-con – Oct. 24
- Next-Gen II – Dec. 24
- QV-Series – Feb. 25
- Water-Cooled – Apr. 25

CONDENSING UNITS

PACKAGED SYSTEMS



- Pre-Charged with R-454C
- Factory Installed Leak Detection & Mitigation
- Releasing Nov. 24



- Rating Condensers for A2L Refrigerants (R-454A, R-454C & R-455A)
- Available Now By Request
- Releasing Apr. 25

CONDENSERS

Release Dates Are Dependent on UL Finalization & Component Availability

# A2L Evaporator Nomenclature

Brand	Refrigerant Class	Style	Fins Per Inch	Defrost Type	BTUH by Hundreds	Unit Voltage	Motor Type	Vintage
R Russell	A A2L	L Low Profile (Standard)	6 6 FPI	A Air Defrost	XXX (R-454A)	A 115/1/60	D Dual Speed EC	A
W Witt		U Low Profile (Reverse)	4 4 FPI	D Electric Defrost (Medium Temp)		D 208-230/1/60	T Three-Phase	
K Kramer		E Center Mount		E Electric Defrost (Low Temp)		E 208-230/3/60	H Three-Phase with High Static Fan Blade	
		V Low Velocity Center Mount		H Hot Gas: 3-Pipe: Electric Drain Pan (Low Temp)		F 460/1/60		
		M Medium Profile (Standard)		K Hot Gas: 3-Pipe: Hot Gas Drain Pan (Low Temp)		G 460/3/60		
		H Heavy Duty (Standard)		G Hot Gas: Reverse: Electric Drain Pan (Low Temp)		H 575/1/60		
		Y Heavy Duty (Reverse)		L Hot Gas: Reverse: Hot Gas Drain Pan (Low Temp)		J 575/3/60		
		W Warehouse (Standard)		S ThermoBank: Medium Temp		V 208/3/60		
		Z Warehouse (Reverse)		T ThermoBank: Low Temp		W 230/3/60		
						L 100/1/50		
						M 200-220/1/50		
						N 200-220/3/50		
						P 380/1/50		
						Q 380/3/50		

Legacy Product Nomenclature Will Stay The Same & Be Used For Service Applications



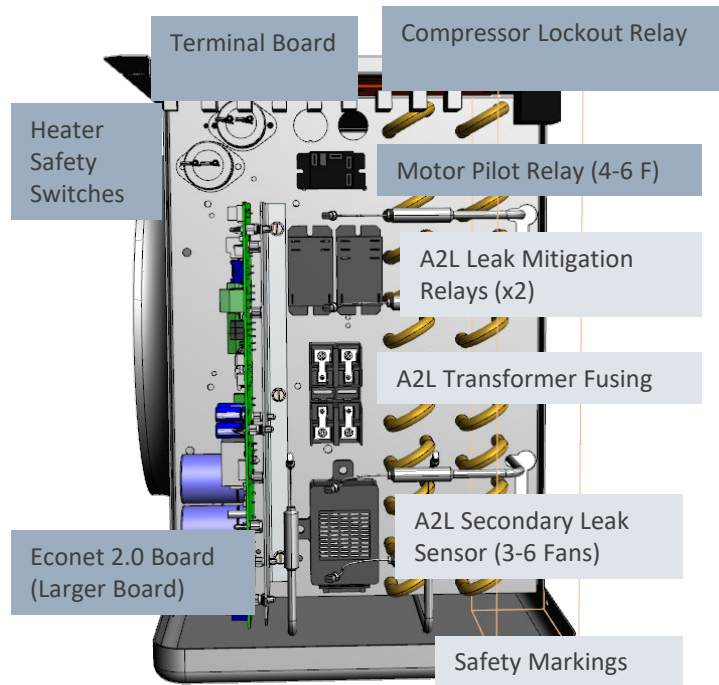
# A2L Condensing Unit Nomenclature

Brand	Model Style	Compressor Type	Compressor Configuration	Horsepower (Unit)	Temperature Range	Refrigerant Type	Voltage	Vintage
<b>R</b> Russell	<b>B</b> Non-Flooded	<b>H</b> Hermetic	<b>N</b> Single - Horz Small	XXX	<b>E</b> Extended Medium	<b>4A</b> R-454A, R-454C or R-455A	<b>D</b> 208-230/1/60	<b>A</b>
<b>W</b> Witt	<b>F</b> Flooded	<b>O</b> Scroll	<b>S</b> Single - Horz Large	Mini-con (XXX/3)	<b>M</b> Medium	<b>4C</b> R-454C	<b>E</b> 208-230/3/60	
<b>K</b> Kramer	<b>T</b> ThermoBank	<b>D</b> Discus	<b>V</b> Single - Vertical		<b>L</b> Low Temp		<b>G</b> 460/3/60	
	<b>W</b> Water-Cooled	<b>B</b> Bitzer	<b>D</b> Dual				<b>J</b> 575/3/60	
			<b>P</b> Parallel Pipe				<b>V</b> 208/3/60	
							<b>W</b> 230/3/60	
							<b>M</b> 200-220/1/50	
							<b>N</b> 200-220/3/50	
							<b>Q</b> 380/3/50	

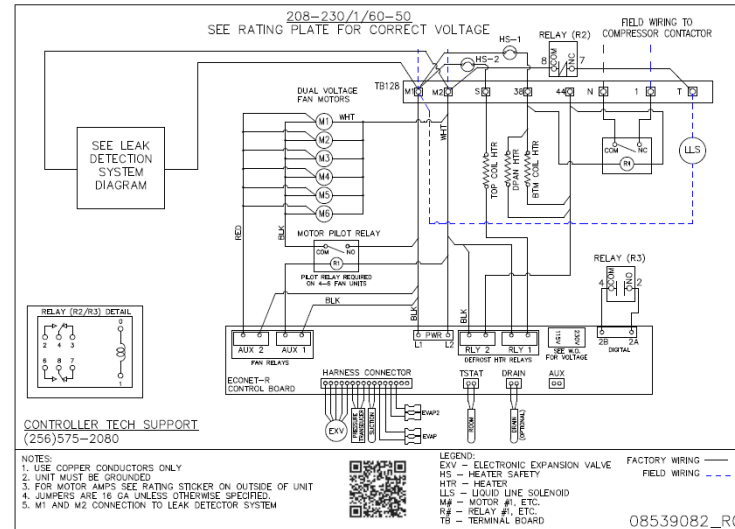
Legacy Product Nomenclature Will Stay The Same & Be Used For Service Applications

# A2L Key Product Differences: EcoNet All-Temps

## Return (Electrical) End



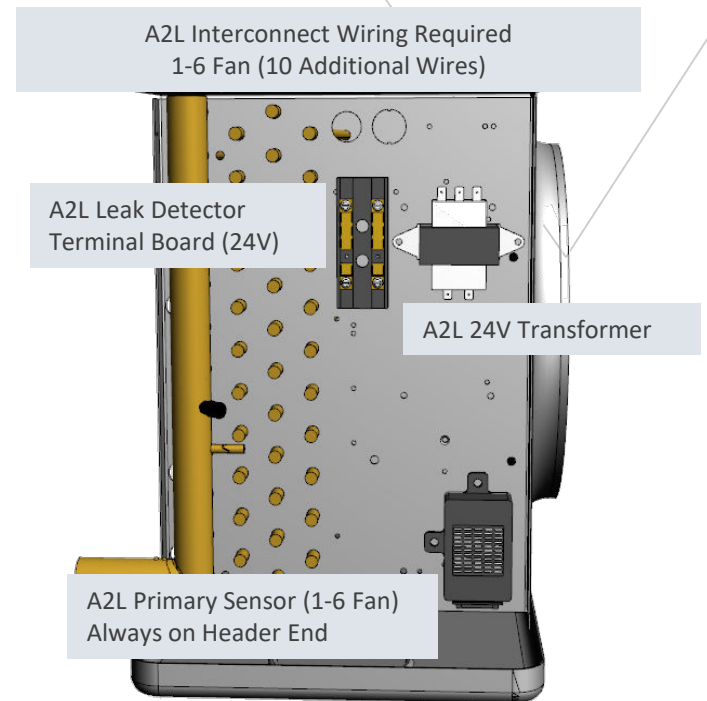
## EcoNet Wiring Diagram



NEW – REQUIRED FOR A2L

EXISTING (Carries in to A2L)

## Header (Piping) End



# A2L Key Product Differences: EcoNet Center Mounts

NEW – REQUIRED FOR A2L  
 EXISTING (Carries in to A2L)

1-5 Fan (4 Additional Wires)

A2L Primary Sensor (1-5 F)  
 Always on Header End

A2L Secondary Leak Sensor  
 (3-5 Fans)

A2L 24V Transformer  
 (Behind Econet Board)

A2L Transformer Fusing

A2L Leak Mitigation Relays  
 (x2)

A2L Leak Detector Terminal  
 Board (24V)

Safety Markings

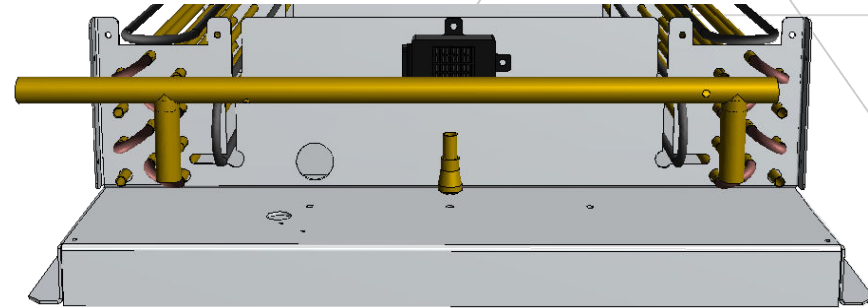
Heater Safety Switch

Econet 2.0 Board (Larger  
 Board)

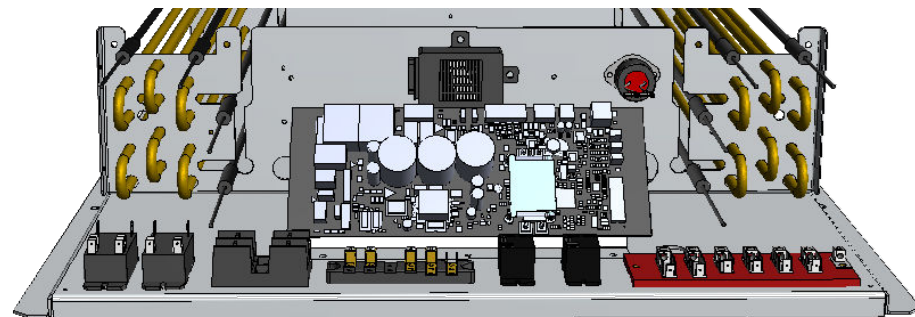
Motor Pilot Relay (4-5F)

Compressor Lockout Relay

Terminal Board



Design Constraint: 4 inches added to the electrical end compartment; however, mounting holes will not change.



# HTPG A2L Leak Event Response

## Non-EcoNet:

1. Defrost is terminated
2. Liquid Line Solenoid is closed
3. Evaporator Pumps Down
4. Fans remain active
5. Alarm Relay Closes



Sample Leak Sensor

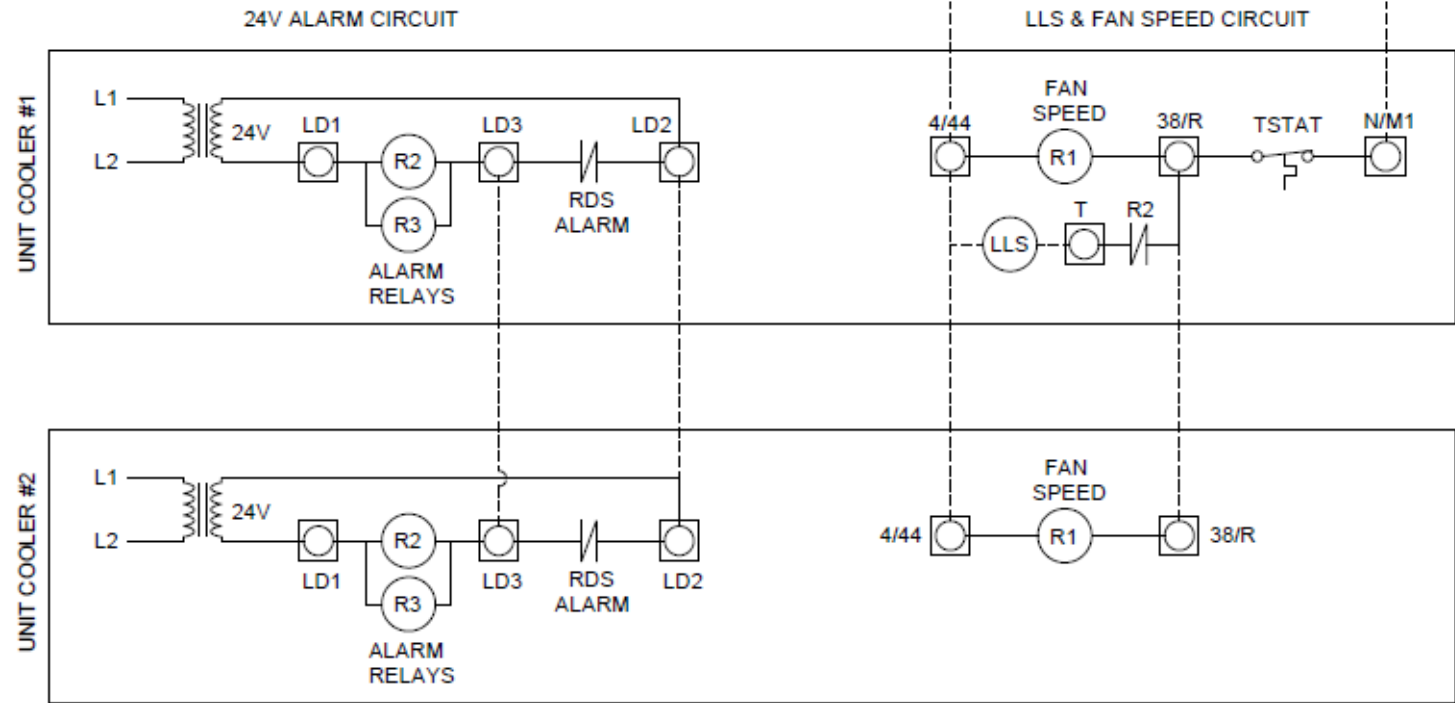
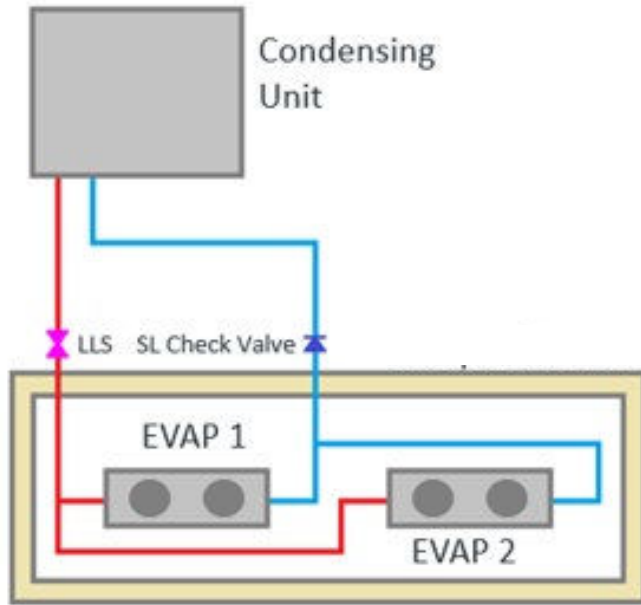


## EcoNet:

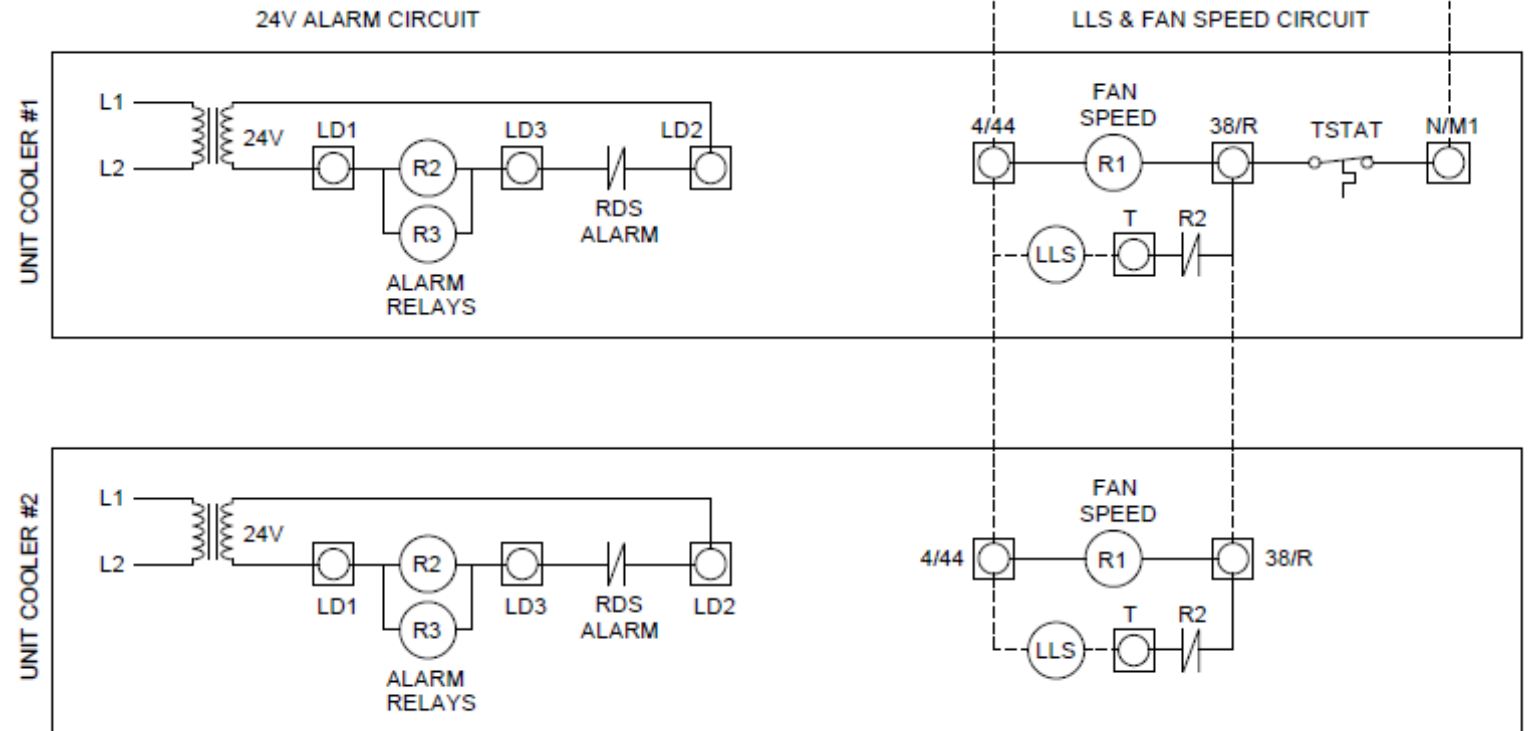
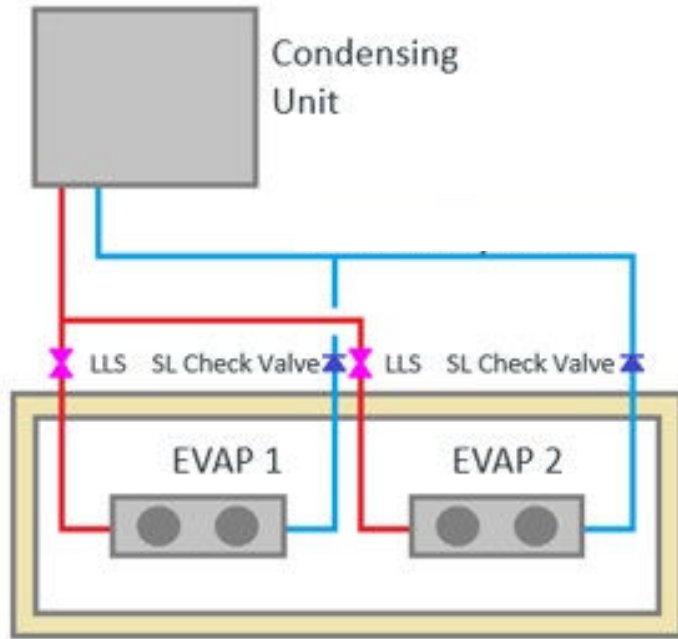
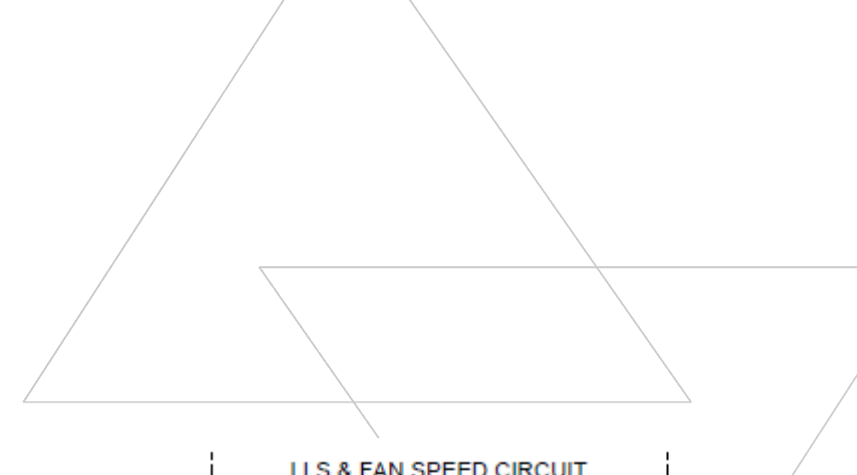
1. Defrost is terminated
2. Liquid Line Solenoid is closed
3. EEV opens (EcoNet)
4. Evaporator Pumps Down
5. Fans remain active
6. Alarm Relay Closes
7. Leak Event Logged (EcoNet)



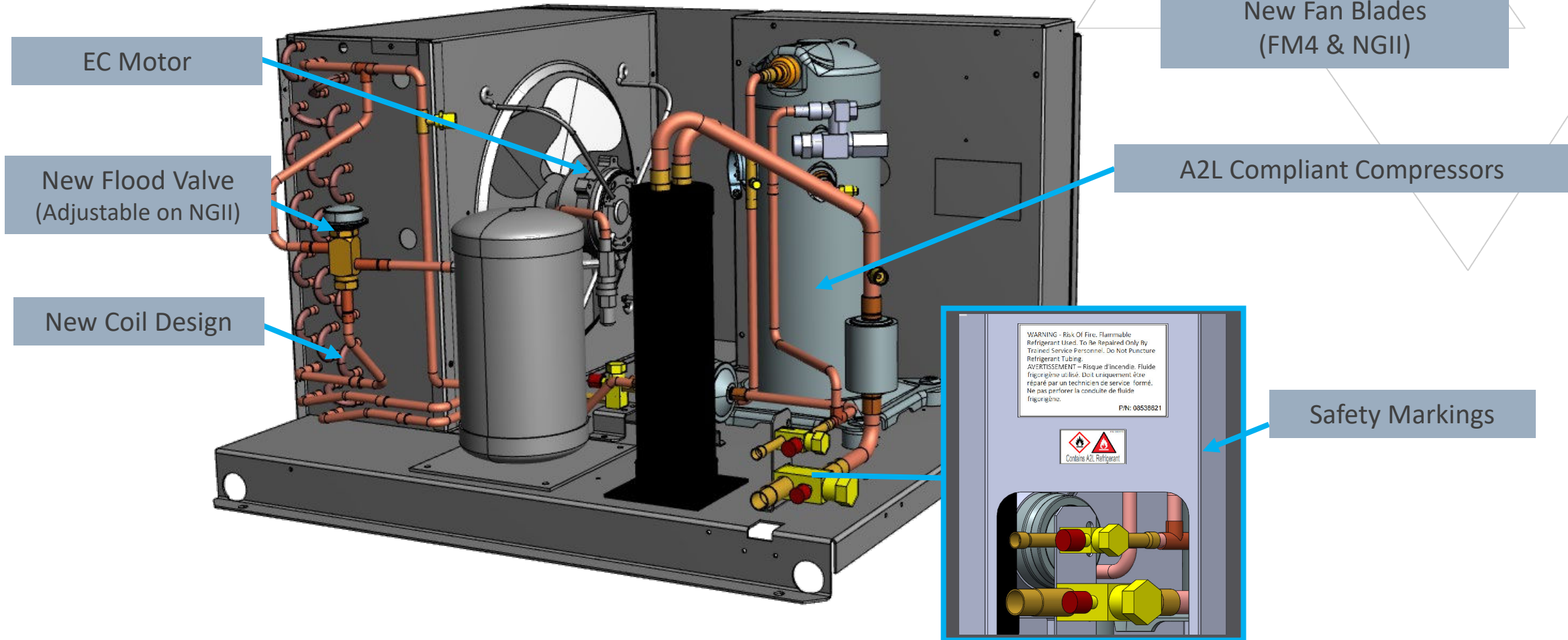
# HTPG A2L Isolation – Group Isolation



# HTPG A2L Isolation – Individual Isolation



# A2L Key Product Differences: Condensing Units



## Key Takeaways

- A2L equipment commercially available beginning in 2024.
- Current equipment will continue to be available for “repair/replace”
- Packaged units manufactured after 12/31/24 must be compliant, 3 year sell through period for units built prior to 1/1/25.
- Contractor becomes “Manufacturer” of system after Jan 1, 2026.
- A2L equipment will be labeled & marketed specifically for A2L refrigerants.
- Some A2L evaporators will have minor dimensional differences, mounting points will stay the same.
- 454A and 454C will be primary refrigerants in HTPG A2L equipment



A close-up, low-angle shot of a dark blue fan grille. The grille consists of concentric circular rings and radial spokes, creating a grid-like pattern. The lighting is dramatic, with the center of the fan appearing slightly brighter than the edges. The word "Questions?" is written in a clean, white, sans-serif font, centered horizontally and slightly below the vertical center of the frame.

Questions?