

R-32: THE NEXT GENERATION OF VRV REFRIGERANT

Lower GWP • Safer by Design • Easier to Service

What's Changing — and Why It Matters

R-32 is Daikin's A2L refrigerant and represents the next step in efficient, environmentally responsible refrigerants. With a significantly lower global warming potential (GWP) and improved thermodynamic performance, Daikin VRV systems using R-32 help facilities and service professionals stay ahead of evolving refrigerant regulations.

As the HVAC industry continues to transition away from R-410A, R-32 provides a forward-looking solution — offering enhanced efficiency, proven reliability, and future compliance with the EPA AIM Act and ASHRAE 15-2022.

Top 5 Things to Know About R-32

- 1. Single-Component Refrigerant** – Unlike R-454B or R-410A, R-32 is not a blend, meaning no composition drift, remixing risk, or performance loss after leaks.
- 2. Lower Environmental Impact** – With a GWP of 675 (vs. 2088 for R-410A), R-32 supports decarbonization and long-term sustainability goals.
- 3. Familiar Installation and Service** – Uses the same piping, brazing, and commissioning practices; tools only need to be A2L-rated.
- 4. Built-In Safety** – Factory-integrated leak detection, automatic shut-off, and code-compliant safety logic protect occupied spaces.
- 5. Improved Performance** – Higher heat transfer efficiency enables better capacity and energy savings across Daikin VRV platforms.

Refrigerant Comparison

Property	R-32	R-410A	R-454B
GWP (approx.)	675	2088	466
Composition	Single refrigerant	Blend	Blend
Top-Off Capability	Gas or liquid	Liquid only	Not recommended
Blend Separation Risk	None	None	Yes
Efficiency Potential	High	Moderate	Moderate



Did You Know?

R-32 is a single refrigerant — not a blend — so performance and chemical composition remain stable over time, even after partial leaks or top-offs.

Scan to Download Your Full A2L Readiness Kit

Get the safety checklist, tool guide, and training links all in one place.



R-32 & A2L FAQs

for Service Technicians & Facilities Teams

Q: Are R-32 pressures higher than R-410A?

A: Slightly, but they're applied and serviced in the same manner. Daikin's testing shows no reliability differences.

Q: Do I need special tools?

A: Use A2L-rated, non-sparking tools. Most R-410A sets qualify; just maintain separate hose sets per refrigerant type.

Q: What safety systems are built in?

A: Leak detection and automatic shut-off logic are integrated in Daikin systems where required, meeting UL 60335-2-40 and ASHRAE 15-2022 standards.

Q: Do I need certification to handle R-32?

A: Certification isn't required but is highly recommended. Training is available through ACCA, NATE, and Daikin's HVAC Learning Campus. Varitech also offers technician training for VRV systems.

Q: What's the environmental advantage?

A: R-32's GWP is 75% lower than R-410A, supporting energy efficiency goals and ESG initiatives.

Get Your A2L Readiness Kit

Includes:

A2L Safety & Service Checklist | Tool Readiness Reference |
R-32 vs. R-410A Comparison Chart | Training Resources & Code Links

 **Scan the QR Code to Access the A2L Readiness Kit**



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A2L Refrigerant in Daikin Systems

R-32 represents the next step in efficient, environmentally responsible refrigerants. Classified as an **A2L** (mildly flammable), R-32 systems deliver higher performance, lower GWP, and simplified service procedures compared to legacy refrigerants.

Top 5 Things to Know

1

Single-Component Simplicity: Unlike R-454B or R-410A, R-32 is not a blend—no composition drift, no remixing risk, easier top-offs.

2

Future-Ready: Meets EPA AIM Act phase-down requirements and aligns with ASHRAE 15-2022 safety codes.

3


Higher Efficiency: Improved heat transfer = higher system performance (up to 27 SEER installations).

4

Built-In Safety: Factory leak detection and smart controls automatically isolate and protect occupied zones.

5

Service Familiarity: Same copper piping, similar pressures, and standard tools (when A2L-rated).

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A2L FIELD-READY SAFETY & CHECKLIST

Always follow manufacturer instructions and local code requirements. Use this checklist as a quick job-site reference.

Pre-Work

- ☐ Verify ventilation in work area
- ☐ Review leak detection operation
- ☐ Confirm nearby ignition sources are controlled or removed
- ☐ Reference the latest Daikin R-32 SDS



During Installation / Service

- ☐ Purge with dry nitrogen when brazing or cutting lines
- ☐ Use A2L-rated, non-sparking tools
- ☐ Keep a dedicated hose set for each refrigerant type
- ☐ Follow manufacturer charging charts — R-32 may require slightly different charge weights




Post-Service

- ☐ Leak check and verify alarms reset
- ☐ Record refrigerant charge amount, technician name, and date
- ☐ Store cylinders in ventilated, upright positions
- ☐ Dispose or recover per EPA 608



Tip: R-32 can be charged in liquid or vapor phase — a benefit over blends like R-454B.

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Refrigerant Comparison Chart

Property	R-32	R-410A	R-454B
Composition	Single refrigerant	Blend	Blend
GWP (approx.)	675	2088	466
ASHRAE Class	A2L (mild)	A1 (non-flammable)	A2L (mild)
Pressure	Slightly higher	Baseline	Similar
Blend Separation Risk	None	None	Yes
Top-Off Capability	Gas or Liquid	Liquid only	Not recommended
Efficiency Potential	High (better heat transfer)	Moderate	Moderate
Service Familiarity	High	High	Medium

💡 **R-32 Advantage:** Because it's a single component refrigerant, performance and chemical composition remain stable even after partial leaks or topping off.

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BE A2L-READY: TOOLS, TRAINING & SUPPORT

Check Your Tools:

- ☐ Recovery machine — A2L-rated, non-sparking
- ☐ Vacuum pump — A2L-rated with isolation valve
- ☐ Gauges / manifolds — rated for mild flammables
- ☐ Hoses — dedicated by refrigerant type
- ☐ Leak detector — R-32 compatible

Training Resources

- Daikin HVAC Learning Campus – Live, VR, and recorded courses

www.HVACLearningCampus.com

- ACCA – A2L Safe Handling Certification

www.acca.org

- NATE – Refrigerant Transition Exams

www.natex.org

Varitech Hands on Technician Training in Phoenix & Tucson

3 Day Install & Commissioning Class | 2 Day Start-Up & Troubleshooting Class


Contact VeronicaE@varitecsolutions.com for scheduling



Daikin Tech
Hub App

Training videos, service manuals, and product tools
directly from your phone.

➔ airintelligence.com/software-tools/techhub/training

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