



A Step Toward a Sustainable Future

R-123 to R-514A
Engineered Conversion®



Meet Tomorrow's Sustainability Goals Today

Refrigerant phase outs are on the horizon, and Trane is ready to help chiller owners take the next step in sustainability.

Trane has identified R-514A as the optimal next-generation refrigerant for replacement and now provides a comprehensive Engineered Conversion service to owners of CenTraVac® chillers that shipped with R-123.

Converting seamlessly to a new refrigerant requires detailed compatibility assessments and OEM knowledge of the equipment. Trane uses the same high-precision performance modeling and optimization techniques for Engineered Conversions as it uses when designing new chillers. This results in fully re-engineered chillers that perform as if they were designed for R-514A from the start.

About R-514A

R-514A is a nonflammable replacement for R-123 that offers the highest performance of all next-generation options available today with zero ODP (*Ozone Depleting Potential*) and a GWP (*Global Warming Potential*) of 2.

Refrigerant Comparison

This table compares various theoretical properties of the refrigerant.

		Low Pressure	
		R-123	R-514A
Flammability	ASHRAE® Class BV (cm/s)	Non (1) n/a	Non (1) n/a
Toxicity	ASHRAE Class OEL	Higher (B) 50	Higher (B) 320
Efficiency (COP)		8.95	8.91
Capacity Change		Baseline	-5% loss
C/WP ²		79	2
Atmospheric Life		1.3 years	22 days



Features & Benefits:

- **Low-GWP Refrigerant:** R-514A has a GWP (Global Warming Potential) value of 2, among the lowest values of any refrigerant.
- **OEM Solution:** All equipment parts are carefully engineered and tested by Trane engineers to ensure compatibility and peak performance with next-generation refrigerant.
- **EcoWise™ Portfolio:** Every converted chiller meets the sustainability requirements to be part of the Ingersoll Rand EcoWise portfolio of products designed to lower environmental impact with next-generation, low global warming potential (GWP) refrigerants and high-efficiency operation, and will receive a new serial number and nameplate that indicates it.

About the Engineered Conversion

The R-123 to R-514A Engineered Conversion® begins with a comprehensive assessment of your chiller to determine exactly what hardware changes are required. Engineered conversion services typically include:

- Purge modification or replacement.
- Replacement of refrigerant, lubrication oil and bearings.
- Controls upgrade to interface with the latest software.
- In some conversions, impeller or compressor replacement may be required.

Eligible Chillers

CenTraVac® CVHE and CVHF chillers that shipped with Tracer® CH530 or AdaptiView™ controls are all eligible for the R-123 to R-514A Engineered Conversion. Chillers must have originally shipped with R-123 to be converted.

Because each chiller is unique, each Engineered Conversion is unique. Only authorized Trane professionals can provide the analysis of chiller performance to determine what hardware changes and services are required to convert your chiller to R-514A.

When To Take the Next Step in Sustainability

Since R-123 can be manufactured for service use until 2030, owners have the luxury of deciding when it makes the most business sense to convert to R-514A. R-123 still provides industry-leading GWP values and is fully compliant with environmental regulations. The best time for CenTraVac owners to consider an Engineered Conversion is when:

- **Performing an R'newal®:** When you are planning an R'newal to extend your chiller's useful life, the R-123 to R-514A Engineered Conversion is a logical add-on service to help you get ahead of future environmental regulations.
- **Meeting Sustainability Goals:** Many companies have set aggressive goals for greenhouse gas (GHG) reductions, and an Engineered Conversion gives you another option to reduce GWP.
- **Simplifying Operations:** New CenTraVac chillers can ship with R-514A refrigerant today. Converting existing chillers enables use of consistent refrigerants across the facility's multiple chillers.



Ready to Take the Next Step?

Contact your local Trane office to receive an analysis of chiller performance to see if an R-123 to R-514A Engineered Conversion is the right next step to meeting your sustainability goals.

Learn more at trane.com



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit trane.com or tranetechnologies.com.

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