

# Our commitment to a lifetime supply of refrigerant is clear.



The CenTraVac™ chiller Leak-Tight Warranty.



## Leak-Tight Warranty

Today, all refrigerants are facing legislative pressure for either ozone depletion or global warming, and guidelines and regulations will continue to include a focus on containment. Why? Because as long as the refrigerant stays inside the chiller, it can't harm the environment.

Trane® CenTraVac centrifugal chillers are designed to be leak-tight. In fact, Trane is so confident in our ability to keep the refrigerant inside our CenTraVac chillers, we back each one with a Leak-Tight Warranty—the first offered by any HVAC manufacturer. And, it covers every model in the CenTraVac portfolio, regardless of refrigerant type – R-123, R-1233zd or R-514A – that is installed in the United States or Canada.

### Why is Trane so confident?

CenTraVac chillers are the only chillers—from any manufacturer—with a near-zero documented leak rate. This number is not theoretical. It is based on a study that summed all of the refrigerant added to nearly 3,000 CenTraVac chillers, regardless of the reason. It included all leaks from servicing, normal use and even accidental discharge. Some of the chillers had been operating for more than ten years.

Even without discounting refrigerant losses that were not attributable to chiller design or performance, CenTraVac chillers came out far ahead of the competition. Documented at less than 0.5 percent annually, the CenTraVac chiller leak rate is four times lower than the industry-accepted rate of 2.0 percent.

### The Trane 0.0% Leak-Tight Warranty

Here's how it works: You or your service provider continue to measure the refrigerant level in your CenTraVac chiller. If your records indicate even the slightest loss, contact Trane Service to start the claim process, find and repair the source of the leak, and then Trane will provide the replacement refrigerant.

The warranty is simple, and the benefits are extended free on all CenTraVac chillers installed in the United States and Canada for the first five years of ownership.

If the chiller is placed under a Trane Select Agreement (or better) prior to the expiration of the standard Leak-Tight Warranty, the protection against refrigerant loss shall continue as long as an active Trane Select Agreement remains in effect without interruption.

# CenTraVac™ chillers: How “leak-tight” gets done

## Low pressure is the key

Leaks are pressure dependent. That is an indisputable fact. Pressure is largely influenced by the type of refrigerant that is used inside the chiller. Leaks occur faster, and tend to become bigger, under high-pressure conditions. That is one of the many reasons why Trane chooses to use a low-pressure refrigerant.

The chiller operates and rests in a vacuum, so in the unlikely event of a small leak, refrigerant will not leak out of the machine; air will leak in. Inward leaks are easier to monitor, so they can be identified and fixed more rapidly.

## Semi-hermetic compressor

Gaskets and seals are prone to leak over time. This is why Trane long ago standardized on semi-hermetic compressors that have no shaft seals. We also redesigned the CenTraVac chiller years ago to eliminate gaskets wherever possible.

## World’s best early-warning leak detector

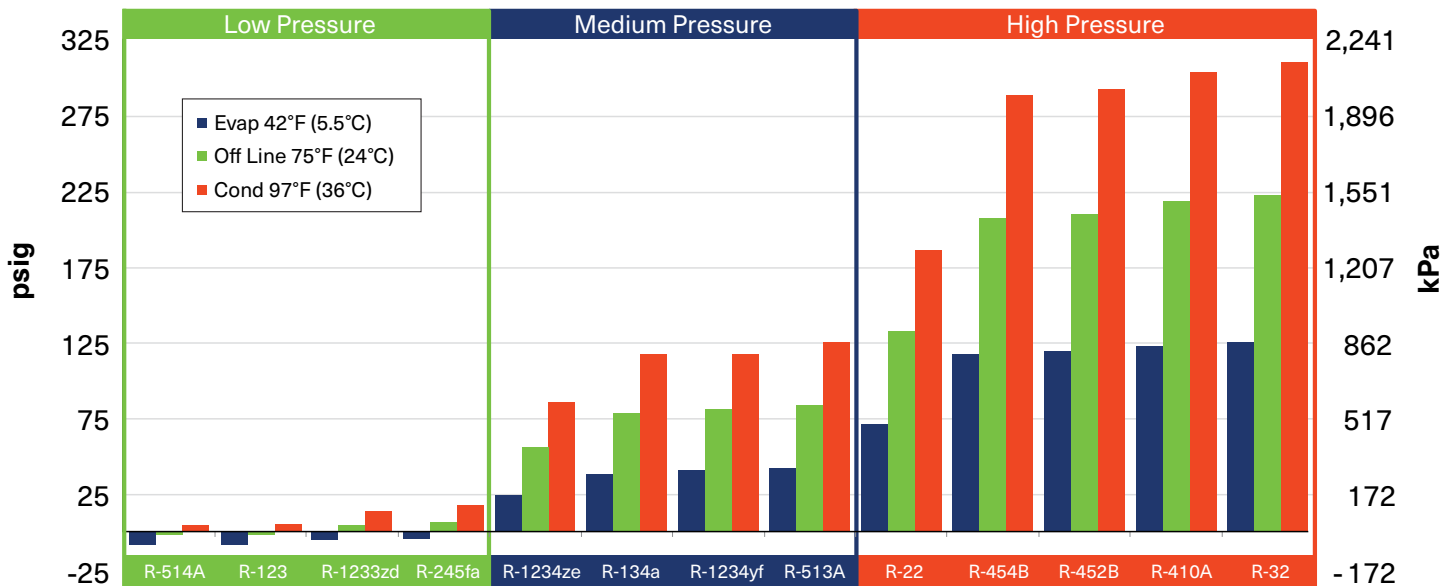
The unique CenTraVac purge system, standard on every CenTraVac chiller, removes any non-condensables that may have entered the chiller. An increase in purge run time indicates the need for a service call while the chiller continues to operate.

The purge operates whether the chiller is on or off and, unlike some chillers, you do not need to maintain a carbon filter to remain at peak efficiency. This patented design is only available from Trane.

## Reducing leaks is an industry-wide responsibility

At Trane, we hope that other chiller manufacturers will begin documenting and publishing leak rates and eliminating leaks from their chillers. Together, we can all make a difference.

## Zero emissions by design



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](http://trane.com) or [tranetechnologies.com](http://tranetechnologies.com).

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