

VTech e-news

Refrigerant Handling

This edition of VTech e-news focuses on Refrigerant Handling and VTech's expertise in this important field. We hope that you will find this information useful and please feel free to contact us with any questions. Thank you.

- The VTech Team

Hydrocarbon Refrigerant Venting

One of the leading impediments to the development of Hydrocarbon Refrigerant-based products in the USA is the EPA's prohibition on venting the gas, despite the scarcity of suitable recovery system, citing the universal ban on venting all refrigerants as per the Clean Air Act of 1995:

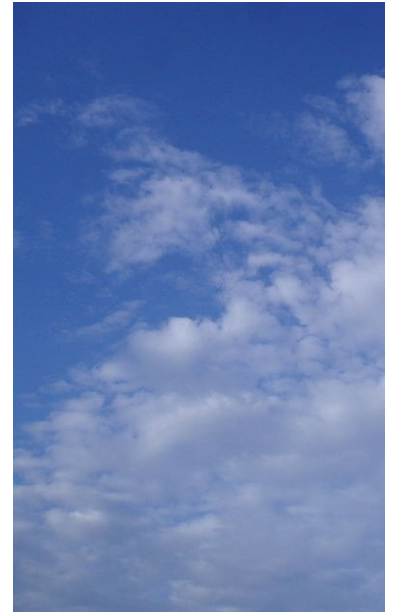
Since November 15, 1995, the Clean Air Act has prohibited the venting of any refrigerant during the service, maintenance, repair, or disposal of air conditioning and refrigeration systems. When working on a system containing a hydrocarbon refrigerant ...the technician must recover the refrigerant into a suit-

able container and safely dispose of it.

[Source](#)

However, a recent update from the EPA suggests movement toward lifting the ban on venting, following review of submitted comments. The HVAC/R sector has been petitioning the EPA to make an exception for R290 and R600, the most common of the new substitutes for HFC and HCFC's. The main reasons are that these gases have no ozone depletion effect and, if handled safely, pose no threat to the health of persons or the environment. For more

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Refrigerant Reclaim



VTech Refrigerant Reclaim System

For the most part, manufacturers will continue to use HFC and HCFC refrigerants such as R134, R404a, R407c and R410a until hydrocarbons grow in popularity to the point where they are commonplace, as they are in Europe and elsewhere. In 2010, R22 was retired by the Montreal Protocol which scheduled this phase out. By 2020, it can no longer be produced in new form, but can be recovered, recycled and reclaimed and therefore reused after this date. So, the demand for refrigerant reclaim systems such as VTech's line of **Refrigerant Reclaim Systems** has been on the rise.

VTech offers four models of refrigerant reclaim system with a range of speed and onboard storage capacity. Each is a certified reclaim system, licensed by the EPA as per [section 608](#).

Please [click here](#) for more information on our line of VTech Refrigerant Reclaim Systems.

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information please read the Federal Register by [clicking here](#).

The key word is *safely*. For safe HC gas disposal, VTech manufacturers the **VRec-HC System**, which is an evacuation and purging unit for safely cleaning out refrigeration systems in the event they need to be repaired (as in the case of a leak) or destroyed at the end of the product's life cycle. The residual hydrocarbon refrigerant is vented through the exhaust channel. More information about this product can be seen on our website by [clicking here](#).



VRec-HC (Right) with Exhaust Fan

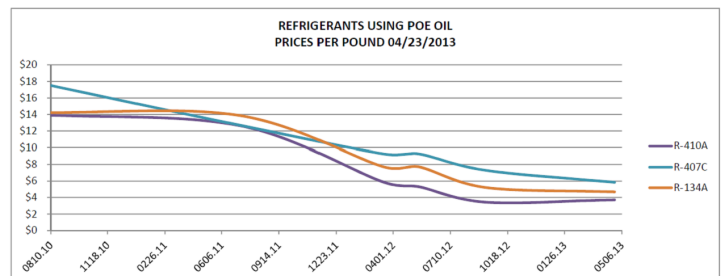
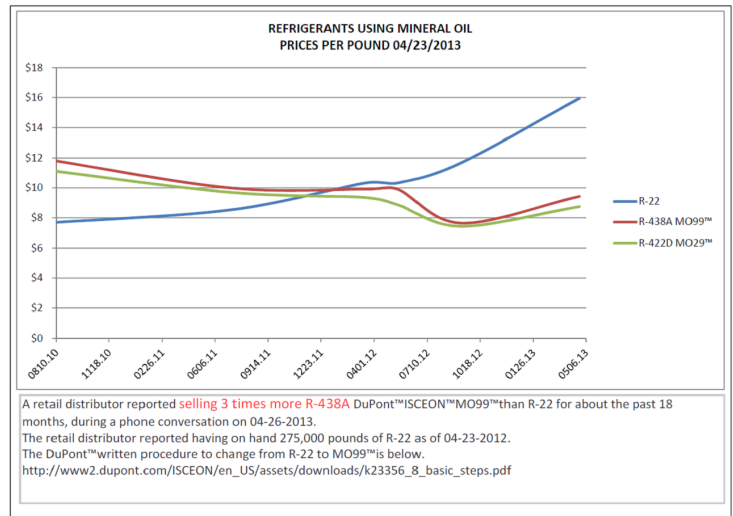
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R22 Prices on the Rise

In 2010 R22 was phased out on production of new systems (i.e. air conditioners). The refrigerant will still be produced until 2020, but in ever decreasing quantities. Logically, as the supply of R22 decreases, the price of the gas will continue to rise. By 2015 production of R22 will have been cut by 90%.

There is still a need for R22 and after 2020 the only supply of the gas will be from recovered sources. Most air conditioner manufacturers in the US have already switched over to R410a or even R407c, which are safer for the environment and more efficient. However, developing nations, who are generally a generation behind (some countries are still using CFC's), will continue to need sources of R22, either for their own manufacturing or to sell to their customers.

As the chart at right indicates, R410a, the replacement for R22, has steadily decreased over time as it grows in acceptance, while R22 has trended ever upward. Click on the image to zoom in.



Refrigerant Prices Over Last Few Years

Reclaim or Recover: What's the Difference?

It is easy to get these terms confused, so it is important to understand the differences between them. Perhaps it's easier to associate a number to each, 1 for Recover, 2 for Reclaim:

1. **Recover:** Refrigerant Recovery is simply moving refrigerant from one place to another. In the case of a test refrigerant charge, or trying to extract the residual vapor out of an "empty" tank of new refrigerant, this procedure does not clean the refrigerant, remove or otherwise filter out particles, oils or non-condensable gases.
2. **Reclaim:** Refrigerant Reclaim extracts used refrigerant from previously in-service units such as Air Conditioners or Refrigerators and through various processes restores the refrigerant back to its original state, or at least to the point where it can be legally and responsibly resold or recharged back into new or existing systems.



All Shapes and Sizes



HC Installation including Supply, Charging and Purging

HC Installations cont'd from page 2

VTech has extensive expertise in the safe handling of HC refrigerants including turnkey installations covering refrigerant supply, charging, safety devices and gas disposal. If you are currently planning on changing to or adding Hydrocarbons products to your catalog, please contact Gordon Purkis at (404) 432-1629 or email him at g.purkis@vtechonline.com for more details.

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“The golden age is before us, not behind us.”

- William Shakespeare

About VTech

VTech combines over 50 years of experience in equipment design and process engineering of HVAC&R assembly lines. Our equipment range includes Leak Detection, Refrigerant Charging and Recovery, Pre-Evacuation, and Electrical Safety/Performance Test. Our Process Software provides an integrated solution for data management and process control. Please visit our website at www.vtechonline.com to browse our catalog and of course, feel free to contact us with any questions.