R-410A

HD SUPPLY SM
MAINTENANCE SOLUTIONS

Frequently Asked Questions

	Question	Answer
1	Why the change to R410A?	The EPA declared R22 as an ozone depleting substance. R410A is the next best alternative.
2	How long will R22 be available?	R22 will probably never go away. It will be manufactured and imported until 2020. After that, it will be available via recycled/reclamation process.
3	How long before I have to make a change?	Manufacturers will no longer be permitted to produce or import equipment using R22 after Jan 2010. After that, only R410A (or another alternative) equipment will be manufactured.
4	Do I need any type of EPA certification similar to R22?	No. As an HFC R410A does NOT require EPA certification to purchase or use.
5	Do I need to replace all the R22 equipment on my property in 2010?	No. R22 equipment may be used for as long as it lasts.
6	Will R410A operate in my existing R22 system?	No. R410A will only operate in a system designed specifically for the higher pressures and unique characteristics of R410A.
7	When replacing my R22 condenser for an R410A unit, will my existing R22 indoor air handler or coil work?	No. R410A systems need to be matched to the condenser. Plus the metering devises for R22 are different than those for R410A. More than likely you must change the entire system when replacing the condenser.
8	How long will parts be available to keep my existing R22 equipment operating?	There is no plan to discontinue the manufacture of spare parts used in R22 systems. Normal attrition will determine how long these parts are available.
9	Will the existing R22 line sets need to be replaced when converting to R410A?	More than likely, yes. Check the manufactures specifications, but liquid lines below 3/8" are problematic for R410A equipment. If existing lines are used, they must be clean and purged thoroughly.
10	Are there any electrical concerns when converting to R410A?	Yes. Many R410A systems operate with compressors drawing a heavier amp load. If your existing system is operating at the upper end of your wiring capacity, it is possible you may need to pull heavier gauge wire and install a larger disconnect and whip to accommodate the heavier load.
11	Do I need different service tools to work on R410A systems?	Yes. Typically you'll need a manifold, recovery machine and recovery tank rated for the higher pressures of R410A.
12	Will the temperature of the suction line (to touch) allow me to gauge the charge when installing or servicing an R410A system?	No. Charging an R410A system requires a great deal more accuracy, requiring the measurement of superheat for equipment with fixed orifice metering devices, or subcool for equipment using TXVs.
13	Can my existing technicians install equipment using R410A or will I need to hire a certified contractor.	Like anything new, there is a learning curve. If you have technicians installing R22 systems today, they ought to be able to learn how to install R410A equipment as well.
14	Will tools rated for both R22 and R410A work?	Yes. You must be careful to purge any residual oil that may exist, but there are many manifold, recovery machines and other tools made for both refrigerants.
15	How should R410A be charged, liquid or gas?	For optimum performance, R410A should only be charged as a liquid.
16	Will my piston or fixed orifice metering devise on my R22 coil work properly with a new R410A condenser?	No. Nearly all R410A coils require a thermal expansion valve (TXV) to meter the flow of refrigerant. The TXV must be specifically made for R410A.

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17	What is the main difference between the mineral oil used in R22 equipment, and POE oil used in R410A systems?	POE absorbs moisture much faster than mineral oil. Great care must be taken to ensure POE is not exposed to outside air as it quickly saturates with moisture rendering it contaminated and harmful to the system.
18	Any tips to ensuring proper installation?	Many. One of the simplest things to do is to trickle nitrogen at very low pressure into the lineset being brazed. This prevents the carbon buildup on the inside of the line. This buildup, particularly in R410A systems is problematic as it clogs filter/dries, expansion valves, or other internal components.
19	For budgeting purposes, what should I expect when purchasing R410A equipment?	Currently R410A condensers are roughly 25-40% more expensive.
20	Do R410A systems have different components?	Yes. Most are specifically designed for higher pressures with stronger compressors and thicker wall sizes. Expansion valves, reversing valves and filter dries must also be specific for R410A.
21	Will coil sizes be smaller using R410A?	No. Preliminary designs show most indoor and outdoor coils being roughly 10% larger and comparable R22 coils.
22	Will my existing refrigerant leak detector work for R410A?	Most detectors work by sensing the presence of Halogen gas. All HD Supply detectors work with both R22 and R410A.
23	Are the operating pressures of R410A dangerous?	Discharge pressures are 50 to 70% higher than R22 (roughly 400 psia) but in perspective, compressed oxygen or nitrogen used frequently with unitary equipment is often over 2,000 psi.
24	Can I leak-test an R410A system with compressed air?	Never. Nitrogen should always be used for leak testing as R410A mixed with air under pressure becomes combustible.