



RS-45 (R434A) SYSTEM VOLUME GUIDE

The refrigerant charge needed for a system is based on liquid volume. Therefore, a system will take the same amount of liquid R22 as it would RS-45. However, since the molecular weight of RS-45 is heavier than R22 it means it will take a higher amount of pounds. RS-45 does have a different specific volume than R22, about 10% less in liquid form and about 20% more in vapor form. Usually the vapor volume of the system is generally larger than the liquid volume so on average about 15% more RS-45 may be required.

In many cases, the system charge needed to operate will vary from season to season depending on a variety of climate conditions. Winter operation usually requires more refrigerant than summer operation. Also, you have to take into consideration if the system had been shut down for some time. As an example, if the manufacturer's recommendation is 7000 lbs of R-22 this same system may require up to 8050 lbs of RS-45 due to the difference in density. In summer operation it may be able to operate at something less than 7000 lbs of R22 or 8050 lbs of RS-45.

The above should be used to calculate the correct RS-45 charge amount as it relates to replacing R22.