SERVICE BULLENTIN: A/C FILTERS

CHECK ALL FILTERS BEFORE INSTALLING MAXR100.

We have had the topic of filter changes come up on several occasions and felt it was important to post this bulletin. Please read and keep for future reference.

It is the misconception to some that all filters will need to be replaced when MaxR100 has been installed. The filter/driers on an air conditioning and refrigeration system perform the functions of filtering out particles and removing and holding moisture to prevent it from circulating through the system. It is uncommon to need filter changes when MaxR100 is installed, but in highly contaminated systems it is possible.

As the majority of systems are hermetically sealed (for practical purposes, is considered airtight. The term is often used to describe electronic parts that are designed and intended to secure against the entry of microorganisms and other foreign bodies in order to maintain the proper functioning and reliability of their contents}, theoretically there should be no contaminants in the system. Are there systems out there where contaminants exist? Absolutely, but that is why the filter/driers are in place. Normally these contaminants are introduced when a component of the system is changed out (i.e. compressor or coils} and there is not a complete vacuum (evacuation} pulled on the system. A system evacuation at the time of installation is essential. Evacuation serves two functions. 1} It removes the air (non-condensable} from the system. Air contains oxygen which serves to chemically react with the refrigerant and oil which is constantly heated and cooled as well as subjected to high and then low pressures in the system. 2} An evacuation also removes water vapor from the system. It takes many hours to pull a full evacuation and most technicians do not have or make the time to do this.

To check to see if contaminants exist, you may do a simple test that will only take a few minutes of your time. Using an infrared temperature gun, take a reading on the refrigerant line before the filter and a reading on the refrigerant line after the filter. Remember, science tells us that pressure and temperature are related; when pressure rises, temperature rises, when pressure drops, temperature drops. If there is more than a 5 degree temperature difference, there is something clogging the filter. This is something we highly recommend performing on a system before MaxR100 is installed. By doing this you will be able to let your customer know that their system is not in top operating function and may earn you respect by them.

Above we have mentioned hermetically sealed systems; there are also non-hermetic systems available which are typically much larger systems (100 tons or more}. With the non-hermetic systems they are constantly being opened up for maintenance purposes. With this being said, it is likely that contaminants have been introduced into the system. There is more of a probability that the filter will need to be replaced. Again, you may check the filter prior to installation of MaxR100, but we also recommend checking the filter daily for one week after the installation. On the non-hermetic system, it is wise to inform your customer that a filter change out is possible. It is a small expense to change out a filter rather than having to replace a larger portion of the system, because the contaminants/moisture have damaged it. MaxR100 will restore the system back to when it was new and usually better. Another thing to check on these larger systems is the oil level. Due to the oil being added in during maintenance it likely there is some trapped in the system. When MaxR100 is installed it will release that oil and send it back to the compressor where it should be. It is simple to check as there are sight glasses on these systems to monitor the oil levels. This should be monitored daily for one week after the installation, as you may be removing oil from the system.

In summary it is recommended to check filters prior to installation of MaxR100 as a preventative measure.