

Defrost Cycle of Refrigerated Air Conditioning

In colder climatic conditions a refrigerated air conditioning unit while running in the heating mode will build up frost or ice on the outdoor heat exchanger or coil. This is a normal part of operation for any refrigerated air conditioner while in the heating mode.

It is because of this all refrigerated air conditioning systems have a built in defrost cycle. When the frost build up on the out door coil gets to a pre-determined level and the operation of the heating system is reduced the system will perform a pre programmed defrost cycle.

The Bonaire BO (fixed speed) range of units have two different defrost cycles. These defrost cycles are set by the installer at the time of installation and commissioning of the system.

The first of these is a Hush defrost (slow and relatively quiet defrost cycle), the second is a Quick defrost (Which is quicker but will make more noise whooshing and hissing). A defrost cycle is essential to the operation of the systems operation so there is no option to turn them off all together.

The BI (Inverter) range of units have a defrost that is a fixed program defrost and is not installer set or adjustable.

The basic operation of a defrost cycle is as follows:

The system will stop heating the conditioned space, the indoor fan will stop running (dependant on the set up by the installer (BO range only) and reverse the flow of refrigerant through the system (hence the whooshing noise). This will allow the hot refrigerant to flow through the outdoor coil heating it up and melting the frost off the outdoor coil. The process of defrost can create steam and condensation coming from the outdoor unit . This process can also create a smell that is associated to the steam. The outdoor fans may shut off for periods of time during this process.

When the defrost sensors detect that the defrost cycle is complete the system may shut for a period of time down (dependant on the defrost cycle set up by the installer) then the unit will restart heating when the indoor coil temperature reaches 28 degrees C the indoor fan will then restart. The system will continue to heat until a defrost is required again. The time this can take will depend on the climatic conditions that the unit is operating in -it can range from 10 minutes to 20 minutes.

In summary any refrigerated Air Conditioner when in the heat mode must have and run a defrost cycle. Frost, steam, condensation and noise may be apparent on and around the condenser (outdoor) unit. The system will stop heating the house for a period of time whilst in the defrost mode.

The above is normal operation of your reverse cycle air conditioner and does not require a service call.