

## Common Causes of A/C System Failure

**Modern air conditioning systems are complex machines made up of several systems working together to provide environmental comfort. Unlike most other devices in your home, the HVAC system interconnects with multiple other systems in your home. This includes high voltage electrical, low voltage electrical, plumbing, and duct airflow. If any of these systems fail or develop issues, it can affect how the A/C system performs. Below we have listed some common pitfalls that can cause issues in your home.**

### Filters

All HVAC systems are equipped with filtration on the return airside. The return is the side of the system that draws air in to either be heated or cooled. Typically filters come in two thicknesses, 1-inch and 4-inch. One inch filters (20x25x1) should be changed every 30 days in the late spring and summer (cooling months). Four-inch (20x25x4) filters may stay in the system longer but typically no more than 60-90 days. Also, it is important that you do not buy a filter that is too restrictive. Generally, modern HVAC systems should not have anything higher than a MERV 8 rated filter. We strongly caution against the use of the so-called 3-month or 6-month filter of any type. Failure to change your filter will cause decreased airflow, increased electrical use, and potentially cause your system to freeze up. You are better off buying cheaper pleated filters and changing them often.

### Drain Lines

A/C systems are typically equipped with two drain lines referred to as the primary and secondary. The primary drain, by code in Texas, must be routed to the sewer drain in the home. This drain is most often routed to the closest bathroom sink below the attic equipment. You will notice a small hose or 3/4 inch PVC entering the side of the sink drain above the P-trap where attached. A/C drains are not under pressure and flow by gravity only. Because of this, they WILL stop up at times. The secondary drain is attached to a large metal emergency pan that hangs under the attic equipment. This drain runs to the outside of the home usually out of the eave of the house. There should NEVER be water in this pan or water coming from the eave drain. If water is present, the primary drain is probably clogged. These drains may also have an emergency switch that disables the system if they become clogged. Treat the primary drain often during the cooling season with white vinegar to help prevent clogs. Also, make sure that the drain lines are not damaged by stuff you store in the attic.

### System Power

HVAC systems rely on multiple power sources to operate. First is the high voltage system which runs the outside unit and blower in the attic. Typically there will be multiple circuit breakers in the breaker box for your HVAC system. Make sure that none of the breakers have been turned off or have been tripped. If you find a tripped breaker try and reset it only one time. If it trips again, that is a good indication of circuit overload and you should call us for assistance. Also, gas heating systems often have a switch in the attic close to the furnace. This switch looks like a standard light switch and is often mistaken for attic light and accidentally switched off. The low voltage side is controlled by the thermostat. The most common failure is bad thermostat batteries. If applicable, make sure you change your thermostat batteries.

### Outside Unit

Make sure the outside unit is not clogged up with grass, dirt, and cottonwood. Rinse the unit while in the off-cycle with a standard garden hose at the beginning of summer and keep it clean.