

The main function of a capacitor in an HVAC system is to provide additional torque needed to get a unit running and the electricity needed to keep it running. There are different types of capacitors used in HVAC systems.

Start Capacitor

Start capacitors are commonly used in air conditioner and heat pump outdoor units. In general as they come from the factory units come with a start capacitor. These can be replaced with another start capacitors or super boost capacitor for older units in order to increase torque and quicken start up.

The purpose of a start capacitor is to get the compressor up and running as fast as possible. As the compressor begins running, a potential relay will disconnect the capacitor from the electrical circuit. These two items work together: when replacing, plan on replacing both together. If replacing a compressor, also rep-lace the start and run capacitors used with it.

We previously mentioned a super boost capacitor. These start capacitors have a potential relay built into it and are easy to install. Just follow the installation instructions

If you have any doubts about what the correct replacement is, contact your local branch or go the ASDealerNet.com, and go to Parts and Supplies. In either case have your unit model number and serial number available.

Dual Run Capacitor

Dual run capacitors are also found on outdoor AC and heat pump units and come in a variety of shapes and sizes. They are used with two motors – the compressor motor and the fan motor. The dual run capacitor runs continuously while your unit is running. It has three terminals: HERM connects to the compressor fan connects to the fan motor and common connects to the contactor. It is imperative to connect each wire to the appropriate terminal.

The information that you should be looking for are the microfarad (mfd) rating and voltage rating. A dual run capacitor rated at 30/5 means 30 mfd will go to the compressor and 5 mfd will go to the fan motor. A replacement capacitor must be rated with the same microfarads. Not doing so can contribute to additional service issues. The VAC rating, however, is slightly different. If you are replacing a 370 VAC, you may replace it with a 440 VAC, but you cannot replace a 440 VAC with a 370 VAC.

Single Run Capacitor

Single run capacitors are generally used in air handlers and furnaces. They have two terminals, HERM and common. The two wires that come from the air handler/furnace's blower motor can connect to either terminal.

Over time, single run capacitors can grow weak and you will begin having problems keeping your air handler/furnace running. If your fan motor makes a humming sound, this is a sign you may need a new capacitor.

Two additional safety tips for replacing your capacitor are:

- Make sure the power to the unit is off, both at the unit and at the circuit breaker.

- Deactivate the electrical charge, by using an insulated screwdriver and touching each terminal. It is also a good idea to wear insulated gloves.