

How to Add Freon to Air Conditioner

If you've noticed that your central air conditioner isn't cooling your home quite as well as it used to, the culprit may be Freon leak in your system. Freon is a refrigerant, or coolant, which helps your AC unit evaporate its internal heat and allows the air is expels to actually be cool.

If you have sprung a Freon leak, you'll have to seal the problem area, replace the leaking substance, and replenish the amount of refrigerant in the system. This process of adding coolant to an AC unit is called recharging.

Even a DIY veteran can have issues with his project both because it can be quite a technical process and also because many areas have laws regulating the use of Freon. However, if you adhere to your local laws and follow these steps carefully, you can safely repair and recharge your AC unit.

Needed Stuffs:

- Eye Goggles
- Protective Mask
- Gloves
- General Tools
- Freon Repair Kit (reusable injection hose and AC sealant)
- Freon
- Pressure gauges
- Temperature gauges

Step 1 – Purchase Supplies

The first thing you need to do is find out what type of Freon you'll need for your air conditioner. If your unit was built prior to 2010, it's likely going to use R-22. To be sure, you can check the unit itself for a label that specifies which type of coolant to add. The newer systems don't use refrigerant, so make sure to check your unit before deciding a leak is the cause of inefficient cooling.

If you're certain a leak is the problem, you should purchase a Freon repair kit. These kits are excellent for HVAC beginners and generally come with a reusable injection hose, an AC sealant, and most importantly, a detailed set of instructions. Otherwise, you can choose to buy these items separately in addition to your pressure and temperature gauges.

Step 2 – Turn Off Your System

Turn off your air conditioner and temporarily turn off the circuits that send power to it. If you are committed to doing any internal air conditioner repair, having any electricity running through the system, even if it's not turned on at that moment is dangerous.

Step 3 - Protect Yourself

Put on your goggles, gloves, and a breathing mask. While a substance like Freon is more toxic to the environment than it is to humans, it is still important to protect yourself thoroughly.

Step 4 – Find the Leak

Even when it's clear something is wrong, the only way to be 100% sure that there is a leak is to do a complete inspection and actually locate a physical leak.

Attach a temperature gauge to your valves and wait approximately five minutes to get an accurate reading.

Do your research to determine what an adequate reading would be for your unit model, but anything in the 45 degrees Fahrenheit range generally means your coolant levels are sufficient. If it's above that number, or the number designated in your manual, you may have low coolant levels. Refrigerant doesn't evaporate, so if your AC does not have a sufficient amount, it is because there is a leak.

Before you can move forward with recharging your system, you'll want to inspect it to see if you can find the source of the leak.

To locate the source of your Freon leak, you'll need to connect gauges to your AC lines in order to detect any low pressure issues. If you're using a Freon kit, the instructions should clearly spell out what gauges and what lines attach where.

If the low side pressure is below 65psi, you most likely have a leak. You can also look for visible signs of leaks along pressure lines and joint connections. Occasionally dyes are added to coolants so that you can visibly see color where a leak is happening. Once you find the source of the leak, you can start the air conditioner repair process.



Step 5 – Attaching Your Repair Kit

Now that you've inspected the AC unit and detected any and all leaky areas, it's time to locate the compressor. The compressor will have two lines coming from it. The larger valve is the service valve and the low pressure suction line. The smaller valve is the tap valve and the high pressure liquid line.

In order to properly seal the detected leak, you will need to connect the injection hose and the can of sealant to the compressor lines. Again, consult the information provided with your kit if there is any confusion.

Once your hose is connected to the supply line and your sealant can is attached to your hose, be sure to not tip the container. It should be held upright to prevent damaging the central air conditioner unit.

Step 6 – Seal the Leak

Depending on which products you have purchased, the specific details for this part of the process will vary. But in any case, you will need to restore power to the unit and have the air conditioner actually operating for this step.

Once you pierce your sealant can, you want to let it run through your system for at least a full minute to be sure the sealer has been properly distributed and that it's had time to thoroughly patch up any leaks.

The sealant will travel with the existing refrigerant to detect and seal leaky areas from within.

Step 7 – Prepare the System for Recharge

To recharge your air conditioner, reconnect the gauges to the system and connect your Freon container to the gauges using various hoses. Reconnect your temperature gauges to the lines as well, so you can ensure you're getting a clear reading. Many people neglect to use the gauges at this point, but that's a mistake. This is the proper way to recharge an air conditioner, as you want to monitor how much coolant you are adding so that you do not add too much.

Step 8 – Add Refrigerant

Once all aspects are connected to your AC unit, you can release the valve on your Freon container and allow the coolant to circulate in the system. Add only small amounts at a time, allowing approximately 10 minutes between each small addition to get a clear reading on the gauges.

Be sure the refrigerant container stands upright for the duration. Tilting the container can introduce the substance into the compressor and damage the whole air conditioner unit.



Step 9 – Test the System

If you believe you've added the proper amount, something that is much easier to determine by using your gauges, let the system circulate for 15-20 minutes as a test run. If all signs indicate that your air conditioner is properly cooling, you can detach your gauges and hoses.

If your AC is still not cooling off, you either need more Freon, or you still have a leak and need to call an HVAC specialist for further investigation.