

What is a portable air conditioner?

A portable air conditioner (PAC) is an air conditioner that is mobile. Unlike window, through-the-wall, or central air conditioning units, PACs do not require permanent installation. Using the included window kit, connectors and exhaust hose, they exhaust heat from a space to lower the temperature and dehumidify.

Portable air conditioners are great for specialized applications where central air or conventional window air conditioners are unfeasible or too expensive.

PACs are used to cool single rooms, dorm rooms, small offices, computer server rooms and garages.

Our PACs can be plugged into a standard 115 Volt/ 60 Hertz household outlet.

Is a portable air conditioner the right choice for me?

Portable air conditioners are great for specialized applications where central air or conventional window air conditioners are unfeasible or too expensive. If you have an area that needs cooling, but conventional air conditioners won't work for you, a portable air conditioner could be the answer you are looking for.

Also, portable air conditioner is a cost and energy saving alternative to conventional central air system as it cools one room instead of the whole house.

How does portable air conditioner work?

Hot air from the room or outside is pulled into the portable air conditioner through the filter or the intake hose (dual hose system) to cool off the compressor and condenser coil. The cooled air is being pushed from the air vent to the room and the compressed hot air is then expelled out the exhaust hose.

Do portable air conditioners require outside venting?

Yes, all portable air conditioners need to vent the hot air they remove from the room. They include a window venting kit to install to a standard window. However, they do not have to vented using a window; they can be vented to sliding glass doors, through a wall or into a drop ceiling (method most offices use). For these applications, may require a custom modification and the vent hose may require extending.

Can a portable air conditioner run without a vent?

If the hot air is not vented outside of the room, the unit will blow cold air from the front and hot air from the back. This scenario does not change the room temperature; the air stream will be cooled but once circulated with the exhausted compressed heat, the room temperature will remain the same.

Can a portable air conditioner be vented to an attic?

If your building has sufficient air space in the attic, venting the portable air conditioner into it should not be a problem. Please note that you will be introducing humidity into the attic and if you prefer not to have extra humidity to the attic, you can remove the drain plug of the air conditioner and setup continue drainage.

Do portable air conditioners collect water/ need to be drained?

As portable air conditioners cool the air, they also dehumidify it. The water they condense out of the air is dripped into the internal reservoir or exhausted out the exhaust hose. The self-evaporative or auto drain feature, help evaporate the collected condensation automatically in most environments. If the environment has high humidity, the unit may require draining. Some of our PACs have an upper drain port for optional continuous gravity draining.

Are portable air conditioners energy efficient?

Energy Efficiency Rating (EER) shows the energy efficiency of the air conditioner. The higher the EER, the more energy efficient the air conditioner. To get the EER, divide the unit's BTUs by the wattage (BTU power / wattage).

What is a BTU?

BTU stands for British Thermal Unit. A BTU is the amount of energy needed to cool or heat.

How much space will these units cool?

Room Area	Recommended BTU
Up to 250 square feet	8000 BTU
200 – 300 square feet	10000 BTU
300 – 400 square feet	12000 BTU
250 – 420 square feet	13000 BTU
400 – 500 square feet	14000 BTU

What is a dual hose portable air conditioner?

A dual hose portable air conditioner comes with one air intake hose and one air exhaust hose, the air intake hose pulls air into the portable air conditioner from the outside to cool off the

compressor and condenser coil. The hot air generated from the air conditioner is then expelled out the exhaust hose.



Operationally, a dual hose portable air conditioner has two main advantages over a single hose unit. A dual hose portable air conditioner will cool a room faster and will help minimize negative air pressure situation in the room. If the outside temperature is much higher or more humid than the room, the intake hose can be covered with the included cover and it will function like a single hose unit.

How do I use the window venting kit? Does it fit my window?

The window venting kit is essentially a “filler” kit to allow the end of the exhaust hose to vent out the window without allowing hot air from the outside in around the vent hose. The window vent kits fit most windows that slide to open (vertically and horizontally). If the window kit is larger than the window, it may be cut down to fit. For larger windows, an additional window kit may be purchased to connect and cover the open space. Alternately, a custom modification may be made using PVC plastic, Plexiglas or plywood.

What is an exhaust hose?

Exhaust hose is the tubing which connects to the window kit to remove the compressed heat from the room. The exhaust hose can be removed in some modes but must be connected when cooling/ heating (applicable models). The length of the exhaust hose will vary by model but can be extended if necessary. We do not recommend extending the exhaust hose longer than 9 feet.

What is an intake hose (dual hose models only) ?

The optional air intake hose pulls air into the portable air conditioner from the outside to help cool off the compressor and condenser coil along with the air pulled from the filter from the room. The hot air generated from the air conditioner is then expelled out the exhaust hose.

Operationally, a dual hose portable air conditioner has two main advantages over a single hose unit. A dual hose portable air conditioner will cool a room faster and will help minimize negative air pressure situation in the room. If the outside temperature is much higher or more humid than the room, the intake hose can be covered with the included cover and it will function like a single hose unit.

Is a portable air cooler the same thing as a portable air conditioner?

No. An air cooler or evaporative cooler uses water and evaporative cooling to lower the temperature of its airstream, often by as much as 12°F. However, air coolers will not lower the temperature in a room- they only make it feel cooler in the airstream provided by the unit. Additionally, you must add water to evaporative coolers for maximum effectiveness, and they do not need to be vented.

Can I use a portable air conditioner to cool my server room?

Although these are not industrial machines, this is an excellent use for a portable air conditioner. Even with central air, computer server rooms have more robust cooling needs than other parts of the building tend to require. A portable air conditioner works well to boost the cooling in a server room.

What is dehumidification?

Dehumidification is the process of removing excess moisture from the air usually accomplished using a dehumidifier or air conditioner.

Why are dehumidifiers used?

Although air conditioners remove some excess moisture from the indoor environment, sometimes it isn't enough. Rooms where there is condensation on the windows, wet stains on the walls and ceilings, mold, or musty scents may have a humidity issue. Ignoring these issues may lead to structural damage to the home and its contents, allergic reactions, respiratory problems, and other health issues may arise.

How does a dehumidifier work?

Air is pulled into the dehumidifier through the filter from the room. The refrigerant cools the air which causes the moisture in the air to condense. The moisture is collected in a tray under the evaporator and condenser which is then directed into the bucket of the unit for manual removal, through the continuous gravity drain hose or through the pump line (for applicable models). Dry air blows from the output vent back into the room.

Where are dehumidifiers used?

The most common rooms dehumidifiers are used are basements, laundry rooms and crawl spaces. These spaces tend to be on the lower levels of the home where humidity is usually the highest. Areas that have constant contact with the moisture of the surrounding earth which makes them more susceptible to moisture problems. Dehumidifiers can be used in any room where moisture and humidity levels are high enough to lead to issues.

What is Relative Humidity (RH)?

Relative humidity is a percentage of how much water vapor is in the air relative to the maximum amount of water vapor the air can hold at a given temperature.

What is an ideal humidity level?

Generally, it is ideal to maintain a 45-50 percent relative humidity level. Levels greater than 50 percent create an environment where mold, dust mites, bacteria, and sometimes even pests thrive. Environments that have odors and any staining on the walls may accelerate decaying to a home's structure.

In turn, relative humidity levels below 30 percent, can also cause damage. Low-humidity environments may lead to cracked ceilings, separated wood floors, and more. People sensitive to low humidity may also experience respiratory irritations and dry skin.

How is the moisture removed?

The collected moisture is removed by dumping the bucket manually, by continuous gravity drainage or by continuous pump (applicable models).

How does the drain pump work?

One of the key features of this dehumidifier is that it has a water pump that pushes water up or over a longer distance. Using this feature will enable your unit to run maintenance free.

What is the difference between a Thermoelectric Wine Cooler and a Compressor Based Wine Refrigerator?

A Thermoelectric Wine Cooler uses cooling plates instead of a compressor to cool. Unlike compressor based units, thermoelectric wine coolers do not use refrigerant and usually cannot reach lower temperatures and hold a smaller bottle capacity.

How does a Thermoelectric Wine Cooler cool?

Thermoelectric Wine Coolers use the Peltier effect to cool. When two different metals are attached together and a current is run between them, heat is drawn out of one metal into the other. In a thermoelectric cooler, there is a series of small metal fins called a heat sink. The cool side is inside the cabinet of the cooler, where with the help of a fan, circulates the cold air. The hot side of the Heat Sink sticks out of the outside wall of the cooler, where the fan disperses the heat from the cabinet out.

Benefits of a Thermoelectric Wine Cooler:

Energy Efficient: Thermoelectric cooling uses less moving parts and requires much less power and energy to operate.

Quiet Operation: Thermoelectric cooling requires very little movement from internal parts, so as a result, generate very little noise when in operation.

Vibration-Free: A thermoelectric wine cooler does not vibrate and disturb the wine within.

Cost Effective: Thermoelectric Wine Coolers are generally less expensive than Compressor Based Wine Refrigerators.

Drawbacks of Thermoelectric Cooling:

Smaller Cooling Capacity: Thermoelectric cooling is not as powerful as compressor cooling, so it is only suitable for small capacity wine coolers.

Ambient Temperature Sensitive: Thermoelectric cooling is not the best for unstable or extra warm or cold environments. A high or low ambient temperature will significantly hinder the cooling capacity.

Freestanding Application: Thermoelectric Coolers must be freestanding with sufficient clearance and circulated airflow around the rear vents; making them unsuitable for built-in spaces.

How does a Compressor Based Wine Refrigerator cool?

In the refrigeration cycle, there are five basic components: refrigerant; a compressor, which controls the flow of refrigerant; the condenser coils (on the outside of the fridge); the evaporator coils (on the inside of the fridge); and an expansion valve.

The compressor sends hot compressed refrigerant gas through the condenser coils. As it passes through the coils, heat is dissipated into the air.

Once the hot compressed refrigerant gas reaches the expansion valve, the gas expands and turns into a liquid.

As the now liquid refrigerant continues to flow through the evaporator coils, it absorbs and removes heat from the items inside the cabinet and flows back into the compressor and the cycle repeats itself.

Benefits of a Compressor Based Wine Refrigerator:

Powerful Operation: Compressor cooled wine refrigerators have a much more powerful cooling capability, reaching lower temperatures than thermoelectric wine coolers, which is why most built-in units use a compressor.

Large Capacity: Because of its powerful cooling, compressor cooling can handle wine refrigerators that have large wine bottle capacities.

Adapts to Environmental Stress: Compressor cooled wine refrigerators can better adapt to varying temperatures and extra heat loads, keeping a stable internal temperature despite environmental conditions.

Commonly Designed for Built-In Application: Compressor cooled wine refrigerators are usually designed for built-in application; although, there are some freestanding compressor based models.

Drawbacks of Compressor Based Wine Refrigerators:

Small Vibrations: Because a compressor has many moving parts and can cycle on and off, compressor cooled wine refrigerators sometimes vibrate slightly.

Slight Noise Output: Again, because of the moving components and flowing refrigerant, compressor cooled wine refrigerators will give off noises such as:

- The high efficiency compressor may make a pulsating or high pitched sound.
- Rattling, bubbling or gurgling sounds and slight vibrations are the result of the refrigerant circulating through the cooling coils.
- Cracking or popping sounds are caused by the expanding and / or contracting of the cooling coils or plate.
- Water running from the evaporator to the water bin may make a splashing sound.
- As each cycle ends, you may hear a gurgling sound due to the refrigerant flowing in your wine refrigerator.
- You may hear air being forced over the condenser by the condenser fan.