

# Air Conditioner

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## When was air conditioner invented?



The air conditioner was invented in 1902 by a 25-year-old engineer from New York named Willis Carrier invented the first modern air-conditioning system. The mechanical unit, which sent air through water-cooled coils, was not aimed at human comfort, however; it was designed to control humidity in the printing plant where he worked.

# Existing patents

- apparatus for treating air filed by willis carrier U.S. Pat.#808897
- motor controller for air conditioning fan and method for controlling air conditioner fan filed by Yong Zhao US8,380,354B2



# what materials were originally used?

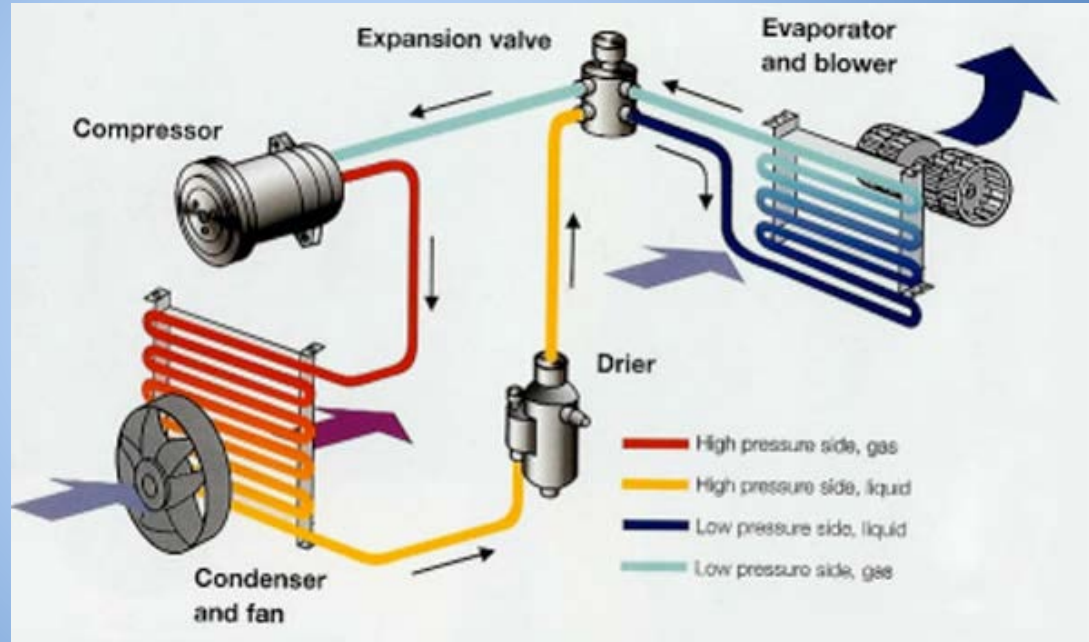
Ammonia

Metal

Chilled

Chilled Coils

Spray nozzle



## How was it originally made?

It used reciprocating-compressors (driven by piston) to pump refrigerant. Also the mechanical unit sent air through water cooled coils.



# What improvements have been made?

Ammonia was replaced with coolant dieline. Also the size of the units have been reduced. These improvements were made so they were safer and people were able to put the air conditioner units in apartments, stores, Office buildings, railroad, cars and small building.



# Who uses the air conditioner?

Millions of people with apartments, small and big businesses also use them. Now a days is more of a standard thing in apartments and houses.



## What global impact has it had?

the ability to cool homes and businesses has impacted the south, and gasses that air conditioners emit have an effect on global warming. A subsequent innovation is that ozone depleting CFCs have been replaced by HCFCs which depleted 95% less ozone.





# Timeline of the air conditioner

1902- willis carrier invents apparatus for treating air

1914- first air conditioner in a home

1939- more than 1 million units sold



1994- freon is linked to ozone depletion and banned in several countries. (some brands developed more environmentally friendly coolants)

# Engineering Disciplines

the discipline that was most important to develop the air conditioner was mechanical engineering because they use mechanics and energy principles to design machines.



# Changing the air conditioner

if I could change the air conditioner we could make it run faster and stronger and also it could be controlled by your phone from anywhere you are.

