



Dual-Fuel 101: The Benefits of Pairing a Heat Pump with a Gas Furnace

Carrier Hybrid Heat® dual-fuel systems combine gas heating with electric heating and cooling for energy-efficient comfort all year long.



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What Exactly is a Heat Pump?

A heat pump is an all-electric indoor comfort system that provides both heating and air conditioning. It works as an air conditioner in hot weather but can also reverse the process and heat the home when cold weather arrives. A traditional heat pump system includes the heat pump, a fan coil, and a thermostat.



How Does a Traditional Heat Pump System Work?

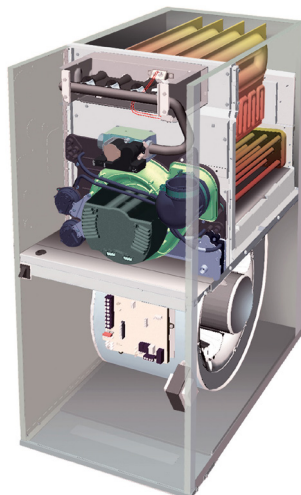
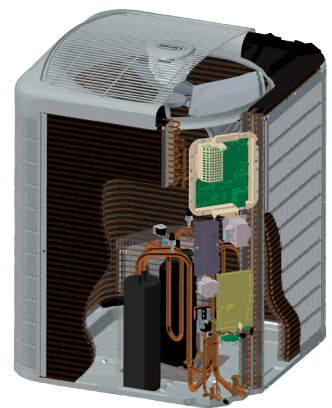
First, heat pumps do not create heat. They redistribute heat from the air or ground and use a refrigerant that circulates between the indoor fan coil and the outdoor compressor to transfer the heat.

In cooling mode, a heat pump works just like an air conditioner. It absorbs heat from indoor air, moves it outside, and returns the cooler air back into your home. In heating mode, it's the opposite. Heat from outdoor air is absorbed, and that heat is moved inside to provide warmth and comfort. Even when it's cold outside, there is often enough heat energy to efficiently heat your home.

What is a Hybrid Heat System?

A Hybrid Heat system is a fuel-saving alternative to a traditional heat pump system. Instead of combining a gas furnace with a central air conditioner, Hybrid Heat systems combine a furnace with a heat pump.

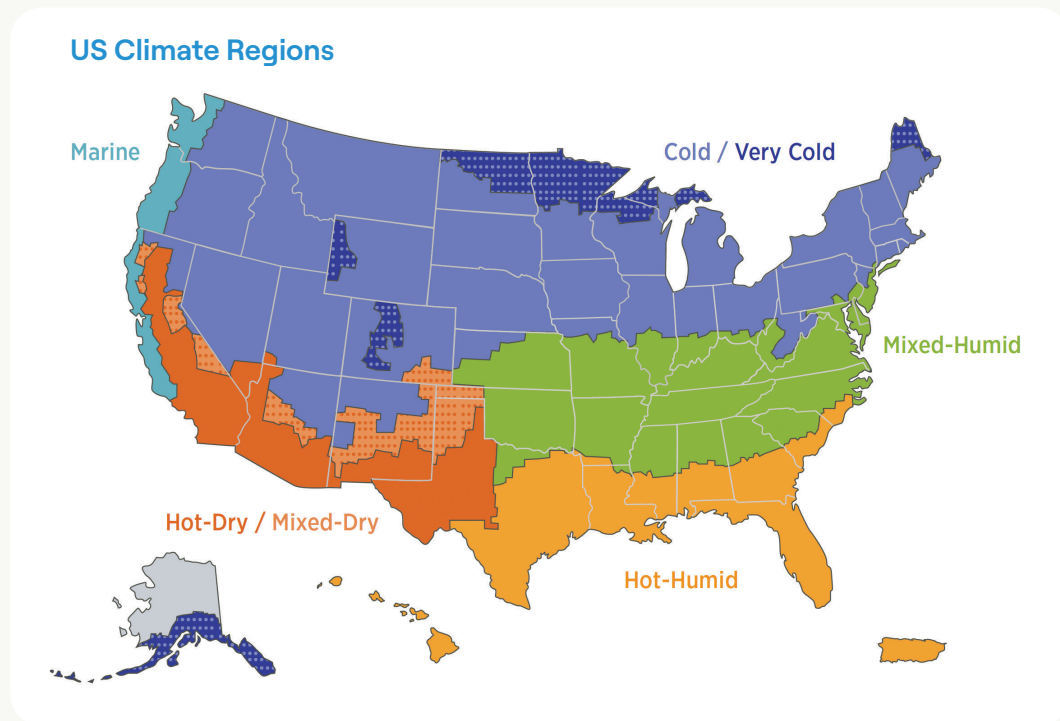
Heat Pump: The heat pump includes a fan, a compressor that pumps refrigerant through the system, and a large coil that helps transfer heat.



Gas Furnace: With a Carrier Hybrid Heat system, the indoor unit is a gas furnace with an attached indoor coil. The furnace generates heat using natural gas, ensuring your home remains warm in the colder months.

Heat Pump Usage Across the United States

Heat pumps are currently more common in southern and coastal states where air conditioning seasons are longer and heating seasons are less demanding. In colder areas, homeowners frequently rely on a gas furnace because temperatures often drop below freezing in the winter. That's why a Hybrid Heat system makes so much sense. A Hybrid Heat system takes advantage of the best each system has to offer.



<https://www.energy.gov/eere/buildings/articles/building-science-based-climate-maps-building-america-top-innovation>

WHY WOULD A HOMEOWNER NEED TWO HEAT SOURCES?

Heat pumps and furnaces both offer efficient and reliable heating for your home. Combining the two takes advantage of each system's strengths to create a better system for all seasons. And, doing so helps eliminate the need for the much less efficient electric resistance heating coils commonly used to supplement heat pumps in colder regions. Here's a look at their similarities and differences:

How They Heat:

A heat pump absorbs heat from outdoor air and moves it inside. A gas furnace generates heat from combustion.

How They Cool:

A heat pump reverses its operation to cool your home just as an air conditioner does. A furnace by itself provides heating only. For cooling you must include an air conditioner and an indoor coil.

Fuel Source:

A heat pump runs entirely on electricity. A gas furnace requires both electricity and natural gas (or propane).

Air Circulation:

Both systems use a fan to circulate heated (or cooled) air into your home through ductwork.

Fact or Fiction? Carrier Clears the Air

Fairly or unfairly, heat pumps have accumulated some common misperceptions over the years. Let's clear the air on five of the most frequently expressed issues associated with heat pumps:

Gas furnaces are always more efficient than heat pumps.	Fiction. During milder conditions, heat pumps are typically the most efficient option.
Heat pumps are for heating only.	Fiction. While the name leads you to believe it's a heating product, heat pump systems provide both heating AND cooling.
Heat pumps are for warmer climates only.	Fiction. Many of today's heat pumps can deliver efficient heating at outdoor temperatures of 5° F or lower.
Heat pumps blow cold air.	Fiction. Gas furnaces tend to deliver warmer air from the heat vents, but today's heat pumps have stepped it up with warmer circulated air temperatures.
Heat pumps are noisy.	Fiction. While it's true that older heat pumps were a bit noisy, today's models are much quieter. Carrier heat pumps achieve sound levels as low as 55 dBA, which is quieter than a normal conversation.* <small>* https://www.nidcd.nih.gov/news/2020/do-you-know-how-loud-too-loud</small>



SUBSIDIZE THE SYSTEM WITH TAX CREDITS AND REBATES

With a high-efficiency heat pump system, homeowners can enjoy energy-saving comfort that just might pay them back. Here's how:

- The Inflation Reduction Act of 2022 provides federal income tax credits for energy-efficient home improvements through 2032.
- Homeowners can receive a tax credit equal to 30% of the installed cost of a qualifying heat pump system, up to a cap of \$2,000.
- States, cities, and local utility companies are getting into the act as well, offering rebates on all-electric and ENERGY STAR® certified comfort systems.

Be sure to research all local rebate opportunities as well as any potential tax credits* available for any system you are considering.

* Homeowners should always consult with a qualified tax professional to determine how tax credits may apply in their circumstance.

The Carrier Heat Pump Advantage

Carrier offers a variety of heat pump options to fit a variety of homeowner needs. Of course, the pinnacle of our heat pump lineup is our Infinity® heat pumps with Greenspeed™ intelligence. Infinity heat pumps provide heating efficiencies up to 23.0 SEER2 and 10.0 HSPF2.

With smart electronics and variable-speed operation, they provide additional benefits of

precision load matching, easy integration with utility company energy curtailment systems, soft start-up and more. And Carrier Infinity heat pumps offer Bluetooth® connectivity built-in for enhanced serviceability and troubleshooting at the outdoor unit. That means a contractor can troubleshoot, service, and even “push” software updates to the outdoor unit with fewer, if any, trips into the home.

	Infinity Series	Performance™ Series	Comfort™ Series
Motor Performance	Variable-speed rotary and variable-speed scroll compressors available	Two-stage and single-stage scroll compressors available	Single-stage scroll compressor
Efficiency	Up to 23.0 SEER2 and 10.0 HSPF2 ratings	Up to 18.0 SEER2 and Up to 8.5 HSPF2 rating	Up to 16.0 SEER2 and Up to 8.1 HSPF2 rating
Diagnostic Technology	Infinity fully communicating system Bluetooth connectivity built-in	InteliSense connected system	–
Durability	WeatherArmor™ Ultra cabinet protection	WeatherArmor™ Ultra cabinet protection	WeatherArmor™ cabinet protection
Sound	Silencer System II, dBA as low as 55 Quiet Mode Feature	dBA as low as 70	dBA as low as 69
Recommended Control	Infinity System Control	ecobee for Carrier Smart Thermostat	Carrier Smart Thermostat
Limited Warranty	10-year parts ² 10-year unit replacement (27VNA3, 27VNA1 compressor failure only)	10-year parts ²	10-year parts ²

¹ Control sold separately, other options available.

² Upon timely registration. The warranty period is five years if not registered within 90 days of installation except in jurisdictions where warranty benefits cannot be conditioned upon registration. See limited warranty certificate for complete details and restrictions.



The Indoor Comfort System

Your Carrier dealer will recommend a complete system to meet your home-comfort needs and local weather environment.



INFINITY SYSTEM CONTROL

Allows precise temperature control and humidity control along with programmable features to further customized your comfort.



INFINITY GAS FURNACE

Provides reliable, high-efficiency heating for long-lasting comfort and energy savings.



EVAPORATOR COIL

Matched with the proper outdoor unit to provide even more cooling efficiency and years of reliable service.

INFINITY AIR PURIFIER

Improves air quality by capturing and killing select airborne bacteria and viruses and other irritating airborne pollutants in your home.*



HUMIDIFIER

Replenishes moisture to dry air.



VENTILATOR

Combines fresh outdoor air with conditioned indoor air for improved air quality – great for today's tightly constructed home.



* The Infinity air purifier has demonstrated effectiveness against the murine coronavirus, based on third-party testing (2020) showing a >99% inactivation, which is a virus similar to the human novel coronavirus (SARS-CoV-2) that causes COVID-19. Therefore, the Infinity air purifier can be expected to be effective against SARS-CoV-2 when used in accordance with its directions for use. Third-party testing (2012, 2007) also shows ≥99% inactivation for the type of virus that causes common colds, Streptococcus pyogenes and human influenza. Airborne particles must flow through your HVAC system and be trapped by the Infinity filter to be inactivated at 99%. Learn how it works at Carrier.com/purifier.

More Than a Century of Cool

In 1902, a determined engineer answered one of mankind's most nagging questions: How do we make hot, sticky, indoor air go away? In creating the world's first modern air conditioning system, Willis Carrier forever changed indoor life, and, more than a century later, the corporation that bears his name takes inspiration from his example.

Carrier strives to improve on our founder's breakthroughs, introducing new technologies that make life at home even cooler. Today, a nationwide network of experts continues to advance Willis Carrier's lifework. Your expert Carrier dealer is equipped to evaluate your home and create a customized system designed around your lifestyle.



carrier.com

1-800-CARRIER



As an ENERGY STAR® partner, Carrier Corporation has determined that qualifying models meet ENERGY STAR guidelines for energy efficiency. Ask your dealer for details or visit www.energystar.gov.

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