



Turn to the experts



COLD CLIMATE HEAT PUMPS

A choice you can warm
up to in any climate



DECARBONIZATION: WORKING TOWARD A CARBON NEUTRAL FUTURE

Our world is constantly evolving, and now, more than ever, there is growing concern over greenhouse gas emissions in our rapidly changing climate. Global leaders are working together to combat this crisis by pushing for optimized energy efficiencies, electrification, and new refrigerants – all part of decarbonization.

Reducing reliance on fossil fuels, including natural gas, and increasing reliance on “clean” sources of energy are all parts of the decarbonization equation. For homeowners in cold climates where gas or fuel oil heating dominate the indoor comfort market, going all-electric can be a cause for concern. We get it.

The good news is Carrier has been preparing for these changes for years, and today we are helping clear the air with an innovative solution for keeping people comfortable in rapidly decarbonizing world – Carrier cold climate heat pumps.



WHAT IS A HEAT PUMP AND HOW DOES IT WORK?

A versatile year-round comfort system, a heat pump can both heat and cool your home by extracting heat energy from the surrounding environment and moving it to another location.

- A heat pump system includes an indoor unit, an outdoor unit, and a thermostat.
- In the winter, a heat pump system extracts heat from the outdoor air and moves it inside to provide warmth and comfort.
- In the summer, it operates in reverse, taking heat energy (and some humidity) from indoor air and moving it outside the home – just like a central air conditioner.

However, traditional heat pumps are designed for more mild climates and are not very efficient during extremely cold winter temperatures (below 5° F) and rely upon an auxiliary heating source during those times. Carrier cold climate heat pumps are an option you can warm up to, even in areas with more severe climates historically served by fossil fuel heating systems.

ADVANTAGES OF COLD CLIMATE HEAT PUMPS

In addition to offering efficient performance in cold climates, heat pump technology has evolved over the last 20 years to provide comfort improvements and overall benefits:

Higher energy efficiency – up to 22.0 SEER2 during cooling and up to 10.5 HSPF2 during heating with properly matched equipment

Help reduce a home's carbon footprint compared to a gas furnace/air conditioner system

Consistent temperature in the home for greater comfort with fewer up and down swings during use

Potentially eligible for local utility rebates and federal tax credits based on the Inflation Reduction Act of 2022

Enhanced humidity control throughout the year – during both heating and cooling operation

Cold climate heat pump technology that allows for installation in all regions and provides warm, energy-efficient heating even when it's below freezing outside with some Carrier models operating down to -22° F

WHAT IS AN ENERGY STAR® COLD CLIMATE HEAT PUMP?

To be considered an ENERGY STAR® Cold Climate heat pump, the equipment must meet the criteria as outlined below:

Ducted Cold Climate Heat Pump Requirements		Ductless Cold Climate Heat Pump Requirements	
• 15.2 SEER2	• 70% capacity at 5° F (as compared to capacity at 47° F)	• 15.2 SEER2	• 70% capacity at 5° F (as compared to capacity at 47° F)
• 8.1 HSPF2	• Pass the controls verification procedure*	• 8.5 HSPF2	• Pass the controls verification procedure*
• 1.75 COP at 5° F		• 1.75 COP at 5° F	

* Control Verification Procedure – This procedure is now required for all HVAC manufacturers. We must verify that the reported performance of our heat pumps at 5° F is how the unit will perform in the home with a native control (either a standard thermostat or an Infinity® System Control).

WHAT IS A CEE COLD CLIMATE HEAT PUMP?

CEE, or the Consortium for Energy Efficiency, is the U.S. and Canadian consortium of gas and electric efficiency program administrators. CEE works to accelerate the development and availability of energy-efficient products and services for lasting public benefit. CEE uses tiers with established performance measures to set a nationally recognized definition of highly efficient products or services. Below are the CEE tiers for highly efficient heat pumps that perform well in cold climates.

CEE Tier 1 North Heat Pump Lineup (Ducted)			
15.2 SEER2 / 10.0 EER2 / 8.1 HSPF2; COP ≥ 1.75 / Cap Ratio 17F/47F ≥ 58%		Furnace	Fan Coil /AHU
Infinity® System	25VNA4	All Sizes	All Sizes
	25VNA8 ^o	25, 37, 4T	
Performance™ Series	38MURA	1.5T*, 2T*, 3T*	1.5T, 2T, 2.5T, 3T
	25TPA7	All Sizes	All Sizes
	25SPA5		2.5T
Comfort™ Series	38MARB		1.5T, 2T, 2.5T
	25SCA5		2.5T

^o 5F performance data only made available for dual-fuel applications that meet the CEE Tier 1 North Heat Pump criteria. | * Ratings coming soon

CEE Tier 2 North Heat Pump Lineup (Non-Ducted)				
16.0 SEER2 / 9.0 EER2 / 9.5 HSPF2; COP ≥ 1.75 / Cap Ratio 17F/47F ≥ 58%		High Wall	Cassette	Console
Infinity System	38MPRB	9k, 12k, 18k		
Performance Series	38MARB	6k, 9k, 12k, 18k, 24k	6k, 9k, 12k, 18k, 24k	12k, 18k, 24k
	38MBRC		36k	48k
Comfort Series	38MG*B	18k, 24k, 30k, 36k, 48k		
	38MHRC	N/A		

ADDITIONAL PATHS TO DECARBONIZATION

In addition to cold climate heat pumps, Carrier offers additional paths toward decarbonization with our Hybrid Heat® dual-fuel system and our Crossover Solution. With these options, homeowners have the power to choose the most efficient heat source for their home at any one time.

Dual-Fuel

Match an existing or new gas furnace with a high-efficiency heat pump. A Carrier Infinity 24 with Greenspeed® intelligence delivers up to 21.5 SEER2 cooling and up to 8.5 HSPF2 heating efficiencies with efficient performance down to -15° F exterior temperature.

Crossover Solution

Carrier Crossover Solutions combine the best of both ductless and traditional HVAC technology. This means you get the quiet operation and small footprint of ductless products, with the performance and dual-fuel capability of traditional units at temperatures from -22° F to 122° F.



DOE: COLD CLIMATE HEAT PUMP CHALLENGE

Carrier is participating in the Department of Energy's Cold Climate Heat Pump Challenge to accelerate the development of cold climate heat pump technologies. To meet the DOE CCHP requirements, a heat pump must maintain 100% capacity at 5° F as it does at 47° F. In addition, qualifying equipment must also be grid interactive and use a refrigerant with a Global Warming Potential (GWP) of no more than 750. Look for more innovations in heat pump technology from Carrier as we support this worthy challenge.

DECARBONIZE WITHOUT COMPROMISE

In cold climates, reliable heating is about more than just comfort – it's a necessity. While gas furnaces have traditionally been the best option for low outdoor temperatures, innovations in gas-free heating have created new ways to deliver premium performance.

Carrier cold climate heat pumps are a great alternative to traditional gas HVAC systems for cold climates, delivering efficiency and energy savings without compromising comfort.



Turn to the experts

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