

Identifying Variable Speed Heat Pumps: Quick Guide

This guide can be used to help identify if the outdoor compressor in a ducted air source heat pump is **variable speed** or **inverter-driven**, in order to satisfy the manufacturer documentation requirement in the Implementation Manual. AHRI does not clearly identify the outdoor compressor type, and manufacturers vary in where and how that information is listed. This guide provides an overview for the top 9 manufacturers from our existing HVAC program. However, the guidance below can apply to any manufacturer.

Documentation includes, but is not limited to: specification sheets, brochures, fact sheets, and screen shots with the family of model numbers (i.e. Trane XV20i). Whichever documentation type you choose should include the following:

- Model number or model family, and
- Language stating that the outdoor compressor is variable speed, variable capacity, or inverter-driven.

Clarifications:

- Manufacturer documentation must be provided. "Variable speed" wording on a customer invoice alone is not adequate.
- Verification can be found on either manufacturer or distributor websites, or on physical print-outs.
- Some manufacturers use the term "variable speed" or "inverter driven" interchangeably.
- Multi-stage, two-stage, and single-stage compressors are not considered variable speed.
- The indoor air handler is not considered. Only the outdoor compressor must be variable speed or inverter-driven.

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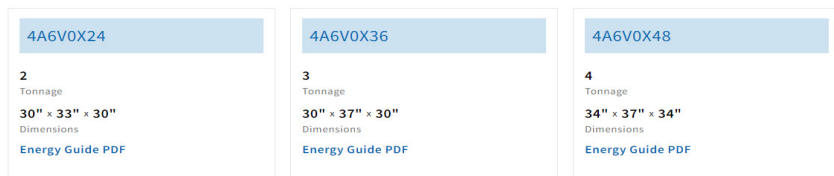
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American Standard

Website: <https://www.americanstandardair.com/products/heating-and-cooling/heat-pumps.html>

Navigation:

1. Click on applicable model family (e.g. Platinum)
2. The compressor type can be found in the product description
3. Specific model numbers in each model family are listed in the "view model specifications" section.



Documentation suggestions (include the model and language that it is a variable speed heat pump):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

AccuComfort™ Platinum 20 Heat Pump

★★★★★ 4.7 (27)

Call your local dealer for pricing
Offers available. Save up to \$2,650

Find offers by Zip/Postal Code

Zip Code

Pricing varies depending on your entire Variable Speed system installed – call your local dealer to review systems and pricing. Variable Speed units continuously communicate with each other and your American Standard thermostat to provide optimal efficiency.

What's included in the price?
When you buy an HVAC, you pay for the product, installation, accessories, and more. Discover what affects pricing.

- SEER2 Up to 20.5
- HSPF2 Up to 9
- Nominal Sound 54-76 dBA
- Fan Stages Variable
- Energy Savings Up to 50%

Bryant Heating & Cooling Systems

Website: <https://www.bryant.com/bryant/en/us/products/heat-pumps/>

Navigation:

1. Refine by Compressor Type: Variable Speed
2. Click on applicable model family (e.g. Evolution)
3. The compressor type can be found in the "Features" or "Specifications" sections

Documentation suggestions (include the model number family (e.g. Evolution) and language that it has variable-speed operation):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

Carrier

Website: <https://www.carrier.com/residential/en/us/>

Navigation:

1. Click on "Products" then click "Heat Pumps"
2. Click on applicable model family
3. Compressor type can be found in the "Overview" and "Standard Features" sections

Documentation suggestions (include the model number family (e.g. 25VNA) and language that it has variable-speed operation):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

Coleman by Johnson Controls

Website: <http://www.colemanac.com/Residential/Split-System-Heat-Pumps>

Navigation:

1. Click on the applicable model family
2. Look for terms such as "modulating" and "variable capacity"
3. Compressor type can be found in the product features and technical specification sections

Documentation suggestions (include the model number family (e.g. HC20) and language that it has a variable-capacity compressor):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

EVOLUTION™ EXTREME 24 VARIABLE-SPEED HEAT PUMP 284ANV



SPECIFICATIONS

EFFICIENCY MANAGEMENT

Energy Efficiency Up to 22 SEER2/ up to 14 EER2/ Up to 10.5 HSPF2

ENERGY STAR® Recognized as the Most Efficient of ENERGY STAR® 2023

Cooling and heating stages True variable-speed capability for load matching performance and exceptional energy efficiency

Hybrid Heat® system capable Allows gas furnace/heat pump system combinations for best winter heating efficiencies

Infinity® 24 Heat Pump With Greenspeed® Intelligence

25VNA4

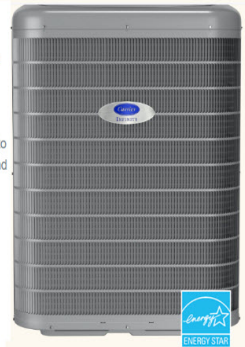
OVERVIEW

The Infinity 24 heat pump with Greenspeed Intelligence takes Carrier's most advanced technology to the next level. If it looks like next-gen technology, that's because it is.

Greenspeed Intelligence is created by pairing adaptable-speed technology with the Infinity® System Control. The unique, variable-speed compressor of this unit, allows it to literally adapt its output to the needs of the home. With tiny adjustments between 25 and 100% capacity, it gives the home only the amount of cooling or heating necessary.

This allows the system to operate longer at steadier, lower capacities, which ensures incredible energy efficiency and quiet operation with tighter temperature control than standard systems.

[View Technical Specification >](#)



HC20 19 SEER2 Variable Capacity Communicating Heat Pump

Technology that fine-tunes comfort to match your way of life

Price Range	\$\$\$\$
Efficiency Range	19+ SEER2 9.0 HSPF2
Sound Levels	as low as 54 dBA
Warranties	Lifetime compressor, 10-year parts

Features

- Advanced control system Demand Defrost minimizes defrost cycles, reducing energy costs while maintaining comfort
- Unit can be matched with a Coleman® residential gas furnace to create a dual-fuel comfort system that automatically switches between heat sources based on energy costs or capacity
- High-efficiency, variable-capacity scroll compressor is a robust, time-tested design that can stand up to the rigors presented while comfort conditioning a home
- Climate Connect™ feature allows the installing contractor to quickly fine-tune equipment to humid, dry or normal to address the climate where the equipment is installed

Daikin Manufacturing Company

Website: <https://daikincomfort.com/products/heating-cooling/whole-house/heat-pump>

Navigation:

1. Filter results by "variable" technology type.
2. Click on the applicable model family
3. Compressor type can be found in the product description and "Features" section. "Variable Speed" designation is also called "Swing" in the specification sheet.

Documentation suggestions (include the model number family (e.g. DZ18VC) and language that it has variable-capacity compressor):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

DZ18VC
Whole House Heat Pump
★★★★☆ (4.6)

When properly matched and installed, your ComfortNet™-compatible DZ18VC Variable-Speed Heat Pump offers up to 19 SEER high-efficiency performance. The higher the SEER, the greater the efficiency — and the lower the operating cost compared to lower SEER units. In many applications, the efficiency of your DZ18VC can be enhanced by using it in conjunction with a Daikin brand air handler that includes a variable-speed blower motor. This unit features a powder-paint finish over heavy-gauge galvanized steel that provides premium durability and excellent UV protection.

Interested in this product?

[Find a Dealer](#) [View Features](#)

- Up to 19 SEER Performance
- Up to 10 HSPF
- Variable-speed swing and scroll compressors

Compressor Type	Variable-Speed
Cost Per Ton	\$5

Features

- ComfortNet™ Communicating System-compatible
- Quiet three-speed condenser fan motor
- Refrigeration-grade premium 7mm copper tubing and aluminum fin condenser coil
- Daikin Inverter Intelligence constantly monitor the system for trouble spots
- Acoustically engineered high-density sound control: designed for quiet operation
- Heavy-gauge galvanized steel cabinet with sound-control top
- Painted enamel finish protects the system from the elements
- AHRI certified, ETL listed

Specifications

Parts Replacement Limited Warranty	12 Year Parts Limited Warranty
ComfortNet™ Compatible	✓
SEER	Up to 19
Compressor Type	Variable-Speed
Remote Control	ComfortNet
Transfer Technology	✓

Lennox

Website: <https://www.lennox.com/products/heating-cooling/heat-pumps>

Navigation:

1. Click on the applicable model family
2. Click button to "View Full Product Specifications"



3. Compressor type can be found in the Product Specifications as "Stages of Cooling: Variable-capacity operation"

Documentation suggestions (include the model number family (i.e. XP25) and language that it has variable-capacity operation):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

LENNOX MENU

PRODUCT SPECIFICATIONS

[f](#) [t](#) [e](#) [p](#) +28

XP25 Heat Pump

Feature

Rating ★★★★★ (4.6)

Energy Efficiency Up to 23.50 SEER / 10.20 HSPF

Stages of Cooling Variable-capacity operation

Sound Rating As low as 58 dB

SilentComfort™ Technology ✓

Solar-Ready Design ✓

Environmentally Responsible R-410A refrigerant and Solar Ready

Rheem

Website: <https://www.rheem.com/products/residential/heating-and-cooling/heat-pumps/>

Navigation:

1. Click on applicable model family (e.g. Endeavor, Prestige)
2. Select unit with applicable model number.
3. Information on compressor type can be found in "overview" section and in "documents" section.

Documentation suggestions (include the model number family (i.e. RP20) and language that it has a variable speed compressor):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

Rheem

RP20 EcoNet Variable Speed

MODEL # RP204AJVCA

Tonnage	SEER	Warranty
2	Up to 20	10

Efficiencies up to 20 SEER
EcoNet™ Enabled
Copeland Scroll™ Variable Speed Compressor.

Overview

- PlusOne™ Energy Efficiency offers minimum of 20 SEER and up to 11 HSPF system performance
- PlusOne™ Expanded Valve Space – 3" x 4.5" service valve space – provides a minimum working area of 27-square inches for easier access
- PlusOne™ Triple Service Access – 15" wide, industry leading corner service access – makes repairs easier and faster. The two flatter removable corner allows optimal access to internal unit components. Individual lower panels come out once flatter is removed, for faster coil cleaning and easier cabinet reassembly
- EcoNet™ Enabled product. The EcoNet Smart Home System provides advanced air & water control for maximum energy savings and ideal comfort
- New composite base pan – dampens sound, captures lower acids, eliminates

Trane

Website: <https://www.trane.com/residential/en/products/heat-pumps/>

Navigation:

1. Scroll down to the “Multi-speed temperature control” section of available products
2. Click on applicable model family (e.g. XV20i)

Documentation suggestions (include the model number family (e.g. XV20i) and language that it has a variable speed compressor):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets

XV20i TruComfort™ Variable Speed Air Conditioner

★★★★★ 4.6 (159) Write a review



Technical Specs	
Efficiency Rating	Up to 21.5 SEER2
Noise Level	55-75 DbA
Speeds	Variable
Fan Stages	Variable
ENERGY STAR® qualified	Yes

York by Johnson Controls

Website: <http://www.york.com/for-your-home/heat-pumps>

Navigation:

1. Click on the applicable model family (e.g. Affinity YZV)
2. Compressor type is listed as "modulating" or "variable-capacity" in description

Documentation suggestions (include the model number family (e.g. YZV) and language that it has a variable-capacity compressor):

- Screen shot of specifications from website
- Product brochure
- Specification or sell sheets



YZV 19 SEER2 Variable Capacity Communicating Heat Pump

Technology that fine-tunes comfort to match your way of life

3 REBATES UP TO \$1,150	
Price Range	\$\$\$\$
Efficiency Range	19+ SEER2 9.0 HSPF2
Sound Levels	as low as 54 dBA
Warranties	Lifetime compressor, 10 year parts

Features

- Advanced control system Demand Defrost minimizes defrost cycles, reducing energy costs while maintaining comfort
- Unit can be matched with a YORK® residential gas furnace to create a dual-fuel comfort system that automatically switches between heat sources based on energy costs or capacity
- High-efficiency, variable-capacity scroll compressor is a robust, time-tested design that can stand up to the rigors presented while comfort conditioning a home
- Climate Set™ feature allows the installing contractor to quickly fine-tune equipment to humid, dry or normal to address the climate where the equipment is installed