BN-ACCSB-1015

HEATCRAFT™
Worldwide Refrigeration

Air-cooled Condensers

Sales Brochure

NTC Series

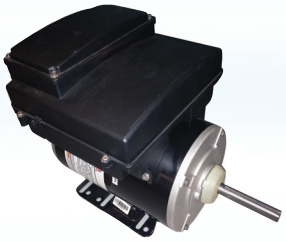
BOHN

Improved Energy Efficiency & Reduced Sound Levels

Three tiers of fan motor, fixed speed three phase A/C and VSEC (Variable Speed Electronically Commutated), are available to aid in reducing your energy consumption to the optimum level:

Fixed Speed AC

A tried and true motor technology, offering a choice of three fixed speeds (540, 830, and 1140 RPM) and corresponding capacities. Fixed speed motors are typically paired with pressure switches to regulate head pressure in stages. The 540 RPM model provides the lowest energy consumption and sound levels, while the 1140 RPM variation provides maximum capacity per condenser surface area. The 830 RPM model offers lower sound levels and energy consumption than the 1140 RPM model, but greater capacity per condenser surface than the 540 RPM model.



Rail Mounted VSEC

A new addition to the NTC platform, Rail Mounted VSEC is available in two peak speeds (830 and 1140 RPM) with capacities that match their fixed speed counterparts. VSEC motors are controlled by either an onboard fan speed controller, adjusting fan speed to maintain a target head pressure, or by a user supplied input signal (0-10V DC or 4-20mA). The advantage over a comparable capacity fixed speed motor is that the RPM of the fans can be adjusted almost infinitely to match the airflow requirements of the condenser.

Venturi Mounted VSEC

The premium VSEC option for NTC condensers. Venturi Mounted VSEC fans come with modular fan and motor assemblies, composite swept blade fans and are paired with a Venturi-style fan panel to optimize airflow and reduce sound at all RPMs. Stepping up to a Venturi Mounted VSEC motor from a Rail Mounted VSEC motor provides the ultimate in energy efficiency and sound reduction.

830 RPM Rail Mounted VSEC Models Meet California Title 24 For Efficiency

Simplicity.

Variable speed without the complexity

Flexibility.

Maximum efficiency, minimum sound and capacity when you need it

Reliability.

The highest quality, backed by industry-leading warranties

Exclusivity.

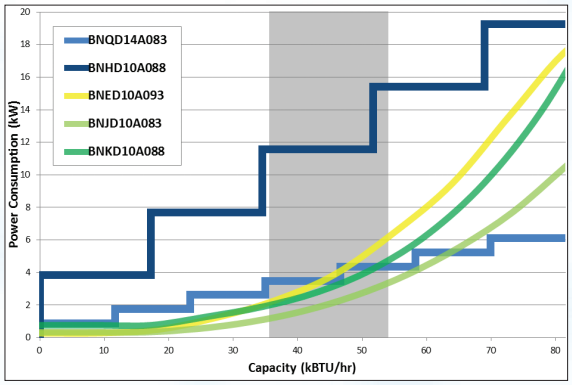
Only from Heatcraft Worldwide Refrigeration

VSEC MOTORS

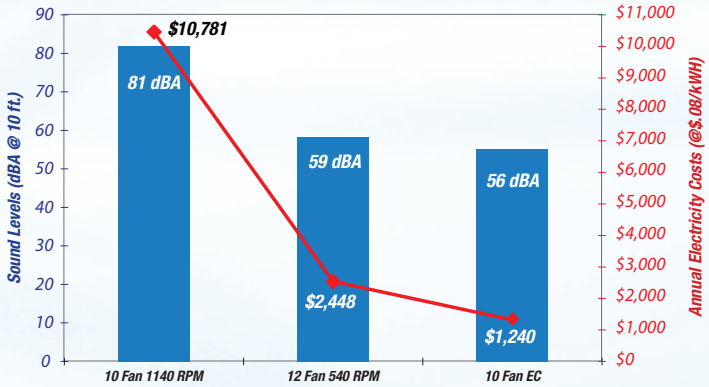
VSEC motors offer the lowest sound and highest energy efficiency in the industry. VSEC motor technology offers all the benefits of variable frequency drive (VFD) motors without the complexity. VSEC motors modulate fan speeds, optimizing airflow for load requirements, minimizing energy consumption and sound. VSEC motors are controlled by an optional, factory installed head pressure control system, or by a user supplied control signal.

Variable Speed Significantly Reduces Sound and Energy Levels

Power Consumption & Variable Speed Operation



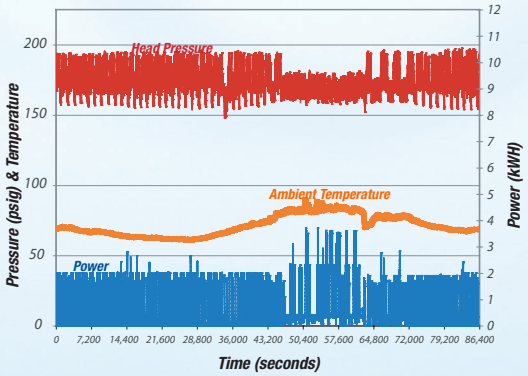
Energy & Sound Savings



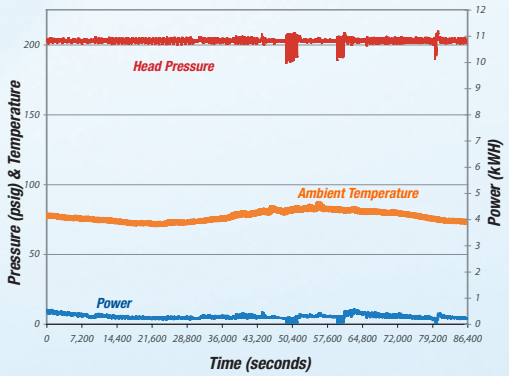
VSEC Motors Improve Overall System Performance

- Greater than 75% reduction in condenser power usage
- Maintains constant head pressure:
  - Improves compressor longevity
  - Stable operation at low ambient and low loads
  - Stable pressure control for better TXV operation
  - Stable head pressure control may enable operation at lower condensing temperatures

Standard Bohn 1140 RPM Performance



Bohn VSEC Motors Performance

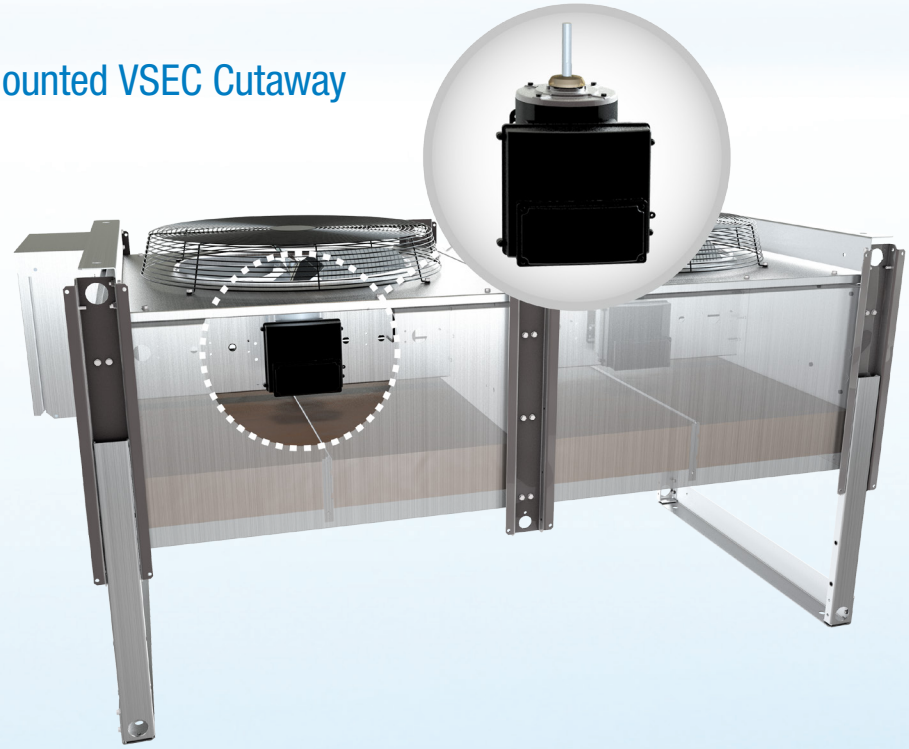


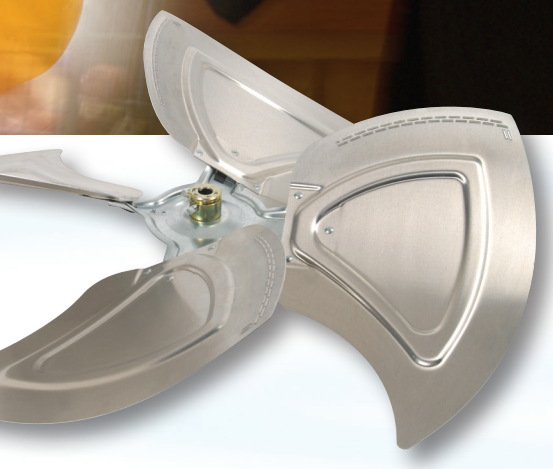
Solutions For An Advanced Industry

Rail Mounted VSEC Series

With the release of the new Rail Mounted VSEC motor, Heatcraft is ushering in a new era of performance, efficiency, and serviceability. VSEC motors are not new to the world of condenser fan motors, but standard form factor VSEC motors are. The newest selection of VSEC motors from Heatcraft Refrigeration Products provides all of the energy saving and noise reduction benefits available in the air-cooled condenser product line, with the added benefit of carrying the same serviceability as the fixed speed, 3 phase motors.

Rail Mounted VSEC Cutaway





Quiet, Innovative Efficiency

The Cutting Edge Of Quiet

QuietEdge™ Fan Technology

The Heatcraft patented QuietEdge technology uses specially designed swept fan blades to reduce noise levels. These blades are uniquely designed for each motor speed, optimizing performance and ensuring you are receiving the lowest sound levels possible. QuietEdge is available with four blades on 540 RPM models and five blades on 830 RPM (1.0HP) motors.

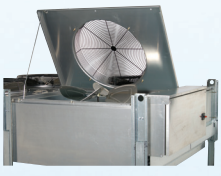
Advanced Features and Engineering

Service Ease™ Motor Mount

This system enables one service technician to remove and replace the motor, while reducing the risk of damaging the coil.

Floating Tube™ Coil Design

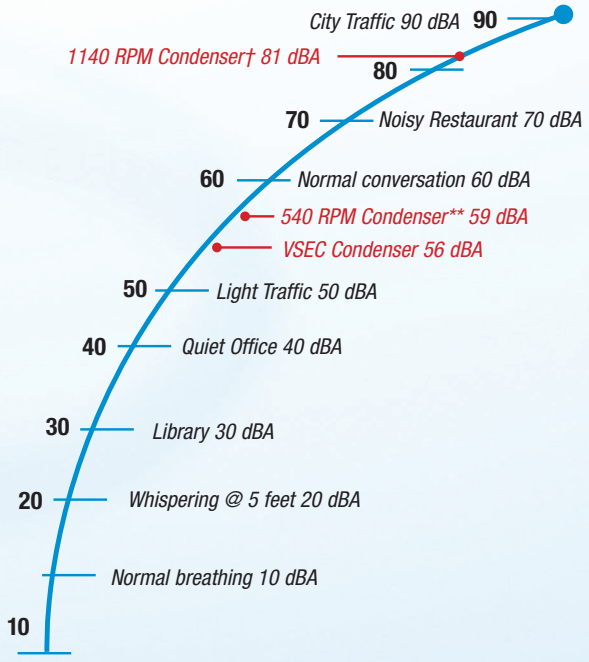
Refrigerant-carrying copper tubes float through oversized holes in the tube sheet and are expanded into the aluminum fins, minimizing wear and virtually eliminating the possibility of tube sheet leaks. Additional fixed tubes are designed into the tube sheet to support the weight of the coil.



Hinged Venturi

A hinged Venturi option allows for easy maintenance and servicing of the condenser. The Venturi can effortlessly be lifted by one service technician and latched for safety to allow for maintenance activities such as cleaning the unit.

Common Sound Levels



Source: Noise Pollution Clearinghouse, 2005
** 10 Fan with EC motors **12 Fan with 540 motors † 10 Fan with 1140 motors*

QUIET, EFFICIENT PERFORMANCE

- The Heatcraft patented QuietEdge™ fan technology provides substantial reductions in sound levels and improves motor efficiency
- Multiple VSEC options offer a quiet, efficient solution for every application

MAXIMUM CAPACITY, MINIMUM SPACE

- Heatcraft condenser coils incorporate the latest advances in coil technology to maximize capacity in a smaller footprint
- The cabinet is designed to minimize footprint and reduce overall length by up to 12 inches

SIMPLE INSTALLATION AND MAINTENANCE

- Heatcraft Service Ease™ motor mount allows for easy motor maintenance and helps prevent damage to coils
- Hinged Venturi can be lifted easily by one person and latched for safety, allowing easy access to coils (side access panels also available)
- Units are available in capacities ranging from 11 to 264 nominal tons (horizontal and vertical airflow configurations) and in ambient temperature ratings of -20°F to 120°F

LONG-LASTING RELIABILITY

- Floating Tube™ coil design virtually eliminates the possibility of leaks at the tube sheet
- Fan motors have thermal overload protection and permanently lubricated ball bearings
- Cabinets are constructed of corrosion-resistant, galvanized steel (aluminum housing also available)
- All internal wiring connections and components are tested at the factory

INDUSTRY-LEADING WARRANTY

- Condensers are backed by a **two-year warranty** on parts and labor
- Venturi Mounted VSEC Motors are backed by a **three-year** warranty
- Rail Mounted VSEC Motors are backed by a two-year warranty
- Limited **five-year warranty** against leaks at the tube sheet and center supports

Three Solutions Tailored To Fit Your Unique Needs

Choose from Fixed Speed, Rail Mounted VSEC or Venturi Mounted VSEC series of Heatcraft air-cooled condensers. Choosing the Venturi Mounted VSEC Series means that you are selecting the ultimate in capacity, sound reduction, and increased energy efficiency. The Rail Mounted VSEC option offers all of the benefits of variable speed in a conventional condenser package, while the fixed speed options continue to provide proven performance and capacity.

FEATURE	1140 RPM FIXED SPEED	830 & 540 RPM FIXED SPEED	RAIL MOUNTED VSEC	VENTURI MOUNTED VSEC
Motors				
Standard Motor	1140 RPM	830, 540 RPM	Variable Speed EC Motors	Variable Speed EC Motors
P66 Motor Option	✓	✓		
Cabinet				
Standard Cabinet	Galvanized	Galvanized	Galvanized	Aluminum
Galvanized Option	(standard)	(standard)	(standard)	✓
Pre-Painted Galvanized Option	✓	✓	✓	✓
Aluminum Option	✓	✓	✓	(standard)
Venturi Cover				
Standard Venturi	Removable	Removable	Removable	EC Tall Optimized
Hinged Option	✓	✓	✓	-
Fan Blades				
Standard Blade	Standard	QuietEdge™	Standard/QuietEdge™	EC Optimized
Motor Mount				
Standard Motor Mount	Service Ease™	Service Ease™	Service Ease™	EC Optimized
Warranty				
Two-Year Warranty	✓	✓	✓	✓
Two-Year Warranty - Rail Mounted VSEC Motors	-	-	✓	-
Three-Year Warranty - Venturi Mounted VSEC Motors	-	-	-	✓
Five-Year Warranty - Floating TUBE ™ Coil Design	✓	✓	✓	✓

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Since product improvement is a continuing effort, we reserve the right to make changes in specifications without notice.

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