



## HDT Names ecoFORWARD™ Technologies a "Top 20"

Carrier Transicold's ecoFORWARD™ technologies won high praise from Heavy Duty Trucking by being named one of its "Top 20" products for 2013.

EcoFORWARD technologies are a suite of innovations found in Carrier's new Tier 4-compliant platforms that improve refrigeration performance while using significantly less power and fuel than prior models.

'13 Top 20

This year's best new products were selected from hundreds introduced in the pages of HDT

and the website Truckinginfo.com between December 2011 and November 2012. Winners were chosen by HDT's editors, the magazine's 2012 Truck Fleet Innovators and a panel of five veteran fleet maintenance professionals.

Selections were judged on innovation, ability to address top industry issues and potential to improve a fleet's bottom line through maintenance savings, improvements in safety or efficiency.

"Considering the number and quality of products introduced each year, it's an honor to once again achieve this recognition from transport industry opinion leaders," said David Kiefer, Carrier Transicold director of Marketing and Product Management.



Dealer Locator

## Flex Power™ Option Makes Carrier Transicold's Vector™ Units More Versatile Than Ever

Vector™ trailer refrigeration units have built a reputation for versatility. Their all-electric cooling and heating systems and electric standby capability let haulers easily plug them into AC power sources when parked for loading, unloading and staging. Now, with Carrier Transicold's Flex Power™ dual-voltage option, Vector units can be even more versatile, with the added ability to tap into either low- or high-voltage sources when running on standby power.



Until now, operating Vector units on electric standby required a 460-volt power source. The exclusive Flex Power option enables Vector units to run off of both 460-volts *and* 208- to 230-volt sources, a capability that will broaden the usage of electric standby for hauling and food distribution operations.

[Learn more about how the Flex Power option can add versatility to your fleet.](#)

## Carrier Transicold Vector™ Standby Extension Cable Helps Drivers Tap into Shore Power at Truck Stops

Reducing engine idling not only lowers fuel use and operating costs, but it also delivers the environmental benefits of reduced emissions and greenhouse gases, making it a worthy goal of the Shorepower Truck Electrification Project, or STEP, on which [we first reported in 2012](#). This federally funded program is developing sites along major freight corridors so that truck drivers can shut off their engines and plug into electric power pedestals when taking breaks or having overnight stays at truck stops. Recognizing the growing adoption of electric-standby equipped transport refrigeration units (eTRUs), the STEP program is also adding 460-volt electrical receptacles.



Of nearly 50 STEP installations nationwide, 22 now have receptacles for eTRUs. Helping fleets take advantage of these locations, Carrier Transicold dealers now offer a 67-foot, shore power extension cable with receptacles on each end to support use of electric standby on Vector units. Use of this cable also ensures compliance with the electric specifications for Carrier Transicold Vector units.

The STEP program is being administered by Cascade Sierra Solutions, a non-profit based in Eugene, Ore. Shorepower Technologies, the company installing the systems, provides an [online map](#) showing the entire STEP network, including a locations of sites with eTRU connections. For more information on the STEP program, visit [www.the-step-project.org](http://www.the-step-project.org).



Shore Power Extension Cable

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The Vector system's all-electric refrigeration architecture is designed for 460-volt operation, an industry standard in the marine shipping container industry where electric transport refrigeration systems originated. So until now, a 460-volt power source was also required for standby situations. The exclusive Flex Power option changes that by enabling Vector units to tap into both 460-volt and 208- to 230-volt sources.

"The new Flex Power option makes the electric standby capability accessible to more hauling and food distribution operations, extending the Vector hybrid diesel-electric family's long-standing reputation for versatility," said Kevin Williams, trailer product manager, Carrier Transicold.

On the highway, the Vector unit's diesel engine-powered generator provides electricity for its efficient all-electric refrigeration system. When parked, the built-in electric standby capability can be used. Fleets are rapidly adopting electric standby because, compared to running refrigeration units on diesel, electric standby offers the multiple benefits of fuel conservation, elimination of diesel engine emissions and noise, and lower operating costs – ranging from 40 to 70 percent less, depending on the price of diesel fuel.

### **Flexibility is Key**

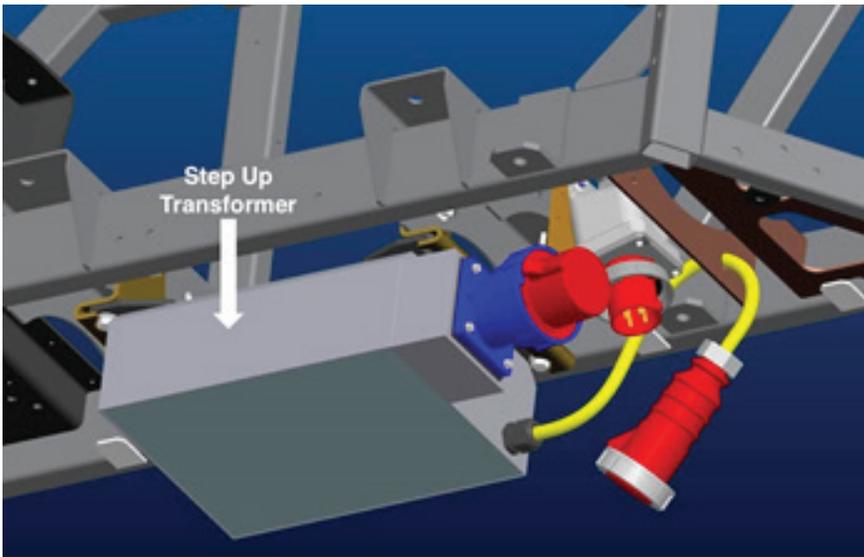
"The Flex Power option means fleets and distribution centers are no longer restricted to a single voltage when it comes to standby power," Williams explained.

"The new option allows a Flex Power-equipped trailer to plug into 460-volt power at one location, then be moved to a different location and plugged into 208- to 230-volt power with no loss of unit performance, providing fleets greater operational flexibility."

Driven by the benefits provided, more distribution centers are adding electric infrastructure to loading docks to take advantage of electric standby.

"Newer installations are generally set up for 460-volt operation because of the efficiency of the higher voltage," Williams explained. "However, some customers occasionally operate in places where high-voltage power may not be readily available."





The Flex Power option consists of a specially designed step-up transformer that has no moving parts and is built for the rigors of trucking. It has various mounting options, with many fleets opting for the underside of the refrigeration unit frame.

With the Flex Power option, users may choose between powering the Vector unit by connecting 460-volt power directly into the Vector unit receptacle, or they can plug low-voltage (208- to 230-volt) power into the Flex Power receptacle and connect the Flex Power unit to the Vector receptacle. The step-up transformer automatically converts the low voltage to high voltage.

Regardless of whether a 208- to 230-volt or 460-volt source is used, the Vector unit delivers the identical high cooling capacity.

“Vector units with the Flex Power option are also ideal when trailers are used to cater large public events, such as golf outings, fairs or sporting events at stadiums and race tracks, where the added noise and diesel exhaust from a traditional refrigeration unit is not desired, and electric power supply voltages may vary,” Williams added.

The Flex Power option is available for Carrier Transicold's hybrid diesel-electric Vector 6500 single-temperature unit, the Vector 6600MT multi-temperature unit and the engineless Vector 5100, which is designed for stationary use. It also may be used with Carrier's original Vector 1800MT multi-temperature unit, and with Carrier's 2013 Vector units with ecoFORWARD™ technologies, designed for compliance with the latest EPA Tier 4 requirements.

### ***Standby for Even More Carrier Transicold Advantages***

When it comes to electric standby operation, Vector systems deliver even more advantages. For one, Vector systems come with electric standby as a standard feature, meaning they only need a connection to an external power source to take advantage of standby power. Competitive mechanical or semi-electric trailer refrigeration systems need to be adapted to take advantage of electric standby power. Extra hardware, such as an electric motor and clutch assembly, is required, which adds cost, complexity and weight.

Also, the Vector system's all-electric architecture delivers full refrigeration capacity when running on standby power, regardless of voltage. In contrast, competitive standby systems provide considerably diminished output, because the adapted design is inefficient. For example, a competitive Tier 4-compliant unit's advertised standard electric standby capacity at a setpoint of 35°F is only half the capacity of Carrier's Vector unit. When the competitive unit is equipped with an optional “high-output” (HO) standby motor, it still comes up short, delivering 6 to 20 percent less cooling capacity than a Vector unit.

For more information about Vector units from Carrier Transicold, including the new Flex Power dual-voltage option, turn to the experts within the Carrier Transicold dealer network or visit [www.trucktrailer.carrier.com](http://www.trucktrailer.carrier.com).