

EarthWise CenTraVac chiller: A sustainable product with the papers to prove it

Sustainability claims are easy to find, but they were hard to prove... until now. In 2011, Trane® EarthWise™ CenTraVac™ centrifugal chillers became the first commercial chillers in the world to earn Environmental Product Declaration (EPD) registration. In 2015, the Type III EPD verification was expanded to include ALL CenTraVac chiller models, including the recently launched Series L™, Series S™ and Series E™ chillers.

Type III EPD verification proves the environmental claims regarding chiller performance and documents conformance with the stringent third-party certification requirements of the International Standards Organization (ISO) and verified by Underwriters Laboratories in accordance with ISO 14025.

With their product-specific Type III EPD verification, Trane CenTraVac chillers can contribute toward one LEED® point under the Materials and Resources Credit for Building Product Disclosure and Optimization - Environmental Product Declarations.

Leading the Industry

The U.S. Environmental Protection Agency has recognized the CenTraVac chiller with three awards, including the “Best of the Best Stratospheric Ozone Protection Award” in 2007.

But today, words and accolades are not enough. Informed customers require documentation to support their purchasing decisions, which is why Trane put the CenTraVac chiller to the test. To date, no other manufacturers have subjected their chillers to this intense scrutiny.



The CenTraVac chiller is the first—and only—commercial chiller in the world to earn a product-specific Type III EPD in accordance with ISO 14025.

Life Cycle Assessment

A Life Cycle Assessment (LCA) of the CenTraVac chiller was conducted and independently verified in accordance with ISO 14044 parameters. The evaluation considered all phases of the chiller’s life cycle over a 25-year median service life per ASHRAE, including:

- upstream production of raw materials such as copper and steel
- inbound transportation of raw materials
- embodied energy for the manufacture of the chiller
- energy consumption during use
- refrigerant charge and replenishment
- recycling or disposal of materials at end-of-life

Near-zero refrigerant emissions, and low emissions associated with the generation of electricity to power the chiller, were evaluated. During the assessment of the CenTraVac chiller, the following parameters were documented:

- Global Warming Potential (GWP 100 year)
- Ozone Depletion Potential (ODP)
- Acidification Potential (AP)
- Eutrophication Potential (EP)
- Photochemical Ozone Creation Potential (POCP)
- Abiotic Depletion Potential, elements & fossil (ADPe & ADPF)

Type III Environmental Product Declaration

Results of the Life Cycle Assessment were verified by Underwriters Laboratories in accordance with ISO 14044 and the reference product category rules defined by Institut Bauen und Umwelt (IBU) and UL Environment. This third-party verified LCA is the basis for the CenTraVac chiller's product-specific Type III EPD.

Green Compliance - Product Transparency

Trane continues to lead the HVAC industry in providing product transparency through the CenTraVac chiller's product-specific Type III EPD.

- LEED® v4 Materials and Resources Credit - The U.S. Green Building Council established this credit to reward project teams for selecting products from manufacturers who have verified improved life cycle impacts. Using at least 20 different permanently installed products sourced from at least five different manufacturers can earn this EPD point. Trane CenTraVac chillers with their product-specific Type III EPD can be counted as one manufacturer with one or several products. Identical chillers count as one EPD product. Similar CenTraVac chillers with different functions (for example, ice making, heat recovery, VFD, etc.) can be counted as separate EPD products.
- ASHRAE Standard 189.1-2014: Standard for the Design of High Performance Green Buildings - CenTraVac chillers with their product-specific Type III EPD can be counted as two products for compliance with section 9.4.1.4.

For more information, visit Trane.com/CTV.



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Green Seal Certified

EarthWise CenTraVac chillers carry the Green Seal label, which identifies products that help organizations be “greener” in real and effective ways. CenTraVac chillers have been certified under the Green Seal™ Standard for Electric Chillers (GS-31) for more than 15 years.

Masdar City and The Future Build product portal

Described by its developers as “a model of what a green city can be,” Masdar City is being built from the ground up in the United Arab Emirates (UAE). The philosophy driving the project is the creation of sustainable urban development which provides high quality environments for living and working with the lowest-possible carbon footprint. Masdar, which in Arabic means “source,” supports UAE positioning as a global center for future energy and clean technology innovation.

Products specified into the city must be pre-qualified. Approved products are listed in the Future Build™ product portal (thefuturebuild.com), which provides architects, engineers and contractors a resource for identifying green building products and materials. CenTraVac chillers were the first—and are the only—packaged water chillers to be included in the product list.

Environmental Stewardship

Continuously evolving and helping advance industry standards, Trane listens and responds to its stakeholders' needs in developing products and services. And, by encompassing all CenTraVac chillers in a product-specific Type III EPD, Trane further demonstrates industry leadership.

Design simplicity, deliberate refrigerant selection and innovation driven by time-tested engineering principles make CenTraVac chillers the most reliable, cost-effective, energy-efficient and sustainable chillers on the planet. And that's a documented fact.

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