



Engineered Conversion™

Refrigerant Retrofit Services for Centrifugal Water Chillers



Engineered Conversion Refrigerant Retrofit



The phaseout of CFC refrigerants has prompted chiller owners to retrofit their CFC-11 and CFC-12 chillers to alternative refrigerants — HCFC-123 and HFC-134a. A refrigerant retrofit allows the future operation of a chiller with another option.

A Trane Engineered Conversion® retrofit is a comprehensive refrigerant compatibility service consisting of Trane materials, engineering analysis, and technical support for the retrofit of Trane chillers.

The Engineered Conversion process addresses refrigerant availability and allows the chiller to be optimized to meet the current needs of the building. This provides energy savings and extended life to the chiller without the

additional costs associated with a full chiller replacement.

When a Trane CenTraVac® chiller undergoes a Trane Engineered Conversion retrofit, the total building HVAC system can be evaluated for current load demands, code compliance, and reduced energy consumption.

Performance

Trane CenTraVac centrifugal chillers are designed to provide optimized efficiency, full rated capacity and reliable operation. This is achieved through correct selection and design of the compressor and chiller components at the time they are manufactured.

Trane uses its performance modeling and optimization capability to virtually redesign the chiller for its new operating conditions and refrigerant. This assures that the upgraded CenTraVac chiller will provide the best possible efficiency and capacity.

Because each performance related component of a CenTraVac chiller affects the performance of other components, a multi-dimensional mathematical model is used to select the components and optimize the chiller's performance and space efficiency. As part of each Engineered Conversion retrofit, Trane evaluates and optimizes the chiller's motor, compressor and refrigerant metering devices to meet the owner's specified operating requirements.

Reliability

To help ensure chiller reliability, Trane developed and rigorously tested the wetted materials for compatibility with alternate refrigerants. These materials are used in components such as chiller gaskets and o-rings, hermetic motors, and vendor-provided components.

Extensive laboratory testing of materials is done to confirm that the materials meet new chiller reliability standards. All upgraded components are inspected for 100 percent conformance to Trane specifications.

To provide product quality assurance, each Engineered Conversion retrofit includes a one-year warranty on all chiller retrofitted components and a two-year motor warranty on the Trane-provided motor.

Support

Each retrofit of a Trane CenTraVac chiller is issued a new nameplate that records the chiller's new serial number, order number, and model number. The nameplate provides documentation of the retrofit in Trane engineering records, allowing future support and troubleshooting.

This long term service includes parts identification, warranty administration, and retrieval of the engineering data specific to the retrofitted chiller.

Without this information, performance problems could be difficult to diagnose and may require expensive machine disassembly and/or instrumented field tests.

For more information on the Engineered Conversion retrofit program, contact your local Trane commercial sales office today..





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