

Reliability and Efficiency Delivered: Trane R-1233zd Chillers Advance Factory Sustainability in Vietnam



Challenge

The Customer operates large-scale manufacturing plants in Vietnam with high cooling demands. Their previous systems required costly maintenance and faced frequent reliability issues.

As they began building the world's first fully integrated, sustainable Bio-BDO manufacturing complex—a major milestone toward green manufacturing and carbon neutrality by 2050—they needed a sustainable, high-performance cooling solution. The primary challenge was to reliably cool the new facility while overcoming low-temperature limitations and high operating costs associated with earlier ammonia-based systems.

Solution

Trane worked with the customer from the early project stage to validate operating conditions, design parameters, and sustainability requirements, while also committing to full after-sales and warranty support.

Proposed solution includes:

- Four high-efficiency CVHH1550 centrifugal chillers using R-1233zd(E).
- Enhancing low-temperature performance through optimized impellers, precise orifice sizing, and tailored compressor envelope adjustments.
- Improving system reliability using freeze-prevention logic, advanced fault detection, and comprehensive monitoring via connected service solutions.

Result

The project establishes a new benchmark for industrial cooling in Vietnam. Reliable operation, strong performance, and comprehensive support have reinforced Trane's role as a trusted partner for the customer's future expansion.

- 30% improvement in energy efficiency, vs. initial ammonia-based designs
- Improved environmental performance with R-1233zd(E), an HFO refrigerant with an ultra-low GWP of 1.

Project Highlights

Market: Vietnam

Segment: Industrial (Chemical)

Products & Services used:

- 4 x CenTraVac™ CVHH chillers
- 2-year maintenance contract

Featured Solutions



Product name: Series E™ CenTraVac™ CVHH Water-Cooled Chiller

At a glance:

- Capacity range: 900-2000 RT
- Refrigerant: R-1233zd(E)
- Direct drive multistage compressors
- Semi-hermetic compressor design
- Rapid restart after power failure
- Energy saving options such as free cooling, thermal storage, heat recovery, heat pump and Adaptive Frequency™ drives



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit trane.com or tranetechnologies.com.

All trademarks referenced in this document are trademarks of their respective owners.

© 2025 Trane. All Rights Reserved.