

Customer Success Story

Hysan Place: An Eco-Friendly Transformation with Trane CenTraVac® Chiller to Enhance Environmental Sustainability for Energy Efficiency and Decarbonization

I. Project Overview

Hysan Place, a premier commercial complex located at the heart of Causeway Bay, adheres to its commitment to decarbonization and enhanced building energy efficiency leveraging an upgrade on its cooling system to optimize tenant and visitor comfort. To achieve this, they collaborated with [Trane Hong Kong](#) on the adoption of award-winning CVHM water-cooled centrifugal chiller – a model of Trane’s flagship eco-friendly [CenTraVac®](#) series that has been awarded the Green Product Certification – Platinum by the Construction Industry Council.

II. The Mission

Hysan Place is one of the flagship properties of Hysan Development Company Limited, offering a vertical shopping mall and 15-floor Grade A offices. Recognizing the importance of selecting a solution that would align with its sustainability goals and provide long-term value for its stakeholders, Hysan Place sought to achieve with Trane these goals:

- **Superior Comfort:** Ensuring a pleasant and productive cooling environment for tenants and visitors, by upgrading the chillers to seamlessly fit the existing space-constrained plant.



- **Enhanced Efficiency:** Reducing energy costs and maximizing system performance, with the chiller's full-load Co-efficient of Performance (COP) above 6.5 under the desired conditions of evaporator and condenser temperatures being controlled at 6-12°C and 32-37°C, respectively.
- **Prioritized Sustainability:** Minimizing the negative environmental impacts of business operations and promoting responsible resource consumption by integrating advanced technologies that reduce carbon footprints with eco-friendly practices, such as the use of hydrofluoroolefin (HFO) refrigerant R514A, to align with Hysan Development's advocacy for environmental sustainability.

III. Trane's Solution

Trane has successfully upgraded the chiller plant at Hysan Place with a 300-refrigeration-ton (RT) CVHM chiller, a [Trane® CenTraVac® Water-Cooled Chiller](#) model that features a compact design, requiring minimal installation space, and delivers superior energy efficiency.

This compact model, designed for easy access through standard double doors and disassembly for tight spaces, is an ideal solution for low-tonnage applications, retrofits, and replacements. Despite its size, the CVHM maintains Trane's legacy of high efficiency, reliability, and quiet operation. The CVHM chiller boasts advanced features such as Adaptive Frequency™ – the industry's most capable variable speed drives, a low-speed, direct-drive compressor, and a built-in harmonic filter to enhance power quality and system reliability.

Furthermore, the chiller utilizes new-generation HFO refrigerant R514A with a negligible global warming potential (GWP) of less than 2, making it the first ultra-low-GWP chiller adopted by Hysan properties. This aligns with Hysan Development's comprehensive whole life cycle facilities management plan for decarbonization and enhanced building energy efficiency.



IV. Key Outcomes

The implementation of Trane's CVHM chiller at Hysan Place has delivered exceptional results:

- **Enhanced Energy Efficiency:** The chiller's superior efficiency and energy-saving features have significantly reduced the building's energy consumption. The chiller achieves an actual full-load COP of 6.53, exceeding the Building Energy Code (BEC) 2021 requirement by as much as 14.6%.
- **Improved Sustainability:** Leveraging environmentally friendly R514A refrigerant, with GWP of below 2 – notably lower than R134a's GWP of 1430, the CVHM chiller minimizes its environmental impact and supports Hysan Place's commitment to sustainable building practices, contributing to the complex's achievement of the prestigious Leadership in Energy and Environmental Design (LEED) – Platinum rating.
- **Reliable Performance:** The CVHM chiller's robust design, featuring a single moving part supported by two bearings, and a semi-hermetic motor that prevents dust ingress and avoids high-temperature operations, has ensured long-term durability as well as reliable and consistent operation, minimizing maintenance requirements and downtime. Additionally, the chiller's integrated harmonic filter significantly reduces harmonic distortion, enhancing power quality and overall system reliability.

Through the successful adoption of Trane's CVHM chiller, Hysan Place has achieved its goals of enhanced comfort, sustainability, and energy efficiency, setting a benchmark for sustainable and efficient cooling solutions in Hong Kong's commercial landscape.

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