Major Hospital in Kowloon: reduced energy use by 35% with a low-carbon chiller retrofit

Challenge

A major acute-care hospital in Kowloon, Hong Kong, needed to upgrade its chiller plant after many years of operation while balancing strict indoor thermal comfort standards and ambitious carbon reduction targets.

The original plant had degraded significantly, with average COP declining to around 2.5.

Solution

Trane delivered an end-to-end retrofit using high-performance VSD screw-type Trane Series R™ helical rotary chillers.

The project balanced critical healthcare operating needs with ambitious carbon reduction objectives.

Result

The retrofit achieved annual energy savings of 685,311 kWh and a 35% year-over-year energy reduction.

Annual direct CO2 reductions reached 35,010 kg, while indirect CO2 reductions reached 479,718 kg.

Project Highlights

Market: Hong Kong

Segment: Healthcare

Products & Services used:

- Series R helical rotary chillers
- Variable speed drive technology
- End-to-end chiller plant retrofit
- Low-carbon healthcare plant modernization

Featured Solutions

Product name: Trane Series R™ Helical Rotary Chiller

At a glance:

- Capacity range: 85-580 Ton
- 50Hz/60Hz
- Compressor type: Screw, AFD / Non-AFD
- Energy Efficiency: IPLV 5.4-5.7 (AFD), 4.3-5.1 (Non-AFD)
- Symbio800 with Adaptive Controls™