AHT
a member of DAIKIN group

Semi Plug-in (SPI) Waterloop System for Golden Place

Innovative Pilot Project in Thailand

In a groundbreaking installation in Thailand, AHT Cooling Systems ASIA Pacific has demonstrated the advantages of a SPI Waterloop System compared to a traditional R404A rack system. Impressive 12% decrease in yearly energy consumption, a 97% reduction in refrigerant charge and yearly savings of 3,025.72 tons CO_2e are outlining this installation.

Golden Place, a retail chain in Thailand operating under a royal initiative founded by His Majesty King Bhumibol Adulyadej (Rama IX) and currently supported under the vision of His Majesty King Maha Vajiralongkorn (Rama X), supported by Cooling Innovation Fund (CIF), German Agency International Cooperation (GIZ), and the Electricity Generating Authority of Thailand (EGAT) to pilot an advanced cooling system.

To support Golden Place's environmental goals, AHT Cooling Systems introduced its Waterloop SPI System, which uses R290 natural refrigerant known for its ultra-low global warming potential (GWP). The system operates using a closed water loop, delivering high performance, better efficiency, and easier maintenance compared to traditional systems.

The SPI Waterloop system contains of Multideck Chillers and Freezers, semi vertical cabinets, self-service counters, cold room units, air dry coolers and pump stations.

_Year of installation

2025

_Installed System

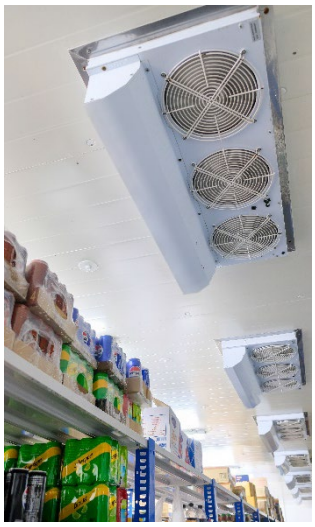
_17 VENTO SPI
_3 Upright Freezer
_25 Semi Vertical Cabinets
_3 Self-Service Counters
_16 Zanotti Cold Room units
_4 Air Dry Coolers & Pump Stations

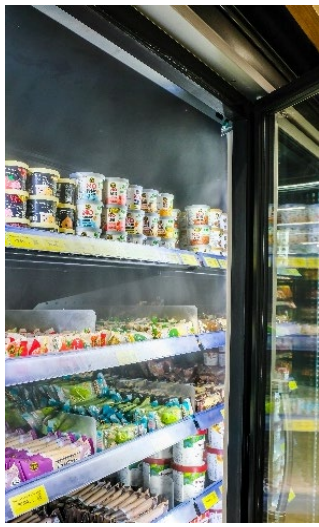
_Project requirements

Pilot project to reduce energy consumption & CO_2 emissions.

Pilot System Proof for Thailand with outstanding results

Golden Place selected AHT's SPI system because it aligned with their sustainability goals, offered proven energy savings, and qualified for EGAT's subsidy through the CIF program. The low maintenance needs and product's reliability, validated by EGAT field measurements - made AHT's solution the most attractive and reliable choice.





The Results
AHT's Waterloop SPI system enabled Golden Place to achieve an impressive annual energy savings of 143,663 kWh, representing a 12% reduction in electricity consumption compared to a remote rack system. With the continuous rising of energy costs, this could lead to savings of at least USD 209,000 over 10 years.

In addition to reducing energy use, the switch to R290 refrigerant - with a GWP of 3, replacing R404A (GWP 3,943) - resulted in a 97% reduction in refrigerant **charge**, decreasing from 750 kg to 19.8 kg.

As a result of both lower energy use and the shift to R290, the installation reduced greenhouse gas emissions by 3,025.72 tCO_2e in the first year, with cumulative reductions reaching 3,775.55 tCO_2e over 10 years.

These changes equate to a major reduction in direct and indirect greenhouse gas emissions, helping Golden Place align with Thailand's national climate commitments and sustainability goals.

The self-contained SPI system also offers:
- Lower service and maintenance needs
- Reduced total cost of ownership
- Flexible installation options for evolving store layouts

Installation and project execution were handled by AI Plus, AHT's trusted CoolPoint partner in Thailand.