DALRADA
Climate Technology

Revolutionary heat pump technology *provides advanced heating and cooling solutions for the hospitality industry.*

DCT One Series:

Hospitality Applications

Problems:

- According to the World Travel & Tourism Council, tourism accounts for an estimated 8-11% of global greenhouse gas emissions (worse than construction).
- The hotel industry accounts for around 1%, roughly 363 million tonnes of global emissions (source: The United Nations World Tourism Organization UNWTO). It is estimated that the gambling industry produces around 1.5 million tons of carbon dioxide yearly, equivalent to putting 3.5 million cars on the road.

Energy is wasted in a variety of ways: heating, cooling, lighting, ventilation, and hot water heating, among others. The high energy consumption and resulting rising costs associated with traditional boilers and chillers have created a pressing need for more efficient technology in healthcare facilities.

Did You Know?

Every DCT One Series machine installed has the potential to eliminate 250,000 kilograms of CO_2 equivalent.

Solution:

SUSTAINABLE HOSPITALITY

Through renewable and sustainable energy innovation, cost-saving and combustion-free Dalrada Climate Technology heat pumps reduce carbon and improve energy efficiency, ultimately recovering lost energy while supporting the global initiative of Net Zero emissions.

Sustainable hospitality offerings not only provide authentic and meaningful experiences, connecting guests to local culture and environment but also inspire individuals to make more conscious choices beyond their stay, contributing to a more sustainable future for the planet.

Dalrada Climate Technology's Heat Pump recovers wasted energy.

Up to **7X** *More Efficient*

than conventional heating & cooling systems

THE HEAT PUMP FOR HOSPITALITY

Dalrada Climate Technology's heat pump harvests low-energy waste back into the system, presenting significant cost-saving opportunities and increasing long-term sustainability.

This advanced heat pump technology allows further investment:

- Increased hiring and staff development training
- Cutting-edge technologies
- Facility renovations and expansions
- Enhanced customer experience

DALRADA CLIMATE TECHNOLOGY HEAT PUMP ADVANTAGES

- Effectively decarbonizes heat
- Combustion-free process
- Reduces global warming potential (GWP)
- Uses carbon dioxide (CO_2) as refrigerant in transcritical refrigeration cycle
- Reduces Ozone-depleting potential (ODP)
- Retrofittable design, modular build
- Climate agnostic, works in multiple regions
- Can be implemented into new and existing building infrastructures

DCT ONE SERIES STANDARD CAPABILITIES

INCREASED EFFICIENCY

Up to 150 kW heating output and 105 kW output with just 43 kW of electrical input. Traditional heating and cooling systems require approximately 93.3 kW of electrical input to produce the same heating and cooling output.

IMPROVED PERFORMANCE

For every 1 kW of electrical energy input, 4.5 kW of heating energy (kWth) are generated and 2.5 kW of cooling energy (kWth) are extracted for a combined coefficient of performance (COPhc) of 1:7. Most air conditioners have a COP of 1:2.3 to 1:3.5 while most natural gas boilers have an average COP of 1:0.9.

LESS DOWNTIME

The closed system ensures minimal machine maintenance and zero wasted energy during the transcritical refrigeration cycle with supercritical CO_2 as the working fluid. Less maintenance means fewer problems and less downtime.

UPGRADED SOLUTION

Makes an excellent replacement option for both heating and cooling. The unique design allows for the production of hot water for spas and pools while extracting energy for comfort cooling — ideal for the hospitality industry.

Reduce environmental impact *and* ***save money*** *on heating and cooling with DCT One Series, a unique hospitality solution.*

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www.DalradaClimateTech.com

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