Advanced Heat Pump Technology

DALRADA
Climate Technology

DCT ONE SERIES CRITICAL ADVANTAGES

- **Efficiently** decarbonizes heat
- **Combustion-free** process
- **Reduces** global warming potential (GWP)
- **Uses carbon dioxide (CO_2)** as refrigerant in transcritical refrigeration cycle
- **Retrofittable design**, modular build
- **Climate agnostic**, works in multiple regions
- **Easily implemented** into new and existing building infrastructures
- **Real-time performance data** enabled with advanced control module

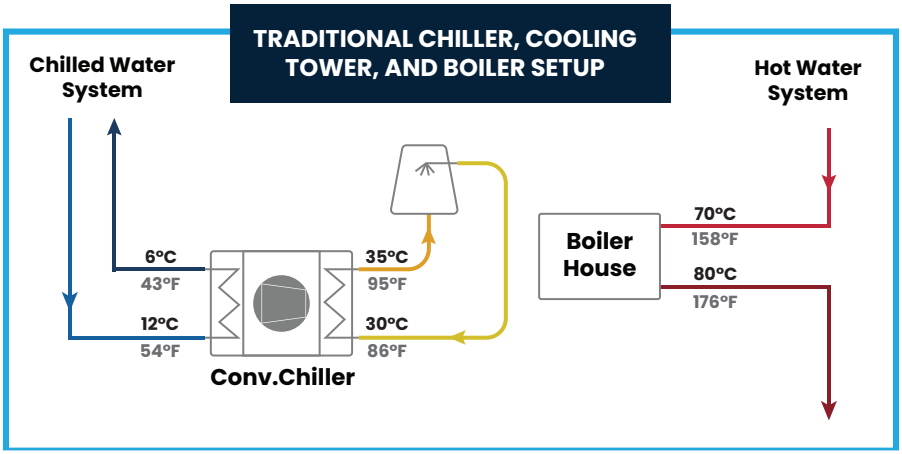
Up to 7X More Efficient
than conventional heating & cooling systems

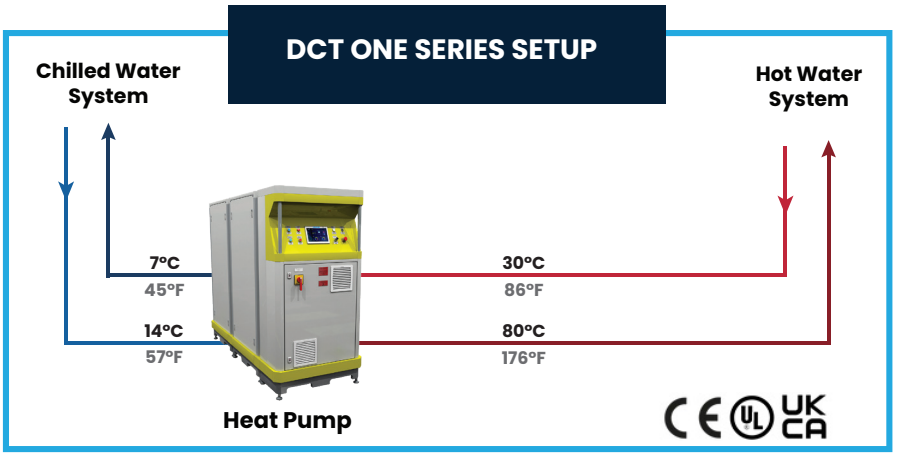
INDUSTRIES & APPLICATIONS

- Hotels, Gyms & Spas
- Commercial Buildings
- Data Centers
- Hospitals & Medical Facilities
- Schools & Universities
- Food Production & Processing

Decarbonizing Solution

Dalrada Climate Technology heat pumps (DCT One series) replace traditional water heaters, steam boilers, cooling towers, or chillers and provide simultaneous heating and cooling.





HOT & COLD COUPLING

01

Innovative technology for use in applications that link to local heat networks, where hot and cold coupling is a necessity (IT, server cooling, district heating, and more).

COST & ENERGY EFFICIENT

02

Exponential cost savings and reduced carbon emissions — immediately and over time. Up to 75% increased energy efficiency plus eligibility for tax credits and incentives.

F-GAS EXEMPT REFRIGERANT

03

Non-toxic, non-flammable, and eco-friendly R744 Carbon Dioxide (CO_2). This natural refrigerant is CFC and HFC free with an ODP of 0 and GWP of 1.

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Decarbonizing Energy Solution

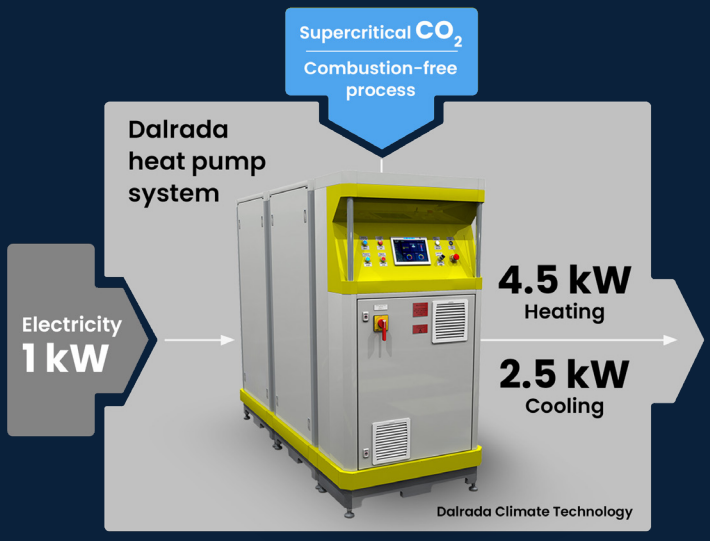
Up to 75%
reduction in energy consumption

TECHNOLOGY OVERVIEW

Dalrada's combustion-free heat pumps increase heating and cooling efficiency by capturing and reusing thermal energy, ultimately reducing global warming potential (GWP) through the use of carbon dioxide (CO_2) as the refrigerant.

Climate technology helps support the global initiative of transitioning to Net Zero through renewable and sustainable energy technology and innovation, minimizing carbon emissions and improving energy efficiency.

Dalrada's heat pumps replaces traditional combustion boilers and can eliminate carbon emissions at a local level when the system is scaled accordingly and when "cleaner" electricity sources are used.



BY THE NUMBERS

- Up to **7 times** more e icient than traditional boilers and chiller systems
- **1 kW** of electrical energy produces **4.5 kW** of heating and extracts **2.5 kW** of cooling energy from the waste heat source
- Hot water supply range: **+50°C – +85°C (+122°F – +185°F)**
  Cold water supply range: **-0°C – +15°C (32°F – +59°F)**

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DCT One Series

Dalrada Climate Technology is a wholly-owned subsidiary of Dalrada Financial Corporation.