

High Efficiency Residential Heating and Cooling Technology



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The Call for Electrification

What is Electrification?

Electrification is the process of substituting fossil-fuel sources of power and energy (coal, oil, and gas) with electricity generated from renewable energy sources.

The world is aware of the climate crisis we currently face and is quite familiar with large-scale industrial and commercial efforts to combat and mitigate carbon footprints.

But what about our homes—what can we do to make a difference that's better for the environment and better for our pocketbooks?

The answer isn't far from HOME...



DALRADA
HOME

Dalrada HOME: Whole-Home Electrification

Specialized products and
services for improved residential
electrification and sustainability.

We're **Ground Zero**
for **Electrification**



Excellence in Engineering

State-of-the-art design and engineering providing cutting-edge technology that solves climate challenges through advanced decarbonizing solutions.



Maximizing Cost Savings

Our clients can save thousands of dollars every year through less energy usage and earning incentives like tax credits, rebates, carbon credits, and more.



Minimizing Environmental Impact

Sustainable technology that supports global Net Zero initiatives by reducing carbon emissions while increasing overall energy efficiency.

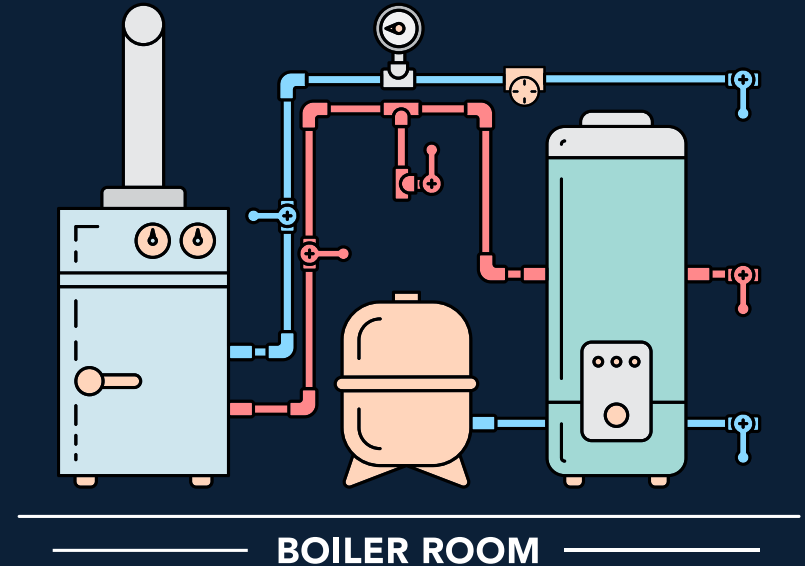
Electrification Product Focus: Residential Heat Pumps



Residential heat pumps deliver a solution that is not only **efficient and eco-friendly**, but also equipped with the latest technology for comfort, convenience, and control.

With compact, **easy-to-install designs and capabilities** to provide high temperatures for hot water and a reversible function for cooling, these heat pumps are **an excellent choice for homeowners looking to upgrade their home's heating and cooling system** to a more sustainable, cost-effective solution.

Are Residential Heat Pumps Better For The Environment?



When it comes to traditional forms of heating and cooling, whether for air or water, a tremendous amount of energy is used—mostly from fossil fuel-based sources.

The process of using these sources have a tendency to affect the environment and atmosphere in negative ways.



Electrification Product Focus:

Residential Heat Pump Benefits

High Efficiency:

Better than traditional heating and cooling systems because they take less electricity to transfer heat from one place to another rather than directly generating heat.

Low Environmental Impact:

Utilizes electricity and the ambient air or ground temperature to heat or cool a home; significantly reduces reliance on fossil fuels and decreases greenhouse gas emissions.

Latest Technology:

Smart control systems and energy monitoring allow users to easily adjust settings for optimal comfort and efficiency through their smartphones or other devices.

Small Footprint:

Compact design makes them easier to install in a variety of settings without requiring a large external space. Ideal for urban homes, small plots, and other similar areas in size.

Simple Installation:

Simple and straightforward installation reduces labor costs and minimizes disruption. Setup process also allows homeowners to enjoy the benefits of the heat pump sooner.

High Temperature for Domestic Hot Water:

Quality heat pumps provide sufficient temperatures for domestic hot water needs, ensuring homeowners that they don't need supplementary heating systems for hot water.

Reversible for Cooling:

Can provide heating in the winter and cooling in the summer. Dual functionality delivers year-round comfort in all climates, eliminating the need for a separate air conditioning unit.

Market Forecast: Residential Heat Pumps



Global Market Forecast

The global residential heat pump market size surpassed **\$35.5 billion in 2022** and is anticipated to expand at 13% CAGR from 2023 to 2032, reaching a market value of nearly **\$122 billion by 2032**.

U.S. Market Forecast

In the U.S., the residential heat pump market size was valued at **\$13 billion in 2020** and is set to grow at over 5% CAGR from 2021 to 2030, reaching a market value of over **\$22 billion by 2030**.

Industry Best:

Dalrada HOME Heat Pumps

Why Dalrada HOME?

With high-performance capabilities at the forefront of our designs, **Dalrada HOME heat pumps boast lower global warming potential (GWP) through energy-saving technology** and feature a modern, stylish appearance.

Dalrada HOME heat pumps represent the convergence of high efficiency, global market reach, pioneering technology, and comprehensive R&D efforts. Combined with our extensive network of partners and a deep understanding of the needs of different markets, **our heat pumps are the preferred choice** for customers around the world.

Outstanding Efficiency

Class-leading technology delivers a lower cost per unit of power for end-users for increased efficiency and reduced energy bills.

Global Presence and Extensive Network

Presence in the U.S., UK, Spain, France, and Morocco significantly amplifies our reach and capacity to serve diverse markets.

Pioneering CO2 Heat Pump Technology

Long history of developing novel CO2 technology for commercial markets as an innovator at the forefront of heat pump technology.

Comprehensive R&D and Partnerships

Continuously working on enhancing efficiency, reliability, and usability to meet high standards and exceed customer expectations.





R290 Heat Pump

Integrated Control

Multiple heat pumps can be connected in series and controlled by a single controller.

Wi-Fi Online Control

Connect via Wi-Fi and control the system using an app.

Smart Touchscreen

Stylish and user-friendly with a responsive interface.

Intelligent Defrosting

Automatically defrosts when necessary, saving energy.

Power Tracking Feature

Stylish and user-friendly with a responsive interface.

Multi-functional

Provides hot water, cooling, and heating functions with a one-button switch.

Other Heat Pumps

Individual Control

One controller can only operate one unit, or modifications may be required.

Panel Control

Inconvenient operation.

Button Controller

Difficult to Use. Unresponsive knob or button controller.

Timed Defrosting

May lead to defrosting misjudgment, resulting in increased energy consumption.

No Energy Usage Data

Uncertain about energy consumption.

Single Mode

Only for heating or only for hot water supply.

Dalrada HOME:

Whole-Home Electrification

We're leading the way in designing, building, and implementing innovative climate technology products and services.

On the Horizon...

We're not just heat pumps! Dalrada Home is proud to offer a suite of sustainability and electrification solutions that are specially designed to increase energy efficiency and reduce costs. Here are some of the products we're developing and will soon be offering our clients that are better for the environment and better for their pocketbooks!

- Solar panels and solar power banks
- De-carbonizing windows and glass
- LED lighting enhancement (indoor and outdoor)
- HVAC system upgrades
- Water conservation tools and strategies
- Much, much more



THANK YOU

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