



# FUTRAHEAT SELECTS HONEYWELL SOLSTICE ZD TO POWER INNOVATIVE HEAT PUMP TECHNOLOGY

Heat is responsible for 70% of industrial energy demand, most of which is generated by gas. Decarbonizing heat is imperative to achieving the worldwide goal of net zero emissions. However, it is difficult to accomplish technically, requiring the boundaries of engineering to be pushed.

Supported by a £500,000 Innovate UK grant, British company Futraheat sought to address this challenge by designing a high-temperature heat pump that could transform waste heat into reusable heat in a cost-effective manner. According to the International Energy Agency's Net Zero by 2050 report, high temperature heat pumps will become a cornerstone technology for displacing fossil fuel heating on the journey to net zero emissions.

By harnessing unique TurboClaw® compressor technology, Futraheat's heat pump can operate at reduced speeds without oil, lowering manufacturing, operating and heating costs. Moreover, it can recover waste heat from temperatures as low as 70°C and deliver high grade heat up to 150°C.

The question for Futraheat was, which refrigerant was best suited to power its heat pump and help it radically reduce carbon emissions across the industrial sector?

Following an extensive competitive review, Futraheat selected ultra-low-global-warming-potential (GWP) Solstice® zd (R-1233zd) refrigerant from Honeywell. Based on hydrofluoroolefin technology, Solstice zd is non-flammable with a GWP of 1. It offers better capacity and similar efficiency to obsolete R-123 refrigerant in low-pressure centrifugal chillers for large buildings and infrastructure, and high temperature heat pumps for commercial buildings.

Solstice zd and other Solstice-branded refrigerants leverage \$1 billion of R&D investment and decades of Honeywell

know-how. In fact, to date, Solstice refrigerants have helped avoid the potential release of the equivalent of more than 326 million metric tons of carbon dioxide into the atmosphere, equal to the annual carbon emissions of nearly 70 million gasoline-powered passenger vehicles.

The Solstice-powered Futraheat heat pump will support processes requiring heat up to 150°C in verticals such as food and beverage, utilities (wastewater), pharma, FMCG, plastics, chemicals, and paper and board. Across these applications, the solution promises to reduce energy consumption by 80%, shave 25% off typical fuel bills, deliver CO<sub>2</sub>-free heat when powered by renewable electricity, and achieve payback in just two to three years.

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Such benefits not only led to the Futraheat heat pump winning Commercial HVAC Product of the Year at the 2022 H&V News Awards and attracting the attention of King Charles during the 2023 Climate Innovation Forum, but also enabled the company to secure £1.5 million in investment from clean tech investor Clean Growth Fund during its first equity raise.

Honeywell sees an opportunity to similarly apply Solstice technology to heat pumps within the residential sector and is currently in discussion with manufacturers to support their innovation efforts. To learn more contact us. [contact us form on residential buildings landing page]



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#### For More Information:

[Residential Buildings \(honeywell.com\)](https://honeywell.com/residential-buildings)

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