Innomotics drives electrification of industrial heat processes with industrial heat pump solutions

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- Significant reductions in energy consumption, CO? emissions, and operating costs for energy-intensive industries
- Growing demand highlights strong market potential for sustainable heating technologies

Nuremberg, April 2026 – Innomotics, a globally leading supplier of electric motors and large drive systems, is advancing the decarbonization of industrial heat processes with its solutions for industrial heat pumps. By electrifying the heat process, companies can significantly improve energy efficiency, reduce emissions, and lower long-term operating costs.

Industrial heating is one of the largest contributors to global energy consumption, with more than 70 percent of process heat still generated from fossil fuels. Industrial heat pumps offer a highly efficient alternative by upgrading ambient and waste heat to usable temperature levels of up to 150°C. This makes them a key technology for reducing CO? emissions and achieving global climate targets.

The electrification of heat processes is a critical step in industrial transformation. Heat pumps deliver thermal output several times higher than the electrical energy input, making them one of the most efficient technologies for converting electricity into heat. When powered by renewable energy, CO? emissions can be virtually eliminated.

Innomotics provides a comprehensive portfolio of high- and low-voltage motors as well as medium-voltage drives to ensure reliable and efficient operation of heat pump compressors. The systems are designed for maximum availability, enabling operation for up to five years without scheduled shutdowns, and can be seamlessly integrated into existing industrial processes.

In addition to environmental benefits, operators gain from significantly lower operating costs, reduced maintenance requirements, and system availability of up to 99.9 percent. Industrial heat pumps also enable new opportunities for waste heat recovery and integration into district heating networks.

A flagship example is the largest heat pump system in the Netherlands, where heat is recovered daily from 65 million liters of treated wastewater. With Innomotics solutions, the system supplies district heating to around 20,000 households, covers approximately 15 percent of regional heat demand, and reduces CO? emissions by about 30,000 tons annually.

“Industrial heat pumps are a key technology for the energy transition and energy addition. They enable efficient use of existing heat sources while significantly reducing emissions. With our drive solutions, we provide the foundation for a sustainable and economically viable heat supply in industry,” says Michael Reichle, CEO of Innomotics.

He adds, “Operators are under pressure to make their processes both more efficient and more sustainable. Our technologies offer a scalable and economically a very attractive solution that supports the transition to electrified, low-carbon industrial operations.”

Recently awarded industrial heat pumps projects

Innomotics supplies key drive technology for world’s largest industrial heat pump at BASF, Germany:

Innomotics GmbH has received a major order from Piller Blowers & Compressors GmbH to deliver 11 water-cooled HV M high-voltage motors and GH180HC medium-voltage converters. The systems will be deployed in the world’s most powerful industrial heat pump at BASF in Ludwigshafen.

Designed specifically for the requirements of PILLER and BASF, the Innomotics solutions combine compact design, high efficiency, and long-term reliability. The heat pump system will generate up to 500,000 tons of steam per year, while the water-cooled drive technology ensures low noise emissions and efficient, continuous operation.

Largest heat pump system in the Netherlands supplies 20k households with sustainable district heat

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The Dutch energy company Eneco is pursuing climate neutrality by leveraging aquathermal energy from wastewater to supply district heating networks in Utrecht and Nieuwegein. At the core of the Netherlands' largest heat pump system, advanced motor and drive solutions from Innomotics enable the recovery of heat from around 65 million liters of treated wastewater per day. This results in a highly efficient and sustainable solution: approximately 30,000 tons of CO? emissions are saved annually, around 20,000 households are supplied with district heating, about 15 percent of Utrecht's heat demand is covered, and 27 MW of thermal energy is generated.

Innomotics powers wastewater-based district heating in Amiens, France:

With high-performance motor and drive solutions from Innomotics, Amiens Énergies is transforming treated wastewater into sustainable district heating. At the core of the system, 24 compact SD motors drive six large ammonia heat pumps, generating 18 MW of clean heat and supplying around 26,800 households.

By recovering thermal energy from 8.5 million m³ of wastewater annually, the solution reduces CO? emissions by approximately 41,000 tons per year while enabling a renewable energy share of over 70 percent. The robust and efficient Innomotics motors ensure reliable continuous operation under demanding industrial conditions, making the project a benchmark for climate-neutral urban heating.

Innomotics enables efficient industrial heat pump operation in Finland:

At a major industrial heat pump installation in Finland, Innomotics supplied advanced drive technology to increase overall plant efficiency in a connected paper mill.

Innomotics delivered a variable frequency drive for a centrifugal compressor, supporting a 6.1 MW motor (6.6 kV, 2-pole). The system recovers process heat and feeds it back into operations, improving efficiency while reducing energy consumption and emissions.

Additional Industrial Heat Pumps materials:

Our benefits and solutions for industrial heat pump technology

Explore the 3D visualization in our virtual world: Innomotics Electrosphere

For more information, visit https://www.innomotics.com/hub/en/applications/industrial-heat-pumps

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