

Technical Review Special Edition: Air-conditioning & Refrigeration Systems

Kaoru Kusumoto
President
Mitsubishi Heavy Industries
Thermal Systems, Ltd.



Welcome to the special edition of our technical review featuring our air-conditioning & refrigeration systems.

Having taken over the air-conditioning and refrigeration (AC&R) business of Mitsubishi Heavy Industries, Ltd. (MHI) in October 2016, Mitsubishi Heavy Industries Thermal Systems, Ltd. (MHI Thermal Systems) absorbed and merged with Mitsubishi Heavy Industries Automotive Thermal Systems, Ltd. (a successor of MHI's automotive air-conditioning business) in January 2018. Our company group specializes in the following businesses: residential air conditioners, retail spaces and buildings, centrifugal chillers mainly for industrial applications, transport refrigeration units for low-temperature transportation, thermal solutions through heat pumps designed for high/low-temperature applications, and automotive air conditioners. As a comprehensive AC&R manufacturer with a wide-ranging product lineup available to our customers across the world, we have contributed to making people's lives more comfortable and environmentally friendly.

Although affected to some extent by short-term circumstances such as the U.S.-China trade disputes, owing to the increasing global population, and more people achieving middle-class status, the demand for AC&R products in the medium term is steadily growing. Moreover, global environmental protection initiatives based on frameworks such as the Paris Agreement at COP21 and the Kigali Amendment to the Montreal Protocol have been adopted and stricter regulations are being introduced in many countries across the world including emerging countries.

In response to these movements, our group strives to be a leading producer of comprehensive air-conditioning and refrigeration equipment and to offer superior products and solutions to our customers worldwide through our continuous pursuit of enhanced environmental performance, high energy efficiency, and excellent usability.

This special edition introduces a wide range of examples of such products and technologies, such as "Optimization of Process Cooling for Food Using Variable Speed Centrifugal Chiller Operating at Ultra-Low Load with Low-GWP Refrigerant", "Development of Japan's First Air-source Circulation-type Heat Pump Using R454C", "Development of Demonstration Unit of Residential Air Conditioner Adopting Low-GWP Refrigerant to Replace R32" and "Development of Heat Pump System for xEVs."

We deeply appreciate your ongoing support and understanding in our quest.