

Technical Review Special Edition: Air-conditioning & Refrigeration Systems

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

Mitsubishi Heavy Industries Thermal Systems, Ltd. was established in October 2016, succeeding the air-conditioning & refrigeration (AC&R) business of Mitsubishi Heavy Industries, Ltd. Our products include air-conditioners for residences and small- to large-sized commercial buildings, industrial centrifugal chillers, transport refrigeration units, and heat pumps designed for high/low-temperature applications. With this comprehensive AC&R product lineup, we are meeting our customers' needs for comfortable living spaces with environmentally friendly solutions.

The AC&R market has maintained its growth, driven by a steady global population increase, etc. At the same time, environmental protection initiatives and stricter regulations have been adopted worldwide, including in emerging countries, as evident in the Paris Agreement at COP 21 and the Kigali Amendment to the Montreal Protocol. Against this backdrop, we continue to strengthen our thermal solution businesses using heat pump technologies and contribute to the reduction of carbon dioxide emissions by helping the accelerated transition from combustion systems to electric systems, the use of refrigerants with a low global warming potential (GWP), and improvements in product efficiency.

Focusing on recent examples of these initiatives, this special edition introduces a wide range of new products and technologies. Starting with the centrifugal chiller business, we proudly introduce a unit with a low-GWP refrigerant, a centrifugal chiller system using aquifer thermal energy storage as a renewable energy source, and an optimal control system for large-scale district heating. For the thermal solutions business, we look at our industrial-use, hot-wind-generating unit and air-cooling chiller, both are new applications of existing heat pump technology, and a commercial-use condensing unit using carbon dioxide as a natural refrigerant. Turning to our air-conditioning business, we introduce an inverter system air conditioner for buildings in tropical regions, a packaged air conditioner for facilities, and the FDT-series packaged air conditioner using the AirFlex panel to provide enhanced comfort for retail spaces. Lastly, we introduce an all-electric inverter-type transportation refrigeration unit.

Our group strives to be a leading producer of comprehensive air-conditioning and refrigeration 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. We deeply appreciate your ongoing support and understanding in our quest.