LOGISTICS, THERMAL & DRIVE SYSTEMS

Others
-¥8.0 billion

Material Handling Systems
¥701.3 billion
Key products and services
- Forklifts
- Dockyard cargo handling machinery
- Logistics systems and peripherals

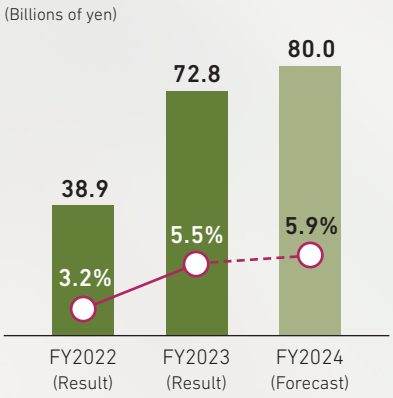
HVAC & Car A/C
¥348.1 billion
Key products and services
- Household and commercial air conditioners
- Turbo chillers
- Transport chillers
- Electric-driven and belt compressors

Engines and Turbochargers
¥273.1 billion
Key products and services
- Industrial machinery engines
- Power-generation sets
- Cogeneration systems
- Turbochargers

Order Intake

Revenue

Business Profit / Profit Margin



Overview of FY2023

Consolidated order intake totaled ¥1,318.6 billion, up from the previous year, mainly due to an increase in material handling systems and engines on the back of growing global demand.

Revenue amounted to ¥1,314.5 billion, up year on year, mainly due to increased sales of material handling systems, HVAC systems, and engines. Profit from business activities was ¥72.8 billion, surpassing the previous year's figure, mainly owing to increased sales of material handling systems stemming from price optimization and higher revenue.

Medium-sized battery-powered forklift (EDiA XL)

Refrigeration condensing unit (C-puzzle)

Business Environment and Key Strategies in the Medium to Long Term

Business Environment

Although we were impacted by rising raw material and logistics costs, as well as supply chain disruptions, we achieved a recovery in profitability thanks to various measures we took, such as capturing increasing global demand in the post-COVID world and optimizing pricing. In the medium to long term, the market for energy-efficient and electrified products is expected to expand, driven by the progression toward a low-carbon and decarbonized society.

Business Status

In the area of material handling systems, we began practical operation of an automated system for loading trucks using unmanned forklifts (automated guided forklifts). This will help reduce the time that trucks spend at facilities and address the so-called "Year 2024 problem" in Japan's material handling industry.

In thermal systems, the market for heat pump products is expected to expand amid the growing need for decarbonization due to tighter global environmental regulations. We are preparing for increased demand by introducing new heat pump water heaters. In automotive air conditioners, we are committed to meeting the needs of our customers, offering a lineup of large-capacity, high-voltage electric compressors to address the growing market for electrified vehicles.

In engines, we are developing and introducing hydrogen engines that produce zero CO_2 emissions in an effort to realize a decarbonized future society. In turbochargers, we are leveraging the rotator technologies we have cultivated to develop and accept orders for electric compressors for fuel cell systems to address the transition to zero-emission vehicles and other changing business conditions. By delivering compressed air to the fuel cell stack, these compressors play a key role in boosting the overall efficiency of the fuel cell system.

FOCUS

Field-testing begins at a demonstration facility with a view to commercialization of hydrogen combustion engines

Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. (MHIET) is working on the commercialization of hydrogen engines as part of our MISSION NET ZERO initiative.

Specifically, MHIET installed and conducted operational tests of a single-cylinder engine (cylinder bore: 170 mm; piston stroke: 220 mm) based on its GSR series of reciprocating gas engines at the Fukushima Renewable Energy Institute of the National Institute of Advanced Industrial Science and Technology (AIST) in Koriyama, Fukushima Prefecture. In the process, it established technologies to achieve stable combustion of 100% hydrogen.

As the next step toward commercialization, MHIET set up a demonstration facility at its Sagamihara Plant featuring a newly developed 500 kW-class 6-cylinder hydrogen engine generator set. This facility includes a hydrogen supply system that reduces the pressure of high-pressure hydrogen gas delivered by hydrogen trailers before supplying it to the generator set. It then began test operations to verify the system's integrity.

Due to its inherent design, a reciprocating engine can burn various types of fuel, including hydrogen, and power generation sets using hydrogen-fired engines emit zero CO_2 because they burn pure hydrogen as fuel. As such, they contribute to the decarbonization of distributed power sources.

By developing hydrogen-fired engines, MHIET aims to encourage the increased use of hydrogen and thus help realize a decarbonized society.

Hydrogen engine generator set demonstration facility

500 kW-class 6-cylinder hydrogen engine (prototype)