

Business Segment Review

Others Machinery, Equipment & Systems

Key products: Air-conditioning and refrigeration systems (air-conditioners, centrifugal chillers, automotive thermal systems, transport refrigeration units)
Machine tool (gear cutting machines, large machines, precision cutting tools)

Basic Strategies

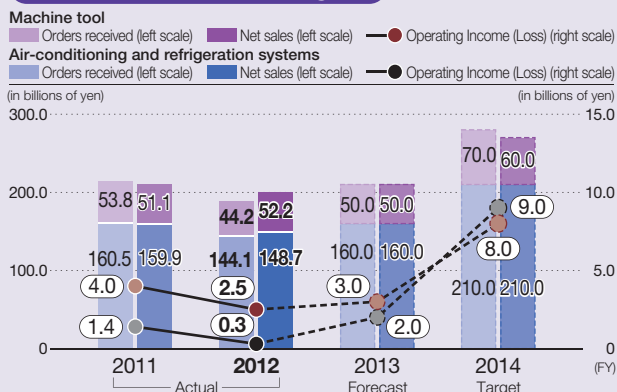
Air-conditioning and refrigeration systems

- Establish a light, nimble business structure
- Develop business structure as a dominant niche player

Machine tool

- Strengthen businesses as pillars of profit
- Expand new growth businesses
- Upgrade process technologies

Future Outlook and Targets



Fiscal 2012 Review and Fiscal 2013 Outlook

Air-conditioning and refrigeration systems

Despite an increase in orders for residential air conditioners in Southeast Asia, there was a decrease in orders for residential air conditioners and commercial air conditioners, mainly in Europe, where the market conditions are stagnant. In addition, in Japan, orders for automotive thermal systems decreased due to falling domestic production by key customers. As a result, consolidated orders received declined from the previous year to ¥144.1 billion, consolidated net sales decreased to ¥148.7 billion, and operating income decreased to ¥0.3 billion.

As for the outlook for fiscal 2013, mainly by expanding its overseas business in air-conditioners equipment and automotive thermal systems, MHI is anticipating an increase in revenue and income, with consolidated orders received of ¥160.0 billion, consolidated net sales of ¥160.0 billion and operating income of ¥2.0 billion.

Machine tool

Orders received dropped due to intensifying competition in China and other Asian markets and to an increasing reluctance toward capital investments in Japan. As a result, consolidated orders

received decreased from the previous year to ¥44.2 billion. Consolidated net sales increased to ¥52.2 billion due mainly to increases in sales of gear cutting machines, and operating income decreased to ¥2.5 billion due mainly to the impact of intensifying competition.

The outlook for fiscal 2013 are consolidated orders received of ¥50.0 billion, consolidated net sales of ¥50.0 billion, and operating income of ¥3.0 billion.

Initiatives for Growth in the Medium to Long Term

Air-conditioning and refrigeration systems

The aim of this business segment is to be an air-conditioning and refrigeration systems manufacturer that can play a role in MHI's energy and environment business, contributing to the global environment.

For air-conditioner products, in addition to completing the shift to overseas production for commercial air conditioners in fiscal 2012, MHI completed the transition to direct transactions between MHI's joint venture company in Thailand, Mitsubishi Heavy Industries-Mahajak Air Conditioners Co., Ltd. (MACO), and its overseas bases. In automotive thermal systems, with the third overseas production base, which was established in Thailand in October 2011, moving



▲ Inverter Built-in "ETI Series" Centrifugal Chillers

▼ Table-type horizontal boring mills "MAF-E Series"



▲ Simultaneous heating and cooling variable Refrigeration Flow air-conditioner

Masahiko Arihara

Head of Air-Conditioning &
Refrigeration Systems



Yukio Kodama

Head of Machine Tool



SWOT Matrix

Our strengths, weaknesses, opportunities and threats

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> □ Air-conditioning, refrigeration systems and machine tool: Extensive lineup □ Air-conditioning and refrigeration systems: Dominant energy-saving efficiency □ Machine tool: Processing technology, strength of proposals and ability to meet customer needs | <div style="display: flex; justify-content: center; align-items: center;"> <div style="background-color: #4a7ebb; color: white; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 5px;">S</div> <div style="background-color: #4a7ebb; color: white; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 5px;">W</div> </div> <div style="display: flex; justify-content: center; align-items: center;"> <div style="background-color: #4a7ebb; color: white; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 5px;">O</div> <div style="background-color: #4a7ebb; color: white; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 5px;">T</div> </div> | <ul style="list-style-type: none"> □ Air-conditioning and refrigeration systems: Smaller business scale than specialized manufacturers □ Machine tool: Drop in demand from domestic users accompanying expansion of production overseas |
| <ul style="list-style-type: none"> □ Air-conditioning and refrigeration systems: Increasing demand for heat pumps amid a global shift toward low-carbon societies □ Machine tool: Growth in demand in China, India, Southeast Asia and North America | <ul style="list-style-type: none"> □ Air-conditioning, refrigeration systems and machine tool: Emergence of manufacturers in emerging countries □ Air-conditioning and refrigeration systems: Soaring prices of materials and rare earth metals □ Machine tool: Sluggish growth of capital investment in Europe and China | |

Main Projects

Announcement	Delivery	Project
April 2013	—	Agreement concluded for joint venture to establish company in China for the production, marketing and servicing of centrifugal chillers
February 2013	—	Subsidiary established to oversee air-conditioning business in Europe
January 2013	—	New subsidiary dedicated to automotive thermal systems commences operations
December 2012	—	Two new models introduced in a new series of high-rigidity horizontal boring mills
November 2012	—	Matsusaka Plant received "Supplier Quality Excellence Award" from General Motors
April 2012	—	U.S. company, Federal Broach Holdings, acquired to strengthen precision cutting tool business
April 2012	—	LH250 developed as a double column machining center capable of high-precision machining of long workpieces

into full-scale operations, MHI has expanded its overseas production. Since January 2013, MHI has also developed its business through a wholly owned subsidiary dedicated to automotive thermal systems, and has built a structure capable of instantly responding to changes in the market environment.

In addition, by expanding overseas business for transport refrigeration units and centrifugal chillers in fiscal 2014, MHI aims to achieve consolidated orders received of ¥210.0 billion, consolidated net sales of ¥210.0 billion, and operating income of ¥9.0 billion.

Machine tool

MHI is seeking to increase business scale and profits for two businesses with different market characteristics—machine tools and precision machinery products—by accelerating globalization and the development of high added value. As part of this, in April 2012, MHI acquired one of the world's leading manufacturers in the United States, Federal Broach Holdings, and has since been working to create synergies at the customer and technology level.

MHI will continue to build a business structure resilient to changes in market conditions, aiming to achieve consolidated orders received of ¥70.0 billion consolidated net sales of ¥60.0 billion, and operating income of ¥8.0 billion in fiscal 2014.

TOPICS

MHI develops the Voxcel air-cooled heat pump module chiller, achieving the industry's highest energy-saving efficiency

In the air-conditioning and refrigeration systems business segment, after developing "Voxcel"*—an air-cooled heat pump module chiller achieving the industry's highest energy-saving efficiency—MHI started sales in December 2012.

Voxcel achieves an increase in capacity of up to 50% compared to the normal rated operation. It can cope without the need for any additional equipment even if the outside temperature is -10°C and the difference in temperature with the inside is 30°C , or at times when there is a peak demand in heating load, such as early mornings when office buildings are cold. Voxcel is highly efficient, giving it a high energy efficiency for both cooling and heating, and enabling it to achieve a 40% reduction in running costs and CO₂ emissions compared to conventional MHI models. It is able to achieve energy savings through the optimal control of all heat source systems.

* The term "chiller" is the generic name given to equipment designed to maintain a constant temperature for the air-conditioning heat sources in large facilities, such as office buildings and plants, as well as for various types of industrial equipment.

Benefits

- Achieves an outstanding energy-saving efficiency when cooling and heating
- Reduces running costs and CO₂ emissions by 40%



▲ High-precision Machining Center "LH250"

