

Machinery Segment

Orders for tire curing presses and rubber mixing machinery in the Machinery business rose in Japan and China, amid stronger capital investment by tire manufacturers. Both standard and nonstandard compressors also generally sold well.

In the Infrastructure and Plant Engineering business, energy- and nuclear power-related equipment enjoyed fairly robust orders from overseas markets. However, the lack of large overseas plant orders and the impact of reduced public works projects had negative effects on our performance.

In our environmental business, we enjoyed strong demand from public and private sector customers in Japan for construction of processing facilities for PCB waste, mainly from local authorities and for wastewater treatment and air-cleaning systems.

Reflecting the above factors, total orders increased 18.1% to ¥183.7 billion, and the balance of orders at term-end totaled ¥156.3 billion. However, sales fell 9.2% to ¥196.3 billion, reflecting a drop in orders for municipal refuse treatment plants.



Kobe Steel's SED Process, processing technology for PCB-contaminated containers, was chosen by the Japan Environmental Safety Corporation for the construction of a PBC waste treatment plant in Toyoda.



Business tie-ups and reforming the business organization

To enhance our technological capabilities and cost competitiveness, thereby strengthening our operating base, we are forming alliances with other companies and reforming our business organization. In the crushing equipment business, July 2003 saw the startup of operations at Earth Technica Co., Ltd, a joint venture with Kawasaki Heavy Industries, Ltd. which comprises the marketing and design portions of both companies. We are now preparing to integrate the manufacturing segments in April 2005.

In the cryogenic air separation business, we launched Shinko Air Water Cryoplant, Ltd., jointly established with Air Water Inc. in April 2004. In October 2003, we also began operations at Kobelco Eco-Solutions Co., Ltd., a consolidated subsidiary formed by the spin-off of our environmental business and its merger with Shinko Pantec Co., Ltd. We intend to develop the new company into a comprehensive environmental solutions business while working to maximize the benefits of the merger at an early date.

Hydrogen-oxygen generators and fuel cells for home use

Kobelco and the Chugoku Electric Power Company, Inc., are jointly undertaking testing of a fuel cell power generation system for home use. This is the first co-generation system of its kind in Japan involving hydrogen production utilizing water electrolysis, and energy generation and thermal reclamation using fuel cell batteries.





This screw compressor with a high-speed (7,200 rpm) IPM motor features increased airflow and a variable speed drive.

Research and development

Principal developments in the term under review were a screw chiller with industry-leading efficiency. Chillers are used in small refrigerators for generation of chilled water for office building air conditioning. And for hydrogen filling stations, we developed an ultra-high-pressure hydrogen compressor, capable of reaching approximately 1,000 bars. We also test-operated our next-generation ITmk3[®] ironmaking technology at a 25,000-ton per year capacity demonstration plant in Minnesota, U.S.A.

Overseas business development

Having acquired ASME U3 accreditation in June 2004, ahead of all other Asian competitors, we aim to make the most of the opportunity this presents to expand sales of our isostatic pressing systems in the United States and other overseas markets.

At the same time, we are producing hot briquetted iron (HBI) through the operation of two direct reduced iron plants for Minorca and Comsigua in Venezuela. And we posted steady growth in exports of energy-related equipment such as large pressure vessels, LNG vaporizers, and aluminum plate-fin heat exchangers, although many manufacturers around the world have been merged.

Outlook

In rotating machinery, we continue to focus on the oil, gas and new-energy fields. In standard compressors, we are deepening market penetration of our Kobelion series and other new products. In industrial machinery, we have entered new process fields through the launch of such products as LCM-EX polypropylene plastic mixers, and we are expanding overseas marketing of isostatic presses and physical vapor deposition systems.

We forecast that buoyant demand in overseas markets for energy-related equipment will again sustain strong orders, despite the ongoing decline in public works projects in Japan and another difficult year for steel structure orders. We also expect in the Middle East, China, and other regions construction of plants for direct reduced iron will increase as world steel demand grows. Our Group-wide efforts to increase orders, and commercialize the new ITmk3[®] process will enable us to further strengthen our distinctive operations.



The ITmk3[®] Process makes high-purity iron nuggets (above), while emitting 20% less carbon dioxide than blast furnace operations. The photo at left shows the demonstration plant in Minnesota.

Kobe Steel's leading-edge tire curing press features high productivity and low running costs.

