

Review of Operations

Automotive and Industrial Machinery Parts

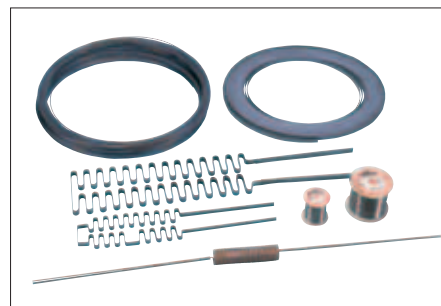
The automotive and industrial machinery parts segment deals with the Group's core products, such as piston rings, camshafts, valve lifters, high-grade cast iron products and seal rings for transmissions. In the year under review, sales of piston rings for automobile engine applications increased from the previous year due to higher engine production by Japanese automakers and increased transactions with overseas manufacturers. Sales of camshafts also rose thanks to vigorous production by customers and the increasing adoption of our products for various high volume models. Consequently, sales were ¥74,255 million at this segment.

Despite the adverse effects from falling average unit selling prices and higher raw material costs for camshafts and other cast iron products, operating income was ¥6,256 million, owing to the positive effects of rationalizing the production division, fixed costs that were offset by increased output, and favorable price change of some products.



Other Products and Services

In this segment, the Group primarily handles piping components, radio frequency anechoic chambers, and thermal engineering products such as heating wires and industrial furnaces. Although competition for these products in the markets continued to be fierce, sales of radio frequency anechoic chambers increased. As a result, sales in the other products and services segment totaled ¥14,420 million. Costs of raw materials remained higher, which was nonetheless offset by the effects of further rationalization in the production processes. Consequently, operating income was ¥1,721 million.





R&D Activities

The Riken Group is making utmost efforts to develop automotive and industrial machinery parts that will help lower fuel and oil consumption and emit cleaner exhaust gas, and thereby contribute to the conservation of the global environment.

Research and development of products and technologies in the Group's automotive and industrial machinery parts segment and other products and services segment are carried out by the Research and Development Department of the Company, as well as by the Production Development and Production Technology Sections of each production division.

During the year under review, the Group's R&D expenses totaled ¥1,466 million (including research expenses for commercialization of certain developments), of which the automotive and industrial machinery parts segment accounted for ¥1,373 million and the other products and services segment for ¥93 million.

Major R&D activities in each business segment are as follows:

(1) Automotive and Industrial Machinery Parts

- a. Development of low-friction, long-life piston rings for gasoline engines that reduce fuel consumption
- b. Development of piston rings for diesel engines that conform to tighter emissions regulations
- c. Research and development of valve components and transmission seal rings
- d. Research and development of various surface treatment technologies with superior sliding properties
- e. Research and development of undercarriage components that make the entire product lighter and stronger
- f. Research and development of NOx sensors for cars

(2) Other Products and Services

- a. Development of mechanical fittings for various tube types that can be easily installed, repaired and renewed
- b. Development of long-life water and hot water supply stainless steel piping systems with high construction reliability
- c. Development of nonflammable (pyramidal) radio-wave absorbers with superior flame retardant properties
- d. Development of ceramic exothermic materials with superior high-temperature durability

