

# Product-related Initiatives for the Environment

## Basic Approach

The MinebeaMitsumi Group declares in its Basic CSR Policy that it will contribute to global environmental sustainability and sustainable human development through stable supply and making reliable products with low energy consumption widely available.

Since its products are utilized in many different kinds of end-products, the Group believes that it is important to consider environmental contributions throughout the product life cycle. This responsibility extends from ensuring that its products (parts) are free of materials hazardous to the environment, to energy-efficiency, resource-efficiency, and long-life.

## MinebeaMitsumi Group Environmentally Friendly Products

Approximately 40% of global electric power is used by motors, while another 25% is accounted for by lighting. The MinebeaMitsumi Group believes that increasing the performance and energy efficiency of these products can have a substantial impact on reducing energy consumption, so we strive to enhance performance and quality.

The products that the Group produces and sells are environmentally conscious. This means that they satisfy various countries' environmental laws and customers' environmental requirements from the development and design stage as well as undergoing voluntary product chemical substance evaluations and product assessments.

## High-precision, High-quality Bearings

Bearings enable things to move freely and rotate smoothly, enhance performance, save power, contribute to making products with bearings smaller and extend their lives, and offer various other benefits. Bearings are fundamental products that have become essential for humankind.

The MinebeaMitsumi Group boasts world-leading market shares across the entire market from miniature and small diameter ball bearings with diameters of 22 mm and less to rod end and spherical bearings and roller bearings used in aircraft.

These high-precision and high-quality bearings are used in many common products essential for our lives such as consumer electronics, information and communications equipment, automobiles, and aircraft. They contribute to all environmental aspects of these products including high precision, energy savings, reduced resource use, and longer lives.



Ball bearings

## Power Brushless Motors

Power brushless motors are used in the drive mechanisms of office equipment such as multi-function copiers and printers as well as consumer electronics and other products. In office equipment, higher efficiency and reduced power consumption are achieved through a high degree of control by using custom integrated circuits. For consumer electronic applications, we are developing models with microcomputers and contributing to the enhanced performance of consumer electronics by improving functionality and reducing noise through the use of low-noise algorithms. By replacing the AC motors previously used in fans and other products with our DC motors, energy consumption is reduced by 50% when operating at high speed and by 90% at low speed.



Power brushless motors

## LED Backlight Units for LCD Displays

The MinebeaMitsumi Group develops, manufactures, and sells LED (light-emitting diode) backlight units which illuminate smartphone and tablet computer LCD displays from the rear.

The optical guide plate is critical to spreading LED light evenly over the display, as the LED backlight units are positioned on the edge of the device. We leveraged our superior plastic injection molding processes using our proprietary design development and our precision molds to successfully develop optical guide plates measuring 0.3 mm thick or less. The thinner optical guide plates not only help to make the end products thinner, but help to reduce power consumption, weight, and size compared with previous models.



LED backlight unit for LCD displays

## Future Issues and Goals

The MinebeaMitsumi Group will continue to develop products that reflect the needs of society and contribute to the realization of a sustainable society.