

Product-related Initiatives for the Environment

● Basic Approach

Since its products are utilized in many different kinds of end-products, the Minebea Group believes that it has an especially important role in providing parts that contribute to environmental consciousness throughout the product life cycle. This responsibility extends from ensuring that its parts are free of materials hazardous to the environment, to energy-efficiency, resource-efficiency, and long-life.

Minebea Green Products, which we have been developing based on this approach, will continue to be promoted as part of the new “Five Arrows” strategy aimed at making contributions to the development of “Smart Buildings” and “Smart Cities” through the promotion of “smart” product development.

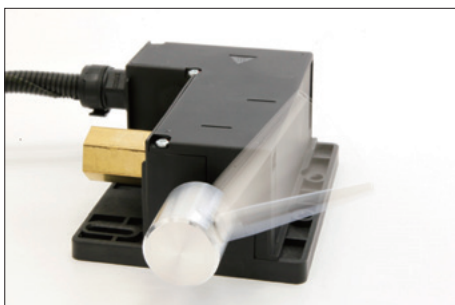
● Minebea Group's Environmentally Conscious Products

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

Auxiliary Device for Small Machine Tools “Wavy Nozzle”

The Minebea Group has developed an auxiliary device for small machine tools named “Wavy Nozzle” which removes machine dust and chips through swing jetting of coolants*. By spraying coolants while oscillating to the point of processing, machining dust and chips will be removed efficiently, thereby contributing to the realization of quality improvement and efficiency enhancement for precision component machining.

Minebea has successfully developed a device capable of efficiently removing machine dust and chips without employing a large-scale “high-pressure coolant system”



Exterior view of Minebea's “Wavy Nozzle” (in KICK mode operation)

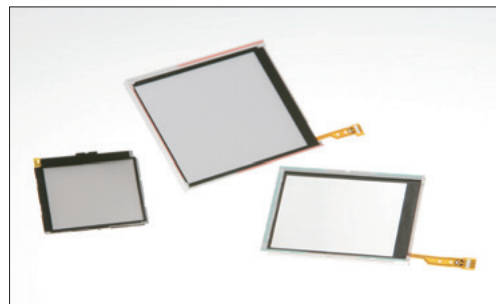
* Cutting fluids, or grinding fluids which produce a cooling or lubrication effect on the processing point in machine processing

that had been conventionally used in the market. As such, this product can be installed in small-sized machine tools (small CNC lathes and machining centers, etc.), with which a large-sized high-pressure coolant system could not be loaded up to date.

LED Backlight Units for LCD Displays

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

The LED is positioned on the edge of the device, and the light guide plate is critical to spreading LED light evenly over the display. We leveraged our proprietary design development and superior plastic injection molding processes used in precision metals molding to successfully develop light guide plates measuring 0.3 mm thick or less. The thinner light 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

● Management of Environmental Impact Materials Included in Products

The Minebea Group has issued the Minebea Group Green Procurement Standard requiring suppliers to supply products (raw materials and parts) free of hazardous substances along with data and documentation verifying their products' safety. We also conduct our own verification tests of suppliers' products using XRF (X-ray fluorescence spectrometers) to ensure the products are free of hazardous materials subject to RoHS regulations.

● Future Goals and Issues

The Minebea Group will continue to accurately grasp the detailed needs of society in order to develop products that can contribute to safety, energy-efficiency and resource-efficiency.