



EarthTechnica Co., Ltd.

Micron-Powder Pulverizer, Krypton Series

Meeting the Demands of Manufacturers in Need of Micron-Order Powders

In 2003, Kawasaki signed a joint venture agreement with a division of Kobe Steel Ltd. A manufacturer of crushing and grinding equipment, EarthTechnica now boasts one of the largest market shares of crushers for the crushed stone industry in Japan. It is also one of the pioneers in the micron-order powder manufacturing equipment sector

which was in charge of the design and sales of crushers, to form EarthTechnica Co., Ltd. and has launched the innovative Krypton Series.

1985

Krypton

The original model of this high-efficiency mechanical pulverizer incorporates the principles of jet mills. It is capable of pulverizing materials which previously could be processed only by jet mills, and also achieves an extremely sharp particle size distribution because of its lower generation of unwanted fine powder, compared to jet mills.



1995

Krypton Eddy

Developed incorporating all the advantages of the original model while achieving improved pulverizing performance. This model is capable of pulverizing heat-vulnerable materials into powders with average particle sizes of 5µm* or less, which only jet mills had previously been able to do. With improved pulverizing performance, Krypton Eddy achieves new levels of powder spheroidization.

*1 micrometer equals 1/1000 mm



2008

Krypton Prime

The Prime model achieves an even higher speed than older models, resulting in reduction of final particle size by more than 1µm, thanks to an improved pulverizing groove shape. Throughput also increases by 150 to 200 percent, relative to previous models. The stator can be opened more widely than on all previous models, which achieves significantly easier cleaning of the inside of the mill chamber.



2013

Krypton Prime, rotor-cooling model

Achieving the highest pulverizing performance in the Krypton Series, with this model, a coolant is injected into the high-speed rotor, remarkably improving the system's cooling capability. Compared to previous models, it requires 20% less power to pulverize, and even if a larger capacity motor is used, the exhaust temperature is kept to a minimum. Even using heat-vulnerable materials, throughput is 150 to 200 percent higher, relative to previous models.



Production of micron-order powders takes sophisticated, high-precision engineering, but the application of these powders has been widening in recent years, encompassing such industries as cosmetics, pharmaceuticals, battery materials, silicon metal, electronics parts, and chemical products. The toner of a laser printer, for example, requires powder the size of only 6µm.

EarthTechnica entered the powder and particle material manufacturing equipment sector in 1985, with the launch of the Krypton. The Krypton was able to pulverize materials down to just a few µm from the outset, but each time it was upgraded, it made innovative technological advancements, such as higher-speed pulverizing rotors, extension of the mill chamber, and improved pulverizing groove shape.

These enhancements were reflective of the needs of the times. In the case of printer toner, powder and particles were expected to demonstrate higher performance: size and shape had to be uniform

so that they adhered to papers at lower temperatures, and the use of heat-vulnerable materials had to be allowed. Other sectors also began to pose similar requirements, and to meet these fast-changing needs, the company made notable technological innovations, which resulted in energy-saving equipment and high-performance materials.

The technological improvements of the Krypton Series also led EarthTechnica to become one of the leading providers of this type of pulverizer, offering the following, unrivaled features: 1) superior particle size distribution and sphericity, 2) low-temperature exhaust, 3) no variance in particle size of pulverized products, 4) easy cleaning, and 5) superior abrasion resistance.

The Krypton Series is truly a behind-the-scenes star, supporting today's fine processing needs.