

## [Company Profile]

Address	4-2-18 Sakaemachi-dori, Chuo-ku, Kobe City, Hyogo Prefecture 650-0023, Japan
Phone	+81-78-351-0770
URL	<a href="http://www.kinkikogyo.co.jp/en/">http://www.kinkikogyo.co.jp/en/</a>
No. of employees	180
Capital	65 million yen
Founding	August 1, 1953
Representative	Naoya Wada, President

## [Business Overview]

Development, manufacture, sales, and maintenance of equipment and plant systems for thermal power stations, recycling plants, mechanical crushing facilities, and municipal waste incineration plants

## [Technology]

**A leading, innovation-driven company in the development and manufacture of environmental and recycling machines, whose cutting-edge equipment opens up new horizons**



The FLH-style vibrating screen, which is 20% more energy efficient than traditional models



The "Shred King R," a new double shaft shredder which has been successfully compactified

These days, the environmental problems associated with dioxin and landfill sites are becoming a serious social issue, and the need to recover resources from waste is growing. We at Kinki Industrial Co., Ltd. are engaged in the development, design, production, sales, and maintenance of crushing and sorting machines, which are believed to be indispensable for recycling. We handle all these processes ourselves at our own facilities, and these machines and the plant systems that utilize them

are offered to thermal power stations, recycling plants, crushing facilities, and municipal waste incineration plants. In 2004, we received an award from the Minister of Education, Culture, Sports, Science and Technology (MEXT) for developing machinery that has contributed to the facilitation of recycling, and we have won many other awards as well. There is now growing demand for recycling machines, which are thought to be essential tools for confronting and solving environmental problems such as global warming; indeed, more and more businesses and municipalities are seeking to introduce such machines. Against this backdrop, we are dedicated to producing innovative machines which meet the need of today's society, such as double shaft crushers and shredders, based on our three fundamental objectives—the transformation of waste into new energy, the recycling of parts used for recycling machines, and the development of energy efficient products.

### **[History of development]**

The main kinds of waste crushing machines used in the past were high-rotation-speed crushers. Such crushers rotate a rotor with metal plates called hammers at high speed, crushing and pulverizing waste materials via the impact energy delivered by the hammers. Although these types of crushers are capable of comminuting even “bulky waste,” or large items of solid waste, on one occasion, sparks created by the hammers when they came in contact with a certain waste material ignited a fire that led to an explosion. This accident shifted people's attention towards double shaft shear type crushers and shredders, which can crush waste with rotors that rotate with high torque at low speed. However, they only came in small and medium sizes to fit the size of their cutters. Society today is faced with an increasing number of large sized waste items such as the four kinds of electrical household appliances specified by the recycling law in Japan (TV sets, refrigerators, air conditioners, and washing machines), which cannot be crushed by conventional kinds of crushers, and also a growing amount of bulky waste such as chests of drawers and beds. With that in mind, we have designed and introduced a new cutter structure called the “piece cutter” style, which, unlike older types, divides the cutter into a set of separate, exchangeable blade pieces. By doing so, we have succeeded in creating large scale versions of double shaft crushers and shredders. Although it has become possible now to manufacture large-size, single-blade cutters, we continue to develop and manufacture crushing and shredding machines which can use both types of cutters, since piece cutters are still in high demand due to their ease of maintenance.

### **[Originality]**

Since cutters for crushers and shredders are consumable items that have a direct impact on the performance capabilities of the machines such as their cutting ability and pull-in force, they require regular maintenance. The fact that we can carry out the design, manufacture, and maintenance of shear type crushers and shredders ourselves in our own facilities enables us to handle machines

from other manufacturers as well; we can give users suggestions on the most suitable cutter types and also replace the cutters for their machines. Very often, crushers and vibrating screens are operated under tough conditions; thus, the constant maintenance and examination of the moving parts in those machines are necessary to prevent breakdowns and to maintain their high performance. For these rotating parts, we regularly conduct refills and change of lubricants and also perform inspections to check conditions such as the temperature, rotating sounds, and vibrations. Moreover, when a shaft bearing needs to be replaced with a new one, we can perform the exchange without making any mounting errors or allowing penetration by foreign materials.

### **[Future development]**

We already possess highly sophisticated crushing and sorting technology, yet as AI and robot technologies rapidly advance, we are now working to enhance our work efficiency by robotizing our manufacturing processes based on the techniques we have developed to date. In addition, at the Kinki Mechanochemical Institute, which we founded in February 2014, we are incorporating mechanochemical effects, or chemical reactions caused by high mechanical energy, into our key techniques—crushing, shredding, and separating. At the same time, we are striving hard to invent new recycling techniques for all kinds of waste materials, including those in the “urban mine.”

### **[Corporate History]**

- 1948    Founded at Higashi-honmachi, Kakogawa City, Hyogo Prefecture
- 1970    Established its affiliated company Kinki Corporation
- 1978    Moved its business to the Miki Factory and started operations there
- 1982    Won the Science and Technology Academy Award for developing coal screening techniques
- 1998    Received the Eco Business Promotion Award from Hyogo Prefecture
- 2002    Won the Invention Award for Distinguished Service
- 2003    Obtained ISO9001 certification
- 2004    Won the MEXT Award for developing twisting and crushing technology
- 2011    Won the Hyogo Mono-zukuri Gijutsu (“Manufacturing Technology”) Award
- 2014    Established the Kinki Mechanochemical Institute
- 2016    President Naoya Wada won the 2016 Hyogo Prefecture Science Award
- 2017    Certified as a Hyogo “Only-One” Company