

R & D and Products and Service

R&D Policy

Our ideal is to help create a society where corporations and people coexist under the mutual trust and sustainable development is promising. Our research and development is being pursued focusing on the following three aspect: We will be glad to be able to contribute to society in meeting our customer trust and playing a role of “hidden power for society”.

Products and technologies supporting social fundamentals and development
Products and technologies helping restore the environment and reduce environmental load

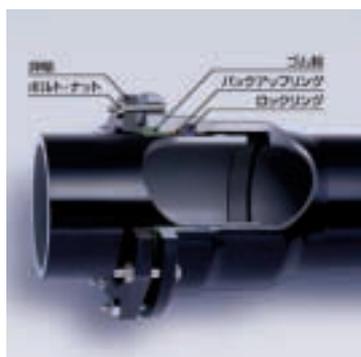
Products safe and satisfactory to both our customers and society

Products and technologies that support fundamentals and contribute to social development

People are becoming more aware of risks to a potential large earthquake as well as how to deal with such risks. Are water, electricity, gas and other fundamentals supporting our lives secured? Since manufacture of cast iron pipes for water supply was started in 1893, we spent a long time to research and develop durable earthquake-resistant pipelines while we tackled the development of water supply and sewer systems using our ductile iron and plastic pipes, pumps, valves, and other products.

Our ductile iron pipes, for instance, are highly regarded for their superior earthquake-resistance. In the current year, our ductile iron pipes were constructed in Japan in a distance of some 5,600km, about 30% of which was earthquake-resistant products.

Usually, pipelines can not react to or move in line with liquefaction or ground deformation in case of a large earthquake. Our earthquake-resistant pipelines are able to bend, expand or contract at joint parts, and flexible enough to adjust to even severe ground deformation without breaking off. In the Great Hanshin-Awaji Earthquake and other recent earthquakes, no damage occurred in our ductile iron pipes and joint parts constructed in the areas. That proves that our products contribute to the development and maintenance of infrastructure through securing water supply in even earthquakes or emergencies.



NS-type earthquake-resistant fitting, mainstay of earthquake-resistant pipes (nominal diameter: 500 mm – 1,000 mm)



Curved ductile iron pipes and joint parts with earthquake-resistance



NS-type Ductile Iron Pipes Proves Earthquake-Resistance

– Highly Adjustable to Ground Liquefaction –

No Damage Reported in Mid-Niigata Earthquake

Restoration work, especially along with pipelines, is progressing steadily due to a small damage to the pipelines even after a series of intense earthquakes.

There was a high proportion of ductile iron pipes used among the water service pipes where the Mid-Niigata Earthquake struck. About 20km of NS- and SII-type earthquake-resistant pipelines with anti-breakaway structures had been laid in cities like Nagaoka, Tokamachi, and Kashiwazaki, where suffered the earthquakes with intensity of 5 or more on the Japanese scale. None of it was damaged.

At a site in Nagaoka, where liquefaction caused a road to cave in and left a man-hole sticking out, no damage was found with SII-type pipelines and no water leakage was occurred (see picture).

(The Suido Sangyo Shimibun Newspaper, 11/1/2004)

Products and technologies that help restore the environment and reduce environmental load

Incombustible garbage and ashes from incinerated household garbage are buried in mountains, valleys and the ocean. These sites are called the “final disposal sites for general waste”. Their capacities are limited, and it is hard to construct new sites. In 2002, the Ministry of the Environment issued data that the total remaining capacity of these disposal sites was for 13 years. Such severe situation has not been resolved so far. We currently tackle an issue of digging out and recycling waste from the disposal sites to secure more space for future disposal.

With an application of our rotary surface melting furnace product, we succeeded in waste fusion in the temperature beyond 1,300 . For the Isahaya Environment Center in Nagasaki, we constructed facilities where existing landfill waste can be reduced and detoxified using the technology so that generated molten products or slag can be recycled and reused.

This technology can renew places dumped illegal disposals containing a greater variety of waste types, too. Our technology is used to process the areas dumped illegal waste located in Teshima, Kagawa.

Waste treatment process

Final Disposal Site

Waste is dig out using heavy machinery to remove extraneous materials like iron

Isahaya Environment Center

Kubota rotary surface melting furnace is installed; dumped waste can be melted, reduced and detoxified in the fusion temperature beyond 1,300



Processing Capacity:

24 tons per day × 1 furnace

Object:

dumped waste
(Mix melt: until March, 2005)

Kubota rotary surface melting furnace (upper part) installed at the Isahaya Environment Center

Recycling of molten products

Part of molten slag is recycled for aggregate to be used for road constructions.

Products safe and satisfactory to both social and customers

We have developed products meeting all types of agriculture and allowing customers to work safely and comfortably. In recent years, we are ready to respond to society’s demand for universal design by creating products friendly to anyone in using.

Our tractors can be easily operated due to an easy-to-use layout of switches and levers, and a cultivation mode switch to select advanced features with the touch of a button. Last year, our small type tractor “King Bull (KB20)” won a Good Design Award. The tractor received special praise for careful consideration based on a universal design concept. The color and size of letters appearing on the controls are welcomed by senior citizens suffering from weak eyesight.

We go forward and support all farmers and agriculture industry in Japan through developing and marketing a various kind of agricultural machinery and equipment.

KB 20 operator's seat design



Cultivation mode switches (Equipment only of product for Japan)

When a cultivator is working, advanced electronic control functions to alleviate centrifugal force can be turned on or off at once in unison. The switches can be easily operated by women, the seniors or anyone else.



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