

# Sanden Environmental Charter Are Introduced to Sanden Group Members, Including Domestic and Overseas Subsidiaries, and They Are Doing Their Environmental Activities.

The Sanden Environmental Charter applies to Sanden as well as other Group companies in Japan and overseas, providing guidelines for the entire Group to help protect the environment. In all, 32 business sites have received ISO 14001 certification. Recently established Group members are now working toward meeting this global standard for environmental management systems.

In fiscal 2006, we installed a 300kW solar power generating array, the second largest in Gunma prefecture, on the roof of our newly constructed distribution and logistics center. We also installed a monitoring panel at the entranceway to the office of the center that shows in real time the volume of electric power being generated by the solar array, to help heighten the awareness of environmental issues among customers visiting the center and our personnel.

## Environmental Activities at the Akagi Plant

As part of our activities to restructure and inject innovation into production at our plants in Gunma Prefecture, we constructed the Akagi Plant (Sanden Forest) as a 21st century plant and a new home for the vending machine and store systems manufacturing operations of our Kotobuki Plant in Iseaki, the living and environment systems and electronic devices manufacturing operations of our Sakai Plant, our parts center, and our distribution center.

### Akagi Plant's Environmental Impact

(Water quality)			
Regulated item	Unit	Regulated value according to prefectural/city ordinances	Actual measurement
pH	-	5.8~8.6	6.4~7.1
BOD	mg/L	25	<2.4
SS	mg/L	50	<2
n-hexane	mg/L	30	<5
Total nitrogen	mg/L	120	<57
Total phosphorus	mg/L	16	<8.6
E. coli bacteria	Number/cm	3000	<30

(Air: Boiler)			
Regulated item	Unit	Regulated value according to prefectural/city ordinances	Actual measurement
Sulfur oxide	Nm <sup>3</sup> /h	(15.7)	<0.004
Particulate density	g/Nm <sup>3</sup>	0.3	<0.005
Nitrogen oxide	mg/L	180	<61

1. The Akagi Plant has concluded a pollution prevention and environmental preservation agreement with the village of Kasukawa.  
 2. BOD refers to biochemical oxygen demand.  
 3. SS refers to the volume of suspended solids.  
 4. Sulfur oxide regulations refer to k value regulations.



### Plant Overview

- Name: Akagi Plant, Sanden Corporation
- Location: 7 Nakanosawa, Kusakawa-mura, Setagun, Gunma, Japan
- Number of employees: Approximately 1,000
- Products manufactured: Commercial freezers, refrigerated showcases, vending machines, living and environment systems, electronic parts
- Total site area: 641,000m<sup>2</sup>
- Building floor area: 128,600m<sup>2</sup>
- ISO certification: December 1997 (Acquired by the Kotobuki Plant, which became the Akagi Plant in 2003)

## Environmental Activities at the Yattajima Plant

The Yattajima Plant began operations in 1973 as a manufacturer of compressors. In 1977, the plant added a worldclass automated and energy-efficient production line. Today, a full line of operations is performed at the Yattajima Plant performs, extending from developing and designing products to manufacturing, as well as service and distribution activities. The plant's outstanding technological skills and reliability have won acclaim from automakers worldwide.

### Yattajima Plant's Environmental Impact

(Water quality)			
Regulated item	Unit	Regulated value according to prefectural/city ordinances	Actual measurement
pH	—	5.8~8.6	7.5~8.1
BOD	mg/L	160	<6
SS	mg/L	200	<2
n-hexane	mg/L	—	<1
Total nitrogen	mg/L	120	<10
Total phosphorus	mg/L	16	<0.86
E. coli bacteria	Number/cm	3000	<150

(Air: Boiler)			
Regulated item	単位	Regulated value according to prefectural/city ordinances	Actual measurement
Sulfur oxide	Nm <sup>3</sup> /h	(15.7)	<0.007
Particulate density	g/Nm <sup>3</sup>	0.3	<0.008
Nitrogen oxide	mg/L	180	<99

Prefectures (ordinances): Gunma Prefecture regulations to preserve a clean living environment  
 Items with a indicate levels too low to measure.  
 pH: Density of hydrogen ions  
 BOD: Biochemical oxygen demand  
 COD: Chemical oxygen demand  
 SS: Mass of suspended solids  
 Sulfurous oxide regulations refer to k value regulations.



Panel showing the level of power being generated



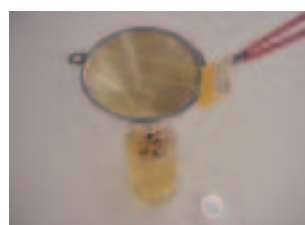
The distribution and processing center equipped with a large solar array



### Plant Overview

- Total site area: 82,000m<sup>2</sup>
- Building floor area: 60,000m<sup>2</sup>
- Products manufactured: Automotive air conditioner compressors, automotive air conditioner systems
- Number of employees: 1,050
- Location: 350 Yattajima-cho, Iseaki-shi, Gunma, Prefecture
- ISO certification: July 1997

Oil used for frying tempura in the home seeps into kitchen towels and requires time and money for disposal. Also, when the oil is mistakenly disposed of as household effluent, this may increase processing burden on sewage treatment facilities. At our Yattajima Plant, we have involved employees and their families in environmental activities to deal with this issue. The used tempura oil is collected from households and then recycled, with the goal of contributing to protection of the earth's environment. In addition, some of our related companies are becoming involved in these activities.



Recovery of tempura oil



## Environment-Related Activities at Sanden Forest

Sanden Forest, which is based on the concept of "Symbiosis between Nature and Industry," is located on a 641,000m<sup>2</sup> tract of land (about 15 times the size of the Tokyo Dome baseball field) on the southern slopes of Mt. Akagi in Gunma Prefecture. Sanden Forest is the first area of its kind in Japan to introduce close-to-nature methods. Our Akagi Plant, which is the principal factory for manufacturing vending machines and retail store systems, is located within Sanden Forest, and it has been built incorporating systems that respond to the needs of customers around the world using the latest technologies.

The Sanden Forest aims to be a 21st century model for coexistence of manufacturing plants and the natural environment, and it was developed from the early stages with concern for the environment in mind. With the guidance of C.W. Nichols and Prof. Shubun Fukudome, well-known naturalists in Japan, we conducted environmental assessments on our own initiative prior to beginning development. Rare plants that were discovered in the forest area were transplanted under the guidance of specialists and are now carefully protected. We conduct periodic re-surveys to update the assessments conducted when development began and are monitoring the habitats of rare plants and animals. In addition, the rocks that were displaced and trees cut down at the time the forest area was prepared were not treated as waste, but instead, the rocks were used in stairs and biotopes within the forest area and the trees were processed into chips that were placed along the pathways in the forest and into charcoal that was used in purifying nearby rivers. In addition, we prepared a walking path with a circumference of about six kilometers around the Sanden Forest to open up the area and enable visitors to view the ponds that were converted to biotopes and forest areas. Ducks, rice fish and various other types of fish (*herabuna* and *yamame*) as well as other wildlife now live in the massive biotope, and special areas in the vicinity have been set aside for fireflies (the "Firefly Village"), a natural park, and forest areas where the sunlight filters through foliage.

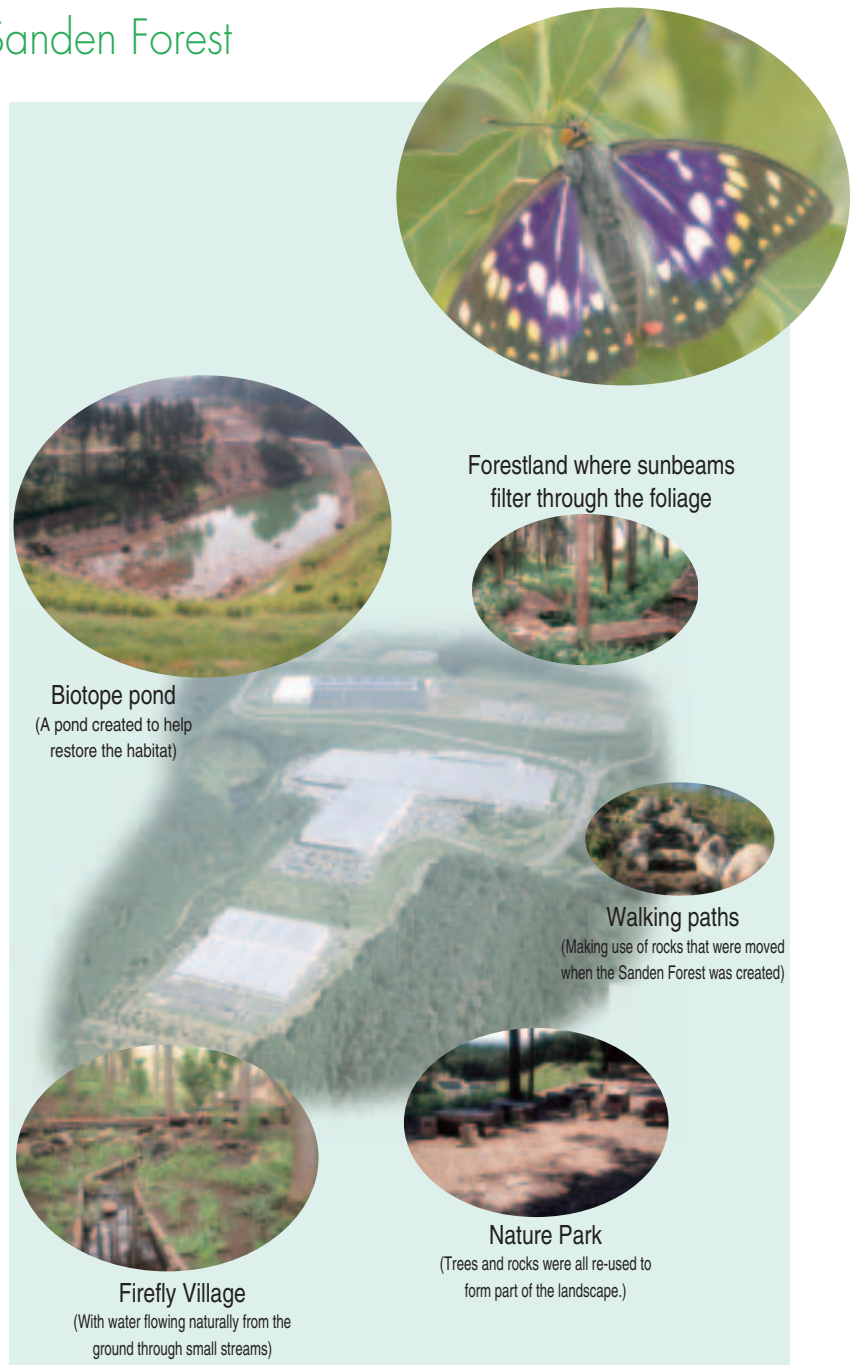
The Sanden Forest is also a place for environmental education, drawing on the rich natural environment of the area, and many other activities and events are conducted here to help spread information about the Mt. Akagi region.

### ■ Akagi 2006 Environmental Forum

By conducting various environmental activities for children and instructors, the Sanden Forest aims to contribute to environmental preservation and the education of instructors as well as to the revitalization of the surrounding regions. Persons participating in environmental activities in the Mt. Akagi area sponsored the Akagi 2006 Environmental Forum, an event that is intended to promote the establishment of the "Akagi Nature School." With the cooperation of Sanden's Culture Lecture Club, Mr. So Kuramoto, author and head of the Furano Nature School, was invited to give the keynote address at the forum. Following his address, the participants moved to a different venue, the Akagi National Park Youth Interchange House, for a symposium and exchange meeting. Then, on the second day of the forum, participants went on an outing to view the state of damage to pine trees, the Electric Power Central Research Laboratories, and Sanden Forest.

### ■ Educational and Enlightenment Seminars

In fiscal 2006, we sponsored an event entitled "Improvement in Living Areas Beginning with the Environment." Speeches were delivered by the mayor of Katsumaki in Iwate Prefecture, the mayor of Maebashi in Gunma Prefecture, and Hiroko Sakida, and followed by a panel discussion.



Forestland where sunbeams filter through the foliage

**Biotope pond**  
(A pond created to help restore the habitat)

**Walking paths**  
(Making use of rocks that were moved when the Sanden Forest was created)

**Firefly Village**  
(With water flowing naturally from the ground through small streams)

**Nature Park**  
(Trees and rocks were all re-used to form part of the landscape.)

