

Environmental Initiatives by Sanden Group Members

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. Sanden issues a *Global Environmental Report* that covers the environmental activities of Group companies in Japan and overseas. This report plays a part in helping companies improve each other's activities and in enhancing environmental communications.

Environmental Activities at the Akagi Plant

As part of our initiatives 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) (Air: Boiler)

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 ²	3,000	<30

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

Notes:
 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.

There were a number of notable achievements in fiscal 2005. One was the improvement of thermal insulation at dryers used in coating plants in order to cut energy consumption. Another was the installation of movement sensors in stairways, hallways, toilets, and other locations that are not used often. This eliminates wasted power when people forget to turn lights off.

As a responsible corporate citizen, we help keep public areas near our facilities clean. We have removed and treated about 130 kilograms of litter from roadsides, parks, and other locations.



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: 641,000m²
- Building floor area: 98,000 m²
- 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 world-class 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) (Air: Boiler)

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 ²	3,000	<150

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

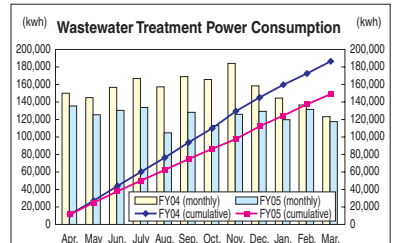
Prefectural ordinances refer to regulations enforced by Gunma Prefecture to preserve the living environment. Items with a indicate levels too low to measure.
 pH: Density of hydrogen ions
 BOD: Biochemical oxygen demand
 COD: Chemical oxygen demand
 SS: Mass of suspended solids
 Sulfurous oxide regulations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

One significant accomplishment of fiscal 2005 was improvements to the aeration tanks at wastewater treatment facilities. Previously, aeration blowers were used for the same amount of time regardless of the outdoor temperature. To improve efficiency, we installed meters to measure dissolved oxygen so that blower operation can be controlled based on changes in oxygen density. As a result, we have cut water treatment power consumption 19%, or 35,000kWh, compared with the prior fiscal year. This improvement also lowered the amount of sludge generated.



Plant Overview

- Total site area: 82,000m²
- Building floor area: 60,000 m²
- 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



Environmental Initiatives at Group Companies

ISO Certification

Domestic Affiliate	Certification Date
Sanwatech Co., Ltd.	April 2003
Sanwa Coatech Co., Ltd. (Head Plant)	Preparing for certification
Sanwa Coatech Co., Ltd. (Kotobuki Plant)	May 2004
Sanwa Co., Ltd.	February 2002
Sanden Denso Co., Ltd.	October 2003
Sanwa Precision Co., Ltd.	February 2003

Domestic Affiliate	Certification Date
Sanwa Altech Co., Ltd.	November 2000
Sanden System Engineering Co., Ltd.	November 2001
Sanden Logistics Co., Ltd.	February 2004
Sanden Facility Co., Ltd.	December 2003
Sanwa Thermotech Co., Ltd.	Preparing for certification
Asahi Sangyo Co., Ltd.	August 2001

Saving Energy by Improving Compressor Operation

At Asahi Sangyo Co., Ltd., compressors used to supply air account for approximately 40% of total electrical energy consumption. This affiliate conducted a survey of compressor operating conditions and air supply pressure that revealed unnecessary energy use, including waste resulting from excessive compressor operation on holidays and at night and

differences in pressure between the supply and use ends. Asahi Sangyo went to work, installing an air tank to ensure stable air supply, revising the layout of pipes, and implementing a centralized control system to cut compressor-related electrical use by nearly 20%.

To reduce energy consumption even more, we improved air-blower nozzles and other items used in production processes.

Comprehensive Energy-Saving Activities (Sanwa Precision)

Sanwa Precision conducts an energy-conservation program as part of its measures aimed at increasing earnings. All employees participate. Instructors from outside the company lead classes on energy conservation. In addition, the company prepared an energy conservation initiative selection inventory

table and is now working on initiatives for 31 items that were selected. Actions include lowering the pressure of air supplied to air compressors, the installation of screens for the outdoor units of HVAC systems, and the use of loops for air pipes. Achievements like these are the result of constant work, including energy-conservation factory patrols and discussions with employees, to identify sources of wasted energy.



Environmental Initiatives at Overseas Group Companies

Sanden Manufacturing Europe S.A.S. (SME)

In 1995, we established SME in Tinteniac, France, as our European production site for automotive compressors. Designed to operate in harmony with the environment with minimal impact on the surrounding area, this affiliate earned ISO 14001 certification in 1999 and, in fiscal 2005, overseas Group companies completed the transition to the fiscal 2004 version as they continued to conduct a variety of environmental activities.

In fiscal 2005, SME's environmental efforts focused on reducing the volume of industrial wastewater discharged, preventing environmental accidents, reducing waste, cutting energy consumption, developing environment-friendly products, and promoting

green procurement. This affiliate reduced landfill waste to 1% of total waste generated through the material recycling of 67.5% of total waste and the thermal recycling of 31.5% of total waste. In addition, SME enlisted the cooperation of suppliers to successfully eliminate the use of hazardous substances in products (substances restricted by the EU's ELV directive), elimination was achieved by enlisting the support of suppliers, and work is proceeding on cutting the release of HFCs.

In fiscal 2005, there were no incidents of water, air, or soil pollution at SME, thanks to its robust environmental risk management. Furthermore, this affiliate complied with all legal environmental standards.



■ Location: Tinteniac, France
 ■ Business Operations: Manufacture and sale of automotive equipment in Europe

Sanden International (Singapore) Pte., Ltd. (SIS)

SIS was established in 1974 as our Southeast Asian sales base. In April 2000, SIS earned ISO 14001 certification and is taking an active role in helping preserve the environment as our main business base in Asia.

In fiscal 2005, SIS worked to reduce water use by 40%, completely eliminate the use of CFC-based refrigerants, and cut waste disposal costs-achieving all of these goals. The company reduced waste disposal costs by approximately 35% and completely eliminated the use of CFC-based refrigerants while reducing the volume of

alternative refrigerants used. In addition, SIS took steps to raise employee awareness of the importance of environmental activities, which it regards as vital, including posting environmental information on its in-house web site, establishing "environment month," holding environmental exhibits and lectures, and conducting emergency drills. Moreover, this affiliate once again held an annual bazaar organized by staff and donated the proceeds to an environmental group, sold environmental cards, and engaged in afforestation activities in collaboration with an educational institution.



■ Location: Industrial Park, Singapore
 ■ Business Operations: Manufacture and sale of automotive equipment in Asia and the Middle East