# Sakai Plant of Daikin Industries, Ltd.

Report by Business Site
FY2020

| | | |
|---|---|---|
| Name | Kanaoka Factory |  |
| Address | 1304 Kanaoka-cho, Kita-ku, Sakai, Osaka 591-8511, Japan | |
| Site area | Approx. 117,000m$^2$ | |
| Completed | February 1963 | |
| Name | Rinkai Factory |  |
| Address | 12 Chikko Shin-machi 3-cho, Nishi-ku, Sakai, Osaka 592-8331, Japan | |
| Site area | Approx. 90,500m$^2$ | |
| Completed | October 1978 | |
| Employees | 1,768 (As of March 2021) | |
| Main products | Air conditioning / refrigeration equipment | |
| ISO 14001 certified | December 1992 | |
| Latest ISO 14001 update | March 24, 2019 | |

## ■ Sakai Plant Certified as Stage 2 Silver Rank Green Heart Factory

In 2017, the Sakai Plant received Stage 2 Silver Rank. This was the result of all employees making that all important extra effort and working together to systematically reduce environmental impact while strengthening relations with society.

Stage 2 Green Heart Factory:
Since fiscal 2005, the Daikin Group has established a certification system based on its original standards, which evaluate environmental and social attributes for environmentally advanced factories. In fiscal 2017, the standards were revised (Stage 2) in order to promote higher level initiatives. In addition to the existing seven standards including environmental impact reduction, such as reducing $CO_2$ emissions, and involvement with the community, a four-stage certification ranking was established (out of 200 points: bronze for 150 points and above, silver for 170 and above, gold for 190 points and above, and platinum for 195 points and above). These rankings involve additional evaluations on the rollout of systems or initiatives that involve all employees; thereby assessing whether environmental activities are conducted on an organization-wide level.

## ■ Products Developed and Manufactured at Kanaoka Factory

The factory manufactures mainly air conditioning-related products for commercial use.

- VRV multi-split type air conditioners

- Total heat exchanger

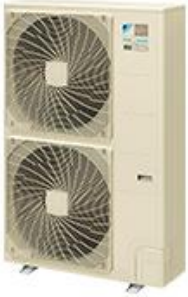
- Air conditioner and pin-point type air conditioner for commercial facilities

- Medium- and low-temperature air conditioner

- Air conditioner for stores

## ■ Products developed and manufactured at Rinkai Factory

- Air conditioner and total heat exchanger for stores and offices



FIVE STAR ZEAS

- Compressor

## Energy Saving

### ■ SEe Power Source Management Panel Shows How Energy is Used

SEe Management Panel, a sign with the manager's name on, is put up at the facilities during operation. This panel gives a visual representation of the facilities' operation, allowing excess energy to be cut and manufacturing to be carried out using only the amount of energy that is needed.

### ■ Innovative Transport

This room is rigged so that by placing parts in their set location, they are sent with the proper part trollies without the need to use any electricity.

### ■ Installation of Solar Power Panels

Solar power panels that have been installed on the factory roof generate approximately 20,000kWh a year. This electricity is used to run the lights in the canteen and to power development of a water heating system in the plant's R&D building.

### ■ Using Natural Energy

Employees made wind and water power systems that use the airflow from plant ventilation fans and water level differences. The power generated is used for the parts transport trollies.

### ■ LED Outdoor Lighting

The outdoor lighting that guides customers arriving at the factory entrance was converted to LED.

## Initiatives for Resource Recycling

### ■ Achieved Zero Waste Emissions

In August 2001, the Sakai Plant achieved zero emissions (recycling ratio of at least 99.5%).


### ■ Recycling of Water Resources

The Sakai Plant installed a wastewater recycling system in December 2019, which has reduced its use of groundwater and lowered its sewage discharge volume by filtering industrial wastewater and reusing it in other processes.

## Preventing Air and Water Pollution

### ■ Atmosphere-Friendly Equipment

The plant has introduced low NOx boilers that emit fewer pollution-causing nitrogen compounds than conventional boilers.

### ■ Continuous Monitoring of Wastewater

Plant wastewater is concentrated into one location where it is purified. Based on in-house standards stricter than government regulations, the wastewater is monitored 24 hours a day, every day of the year to ensure that measurement figures for criteria like COD and pH do not exceed standard values.

## Preparing for Emergencies

### ■ Emergency Shed

Emergency materials are stored inside a special shed in case of disasters such as earthquakes, fires and chemical substances leaks.

### ■ Drills for Water Quality Emergencies

Drills are held twice a year to prevent chemicals and other substances from flowing into storm drains during natural disasters.

### ■ Soundproof Walls

The plant constructs soundproof walls around its perimeter or at high locations, and has voluntary noise standards stricter than noise laws. Windows have been placed in the walls to avoid creating a feeling of being closed in, and trees have been planted for aesthetic purposes.

## Greening the Plant

### ■ Creating Biotopes

The Sakai Plant has made a biotope so that the premises can provide an environment suitable to life forms native to Sakai City.

At the site's sports day, employees and their families planted seedlings as part of grassroots employee efforts to protect and enhance the environment.



### ■ Planting Grass on Playing Fields



### ■ Green Wall

The tennis courts at the Kanaoka Factory have a 'green wall' of vegetation.

This wall uses hedera helix, a type of ivy ideal for such green walls.


### ■ Life Forms at the Sakai Plant

Numerous forms of life can be seen on the premises of the Sakai Plant.

Here are photographs of some of them.


Indian fritillary

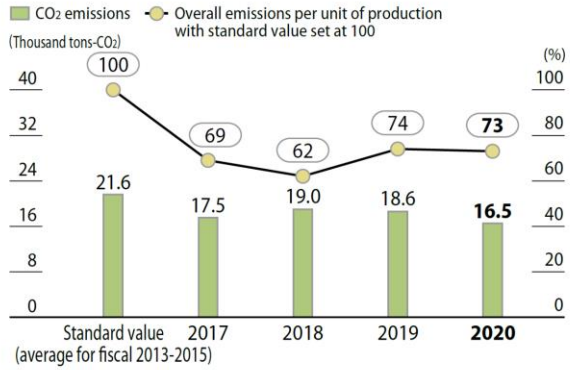

Asian swallowtail


Dragonfly (Anax parthenope)

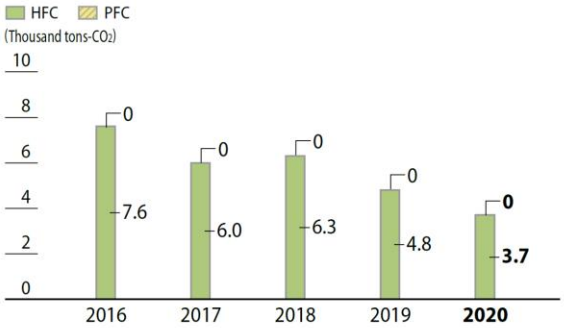

Little ringed plover

# Environmental Performance Data

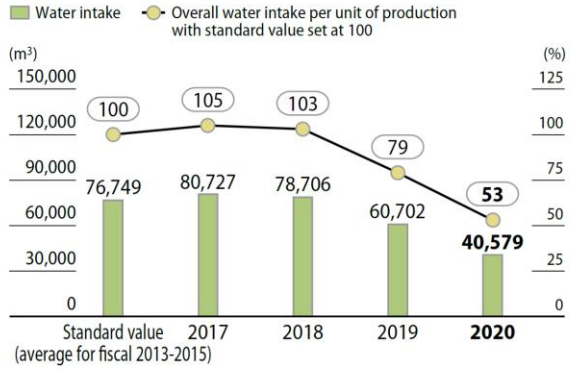
## ■ Total Energy-Induced $CO_2$ Emissions, $CO_2$ Emissions per Unit of Production



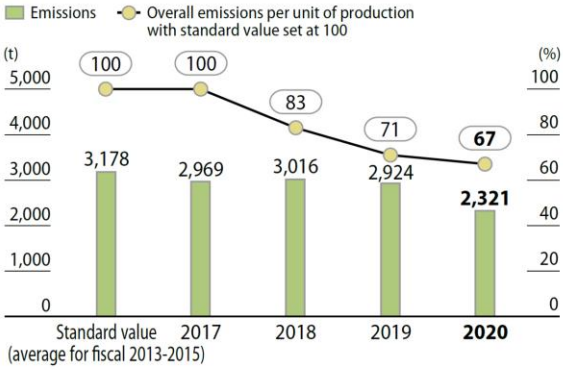

## ■ Greenhouse Gas Emissions Other than $CO_2$



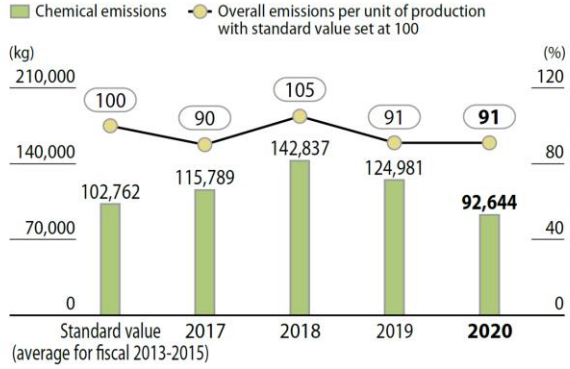

## ■ Water Intake/per Unit of Production




## ■ Emissions/per Unit of Production




## ■ Chemical Emissions/per Unit of Production (total of PRTR substances and VOCs)



## Release and Transfer of Chemical Substances (PRTR) FY2020

Unit: kg

| Substance name | Amount emitted | | | Amount transported | |
|---|---|---|---|---|---|
| | Air | Public waterways | Soil | Waste | Sewage |
| Ethylbenzene | 340.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ferric chloride | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Xylen | 453.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Toluene | 1,811.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tritolyl phosphate | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 2,605.5 | 0.0 | 0.0 | 0.0 | 0.0 |

## Exchange with Local Communities

* In FY2020, some activities have been canceled due to the impact of COVID-19. (Photos are from past events)

### ■ Summer Festival

Every August, a Noryosai Bon dance festival is held to allow plant employees to interact and enjoy with local residents. Young employees and local elementary school students take the stage to excite the crowd with 'yosakoi soran', a type of modern festival dance.

### ■ Exchanges

Every July, an exchange is held with the neighborhood association. By listening to opinions that the association has about the plant, Daikin strengthens bonds with the local community.

### ■ Rugby School

The plant field is open for use by the Sakai Rugby Club three times a month. This contributes to the growth and development of about 130 students in elementary and junior high school.

### ■ Factory Tours for Elementary Schools

For more than 20 years, the plant has been helping elementary schools with their open learning classes by inviting grade 5 students from local elementary schools to tour the factory.

### ■ Earthquake Simulations

A special truck with an interior that can simulate an earthquake was at the annual summer Bon Dance to let people experience what an actual earthquake is like. This is one way Daikin contributes to disaster preparation.

### ■ Local Cleanup Activities

Once a month, all employees take turns picking up litter on streets around the plant.

In addition, starting with Daikin's June Environment Month in 2010, we have been holding cleanup activities in nearby children's parks.

## Social Contribution

### ■ Actively Volunteering in Publicly Sponsored Activities

The Sakai Plant took part in tree-planting in the Forest of Coexistence, a project to create green space in the Rinkai area of Sakai City.

It also played an active role in a purse-snatching prevention campaign sponsored by the local crime prevention association by providing bicycle carriage covers and promoting awareness of purse-snatching.

(The Sakai Plant received letters of appreciation for both of these efforts.)

- The Forest of Coexistence in Sakai


- A purse-snatching prevention campaign