



# SAKAI PLANT



Our ideas are always inspired  
by a desire to make your life  
more comfortable



## History of Sakai Plant

Daikin uses advanced air conditioning technology to bring comfort to people's lives. Playing a central role in that advanced technology and quality is the Sakai Plant, which comprises the Rinkai Factory and the Kanaoka Factory. As a manufacturing base of outdoor units for commercial air conditioners, the Rinkai Factory boasts state-of-the-art production facilities and an energy-efficient, employee-friendly working environment. The Kanaoka Factory has an integrated system from design to manufacture and constantly advances the air conditioning technologies that benefit Daikin customers around the world. We at Daikin are always keeping a close watch on current trends and advancing comfort to even greater heights.

Plant Developments	Production Related	Certification (Acknowledgement by outside organizations)
<p><b>February 1937</b> Sakai Plant established. Begins operation specializing in manufacture of heating and cooling equipment.</p> <p><b>February 1963</b> Kanaoka Factory completed.</p> <p><b>October 1978</b> Rinkai Factory completed.</p> <p><b>March 1990</b> Rinkai Factory No.2 begins operation.</p> <p><b>June 1992</b> Rinkai Distribution Center completed.</p> <p><b>November 1992</b> Kanaoka Factory Engineering Building completed.</p> <p><b>June 2018</b> Rinkai No. 1 Factory rebuilt.</p>	<p><b>February 1938</b> Production of freezers (for submarines) employing CFC commences.</p> <p><b>May 1951</b> Production of package air conditioners for commercial applications commences.</p> <p><b>January 1958</b> Production of room air conditioners for residential use commences. (Production moved to Shiga Plant in 1970.) (Production of central air conditioning system products moved to Yodogawa Plant.)</p> <p><b>August 1984</b> Production of package air conditioners (outdoor units) reaches 1 million units.</p> <p><b>October 1999</b> Production of package air conditioners (outdoor units) reaches 5 million units.</p> <p><b>May 2014</b> Production of package air conditioners (outdoor units) reaches 10 million units.</p>	<p><b>December 1992</b> ISO 9001 quality management system certification was obtained.</p> <p><b>October 1994</b> Sakai Plant receives TPM Award from Japan Institute of Plant Maintenance.</p> <p><b>October 1996</b> Environmental management system certified compliant with international ISO 14001 standard.</p> <p><b>August 2001</b> Sakai Plant achieves "zero emissions" status.</p> <p><b>June 2002</b> Sakai Plant receives Osaka Environmental Award.</p> <p><b>August 2012</b> Occupational Health and Safety Management System OHSAS 18001 Certification.</p> <p><b>January 2020</b> Rinkai No. 1 Factory receives Energy Conservation Center Chairman's Award of the Energy Conservation Grand Prize.</p>

# Where ideas take tangible form— this is where Daikin air conditioner products are born

The Sakai Plant comprises two facilities, the Rinkai Factory and the Kanaoka Factory. Along with production, it serves as a base for development work, and is the source of products designed to create an environment attuned to the lifestyles and society of tomorrow.

## Sakai Plant—Rinkai Factory Site area: approx. 90,500 m<sup>2</sup>



The Rinkai Factory is Daikin's worker-friendly production base for outdoor units for commercial air conditioners. The manufacturing system integrates all tasks from the assembly of key components to the completion of finished outdoor units. Particularly advanced technology is employed in the development and manufacture of compressors, which

can be considered the heart of an air conditioning system. The production line is linked directly to the Distribution Center and inventory management is entirely computerized. This enables the Rinkai Factory to fulfill a wide variety of customer orders rapidly and flexibly.

### Main Products Made at the Rinkai Factory

#### Multi-split type air conditioners for commercial use

The ultimate in comfort for any building room or floor.



#### Air conditioners for stores and offices

From its wide-ranging air conditioner series, Daikin offers an optimal system that best meets customers' requirements while providing energy efficiency, comfort, and rapid replacement.



#### Compressors

Compressors, the heart of air conditioners, are manufactured using ultra-precision processing and super-accurate assembly technologies.



## Sakai Plant—Kanaoka Factory Site area: approx. 117,000 m<sup>2</sup>



This is the major production facility for Daikin's world-renowned air conditioning products. Employing an advanced manufacturing system to produce air conditioners for commercial applications, the plant operates at high efficiency to manufacture a wide range of products. In tandem with the Technology and Innovation Center (TIC) located at the

Yodogawa Plant, the Sakai Plant also provides technological expertise and manufacturing capabilities to Daikin bases around the globe. This allows us to leverage the power of innovation inside and outside the company in product development to more rapidly launch advanced environmental technologies.

### Main Products Made at the Kanaoka Factory

#### Air conditioners for industrial facilities and MULTI CUBE air conditioners

A wide variety of systems with a high degree of flexibility in design are available, allowing air conditioning of an entire plant, specific localized areas, or anything in between.

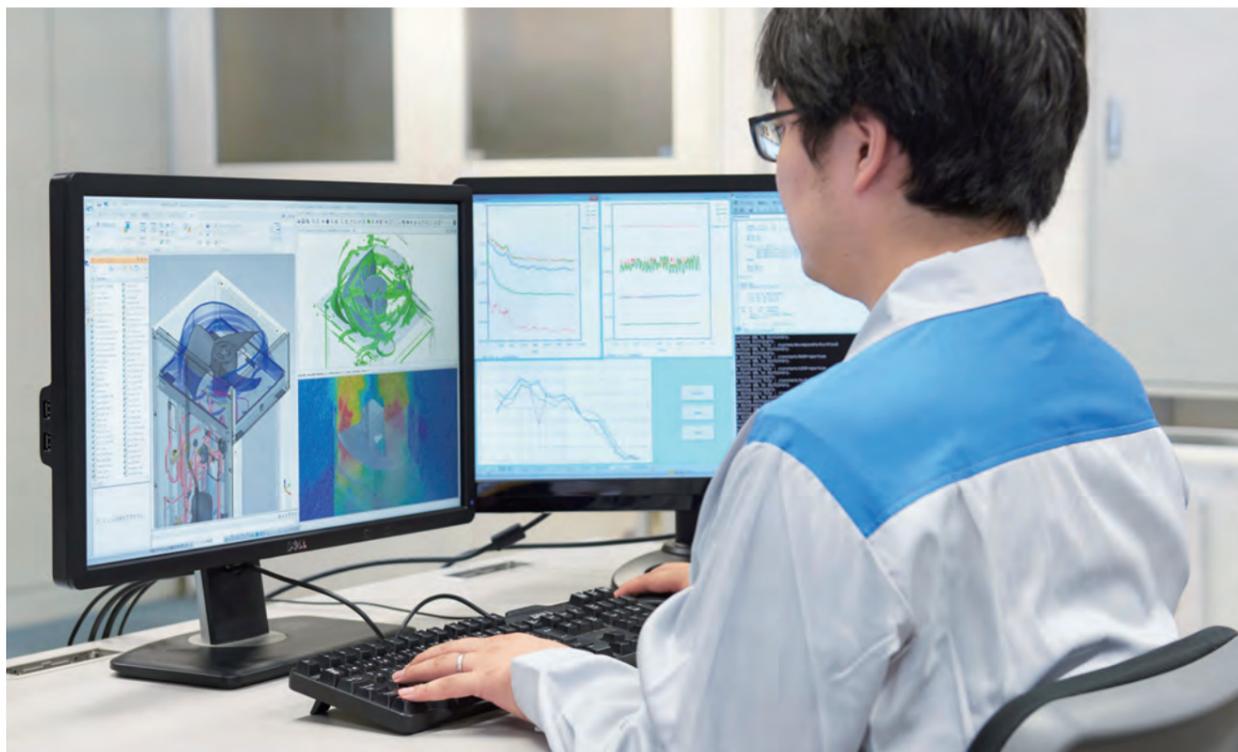


#### Air conditioning units for medium- and low-temperature environments

These units realize a range of temperature environments: for example, for constant temperature maintenance in factories, laboratories, and food storage areas, and as heat sources for store display cases.

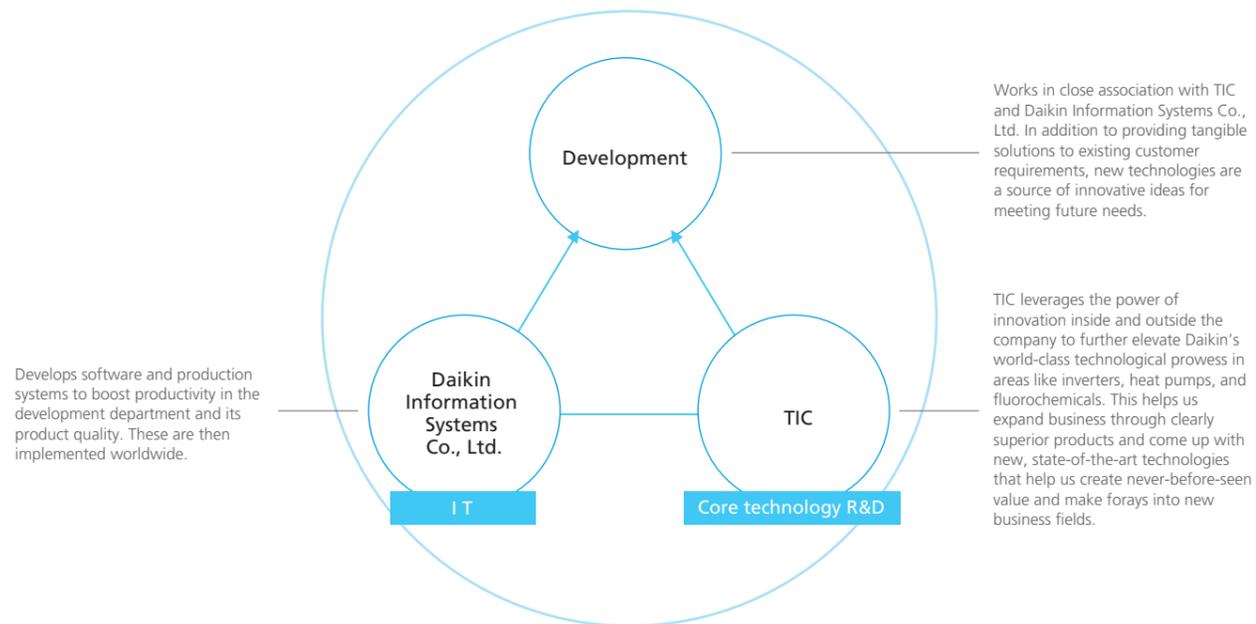


## Producing superior products through collaboration between research, development, and design sectors



Development of custom support system for air conditioning piping design and productivity assessment

Daikin strives to take up cutting-edge ideas, quickly incorporate them into products, and then deliver these products to the consumer well ahead of the competition. The key to getting products to market quickly is the close collaboration between Technology and Innovation Center (TIC) and the development divisions. TIC, which develops world-class Daikin core technologies such as inverters and heat pumps, and Daikin Information Systems Co., Ltd. provide invaluable support to our product design department. Working together, they make it possible to incorporate insights from customers into products and bring them to the production stage quickly and smoothly. This teamwork results in the development of base models in Japan that will eventually reach overseas markets and contribute to speedy product development at overseas bases.



## Entire plant as a solutions showroom for large-space air conditioning

We use the entire Sakai Plant to demonstrate how the air conditioner manufacturer Daikin carries out air conditioning in large spaces. We've built a showroom in the Sakai Plant to improve visitors' understanding of our production lines.

### Large-space Air Conditioning Solutions Factory Air Conditioning Zone

Projection mapping is used to provide easy-to-follow explanations of conditions like airflow and temperature change controlled by the large-space air conditioning equipment installed in Rinkai No. 1 Factory.



### Technological Commitment Key Device Zone

Visitors can see Daikin's attention to technical detail with a look at the product parts operating inside air conditioners.



Showroom Entrance

### Reliability, Trust Support Zone

Here we introduce the numerous support systems that ensure our customers worry-free use of Daikin products for years to come.



### Understanding Production Lines Factory Tour Hall

Prior to a tour of the factory itself, visitors get a bird's-eye view of the production lines and a brief explanation.



## Superior quality and stable functions mean customers can use Daikin products with confidence

Using mixed single-unit flow production system based on PDS (Production of Daikin System) allows the Sakai Plant to bring customers the exact product they want in the shortest time possible.

The workers who carry out the production processes such as machining, brazing, and assembly undergo training by Daikin meisters, skilled engineers certified by the Daikin Group.

In addition to in-house manufacture of compressors, heat exchangers, and other key devices that our company has uniquely developed, quality control and traceability have improved through control of each part in a sequence synchronized with the product line.

In the inspection process of product lineups, every single product is inspected for refrigerant leaks and operation, with only those that pass being shipped to customers. In addition, inspection results are compiled along with information from the production process to be recorded and centrally managed.



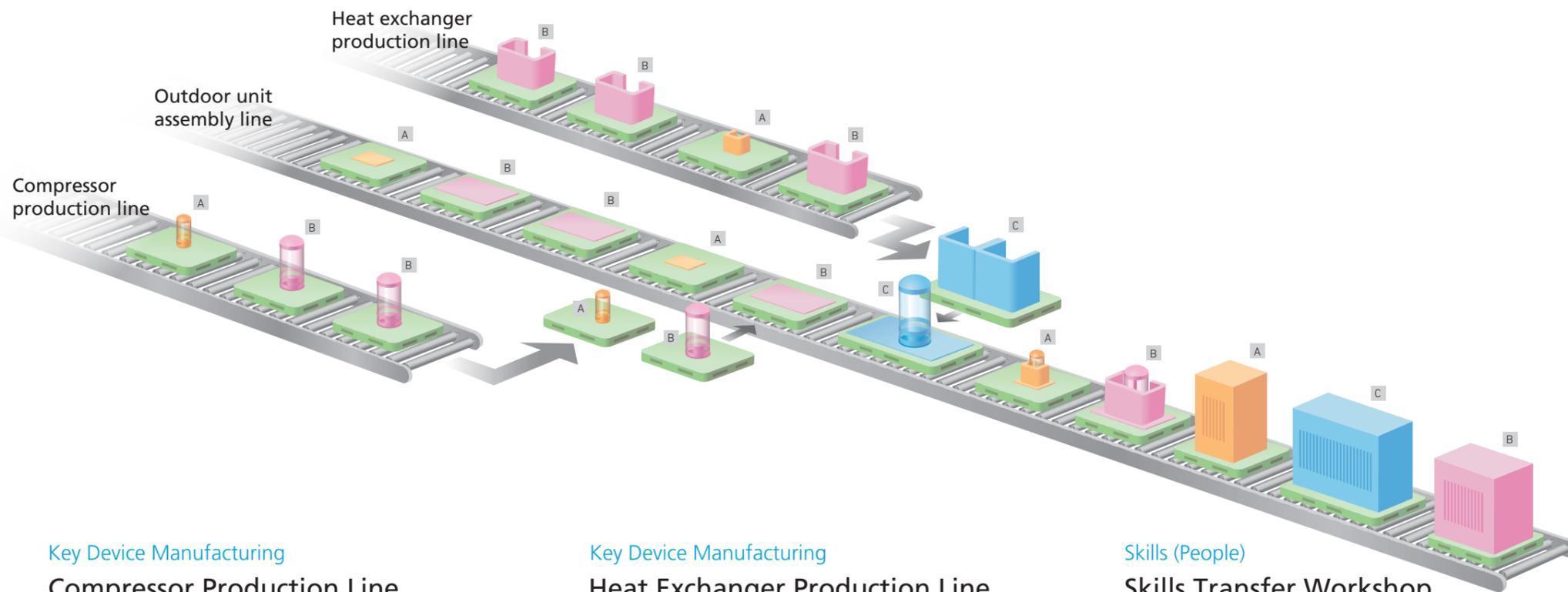
**Rinkai Factory**  
Assembly line for multi-split type air conditioners for commercial use



**Kanaoka Factory**  
Large air conditioner assembly line

### Mixed Single-unit Flow Production System

Individual products are manufactured one by one on the assembly line. Parts such as compressors and heat exchangers are also manufactured to match the order of products on the assembly line.



#### Key Device Manufacturing

##### Compressor Production Line

High quality and high performance are achieved by carrying out machining to an accuracy measured in microns, and this same level of precision is applied to every single product that comes off the line.



#### Key Device Manufacturing

##### Heat Exchanger Production Line

To ensure the proper connection and airtightness of the heat transfer tube and fin, we constantly monitor the furnace temperature in the brazing process and conduct air leak inspections on all items.



#### Skills (People)

##### Skills Transfer Workshop

Meisters, highly skilled engineers certified by the Daikin Group, are responsible for training the workers who are in charge of making our products.



### Factory IoT Project Center

The inspection results of each process, processing conditions, and other information are compiled in the plant's IoT Project Center for the sake of traceability.



#### Quality

##### Operation Inspection

Each product undergoes a five-stage inspection that includes checking for refrigerant leaks and confirming functions. Only those products that pass all tests are shipped to customers.



## Aiming to be a facility that everyone can trust, customers and employees alike

We want to achieve a level of quality that will provide satisfaction to all our customers. We want our plant to be considered a good neighbor by the people of the surrounding community. We want to provide our employees with a working environment that is safe and congenial. To achieve these goals, we have undertaken a variety of actions and policies.

### Safety and Health Initiatives

#### At the Sakai Plant, everyone works together to prevent accidents and create a pleasant worksite

One of our key aims to create workplace where employees can concentrate confidently on their duties. Through hands-on safety classes we provide employees at the Sakai Plant with the opportunity to deepen their understanding of safety issues and increase their awareness by experiencing stressful situations firsthand. This is part of a program of preventative safety activities involving everyone working at the plant.

In addition, we place considerable emphasis on maintaining the mental well-being of our employees by eliminating sources of worry and stress, and on psychological follow-up as well. These programs to ensure the health of personnel are a key part of our efforts for maintaining plant safety and eliminating accidents.



#### Occupational Safety and Health Management System Certification

Through our varied safety and health activities including hands-on safety classes, risk assessment activities, disaster prevention activities and other safety-first activities, and through our health promotion activities, including mental health care, we have obtained "ISO 45001" certification for our industrial safety and health management system.



Certified August 7, 2012  
(Sakai Plant)

Safety and Health Initiatives

### Environmental Initiatives

#### Aiming for an environmentally advanced factory through promotion of eco-friendly production activities

Daikin recognizes its responsibility to environmental conservation and protection and has always worked to address global challenges. For example, our R32 refrigerant has been shown to have a global warming potential that is up to 66% lower than conventional refrigerants.

At our Sakai Plant, we demonstrate our commitment to environmental preservation by recycling waste and other resources and by incorporating advanced energy-saving plant technologies. These efforts shrink our environmental footprint and reduce our impact on global warming.

Since 2010, our Sakai Plant has conducted "Clean & Green Activities" to raise employee awareness of our mission to pursue green production and contribute to a better natural environment.

Biotope created by our employees attract wildlife such as birds, dragonflies, and butterflies. These biotopes represent one way we strive to build and conserve a natural environment rich in biodiversity at and around our plant.



D-BIPS (Daikin Builtmulti Intelligent Partner System) building integrated monitoring board was installed to enable state-of-the-art energy management

#### ISO Environmental Standard

Efforts such as developing easy-to-recycle products, conserving energy, and reducing waste earned the Sakai Plant certification for ISO 14001.



Certified October 15, 1996  
(Sakai Plant)

Environmental Initiatives



The installation of wastewater recycling equipment has decreased the amount of groundwater that we use



Neighborhood clean-up



Employees create a biotope

### Community Initiatives

#### To always be a factory that plays an active role in the community

We want to do more than simply manufacture products; as a corporate citizen, we hope to interact with the local community and move forward with it. With this mind, we sponsor a variety of events and social activities. Examples include evening festivals to promote friendly relations and a rugby school for children. By interacting with local residents as much as possible, Daikin hopes to be a company that grows with the local community.



Quality Initiatives

Community Initiatives

### Quality Initiatives

#### Thorough control over every process of development, procurement, and manufacturing

We maintain and control the quality level of our products and thoroughly implement and manage efforts to ensure product safety and high quality in all divisions of development, procurement, and manufacturing. If a defect does occur, the cause is thoroughly investigated and resolved to prevent recurrence.

In addition, we aim to constantly raise quality levels, both at Daikin and at our manufacturing subcontractors, by improving the technical expertise of all personnel. One of these efforts is the "Meister system" in which the skills of experienced technicians are passed on to younger employees.



Stringent check of every process to eliminate mishaps



Enhancing employees' skills under the guidance of outstanding technicians

#### ISO Quality Standard

Obtained ISO 9001 certification for our quality management system



JMI-0107

Certified base:  
Air Conditioner Manufacturing Division  
Daikin Industries, Ltd.  
Activities covered by certification:  
Design, development, and manufacture of commercial air conditioners, heating/cooling/refrigeration equipment, heaters, residential air conditioners, total heat exchangers, air purifiers, compressors, and valves



Morning greetings

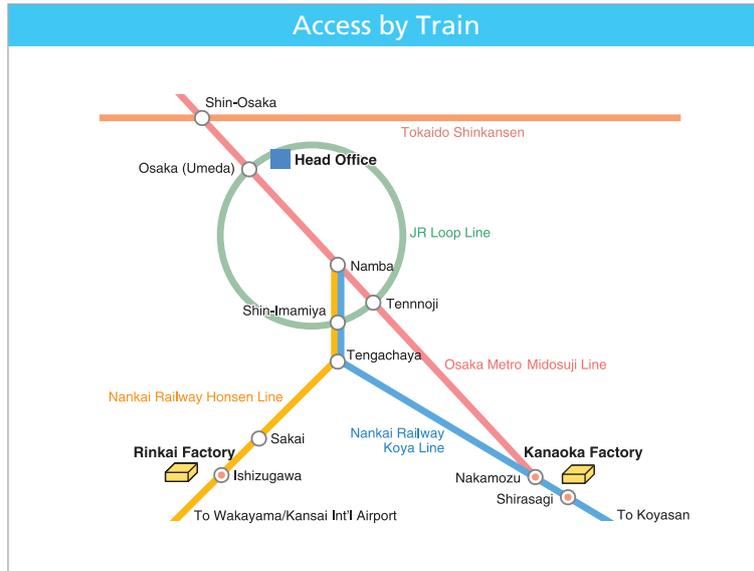


Rugby school

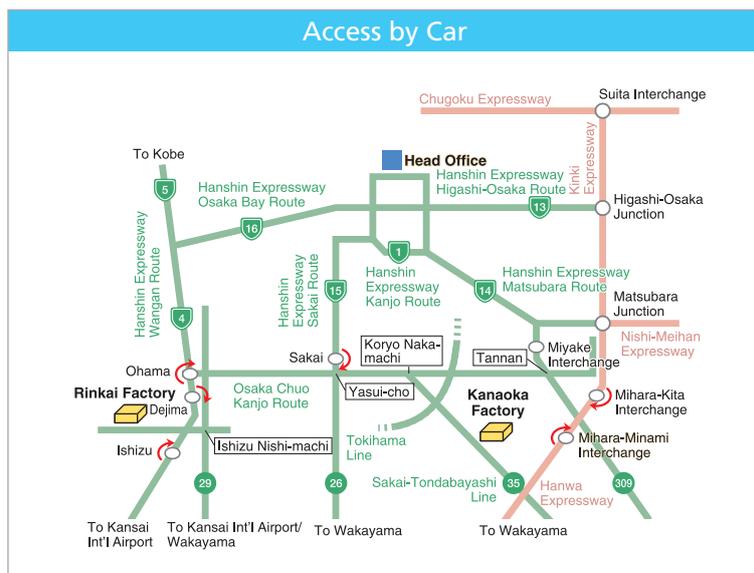


Evening festival

## Getting to the Sakai Plant



- Getting to the Kanaoka Factory
  - Five minutes' walk from Shirasagi Station on Nankai Koya Line.
  - 15 minutes' walk from No. 1 exit of Nakamozu Station on Osaka Metro Midosuji Line.
- Getting to the Rinkai Factory
  - Five minutes' taxi ride from Ishizugawa Station on Nankai Honsen Line. (Change to local train at Sakai Station.)



- Getting to the Kanaoka Factory
  - From Osaka: 5 km (15 minutes) east of Sakai exit on Hanshin Expressway No. 15 Sakai Route.
  - From Suita: 5 km (15 minutes) west of Mihara-Kita exit on Kinki Expressway.
  - From Wakayama: 5 km (15 minutes) west of Mihara-Minami exit on Hanwa Expressway.
  - From Kansai Airport: 7 km (20 minutes) east of Ohama exit on Hanshin Expressway No. 4 Wangan Route.
- Getting to the Rinkai Factory
  - From Osaka: 3 km (5 minutes) west of Dejima exit on Hanshin Expressway No. 4 Wangan Route.
  - From Kansai Airport/Wakayama: 3 km (5 minutes) west of Ishizu exit on Hanshin Expressway No. 4 Wangan Route.

## **DAIKIN INDUSTRIES, LTD.**

<https://www.daikin.com>

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Rinkai Factory

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