Sharp Solutions

Improved service | Enhanced comfort | Improved image

SHARP

Kobe New Transit Co.,Ltd. | Railway | Plasmacluster Ion

Providing comfort in Rokko Liner cars with Plasmacluster Realizing “People-friendly cars” with a clean air environment

Customer

Kobe New Transit Co., Ltd.

- Kobe City, Hyogo Prefecture
- Established in 1977, Kobe New Transit operates the Port Island Line (Port Liner) and Rokko Island Line (Rokko Liner), transit systems that connect Kobe City to artificial island in Kobe Port.

Rokko Liner 3000 Series (4-car train)

Implemented product

Plasmacluster Ion Generator for railway cars

(Cars manufactured by Kawasaki Heavy Industries, Ltd.)

- The Plasmacluster ion generator is embedded into the ceiling at two places in the new 3000 Series train that was newly implemented in the Rokko Island Line. Operation of the 3000 Series started with one train set in August 2018. All eleven train sets will be updated to the new model in the following five years.

This is what we realized.

Challenges before implementation

When updating to the new model trains, the aim was to ensure safe travel, and to create a comfortable car environment for the passengers. In addition to improving the air-conditioning and lighting, it was decided to maintain a sanitary and odor-reducing air environment.

Keep the air environment in the car clean with Plasmacluster ions, and create a “people-friendly car.”

Save installation space by embedding into the ceiling. Diffuse ions throughout the car with the fan built into the equipment.

The deodorizing effect reduces odors when the air conditioner starts operation and after operation hours.

Issued August 2019

KOBE NEW TRANSIT CO., LTD. Transportation Technology Department, Train Car Section

Car inspection supervisor	Engineer	Engineer	Deputy section manager
Manabu Ootsu	Seigo Ebiura	Yu Sakamoto	Manager in charge of train cars (Rokko) Norio Arikuma

Background of Implementation

Improve the environment in the car when updating to the new train car. Keep the air clean and pleasant.

Our company's Rokko Island Line started introducing a new model from 2018, and will sequentially update all 11 train sets. When designing the latest cars, naturally, we wanted to ensure safe travel, but we also wanted to improve the environment in the car, so that passengers could travel comfortably. We studied improvements to the air-conditioning and lighting, and at the same time, we looked at the hygienic situation of the air in the car and decided to maintain an odor-reducing environment.

Reasons for Selection

Other railway operators are expanding implementation. Relying on achievements of extensive use in homes and hospitals, etc.

Kawasaki Heavy Industries, which was manufacturing the car, proposed the Plasmacluster ion generator for railway cars, equipment that has been implemented by other railway operators. Plasmacluster is used in homes, hospitals, and pet shops, etc., and a deodorizing and disinfection effect can be anticipated even in railway cars. This system is also advantageous with its anti-static effect that prevents static electricity from causing dust to adhere to the car walls and ceiling. The Plasmacluster generator for railway cars is also praised for its ability to efficiently diffuse ions throughout the car with the fan built into the equipment.

Effect after implementation

Fewer odors linger in the car after operation hours. Passengers approve of the sanitary air environment.

In the new train car with Plasmacluster, fewer odors linger in the car after daily operation hours, and the cars have a comfortable new-car feel even after operation for some time. The smells sensed when the air conditioning switch was turned on have also been reduced since Plasmacluster was implemented. Passengers no longer complain about odors, and we can maintain a comfortable and sanitary air environment.

Future prospects

Advancing with the creation of "people-friendly cars." Planning to promote implementation to all 11 train sets.

Over the next five years, two train sets on this route are scheduled to be replaced each year with Plasmacluster equipped cars. With this initial implementation, the train environment, such as the comfort of the ride, was improved, and at the same time, a sanitary and odor-reducing space was achieved, advancing the creation of "people-friendly cars." As the new cars are introduced, we will continue to create an environment where passengers can ride more comfortably.

Flush, space-saving installation by embedding into the ceiling

Ions are diffused with a generator installed above seats at the side of the gangway.

Promoting Plasmacluster with door stickers.