

DEGREE CELSIUS

Spring 2015

THE NEWSLETTER FROM DAIKIN REEFER

## 2,000 Daikin reefers for the Middle East

UASC orders 2,000 LXE-10E reefer units

## Active Controlled Atmosphere launch

Daikin's latest active CA system on show at Intermodal Asia 2015



## New Miami parts centre

Parts distribution capacity in North American east coast region enhanced





# Welcome

From Katsuhiro Tetsuya,  
Director of Daikin Reefer  
Container Sales Division

**W**elcome to the spring 2015 edition of our Daikin Reefer newsletter, issued to coincide with two major industry exhibitions: **Intermodal Asia 2015, which takes place on March 24-26 at the Shanghai World Expo Centre; and Intermodal South America 2015, taking place April 7-9 at the Transamerica Expo Centre in Sao Paulo, Brazil.**

At the beginning of this year, Daikin was honoured to receive a first-time order from United Arab Shipping Company (UASC) for 2,000 refrigerated containers, which you can read all about on page 6. We are also pleased to announce that all members of the Ocean Three liner shipping alliance (being UASC, CMA-CGM and China Shipping) are using Daikin Reefer units in all their key East-West trade routes: Asia-Europe, Asia-Mediterranean, trans-Pacific, and Asia-United States east coast.

To meet with various customer demands, we have just launched Daikin Active CA (controlled atmosphere), which combines three important aspects of Daikin's unique technology: fast reduction of oxygen levels inside reefer containers; manufactured with a simple structure, with reliable proven technology. Daikin's Active CA system is compact, yet maintains a high level of performance. The machine creates a large quantity of nitrogen (N<sub>2</sub>) gas, which

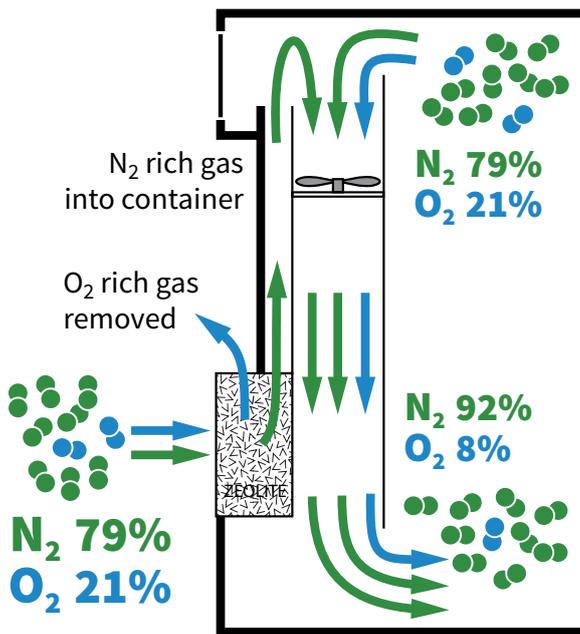
is released into the container by a vacuum pressure swing absorption (VPSA) system, through filters containing the mineral adsorbent zeolite. This can quickly capture a large quantity of N<sub>2</sub> from the air and charge the gas into the container. It rapidly reduces the oxygen (O<sub>2</sub>) level without adding additional gas. You can find more on page 4.

Finally, in February we established a new parts centre in Miami with RAVA Group Container Services. The centre

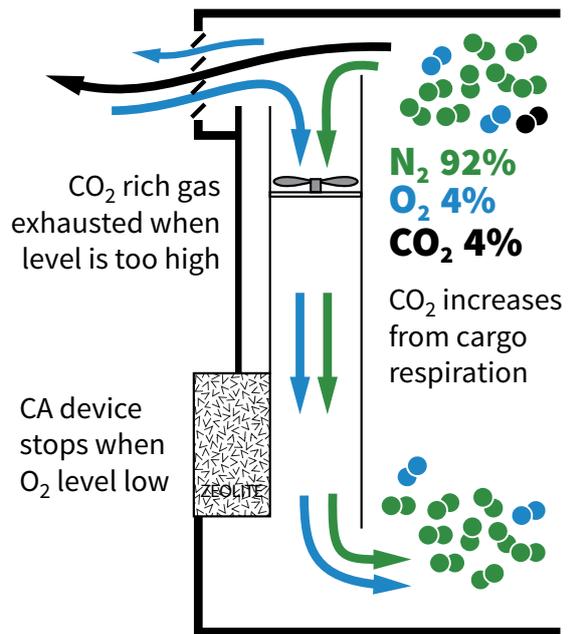
*We have just launched Daikin Active Controlled Atmosphere, which combines three important aspects of Daikin's unique technology*

covers the North American east coast region, where there is the highest demand for spare parts. The new parts centre in Miami will offer Daikin Reefer an increased inventory of parts and therefore an improved customer response rate – turn to page 10 for the whole story.

**Katsuhiro Tetsuya**  
**Director**  
**Reefer Sales Division**



**1** VPSA system in CA device scrubs out O<sub>2</sub> to create a N<sub>2</sub> rich gas which is then pumped into the container.



**2** CA device stops when O<sub>2</sub> is at the correct concentration. When CO<sub>2</sub> level becomes too high, the gas is exhausted.

# Daikin technologies

## Daikin Active Control Atmosphere (CA) launched

**D**aikin Reefer has just launched its new Active CA device, a fast-working, economical and highly reliable unit that creates a controlled atmosphere (CA) inside refrigerated containers transporting perishable goods.

Daikin has supplied one international shipping line with 50 of the Daikin Active CA machines for mainly avocado, mango and blueberry use, which were fitted on the customer's reefer containers at the end of February. Active CA is compact and has been specifically designed to be installed quickly and simply on refrigerated container units.

Creating a CA inside reefer containers minimises the aging process that food products undergo during transit, which allows them to be transported in better condition for longer periods of time.

The Daikin Active CA unit controls the air composition inside a reefer container. By limiting the level of available oxygen, this reduces the perishable cargo's rate of respiration and therefore the rate at which it degrades during transit. Food arrives at its final destination in better condition, and fruit products also retain a higher natural sugar content.



Standard air is composed of 76% nitrogen, 21% oxygen and 0.03% carbon dioxide. In a typical CA, oxygen content is just 2%, carbon dioxide is 2% and nitrogen is 96%.

Uniquely, the Daikin Active CA machine is able to create an air composition very quickly, using a vacuum pressure swing absorption (VPSA) system. The VPSA system uses the mineral adsorbent zeolite, which quickly captures a large quantity of nitrogen from the air

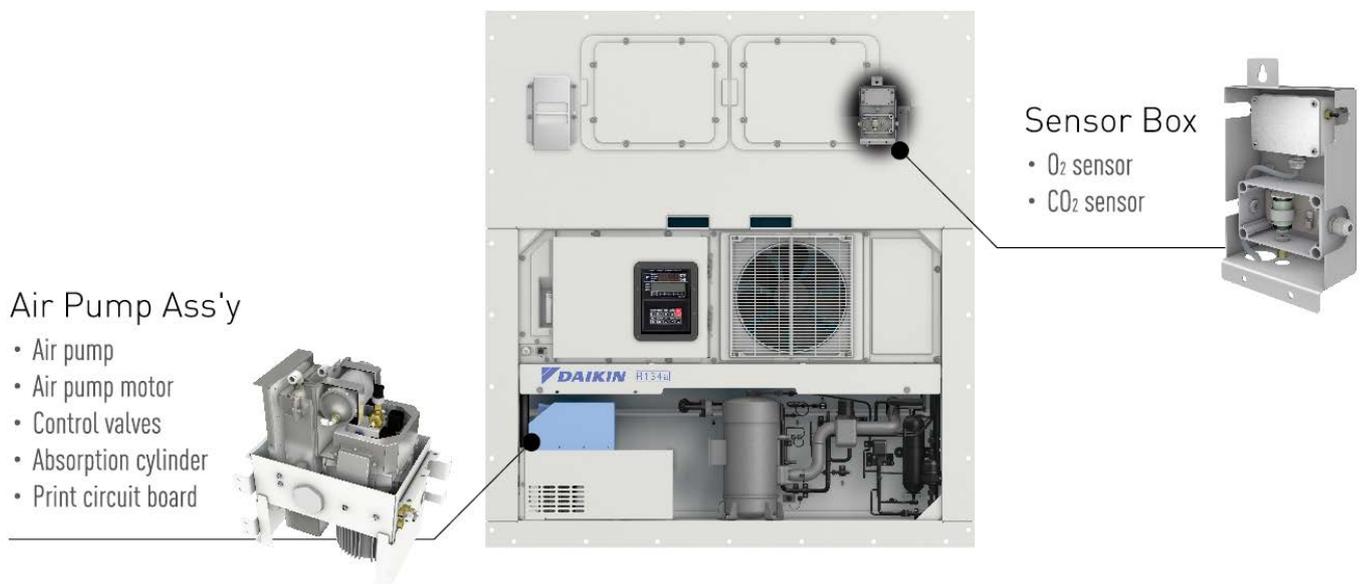
*Uniquely, the Daikin Active Controlled Atmosphere machine is able to create an air composition very quickly, using a vacuum pressure swing absorption system*

and transfers the nitrogen into the reefer container. This allows the oxygen level inside to be quickly reduced by dilution, without adding additional gas.

The Daikin system uses cargo respiration to maintain the container's carbon dioxide level, alongside an automatic ventilation control, which makes the unit simple and economical to run.

The device's high level of reliability is assured through the use of proven technology. The design of the unit's oxygen-conserving LiteTEC-5X component adapted Daikin's oxygen concentrator, developed for use in the medical industry, which requires a high level of durability from all equipment.

**The new Active CA unit itself will be on display at Daikin Reefer's stand at the upcoming Intermodal Asia show in Shanghai (24-26 March).**



**Daikin Active Control Atmosphere technology reduces oxygen levels fast, is simple in structure and highly reliable through the use of proven technology.**



# Customer focus

## UASC orders 2,000 new reefer units

**L**eading container shipping line United Arab Shipping Company (UASC) placed an order for 2,000 reefer containers from Daikin in January this year. The order was the first step in UASC's expansion of its reefer services and underpins the company's ongoing investment in the most cutting-edge, energy-efficient solutions for the carriage of frozen and chilled cargoes.

The containers will be fitted with Daikin's latest-model LXE10E reefer unit – the H model – which provides the optimum temperature environment and airflow for chilled cargo. In this latest model, hard- and software developments have significantly reduced power consumption, achieving a 50% reduction in comparison to the earliest model, which was introduced in 2001. The H model unit has a highly sensitive temperature control system, making it suitable for any weather conditions and all types of cargo.

With an average reefer container age of three years, UASC's progressively expanding reefer fleet is one of the

youngest in the industry and this order of an additional 2,000 reefer units represents a considerable increase in the overall size of UASC's reefer fleet. This ongoing investment will support the growth of existing services and enhanced

*UASC containers will be fitted with Daikin's latest LXE10E reefer unit, the GH model, which provides optimum temperature environment and airflow for chilled cargo*

geographic access to South American trades, following the recent service agreement with Hamburg Süd.

"The progressive expansion of UASC's fleet of refrigerated units ensures enhanced reefer availability for all our customers," says Gareth Madsen, head of reefer



management at UASC. “We are committed to driving down costs, optimising networks and continuously improving our services. This order for 2,000 units from Daikin will enable UASC to deliver the right level of accessibility, quality and efficiency for the carriage of frozen and chilled cargoes.”

“UASC will be placing more orders of reefer units this year. More details will be released once plans are finalised,” Madsen adds. “In terms of quality, performance and reliability, Daikin’s latest reefer units set the industry benchmark. In addition, it fits UASC’s overarching commitment to investment in eco-efficiency and environmentally responsible operations, which we believe is good for our business, good for our customers and good for our planet.”

“It is a privilege to be part of UASC’s ambitious growth strategy,” says Katsuhiko Tetsuya, director of Daikin’s reefer container division. “The latest Daikin LXE10E H-model sets new standards in terms of energy efficiency and reliability, directly supporting UASC’s focus on delivering outstanding customer service.”

The aims for UASC’s reefer business form a key element of the company’s ambitious expansion strategy. This announcement follows three deliveries of 15,000-TEU vessels from UASC’s current newbuilding program (comprising 17 ships: eleven 15,000-TEU vessels and six

18,800-TEU vessels); as well as co-operations with leading liner shipping companies CMA CGM and China Shipping Container Lines (together forming the Ocean Three alliance), plus the extensive cooperation agreement with Hamburg Süd.

#### **About UASC**

United Arab Shipping Company (UASC) is a global shipping company based in the Middle East. Founded in 1976, UASC is present in more than 75 countries and is a major container shipping player in the Middle East and adjacent

*This order for 2,000 Daikin units will enable UASC to deliver the right level of accessibility, quality and efficiency*

markets, covering over 200 destinations worldwide. UASC offers containerised and conventional cargo transportation, temperature-controlled cargo and value-added services to a diversified global client-base, covering the Middle East, Europe, Mediterranean, Indian Sub-Continent, Far East, Australia, West Africa and the Americas.

[www.uasc.net](http://www.uasc.net)

# Resale market

## Touch and feel seminars

**D**aikin is the only manufacturer of reefer machinery that actively promotes its machines in the resale market, in order to support initial customers during the second life of a reefer container. For this purpose, Daikin organises so-called Touch & Feel (T&F) sessions, where participants are able to experience the machinery close up, and ask questions relevant to its resale use.

Daikin units have only started entering the resale market in the last couple of years, and Daikin realised

*This year, Daikin has conducted ten Touch & Feel seminars worldwide to promote the resale market*

early on that there was a fresh need for training for this new resale market.

“Customer feedback is great,” says Toshiyuki Shimizu, Daikin Reefer’s senior manager and project leader for resale promotion. The low noise level of the LXE compared to other units in the resale market, coupled with the hot gas defrost without the need to replace electrical heaters, are just some of the advantages cited at the end of the seminars.”

This year, Daikin has conducted ten seminars worldwide.

### **T&F seminar Shenzhen**

Twenty-six customers from 17 different companies attended the T&F seminar held at Shenzhen. A survey of participants after the session, which included both commercial and technical presentations, provided good feedback, with all attendees reporting that they found the seminar interesting and informative and they felt motivated to purchase Daikin machinery.

### **T&F seminar Hamburg – December 10, 2014**

This T&F seminar was held to familiarise customers with Daikin LXE10E reefer equipment, and was attended by traders and sale representatives from shipping lines and leasing companies. We would like to thank Hamburger Container- und Chassis-Reparatur (HCCR) for their hospitality in allowing us to use their meeting room and part of their workshop.

Nine customers attended from seven different companies. We started the seminar with an introduction to our company, followed by a presentation to introduce and outline the merits of the LXE10E Daikin reefer unit.

Many of the attendees were already aware how quiet the LXE10E is for

a 12- to 13-year-old machine. This was considered very beneficial where a static reefer unit needs to be placed in an area where noise levels are an issue.

After the theoretical part of the session, all attendees were given a closer look at the machine, with demos in performance and operations. After a quick introduction, they found operating

*All attendees reported that they found the seminar interesting and informative and they felt motivated to purchase Daikin machinery*

the machine proved simple, and participants were able to change the temperature settings and defrost intervals. During this demonstration, attendees were able to feel and see the unique Daikin way to defrost an evaporator, and understood how efficient it is.

Customers can always contact us for technical advice about Daikin’s reefer equipment, or to arrange a T&F seminar locally.

### **T&F Seminar Dubai – February 3, 2015**

The first T&F seminar for traders in the Middle East was held in



**Daikin's first T&F seminar for traders in the Middle East was held in Dubai. Attendees gained hands-on experience and were particularly impressed by the money-saving hot gas defrost system**

February. At the Middle East Container Repair Co (MECRC) depot in Dubai, nine customers from seven different interested traders attended the seminar. All were eager to find out the benefits of Daikin's LXE10E reefer units, which are now entering the resale market after 12 to 13 years of service.

This unique T&F seminar, held especially for local traders, included presentations as well as a 'hands-on' demonstration of technical performance in which they learnt how to set temperatures and defrost interval changes as well as other functions. Attendee feedback highlighted that they were impressed with the technology used in this unit, in particular the hot gas defrost system, as there are no heaters

fitted, saving money as they do not need to replace heaters when they wear out.

They also noted that the original condenser is still fitted without any traces of corrosion or leakage,

*After a quick introduction, attendees found the LXE10E simple to operate*

meaning further savings in repair costs and that maintaining the saleability of the unit

Another benefit they highlighted was Daikin Temperature Management Software (DTMS) which is

available even for these older machines, meaning reduced power consumption by up to 56% when in chilled mode and up to 19% in frozen mode. This was particularly good news for the end-user.

We look forward to staying in contact with all the participants and to our next meeting – they can count on Daikin's support! We would like to thank MECRC depot for hosting us at their depot and arranging everything to make this T&F session such a success.

**Are you interested in attending a Daikin T&F seminar? Please call or email your local Daikin Service Manager. We will be more than happy to inform you when the next session will be held in your region.**



- Area covered by Rava Group
- Same-day or next-day delivery
- 48-96hr delivery

# Service update

## New parts centre in Miami

cold-storage container and shipping business, knew that he could make container procurement easier and faster. Together, Randy and Wendy dedicated themselves to offering superior customer service, more choice and significant cost efficiencies to a broad variety of industries.

Above all, they wanted to deliver complete peace of mind. Their mission was to ensure clients wouldn't need to worry about the loss of perishables due to equipment failure or breakdown. So they established a network of factory-trained technicians for reliable maintenance and repair.

RAVA Group began attracting clients, building relationships with like-minded industry pros and attracting attention as industry innovators. The company is now headquartered in Miami, Florida, and has a 6,000 square-foot warehouse, which boasts an extensive inventory of parts. The company also has a container depot near RAVA's facility in Miami, which serves clients in south Florida from our headquarters in Miami, and customers in the Caribbean and South

*Now that the new Miami parts centre is open, customers can expect faster delivery in the east coast region, which will save on freight costs*

America from our companies in Chile, Colombia, Costa Rica, Dominican Republic and Venezuela.

**For more information, please contact Daikin's Alvaro Quintana, after-sales service manager for the Americas region: [alvaro.quintana@daikinreefer.net](mailto:alvaro.quintana@daikinreefer.net) RAVA group covered area.**

**F**rom February 2015, Daikin will have a new parts centre at the RAVA Group Container Services premises in Miami, USA. We have enhanced the parts distribution capacity for the North American east coast region, where demand for parts is highest. Now that the new Miami parts centre is open, customers can expect faster delivery of parts in the east coast region, which will also save on freight costs.

"We've built a great partnership with RAVA Group," says Alvaro Quintana, Daikin's after-sales service manager for the Americas region. "They have great experience and knowledge about parts distribution, and on top of that very good contacts with all local shipping lines and leasing companies in Florida and the east coast area. We're looking forward to working together."

"We are excited to be a part of Daikin's team and aim to keep improving spare parts distribution in the east coast of North America region," said Randy Vargas, president of the RAVA Group.

### About the RAVA Group

RAVA Group Container Services was founded by Randy and Wendy Vargas. Randy, a long-time veteran of the

# Market update

## Daikin seminar for JF Hillebrand Japan KK

**D**aikin held a seminar for JF Hillebrand Japan KK (JFH), a freight forwarder that arranges transportation of import wine and spirits for Japanese customers in reefer containers from France, Italy, Spain, California (USA), Chile and other parts of the world.

The seminar included an introduction to Daikin Industries, an update on the reefer container market, and the basic function of Daikin machines and their market-leading technologies.

Twenty-eight staff from JFH attended the seminar, including the firm's top management. Attendees were really interested in the unique features of Daikin machinery, such as hot gas defrost and dehumidification technologies, and actively

participated in the seminar, with several questions. We were pleased to receive their positive feedback after the seminar that they had found it extremely informative.

*Attendees were really interested in the unique features of Daikin machinery, such as hot gas defrost*

It was great to meet face-to-face with our customers, who have long experience in this market, and to have the opportunity to both answer their questions and hear their new ideas. One of JFH's concerns was about the effects that refrigerants with high global warming potential (GWP) have on the environment.

As a global refrigerant supplier, we explained that Daikin machines use R134a, which is a more environmentally friendly refrigerant, with one-third the GWP of R404A.

JFH also made some requests for future technology, which the Daikin design team has received, alongside other comments from the field. We hope to see premium wine being transported with Daikin's new functions in near future.

[www.jfhillebrand.com](http://www.jfhillebrand.com)







# Refrigerant update

Daikin has been a pioneer in producing environmentally friendly products for use in air conditioning, heat-pump water heaters and refrigeration.

## 2011

Daikin launches ZeSTIA, the industry's number-one low power consumption container refrigeration inverter unit.

## 2012

Daikin achieves the world's first commercialisation of air conditioning equipment using the next-generation refrigerant HFC32.

## 2013

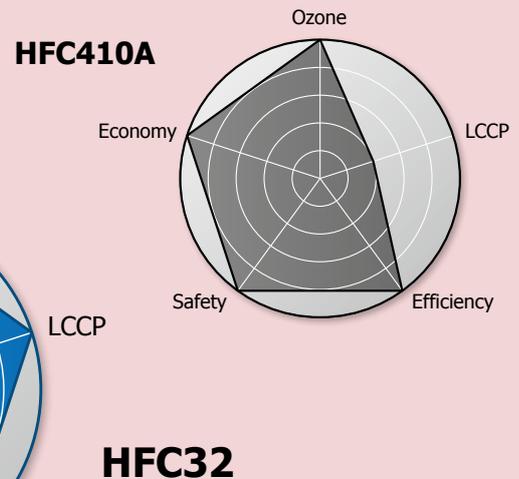
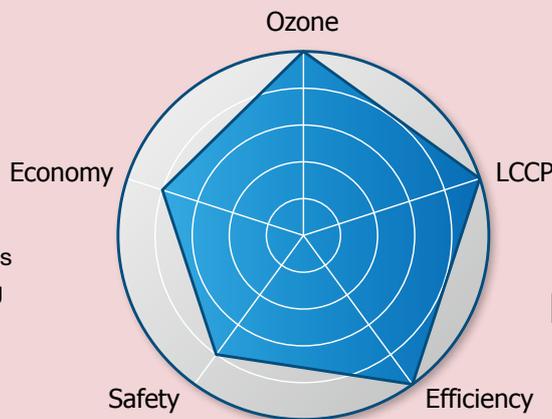
Daikin's Five Star Zeas air conditioner for stores and offices, which uses the HFC32 refrigerant, wins the Director-General's Prize from Japan's Agency for Natural Resources and Energy.

## 2014

Daikin starts selling air conditioning equipment using HFC32 refrigerant in 30 countries.

## Next generation refrigerant in air conditioning equipment field

HFC32 is a new generation refrigerant with only one-third of the global warming potential of the conventional refrigerant HFC410A. In 2014 Daikin started to adopt it in its air conditioning equipment and aims to expand its use in all commercial air conditioning equipment in the future.



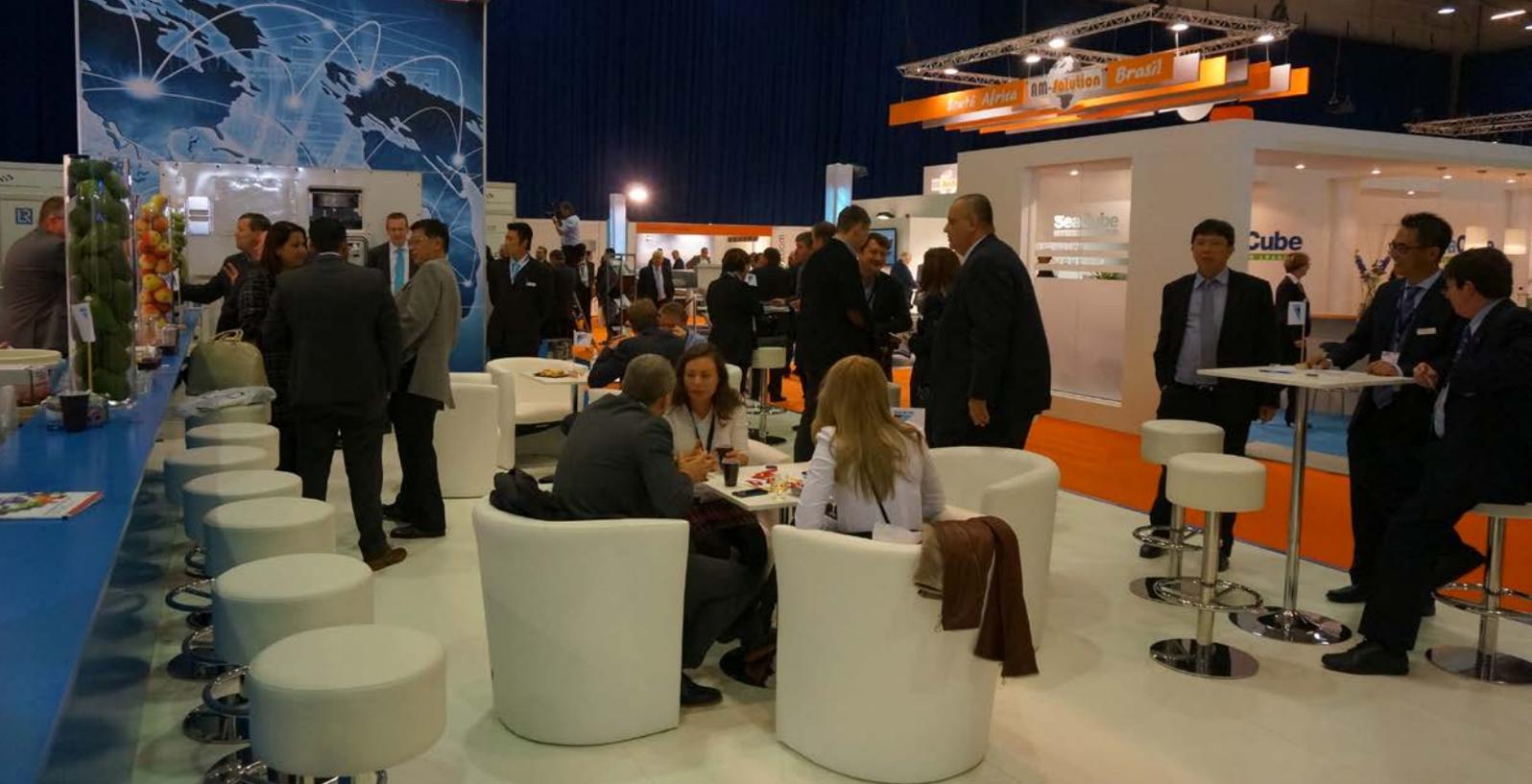
## Next generation refrigerant for container refrigeration unit

Container refrigeration units operate in all over the world in ambient temperatures of between -30°C to +50°C. Inside the container, temperatures can be between -30°C to +30°C. To ensure easy maintenance, safety, security and low power

consumption, we need to select a next-generation refrigerant.

Daikin currently feels R32 and HFOs refrigerants as the best candidates, aiming at 70% reduction of current CO2 equivalent. We will continue to watch

industry trends in air conditioning, heat pump water heaters and refrigeration in order to make a final decision of which next-generation refrigerant to use in our container refrigeration units.



The Daikin team was delighted to welcome customers to their stand at Rotterdam

# Event report

## Intermodal Europe 2014, Rotterdam

Exhibiting for the 17th time, Intermodal Europe proved to be another successful event, with over 370 customers visiting the Daikin booth.

**I**ntermodal Europe 2014 was held in Rotterdam on November 11-13, where Daikin exhibited for the 17th time. Almost 7,000 visitors attended over the three days. With more than 370 customers and interested parties visiting the Daikin booth, it was another successful exhibition for Daikin – 370 is, incidentally, also the number of Daikin-authorized service dealers worldwide, an important factor that customers value when including Daikin in their fleets.

Daikin again hosted its anticipated reception, which was well attended by over 200 guests. The beautiful night view of Rotterdam served as the perfect location for Daikin to thank attendees for their loyal support.

Customer feedback was encouraging, especially in relation to the unit reliability of both the LXE10E and ZeSTIA machines. The fact that nearly all components are designed and built

in-house contributes to the high reliability of Daikin machinery that is known throughout the industry.

*Daikin has 370 authorised service dealers worldwide – an important factor that customers value when including Daikin in their fleets*

Daikin presented three key points during the Intermodal Europe:

- a) The ready-for-sale Daikin Active CA system
  - b) Daikin reliability
  - c) The intensified focus on Europe
- a) The Daikin Active CA (controlled atmosphere) system was displayed in a ZeSTIA reefer unit at the show. It uses long-

trusted Daikin in-house technology, including the Lite TEC DS13 oxygen-condensing device, originally developed for the medical field. The Daikin Active CA system has two adsorption cylinders, likewise applied from medical device

*A simulation showed how the 92% nitrogen-enriched atmosphere is released into the container, bringing CO<sub>2</sub> and O<sub>2</sub> levels to a minimum within a short period of time*



**The Daikin team at Intermodal Europe 2014**

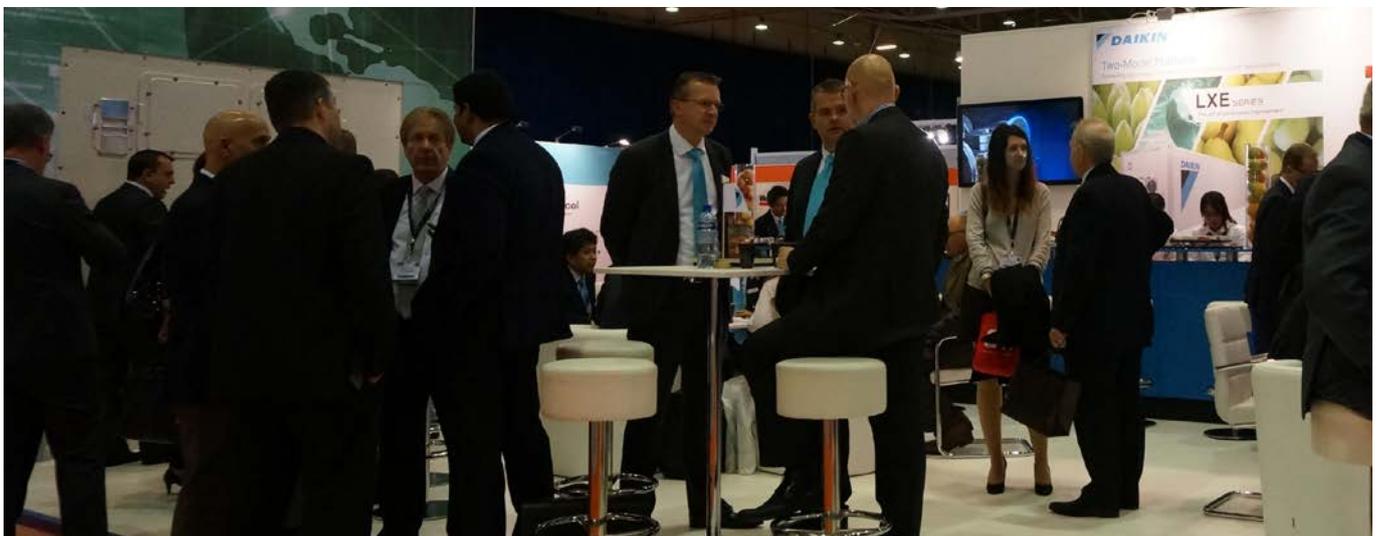
technology. Through a simulation, it was possible to see how the 92% nitrogen-enriched atmosphere is released into the container, bringing the CO<sub>2</sub> and O<sub>2</sub> levels to a minimum within a short period of time. Tests show that, with Daikin Active CA, a 40-foot high-cube container full of bananas or avocado reaches the most beneficial atmosphere within two days. The first customer has already committed to using the system, which is available for sale now.

b) Reliability is a combination of fewer breakdowns, low spare part costs and a wide repair network. What's more, reliability directly influences operational costs. Maintenance and repair (M&R) cost savings go straight to the bottom line. Shipping line customers place the highest focus on reducing operational costs. Nowadays, with falling fuel prices and with unit energy efficiency across all brands not being far apart, it is the focus on reduced downtime and M&R costs that are key parameters for these clients.

c) It appears that many European shipping lines are 'back in black' and have returned to making profit. The Intermodal Europe show allowed Daikin to highlight the local presence it

*Daikin reliability is a combination of fewer breakdowns, low spare part costs and a wide repair network*

has with its Rotterdam regional office. Daikin has assembled a very experienced team in both Europe and Japan to facilitate Daikin's growth plans in the region. The Intermodal show was a chance to introduce the additions to our many attending customers.



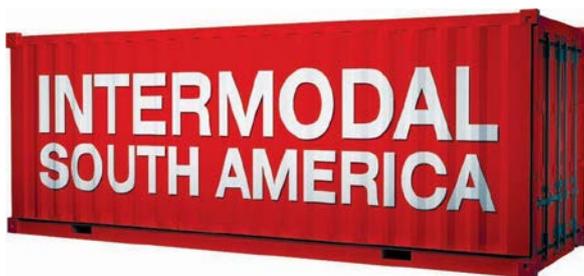
## Upcoming event: Intermodal Asia 2015



The Daikin team will exhibit once again at Intermodal Asia 2015, which takes place on March 24-26 at the Shanghai World Expo Centre. Daikin has exhibited previously at Intermodal Asia with great success. We will have same space stand (C01) as last year, which is located in front of the main entrance of the venue. At our booth, you will have the chance to see our Daikin Active CA machine, which has just been launched. We will also be holding a Daikin Refrigeration Suzhou factory tour during this period. We are looking forward to seeing many of our customers and business partners there.

[www.intermodal-asia.com](http://www.intermodal-asia.com)

## Upcoming event: Intermodal South America 2015



The Daikin team will also exhibit at Intermodal South America 2015, which will take place on April 7-9 at the Transamerica Expo centre in Sao Paulo, Brazil. At our booth you can find out how we have improved our service network through the establishment of a new parts centre in Miami. Please drop by our stand (B120).

[www.intermodal.com.br](http://www.intermodal.com.br)

## Message from Robert Ferreyra

Dear customers and friends,

On behalf of the Daikin Latin America team, I'd like to welcome all of you to the 2015 Intermodal Show in Sao Paulo.

Once again, Daikin Industries is hosting a booth at this important trade show for the Latin American market. Daikin's presence in Latin America has increased over the last years, and many Daikin units are in operation here. In order to attend to this growth from the service side, we've just opened a new parts distribution centre in Miami, USA, for the supply of spare parts throughout the US east coast, Central America and Caribbean. You can find more information about this on page 10.

Customer satisfaction is very important for us. For this reason, this

year staff from our Rotterdam and Osaka offices will join us during the show in Sao Paulo in order to meet with local agents of European and Asian shipping lines, in order to strengthen our relationship and to listen to the local market's requirements.

During 2014, our Latin America office staff, based in Montevideo, Uruguay, have been following the performance of our units with our customers, especially fruit companies with operations in Central America and the USA. We have had the chance to confirm the high reliability of our units in the field, and we are excited to receive more orders during 2015.

To support the resale market, in 2014 Daikin became a member of the National Portable Storage Association

(NPSA), an association of companies involved in the selling and leasing of shipping and storage containers. We hosted a booth at the NPSA Conference & Tradeshow held in Nashville, Tennessee, in October 2014 in order to promote our reefer units in the second-hand market, especially in the USA.

Daikin resale units are in operation in many countries such as Brazil, Chile, Peru, Ecuador and Uruguay and we will continue the support and promotion of our reefer equipment. 2015 is set to be a year of growth in our industry and we are aiming to increase our presence in the Americas region.

Robert Ferreyra  
Sales & Marketing Manager  
Latin America & Miami Area