

Spring 2013  
THE NEWSLETTER FROM DAIKIN REEFER



**LXE** SERIES  
The art of continuous improvement



**zeSTIA**  
Ultimate energy efficiency

## A tale of two technologies

Two-model strategy delivering the best technology choice for customers



Katsuhiro Tetsuya, who joined Daikin in 1986, has been Director of the Daikin Reefer Container Division since 2012.

## Welcome

From Katsuhiro Tetsuya, Director of Daikin Reefer Container Sales Division

**W**elcome to our first Daikin Reefer newsletter of 2013, coinciding with the annual Intermodal South America Expo in Brazil, where Daikin will once again exhibit.

It has been some years now since the BRIC countries were first identified as the new powerhouses that would drive

*Many Central and South American nations are strongly increasing their exports and imports of perishable goods, creating business for refrigerated container operators*

the global economy's next growth cycle. Brazil, which last year overtook the UK to become the world's sixth largest economy, with a value of \$2.5 trillion, has so far been living up to expectations. This dynamic country of 190 million people continues to attract more international trading partners and investors, not least in the field of perishables, where Brazil is now a global player in the production and export of poultry and meat, with a fast-growing fresh produce sector. And of course the country is also now stepping on to the world stage for sporting events, as the host of the football World Cup in 2014 and the Olympics in 2016.

Every time I visit Brazil, I am struck by the energy and vibrancy of its people. This is certainly in evidence during the Intermodal South America show, which welcomes more than 40,000 people through its doors over three very busy

*We look forward to being part of Intermodal South America 2013 and meeting with our Latin American customers and business partners*

days. The Daikin team looks forward very much to being part of this important event and meeting with our Latin American customers and business partners.

Of course, in the field of chilled and frozen cargo, Brazil is just part of the Latin American story. Many other Central and South American nations have also strongly increased their exports and imports of perishable goods, creating

ever-growing business for refrigerated container operators.

At Daikin, our priority is to build a concrete foundation to support all of our clients doing business across this great continent. In past years, we have steadily expanded our after-sales and parts capabilities across the region. In 2013, we will continue to further strengthen our service network, with more parts availability in Chile, Panama and Uruguay. You can read more on our South America service improvement on pages 10-12.

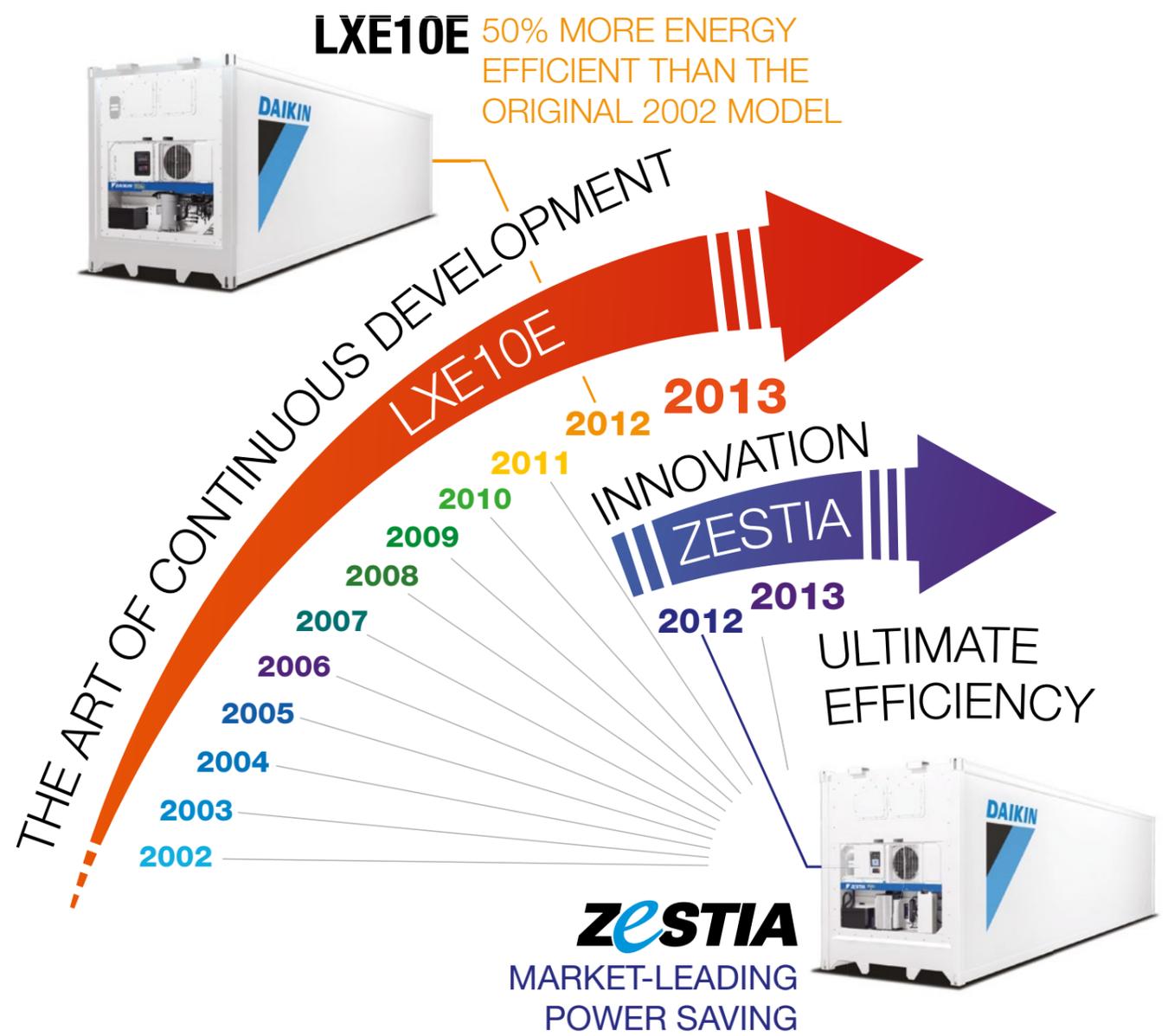
Since releasing our new ZESTIA container refrigeration unit 2 years ago, Daikin has proceeded to develop our "two model strategy", giving our clients two choices of equipment design to meet their specific needs. As well as bringing ZESTIA to the market to deliver ultra-low power consumption, our original LXE machine has undergone dramatic performance enhancements over the past decade.

*This year marks the 12th anniversary since the launch of the LXE, and the first generation of LXE units are now entering the resale market*

This year marks the 12th anniversary since the LXE was launched and the first generation of LXE units are now entering the resale market. To support this transition, Daikin has continued to hold field demonstration sessions – known as our "Touch & Feel seminars" – in many places such as Chile, Mexico, Shanghai and Jakarta. Our intention is to help to educate buyers, sellers and users of second-hand reefer containers about the features and benefits of Daikin technology, and ensure that they are comfortable getting the full value out of their Daikin units.

I hope you will find the rest of the information in our latest Daikin Reefer Newsletter of interest and take this opportunity to wish all of our customers and business partners a prosperous year in 2013.

**Katsuhiro Tetsuya**  
Director, Reefer Container Sales Division



# Daikin technologies

A tale of two technologies

As well as launching the new-generation ZESTIA unit with inverter compressor technology for ultra-low power consumption, Daikin continues to invest in further development of the LXE scroll compressor machine, which today is 50% more energy efficient than the original design first launched back

in 2001. Going forwards, we will continue with this 'two-model strategy' to deliver the best technology choices to our customers. In this article, we take views from two long-standing LXE users and highlight two premium functions of the new ZESTIA unit.

# LXE10E

## LXE 12 years on: two customers comment

## ZESTIA: spotlight on two technical features

### HANJIN SHIPPING

Hanjin Shipping is Korea's largest shipping line and one of the world's top ten container carriers, transporting over 100 million tons of cargo around the globe every year with its fleet of 200

*“Excellent reliability is another of our main reasons for choosing the LXE”*

containerships, bulk and LNG carriers. The company's focus on providing advanced customer service is illustrated by its investment in

eco-friendly state-of-the-art vessels, a world-class logistics IT system and automated terminals. In the field of refrigerated transport, Hanjin is also committed to eco-friendly operations by adopting energy efficient containers, developing a CO<sup>2</sup> emission calculator and establishing a management system based on ethics and transparency of global environmental standards. Hanjin first became a customer for the Daikin LXE in 2006 and since then has added new LXE units to its fleet every year.

“We are very satisfied with Daikin's policy of continuous development for

the LXE unit over the six years that we have been working with them,” says Mr Christopher Lim, Team Head of the EQ Operation Team. “The improvements over this time include both energy saving software such as the Daikin Temperature Management System and hardware such as the smaller, lighter and more energy efficient fan motor on the latest machines. LXE's excellent reliability is another of our main reasons for choosing the LXE, allowing us to make M&R cost reductions.”

Headquartered in Japan, NYK Line (Nippon Yusen Kaisha) is one of the world's biggest shipping companies and now a major player in global logistics services, offering ocean, land and air transport services. Growth, stability and the environment are the three core strategies of the company's medium term management plan, with the aim of improving corporate value and profitability while adapting to dramatic changes in the external

environment. NYK is one of Daikin's longest-standing customers, having taken LXE machines since the unit was first launched in 2001.

*NYK cites reliability as one of the core strengths of the LXE*

NYK cites reliability as one of the core strengths of the LXE and acknowledges the continuous

improvements made up to the latest generation of machines. The carrier also highlights the value of Daikin's proactive resolution of outstanding issues. Finally, the company acknowledges the benefits of the new LXE fan motor, enabling reduced power consumption in addition to the original unique features of Hot Gas Defrost, Dehumidification and Auto Pump-Down.

**W**ith all the proven features of the LXE series, ZESTIA offers customers the same performance

reliability and low maintenance, plus a range of premium features. In this issue, we focus on two premium functions:

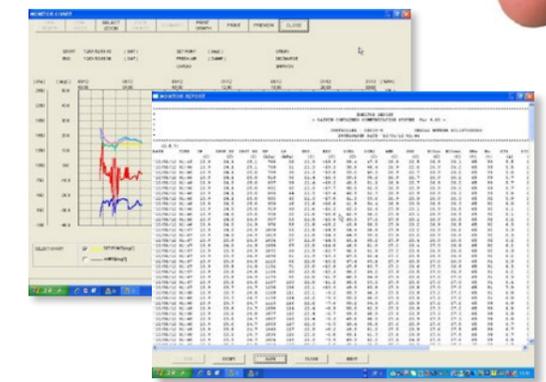


### 1 Quick troubleshooting by downloading unit monitoring data via USB

Whenever a reefer unit malfunction is detected on board ship, a trouble-shooting condition check must be undertaken. Performing this requires crew members to check the reefer unit's control panel and individually record data on a range of key items, including:

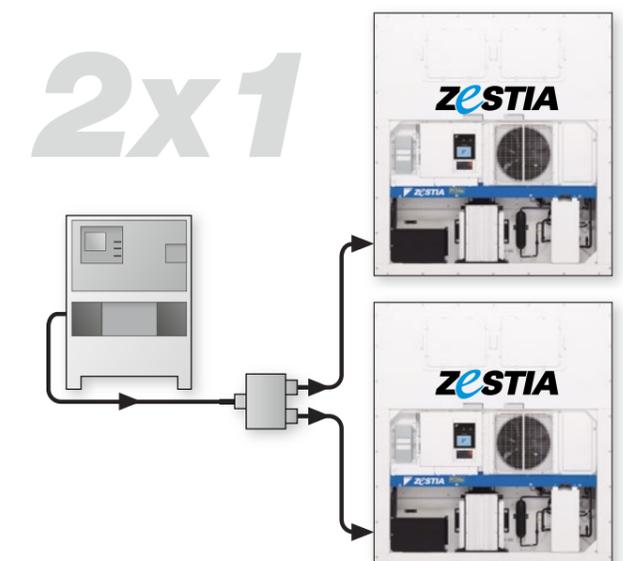
- High pressure
- Low pressure
- Temperature at each sensor location
- Voltage
- Current

By contrast, simply inserting a USB stick into the ZESTIA unit allows all of the above data to be downloaded at once.



### 2 Ability to start two units via a single plug

By controlling the starting current with inverter technology, the ZESTIA design enables two units to be run off a single power supply, thereby supporting increasing reefer volumes both at terminals and on vessels.



# Touch & feel seminars

Daikin takes its unit familiarisation sessions to Chile, Shanghai, Jakarta and Mexico

## Jakarta

A T&F seminar focused on the resale market was held in Jakarta, Indonesia, December 2012. Attendees included dealers and also local operators who mainly use reefer containers to transport foodstuffs between Indonesia's many islands in the so-called inter-island trade. The reliability of reefer machines is critical for users in this trade due to the lack of technical support in the rural islands that they serve. The Jakarta T&F Seminar therefore targeted this issue, with particular emphasis on educating customers about M&R issues.



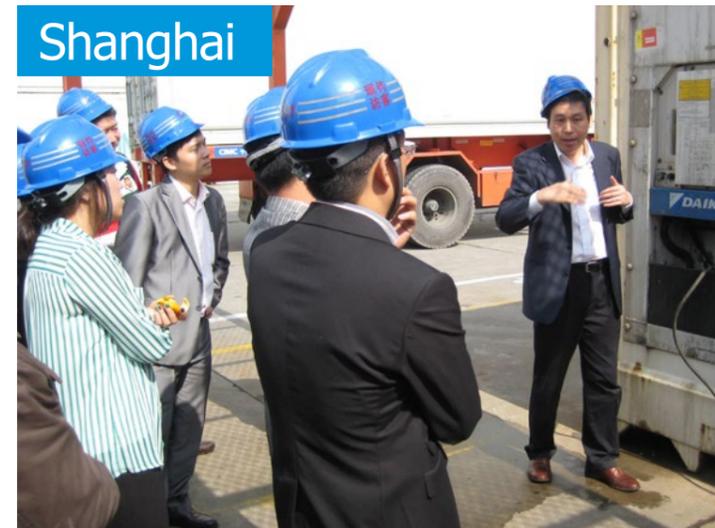
A Touch & Feel (T&F) Seminar for Chile was held in Valparaiso last October, supported by Depositos y Contenedores SA. A total of 14 customers attended, representing two shipping lines, one leasing company, two local dealers and one end user cargo owner.

Chile is a major and growing market for reefer containers, to support both its agriculture export and marine product

industries, including aquaculture and fisheries.

Attendees had the chance to ask questions about Daikin's energy efficient reefer machine, spare parts distribution, and overall operating performance. The session generated a lot of positive feedback on Daikin's low failure rates and power consumption, plus unique operating features such as Hot Gas Defrost.

## Shanghai



Also in October, a T&F Seminar was held in Shanghai, China, with 18 customers, representing one shipping line and two leasing companies.

The half-day session included technical presentations and demonstrations by China Region Sales Manager Mike Ma, and a commercial presentation by China Region Sales Manager Simon Li (Li Bing).

"This session was very useful not only for obtaining technical information on the Daikin reefer unit, but also for gaining the latest commercial updates, information on the parts distribution system in China and insight into the trends for the new and second-hand markets," said Adam Yang, Senior Marketing Manager at Grand View Container Trading (HK) Ltd (GVCT).

GVCT is a major container trading company, specialising in providing new containers manufactured in mainland China to overseas customers.

## Mexico



The first T&F seminar of 2013 was held in Mexico this January, with attendance and positive feedback from shipping lines and service companies. Representatives of the reefer operators who joined the Mexico seminar commented on the usefulness of the hands-on training session, as well as their appreciation of the easy operation of Daikin units and the high quality technical support provided.



# South America Service Network

## Daikin continues to enhance South America reefer service

With new facilities, increased inventory and an improved customer response rate, our reefer service network in Latin America is living up to the Daikin Reefer philosophy of “the art of continuous improvement”.

**D**uring the second half of 2012, Daikin opened its own reefer parts depot in Montevideo, Uruguay. Six months on, this epoch-making improvement is bringing absolute results for South American clients.

“Since the new site opened, we’ve more than doubled our inventory volume in Montevideo,” explains Alvaro Quintana, After Sales Service Manager for the Americas region. “The strong backup from our main warehouse in the US also works well. If we don’t have stock in Montevideo, we can always arrange immediate air shipment from the USA.”

The fill rate in the new spare parts depot is more than 90% on average, and over 95% for major components such as compressors, controllers, valves

*Most customers receive a response from the Parts Operation Centre the same day*

and sensors. “To maintain this high fill rate, we will continue to develop close communications with our service dealers, as their purchase plans are very important for our stock maintenance,” adds Quintana.

Response time to customers’ enquiries has also improved. In most cases, customers now receive a response from the Parts Operation Center for their purchase orders the same day, and picking and packing are completed within the same week. “Our goal is to minimize lead times for internal operations



such as picking and packing, getting quotations and preparing documents. We constantly discuss with our warehouse company how we can continue to improve operations,” says Ryoma Uto, General Manager of the

*“Since Daikin opened the warehouse in Montevideo we have noticed a great improvement, especially with parts availability,”*

Reefer Parts Operations Center at Daikin AC (Americas). “The new operations have just begun and still have plenty of room for improvement. We are happy to work with our vendors and authorized service dealers to achieve this.”

“Since Daikin opened the warehouse in Montevideo we have noticed a great improvement, especially with parts availability,” comments Emerson Dias, General Operations Manager in Reeferbras Comercio e Servicos Ltda, an authorized service dealer in Brazil. “We’re being attended to more quickly, with no back orders. The service is personalized and we feel that there is a constant interest from Daikin to solve our problems. The documentation is clear, which helps us in the process of importation. We are very satisfied with the service and believe this will make Daikin’s business

### Daikin South America service network in figures (average)

Fill rate	94%
Customer order response time*	0.3
Packing completion lead time*	4.3

\* business days

in South America easier.”

Margarita Reverdito, M&R Supervisor at Montecon SA, an authorized service dealer in Uruguay, adds: “We are just beginning with this experience of a single purchase channel and have encountered a minimum number of parts in back order, all of which were repositioned in less than two weeks.”

For more information, please contact Alvaro Quintana, After Sales Service Manager for the Americas region. [alvaro.quintana@adinet.com.uy](mailto:alvaro.quintana@adinet.com.uy)



The fill rate in the new spare parts depot in Montevideo, Uruguay, averages over 90%

## Depósitos y Contenedores SA

“We are excited to be a part of Daikin’s reefer parts distribution network in Latin America,” says Sergio Ruiz Mandiola, Spare Parts Depot Manager of Depósitos y Contenedores SA, an authorized repairer in Chile. “Depósitos y Contenedores SA has a wide network in Chile and good know-how about reefer spare parts from our long experience in the industry. To meet Chilean customers’ expectations, we will closely work with the US parts depot and Daikin’s regional after sales managers.”

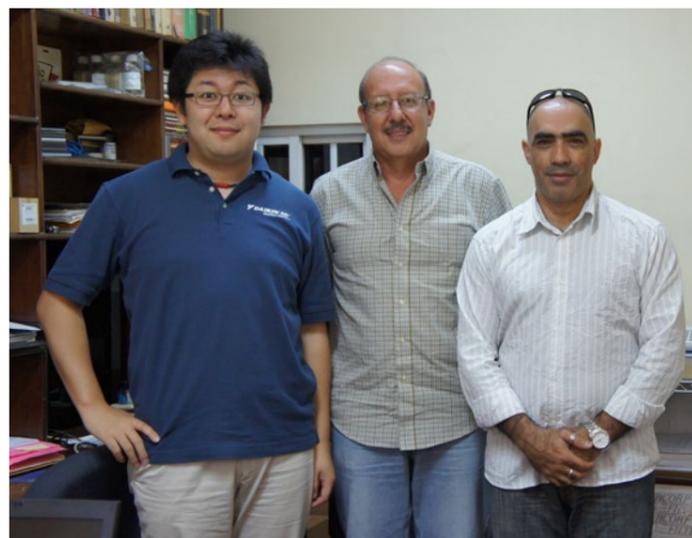
**Left to right: Gustavo Oyanedel Caballero, General Manager of the Terminal San Antonio, Jose Miranda M, Supervisor and Sergio Ruiz Mandiola, Spare Parts Depot Manager at Depósitos y Contenedores SA.**



## Global Parts Supply Inc

“We have supported Daikin’s reefer business since 2008,” says Américo A Tejada G, General Manager of Global Parts Supply Inc, based in Panama. “Through close communication with the Daikin AC (Americas) Reefer Parts Center in the USA, the mother parts depot for the Americas region, we can keep a high level of stock availability in Global Parts Supply Inc. We are happy to work with the Daikin Reefer team and aim to keep improving spare parts distribution in Central America.”

**Left to right: Ryoma Uto, General Manager of the Reefer Parts Operations Center at Daikin AC (Americas); Américo A. Tejada G., General Manager of Global Parts Supply, Inc; Alvaro Quintana, After Sales Service Manager for the Americas region.**



## ITOCHU news

### ITOCHU to buy worldwide packaged foods business and Asia fresh produce business from Dole Food Company

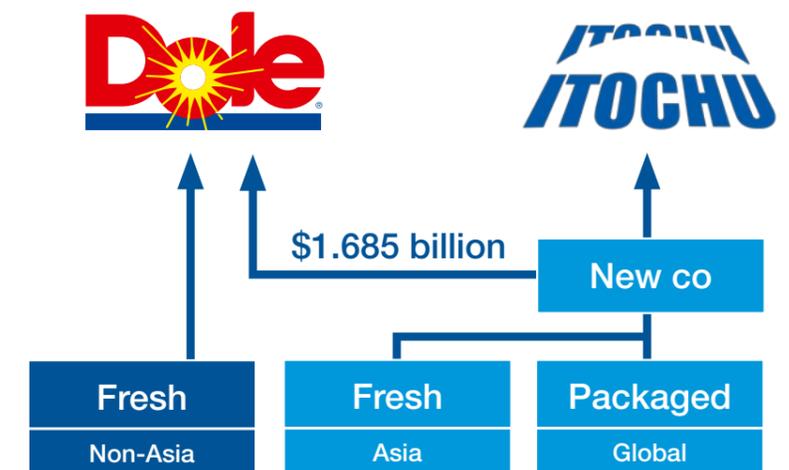
Daikin’s global sales partner ITOCHU Corporation is poised to make an important acquisition in the Asia and global fresh food market

ITOCHU Corporation announced in September that it has reached a definitive agreement with Dole Food Company, Inc. to buy its worldwide packaged foods and Asia fresh produce businesses for \$1.685 billion in cash. The proposed transaction results from Dole’s previously announced strategic business review process, and is subject to Dole stockholder approval and customary regulatory approvals in multiple countries. The agreement was signed by David H. Murdock, Chairman of Dole Food Company, Inc. and Masahiro Okafuji, President and Chief Executive Officer of ITOCHU Corporation.

Dole Worldwide Packaged Foods produces canned pineapple, canned

***ITOCHU will have exclusive rights to the DOLE® trademark on packaged food products worldwide***

pineapple juice, fruit juice concentrate, fruit in plastic cups, jars and pouches, fruit parfaits, healthy snack foods and frozen fruit. Dole Asia Fresh Produce grows, sources, ships and distributes high-quality fresh fruit and vegetables principally in Asia. The combined revenue of these businesses was approximately US\$2.5 billion in 2011.



The agreement contemplates that ITOCHU will have exclusive rights to the DOLE® trademark on packaged food products worldwide and on fresh produce in Asia, Australia and New Zealand.

Dole emphasized that it will remain an international company after the sale, retaining its entire North American fresh vegetables business as well as its fresh fruit businesses in North America, Latin America, Europe and Africa, which together generated approximately US\$4.2 billion in revenues in fiscal 2011. The company said that its fresh produce business will continue to be an industry leader in the sourcing, distribution and marketing of bananas, pineapples and other tropical fruits, packaged salads, fresh-packed vegetables and fresh

berries, representing the number one or two market share in many of the fresh fruit and vegetable products it sells in North America.

Founded more than 150 years ago, ITOCHU is one of five major Japanese trading houses whose reach today extends into practically every industry. With approximately 130 bases in 67 countries, the company is engaged in domestic trading, import/export, and overseas trading of products including textiles, machinery, metals, minerals, energy, chemicals, food, information and communications technology, property, general products, insurance, logistics services, construction, and finance, as well as other business investments in Japan and overseas.

# Daikin news

## World first commercialization of air conditioning equipment using next-generation refrigerant HFC32

Daikin has become the first company in the world<sup>1</sup> to commercialize HFC32 as a low GWP alternative refrigerant for air conditioning

**D**aikin Industries Ltd has announced that it will adopt HFC32, a new generation refrigerant with only one-third<sup>2</sup> of the global warming potential (GWP) of the conventional refrigerant HFC410A, in its air conditioning equipment. Starting with the adoption of HFC32 in all successive models of residential air conditioners launched in Japan from fall 2012, Daikin aims to expand the use of the new refrigerant in all commercial air conditioning equipment in the future. Daikin Airconditioning India is also now poised to launch R32 units manufactured at its factory in India.

Continued global efforts to curtail global warming are driving wide-ranging discussions regarding the international use of refrigerants in air conditioners and considerable R&D effort is being devoted to developing low GWP alternatives for the future. HFC32 has drawn

*Daikin aims to expand the use of the new refrigerant in all commercial air conditioning*

worldwide attention as one of the most promising new-generation candidates. In addition to having a lower global warming impact than HFC410A, HFC32 has superior energy efficiency, which also helps to curtail greenhouse gas emissions and, by reducing the amount of refrigerant needed per air conditioning unit, enables components such as heat exchangers to be made more compact. As a single rather than a blended gas, HFC32 is suitable for refrigerant

recycling, which is being targeted for improvement in the future under the Montreal Protocol.<sup>3</sup>

As the only manufacturer involved in all phases from refrigerant development to design and manufacture of air conditioning equipment, Daikin considers HFC32 to be the most suitable refrigerant for split air conditioners and heat pumps, based on a comprehensive investigation into next-generation candidates including natural and HFC refrigerants. The company has therefore decided to commercialize the refrigerant for use in air conditioning equipment.

As part of its development work, Daikin has initiated discussions and recognition activities with the aim of fostering widespread acceptance of HFC32, including the sharing of information essential for selecting refrigerants at international conferences and other forums. To gain recognition for HFC32 as a viable next-generation candidate, in September 2011 Daikin gave free access<sup>4</sup> to its "Basic Patent Essential to Manufacture and Sale of Air Conditioners Using HFC32" for most developing countries, in order to prepare an environment in which each country could begin to easily promote the widespread use of HFC32 air conditioners.

As far as possible, the company now intends to provide technical information for the widespread use of HFC32 to meet the demands of each country, region and type of organization. Daikin will continue to contribute to the prevention of global warming in the future by promoting the widespread use of the refrigerant in the right place.

### A background note

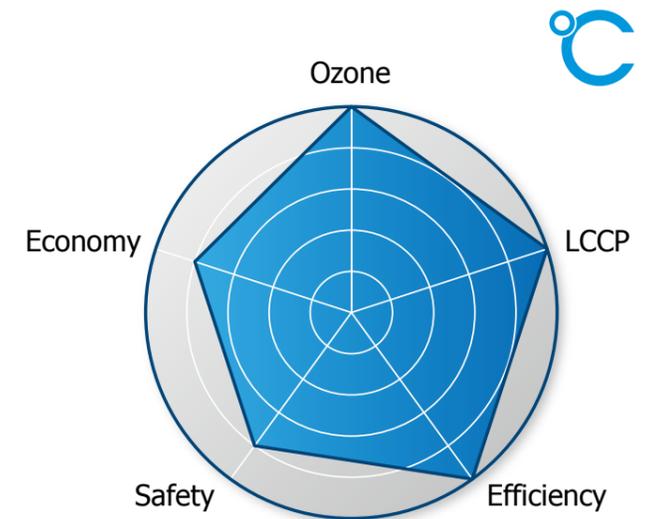
Although the conversion from HCFC refrigerants to HFC refrigerants with zero ozone-depleting potential (ODP) is all but complete in advanced countries, the effect of global warming impact for the refrigerant HFC410A remains an issue in emerging countries, where HCFC refrigerants are still in mainstream use. Regulations in those countries are now moving toward the phasing out of HCFCs beginning from the year 2013 under the Montreal Protocol on Substances that Deplete the Ozone Layer and selection of next-generation refrigerants is being expedited, with propane gas and HFC32 emerging as the main alternative candidates to HCFCs.

1 Current as of September 27, 2012

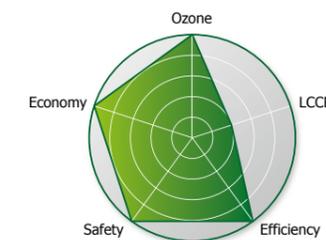
2 The IPCC Fourth Assessment Report is used for global warming potential and is used here to compare a global warming potential of 2,090 (HFC410A) against one of 675 (HFC32).

3 In comparison with HFC410A which is a mixture of HFC32 and HFC125, HFC32 can be charged, collected, and recycled without concern for refrigerant composition since HFC32 is a single refrigerant.

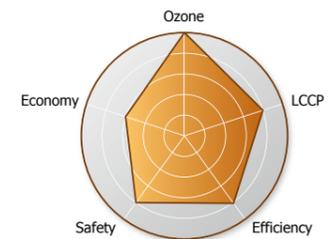
4 Countries operating under Article 5 of the Montreal Protocol may have free access concerning the manufacture, sale, and export of manufactured goods in those countries. (However, the waiver excludes countries that were not originally drafted as Article 5 Countries but later changed to developing countries).



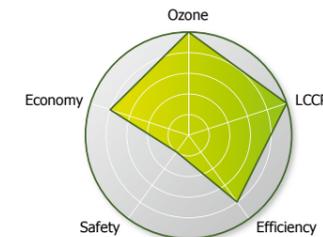
**HFC32**



**HFC410A**



**HFC1234yf**



**Propane**

## Daikin people

### Takao Hashimoto joins the Daikin Global sales team

In February 2013, Takao Hashimoto joined the Daikin Global sales team. In his new role, he is in charge of supporting reefer container machine sales mainly to the European and also the Central and South American markets. During his 27 year-career at Daikin, he has been previously been responsible for selling A/C equipment within the construction and facility industries, including time spent as the Regional Manager for China and Korea. Says Hashimoto: "I look forward to bringing my many years' sales experience to this new and challenging business field."





# Intermodal

## Daikin meets the market at Intermodal Europe 2012

Once again, Daikin exhibited at the annual Intermodal Europe exhibition, which took place in Amsterdam 27–29 November 2012. There were nearly 6,000 attendees, an increase of more than 800 from the 2011 show. As always, Intermodal Europe was a great opportunity to compare experiences, share our sales information and communicate Daikin's philosophy for the global movement of reefer cargoes.

Meeting with major container carriers and leasing companies from around the world also provided a chance to discuss the current market situation and outlook for 2013. Feedback from customers attending Intermodal Europe revealed an expectation that reefer volumes would continue to outpace the growth of the dry container trades, increasing by 4-7% annually.

Shipping lines, however, remain under extreme financial pressure and are very keen to reduce their operating costs

through measures such as slow steaming and introduction of larger vessels, as well as to more actively control their deployment of capacity. While reefer

rates are expected to see some recovery following the GRI introduced by Maersk and other key reefer container carriers, the market is expected to remain challenging until 2014. The situation has also been tough for leasing companies, which have suffered from a surplus of speculative reefer stock against existing demands and more competitive lease rates as a result.

At Daikin, we will continue to update our latest ZESTIA and LXE technology, providing a breakthrough combination of power savings and refrigeration performance that allow customers to provide a high level of reliability while minimising operating costs.



## Meet us at Intermodal South America 2013

Daikin is pleased to exhibit once again at Intermodal South America 2013, the leading annual trade show for container logistics and transport in Latin America. We look forward to welcoming our Latin customers and partners in Sao Paulo, Brazil, on 2-4 April. Come and meet us at stand no B120.

Intermodal South America 2013  
2-4 April | Transamerica Expo Center | Sao Paulo, Brazil  
Daikin Stand No: B120

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

