

DEGREE CELSIUS

Autumn 2012

THE NEWSLETTER FROM DAIKIN REEFER



## Latest edition of the **LXE10E** launched

Innovative fan motor further improves the ever-popular LXE10E

## First **ZESTIA** units delivered to Europe

Royal Arctic Line is ZESTIA's first European customer

# Welcome

## Katsuhiro Tetsuya, new Director of the Daikin Reefer Container Division, introduces our autumn 2012 newsletter

**H**aving been appointed as Director of the Daikin Reefer Container Division this April, it is my great honour to welcome you to this autumn 2012 edition of the Daikin Reefer Newsletter.

I joined Daikin in 1986. As an engineer, I spent my first 15 years working on the development of robots for use in production devices and then assumed

*In the long term we can expect the reefer container market to grow 7-8% annually*

business planning responsibility for the chiller business. Since 2009, I have headed up business planning for the container refrigeration business. Now, in my expanded role, I am taking a lead

as a sales director, as well as continuing my business planning role. I am very honoured to take up this significant responsibility.

After the global economic and financial crisis of 2009, the market for container refrigeration machinery started to recover during 2010 and 2011. Indeed, last year saw record demand for 150,000 new units. But this year we have once again seen a downturn in procurement. The reasons are not difficult to identify.

Container shipping lines have been experiencing heavy financial losses, there is still a lot of new vessel capacity coming into the market, and bunker fuel oil prices are very volatile, as are freight rates. The debt crisis in the Eurozone adds further to the climate of uncertainty and instability.

As a result, companies are justifiably cautious about committing new capital investment.

The marine transportation market has a history of intense ups and downs, and of being rapidly influenced by current market conditions. In the long term, however, we can expect the reefer container market to continue to grow by an average of 7-8% annually, supported by population increases, global economic growth, greater middle

*Over 4,000 of our new ZESTIA units have been ordered from customers including Beacon, Cronos, MOL and RAL*

class spending power in the rising nations, and continued acceleration of containerisation.

Daikin remains fully committed to the development of our container refrigeration business worldwide and we will make full use of the technology cultivated in our global air conditioning business to benefit the reefer container market. We are already the global number one in air conditioning and our aim is hold the same position in the global refrigeration market, including reefer containers. Our container refrigeration customers can therefore rest assured that, despite current difficult market conditions, we are in this market for the long term.

### ZESTIA update

As many of you will know, Daikin launched its new ZESTIA model last November, some ten years after the introduction of our well-established LXE10E design. The ZESTIA is highly focused on providing optimal energy performance without sacrificing any aspect of temperature control, using Daikin's ground-breaking DC inverter compressor technology. ZESTIA also includes innovative features to improve ease of field operations and



**Katsuhiro Tetsuya, appointed Director of the Daikin Reefer Container Division in April 2012, has been with Daikin since 1986.**

maintenance, such as the ability to download controller data to USB memory stick and a large-sized, backlit LCD display.

I am very pleased to confirm that we have so far received orders for more than 4,000 ZESTIA units from customers including Beacon, Cronos, MOL, RAL and Japanese domestic companies. You can read more about this later in this issue.

ZESTIA trials are now in progress with five major shipping lines and under preparation with another three. We have received very positive feedback on ZESTIA's energy saving performance and ease of maintenance

*Our latest LXE model uses 50% less power than the original design*

from clients who have so far adopted the new design and I take pride in recommending it with confidence to

future customers.

Fuel cost volatility, plus a growing focus on sustainability from government and industry, will make reduced energy consumption and CO<sub>2</sub> footprints a very important goal for the shipping industry in the coming few years. ZESTIA has just begun to be accepted and I trust that we can contribute greatly to the needs of the market today and for the future.

### LXE investment

Daikin also remains 100% dedicated to continuously improving the performance of our established LXE series, and to ensuring that our LXE customers around the world receive the very best support and care. Eleven years on from its launch, the LXE remains the best-selling scroll compressor unit on the global market. As you will read in this issue, the latest LXE design now on general release is our most energy efficient yet, using 50% less power than the original design thanks to the introduction of new fan motor technology.

As the first generation of LXE units starts to enter the second-hand area, we are equally confident that buyers and users in this market will likewise appreciate the unit's great reliability. To support the introduction of the LXE into the second-hand market, we are holding educational 'Touch & Feel' seminars worldwide, providing sellers, dealers and users with practical technical and operational knowledge to improve their familiarity and comfort with the LXE. You can see the upcoming T&F schedule for the second-hand market on page 11.

### New global team structure

This April, Daikin reorganized its team structure, including the way that we work with our global partner Itochu. The new structure will ensure that Daikin and Itochu can jointly respond more effectively to market demand and get even closer to our customers. Our goal is to hear the voice of each client, precisely and clearly. In this way, we will

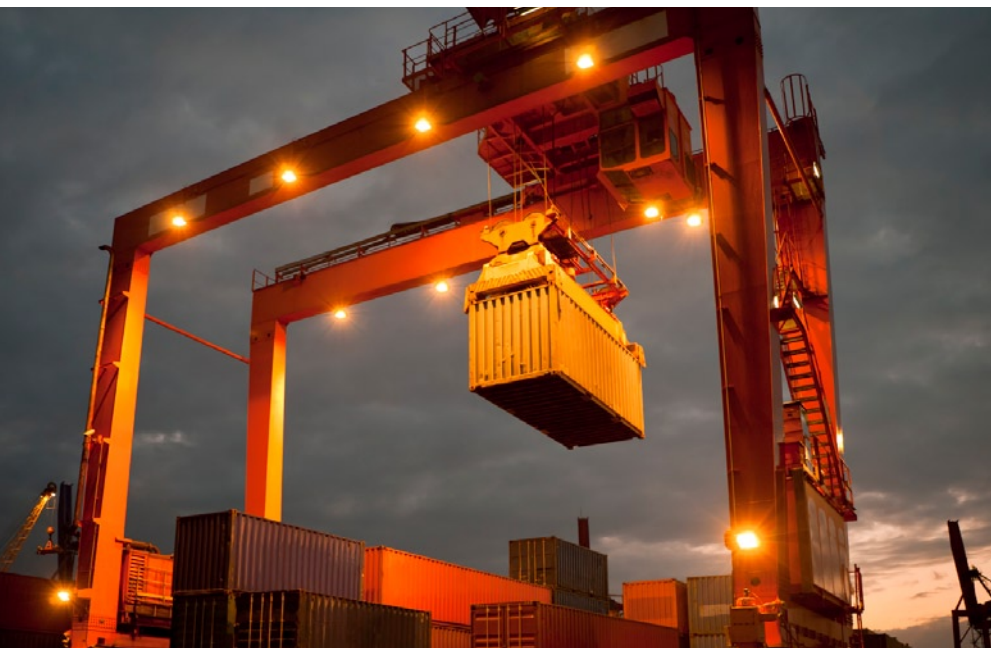
*The new structure will ensure that Daikin and Itochu can get even closer to our customers*

better guarantee that our products and services are truly contributing to our customers' needs.

In addition, I plan to further enhance our global service structure, improve customer satisfaction and ensure we have a great relationship of trust with our clients in all sectors of the market.

I hope you find our latest Daikin Reefer Newsletter informative and take this opportunity to wish all of our valued customers continued success through these challenging times.

**Katsuhiro Tetsuya**  
**Director**  
**Reefer Container Division**







## Customer focus

MOL expands ZESTIA fleet with more units from Cronos and Beacon

**O**ver the past nine months, MOL has acquired nearly 4,000 new reefer boxes fitted with ZESTIA machinery.

MOL became the first user of ZESTIA in November 2011, when it took delivery of 500 40ft hi-cube ZESTIA reefers from Cronos Containers, the first company to purchase our new design.

Since then, MOL has grown its ZESTIA fleet to 3,900 units. This includes 3,500 units supplied by Cronos Containers, which has significantly expanded its investment in ZESTIA technology, and 400 units from Beacon Intermodal Leasing,

which became the second customer to buy ZESTIA in March of this year.

MOL's ZESTIA reefers are now being used within the G6 Alliance

*MOL became the first ZESTIA user in November 2011. It now has 3,900 units*

on the Asia-Europe and Asia-Mediterranean trades. Announced last December and launched this March, the mega-alliance brings together APL, Hapag-Lloyd, Hyundai Merchant Marine, MOL, NYK and OOCL to

provide comprehensive coverage of 40 ports in the Asia-Europe market with more sailing frequency.

"The beauties of the new machine are its industry-leading power saving, plus the precise temperature control and ease of operation," said a MOL spokesperson. "The outer appearance is also very simple and smart.

"Daikin has always walked with us and provided us with the best solutions over some decades. We trust the high quality of their products, and also their technical support, customer services and after sales. And we realize the power of Daikin's diligent passion in ZESTIA!"

**MOL has acquired 3,900 ZESTIA units since November 2011**



## Customer focus

Japanese operator CONTEC places order for ZESTIA

Power-saving features of the new ZESTIA unit contribute to the Japanese national drive to conserve electricity

**I**n May 2012, one of the coastal container service operators based in Kagoshima Japan, CONTEC Co Ltd, placed its first order for ZESTIA with Daikin to provide higher operational quality and energy savings for its customers.

For Daikin, CONTEC wears two hats: the company is both a valuable customer and a trusted authorized repairer. The company therefore has deep familiarity with Daikin's units at the technical level.

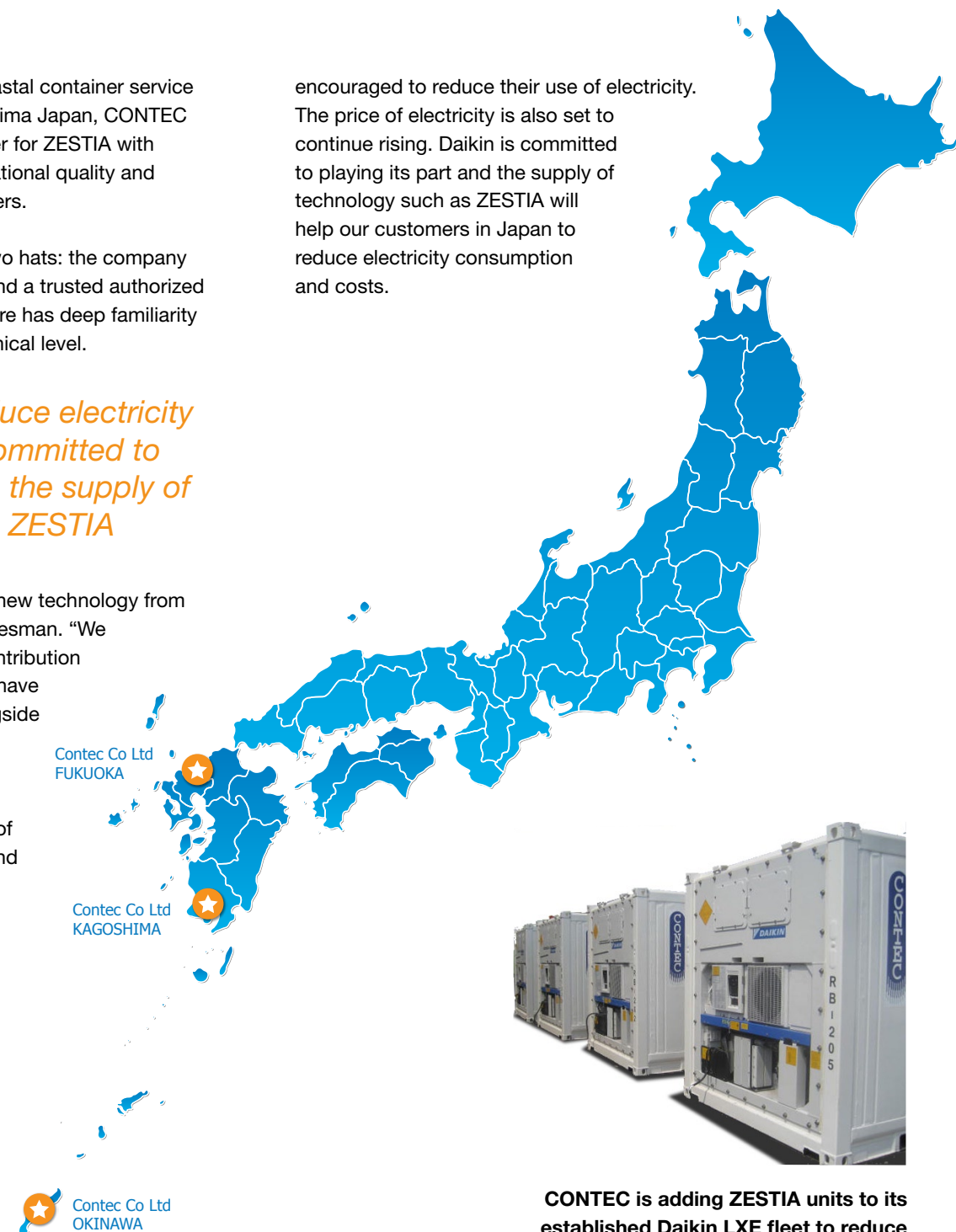
encouraged to reduce their use of electricity. The price of electricity is also set to continue rising. Daikin is committed to playing its part and the supply of technology such as ZESTIA will help our customers in Japan to reduce electricity consumption and costs.

*Japan needs to reduce electricity use and Daikin is committed to playing its part with the supply of technology such as ZESTIA*

"We are very glad to add this new technology from Daikin," said a CONTEC spokesman. "We believe it will make a great contribution to our business expansion to have ZESTIA units in our fleet alongside the LXE10E."

Following the earthquake, tsunami and nuclear disaster of 2011, Japanese consumers and industry have been strongly

**CONTEC is both a valued customer and trusted authorized repairer for Daikin refrigerated container machines in Japan**



**CONTEC is adding ZESTIA units to its established Daikin LXE fleet to reduce energy consumption and costs**





RAL has depended on the LXE10E since 2002, and has now become ZESTIA's first European customer

**ROYAL  ARCTIC**

## Customer focus

Royal Arctic Line is ZESTIA's first European customer

Greenland's national carrier has relied on Daikin technology for ten years, operating in the unforgiving conditions of the North Atlantic

**R**oyal Arctic Line (RAL) provides a vital year-round lifeline between Greenland and the rest of the world. The national carrier exports the fish caught in the seas around Greenland for sale in

international markets. It also imports all of the necessary supplies for the island's population, delivering them to the towns and settlements around Greenland's coast.

For half of the year, the northern

parts of Greenland are completely ice-bound and it is therefore essential that these supplies are delivered before the onset of winter and in perfect condition. Even during the summer months, the North Atlantic Ocean is

a treacherous place and in winter the conditions are atrocious. But for RAL, the transport of these vital supplies must continue, no matter what the weather. It is therefore critical for RAL that it can rely on

*"We chose ZESTIA simply because we expect the same durability as on the Daikin LXE10E units"*

its equipment to function reliably in these arduous conditions and consume minimal amounts of power both at sea and on land.

Back in 2002, RAL became Daikin's first customer in Europe to take delivery of the LXE10E

container refrigeration machine. Since then, it has continued to specify the LXE10E to equip its reefer container fleet. Today, more RAL reefers are fitted with LXE10E than with any other machine. The high reliability, easy operation and low power consumption of the LXE10E, together with excellent service support, have made Daikin the perfect refrigeration choice for Royal Arctic's operations at the "top of the world".

In March 2012, almost ten years to the day since it acquired its first LXE10E, RAL took delivery of its first ZESTIA reefer units. This makes RAL ZESTIA's first European client too. Esben Jakobsen, Equipment Manager at RAL commented: "We chose Daikin's ZESTIA simply because we expect the same high

durability as on the Daikin LXE10E units. The lower power consumption is very important for us to reduce our CO<sub>2</sub> emission and operational costs. With the current high fuel

*"With the current high fuel costs, ZESTIA will provide a vital contribution to our operations, helping us reduce freight costs"*

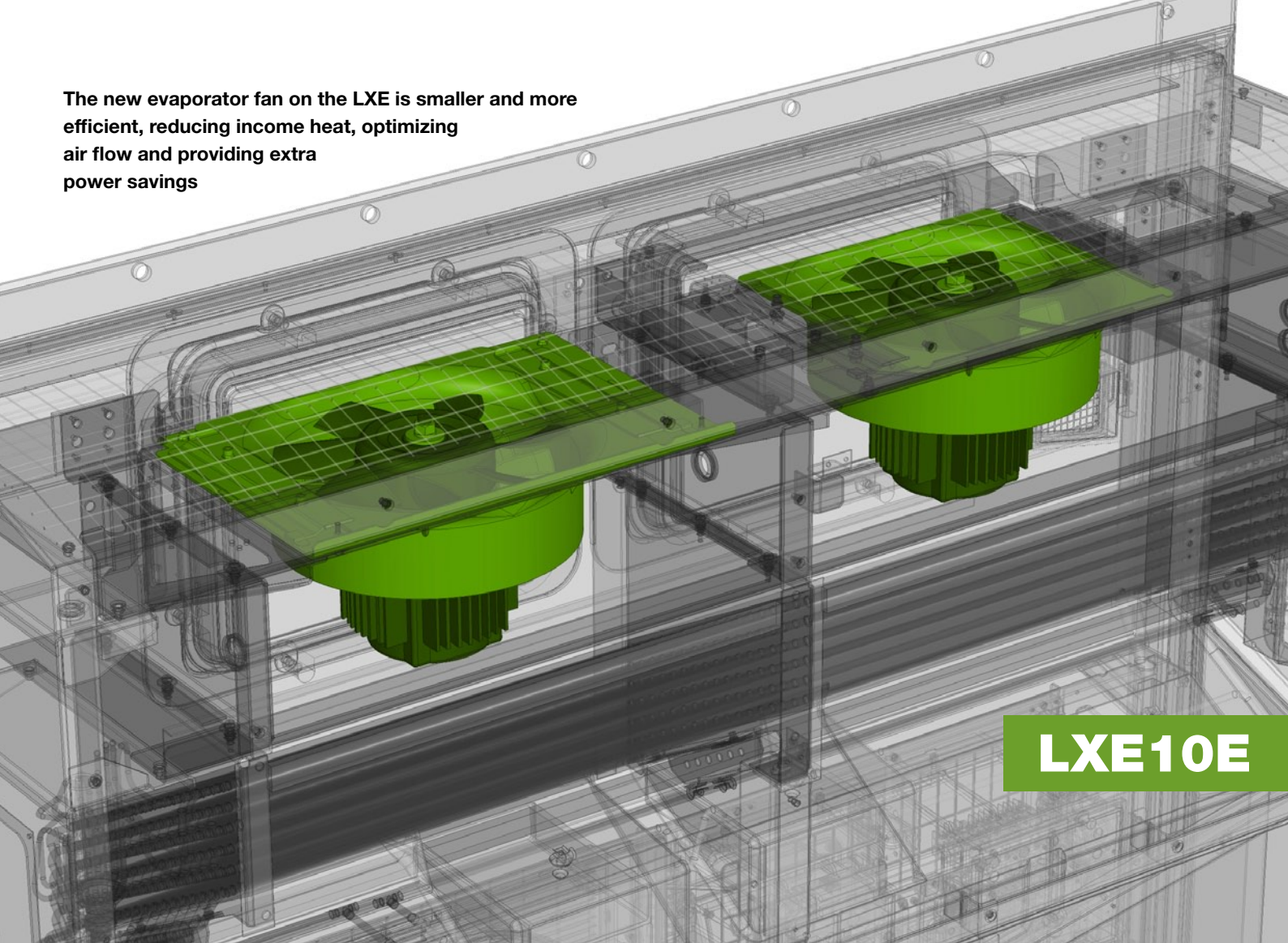
costs, ZESTIA will provide a vital contribution to our operations, helping us to reduce freight costs to and from Greenland and enabling RAL to have more reefers on terminals and ships with the same power installation."



**Royal Arctic Line operates in some of the world's most arduous conditions where even during the summer months the North Atlantic is a treacherous place.**



The new evaporator fan on the LXE is smaller and more efficient, reducing income heat, optimizing air flow and providing extra power savings



LXE10E

# LXE technology launch

Latest LXE design now available

A smaller, lighter, more energy efficient fan motor is one of the key new features introduced this year to further improve the performance of the LXE10E

At the same time as launching the new ZESTIA design, Daikin has continued to work on improvements to the established LXE10E unit. We are now delighted to announce the launch of the latest LXE with new features to reduce power consumption still further, while retaining all of the practical operational features and temperature performance so valued by our customers.

The latest LXE includes a new evaporator fan and fan motor, which have been downsized to reduce income heat, optimize

*Compared with the original LXE10E model of 2002, the latest LXE is now 50% more energy efficient*

air flow, and deliver new power savings. Following the launch of DTMS in 2005 and DTMSII in 2008, the latest LXE marks another milestone in Daikin's constant quest to provide the most energy efficient units to our customers. Compared with the original LXE10E model of 2002, the latest LXE is now 50% more energy efficient.

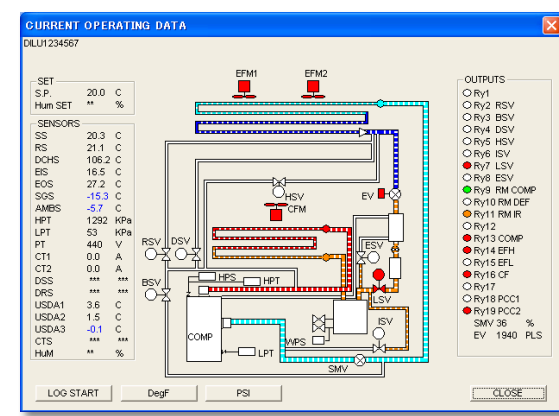
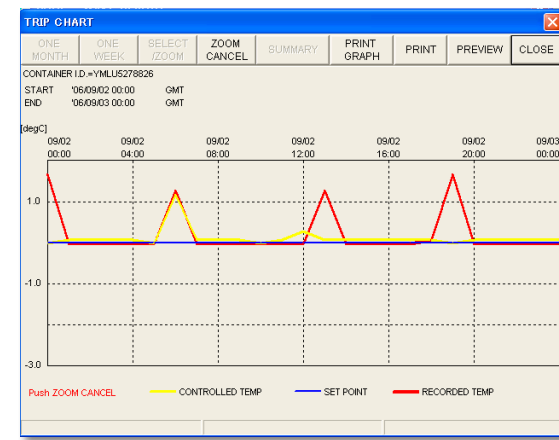
Of course, the LXE series also retains all of the practical merits that ensure its ease and flexibility of operation, including:

### Hot gas defrost system

While all of our competitors offer electric defrost systems, Daikin's unique hot gas defrost system provides a more energy efficient alternative that also reduces defrost times significantly and is better for cargo care.

### Auto Pump Down

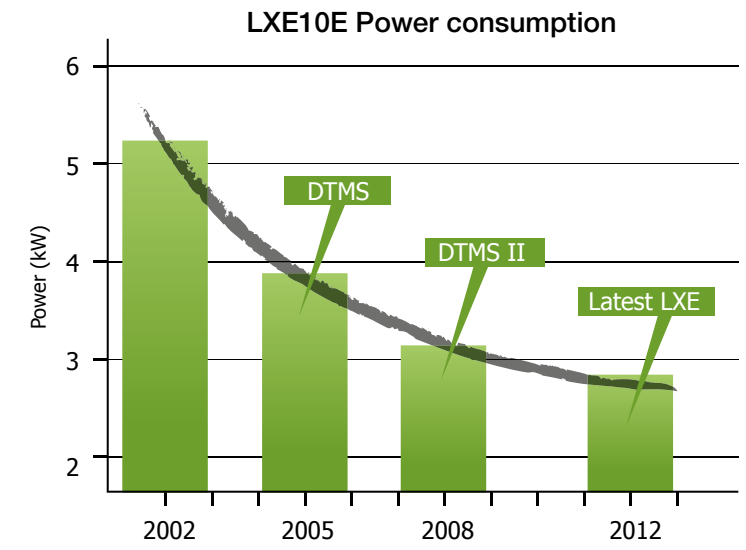
Auto Pump Down is another unique offering from Daikin that enable repairs and maintenance to be carried out without losing refrigerant. The system is automatic, meaning that no extra equipment is needed and the engineer does not have to fit and monitor manifold gauges. Auto Pump Down is activated at the touch of a key, reducing the chance of refrigerant loss compared to manual systems and avoiding the potential for human error.



Advanced data tools allow quick and easy trip analysis



The latest LXE is 50% more energy efficient than the original LXE10E design



### Advanced data tool

The Daikin Container Communication System (DCCS) is an advanced data tool for easy communication between the reefer unit and a laptop computer. The DCCS software provides:

- Straightforward analysis of operational conditions with simplified active flow diagrams and sensor operation.
- Trip data down-load from controller to personal computer.
- Easy preparation of trip report.
- Large storage memory for logging up to two years' worth of data.

### Energy management software

Daikin Temperature Management System (DTMS) is our advanced software program that enables operators to reduce running costs by cutting power consumption. Users can benefit from significant power reductions simply by uploading the software. No hardware modifications are required.



# Reefer market focus

## World reefer trade set for continued growth

Global reefer trade will grow 4-5% annually through to 2015, says Harrison Consulting\*, and world reefer container trade growth will once again outstrip competing modes

Between 2000 and 2010, total world reefer trade and seaborne reefer trade both grew by an average of 4-5% per annum. The refrigerated container segment, however, clearly outstripped all other modes of international transport for chilled and frozen cargoes, increasing by an average 10-11% annually over the same period.

Broadly, both of these trends are expected to continue over the coming three years, according to leading industry analyst Harrison Consulting. The company forecasts that world reefer trade will expand 4-5% per year from 2012-2015, driven by major trends including global population growth – which will especially boost reefer trade in regions with limited food production, such as the Middle East – plus higher demand from China, India, Russia and other fast-developing economies. Allied to this is the increasing practice for wealthier nations to acquire land in under-developed countries in order to grow agricultural produce and ship it back to their populations.

The reefer container manufacturing industry is also playing its part in stimulating world trade growth, observes Harrison, as better temperature control and insulation technology, plus increased equipment reliability, extend the range of chilled produce that can be shipped long distances. With technologies and economies of scale improving the competitiveness of this transport mode, world

reefer container trade volumes are expected to increase by 7-8% per annum through to 2015.

Since 1995, world reefer trade and the world reefer container fleet have grown by a similar rate. While this, too, is broadly expected to continue, there are some new factors emerging. First is the growing importance of the leasing sector in driving new equipment investment, a trend that emerged in the wake of the 2009 global downturn. Since 2010, the reefer lease fleet has been growing by more than 13% annually, compared with 7-8% per year in the previous decade. By contrast, operators have significantly curtailed their direct investment in new equipment.

Second is the current pressure on shipping line revenues and the resulting increased emphasis on equipment utilisation efficiency, which could widen the gap between the rate of trade growth and reefer container fleet growth over the coming few years. Notwithstanding this, Harrison forecasts that the global reefer container fleet will continue to grow in the coming few years, reaching 2.5 million TEU by 2015, up from 1.8 million TEU in 2010.

\* Daikin Reefer thanks Harrison Consulting for allowing us to share some of the company's findings and forecasts in this article



## Touch & Feel seminars

Daikin continues to promote LXE10E in the second-hand market with field demonstrations and training

Our Touch & Feel (T&F) seminars help to educate buyers, sellers and users of second-hand reefer containers about the features and benefits of Daikin technology

Since November 2009, Daikin has been holding field demonstrations to educate buyers, sellers and users of second-hand reefer containers about the features and benefits of the LXE10E machine.

Attended both by market dealers and resale specialists from shipping and leasing companies, these Touch & Feel (T&F) seminars have been very well received globally. We have also received excellent feedback from participants on the value that the LXE10E can provide in the second-hand market.

A typical T&F seminar consists of an indoor and an outdoor

session. During the indoor session, Daikin trainers educate attendees with the latest Daikin and general reefer market information, explain the unique functions of the LXE10E, and provide practical information such as after-service locations, spare-parts list price and purchase contact numbers.

During the field session, usually held at a depot, participants can see the actual performance of a Daikin machine and have the chance to operate the menu. To book a session, or for further information, please contact us at [info@daikinreefer.com](mailto:info@daikinreefer.com)

### Upcoming T&F seminars

We are now planning additional T&F seminars for the second-hand market at the locations listed below.

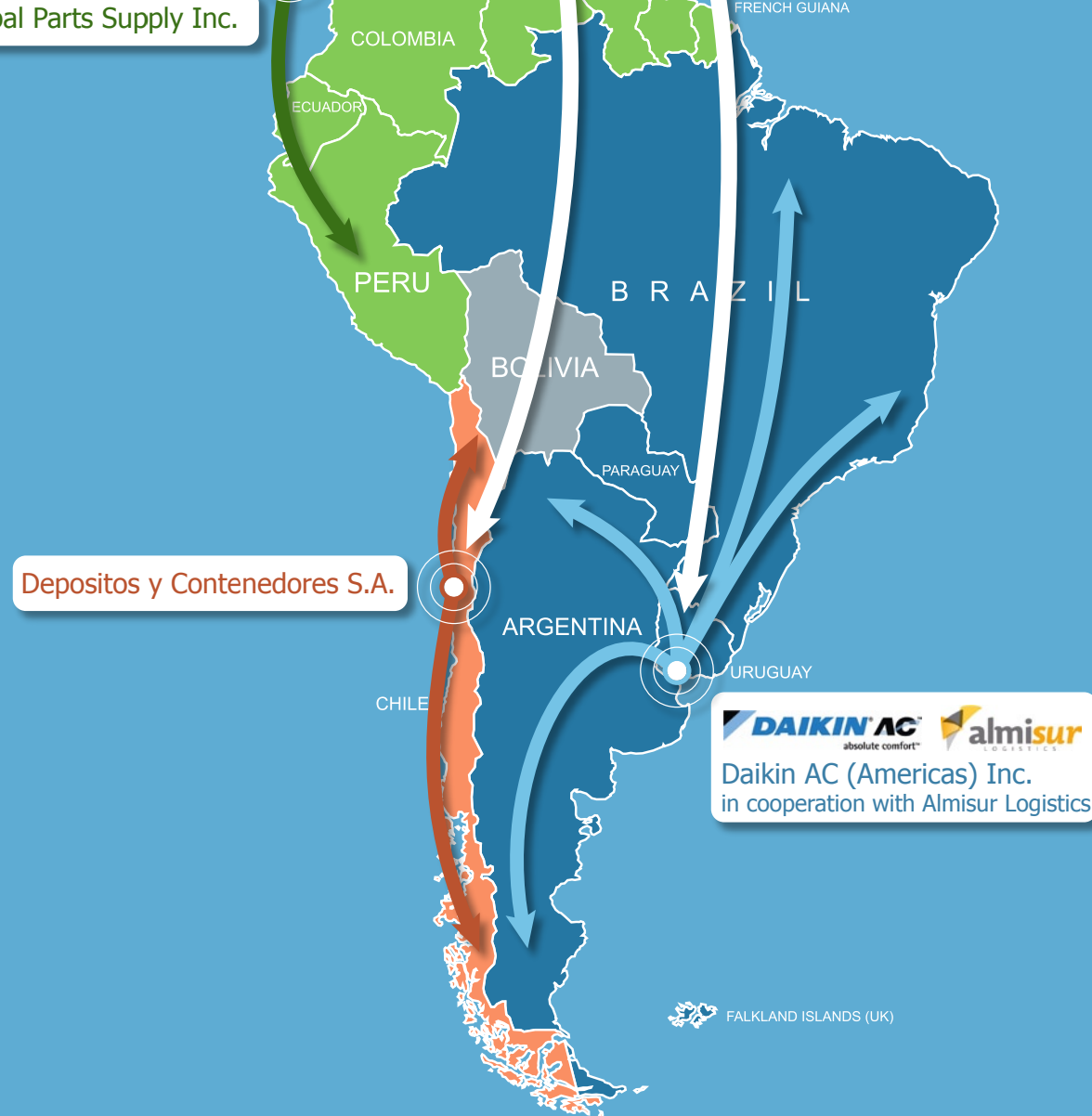
To book your place at a session, or for further information, please contact us at [info@daikinreefer.com](mailto:info@daikinreefer.com)

Please come and join us!

Region	Location
Middle East	Dubai
Africa	Cape Town
N America	Irvine, CA
S America	Chile
S America	Mexico
China	Shanghai
South East Asia	Jakarta
Australia	Sydney







## Service network

### New service network system for South America

A new regional organizational structure and the launch of a parts depot in Uruguay will boost Daikin's after-sales service for customers in South America

### New service centers

**Daikin AC (Americas) Inc  
Reefer Parts Operation Center**  
17570 Cartwright Road  
Irvine, CA, USA  
Tel: +1-949-732-5001/5011  
email: Dacamparts@daikinac.com

**Daikin AC (Americas) Inc  
Reefer Parts Warehouse**  
Almisur Logistics  
Zonamérica Local 704  
Cno. Maldonado km 17.500  
91600 Montevideo – Uruguay

**Global Parts Supply Inc**  
Calle Francisco Filos, Edificio #7,  
Local #1, Vista Hermosa  
Panama City, Panama  
Tel: 507-261-8986  
email: gpspty@gmail.com

**Depositos y Contenedores SA**  
Av. Bernardo Ohiggins Nro 388  
Placilla Oriente  
Valparaiso, Chile  
Tel: +56-32-251-3300  
email: daikin@dycsa.cl



**Daikin AC (Americas) Inc  
Reefer Parts Operation Center in Irvine CA (USA)**

From September 1, Daikin will introduce a new reefer parts distribution and service system for the South America region. Under the new approach, the sales subsidiary Daikin AC (Americas) Inc, will now take a key role in managing parts distribution and service activities across South America, collaborating closely with local satellite parts centers.

Daikin AC (Americas) has been responsible for reefer parts distribution in North America for over five years. During this time, the company has improved its operation and inventory continuously.

*“We plan to create support programs for our Central and South America service dealers to have more inventory in their depots.”*

“Customer communication is the key for better parts distribution,” says Ryoma Uto, General Manager of the Reefer Parts Operations Center at Daikin AC (Americas). “We’ve already established strong relationships with our customers and vendors in the USA and now we plan

to do the same in South America. Through day-to-day communication with customers, we can provide continuous support for their needs in a timely manner.”

Communication with Satellite Parts Centers and service dealers is another key for better operations. Under the new arrangement, Daikin AC (Americas) will also have closer communication with Daikin's two Satellite Parts Centers in Central and South America and will support their inventory management. “We plan to also create support programs for our service dealers to have more inventory in their depots,” added Uto.

“We are excited about rebuilding our parts distribution in South America to ensure that we provide customers with a higher level of satisfaction,” said Alvaro Quintana, After Sales Service Manager for the Americas region.

As part of the improvement program, Daikin will also open its own parts depot in Montevideo, Uruguay, for the first time in its reefer history. “We’ve built a great partnership with Almisur Logistic to support us in Uruguay,” explained Quintana. “They have great experience and knowledge of the parts distribution business and we are looking forward to working together.”



# Daikin Group news

## Daikin Europe launches remote control for domestic and commercial air conditioning users

**New online technology puts Daikin customers in control, regardless of location.**

Under the slogan “Always in control, no matter where you are”, Daikin Europe NV has released a new online control system that allows customers to remotely manage their air conditioning units via PC, laptop, tablet or even smartphone.

Available for a wide variety of Daikin split units, including the Emura and Nexura, plus other wall-mounted, floor-standing and ducted systems in

the split range, the latest technology gives customers access to their A/C system’s main functions via the internet, supported mobile devices or wired remote control. The system also provides remote fault diagnosis, allowing problems to be quickly detected and resolved.

The online controller allows both residential and commercial users to address common issues, such as forgetting to turn A/C systems off when leaving premises, or needing to change the time that A/C units

are preset to turn on and off. By preventing unnecessary heating or cooling, the remote technology helps improve energy management, reducing electricity costs and environmental impact.

**For more information on Daikin’s online controller and the full range of compatible systems, visit [www.daikin.eu](http://www.daikin.eu)**



## Technical update

### Purfresh ozone cargo management technology trial conducted on OOCL reefer unit

**A**s more shippers of fresh produce look to access global markets using sea container transport, ocean carriers are increasingly investigating the use of atmosphere control technology to reduce cargo ripening rates and decay. In June, trials on an active atmosphere control technology developed by Purfresh, a U.S. based company, was done on an LXE10E reefer unit operated by Orient Overseas Container Line (OOCL).

According to Purfresh, the Purfresh system uses an active form of natural ozone to protect fresh produce quality and extend transport life by killing molds, yeasts, and bacteria in the air and on surfaces by up to 99%. The system also effectively consumes and regulates ethylene, a natural ripening gas given off by fresh fruits and vegetables, to maintain the best environment.

The initial results of the trial shipment of oranges from the United States to Malaysia were positive.



## Daikin’s DESICA commercial air conditioning system wins the Award of Technology at prestigious industry ceremony

**DESICA system honoured at 47th Society of Heating, Air-Conditioning and Sanitary Engineers of Japan Awards.**

Conventional air conditioning systems use a single unit for controlling both temperature and humidity. This makes it difficult to achieve the ideal balance of both. It also wastes energy. But in the DESICA system, temperature and humidity are controlled by two separate units, thus achieving both energy efficiency and room comfort. DESICA is about 20% more energy efficient than conventional systems. It was these benefits that earned DESICA the Award of Technology at the 47th Society of Heating, Air-Conditioning, and Sanitary Engineers of Japan Awards.

Today, Daikin is the only company providing this technology in commercial applications. This is a Daikin core technology that in future has the possibility to be utilised also in reefer applications.



**The award-winning DESICA commercial air conditioning system independently controls temperature and humidity for greater comfort and efficiency**





# Upcoming events

Come and meet us

## SMM 2012

4-7 September  
Hamburg, Germany  
[www.smm-hamburg.de](http://www.smm-hamburg.de)

The DAIKIN Marine Group, headed by Daikin MR Engineering, will be at SMM 2012 Hamburg from September 4-7 this year. Stop by for a visit at Booth 202 in Hall B5.

Daikin MR Engineering and the rest of the DAIKIN Marine group have been working hard to ensure that Daikin continues to offer the best marine HVAC and refrigeration systems available. Whether merchant,



**4-7 Sept 2012**  
**hamburg**

**Hall B5**  
**Booth 202**

**25<sup>TH</sup>**

cruise, specialty or offshore vessels, the DAIKIN Marine group can help you meet your project needs.

## Cool Logistics Global 2012

24-26 September  
Antwerp, Belgium  
[www.coollogisticsconference.com](http://www.coollogisticsconference.com)

Daikin Reefer is once again sponsoring the Cool Logistics Global conference from September 24-26 in Antwerp. Arjan Bezemer, Daikin Reefer GM for Europe, will take part in discussions on reefer container technology during the annual Operations &



Technology Day on 24 September and Daikin Reefer team members will be present to meet with customers and business partners.

## Intermodal Europe 2012

27-29 November 2012  
Amsterdam, Netherlands  
[www.intermodal-events.com](http://www.intermodal-events.com)

Daikin Reefer will exhibit as usual at Intermodal Europe this year. Europe's leading event for container transport and logistics takes place in Amsterdam from 27-29 November. Please stop by to meet us at Stand E32.

