WORKING TOWARDS A GREENER FUTURE
Welcome

From Katsuhiro Tetsuya
Director of Daikin Reefer
Container Sales Division

Welcome to the Fall 2019 Edition of the Daikin Reefer Newsletter, which has been written to coincide with Intermodal Europe, one of the most important events in the calendar for Daikin Reefer.

This time last year, the celebrations for our 50th anniversary were in full swing. It was a great opportunity for us to look back on what we had achieved, take stock of our values and see how our culture of innovation and hard work has driven us to our current market-leading position. Energised by this milestone we have had a great 2019. This year has also seen some great sporting events, including the rugby world cup, which is taking place in Japan as I write this. Rugby fans have been impressed by Japan’s rugby team – the Cherry Blossoms – and in particular by its collective efforts as ONE TEAM.

“So far this year we have seen strong growth in the reefer trade”

Despite the increasing number of trade disputes that have affected the container shipping industry and have led to containers standing idle in a number of ports, reefer shipping, and in particular the fruit sector, remains well-positioned. This is due to a series of factors, including high demand for fresh and frozen food from China. The devastation of local pork production there was due to African Swine Fever (China could lose 100m pigs – as many as are farmed in the US and Europe), and the lifting of restrictions on beef imports have helped boost demand for reefer containers.

Client successes

As demand grows, we will keep talking regularly to our customers to make sure we are providing them with the best service possible and to ensure that our technological innovation is in line with their needs. As a result of these regular conversations, we are proud to feature some great success stories in this newsletter. ThermoCare, a container operator based in the Port of Genoa that focuses on carrying perishables between Europe, Africa, Middle East, Pakistan and India, is using Daikin Active CA to ensure that its offering to clients is as flexible as possible, while still giving them complete confidence that their produce, such as avocados, will arrive at its destination in optimum condition. Chiquita, the leading banana shipper, has shifted from reefer to container ships and is using ZeSTA model, which uses DC inverter technology to reduce reefer box power consumption by over 50%.

From 50th anniversary to the 2050 Vision

As we ensure that Daikin Reefer is ready to thrive in the future, our attention turns to the need to protect our environment. We set out in a comment article how we are going to make a difference. It starts with short term considerations – IMO 2020 and the F-Gas regulation in Europe – and will build from there, driven by our Environmental Vision 2050. Achieving that vision will require commitment, innovation and dedication. We will get there gradually, led at every step by conversations with our partners and customers around the world and guided by their vision and commitment. The journey will be challenging but through our effort as ONE TEAM we will achieve it.

Environmental Vision 2050

The shipping industry is no exception. Nor is the global refrigeration and air conditioning sector. Both industries – intimately related thanks to world trade in food and other temperature-controlled goods – are subject to growing customer and regulator demands for greener and cleaner solutions. And here at Daikin Reefer, we have been working to help our customers meet the challenges of environmental legislation including new EU F-Gas rules, IMO 2020 and a growing wave of new policies to reduce the carbon footprint of shipping, ports and the supply chain.

IMO 2020 regulations

Tackling climate change: How Daikin is helping world reefer shipping meet new environmental targets

A culture of innovation

IMO 2020 has been years in development and the details are already well known. From 1 January 2020, marine sector emissions in international waters will be drastically cut. Ships will have to reduce sulphur emissions by over 80% by switching to lower sulphur fuels or installing scrubbers. The current maximum fuel oil sulphur limit of 3.5 m/m (mass by mass) will fall to 0.5 m/m, which could make fuel significantly more expensive, certainly to begin with.

Looking further ahead - but not that far - IMO has pledged a 50% reduction in carbon emissions from world shipping by 2050. So, when we consider the absolute growth in refrigerated container trade, especially on very reefer-heavy export lanes from major producing regions such as Latin America, it is crucial that reefer container technology providers engage closely with ocean carriers, ports and other stakeholders to mutually address how to reduce energy consumption and emissions both at sea and elsewhere along the chain.

Reducing power consumption requires continuous innovation and technological improvement, something that has always been core to Daikin’s philosophy. Back in 2005, we developed the DTMS software logic for our LXE machines, updated in 2007 and then again in 2013 to reduce reefer box power consumption by over 50%. In 2011, Daikin raised the bar by launching the ZeSTA model, which uses DC inverter technology to simultaneously deliver rapid cooling, stable temperature and significantly reduced power consumption. This means that shippers and carriers can maintain the highest level of cargo care while at the same time protecting the environment.
Moving beyond shipping, the EU F-Gas regulations also pose a challenge for the global maritime cold chain. This phase down regulation requires a 79% cut in CO2 equivalent from fluorinated greenhouse gases by 2030 compared with 2005. This will drive manufacturers to switch to a lower refrigerant charge in equipment or the use of lower GWP gases.

Daikin’s long-term focus on innovation and the environment across air conditioning, heat pumps, ventilation and refrigeration – which are among the most important areas for our planet and our people’s quality of life - has ensured we are ready to help the reefer container transport industry adapt.

“It is worth a reminder that R134a has NO restrictions at present for use as a container refrigerant.”

Currently all Daikin reefer container machines are produced with R134a as their refrigerant and it is worth a reminder that R134a has no restrictions for use as a container refrigerant.

But, to be ready as the cost of R134a refrigerant inevitably increases while supply decreases, and as a safeguard against additional legislation being introduced sooner than expected, we have developed a drop-in solution using R513A in existing equipment.

R513A has less than half the GWP impact of R134a and will be optionally available for all new Daikin equipment and also for retrofit from mid-2020, with only minor modifications needed.

We will not stop here. As a manufacturer both of refrigerants and refrigeration products, we use our in-house technical expertise to select the right refrigerant for each product type based on four guiding factors: safety, environmental impact, energy efficiency and cost-effectiveness.

Considering these four factors, from the start Daikin identified HFO-1234yf as the most promising future low GWP solution for the reefer container industry, not least as it is global automotive choice to replace R134a in various industries. Accordingly, we have participated with others from the industry in ISO committee work to set safety guidelines for this new refrigerant. We believe that HFO-1234yf will provide the solution to reduce GWP without overly affecting machinery performance, creating unnecessary adaptation costs or negatively affecting fuel efficiency. This will ensure that global reefer container operations can continue to deliver quality cargo care and maintain cost efficiency while meeting environmental goals.

At the ‘green heart’ of Daikin Industries is our Environmental Vision 2050, with the aim of reducing to net zero greenhouse gas emissions caused by our business activities, products and services. The medium and long-term plans to reach this ambitious goal involve using IoT, AI and open solutions. We will achieve this by:

• Creating more energy efficient products
• Developing and using refrigerants with a low GWP
• Reducing environmental impact through the entire life cycle of a product
• Recovering, recycling and reuse of refrigerants

IMO 2020 regulations
Rethinking refrigerants

Daikin’s Air Conditioning & Heat Pump division has already started an initiative to recover refrigerant used in existing equipment. This recovered refrigerant is tested, cleaned and certified before being re-used. This avoids over 150,000kg per year of virgin (new) refrigerant being produced, helping Daikin to be the lowest CO2 equivalent manufacturer.

From the reefer container side, we are following this initiative with great interest.

The right combination of skills
As we work towards these goals, we will never lose sight of our core values and what our customers value most about Daikin products – cutting edge technology, precise temperature control and reliability. Lower machinery maintenance and repair reduces shipping line costs and helps all elements of the supply chain to focus on what they can be doing to lower the environmental impact of reefer shipping.

Daikin, as a global air conditioning and refrigeration company, has the expertise, environmental commitment and culture of innovation needed to meet the ambitious goals being set by regulators and adapt to the new targets that will come out of the increased focus on the environment and climate change. We look forward to working with the reefer container industry to create an even cleaner, greener and more efficient future.
Chiquita gains control with Active CA

Chiquita is best known as the banana producer with the famous blue sticker with a shipping division known as Great White Fleet that used to operate the largest reefer fleet in the world.

That division has undergone a transformation in recent years, as it has followed the trend away from reefer vessels to container ships. “This has created important efficiencies and saved an unprecedented amount of energy,” says Stefano di Paolo, President of Great White Fleet.

A year ago, after extensive market research, Chiquita ordered 500 Daikin ZeSTIA units, all fitted with its Active CA technology. These containers are used mainly on the company’s North European rotation, moving around Almirante, Moin, Vlissingen, Oslo, Helsinki and Helsingborg.

Daikin’s Active CA technology allows Chiquita to monitor the amount of carbon dioxide, oxygen and nitrogen in the containers and so control the speed at which the fruit ripens. This allows for a longer transportation window and means that shipping bananas is no longer a race against time. “We have complete confidence that the bananas will arrive in perfect condition for a prolonged shelf life in supermarkets,” says Stefano di Paolo.

Chiquita is now the first banana company to completely containerise its transport, a move that has also improved storage conditions at terminals, reduced fruit handling and increased capacity from origin to destination. Daikin’s technology has been part of this successful strategy, which has enabled Chiquita to improve its offering to clients in terms of efficiency, quality and speed, while reducing its environmental impact.

The Daikin Reefer team recently visited Chiquita’s Head Office in Switzerland, where we discussed the performance of Chiquita’s current Daikin units and exchanged general updates on both businesses.

Customer focus
Thermocar – a highly specialized refrigerated transport business making the most of Active CA

Thermocar is a container operator based in Genoa that focuses on carrying perishables between Europe, Africa, Middle East, Pakistan and India. The company is small and flexible, offering its customers control over all elements of the supply chain. It has its own fleet of reefers, its own trucks, a private terminal that is also a customs bonded warehouse and a cold store. This enables the business to be adaptable – offering clients quick quotes that provide one integrated service with a single price. On average, their reefers make two journeys per season and around five journeys per year.

A flexible business like this needs technology that can keep pace with a market that is constantly creating new challenges. “Daikin’s Active CA technology is part of our tailored solution,” says Federico Puccetti, owner of Thermocar S.r.l. Active CA rapidly creates a nitrogen-rich environment within the container, putting the fruit to sleep more quickly than any other method. This makes it possible to transport cargo that can be difficult to ship using more passive systems. Federico highlights three reasons why Daikin’s Active CA technology is the right solution for them.

Flexibility. Thermocar’s unique selling point is the flexible, tailored solution that it can offer to its customers along the whole of the coldchain. Daikin’s Active CA technology enables them to transport a range of perishable goods, most often bananas and avocados, and maintain control from start to finish. “Active CA technology offers our customers the ability to have precise control over the temperature and atmosphere of their cargo, which they find really valuable,” says Federico.

Confidence. Federico points out that on routes from East Africa to Europe, Thermocar sometimes experiences sudden changes of vessel rotation. “With Daikin’s Active CA technology we have the confidence that we can deliver the cargo in great condition, even when the transit time has been extended,” continues Federico “Clients have understood the benefits of the technology and are now asking for it.”

“The quality of the machinery and the technology is outstanding”

Reliability. Thermocar prides itself on providing carefully serviced containers that do not break down and offering their clients full access to container data. They see the same commitment to quality in Daikin’s products. “The quality of the machinery and the technology is outstanding” explains Federico. In particular, the ability of the system to react fast and lower the temperature of the cargo so quickly gives Thermocar’s clients the control that they need as their cargo moves.

“There is no doubt that Active CA is the only safe way to transport fast-respiring fruits,” concludes Federico.
Training Update
Daikin Reefer accelerates its global training programme to support its reefer customers

Daikin Reefer is committed to providing its global service network of customers, technicians, service dealers and reefer mechanics with best-in-class training so that they are able to manage and maintain their Daikin equipment to very high standards and trouble-shoot any problems quickly and easily. Helping our customers to deliver superior customer service to their customers and ensure minimum damage and deterioration to equipment whilst maintaining optimal operation is a priority for the Daikin Reefer team.

Our team conducts training sessions across the globe, from South Africa to Latin America, Asia and the USA. This year, we have extended our training programme even further to include tailor-made sessions for customers and reefer engineers to deliver our ‘Train the Trainer’ programme. We have introduced new reefer diagnosis tools and techniques to simplify reefer trouble-shooting.

This year, our team has led training sessions in key loading ports across the globe including Cape Town and Durban in South Africa, Callao and Paita in Peru, Manzanillo and Veracruz in Mexico and Tauranga, Napier and Auckland in New Zealand, to name but a few.

Daikin Reefer’s Field Service Managers Ronald van Andel and Clinton Blower led an on-site training session for technicians in Durban, South Africa.

Mr Ah Huat Goh, General Manager, Global Marketing & Service, Reefer department at Daikin Reefer, led a classroom demonstration for members of various customers’ reefer management teams in Singapore.

Exclusive Training for Ocean Network Express
We led a customised training session for 17 technicians and reefer executives from Ocean Network Express (ONE)’s equipment team and their vendor network in Eastern (1961). Training includes theoretical classroom sessions that review functionality and engineering features of Daikin’s equipment, together with practical hands-on sessions out in the field or in depots. This mixed training approach ensures our customer, Ocean Network Express (ONE)’s equipment team and their vendor network can identify the root cause of any problems quickly and easily and work to resolve these as soon as possible. ONE team members took part in hands-on practical sessions for their LXE and ZeSTIA units equipped with our Active CA technology in their depot.

On-site training for the ONE team included hands-on demonstrations of how to troubleshoot reefer diagnostic problems and resolve them quickly with the help of Daikin Reefer’s Service Manager, JT Lin.

ONE technicians and executives participate in classroom training led by Daikin Reefer.

The ONE team practised how to install a curtain.

Mr Suga, General Manager of EQC and M&R at Ocean Network Express comments ‘It is so important to us all at ONE that Daikin Reefer team deliver excellent training for our network. We remain committed to extending our training programme across the globe to ensure delivery of the best customer service.”
Daikin Reefer launches enhanced Service App to its network

In August this year we re-launched our Service App version 2.0.0, with many new and enhanced features and improved functionality. Our Service App is used by Daikin Service Managers, Service Centre teams and customers around the world to help them carry out a wide range of daily service-related tasks. The new version has been received with very positive feedback.

- Updated Alarm Code
- Updated Manual which links to the Daikin website
- A new Warranty Validity Check function
- A new Operation status function
- A new Tools function
- An improved Service Network and Bulletin alert function which link to the Daikin website.

The new Warranty Validity Check function allows customers and authorized dealers to check warranty validity easily and quickly by inputting container numbers when working out in the field, so that repairs can be undertaken as soon as possible.

A number of new tools also help simplify and expedite daily reefer diagnostics tasks for technicians and vessel crews, including:

- Updated alarm codes to identify the root causes of problems and facilitate speedy trouble-shooting
- An operation check status in both chilled and frozen mode based on ambient temperature, pressure and power supply (both voltage and current)
- The ability to check the conversion of the refrigerant temperature to vapor pressure and sensor temperature resistance

The Operation status function has been updated for easy data entry to speed up trouble-shooting

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The new and updated Tool function

The enhancements to the RQM function (Warranty System) simplify improvement work and the warranty approval process, as Service Managers can now review and approve warranty claims through the App at any time, speeding up the overall warranty process. When logged into the RQM function, any Daikin authorized service center can check improvement work codes for specific containers so that repairs can be undertaken promptly.

How to download the App

The app is available to download for new users via QR codes for Android or via the App Store for IoS devices’. Existing users of the RQM App can tap the RQM icon and follow the instructions to download the updated version. RQM users not using the App can download the Service RQM App via the front page of the RQM system.

Please see the back of this newsletter for QR codes to download the App.

Carla Sanchez – Regional Reefer Care Manager, Reefer Container Department.

Carla joined Daikin Reefer in April 2019 as Regional Reefer Care Manager and is based in Peru. Carla is responsible for promoting Daikin Reefer technology and the benefits of our Active CA technology to shippers in the region, through various methods including regular shipper and exporter seminars, working in collaboration with shipping lines.

‘Since joining the Daikin Reefer team I’ve already gained so much knowledge about reefer technology and the team culture, I’m really enjoying working with my colleagues and working for an organisation with such a reliable reputation in the reefer market which is essential in my view’, says Carla. ‘Daikin Reefer is renowned for the superior quality of its products, its commitment to its clients and the excellent service and support its clients and partners receive. Our Active CA technology is best in class and I’m proud to both represent Daikin and promote Active CA technology to clients here in South America’.

Clinton Blower – Service Manager for Africa and the Middle East, Reefer Container Department.

Clinton joined Daikin Reefer in April 2019 as Service Manager for Africa and the Middle East and is based in Cape Town, South Africa. With over 19 years’ experience working for different shipping lines, Clinton’s passion is for the reefer container business. Clinton is responsible for Africa (except Morocco) and the Middle East region (except Israel).

‘I have watched the evolution of the reefer container over many years and I’m very excited to now be part of such an experienced, reputable and dynamic service team such as Daikin Reefer – one that is committed to meetings its customers’ expectations of reefer quality and reliability’, says Clinton. ‘Daikin has the best Active CA offering in the market today and at such an exciting time in the shipping industry, we are now in a very fortunate position to partner with shippers to promote the benefits that Daikin’s Active CA technology can offer them. It really is the only active CA system that is having a big impact on the transportation of perishable goods around the world, helping growers and shippers open up new markets with their perishable produce’.

Daikin People

Carla Sanchez and Clinton Blower join Daikin Reefer
The Daikin Reefer team visited Asia Fruit Logistica in September to showcase Daikin Active CA technology on our stand. This leading event is attended by growers and shippers of fresh produce in Asia, together with major shipping lines including CMA CGM, COSCO, WAN HAI, ONE and HMM who all have stands. With so much potential for growth in shipments of perishable produce to and from this region, the event was an opportunity for the team to strengthen existing relationships, make new ones and exchange ideas with industry colleagues.

During the event, Mr Ah Huat Goh, General Manager, Global Marketing & Service, Reefer department, held a seminar with Ocean Network Express (ONE) to discuss the benefits to shippers of using Active CA technology to transport perishables over long transit times, open new market opportunities and expand cargo range: examples of successful shipments using Daikin Active CA include mangoes and organic bananas shipping from Peru to Korea and the first shipment of avocados from Peru to Thailand. Active CA is also helping ship blueberries under cold treatment to other parts of the world as well as opening up new cargo routes such as snowpeas.

The event was a success for Daikin with many visitors to the stand, eager to find out more about the benefits of Active CA. Said Mr Ah Huat Goh ‘Asia Fruit Logistica is a key event in the Daikin calendar and a reminder of how changing tastes and demands for perishable produce in Asia mean that growers and shippers need to rise to the challenge of ensuring produce shipped to this region arrives in pristine condition’.

Henrik Hansen and Harm Louwen from Daikin’s Reefer team set down in Valencia for the 11th Cool Logistics Global conference. This is the leading annual forum for business intelligence and networking for supply chain, logistics and transport professionals in the international perishables markets. For the Daikin Reefer team, the event is an opportunity to meet industry colleagues and debate and discuss the key market trends and issues that are impacting the movement of perishable goods by air, land and sea. A wide range of issues and topics were discussed, including key themes such as remote reefer monitoring, combating plastic waste in the perishables supply chain, the impact of changes to the container shipping industry on the transportation of perishables and not least, the lively ‘Great Banana Debate’ which saw discussion of trends and risks for banana shippers and freight forwarders. ‘It was great to be at Cool Logistics Global once more representing Daikin Reefer’ said Henrik, ‘We like to be part of the industry conversation and this event allows us to participate and learn’. The 12th Cool Logistics Global conference takes place from 13 – 15 October on the SS Rotterdam, The Netherlands. www.coollogisticsresources.com

Intermodal South America is an important event in Daikin’s annual calendar: each year our team hosts customers and industry colleagues at our booth at the exhibition which is attended by logistics, cargo transport and international trade professionals. The Daikin booth showcased the best of our leading technology, including Active CA. The team met a wide range of visitors and discussed how Active CA technology can help growers and shippers transport perishable goods from South America to Europe and beyond: South American countries such as Peru and Columbia are now emerging as leading growers and exporters of produce such as avocados, mangos and artichokes. All of these products need the correct temperature-controlled transportation conditions for their long voyages to other parts of the world, and Daikin’s Active CA is already being used extensively. ‘Intermodal South America is always an exciting event to attend’, said Robert Ferreyra, Sales & Marketing Manager for Latin America who attended the event on behalf of Daikin. ‘We will be back in 2020!’ www.intermodal.com
Upcoming Events

FRUIT LOGISTICA Berlin, February 5-7, 2020

Intermodal São Paulo, March 17-19, 2020

NPSA Las Vegas, May 3-5, 2020

On board SS Rotterdam, Oct 13-15, 2020

Social media overview

Join the conversation with Daikin Reefer on social media

Daikin Reefer’s Twitter and LinkedIn social media sites contain useful news updates, reports on our training activities around the world and also allow our network to participate in conversation and exchange their views on the issues of the day. If you haven’t already joined our growing network of followers, made up of members of the Daikin team, customers and industry colleagues – here is how you can join.

Daikin Reefer Twitter account

Head over to www.twitter.com/daikinreefer where you’ll find updates on events we attend plus interesting reports on global fresh produce trends, trending news stories in fresh produce and container technology and more.

Daikin Reefer LinkedIn account

You can join our network of colleagues, customers and media followers by adding us to your Followed Pages on LinkedIn – www.linkedin.com/company/daikin-industries.

We let you know which events we’ll be attending

We provide useful industry updates and reports on the fresh produce market such as this one on the global blueberry market

Our recent training event in South Africa was reported on our LinkedIn page with feedback from training participants on how useful the event was

We follow the key industry trends and report on these to help keep you up to date and informed

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We tweet daily about Daikin’s activities and market news. Be sure to check us out at twitter.com/DaikinReefer

Send us a tweet! We would love to hear from you! #DaikinReeferTeam

Be sure to check us out at www.linkedin.com/company/daikin-industries

Feel free to follow us and comment on our posts! We would love to hear from you!

Check out our new Daikin Reefer Youtube channel!

Download the Service App

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