

# ContainerLINE<sup>®</sup>

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## Hailing the King of Cool Innovation



*Willis H. Carrier*

On July 17, Carrier employees around the world commemorated the 110th anniversary of the invention of modern air conditioning by Dr. Willis Haviland Carrier. That achievement, of course, gave rise to Carrier Corp., and eventually to Carrier Transicold, now both a part of UTC Climate, Controls & Security.

No matter where you go in the Carrier world, the innovative spirit of Dr. Carrier continues to this day. And you can read about it in our new book, *Weathermakers to the World* (visit [williscarrier.com](http://williscarrier.com)), chronicling the rich history of Carrier Corp. and our legacy of innovation.

We are a company of ideas, committed to research and development. Our heritage inspires us to reach the next innovative, powerful and marketable idea, as evidenced by groundbreaking products such as our new NaturalINE™ container refrigeration technology, which harnesses CO<sub>2</sub> natural refrigerant for reduced carbon footprint plus energy savings; the industry best-selling PrimeLINE® unit, which significantly reduces power requirements, lifecycle costs and emissions for shipping lines; and PowerLINE® generator sets with ecoFORWARD™ technologies for fuel-saving compliance with the latest emissions standards.

Managing the process of innovation is discussed in this issue by Carrier Transicold Program Manager Mike Griffin, who has helped lead several of our “coolest” product development initiatives that are true to the legacy of our founder.

Also featured in this issue is OPDR, a customer with a rich legacy of its own that has embraced the PrimeLINE unit’s innovation as the right choice for its needs today. And with the adjacent article, we’re excited to update you on the sea trials of our NaturalINE units, which continue Carrier’s tradition of cool innovation, inspired by our founder, to meet the challenges of the modern world.



*Kartik*

**Kartik Kumar**  
Director of Marketing and Strategic Planning  
Global Container Refrigeration



## NaturalINE™ Update

This year, Carrier Transicold’s innovative NaturalINE™ container refrigeration unit has been developing its “sea legs,” logging tens of thousands of both nautical miles and hours of real-world service through what is proving to be a highly successful trial program.

The NaturalINE unit is the first container refrigeration system to use the natural refrigerant CO<sub>2</sub>, with a global warming potential of only 1, rather than a synthetic refrigerant. Engineered to deliver power consumption efficiencies equal to Carrier Transicold’s PrimeLINE® unit, the NaturalINE unit’s use of CO<sub>2</sub>, improves the environmental profile further.

This makes it an attractive consideration for customers who are interested in sustainable solutions and eager to participate in Carrier Transicold’s 2012 NaturalINE sea trials.

As of August, a progressively growing number of NaturalINE units had been put into service among four customers, a group that includes Hapag-Lloyd, the pilot participant in the original demonstration unit trials in 2010 and 2011.

The NaturalINE units have successfully delivered a spectrum of products, ranging from Caribbean-grown bananas to Belgian beer and European wines to cookie dough, ice cream, meat and cheese. The units have operated over the full range of temperature settings on routes crossing the Atlantic and Pacific oceans on trips ranging from four days to 28.



## - CO<sub>2</sub> a Natural Success in Customer Trials

Each trial unit is equipped with GPS and GSM telemetry devices so Carrier Transicold can closely monitor location and performance. When units are within range of GSM services they automatically transmit their status, which Carrier monitors over the Internet. Upon arrival in port, Carrier Transicold field service engineers are there to download full operational reports for every trip.

Mark Rogers is Carrier Transicold's Service Engineering lead on the sea trials program and monitors the NaturalLINE fleet via a special website.

"We can see all of the units' temperatures, setpoints, alarm settings and last location. I get alerts via email or text if something occurs, like a unit being shut off or if a temperature setting is changed."

Rogers reports that the program has gone well. "So far, it's been smooth sailing."

Training of service center personnel and customer crews has also been important, since the NaturalLINE design introduces some new hardware, such as a multi-stage compressor, a gas cooler coil and variable-speed drive.

Carrier Transicold's comprehensive training programs for sea trial customers has garnered positive feedback from their service technicians. Many have commented about the design being less complicated than expected and that the training helped to dispel concerns about working with the higher pressure system.

Rogers, who is also involved in the service training program, said that once technicians get familiar with the units, they find them to be "characteristically like any other Carrier unit – easy to work on and easy to understand." That may also be a reflection of how Carrier approached the development of NaturalLINE.

"Service Engineering was involved from the ground up," Rogers said, "which gave us the chance to address serviceability issues along the way."

The design process remains ongoing throughout the trials, according to Mike Griffin, Carrier Transicold's program manager. Hardware and software refinements are made at key stages and well before the NaturalLINE units go into full production.

"Ultimately, our production units will incorporate many improvements based on experience we have gained from the sea trials and extensive qualification testing completed in our engineering labs," Griffin said.



*Technicians will find NaturalLINE™ units to be characteristically similar to other Carrier units.*

## Turn to the Expert

# J. Michael Griffin



Mike Griffin

Just as Dr. Willis Carrier's pioneering invention of modern air conditioning 110 years ago this summer was supported by the engineering and sales functions, developing today's container refrigeration systems is far from a one-person task. Groups from engineering, manufacturing, sales and marketing, quality, service, replacement parts and more get engaged in the process of innovation.

That team effort is led by Mike Griffin, who, as program manager, has provided a guiding hand in bringing to fruition some of Carrier Transicold's world-class container products, including the EliteLINE®, PrimeLINE® and the new NaturaLINE™ container units.

Trained as an engineer, Griffin has a unique perspective on the product development process from idea to production and beyond.

"An advantage and strength that I have is a good understanding of container products – the way they're designed and made and how they are capable of performing," he said. "Even more important is the ability to anticipate customer requirements and successfully address those needs in product designs."

Translating those needs into design and process comes next.

"Design teams have to be receptive to requirements and new technology available in our factories and our suppliers' operations," he explained. "I've gained a lot of experience working with great engineers from our factories and our suppliers, so I have a good understanding of many things that can impact those operations. Anticipating production requirements and addressing them early in a design cycle is important for a successful outcome."

Griffin joined Carrier Transicold as a mechanical engineer with the Container Products Group in 1984, although his "unofficial" start was with Carrier's air conditioning business several years prior through a co-op opportunity while studying at New York City's Pratt Institute. To the young mechanical engineering student, Carrier proved to be good fit, not to mention convenient to his hometown of Syracuse.

Over the years Griffin has supported container refrigeration and generator set businesses, holding positions of increasing responsibility in engineering as well as management of the product development processes. Currently he

leads the program developing the NaturaLINE unit.

"With sea trials underway, it is a very exciting time in the project," he said.

In his lengthy career in the container refrigeration industry, Griffin has seen plenty of change, such as temperature control enhancements, atmosphere control capability and automatic ventilation, all which help to broaden the types of cargoes carried.

"Now the focus is on making equipment more efficient than it has ever been," Griffin said. Today's units are also 50 percent more energy efficient than those made in the 1980s, and the NaturaLINE program has again challenged Carrier's engineers to re-think container system efficiencies based on use of carbon dioxide rather than synthetic refrigerants. System design changes have resulted in a natural-refrigerant solution with average energy consumption equaling that of PrimeLINE, the industry standard for energy efficiency.

Griffin said that Carrier not only considers the energy a unit consumes over its life, but also the environmental impact of both the unit's operation and the process of manufacturing it, as well as the recyclability of unit components when they have to be dismantled at the end of their useful life.

"All those things are becoming more consciously considered as new designs are developed," he said.

"More recently there's increased interest on the part of customers along the same lines. We listen to what the customers say and we align our focus on providing them with absolutely the best product they can expect."

*Mike Griffin, left, discusses the NaturaLINE™ development program with product manager Jim Taeckens and Yu Chen, global container and engineering services manager.*



NaturaLINE™ Technology Wins

# IFW INNOVATION AWARD

Carrier Transicold's NaturaLINE™ technology won the prestigious 2011 Innovation Award – New Product, in the hotly contested 15th annual IFW Awards program.

IFW, a shipping and logistics website owned by Informa Plc., reported that the quality and quantity of entrants for 2011 had surpassed previous years awards programs. Even with extensive competition, Carrier's natural refrigerant container system stood out in its category.

"NaturaLINE technology is one of our most exciting developments in recent years," said Kartik Kumar, Carrier Transicold Global Container Refrigeration's director of Marketing and Strategic Planning. "It encompasses multiple innovations that work together, enabling the use of a natural refrigerant in a design capable of achieving industry-leading efficiency.

"We appreciate the industry recognition and are even more gratified that we can deliver innovative technology to help the shipping industry set new benchmarks for sustainability."

The Innovation Award – New Product, was a new category created "to recognize smart new products that answer a real market need," according to IFW. NaturaLINE technology was the exclusive container refrigeration product among the six finalists vying for the award.

The award was announced at the IFW Awards Gala held late last year in London.

**First in Sales.  
First in Performance.  
First in Recyclability.**



The PrimeLINE® unit has built a reputation for industry leadership in terms of performance and efficiency. It now leads in another area – recyclability.

PrimeLINE units from Carrier are the first container refrigeration units with a UL Environment validation for recyclability. The units were recently validated by UL Environment to have a 93 percent recyclability rate, based on its stringent Environmental Claims Validation Procedure 2789.

UL Environment is part of UL (Underwriters Laboratories), a global safety science company.

"By design, mostly recyclable materials are used in PrimeLINE units, primarily metals and some plastics," said Kartik Kumar, director of marketing and strategic planning, Global Container Refrigeration. "We closely monitor to be certain that any new parts or process introduced will not impair our recyclability rate, and in fact, we continuously try to improve upon it."

But you won't find PrimeLINE units in the recycling bin just yet. They were introduced to the market only four years ago, meaning there is still plenty of service left in the growing global fleet, which now numbers more than 100,000 units in service.

Just as energy efficiency is important to customers seeking the most sustainable solutions, so too is recyclability when units reach the end of their useful service life. With PrimeLINE units you get both!

*The UL Environment validation shows that the PrimeLINE unit is 93 percent recyclable.*

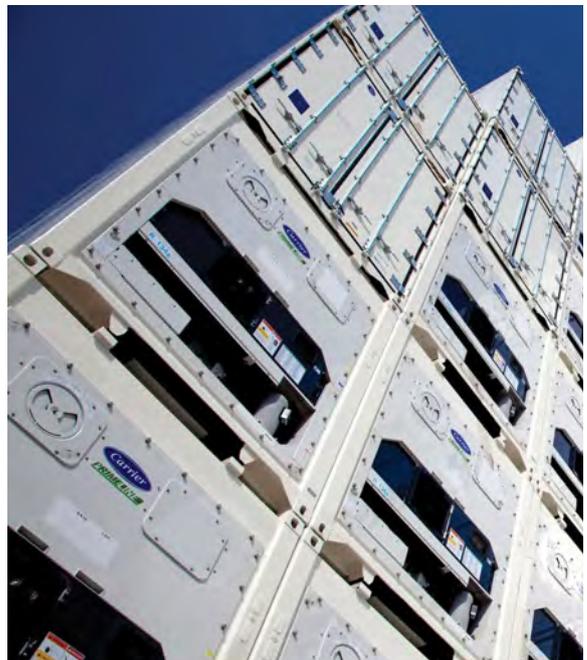


Photo: Philippa Gedde Photography

# PrimeLINE® Units Integral to OPDR's Efficient Logistics



Europe-based short-sea shipping specialist Oldenburg-Portugiesische Dampfschiffs-Rhederei (OPDR) celebrates 130 years of operation this year, and it is doing so with a youthful outlook on the future.

In recent years, OPDR has evolved its business from a port-to-port shipping service to a door-to-door intermodal logistics provider, offering just-in-time/just-in-sequence delivery and pick-up. As part of its strategy, OPDR has also invested in fleet modernization.

Part of the Bernhard Schulte Group since 1996, OPDR's fleet includes 11 owned and chartered vessels, none of which is more than 10 years old.

Within the past year, OPDR has boosted its container fleet by 20 percent to 8,500 containers, giving it one of the youngest container fleets in the European short-sea market. All of OPDR's 1,000 refrigerated containers are leased and have been renewed over the last two years. Most are equipped with Carrier Transicold systems, and the 300 newest 40-foot high-cube containers are equipped with PrimeLINE® units.

Carrier's top-performing PrimeLINE model was selected, according to OPDR Managing Director Mark Wilkinson, for its reliability and efficiency, two attributes that are essential to the fleet's ongoing success.

OPDR's origins trace back to 1882, when it established regular service between Oldenburg, Germany and Portugal.

Headquartered today in Hamburg, OPDR's distinctive yellow vessels still serve customers in Germany, northern Europe and the Iberian Peninsula, but its routes now extend further north into the Baltic Sea and south to northern and western Africa, Madeira and the Canary Islands – more than 50 ports in all.

"Our customers' requirements are at the root of all things we do. That is why we are moving from a classical shipping company to more of a logistics provider, offering services on the landside as well as the waterside," said Wilkinson, adding that OPDR is also vigorously developing its refrigerated business. "We see potential in perishables, foodstuffs, vegetables, fruit and the like."

"We have extremely demanding customers," Wilkinson said, explaining that OPDR's supermarket customers expect efficient refrigerated deliveries without quality loss.

"We are an integral part of our customers' supply chains, working with such precise delivery times and such thin margins of error that we simply need the most reliable fleet."

OPDR has also developed a very specialized service supporting the cruise ship industry, another business that requires uncompromising precision. In these cases, OPDR's containers arrive in port just ahead of the cruise liners, enabling rapid transfer of food from container to luxury liner, providing a fresh dining experience for the 3,000 to 4,000 passengers on board in a matter of hours.

"We get this business because of the reliability of our operations. An integral part of that is that the vessels arrive on time and the function of the reefer itself is also of great importance. There's simply no room for error."

# Services

## Charting a Course for One Million Units

As this graphic shows, within the first half of this year, Carrier Transicold surpassed the 900,000 mark for container refrigeration units produced since our very first unit rolled out of our factory back in 1968. More broadly, this is another illustration of the rapid growth of the container shipping industry in general, and refrigerated container shipping in particular, over a span less than half a century.

Today, 52 percent of world seaborne trade goes by container vessel, and refrigerated containers allow transport of fruits, vegetables, meat, seafood and more between virtually all points in the world. It's a testament to the amazing practicality, efficiency and convenience of container shipping.

"We prefer to stay with the latest technology because of the efficiency it brings," said Wilkinson. "The cost of bunker fuel is a huge issue. Every cent counts – it's as simple as that. The more modern the fleet, the more efficient we are. That includes the generation of electricity – onboard power, which can have a big impact on the operating cost of our vessels."

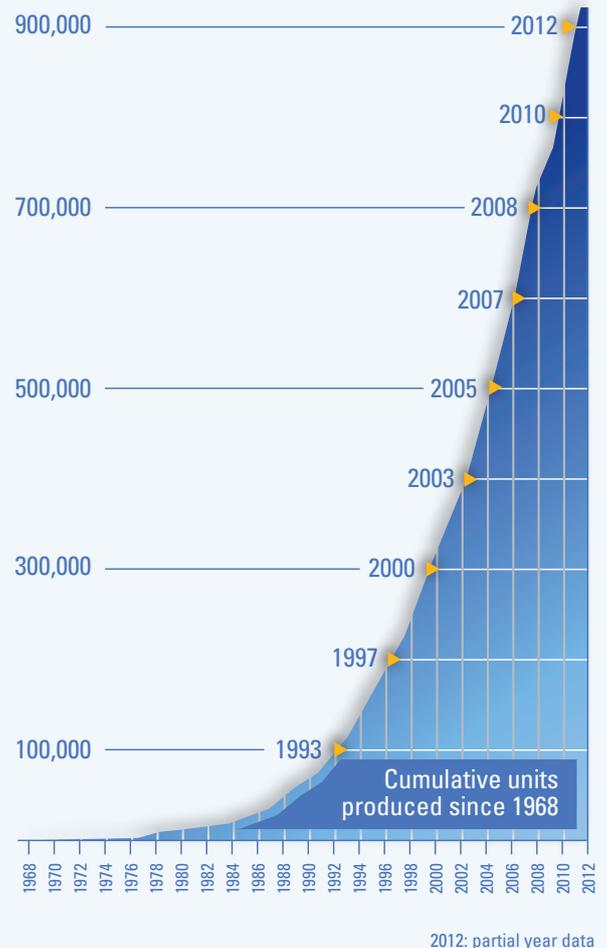
Carrier Transicold PrimeLINE units provide exceptional energy efficiency, reducing on-board power generation requirements as well as related emissions, enabling shipping lines to reduce fuel usage and related costs while improving their environmental profile.

Although OPDR has fewer containers than its deep-sea counterparts, the short-sea routes its vessels traverse put OPDR's containers through more rigorous service.

"Rather than shipping a box from Shanghai to Oakland, where it will be on a vessel for 25 days, our box may only be on the vessel for 25 hours," said Naci Aktas, OPDR's head of Container Logistics. "So obviously the turn-around time for the equipment is extremely intense."

"We require more out of our assets, because the transit times are a lot shorter," Aktas said, reinforcing the need for reliability.

Helping to assure reliable service of OPDR's units are Carrier Transicold's extensive service center network and ready parts availability. As Wilkinson said, "Carrier's extensive support network is another one of the advantages of working with the market leader."



*After 25 years, Carrier reached the 100,000 milestone in 1993. Less than 20 years later, we've increased that total nine times over.*

# U.S. EPA Tier 4 Requirements Bring Changes



*When it comes to diesel engine emissions, generator sets used with container refrigeration systems have become progressively cleaner over the years, in part driven by increasingly strict regulations from the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB).*

*In 2013, the U.S. diesel emissions standards, including those covering engines used in transport refrigeration units, change once again, and EPA's standard applicable to the PowerLINE™ platform's current engine class will be superseded by a more stringent one.*

*Most Carrier Transicold customers who operate generator sets in North America are aware that standards are changing and have questions about what it means for their present and future generator set purchases. Here, Carrier Transicold's business manager for generator sets, Charu Mahajan, provides answers to some of the most frequent questions from the field.*

## What are the EPA emissions changes for 2013?

The EPA's diesel emissions standards have followed a "tiered" path to progressively greater reductions, starting with the initial Tier 1 standards in the late 1990s. In 2004, EPA's Clean Air Nonroad Diesel Tier 4 standards were passed with a phase-in schedule spanning the period 2008-2015, depending on engine power.

For engines in the 19-37 kW (25-50 hp) bracket, which applies to today's TRU generator sets, the EPA provided a two-step approach, starting with an "interim" Tier 4 standard (Tier 4i) that became effective in 2008. The table below outlines Tier 4i and Tier 4 "final" thresholds for particulate matter and combined NO<sub>x</sub> and hydrocarbons. The stricter Tier 4 final standard becomes effective next year and reduces hydrocarbon and NO<sub>x</sub> emissions by 37 percent and particulate emissions by 90 percent over Tier 4i levels.

## EPA Standards for Diesel Engines

Engine Category	2008 Standard	2013 Standard
19 - 37 kW (25 - 50 horsepower)	<b>Tier 4 interim</b> PM: 0.3 g/kWh NO <sub>x</sub> + HC: 7.5 g/kWh	<b>Tier 4 final</b> PM: 0.03 g/kWh NO <sub>x</sub> + HC: 4.7 g/kWh Adds NTE requirement
8 - 19 kW (11 - 25 horsepower)	<b>Tier 4</b> PM: 0.4 g/kWh NO <sub>x</sub> + HC: 7.5 g/kWh For 2013 adds NTE requirement	

Particulate Matter (PM), Nitrogen Oxides (NO<sub>x</sub>), Hydrocarbons (HC), Not to Exceed (NTE)

The EPA Tier 4 standard for engines in the range of 8-19kW (11 – 25 hp), became effective in 2008 and has ceilings similar to Tier 4i in the 19-37 kW bracket, as also shown in the table.

For 2013, EPA also adds a "Not To Exceed," or NTE test standard for Tier 4 engines in both horsepower ranges. Rather than setting maximum engine emissions over an average performance cycle, the NTE standard essentially requires that an engine does not exceed maximum emissions regardless of how it is operated, and includes factors such as altitude and ambient temperature.

## What does this mean for my current gen set inventory?

As with previous EPA standard changes, older units – of any tier and any horsepower range – are "grandfathered," meaning that, the way the regulation is currently written, they will remain EPA-compliant for the life of the unit.

In California, however, CARB regulations require further emissions reduction seven years after the unit model year, if the generator sets are to remain in use there.

## Do California regulations change too?

California regulations, which are set by CARB, remain in alignment with EPA with regard to purchase of new equipment. Therefore, generator sets purchased in 2013 that comply with applicable EPA standards will also be compliant in California.

CARB differs with EPA, however, when it comes to "in use" equipment, which is CARB's terminology for "used" units.

CARB's Airborne Toxic Control Measure for TRUs and TRU Generator Sets requires older units operating within California to be upgraded to meet lower particulate emission levels and will eventually need to comply with CARB's ULETRU standard, which reduces particulate emissions by 85 percent. This closely compares to the Tier 4 final standard for engines in the 19-37 kW bracket, and these engines need no further upgrade for CARB compliance. For Tier 4 engines in the 8-19 kW class, CARB requires upgrades to the ULETRU standard by the end of the unit's seventh year. Once the ULETRU level is achieved, engines are not subject to further reductions, based on existing California regulation.

## How will Carrier PowerLINE units achieve compliance?

Carrier Transicold recently announced ecoFORWARD™ technologies for its North American diesel-powered trailer refrigeration units, providing a pathway for EPA Tier 4 and CARB compliance. EcoFORWARD technologies provide a compliance strategy for PowerLINE generator sets as well.

In developing ecoFORWARD technologies, Carrier's engineers took a holistic view of the generator set, customers' long-term needs and unit lifecycle operating costs. This balanced approach will bring numerous system improvements

# for Generator Sets

while retaining much in common with the existing PowerLINE platform.

As with Carrier's trailer refrigeration technology, system enhancements will significantly improve efficiency and performance – so much so that engine horsepower requirements are reduced. As a result, the generator set engine will fall within the scope of EPA's Tier 4 emissions standard for nonroad engines rated 8-19 kW.



Generator sets with ecoFORWARD technologies will also be significantly more fuel efficient than today's standard PowerLINE units.

Fuel savings will help to offset higher equipment costs, providing an anticipated one- to two-year payback. Additionally, users will benefit from lower greenhouse gas emissions and a reduced carbon footprint.

For maximum emissions reduction and compliance with CARB's ULETRU requirement, an optional new custom-designed engine emissions system (EES) will also be available.

More details on Carrier's next generation of generator sets for 2013 compliance will be announced later this year.

## Will Carrier's current models be discontinued in 2013?

The EPA allows for a transition period, but eventually sales of today's Tier 4i models will be phased out in North America. EPA's Transition Program for Equipment Manufacturers temporarily allows the continued sale of a

limited number of units built with previous tier engines (in this case Tier 4i) within the U.S. However starting in 2013, these previous tier engines, often referred to as "flexibility engines," will count only as a maximum of model-year 2012 for the purposes of EPA and CARB. That means that while units built in 2013 with "flexibility engines" will come up for a California upgrade in 2020, units built in 2014 or later with "flexibility engines" would come up for California upgrade in 2019 (2012 plus 7 years), making them a less attractive option over time.

## What about generator sets used outside of the U.S.?

Compliance strategies could vary depending on geographical location, so when thinking ahead to 2013 generator set customers should evaluate their acquisition requirements and balance their operational needs with applicable regulations.

Owners outside of North America are not affected by the new U.S. regulations. The U.S. standards, and particularly California's, are tougher than those in other parts of the world. In Europe, for instance, where "tiered" emissions standards also exist, units that comply with the current EPA Tier 4i standard are within the European final standard.

With that in mind, purchasers outside of North America may opt to consider Tier 4i units as long as they are available. However even though emissions regulations don't mandate the choice, Carrier generator sets with ecoFORWARD technologies may be preferred from the perspectives of fuel savings and long-term lifecycle costs.

No matter what continent your refrigeration units travel when they leave the container ship, Carrier Transicold will have a generator set solution to meet your needs.



# Keeping Costs Predictable on Consumable Parts

# Welcome Aboard



Based on the success and popularity of Carrier Transcold's consumables parts program, the product offering has been continuously expanded over the last several years resulting in the largest selection of consumable items for the container refrigeration industry available from a single supplier.

And now for 2012, a new global "net pricing" program has been introduced, providing yet another advantage to make Carrier your first choice for consumables.

"The net pricing program covers the most in-demand consumable products and provides standardized discounts based on volume sales, giving shipping lines, leasing

companies and service providers the peace of mind that comes with predictable pricing around the world," said Shari O'Shea, marketing manager, Performance Parts Group. "Add that to the consistent quality, reliability and warranty support and you have a formula for high customer satisfaction.

"Price and availability are key when it comes to the consumables business," O'Shea explained. "Carrier is already in more locations in all the regions than our closest competitor or than any gray market competitor."

Consumables are high-turnover, often single-use items that serve specialized needs for routine maintenance or product protection. Consumable products can be used with Carrier products and competitive systems.

"Carrier continues to work with suppliers world-wide to assemble the most complete selection of consumables products for the shipping industry at competitive pricing," said Dennis Hogendoorn, EMEA regional manager for the Performance Parts Group, who has led some of the recent parts expansion initiatives.

"With Carrier, we test and qualify every product so our customers can be assured of the quality," Hogendoorn said. "Our global purchasing reach helps assure the best pricing and quality, a combination that isn't found with 'gray market' products, which typically vary from region to region."

The types of consumable items Carrier provides include power plugs, filter driers, sensors, splice kits, battery packs, software cards and oils. Among the most recent additions are power supply cables, including extension cables in varying lengths, as well as individual plugs, spools of cable and splice kits, for those who want to make cables in their own custom lengths.

Carrier's 32-page Consumable, Accessory and Select Line Parts Catalog can be found online at [www.performanceparts.carrier.com](http://www.performanceparts.carrier.com). To learn more about what products are included in the net price program, contact your Performance Parts representative.

With more than 420 container refrigeration service centers worldwide in all major and developing ports, Carrier Transcold offers the most comprehensive sales and service network in the industry. The following 10 locations recently joined our expanding global base.

## Paranagua

### Pecem

### Rio de Janeiro

### Rio Grande – Brazil

Reefercon Engenharia de Containers Ltda.

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### CABLE



### POWER PLUG



### SOFTWARE CARDS (EMPTY)



### BATTERIES



### FILTERS



### SENSORS



### OILS



### FUSES



## Fourfold Recognition In EMEA Region

Instead of a single winner, a quartet of authorized service centers in Carrier Transicold's Europe, Middle East and Africa (EMEA) region have been named 2011 Top Performers, with each recognized for its own unique strength.

Dalton Reefers of Malta was named Top Performer for Business Practices; Eldapoint of the United Kingdom, for Workshop Practices; MEGA of Belgium for Service Program Support, and United Container Depots of South Africa for Service Innovation. The recognition came during the EMEA region's latest service center meeting, which was held in Hamburg.

The quadruple honors were the result of widespread improvements made by service centers throughout the EMEA region's network, which itself includes nearly 100 operations totaling more than 150 locations, according to Shaun Bretherton, Carrier Transicold regional service manager for EMEA.

"In the course of our reviews, we've seen great progress with so many of our authorized service centers," said Bretherton. "The four winners this year all showed great improvement and support for our collective customers, so it was only fitting that all four were equally recognized."

The meeting was located and timed to coincide with the 2011 Intermodal Europe show, where Carrier's new NaturaLINE™ product design was revealed. Record turnout included representatives from nearly four out of five of the region's service center operations.

"We really value the support they give us," Bretherton said of the service centers. "The annual meeting is a great opportunity to share new information with them and hear their comments, suggestions and ideas."

"These meetings work because the communication goes both ways, and we can take away some good action items. This year was a great opportunity to review the NaturaLINE technology, see the interest on the part of our service center personnel and hear their enthusiasm in becoming trained and involved with the product."

*A record-setting number of service center personnel turned out for the annual EMEA regional meeting late last year in Hamburg. Shown in photo below right are Anthony Meers of MEGA, Carrier's Arnold Stout, Virosh Siripal of United Container Depots, Carrier's Shaun Bretherton and Julian Carbanaru, Brian Dalton of Dalton Reefers and Eldapoint's Colin Maddocks.*



## Personnel Updates



### Account Manager, EMEA

Flemming Kuhl has been named account manager for Container Products – Europe, Middle East and Africa (EMEA). Based in Rotterdam and Copenhagen, Kuhl is responsible for sales and support activities in a region encompassing Scandinavia, the Baltic states, Russia and former Soviet Union countries.

Kuhl brings nearly 30 years of maritime experience to the position. Over the past 20 years, he served in diverse sales and marketing positions with Sea Containers Ltd. and Seaco.

### Flemming Kuhl

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### Sales Manager, U.S. West Coast

Shawn Dohring has been named sales account manager for Container Products for the U.S. West Coast region.

Having started his professional career as a container field service engineer with Carrier Transicold in 1989, Dohring has a cumulative 23 years of transport refrigeration industry experience. His career path has encompassed positions in sales, marketing, operations and service engineering for a variety of marine businesses, including Transamerica Leasing, Sea-Land Service, Carlisle Leasing International and, most recently, Montship, Inc., a Canadian steamship agent where he represented MOL as regional sales manager for Quebec and the Maritimes.

Dohring is based in the San Francisco Bay Area.

### Shawn Dohring

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# Top Service Center Performers

## Named in South America Region

Ecuador's Tasesa C.A. was recently presented with the 2011 Top Performer Award for the South America region – its fifth in its 24 years as an authorized Carrier Transicold service center.

Additionally, two other service centers were recognized for 2011 achievements: Pothimar Ltda. of Brazil was named Top Performer for Parts Sales, and Sitrans Ltda. of Chile received the Top Performer award for Field Support Programs.

Speaking about Tasesa's achievement, Zvonko Asprovski, Carrier Transicold regional service manager, Americas, said, "Tasesa consistently stands out when it comes to customer service. They had had an outstanding year for parts sales, meticulous warranty claims handling, and they were especially proactive in terms of supporting customers through our reliability enhancement programs."

The accolades were given during the South America Service Center Meeting, which took place in Sao Paulo, Brazil. The one-day event was timed to coincide with the South America Intermodal Show in April and was attended by representatives from 17 of Carrier Transicold's authorized service centers from South America and Central America, as

well as employees from Carrier Transicold's North America and Latin America operations representing sales, service and the Performance Parts Group.

In addition to reviewing achievements of 2011, the program focused on new technologies with special emphasis on the NaturaLINE™ container refrigeration unit. Asprovski said that service center personnel were very interested in learning about servicing the new design.

Overall, the meeting was very interactive and positive, Asprovski said. "Our service centers view us as a market leader, and we've proved that again by introducing the first natural refrigerant container solution. They are very enthusiastic about the unit."

*Bottom Left: Representatives from Carrier Transicold's South America and Central America service centers gather in Sao Paulo, Brazil.*

*Bottom Right: South America Top Performers proudly display their awards at the recent service center meeting. Pictured are Carrier's Zvonko Asprovski, Carlos Vera Riveros of Sitrans, Juan Carlos Pena Seminario of Tasesa, Paulo Sergio Godoy Gomes of Pothimar and Andres Catalan of Carrier.*



## ContainerLINE

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