

GUIDE TO ATMO VIRTUAL TRADE SHOW 2021

ACCELERATE

ADVANCING CLEAN COOLING



ATMO
Virtual
Trade show

Cooling in the New Normal

Has COVID-19 Changed the Way the
NatRefs Industry Does Business?



Virtual TRADE SHOW

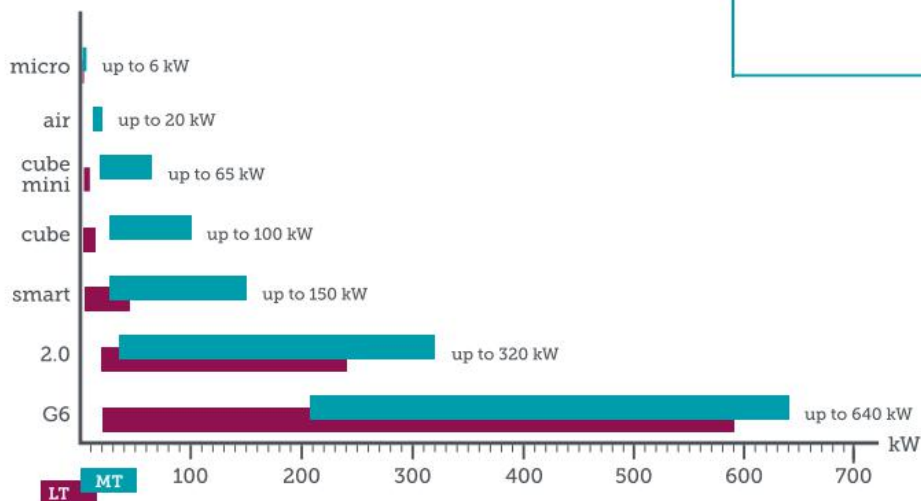
30/31 March 2021

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Virtual Breakthroughs

It's hard to believe that more than a year has passed since I last attended a physical HVAC&R trade show – AHR Expo, held February 3-5, 2020, in Orlando, Florida (U.S.). I can't recall the last time I have gone that long without traveling to an industry event.

Of course, I have attended a number of online events and webinars since then, including the first ATMO Virtual Trade Show (VTS) for Natural Refrigerants, held last September 1-2, and organized by shecco, publisher of *Accelerate*. I am looking forward to the next ATMO VTS, coming up on March 30-31, which, like the first, will be free to attend and available globally over a 24-hour period. You can register for the show [here](#).

The new ATMO VTS will feature a round-the-clock schedule of live webinars ([see list starting on page 18](#)) catering to stakeholders in every time zone, along with an exhibition hall filled with leading providers of natural refrigerant products and services ([see directory starting on 44](#)). To get the most out of the show, see our Tips for Participants article on page 8. And show attendees will be able to vote during the event for Innovation of the Year; a review of the finalists starts on [page 38](#).

In our cover story this month, starting on [page 12](#), we consider whether the virtual replacements that have sprung up during the pandemic are temporary, or have staying power once life returns to normal, possibly later this year in developed countries. Time will tell, but I think an argument can be made that some online elements will remain.

As shecco CEO Marc Chasserot explains in the cover story, some of the virtual innovations that have emerged during the pandemic offer stakeholders around the world unprecedented benefits that can't be delivered by physical, in-person experiences. An event like ATMO VTS, with its 24-hour global reach, is one example.

Another is shecco's new ATMOsphere network, hosted on Slack, which is connecting natural refrigerant and clean cooling stakeholders worldwide in an unprecedented way. In fact, ATMOsphere members who are also attending ATMO VTS can use the network to communicate with other attendees, in a merger of virtual worlds. ATMOsphere, already nearing 500 members, is free to join [here](#).

Of course, no virtual experience, regardless of how sophisticated, will fully replace the fun and camaraderie one can experience at in-person meetings and events. I am eager to attend my first physical event, hopefully later this year.

But at the same time I am excited about some of the virtual breakthroughs, like ATMO VTS and the ATMOsphere network, that shecco has designed over the past year, as our business has evolved in the face of the pandemic.

I look forward to connecting with you at ATMO VTS and on ATMOsphere, and, eventually, in person!



Michael Garry
Editor in Chief

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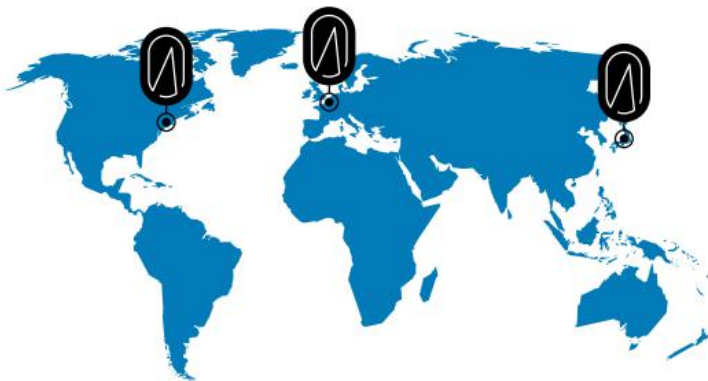
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shecco's network spans the globe with offices in Brussels, Tokyo and New York.

About Accelerate Magazine

Brought to you by the worldwide experts in clean cooling news, *Accelerate* is the first global publication written for and about the most progressive business leaders working with clean cooling solutions, including natural refrigerants and other sustainable technologies and resources, in all HVAC&R sectors. It builds on the legacies of Accelerate Magazine and six regional magazines: Accelerate America, Accelerate Europe, Accelerate Australia/New Zealand, Accelerate Japan, Accelerate China and Accelerate Asia.

About Accelerate24.news

Accelerate24.news is a 24-hour global website providing up-to-the-minute news on sustainable cooling and heating. Leveraging the expertise of our journalists and analysts in North America, Europe and Japan, Accelerate24.news complements the natural refrigerant coverage found on R744.com, Hydrocarbons21.com and Ammonia21.com, the leading websites on CO₂, hydrocarbons and ammonia over the past decade.

**Guide to ATMO Virtual
Trade Show 2021**
Issue #113

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Getting the Most out of ATMO VTS 2021 – Tips for Participants

After a successful first Virtual Trade Show (VTS) for Natural Refrigerants in 2020, organizers have made improvements to enhance the experience, including increased networking opportunities.

-By Ilana Koegelenberg

When physical trade shows became a thing of a pre- (and hopefully post-) pandemic world, event organizers had only two choices – innovate or cancel.

shecco (publisher of *Accelerate*) chose to innovate, pioneering the virtual trade show concept for the natural refrigerants/clean cooling sector with the launch last September 1-2 of its first 24-hour global event, ATMO Virtual Trade Show (VTS).

Driven by exhibitor and participant feedback from the inaugural event, ATMO VTS 2021 will offer even more exciting features to help stakeholders engage globally from the comfort of their screens.

ATMO VTS 2021 will take place online over a 24-hour period, from 10 am CET March 30 to 10 am CET March 31.

Getting started – what to do before the show

Register for event: To gain access to the Meetyoo-powered ATMO VTS platform, participants need to [register online](#). Registration is simple – and free. It is also a two-step process and participants would need to also verify their emails. So, please ensure you have clicked on the email after registration too. (Have a look in your junk/spam folder if you don't see the email immediately.)

Join ATMOsphere: One of the most exciting features this year is the opportunity to network before, during and after the show using the newly launched global Slack-powered ATMOsphere network (also created by shecco). With 14 public channels and already nearly 500 members from around the world, this will be the place for optimally interacting with other ATMO VTS attendees – as well as with other natural refrigerant stakeholders from around the world.

The ATMOsphere network includes the following:

- One-to-one private chats with anyone attending ATMO VTS (identified via the search function in ATMO VTS) or otherwise in the network, via text or call/Zoom-MS Teams video.
- Private group chats with others attending ATMO VTS or otherwise in the network.
- Commenting on ATMO VTS in a public channel dedicated to the event.
- Learning about and discussing specific topics in public channels dedicated to those topics, including refrigerants, skills and training, product innovations, market data and case studies.
- Seeking out like-minded stakeholders for projects in the public projects and partners channel.



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Applying to join ATMOSphere is free; simply visit the [website](#) and complete the form. We recommend you download the free desktop application as it makes engaging much easier.

Study exhibitor directory and live webinar schedule:

This year, the show has an exhibitor directory for the first time, starting on [page 44](#). Now you can enjoy an overview of which exhibitors will be at the show, and what they offer. This will allow you to plan your virtual visits and ensure you don't miss any booths/companies related to your areas of interest. Also be sure to note the extensive live webinar program this year – with two halls featuring presentations every hour. Have a look at the schedule starting on [page 18](#) to make note of which sessions are of interest.

During the event

Visit the information desk/networking lounge:

The event has started, you've logged in, and it's time to enter the virtual world of clean cooling. One of the first things you will see is the information desk, which will be manned throughout the 24-hour period by the global shecco team. If you need any help with anything at all – perhaps you even have suggestions – feel free to stop by and talk to one of our friendly team members. You could also visit a public networking lounge where all users logged in can appear.

View the webinars: ATMO VTS 2021's extensive live webinar program will feature more than 20 live sessions scheduled in different time zones to accommodate different markets, as well as five on-demand sessions. The program also includes three live panel discussions – two end-user panels and a very topical EU F-Gas Regulation revision. Don't worry if you miss any of the sessions or there is a clash in the program – the recordings will be available after the event, too.

Visit booths: In addition to the jam-packed webinar program, ATMO VTS offers an exhibition hall with 34 leading natural refrigerant-focused companies and organizations. Exhibitors have been working for weeks (some even for months) to put together their booths, which will have live company representatives available to engage with visitors. Now is your chance to ask all those questions you have.

At the exhibitor booths it is possible, via the show platform, to chat publicly with all attendees present at the booth via text, or privately with the exhibitor staff members via text, audio or video.

Many of the premium booths will have a 3D product viewer, allowing visitors to get a better look at some of the latest innovations the industry has to offer.

Many booths will also have private meeting rooms, where an attendee can join meetings with a group of people. Some exhibitors are also making live presentations at public meeting rooms, or offering a virtual tour of the exhibitor's physical show rooms (see list starting on [page 33](#)).

See who else is online: This year, the VTS platform also boasts a new user search function that allows visitors to search for any person or company currently online, allowing the opportunity for easier networking. There will also be complete list of all who are logged in. You can simply click on a person's name to start a conversation or a video call with them via the ATMO VTS platform. This is a great way to say hello to an old acquaintance or even make a new one.

The functionality of the one-on-one chats within ATMO VTS have been redesigned and improved this year to ensure conversations (via text and video) can happen in a more user-friendly, organized manner. The ATMOSphere network offers more robust networking options with other show attendees.

Log into ATMOSphere: Hopefully, by now, you've had some time to look around the ATMOSphere network to see how it works. Have a look at the [#virtual_trade_show](#) channel to keep up with the latest highlights from the show. Networking with any of the show attendees will be possible by simply searching for members and starting direct conversations with them.

Check out the [#get_started](#) channel for useful quick tutorials on how to do things like post, comment, search for other people or starting a direct message. Familiarizing yourself with the Community Guidelines is a quick way to figure out how to get the most out of ATMOSphere.

We wish you an amazing Virtual Trade Show experience. ■ IK

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Cooling in the New Normal



Has COVID-19 changed the way the NatRefs industry does business?"

- By Michael Garry

“*Don't it always seem to go that you don't know what you've got till it's gone?*”

- Joni Mitchell

A

little over one year ago, on March 11, 2020, the World Health Organization (WHO) declared the outbreak of the SARS-CoV-2 virus, and the disease it causes, COVID-19, a global pandemic.

The pandemic swiftly shut down most human activity. Industries, including the HVAC&R industry, had to rethink how to carry on.

From a bottom-line perspective, the commercial and industrial refrigeration industry was fortunate because the pandemic could not stop people from eating and therefore grocery shopping, so money continued to flow to their retail and industrial customers. But the manner of doing business with those customers would change, drastically.

It became immediately clear that, where possible, business activities would shift to a remote, online model. People would work from home, traveling for business would stop or be severely restricted, and trade shows would be postponed or canceled.

What did emerge, to fill the void, was an online eco-system of Zoom and Microsoft Teams meetings, enhanced use of social media, and virtual webinars, conferences and shows. That eco-system had its pluses – money saved and emissions cut. But it had decided drawbacks – possibly a drop in sales, and certainly the absence of human contact and camaraderie.

Now, a year later, the pandemic is not over, though there is hope that later this year, at least in developed countries, the successful rollout of vaccines will result in a lessening of the crisis and a return to normal activity. But will normalcy mean business-as-before – or something different? How much of the amped-up virtual activity will remain in the “new normal”?

Unique interactions

In a more conventional and growing economy, there will still be room for virtual interactions but “they have to be really good” and not otherwise obtainable in the physical world, said Marc Chasserot, CEO of shecco, publisher of *Accelerate*.

One example is shecco's ATMO Virtual Trade Show (VTS) 2021, a 24-hour online event that will be held for a global audience on March 30-31, with live webinars across all time zones. “A physical event can't do that on a global scale, only regionally,” said Chasserot. Moreover, as the technology supporting online events continues to improve, it allows for more and more interactions between customers and suppliers across the globe. Some natural refrigerant manufacturers have invested in studios at their headquarters where they can offer live streaming for online events. “Virtual is just beginning; it's only going to get better,” he said.

One of the criticisms of online trade shows is that they haven't generated enough sales leads for exhibitors. But in the first ATMO VTS last September, companies that invested in the event and provided great content at their booths “got great sales,” said Chasserot. Moreover, he argued, it is still early in the development of online events. “It will take a while, but we will get there,” he said. “The younger generation will be used to this virtual way of interacting.”

Chasserot plans to hold ATMO VTS on an annual basis and expects it to grow to 50,000 or more participants by the end of the decade. He emphasized the ATMO VTS will “complement, not replace” physical trade shows, adding “something new – a global dimension, at a fraction of the cost.”

shecco is also planning to change its regional ATMOsphere conferences into “hybrid” events, allowing attendees to tune in via their computers and interact online, or attend the physical conference. “If you're on the sales side, in-person has advantages – you can bump into people, network more

easily," said Chasserot. On the other hand, an article published last month in *The New York Times Magazine*, "[The Race to Fix Virtual Meetings](#)," outlined the growing number of start-up companies intent on making the virtual experience as spontaneous as the real thing.

Another example of an evolving virtual tool is the ATMOSphere Slack-based network, launched by shecco in early February. ATMOSphere, which has close to 500 members as it continues to grow, offers a way to easily connect with like-minded stakeholders in the natural refrigerants and clean cooling industry around the globe. "This is something that the physical world can't replace," said Chasserot.

He noted that in a recent Zoom meet-up of ATMOSphere members, an expert in India was able to provide insights to a lecturer in South Africa – a "magic moment," he said. "This is making the industry more global, and giving people who don't have a travel budget the chance to interact with thought leaders. It's going to accelerate the transfer of knowledge."

"We at shecco want to leverage these new tools in the new normal to help accelerate the transition to natural solutions faster than ever," he added.

Selecting wisely

Natural refrigerant-based equipment manufacturers contacted by *Accelerate* also see the post-COVID-19 future as a blend of physical and virtual.

For example, Alfa Laval, a Swedish manufacturer of heat exchangers for natural refrigerants, will pursue that hybrid course, "selecting wisely what is most efficient," said

Fredrik Ekström, President of the company's Business Unit Braze & Fusion Bonded Heat Exchangers, Energy Division.

The pandemic has pushed Alfa Laval to be online more than ever before, "sharing, training, developing, collaborating, exhibiting and checking in on each other," said Ekström. "Being available for our customers and partners, online and offline, has always been central to our interaction and way of working. During this latest period, our possibilities to meet have been heavily restricted, prompting us to use online platforms at a much higher level than previously."

Over the past year, Alfa Laval has joined two virtual trade shows successfully, and launched an online webinar series called xChanging Ideas during 2020, "which is now a natural part of our marketing mix," Ekström noted.

But he has not forgotten the importance of connecting in person. "All the pandemic restrictions have also reminded us all of how important meeting in real life is, and I for one look forward to seeing my colleagues and customers again!"

Like Alfa Laval, Nidec Global Appliance has explored the use of digital tools and online platforms "more than any time before" to promote its Brazilian-based Embraco brand, a leading producer of propane (R290) compressors and condensing units, said Guilherme Almeida, Strategic Planning Vice-President at Nidec Global Appliance.

"They have proved to be tools that optimize time and resources, and, many times, allow us to reach more people," he said. "[They] have helped strengthen our relationship with customers, specifiers, contractors and refrigeration technicians."

Among those tools, Nidec has participated in several virtual events, "and we are learning how to make the most out of this new channel," he said.

Nidec has also invested more time and resources into projects focused on online education and content generation for refrigeration professionals. This has resulted in a series of webinars in Portuguese, French, English, Italian and Spanish, as well as new material in its "Refrigeration Club" blog, a technical content platform.

Nidec has also constantly promoted its product selector software (PSS) and Embraco Tool Box App. All of these efforts will continue, with more webinars and technical content shared through social media, said Almeida.

"In general, we have managed to keep up good communication with customers, but it became more digital than face to face," Almeida noted. "To balance any risk of lack of information, we have adopted a more frequent communication approach, to keep customers updated and also understand each customer situation."

German OEM Efficient Energy, makers of water-only chillers, has also taken to focusing on alternatives such as virtual events, online webinars and social media, noted Thomas Bartman, Sales Director. The company had a digital product launch that he called a "great success" with much positive feedback.

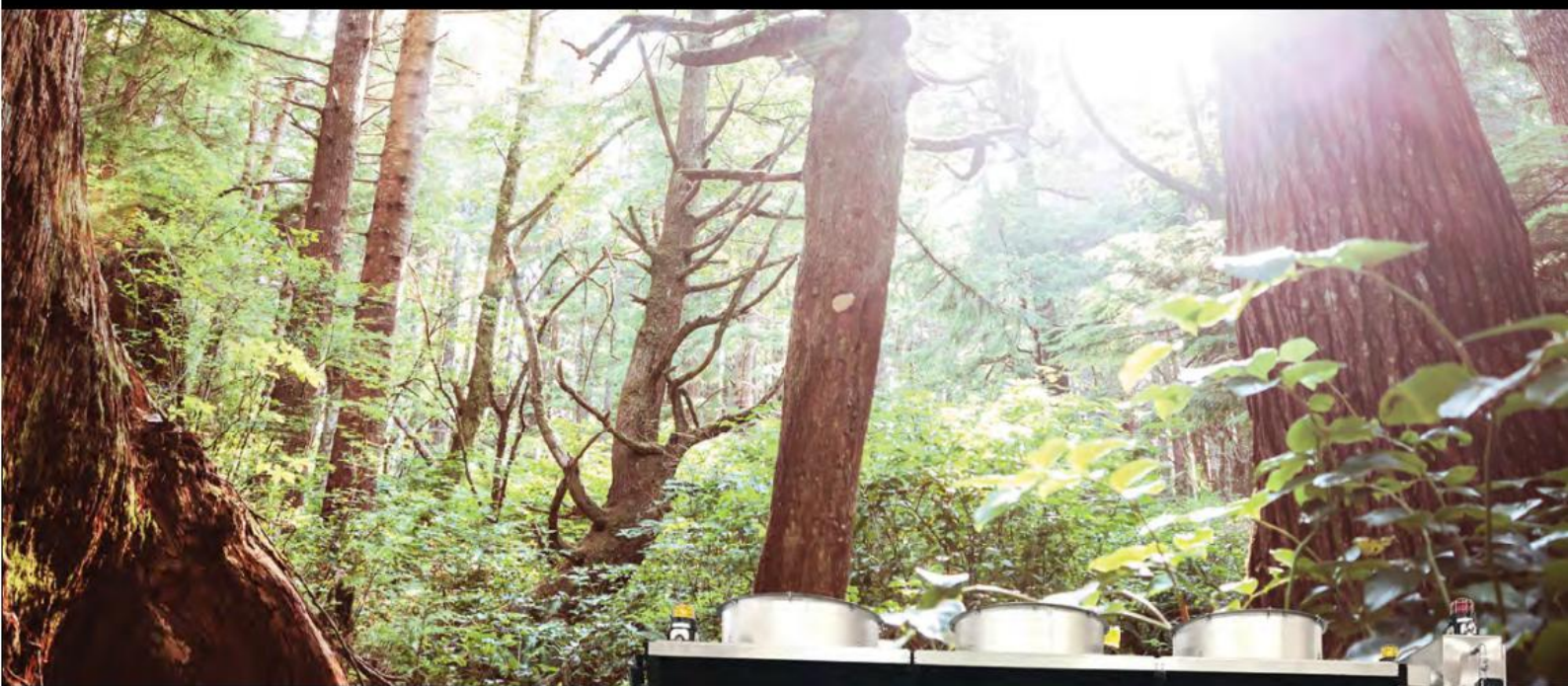
"This is an important encouragement to continue our digital sales and marketing journey to make Clean Cooling accessible to a wider audience all over the world," said Barton. ■ MG

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Teko Weathers the Storm

Managing Director
Andreas Meier describes
how the natural refriger-
ants leader has leveraged
online platforms during
the COVID-19 pandemic,
and how the company will
operate in the future.

— By Michael Garry

German manufacturer Teko, one of the leading providers of natural refrigerant-based commercial and industrial refrigeration systems, keeps a rolling total of its CO₂ (R744) system installations on its website.

As of March 9, there were 5,023 CO₂ units in use. The company, headquartered in Altenstadt, Germany, also supplies propane (R290) chillers and some custom ammonia/NH₃ (R717) products. In total, natural refrigerant systems now represent 95% of Teko's sales, noted Andreas Meier, its Managing Director.

Teko has been able to carry on successfully over the past year, despite the COVID-19 pandemic. In the following interview, Meier discusses how the company has leveraged online platforms, including the ATMO Virtual Trade Show, and how he sees Teko operating in the future.

Accelerate: How effective have online venues – virtual trade shows, webinars, social media and Zoom/Microsoft Teams meetings – been in compensating for the loss of in-person meetings during the COVID-19 pandemic?

Andreas Meier: It hasn't totally compensated. Nowadays everybody's tired of Zoom and Microsoft Teams calls, and wants physical meetings. But if nobody can travel, then this is the only way. All companies have to do it, so it's not a competitive advantage or disadvantage.

Still, it's quite hard to develop good relationships with new customers because normally you have to be at their site and at least go out for a drink at night. That has not been happening. But we try to do our best.

What the last [ATMO] Virtual Trade Show showed is that you can combine virtual thinking with "live"; so we had a "real" booth [at a factory, where Teko representatives showcased the company's CO₂ systems via video chat with show attendees]. That was very important, not only for customers, but even for our staff. Our sales team was COVID-tested and stayed together for this one time to have team-building. It's been quite hard for the sales team – everybody's home and getting tired all day locked in Zoom or Microsoft Teams meetings.

Business has been hurt a little but we are lucky because 90% of our work is in the food retail industry, which is one of the industries not [adversely] affected by the COVID situation. They are still making investments, so we can't complain. Some of our industrial refrigeration business was postponed but it's still OK; we have a lot of requests for new projects, and those that were planned have all been executed. But we have seen a slowdown in air conditioning projects.

Accelerate: When the COVID-19 crisis is finally over, will you continue to use online platforms?

AM: Those will continue. It will be a mixture: You can't have every meeting online and you can't have every meeting physical. The learning has been that we don't need to be physically present at every meeting. I'm not sure it will be 50/50, but let's see. You save a lot of time with online meetings, of course, because there is no travel, but sometimes it's just not the same as a physical meeting. We have saved gas, which is good for the environment, but not spent on hotels and restaurants. We are one society and if we stay home then the economy will die.



Andreas Meiere, Teko

Accelerate: What is the future of the virtual trade show concept?

AM: It has to be dedicated to a global, 24-hour perspective. We have visited online trade show with more days, and there is not much traffic. But if it's for 24 hours and can reach the whole world, this concept is not bad. Costs are lower.

But it's still not the same touch and feel as a physical trade show, so a combination of virtual and physical in the future makes sense. And vice versa – in a normal trade show, have some virtual effects, so maybe a mixture.

Accelerate: How will Teko's approach to ATMO VTS 2021 compare with what the company did for the first ATMO VTS last year?

AM: The setup will be nearly the same [four virtual booths covering retail, light industrial, industrial, and Wurm control products, and a video link to a real booth]. We will show more product developments. The last time we spoke about CO₂ chillers in development; this time the CO₂ chillers are ready for sale. We have also been selling propane chillers for three years; they have a very small share of the commercial/industrial chiller market, but have a lot of potential in this very big market.

Accelerate: You will be speaking in two webinars during ATMO VTS, one on chillers and one on CO₂ start-ups. What can you tell us about those webinars?

AM: The key message in the chiller webinar is that for every air conditioning application, there is a natural refrigerant solution available that you can use. I would say propane is the most efficient one for AC in the summer. If you use propane, you would take the same safety measures as for A2Ls. The typical charge, depending on capacity, is 5-30kg (30-66lbs). If you use the chiller throughout the year for process cooling, then CO₂ is very efficient; you can run it in subcritical mode, so you have a different energy calculation.

The CO₂ webinar will show that people don't have to be afraid of a CO₂ start-up. In some markets people still have concerns about CO₂ pressures and how to start up the system. During the COVID situation, we have customers we could not come to for the start-up. For example, in Israel, where there has been a lockdown, a customer bought a big CO₂ rack for a warehouse. They did the start-up without our presence, based on the learnings they had, and what they did upfront; it was a nice start-up. (We did speak to them on the phone.)

We see this in other countries, that people don't have to be afraid of the start-up if they take care of some points. Normally, everybody says to us, come for the start-up, but if it's not possible, refrigeration engineers around the world normally have the knowledge to do it. ■ MG

Tuesday, March 30, 2021

Live webinars - Auditoriums 1 & 2

All live webinars will be recorded and available on-demand for the rest of the show and during the 30-day archive period.

10 am CET

(4 am EDT/5 pm JST)
Auditorium 1

Natural refrigerants in commercial refrigeration: a step forward with high-efficiency solutions

Miriam Solana, HVAC/R Engineer, HVAC/R Knowledge Centre, Carel

Matteo Dal Corso, Application Manager - Food Retail, Retail Solutions, Sales & Marketing dept., Carel

Marco Fusca, Application Specialist - Retail Solutions, Sales & Marketing dept., Carel



10:30 am CET

(4:30 am EDT/
5:30 pm JST)
Auditorium 2

Copeland™ R290 single-circuit solution for integral display case with variable speed scroll

Olivier Liegeois, Marketing Refrigeration Director for Retail Sector in Europe, Emerson

Eric Winandy, Director OEM Solutions Development and Sales, Emerson

Maurizio Zago, Product Manager Systems, Emerson



11 am CET

(5 am EDT/6 pm JST)
Auditorium 1

AxiEco – efficient and save

Patrick Stern, Product & Market Manager, ebm-papst



11:30 am CET

(5:30 am EDT/
6:30 pm JST)
Auditorium 2

CO₂ transcritical technology in industrial refrigeration systems

moderated by shecco

Giacomo Pisano, Sales Manager, Dorin



12 pm CET

(6 am EDT/7 pm JST)
Auditorium 1

Long-term chiller solutions – different refrigerant characteristics and their impact

moderated by shecco

Andreas Meier, Managing Director, TEK0



12:30 pm CET

(6:30 am EDT/
7:30 pm JST)
Auditorium 2

LEAP™ makes access to natural refrigerants, exceptionally easy

Eoin Lennon, Head of Sustainability and Innovation, Novum



1 pm CET

(7 am EDT/8 pm JST)
Auditorium 1

A perfect fit: Good (organic) food and cool stores

moderated by shecco

Antoine Azar, Managing Director, Sustainable Solutions, & Project Manager / Senior Expert, HEAT

Collin Bootsvelde, Project Engineer, Colruyt Group

Britta Paetzold, Project Manager, HEAT



1:30 pm CET

(7:30 am EDT/
8:30 pm JST)
Auditorium 2

The future is natural refrigerants only

Thomas Frank, CEO, Refolution Industriekälte



2 pm CET

(8 am EDT/9 pm JST)

Auditorium 1

Industrial applications**Wynand Groenewald**, Founder, Future Green Now**Samantha Bothma**, Design Engineering Consultant, Future Green Now**2:30 pm CET**

(8:30 am EDT/

9:30 pm JST)

Auditorium 2

Leak and we shall find**Tony Powell**, EU Strategic Account Manager, Bacharach**3 pm CET**

(9 am EDT/10 pm JST)

Auditorium 1

CO₂ ejector system energy performance in a medium-sized supermarket – 2021 field study results**Mark Sever**, Global Applications Expert – Food Retail, Danfoss**3:30 pm CET**

(9:30 am EDT/

10:30 pm JST)

Auditorium 2

EU Policy Panelmoderated by shecco - brought to you by the  Clean Cooling Coalition**Arno Kaschl**, Policy Analyst, European Commission**Barbara Gschrey**, General Manager, Öko-Recherche**Tim Grabel**, Environmental Lawyer, Environmental Investigation Agency (EIA)**Andreas Meier**, Managing Director, TEKÖÖko-Recherche
Institut für Umweltforschung und Beratung GmbH**4 pm CET**

(10 am EDT/11 pm JST)

Auditorium 1

Driving innovation for natural refrigerants

moderated by shecco

Tommy Ångbäck, Sales Director Refrigeration, Gasketed Plate Heat Exchangers, Alfa Laval**Alessio Fadini**, Application Product Specialist Refrigeration, Braze Plate Heat Exchangers, Alfa Laval**4:30 pm CET**

(10:30 am EDT/

11:30 pm JST)

Auditorium 2

Sustainable cooling solutions for COVID-19 chain & medical segment**Helmut Greiner**, Application Engineering Manager, Secop**SECOP****5 pm CET**

(11 am EDT/12 am JST)

Auditorium 1

End User Panel - Europe, Africa & U.S.

moderated by shecco

Richard Taylor, General Manager of Store Design and Implementation, Pick n Pay**Olaf Schulze**, Director Energy Management, METRO AG**Jeffrey Carlson**, Service Technician, Lunds & Byerlys**Pick n Pay****METRO****L&B LUNDS & BYERLYS****5:30 pm CET**

(11:30 am EDT/

12:30 am JST)

Auditorium 2

Market trends and annual report**Ilana Koegelenberg**, Market Development Manager, shecco

6 pm CET

(12 pm EDT/1 am JST)

Auditorium 1

Easy start-up of CO₂ racks - what has to be considered?

Andreas Meier, Managing Director, TEK0



6:30 pm CET

(12:30 pm EDT/

1:30 am JST)

Auditorium 2

New R744.com and ATMOsphere Global Network

Marc Chasserot, CEO, shecco



Wednesday, March 31, 2021

live webinars - Auditorium 1

3 am CET

(9 pm EDT/10 am JST/

11 am Queensland time)

Auditorium 1

Australia & NZ End User Panel

moderated by shecco

Dario Ferlin, National Sustainable Innovations Manager, Woolworths



4 am CET

(10 pm EDT/11 am JST)

Auditorium 1

Market trends APAC and annual report

Jan Dusek, COO head of APAC, shecco



8 am CET

(2 am EDT/2 pm

Philippines Standard

Time/3 pm JST)

Auditorium 1

Cold Chain Innovation Hub Philippines | Project Updates

Gilda Garibay, National Project Leader, Cold Chain Innovation Hub

Atty. Jonas R. Leones, Undersecretary for Environment and International Environment Affairs, Department of Environment and Natural Resources (DENR), Philippines

Franziska Menten, Project Coordinator, UNIDO

David B. Bungallon, Executive Director, TESDA

Devin Yoshimoto, Communications Lead, Cold Chain Innovation Hub

Jan Dusek, Head of Global Partnership, Cold Chain Innovation Hub



Embraco Smart Drop-in

The right tool to leverage migration from fixed to variable speed technology



Embraco Smart Drop-In system does all the necessary calculations to make migration to variable speed easy.



You control

User friendly PC tool for operational set up. Optimized performance that you control.



Optimized Compressor Control

Innovative control logic improving system operation and temperature control in the field



Inventory optimization

The one-fits-all system allows operational parameters to be adjusted accordingly to your application's requirements

Advantages of variable speed technology on refrigeration:



HIGH EFFICIENT

Ongoing energy saving



FAST COOLING

Faster pull down



MINIMUM TEMPERATURE VARIATION

Temperature Stability



LESS VIBRATION

Soft start and reduced system's stress levels



LOW NOISE

Significant noise reduction



RELIABLE

Product life extension



Discover all that our **digital solutions** can do to support your business. Access: embraco.com

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March 30-31

On-demand webinars - Auditorium 3

All on-demand webinars will be available during the 24-hour event and afterwards during the 30-day archive period.

Ultra-low charge ammonia refrigeration

José Expósito, PhD. Ammonia Technical Product Manager, Intarcon



Waterloop evaporators with R290 refrigerant

Javier Cano, Industrial Engineer, Deputy General Manager, Intarcon



Saginomiya NatRef components

Marcin Michalak, Key Account Manager, Saginomiya

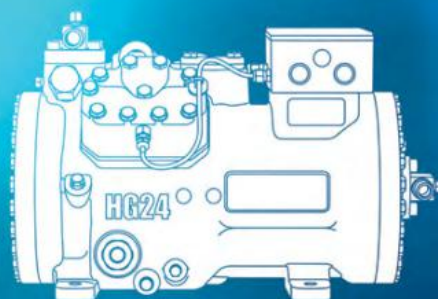


New Tecumseh High-Efficiency AL compressor platform for R290 case studies

Mario Gauna, Application Engineer, Tecumseh

Anthony Chambon, Application Engineer, Tecumseh





BOCK CO₂ compressors – HGX24 CO₂ T

***Clever** solved: flexible application
range and minimal operating costs



Perfect for your commercial applications with
smaller capacities with the natural refrigerant CO₂
(R744): medium and low temperature cooling in
supermarkets and for heat pumps, petrol station
shops, butcheries or bakeries – reliable, energy-
saving, powerful.

We call this The *Clever Art of Cooling.
More info at bock.de



BOCK

colour the world
of tomorrow

Speakers - In Order of Presentation

Live webinars



Miriam Solana

Miriam Solana Ciprés has a PhD in Chemical Engineering from the University of Padova, and is the author of various scientific publications on supercritical CO₂ technologies, having completed study and research periods at several universities in Italy and Spain, as well as at the USDA in the United States. Currently, she works at the HVAC/R Knowledge Centre at CAREL headquarters, whose objective is to strengthen specific technical competencies inside the Group through training programs, and lobbying activities amongst the most influential associations worldwide. Over the last four years she has focused her activities on studying refrigerant and energy-efficiency regulations and trends, disseminating information through worldwide conferences, seminars, documentation and the corporate blog.



Matteo Dal Corso

After obtaining his Masters degree in Energy Engineering (Padua University, 2015), Matteo Dal Corso joined CAREL working as an Application Manager for food retail refrigeration applications. He is currently in charge of the development and deployment of electronic controllers dedicated to centralized supermarket and condensing units by defining marketing strategies, proposing new solutions and supporting the sales network with technical and application consulting. During the last period, he has been focused mainly on the use of DC compressors in CO₂ transcritical application.



Marco Fusca

After obtaining his Masters degree in Mechanical Engineering (University of Padua, 2011), Marco Fusca gained extensive international experience as a product engineer for valve applications in the oil & gas sector. Marco joined CAREL in 2019 as an Application Specialist for food retail refrigeration applications. He is currently in charge of the development and deployment of high-efficiency solutions, defining marketing strategies and supporting customers and the sales network with technical and application consulting. Recently he has been focused mainly on the use of DC compressors with natural refrigerants, CO₂ and propane.



Olivier Liegeois

Olivier Liegeois is Marketing Refrigeration Director for Retail Sector in Europe at Emerson Commercial and Residential Solutions. He has a Masters Degree in Engineering and has been working with the Company for more than 20 years. He has been involved in New Product Development during all of his career, starting from engineering, to project management and now to product management.



Patrick Stern

Vocational training radio electronics technician. Study in electrical engineering. Professional practice in the field of electrical equipment for explosion protection as product manager. Since 2000 sales engineer at ebm-papst Mulfingen. Since 2016 product & market manager at ebm-papst Mulfingen



Giacomo Pisano

After obtaining his Masters degree in Mechanical Engineering in 2002, Giacomo Pisano worked for a year as a Project Manager for General Electric's Oil & Gas division, where the core business is turbomachinery applied to the oil & gas industry. He joined DORIN R&D department in 2003, taking responsibility for the CO₂ compressor development and being in charge of the product's technical qualification. Giacomo Pisano then took over several application engineering roles and is currently responsible for the CO₂ compressors' business development. He also joined several ASERCOM working groups and was the Chairman for the association's CO₂ working group for many years.



Andreas Meier

Andreas Meier has several years of experience in management functions within the refrigeration sector. He has been a member of TEKÖ's management since August 2015. He was previously President of Sales D / A / CH at GEA Refrigeration Technologies, based in Berlin - Germany, and before that he was the Head of Marketing and Product Management at GEA Küba GmbH. He also worked in Zug, Switzerland, as Sales & Marketing Manager at a Japanese manufacturer for industrial refrigeration.



Eoin Lennon

Eoin is a highly regarded thought leader with a long and distinguished career in the Refrigeration Industry, over the past 30 years. Eoin joined Novum in 2007 and has been working on pioneering the development of Propane natural refrigeration systems since 2008. This has culminated in the development of the LEAP® technology, a breakthrough Cassette refrigeration system specifically patented for Novum display cabinets.



Antoine Azar

Since January 2017, Antoine has been managing his Engineering and Training Services Bureau "Sustainable Solutions", for areas including cooling and refrigeration, energy management, MEPS and labels, supply chain and cost optimization and he regularly contributes with his expertise to projects around the world. Before that, he worked for 16 years at The Coca-Cola Company, most recently as Global Program Director in the field of refrigeration and energy efficiency. Antoine has been supporting natural refrigerants as part of the association "Refrigerants, Naturally!" for a long time and is currently a board member.



Collin Bootsvelde

Collin Bootsvelde graduated as a chemical engineer at Twente University in The Netherlands. He worked for a small company on energy conservation in the industry and within the research institute TNO for industrial clients and governments on sustainable comfort cooling, heat pumps and humidity control in fortresses. Since 2010, Collin Bootsvelde has worked for the family-owned retailer Colruyt Group as a project engineer. He has introduced hydrogen technology and electrified heavy transport. Since 2013 he is responsible for the introduction of refrigeration based on natural refrigerants for the food shops. He is also active in the introduction of heat pumps and comfort cooling with propane.



Britta Paetzold

Britta Paetzold is a project manager at the environmental consulting agency HEAT, Germany. She manages the Refrigerants, Naturally! for LIFE project and coordinates the collaboration of 8 partners from 5 European countries in this project. Britta has a background in natural sciences and nature conservation and has gained experience in international projects for WWF and others.



Thomas Frank

Thomas Frank is a chemical engineer (Dipl. Ing.) and certificated senior project manager (IPMA level B) with demonstrated experience and network in the field of refrigeration. In 2019 he founded Refolution, an engineering office that is using deep knowledge of refrigeration and analytic process understanding to develop new processes in different fields to transform the industry to only natural refrigeration with efficient, long-lasting and safe-for-humans-and-nature technologies. Refolution is well known for inventing and building new solutions with the oil-free air refrigeration machine from Mitrai Intex, like the -115°C cold sauna; the vaccine-storage container; and the the HOF-CryoBlizzard that is a central refrigeration plant for pharmaceutical batch processes like lyophilization and plasma freezing; steel hardening; plastic deburring; and a solvent recycling process.



Wynand Groenewald

Wynand obtained his mechanical engineering degree followed with a masters degree on CO₂ as a refrigerant within heat pump systems. His passion has always been to support the uptake of CO₂ within the refrigeration industry and he has been involved with the design and implementation of CO₂ technology over the last 15 years. With this in mind Wynand founded Future Green Now, an independent consulting firm dedicated to the natural refrigeration industry. Future Green Now operates internationally and is currently involved in natural refrigeration projects within the USA, Australia and Africa.



Samantha Bothma

Samantha holds a mechanical engineering degree backed by a passion and love for the environment. Pursuing her dream to have a positive impact on the environment has found her supporting the uptake of natural refrigerants such as CO₂ into the industry for the last 5 years. Her design capabilities and practical experience has led to various design and implementation of state of the art refrigeration facilities making use of CO₂ as a refrigerant and innovative design around waste heat and cooling incorporated into facilities. This has made a positive impact within the whole refrigeration industry.



Tony Powell

Tony Powell started in the Refrigeration Industry as an Engineer and has held several Engineering, Sales, and Product Management roles throughout his 20+ year career. He has worked in the USA, Mexico, the United Kingdom, and Germany, supporting customers worldwide with a particular focus on the European and North American markets. Residing in Munich, Germany for the last 9 years, Tony supports the European market as the European Product Manager for Bacharach's line of Gas Detectors and is a member of the Institute of Refrigeration.



Mark Sever

Mark Sever has a background in thermodynamics and more than 20 years' experience in refrigeration applications with emphasis on electronics and monitoring systems. For the last decade, Mark has focused on developing technology that uses CO₂ as a refrigerant and on enhancing system performance in food retail applications. Mark greatly enjoys sharing his knowledge of refrigeration applications.



Barbara Gschrey

Barbara Gschrey has been working for Öko-Recherche since 2009 and managed the preparatory study for the EU Commission in the context of the review of the F-Gas Regulation. She holds in-depth knowledge about use and emissions of fluorinated greenhouse gases and relevant business sectors.

The Temprite 130 SERIES

OIL SEPARATORS FOR TRANSCRITICAL CO₂ APPLICATIONS



Temprite's 130 Series addresses the unique and challenging demands of CO₂ systems.

There are seven different sizes of oil separators spanning applications as small as laboratory systems up to the largest industrial applications.

This now includes our newest model 239A which has double the capacity of our 139A model at a fraction of the space.

APPLICATION RANGE:

Suitable for transcritical CO₂ applications. Can also be used in subcritical CO₂ applications.

DUAL FUNCTION:

Filters dirt out of the refrigerant and oil; separates the oil from the refrigerant gas.

EFFICIENCY:

Nominal 98.5%+ separation efficiency rating across the widest range of mass flows.

FILTRATION:

Sub-micron particulate retention rating. Internal coalescent filter picks up dirt and effluent to .3 microns.

CERTIFICATIONS:

Complies with the European Pressure Equipment Directive: CE, UL, ULC, CRN (in process), and ASME (upon request).





Tim Grabiell

Tim Grabiell is an experienced environmental lawyer based in Paris, France, providing legal and policy advocacy at the European Union and international levels. He joined the Environmental Investigation Agency (EIA) in 2011, focusing on several climate-related issues, including fluorinated gases, ozone-depleting substances and methane, as well as plastic pollution and marine protection. Prior to joining EIA, Tim spent 1.5 years working in Brussels and 6 years working in the United States on environmental litigation and legislation. Tim has extensive experience with governmental and non-governmental organizations on a wide range of environmental issues, which include renewable energy, waste management, transportation, forests, air quality, energy, water quality, coal mining, biodiversity and trade.



Arno Kaschl

Arno KASCHL works as a Policy Analyst for the European Commission. He studied biology and has a PhD from the University of Hohenheim, Germany. Since 2011 he has been responsible for European fluorinated gas policies, contributing to the negotiations of the Fgas regulation and the Kigali amendment of the Montreal protocol.



Tommy Ångbäck

Tommy Ångbäck is a leading expert in the field of plate heat exchangers used in industrial refrigeration and air conditioning applications. Tommy has spent more than 20 years working with high-efficiency, natural refrigerant-based plate heat exchangers, and he has focused specifically on ammonia/CO₂ applications for the last decade.



Alessio Fadini

Alessio Fadini has nearly 20 years' experience in the field of brazed plate heat exchangers used in commercial refrigeration and heat pumps. Alessio has spent most of his career working with international customers, supporting the sales of plate heat exchangers in several applications. He has recently focused specifically on Propane & CO₂ appliances.



Helmut Greiner

Helmut has a strong knowledge of and background in the compressor industry. He graduated from Technical University Graz, Austria with a Master of Science degree in Mechanical Engineering. And he has more than 17 years of rich experience in the cooling compressor business through different functions: including R&D for compressor developments, Project Management for new platform set-up in Austria and China, as well as Application Engineering for customer developments and technical supports. At present, Helmut is based in Austria and is responsible for Secop Application Engineering for global specifiers and specifications. Since August 2020 Helmut has been leader of Secop's global task force for the COVID-19 medical segment.



Richard Taylor

He is responsible for the internal fit out of new and revamp stores across all formats at Pick n Pay from Hypers to small format stores. Disciplines include layouts, shelving, shopfitting, signage, food service equipment and refrigeration. A particular passion is striving for energy efficient solutions, reducing our carbon footprint and promoting the use of natural refrigerants in the retail industry.



Olaf Schulze

Olaf Schulze is the Director Energy Management at Metro AG. From 2005 to 2013, he was the Managing Director of Metro Properties Energy Management GmbH. Previously, Schulze worked at Europower Energy GmbH as the Head of Legal and Human Resources and at Geberit Mapress GmbH as the Head of Legal and Insurance.



Jeffrey Carlson

Jeffrey Carlson has been a member of the Minneapolis, Minnesota (U.S.) Pipefitter local 539 since 2000. He worked at Southtown Refrigeration in Minnesota for 15 years as service technician, service manager, and estimator. He currently works at Lunds & Byerlys as a service technician.



Ilana Koegelenberg

With an honors degree in journalism (B.journ) from Rhodes University in South Africa and 10 years of experience relating to the HVAC&R industry, Ilana joined shecco in 2019 as Market Development Manager. Here, she manages the Market Intelligence team with a focus on market research, policy analysis, partner projects and specialized campaigns that aid in accelerating the adoption of climate friendly technologies across different world regions.



Marc Chasserot

Marc Chasserot is a specialist in natural refrigeration with over 15 years of experience in the HVAC&R sector, starting as the Marketing Manager for the Norsk Hydro business unit specialised in CO₂ transcritical refrigeration and heating. In 2006 Marc founded the industry-leading website for CO₂ cooling and heating experts worldwide, www.R744.com. This was followed by three additional industry resources for hydrocarbons, water and ammonia (namely: www.hydrocarbons21.com, www.R718.com and www.ammonia21.com). Marc is co-founder and CEO of shecco, an independent market development company specializing in bringing Natural Refrigerants faster to market, working with numerous companies worldwide. Marc has chaired and organized numerous international ATMOsphere conferences bringing together leading policy and industry experts to discuss how to bring natural refrigerants faster to market. He is also an active member of ASHRAE.



Dario Ferlin

Honours degree in Mechanical Engineering from Melbourne University. Entered the refrigeration industry in 2001 as a rack design engineer for EPTA (Italy) and collaborated in the first transcritical CO₂ projects being piloted in Europe. In 2004 worked for EPTA as an applications engineer in the export department and oversaw turn-key projects for key supermarket accounts in developing countries. In 2009 relocated to Sydney to work for Woolworths; firstly in the capacity of a refrigeration engineer focusing on developing the showcase and refrigeration plant specifications, more recently in the role of innovations engineer and presently as the National Sustainable Innovations Manager.



Jan Dusek

Jan Dusek currently serves as Head of Global Partnership for the Cold Chain Innovation Hub. Dusek holds a Doctor of Engineering degree in System Design from Hosei University in Tokyo and a Master's degree from the Czech Technical University in Prague. Having lived in Japan for over 13 years, Jan communicates fluently in Japanese and has a rich experience cooperating with Japanese industry. He is currently based in Tokyo, responsible for the Asia Pacific operations of shecco Group as COO and Head of APAC. Having spent over 8 years in the HVAC&R industry helping various organisations to accelerate their transition to #CleanCooling technologies, he is a devoted advocate for natural refrigerants and other sustainable solutions.



Gilda Garibay

Engr. Gilda B. Garibay currently serves as Project Leader for the Global Partnership for Improving the Food Cold Chain in the Philippines. Gilda holds a Masters in Environmental Technology and Engineering (graduated with distinction) from three distinguished Universities in Europe (Ghent University, Institute of Chemical Technology, and UNESCO Institute for Higher Education) and a Bachelor's Degree in Civil Engineering (graduated cum laude). Gilda has more than 13 years of professional experience in projects on environmental engineering, climate resilience and green growth covering policy development, project design and implementation as well as extensive experience in designing, leading and managing projects focusing on civil works, institutional and capacity development, and environmental management.



Atty. Jonas R. Leones

Atty. Jonas R. Leones is the Undersecretary for Environment and International at the Department of Environment and Natural Resources (DENR), which is the primary agency in the Philippines responsible for the conservation, management, development, and proper use of the country's environment and natural resources. It specifically manages forest and grazing lands, and mineral resources, including those in reservation and watershed areas, and lands of the public domain. It also handles the licensing and regulation of all natural resources as may be provided for by law in order to ensure equitable sharing of the benefits derived therefrom for the welfare of the present and future generations of Filipinos.



David B. Bungallon

David B. Bungallon is currently the Executive Director of the National Institute for Technical Education and Skills Development (NITESD) at the Technical Education and Skills Development Authority (TESDA) in the Philippines. He has been serving the Philippine government through National Manpower Youth Council (NMYC), now TESDA, for almost 28 years. He is a Chemical Engineer by profession.



Franziska Menten

Franziska has 10 years of professional experience in the field of climate-friendly technologies in HVAC&R, working with the private and public sector. At the United Nations Industrial Development Organization (UNIDO), she is working on the cross-sectoral development and implementation of projects related to the Montreal Protocol and the phase down of HFCs. One of the key objectives of current projects is the establishment of partnerships between national and international technology suppliers and linking them with financing institutions and mechanisms to facilitate investments for supporting the introduction of best available NatRef, energy-efficient technologies and practices in developing countries.



Devin Yoshimoto

Devin Yoshimoto currently serves as the Communications Lead for the Cold Chain Innovation Hub Philippines project. As Communications Lead, he works with the project team to oversee messaging, media, research and communications activities. For the past three years, Devin has also served as Associate Editor of Asia-Pacific at shecco where he has researched, covered and reported on developments in the natural refrigerants industry for the company's industry-leading media platforms, R744.com, Ammonia21.com, and Hydrocarbons21.com.

MOST POWERFUL HERMETIC RECIPROCATING VARIABLE SPEED COMPRESSOR FOR PROPANE – **SLVE18CN**

SECOP



**VARIABLE
SPEED DRIVE**

ENERGY SAVINGS
OF UP TO

40%

Compared to a fixed speed
R404A compressor



**COMMERCIAL
APPLICATIONS**



- Suitable for both LBP and MBP applications
- Achieves more than 2 kW cooling capacity and a COP of up to 2.25 (ASHRAE MBP)
- Able to operate continuously inside an evaporating temperature range from -45 to +10°C
- Controller with automatic input detection and IP54 housing
- Easy customization via T00L4C00L®

Secop's new **SLVE18CN** propane variable speed compressor – perfect cooling efficiency, tailor-made features and easy integration.

This energy-optimized 18 cc. compressor is the perfect choice for food retail, food storage, and other commercial applications.

It comes with our new °CCD® controller featuring speed control through Adaptive Energy Optimization (AEO), frequency signal, or serial communication.

Speakers

On-demand webinars



José Expósito

José is an experienced engineer with a valuable eight-year history working in the HVAC and Refrigeration industry. He is skilled in CFD and thermal simulation and holds a PhD in Computational Fluid Dynamics applied to refrigeration and energy efficiency. In 2019 José became the technical manager for the Ammolite project at INTARCON.



Javier Cano

Javier Cano graduated as master engineer from the Ecole Centrale Paris and the Engineering school of Seville. He's got more than 20 years of experience in the HVACR sector. For the last 14 years he has driven the commercial development of INTARCON, a leading Spanish manufacturer for compact refrigeration systems.



Marcin Michalak

Marcin Michalak is a Key Account Manager at Saginomiya working daily with a wide range of HVAC customers. With a background in technical support, he is currently responsible for supporting customers in both technical and commercial solutions, including proper component selection for the concerned applications.



Mario Gauna

Mario Gauna is an Application Engineer with Tecumseh Compressor Company. Mario has been with Tecumseh for the last 20 years and is a fourth generation Tecumseh employee. He has an engineering degree in technical manufacturing and has a rich mix of refrigeration and testing experience, having worked in various areas throughout the Tecumseh engineering department.



Anthony Chambon

Anthony Chambon is an Application Engineer at Tecumseh's Laboratory division, La Verpillière, France. He is a graduate from Grenoble-Alpes University, France, and completed a Ph.D. degree in the field of heat transfer in heat exchangers.

Exhibitor Meeting Room Presentations

DORIN

Expo Hall: Premium

March 30

10 am-11 am CET

Compressors & inverter: One of the main technical solutions

Speaker: Francesco Faralli

The Inverter is the effective and efficient solution to control the cooling capacity of your refrigeration system.

GWP values are driving the refrigerant choice towards eco-friendly solutions, but a great opportunity to lower the environmental impact still belongs to the system efficiency.

Most of time the large majority of refrigeration applications need to work at partial load, and the inverter uses features with exceptional advantages from a technical and economic point of view.

DORIN has supported the use of compressors with an inverter for decades, and approves operations with a Variable Frequency Drive for all DORIN compressors.

DORIN also offers a wide range of dedicated inverters for all of its products as well as a special range of compressors, featuring unique technical solutions to allow smooth working in an extended frequency range, between 20 and 90 Hz.

2 pm-3 pm CET

CO₂ two-stage compressors

Speaker: Mauro Bonfanti

This presentation will give a general overview on double-stage compression technology.

We will offer a technical and economical analysis on 2-stage CO₂ (R744) compressors in comparison to Booster systems and traditional HFC systems.

3 pm-4 pm CET

Propane refrigeration: HEX range

Speaker: Vincenzo Isgrò

Restrictions imposed by the F-Gas Regulation, local incentives and uncertainty about new "chemical" refrigerants have made more popular in Europe the use of natural gases and in particular Propane (R290) as a refrigerant for large chillers for A/C and Process Cooling and also commercial refrigeration.

DORIN, always attentive to the environment and in accordance with its policy strongly in favor of "Natural" refrigerants, is not only a market leader for CO₂ compressors, but has offered for many years the HEX range of compressors. This is an extremely wide range of semi-hermetic compressors, from small (2 cylinders, 1/2 HP) up to large (8 cylinders, 90 HP), all certified ATEX Zone 2 version for use with Hydrocarbons.

These products implement special technical solutions for safe use of the product and for improved efficiency and reliability of the compressor in any possible application condition.

4 pm-5 pm CET

CO₂ Chillers and CO₂ compressors

Speaker: Giacomo Pisano

The introduction of CO₂ in HVAC and process cooling chiller systems has been struggling so far, due to safety constraints and poorer efficiency levels linked to the use of natural refrigerants. This roundtable deals with and describes how modern technology improvements, such as gravity-fed evaporators and ejectors, have made it possible to consider the adoption of CO₂ as a safe and efficient alternative for HVAC and process chiller applications.

March 31

9 am-10 am CET

CO₂ compressors and their applications in refrigeration systems

Speaker: Giacomo Pisano

The widespread use of CO₂ as a mainstream refrigerant has led to numerous compressor-related challenges, which have been successfully addressed by the implementation of a number of technical solutions. This has led DORIN to provide the market with best-in-class CO₂ compression technology. This roundtable deals with and describes the very many advantages secured by DORIN CO₂ compressors, and shows various applications where they have been successfully implemented.

DANFOSS

Expo Hall: D-L

March 30

10 am-12 pm CET

Introduction to Danfoss qualified solutions for natural refrigeration, from small to large installations, followed by a deep dive into selected topics.

Global/In English

Speakers: Henry Steffensen, Hans Ole Matthiesen and Kurt M. Sand

12 pm-2 pm CET

Réfrigérants naturels et solutions durables pour le froid industriel et les magasins de distribution alimentaire

For France/In French

Speakers: Joaquim Edo, Ismail Aouad and Lionnel Carrière

2 pm- pm CET

Tecnologias de CO₂ para qualquer temperatura ambiente

For Latin America/In Portuguese

Speaker: Eduardo de Castro Drigo

4 pm-6 pm

Introduction to Danfoss qualified solutions for natural refrigeration, from small to large installations, followed by a deep dive into selected topics

Global/In English

Speakers: Henry Steffensen, Hans Ole Matthiesen and Kurt M. Sand

6 pm-8 pm CET

Introduction to Danfoss portfolio compatible with natural refrigerants. Focus on CO₂ solutions in North America.

For North America/In English

Speaker: Chris Brown

8 pm-10pm CET

Tecnologias de CO₂ para qualquer temperatura ambiente

For Latin America/In Spanish

Speaker: Adrian Misael Garcia Ramos

March 31

12 am-2 am CET

Join in to hear stories on operational safety in IR solutions. Learn IoT from zero to engage with food retailers globally and be an expert in choosing the right CO₂ system that meets your needs.

For Asia Pacific Rim-Australia/New Zealand; In English

Speakers: Dean Carl, Allan Kelly and Sergiy Kolinchuk

8 am-10 am CET

Законодательство и перспективные технологии для магазинов в России

For Russia/In Russian

Speakers: Maksim Katraev

CAREL

Expo Hall: Premium

March 30

11:15 - 12:00 CET

Refrigerants: Test your knowledge of natural refrigerants!

Speakers: Biagio Lamanna and Miriam Solana

12:15 pm-1pm CET

Racks: Multi DC CO₂ solution: innovative oil management boosts efficiency and reliability

Speakers: Federico Ferrari and Matteo Dal Corso

2 pm-2:45 pm CET

Semiplug-in: CAREL solutions for retail propane applications

Speaker: Marco Fusca

3 pm-3:45 pm CET

IoT Service: Digital Services for retail application: Performances under control

Speaker: Gabriele Putzolu

4 pm-4:45 pm CET

Cabinets: MPX showcase management: food preservation and energy efficiency at your fingertips

Speaker: Gianluca Caracino

5 pm-5:30 pm CET

Racks: Increasing CO₂ gas cooler efficiency and safety with CAREL's chillBooster

Speakers: Giovanni Bonesso and Federico Ferrari

5:30 pm-6:15 pm CET

Foodservice: How to increase energy efficiency in professional and catering applications

Speakers: Giovanni Tonin and Andrea Bianchi

6 pm-6:45 pm CET

Semiplug-in: LT CO₂ Sub solution for Retail - Heos Box/ In Portuguese

Speaker: Marcel Nishimori

7 pm-7:45 pm CET

Racks: Increasing CO₂ gas cooler efficiency and safety with CAREL's chillBooster/In English

Speaker: Giacomo Favari

8 pm-8:45 pm CET

Racks: CO₂ Transcritical controller solution. Made in Ecuador Rack/In Spanish

Speaker: Carlos Mojica

9 pm-9:45 pm CET

CO₂ Transcritical controller solution/In Portuguese

Speaker: Rafael Santoro

9 pm-9:45 pm CET

Foodservice: How to increase energy efficiency in professional and catering applications/In English

Speaker: Giacomo Favari

10 pm-10:45 pm CET

Cabinets: MPX showcase management: food preservation and energy efficiency at your finger tips/In English

Speaker: John Atchley

11 pm-11:45 pm CET

Semiplug-in: LT CO₂ Sub solution for Retail - Heos Box/ In Spanish

Speakers: Marcel Nishimori

3 am-3:40 am CET

Natural Refrigerants: CO₂ Transcritical & R290 solutions for commercial refrigeration/ In Japanese

Speaker: Tadao Sekiguchi

4 am-4:40 am CET

CO₂: CO₂ solutions for commercial refrigeration and case sharing/In Chinese

Speaker: Mik Fei

4:40 am-5:20 am CET

R290: R290 solutions for plug-ins, case studies and experience sharing/In Chinese

Speaker: Tom Chen

5:30 am-6 am CET

iJ/MPX: HVAC/R connectivity Management and Energy Efficiency at your fingertips/In Thai

Speaker: Nakarintra Wongsasithorn

6:10 am-6:50 am CET

CO₂: CO₂ solutions for commercial refrigeration and case sharing/In English

Speakers: Ian Skelton and Michael Kuehl

7 am-7:30 am CET

R290: R290 solutions for plug-ins, case studies and experience sharing/In Korean

Speaker: Ray Sin

8 am-8:45 am CET

Ammonia: Ammonia solution for India market/In English

Speaker: Gaurav Bali

9 am-9:30 am CET

CO₂: CO₂ solutions for commercial refrigeration and case sharing/In English

Speaker: Giorgio Fontana

SECO

Expo Hall: M-Z

March 30

2 pm-2:45pm CET

Secop R290 & VSD Solutions – Integral to Your Success

Speaker: Davide Frassati

5 pm-5:45 CET
(11 am-11:45 EDT)

Secop R290 & VSD Solutions – Integral to Your Success

Speaker: Sam Huffman

4 am-4:45 am CET
(10 am-10:45 am CST)

Secop R290 & VSD Solutions – Integral to Your Success

Speaker: Tracy Li

ZUDEK

Expo Hall: Premium

March 30

11 am CET

Zudek general presentation

12 pm CET

Absorption chillers presentation

2:30 pm CET

Zudek civil application presentation

4 pm CET

Air condensed chillers presentation

March 31

At 12 am, 2 am, 4 am and 6 am (CET time)

Our agents in Australia and the Philippines will conduct the presentations.

CARRIER

Expo Hall: A-C

March 30

10:30 am CET

Discover CO₂OLtec Evo – one of the industry's most energy efficient and sustainable solutions for refrigeration.

Speakers: Joachim Bartz, Product Manager Mechanical Systems

12 noon CET

The transcritical CO₂ solution for high-power applications

Speakers: Micael Antonsson, Industry Segment Director

4 pm CET

CO₂ commercial refrigeration for all store formats

Speaker: Cherif Sahmi, Product Manager Mechanical Systems

NOVUM

Expo Hall: M-Z

March 30

Meet the Innovators. The creators of game changing LEAP™ technology are here to answer your questions. If reducing energy usage, achieving sustainability targets, reducing labour routines, maintaining food integrity, achieving agile store design, and minimising maintenance costs is of interest to you, feel free to visit our booth in Hall M-Z.

Novum will also be hosting exclusive tours through their Store of the Future showroom from 10 am to 8pm CET (9 am to 7 pm Irish time).

Contact ruaidhri.horan@novum.ie to schedule your private tour.

SWEP

Expo Hall: M-Z

March 30

Meet the experts. We will present the latest in our ultra-high-pressure product range, targeting transcritical CO₂ applications. You can also get insights into our highly efficient heat pump condenser range, compatible with climate-friendly natural refrigerants (propane). And we will introduce the latest addition of our All-Stainless product range for applications using aggressive media, like ammonia.

VAHTERUS

Expo Hall: M-Z

30 March

11 am - 11:30 am CET

Vahterus réfrigération applications

/ In French

Speaker: Maxence Baleyrier

1 pm - 1:30 pm CET

New product introduction: Vahterus PSHE Multi-Condenser

/ In English

Speaker: Mikko Tuomainen

2 pm - 2:30 pm CET

Vahterus solutions for the growing market of heat pumps

/ In English

Speaker: John Ritmann

5 pm - 5:30 pm CET

Vahterus refrigeration applications

/ In English

Speakers: Jonathan Pascoe and Bart Shellabarger

7 pm - 7:30 pm CET

Vahterus PSHE Combined

/ In English

Speakers: Jonathan Pascoe and Bart Shellabarger

9 pm CET - 9:30 pm CET

New product introduction: Vahterus PSHE Multi-Condenser

/ In English

Speakers: Jonathan Pascoe and Bart Shellabarger

31 March

4 am - 4:30 am CET

Vahterus PSHE for CO₂ cooling systems in APAC region

/ In Chinese and English

Speakers: Tracy Hakala and Eric Yi



World Guide to Transcritical CO₂ Refrigeration

- Market analysis • Technology trends
- Case studies • Policy updates



- Supermarkets • Convenience stores • Industrial refrigeration

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Innovation of the Year Finalists

TO VOTE

Attendees of the ATMO Virtual Trade Show (VTS) 2021, to be held online March 30-31, will be able to vote for one of the innovations described on pages 38-42 to be Innovation of the Year. To register for the show, click [here](#).

Carrier

PowerCO₂OL CO₂ Rack System

PowerCO₂OL is the name of our most powerful refrigeration rack. Its platform is suitable for a variety of large applications and can be designed as a single or dual-temperature solution. It integrates the CO₂OLtec EVO modulating vapor ejector technology as a standard feature to achieve high energy efficiency – up to 30% energy savings on an annual basis vs. a standard transcritical CO₂ (R744) system.

Multiple configurations are offered, including direct expansion, flooded liquid chillers, pump-assisted flooded low-temperature systems and liquid-to-liquid heat pumps. The platform can be packaged in either indoor or outdoor configurations, with a cooling capacity up to 1.5MW (426.5TR) with full heat recovery. All functions are managed by a user-friendly and flexible controller.

PowerCO₂OL works for many high-capacity applications such as:

- Distributions centers (warehouse, medium- and low- temperature cold storage)
- Sport venues (ice rink, ski arena)
- Processes (food processing, butchery, plastic industry)
- Heat pumps (domestic hot water, heating and hot water production)

Five natural refrigerant systems, described by the nominating companies on the following pages, are finalists for a 2021 Innovation of the Year award. The awards will recognize products, introduced since January 2020, having, or expected to have, a significant impact on the market. Awards will be given in Gold, Silver and Bronze categories.

PowerCO₂OL was launched in 2020 and has already been installed at iconic sites. To name one example, PowerCO₂OL has been installed at SNØ – Norway's first year-round indoor ski arena – in Lørenskog. Norwegians and others who love winter sports now have the ability to enjoy Nordic and Alpine skiing year-round.

How can we achieve these energy efficiency levels?

PowerCO₂OL embeds the CO₂OLtec Evo modulating vapor ejector technology, assisted by a CO₂ pump. This patented technology has raised the bar in high-efficiency performance with up to 30% annual energy consumption (AEC) reduction compared to a "standard" transcritical CO₂ solution. It has enabled CO₂ systems to become a viable alternative in warmer climates as well as providing heat reclaim advantages in cold and mild climates. In addition, the solution becomes a sustainable alternative by using CO₂, a natural refrigerant, which is safe and non-ozone-depleting, with a GWP of one.

CO₂OLtec Evo modulating ejector technology provides energy savings to the end user through the following elements:

- ▶ Expansion work recovery: The modulating vapor ejector replaces the high-pressure valve and recovers the high-pressure energy.
- ▶ Higher evaporating temperature: The medium-temperature consumers operate in "semi-flooded" mode, which increases efficiency.
- ▶ Higher suction pressure on the entire medium-temperature stage: The medium-temperature compressors' suction are directly connected to the receiver, which allows the entire medium-temperature stage compressor work reduction.

The most common high-efficiency CO₂ refrigeration systems typically use one of the following features:

parallel compression (also known as economizer systems), a high-pressure ejector combined with parallel compression, or a liquid ejector.

All systems can operate independently or in combination; however, each step adds an additional level of complexity and cost, both in terms of mechanics (compressors, valves, accumulators, piping, etc.), and controls (complex control algorithms).

CO₂OLtec Evo modulating vapor ejector technology combines all these specifications with only two components to control. This unique system works in combination with a simple and efficient CO₂ pump to reduce energy consumption by operating the medium-temperature evaporators in "semi-flooded" mode all year round. ■

Danfoss

CCMT Light electric regulating valve

Launched in April 2020, the CCMT Light electric regulating valve is designed to make CO₂ (R744) refrigeration easy for small-format stores

We're excited to announce yet another leap forward in CO₂ technology: the CCMT Light electric regulating valve. With this new innovative product, we address smaller systems, helping to make CO₂ accessible to convenience stores, discount outlets, and the like all over the world.

A quick overview of the CCMT Light:

- ▶ One valve, three applications: high pressure valve, gas-by-pass and evaporator expansion valve (HPV, GBV and EEV)
- ▶ Compact design with smallest footprint
- ▶ Light weight – 670g (1.5lbs), reducing piping stresses
- ▶ Stepper motor-operated valve
- ▶ Angled valve housing, one-flow direction
- ▶ Easy-and-fast-to-service cartridge design, fully

serviceable, without uninstalling it from the pipeline

- ▶ Dual-purpose connections, bi-metal and steel
- ▶ Regulation down to 5% of full capacity
- ▶ Tight pressure control, low hysteresis

One valve, many possibilities:

The valve has versatile applications in the trans-critical system. First, the valve is capable of high pressure expansion for gas cooler control (HPV). Second, the CCMT can be used as gas by-pass valve (receiver pressure control, GBV). Finally, the CCMT Light can be used as an evaporator expansion valve (EEV) with AK-CC55 Single Coil and AK-CC55 Single Coil UI, for cold room applications.

The CCMT Light

The CCMT Light is the latest addition to our growing CO₂ portfolio. The valve is robust, accurate, and easy-to-use, with a focus on stress-free valve installation and field service. It has a high tolerance for dirt and debris, reducing service-related incidences and improving long-term system reliability.

The valve is delivered fully assembled and in open position, ready for welding or brazing, which drastically reduces installation time, lowers production costs, and increases productivity.

The CCMT Light is available in three types, each covering a different capacity: 0.3Kv, 0.5Kv, 0.8Kv and a new version for 1.1Kv will be ready in April 2021. It is designed specifically for small CO₂ applications and is optimum for condensing units or packs up to 150kW (42.7TR).

See how easily CO₂ can be used with our CCMT light electric regulating valve:

► Learn more about the CCMT light on our web site:

[CCMT electric regulating valve - high pressure CO₂ Danfoss](#)

► Materials:

Installation videos: Learn more about how the CCMT Light in these animations and installation videos:

[CCMT Light fluid simulation animation | Electric regulating valve for CO₂ - YouTube](#)

[CCMT Light exploded view animation | Electric regulating valve for CO₂ - YouTube](#)

[How to braze bi-metal connections on a CCMT light valve | HVACR Distillery - YouTube](#)

[How to braze steel connections on a CCMT light valve | HVACR Distillery - YouTube](#)

► Brochures:

[CCMT Light regulating valve - Cost-efficient, safe & simple for a better control of CO₂ applications \(danfoss.com\)](#)

[Data sheet - Electric regulating valves - Type CCMT Light 3 - 5 - 8 \(danfoss.com\)](#) ■

Alfa Laval

CB24 R290 Condenser

Released in October, 2020, Alfa Laval CB24 is a condenser with minimal refrigerant charge for increasing its sustainability potential.

Alfa Laval continues the expansion of its brazed plate heat exchanger portfolio with the launch of Alfa Laval CB24. CB24 is the market's first dedicated condenser that has been specifically optimized to operate with propane (R290), with engineering that enables an unprecedentedly low refrigerant charge combined with increased thermal efficiency. As a result, CB24 creates opportunities to improve sustainability for commercial refrigeration, ground source heat pumps (GSHP), satellite systems for tap water, and more.

"The transition to refrigerants with a lower climate impact is the major trend in heating and cooling right now," said Fredrik Ekström, President for Business Unit Brazed & Fusion Bonded Heat Exchangers at Alfa Laval. "With a GWP [global warming potential] of just three, propane has become an interesting option for many OEMs. Compare this to R407C, the dominant refrigerant in commercial refrigeration today, which has a GWP of more than 1,700, and it's easy to understand why!"

However, use of R290 is not without practical and technical challenges. The safety considerations associated with the highly flammable alkane have resulted in legislation in some regions that restricts the allowable refrigeration charge for certain applications.

"The aim of CB24 has been to solve these challenges for some of the heating and cooling duties where the ability to use R290 will become increasingly critical," Ekström continued. "We did this by adapting some of the unique innovations Alfa Laval has developed through our long experience in these applications. This has given us a dedicated condenser that successfully accommodates the refrigerant charge limitations of working with propane, without sacrificing thermal performance."

150g and below

A key element to the success of CB24's development was Alfa Laval's FlexFlow: a patented plate design technique that allows for channel asymmetry, custom-tailored to fit the media in question. FlexFlow makes it possible to increase turbulence and optimize pressure drop according to

a particular application. CB24 can, therefore, provide highly efficient heat transfer while at the same time operating on a propane refrigerant charge that is lower than previously possible.

"This means, for example, that CB24 easily meets the strict regulations for some commercial refrigeration applications, which limit a propane charge to 500g," explained Ekström. "But it goes further than that. CB24 can even fulfill the much more stringent requirements for GSHPs, which in Europe are limited to a refrigerant charge of just 150g."

Another important feature for CB24 has been Alfa Laval's PressureSecure design, which optimizes the relationship between thermal, mechanical and material properties to support pressure loads associated with R290. This produces an overall more robust heat exchanger, particularly around the port areas, which can be highly susceptible to pressure-related fatigue problems.

Low GWP + high efficiency = maximum sustainability.

"With CB24, the ability to use propane with a reduced refrigerant charge is only half the story," Ekström said. "The possibility to improve thermal efficiency will also create new opportunities for energy savings for many of our customers."

One key example is in commercial refrigeration applications involving vertical shelves without a window. In such duties, where previously up to three condenser units would be necessary, it will be possible to use just one CB24 condenser thanks to its highly efficient performance.

"The results are equally positive for geothermal applications," Fredrik Ekström concludes. "We have already installed our first CB24 condensers in a GSHP system in southern Europe. The customer has reported that both the low refrigerant charge and the high efficiency of the system is far in front of everything else they are seeing on the market today." ■

Carel

HEOSone R290 controller

Everything for your high-efficiency plug-in showcase, HEOSone is a solution for the control and management of chest freezers and wall-standing plug-in showcase coolers for supermarkets and professional refrigerators. It can also be used with professional refrigerators for kitchens or food display coolers for bakeries and small shops.

The kit of components can be applied to both low-temperature and medium-temperature applications operating on propane (R290).

The complete package includes:

- ▶ BLDC compressor
- ▶ The HEOSone controller is combined with an advanced driver to form an integrated unit for:
 - showcase temperature and superheat control
 - compressor management (COP calculation, oil recovery procedures)

- condensing stage control
- lights, defrosts, fans and alarms
- ▶ Electronic expansion valve with stepper motor
- ▶ HMI with BLE/NFC connectivity
- ▶ The sensor and probe kit and the WiFi gateway option complete the offering

Cooling capacity varies from 0.8kW to 1.6kW (0.23TR to 0.46TR), depending on the application, with a propane charge of up to 150g.

HEOSone can be perfectly integrated into supervisory and remote monitoring systems.

The main benefits of the HEOSone solution can be summarized as follows:

1. Risk-free green solution: All the benefits of propane without the safety risks (charge limited to 150g).

2. Energy efficiency: The decentralized approach and continuous modulation make it possible to adapt operation perfectly to the demands of the showcase in all conditions.

3. Continuous system modulation is possible thanks to synchronized operation between variable-speed BLDC compressors, the electronic expansion valve with stepper motor, and DC motors for fans.

4. DC technology allows the widest range of modulation, low noise and high reliability, and above all the highest efficiency. HEOSone has been officially tested in a third-party laboratory applied to

an already best-in-class chest freezer (3L1). The complete package achieved an additional energy saving of 10%.

5. Maximum food preservation quality: Continuous modulation of the compressor and EEV electronic valves ensures excellent temperature and humidity stability in the showcases.

6. Usability: Advanced connectivity thanks to BLE, NFC and dedicated app.

7. One-stop shop: a complete solution and just one supplier and partner for the entire control package. ■

Secop

SLVE18CN (R290+VSD) compressor

SLVE18CN is a new Secop product launched to the market in November 2020.

It's propane (R290)-based, has the most efficient and biggest variable-speed piston compressor available in the market so far; and is the only variable-speed piston compressor that could operate under full LBP & MBP conditions.

Customers could use this VSD compressor to substitute up to a 27~28cc fixed-speed compressor. By doing this, they could get all the following benefits:

- Green and sustainable natural refrigerant solution
- Reduced energy consumption up to 40%
- A much more compact compressor that could support increased cooling volume in the cabinet
- Fulfilled ECO design requirements and all related safety regulations

► Reduced environment, safety and economic impact by reducing SKUs

- One VSD compressor type could cover many FSD compressor types, which could help to reduce inventory and logistic complexity

- Suitable for both LBP and MBP applications, and able to operate continuously inside an evaporating temperature range from -45 to 10°C (-49 to 50°F)

- Intelligent variable-speed drive °CCD controller (Cool Capacity Drive) supports all customer needs (simple drop-in, frequency control, and serial control) with automatic input detection and easy customization via TOOL4COOL

- Strong dust and water-protected controller housing to reduce the safety risk ■

TO VOTE

Attendees of the ATMO Virtual Trade Show (VTS) 2021 will be able to vote for one of the innovations described on pages 38-42 to be Innovation of the Year. To register for the show, click [here](#).

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A CAIRE represents the air conditioning, refrigeration and ventilation industry in Colombia, focusing on the comfort, health and safety of the community. ACAIRE has been recognized since 1981 by the government and industry for its knowledge in all areas of HVAC&R engineering in Colombia.

ACAIRE contributes to the development of all economic sectors of the country. It is a leading and innovative association, with national and international recognition.

ACAIRE has given impetus and visibility to the sector by holding events, including 15 editions of EXPOACAIRES, and the International Congress of Air Conditioning and Refrigeration. These events have benefited and promoted its members, managing to advance the development of strategies and business alliances necessary to compete in the marketplace.



Expo Hall : A-C

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A IRAH (Australian Institute of Refrigeration, Air Conditioning and Heating) has a long and proud history of representing an industry of professionals who are of fundamental and increasing importance to the comfort, health and safety of the community.

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Please join us in 2021 and beyond as we celebrate over 100 years of leading HVAC&R.





Expo Hall: Premium

Contact:

www.alfalaval.com

www.alfalaval.com/naturalrefrigerants

Alfa Laval is active in the areas of Energy, Food, Water and Marine, offering expertise, products and service to a wide range of industries in some 100 countries. With a commitment to optimizing processes, we drive progress, going the extra mile to support customers in achieving business goals and sustainability targets. Our innovative technologies contribute to enhanced energy efficiency, improved heat recovery, responsible use of natural resources, and

reduced emissions. We thereby not only accelerate success for our customers, but also for people and our planet. It's all about Advancing better™.

A broad portfolio of leading innovations

While natural refrigerants solve the crucial challenge of reducing global warming potential (GWP), they create a variety of other challenges. From the high pressures associated with carbon dioxide applications, to the safety concerns that come from working with propane and ammonia, builders of heating and cooling systems have much to think about when switching to these refrigerants.

At the Alfa Laval booth, you will be able to browse from the market's most complete portfolio of heat exchanger technologies designed specifically to respond to these challenges. This includes leading brazed and gasketed plate heat exchanger solutions, as well as semi-welded plate heat exchangers with a unique sealing design optimized for cascade systems using CO₂ and ammonia.

Sharing industry-leading know-how with you

With our years of application experience, Alfa Laval has developed a wealth of technical knowledge related to heat exchangers in heating and cooling systems. We are always excited to discuss the challenges of working with new low-GWP refrigerant alternatives, pros and cons of different heat pump solutions or how to maximize the efficiency of your system.

In addition to the virtual booth, Alfa Laval experts will be on hand to answer questions in one-on-one meetings. Tommy Ångbäck and Alessio Fadini, two of the industry's most experienced experts, will also be presenting a webinar in Auditorium 1 on March 30 at 4pm CET on the subject of "Driving innovation for natural refrigerants." Join us and find out how we can secure your natural refrigerant future.



Driving innovation for natural refrigerants



Visit the Alfa Laval booth and join our webinar!

The challenge of global warming is redefining heating and cooling. And from day one, Alfa Laval has been driving the solutions for that challenge, with innovations to secure a sustainable future with natural refrigerants.

Join us to discover how we're ready today with a range of heat exchangers for working with hydrocarbons, CO₂ and ammonia. And learn how we can keep you ready for whatever comes tomorrow, with continuous innovation that ensures efficient performance for even greater sustainability.

Ready to secure your natural refrigerant future? Visit us online at www.alfalaval.com/naturalrefrigerants to get in touch.

Visit our booth to see our comprehensive range of plate heat exchangers for natural refrigerants. New launches include a model optimized for propane and another for CO₂, both nominated for innovation of the year 2021!

Our live webinar: Driving innovation for natural refrigerants
Date: 30th March, Time: 4 pm CET
Virtual location: Auditorium 1





Expo Hall: A-C

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Email: info@area-eur.be

We are AREA, the European association of refrigeration, air conditioning and heat pump (RACHP) contractors. Established in 1989, AREA voices the interests of 25 national associations from 22 countries representing 13,000 companies employing 110,000 people and with an annual turnover approaching €23 billion (US\$27.5 billion). The average company employs eight people and generates €1.8 million (US\$2.2 million) turnover.

Contractors are the essential link between end users and manufacturers. They design, install and maintain RACHP equipment using every available solution with complete neutrality towards equipment and refrigerants, in the sole aim of ensuring the highest level of reliability, energy efficiency and cost-effectiveness.



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Ralph Bailey
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C & C Industrial, LLC was founded in 2007 as a small fabrication shop in Mt. Sterling, Kentucky (U.S.). We specialize in the food and beverage industry from the largest of food manufacturers to small chain grocery stores. At C&C, we provide and service all types of refrigerants, however our specialty is in the natural refrigerant field. We service existing equipment as well as provide construction and service on new systems. Our newest division added in early 2021 is our Industrial Recovery division, specializing in anhydrous ammonia pump outs.

We provide services throughout the United States as well as support many International customers as well.

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High efficiency and IoT control solutions for natural refrigerants



CAREL recognizes environmental issues as a corporate priority. The effects of traditional refrigerants on the environment and their banning in some geographical areas have made it fundamental for CAREL to use natural refrigerants that have a low environmental impact, such as propane (R290), carbon dioxide (R744) and ammonia (R717), sometimes in tandem with variable-speed compressor technologies.

In recent years, CAREL has focused on developing industrial and commercial refrigeration systems that can use natural refrigerants in each application niche served, with its main compressor manufacturer partners.

CAREL offers comprehensive solutions for optimal control of refrigeration applications that use natural refrigerants. These innovative solutions can manage system complexity, such as the pressures involved, the climatic conditions and the cooling capacity required.

In 2019, CAREL extended its range of installations with natural refrigerants, also to meet strong demand in the South African, Australian and Asian markets. China, in particular, has great growth potential, given the success achieved by the first installations in 2018.

CAREL's commitment is shown by the progress made on its projects for refrigeration systems in the retail food sector, which are steadily transitioning towards

natural refrigerant solutions – above all, from progress in traditional technologies to the more efficient variable-speed solutions. Installations with natural refrigerants are constantly gaining in popularity throughout the world, driven by the trends in Europe and Japan. Over the last three years, CAREL has tripled its number of CO₂ projects with DC inverter technology, guaranteeing high efficiency with the use of natural refrigerants.

CAREL's aim is to contribute to spreading an energy-saving culture and refrigeration practices that are more environmentally friendly. As a result, it has undertaken various sustainability projects funded by the EU's LIFE Programme.

The natural evolution

of connected efficiency

CAREL

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**HC
R290**

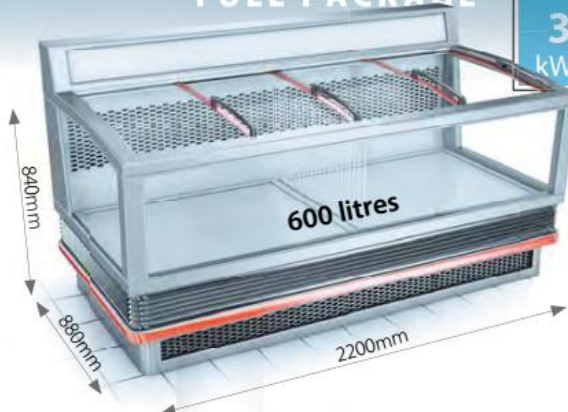


ADREPHQEN0 - 2021

Options: full package



**Heosone
FULL PACKAGE**



Dual Mode

VARIABLE
set point
3,99
kWh/day

Standard

FIXED
set point
4,11
kWh/day

Tested by

R E G E N T

Tests in accordance with the
UNI EN ISO 23953 test protocol
Climate class: 3
Temperature: class L1



Expo Hall: A-C

John Miranda
johnm@mmrefrigeration.com

847-848-7165

Founded in 1969, M&M is well-known throughout the industry for its design and fabrication of industrial refrigeration systems across many applications, including cold storage, food processing, ice rinks, and ground freezing. We make compressor packages, vessels, parallel racks, chillers, and condensing units for industrial refrigeration and cooling applications. Our equipment and packaging options specialize in low-charge ammonia, cascade ammonia-CO₂, and CO₂ transcritical refrigeration systems.

Our Carnot brand was founded in 2008 as an OEM with a focus on sustainable and environmentally friendly refrigerants. Carnot pioneered the use of CO₂ transcritical refrigeration in North America for commercial and industrial applications including data centers, food processing facilities, cold-storage warehouses, supermarkets, ice rinks, and several other industrial applications. We are a global leader in industrial-scale Natural Refrigerant Solutions.



Do you have a CO₂OL Power?

PowerCOOL

The transcritical CO₂ solution for high power applications

Learn more on our solutions:
www.carrier-refrigeration.com

Logistics warehouse

Process

Sport venue

Heat pump

Expo Hall : A-C

Address: 3 rue Joseph Monier
 92500 Rueil-Malmaison, France

Phone:
 (+33) 01.41.42.28.00

Email:
aline.lucas@carrier.com

<https://www.carrier.com/commercial-refrigeration/en/eu/contact-us/>

Carrier Commercial Refrigeration is a leading supplier of high-efficiency turnkey refrigeration systems for food retail stores of all formats and industrial sites.

With a footprint in more than 20 countries throughout Europe, and a significant presence in the Middle East and Asia, we are committed to improving refrigeration through sustainable products and processes.

Carrier offers a complete refrigeration solution from small to very large applications, with natural refrigerant. Thanks to the PowerCO₂OL platform, Carrier is able to offer CO₂ technology that reaches 1.5MW (427TR) capacity per rack and designing installations up to 5MW (1,422TR) by combining five racks.



Expo Hall: A-C

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The Cold Chain Innovation Hub (CCI-Hub) is the official platform for the "Global Partnership for Improving the Food Cold Chain in the Philippines" project. The CCI-Hub serves as the project's central ecosystem of technical resources, training, knowledge sharing and stakeholder collaboration.

The goal of the "Global Partnership for Improving the Food Cold Chain in the Philippines" project is to identify, develop and stimulate the development of low-carbon, energy-efficient refrigeration innovation technologies and business practices in the Philippines for use throughout the food cold chain while increasing food safety and security.



Expo Hall: A-C

Call: 866-394-5861.

Email:
sales@ctiengineering.com

Visit online:
www.ctiengineering.com

Easy Quote:
[Request a Quote Form](#)

CTI is a leading manufacturer of gas detection equipment for industrial facilities. Our mission is to design, build, and sell the best gas detection systems in the world.

CTI specializes in the detection of ammonia, but also provides sensors for most other refrigerants including carbon dioxide, propane, and all synthetic refrigerants. Our customers include food and beverage processing plants, cold storage facilities, rendering plants, power plants, sea vessels, parking garages, ice rinks and chemical plants.

Our sensors are designed to prevent false alarms and made to thrive in the extreme conditions found in industrial environments. They will function in spite of extreme temperatures, off-gassing, chemical spraydowns, and high-pressure washdowns. Each sensor passes a rigorous testing process and has a two-year warranty.

ENGINEERING
TOMORROW



Expo Hall: D-L

Laureline Delmas
Global Marcom intern

Laureline.delmas@danfoss.com
danfoss.com

Danfoss is a pioneer in developing solutions using natural refrigerants in applications such as food retail, commercial refrigeration and industrial refrigeration.

Join us in our meeting room where we will cover our wide portfolio of solutions qualified for natural refrigerants such as CO₂, ammonia and propane. We will particularly focus on CO₂, which is becoming a popular refrigerant in cooling applications.

Danfoss continues its investment in sustainable refrigeration to support rapidly evolving market demands, such as for CO₂ in high-pressure components for industrial heat pumps and light commercial condensing units.

We are looking forward to engaging with you in the meeting room on these topics in different languages.





OFFICINE MARIO DORIN SINCE 1918

DORIN
INNOVATION



Retail Business



Marine Applications



Railway Air Conditioning



Ice-Cream Industry



Industrial Refrigeration



Wholesale



CD2
The Smallest



CD4
The Newest



CD400
The Best Seller



CD600
The Largest

CD Series of compressors for CO₂ transcritical application is the result of more than three decades systematical research and experience of Dorin Engineers. The reliability, sustainability and efficiency of these machines make them the flagship reference for the market nowadays:

CD600 - the largest 6 piston, 39.85 - 98.58 m³/h

CD400 - the best seller 4 piston, 9.48 - 35.47 m³/h

CD4 - the newest 4 piston, 4.67 - 9.21 m³/h

CD2 - the smallest 2 piston, 1.60 - 4.60 m³/h

Eco-Friendly solution for cold chain systems

Do it all with Dorin CO₂ Compressors!

**Save the planet, Choose Natural,
Choose Dorin!**





OFFICINE MARIO DORIN SINCE 1918
DORIN
 INNOVATION

Expo Hall: Premium

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 50061 Compiobbi /
 Fiesole (Florence)- Italy

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Mr. Giovanni DORIN: CEO-
 Marketing & Communication
 Business Development

Mrs. Alessandra
 Chighine : Marketing &
 Communication Executive
 - a.chighine@dorin.com

dorin@dorin.com



DORIN INNOVATION!
 103 years of mechanical engineering, ALWAYS in the hands of the same family.

Quality, modernity, sustainability, are the driving reasons for our BEING. Pioneers and still leaders in the research, study, design and production of NATURAL gas compressors, especially for CO₂ applications.

Characterized by a non-stop dedication to customer needs and a constant willingness to meet and satisfy the new demands of our customers.

10% of turnover goes to R&D, the beating heart and true corporate heritage!

The great respect for work represents us. People are the key to our success and the focus of corporate attention. DORIN's people are the resource that makes the difference that, with a product of the highest quality, allows us to be always competitive.

The pride in who we are is not part of our past – it defines our present and our future!

Innovation and Tradition, a lucid madness, which lives in DORIN since 1918, in perfect balance!

That's DORIN!

All information here at
the Virtual Trade Show!



Best under pressure: *The pressure-resistant AxiEco series.*

Victorious in the fight against ice formation, noise and energy losses.

The AxiEco series stands for high air throw, top performance values and maximum efficiency. Thanks to the innovative product design and aerodynamic optimizations, the axial fans even operate at optimum efficiency at high back pressures, making them ideal for use in ventilation, air conditioning and refrigeration technology and in mechanical engineering.

More about the AxiEco Protect and AxiEco Perform:
ebmpapst.com/axieco

ebmpapst

the engineer's choice

ebmpapst

the engineer's choice

Expo Hall : Premium

ebm-papst Mulfingen GmbH &
Co. KG
Bachmühle 2
D-74673 Mulfingen

Phone: +49 7938 81-0

Fax: +49 7938 81-110

info1@de.ebmpapst.com



www.ebmpapst.com

The AxiEco, the new axial fan series.

These are efficient, pressure-resistant and flexible plug-and-play axial fans for applications with high back pressure.

Axial fans are normally used for situations when strong air flow with relatively low back pressure is required. Axial fans from the AxiEco series from ebm-papst are also suitable for high back pressure, so that VACR devices can benefit.

Aerodynamic design increases efficiency and air throw

Optimized aerodynamics is one key element of the fan's design and are important to increase efficiency and pressure capability: the impeller with the integrated diffuser ring together with the hub form a compact unit, and the blade tips pass over straight into the integrated diffuser ring. This eliminates the head gap between the nozzle and the impeller, which also prevents air from flowing over the tips of the blades. The integrated diffuser ring increases the efficiency and the pressure characteristic, resulting in reduced exit losses and less noise.

Plug-and-play solution in accordance with the ErP Directive

The AxiEco series covers a very broad range of applications. The AxiEco Protect fan with guard grill is particularly well-suited to noise-sensitive applications, as its noise emissions are very low. By contrast, the AxiEco Perform fan

with housing is recommended in situations that require a ready-to-install fan. With air flows of up to 12,500m³/h (441,433ft³/hr) and pressures of up to nearly 500Pa, their applications range from heat pumps and evaporators to industrial applications. The new AxiEco fans EC and AC design meet the requirements of the future ErP (Energy-related Products) Directive in the EU.

About ebm-papst

The ebm-papst Group, a family-owned company in Mulfingen, Germany, is the world market leader in fans and drives. Founded in 1963, the technology leader with its core competences motor technology, electronics and aerodynamics, has set international market standards ever since. With over 20,000 products, ebm-papst offers customized, energy-efficient and intelligent solutions for virtually any ventilation and drive technology requirements.

In fiscal year 2019/20, the hidden champion achieved a turnover of €2.188 billion (US\$2.61 billion) and employed almost 15,000 people in 29 production sites (e.g. in Germany, China and the U.S.) as well as in 48 sales locations. With their fan and drive solutions, ebm-papst defines and sets the benchmark in practically all industries, such as ventilation, air-conditioning and refrigeration, heating, automotive, IT, mechanical engineering, catering and household appliances, intralogistics and medical engineering.





Lower life cycle costs with lasting reliability

When your process or product is so important, why settle for less?



Frick Compressor Packages boast the lowest life cycle costs and are innovatively engineered for reliable, long-lasting and efficient performance.

High efficiency - low life cycle costs

- Anti-friction bearings
- Variable Volume Ratio
- SuperCoalescer and SuperFilter
- PowerMizer™ for ideal Vi control with the use of economizer
- Quantum HD control with temperature protection
- Infinite capacity reduction
- Efficient, quiet and reliable motor design
- Cold start valve
- No oil pump needed (on typical high-stage application)

Reduced installation costs

- Unit-mounted or remote solid state starter
- Unit- or remote-mounted Variable Speed Drives

Real reliability

- Streamlined packaging
- PhD vibration protection
- EZ-CAL™ high-pressure cut-out
- Flanged motor mounting

More than 95% of applications use natural refrigerant

All critical components are easily accessible

New online training coming soon

We custom-engineer our solutions to lower your life cycle costs and give you real peace of mind.

For more information, visit www.johnsoncontrols.com/Frick or call 717-762-2121

The power behind your mission





Expo Hall : D-L

Phone:
+39 0437 986111

Email:
eliwell@se.com

Website:
www.eliwell.com

Eliwell has been developing and producing control systems, solutions and services for commercial and industrial refrigeration units since 1980. It's the success story of an Italian company that has been bringing made-in-Italy technological development around the world for 40 years.

In 2014, Eliwell became part of the Schneider Electric Group representing its center for excellence for HVAC&R applications. Today, Eliwell, along with Schneider Electric, is the global partner that provides efficient and sustainable solutions and services for food preservation and distribution systems dedicated to environmental comfort for integrated asset control.

Along our innovation path towards more sustainable refrigeration, we propose efficient solutions compatible with natural refrigerants for food retail and industrial applications.



Expo Hall: D-L

Eurovent
80 Bd A. Reyers Ln
1030 Brussels
Belgium

Email:
secretariat@eurovent.eu

Phone:
+32 466 90 04 01

www.eurovent.eu

Eurovent is the European Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies. Its members from throughout Europe represent more than 1.000 companies, the majority small and medium-sized manufacturers. Based on objective and verifiable data, these account for a combined annual turnover of more than €30 billion (US\$35.7 billion).

Eurovent's roots date back to 1958. Over the years, the Brussels-based organisation has become a well-respected and known stakeholder that builds bridges between the manufacturers it represents and associations, legislators, and standardisation bodies on a national, regional and international level. While Eurovent strongly supports energy-efficient and sustainable technologies, it advocates a holistic approach that also integrates health, life and work quality as well as safety aspects.

Frick[®]

INDUSTRIAL REFRIGERATION



Expo Hall: D-L

Monica Scott
Monica.scott@jci.com

+1 717-762-2121

www.johnsoncontrols.com/Frick

F RICK, the leader in industrial refrigeration, offers a full line of equipment for food and beverage applications. We have compressor packages, controls, complete packaged systems, low-charge central systems, pressure vessels, hygienic air units, evaporators, condensers and heat exchangers. We are continually evolving to assure reliability, ease of service, and the lowest life-cycle cost in the industry.

The FRICK brand is produced by Johnson Controls, a global diversified technology and industrial leader maintaining global industrial refrigeration-focused operations, and serving customers in over 150 countries.

FRICON[®]

COOLING LIFE



Expo Hall : D-L

FRIGOCON – Indústria de Frio e Congelação, S.A.
 Rua das Calçadas, 568,
 4480-492 Touguinha

Vila do Conde, Portugal

www.fricon.pt/en/

F ricon is a European main innovator in the conception, developing, production and marketing of freezing and chilling equipment. We offer several products of high quality, excellent finish, low energy consumption and customization to stand out at the point of sale.

Environmental and sustainable development are priority issues for the Fricon Group. Fricon is certified by the standard NP EN ISO 9001, reinforcing its high quality standards policy for overall customer satisfaction and expectations. We are always seeking to develop modern and innovative products. From the technical to the administrative staff, from production to the assembly teams, we have specialized personnel that work daily in quest of continuous improvement of its products, supported by the latest technology.



Expo Hall: Premium

GEA Refrigeration Germany
GmbH
Holzhauser Straße 16513509
Berlin, Germany

Tel +49 30 43592-600

info@gea.com

www.gea.com



GEA Refrigeration Technologies is a global specialist in industrial refrigeration, heating and sustainable energy solutions for a wide array of industries including, food, beverage, dairy and oil & gas. Our proven technologies provide our customers with what they value most – reliability, operating efficiency, sustainability and long equipment life cycles that reduce their total cost of ownership.

GEA provides turnkey cooling and heating installations, custom-engineered systems, compressors and compressor packages, chillers, controls and heat pumps to meet precise temperature requirements. And comprehensive service programs support our customers throughout the full life cycle of their plant and equipment to ensure peak performance.

Energy efficient & sustainable solutions

By working with each client from the earliest points in the project development process, GEA can create the most effective solution and guarantee optimal quality, using energy-efficient products in a sustainable way. We provide high-end technologies for effective maintenance of the cold chain, whatever the product. We offer tailored solutions, including:

- complete turnkey cooling installations for food and drink
- process refrigeration and gas compression solutions for the oil & gas industry
- compact refrigeration equipment for marine applications

GEA Refrigeration Technologies' emphasis is on the use of reliable,

energy-efficient design, natural refrigerants and innovative energy-reuse systems. Our solutions help to:

- reduce the carbon footprint
- combat the effects of global warming
- allow more products to reach their intended destination

In parallel with our industrial cooling solutions, GEA has developed heat pumps that are recognized as some of the best sustainable solutions worldwide. Our heat pumps are designed to capture and repurpose waste heat back into the manufacturing process, so that this valuable heat energy is not just lost to the atmosphere. By closely evaluating your ROI, you can be assured that our industrial heat pump solutions align with both your financial and environmental interests.



It's time to change

Protect our future – start using natural refrigerants

Climate-friendly, cost-effective and almost infinitely available: It's worth to think about natural refrigerants. Those who change now to natural refrigerants invest in the future. why you should change?

For more information contact our GEA refrigeration specialists or visit us at:

www.gea.com/naturalrefrigerants



gea.com/refrigeration



Expo Hall : D-L

Deutsche Gesellschaft
für Internationale
Zusammenarbeit
(GIZ) GmbH

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Germany

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F +49 61 96 79-80 1022

E proklima@giz.de

www.giz.com/proklima

Proklima is a globally active program of GIZ. We promote environmentally friendly and energy-efficient cooling technologies – Green Cooling – in developing and emerging countries. Green Cooling stands for technologies which use natural refrigerants that neither harm the climate nor the environment but possess the same or better energy efficiency.

In contributing to achieving the goals of the Montreal Protocol and the Paris Climate Convention, we act on behalf of the German Federal Government, in particular the Federal Ministry for Economic Cooperation and Development (BMZ) and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).



Expo Hall: D-L

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iir.org

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Alexandria, VA 22314

Phone: +1 703-312-4200

<https://www.iir.org>

The International Institute of Refrigeration (IIR) is an independent intergovernmental organisation. It is the only one in the world to gather scientific and technical knowledge in every sector of refrigeration.

Founded in 1908, the IIR has developed a worldwide network of leading experts. It is committed to disseminating knowledge of refrigeration to improve the quality of life for all, while respecting the environment and taking into account economic imperatives.



INSTITUT INTERNATIONAL DU FROID
INTERNATIONAL INSTITUTE OF REFRIGERATION



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The International Institute of Refrigeration (IIR) is an independent intergovernmental organisation. It is the only one in the world to gather scientific and technical knowledge in every sector of refrigeration.

Founded in 1908, the IIR has developed a worldwide network of leading experts. It is committed to disseminating knowledge of refrigeration to improve the quality of life for all, while respecting the environment and taking into account economic imperatives.



FRICON
COOLING LIFE 45 anos

www.fricon.pt

THE LATEST PLUG-IN

**PRODUCT
ENHANCER
DISPLAY**



Dan Glaab Spray Chiller

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Adnan Ayub
President/CEO

Phone: +1 817-472-9922

adnan@iso-therm.com

Isotherm specializes in the design and fabrication of heat exchangers, pressure vessels, and skid-based systems for Industrial Refrigeration, Marine Refrigeration, Heat Pumps for District Heating, Petro-Chemical and Industrial Process Applications.

Our forte is Enhanced Heat Transfer with expertise in production of advanced heat exchangers for optimum capacity. Isotherm has committed itself to introducing new concepts and technologies using the lowest refrigerant charge in the industry.

The latest revolutionary concept is our SX-Series Shell & Tube Evaporator, which uses ultra-low charge/TR. The company is headquartered in Arlington, Texas (U.S.), but sells its equipment to various clients all over the world!



Expo Hall: M-Z

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(UD) - Italy

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email:
inquiry-pocet@modine.com

We are a global company based in Racine, Wisconsin (U.S.), that has been leading the way in thermal management since 1916. We design and manufacture heat transfer products for a wide range of applications and markets. Our FY 2019 revenue was US\$2.2 billion.

Thanks to our 38 production facilities, we serve thousands of customers worldwide every day. Our mission is to bring the most advanced engineering solutions to the market, in the belief that technological improvements are the way to build a more sustainable future.

During ATMO VTS 2021 we will guide you through the latest updates in "ECO" Heat Transfer Coolers, one of the most comprehensive commercial ranges ever, which has been synonymous with quality for over 40 years



Choose the green solution

Panasonic condensing units with natural refrigerant — for convenience stores, supermarkets, gas stations and cold rooms



CO₂ natural refrigerant

R744 natural refrigerant provides higher energy saving and lower CO₂ emission compared to R404A. This natural refrigerant has a zero ODP and GWP of 1.



Superior efficiency with reliable quality

Panasonic has combined the 2-stage compressor with split cycle for increased efficiency. High seasonal performance: 3,83: SEPR Cooling* - 1,92: SEPR Freezing*.



Easy, quick and flexible installation

Set-points at medium or low temperature available depending on applications. Long piping possibility up to 100 Metres**.



Heat recovery port as renewable energy

Maximum 16,7 kW of heating for free by utilizing heat generated by refrigeration to the energy source for heating.

NOVUM

Redefining refrigeration



Expo Hall: M-Z

Mr. Ruaidhri Horan,
Global Marketing
Manager, Novum

ruaidhri.horan@novum.ie

+353 87 124 8805

For over 60 years Novum have been Redefining Refrigeration Technology for Frozen Food Retailers.

Novum's first natural refrigerant store dates as far back as 1999 – an Iceland store in the Isle of Dogs, London. In fact, we believe this was the first of its type in the whole of Europe, a true trailblazer.

We have a Relentless Goal to continuously Create Value and make a Difference for our Customers. We achieve this by:

- a. Always being at the forefront of Innovation
- b. Enabling our Partners to Future-Proof their business
- c. Partnering, Collaboration and Co-Design
- d. Providing Customer Experience Excellence
- e. Always being Accessible

We are bringing a Disruptive Technology to an ever-evolving supermarket Industry that has the Power to Change the Face of the Industry forever.

#GoNatRefs





The fastest growing global community
for sustainable cooling experts.

UPCOMING EVENTS

 **ATMO Europe Summit**
28-29 September 2021



 **ATMO America Summit**
October 2021

 **ATMO Asia 2022**
February 2022

 **ATMO LATAM 2022**
February 2022

 **ATMO VTS 2022**
March 2022



ATMO EVENTS BY NUMBERS



66
ATMO
conferences



1,800+
Speakers



15,000+
Attendees



1,700
Presentations



30
Locations
reached
* 2009-2020

More info on:

www.ATMO.org

Contact us at:

info@atmo.org

Panasonic

Expo Hall: Premium

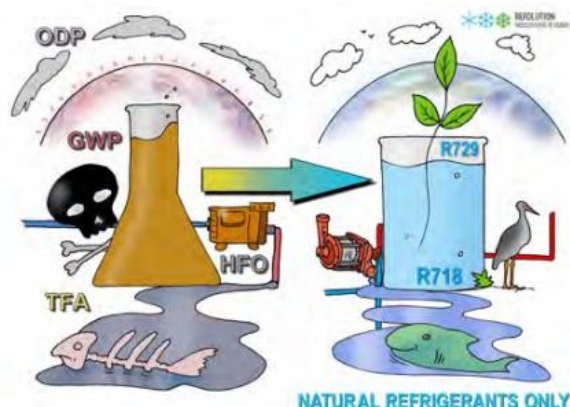
Panasonic Heating & Cooling Solutions a branche of Panasonic Marketing Europe GmbH
Hagenauer Straße 43
65203 Wiesbaden |Germany

To contact us, please visit
www.aircon.panasonic.de |
www.panasonicproclub.com

Panasonic Heating & Cooling Solutions is a market leader for heating and cooling technologies with over 60 years of experience, providing millions of distributors, installers and end users in more than 120 countries with the latest HVAC+R systems and solutions.

We provide advanced, sustainable systems, incorporating cutting edge technologies that set the standard for heating, cooling, and refrigeration worldwide. We are committed to pursuing new value through innovation, using our sustainable technologies to create a better life and a better world.



**Expo Hall: M-Z**

Refolution
Industriekälte

Thomas Frank Chief
Executive Officer
Refolution
Industriekälte GmbH

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Thomas.Frank@
refolution.de

www.refolution.de

Refolution is the engineering office for sustainable industrial refrigeration. Solutions with only natural refrigerants have proven to solve any refrigeration task more efficiently, reliably and safely for human and nature than the current Industry standard.

Additionally, Refolution has shown with its HFO report how dangerous chemicals like HFCs and HFOs are to humans and nature.

Refolution decided to set up a petition in support of using only natural refrigerants to protect humans and the environment from harmful substances. Support and share the petition: <http://chnng.it/7fSwfZRRYW>

Our products, using natural refrigerant only, include: air refrigeration -115°C cold sauna; ultra-low temperature storage, -40°C down to -160°C; gas condensing; lyophilization; dry freezing; thaw unit; plasma freezer; liquefaction; process engineering; project management; and industrial refrigeration.

SAGInoMIYA

**Expo Hall: M-Z**

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02-486 Warsaw, Poland

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M: info@saginomiya.eu

Saginomiya is a Japanese manufacturer of HVAC components delivering high-quality control parts for A/C, heat-pumps and others.

Present in the natural refrigerant market since early 2000s by contributing components for the EcoCute project for CO₂ heat pumps, Saginomiya aims to provide components that meet all the latest requirements, both functionally and from the regulatory point of view.

By having worked with major manufacturers, Saginomiya has achieved global presence and is continuously growing thanks to having established sales offices located not only in Japan, but also other Asian countries, as well as Europe and North America.

SECCOP

SUSTAINABLE
COOLING SOLUTIONS

SECCOP



Expo Hall: M-Z

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Fax:
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www.secop.com

Secop is a trusted partner for cooling solutions for high performance and sustainable stationary cooling (AC) and mobile cooling (DC) solutions for leading international commercial refrigeration markets.

With more than 25 years of experience and a proven track record in green and efficient solutions, Secop continuously improves its highly efficient hydrocarbon compressors and control solutions widely used in light commercial applications and mobile cooling units.

Our newly launched SLVE propane variable speed solution offers a greater cooling capacity and can be operated continuously inside an evaporating temperature range from -45°C (-49°F) to +10°C (50°F).

Join our webinar at 4:30 PM CET March 30.



Expo Hall: M-Z

Marc Chasserot, CEO,
marc.chasserot@shecco.com

Silvia Scaldaferrì,
Ad Coordinator,
silvia.scaldaferrì@shecco.com

Headquartered in Brussels, Belgium, shecco supports over 200 partners worldwide in the HVAC&R sector, where the focus is on sustainable refrigeration, heating and cooling technologies using natural refrigerants.

With almost 20 years in the industry, shecco offers a variety of services in three areas: 1) media, including online industry platforms and magazines 2) market development, including market research, consultancy and public affairs services; and 3) events, including international conferences and national workshops.



Expo Hall: M-Z

SWEP International,
head office:

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261 22 Landskrona,
Sweden

Phone: 46 418 40 04 00

Fax: 46 418 292 95

Email: info@swep.net

www.swep.net

A SWEP is the world's leading supplier of compact brazed plate heat exchangers (BPHEs). These products are used where heat needs to be transferred efficiently in air conditioning, refrigeration, heating, and industrial applications. SWEP is close to its customers, with representation in more than 50 countries and its own dedicated sales force in more than 20 countries.

Highly efficient production units in Sweden, USA, Malaysia, Slovakia and China enable SWEP to serve customers all over the world. SWEP is part of the global Dover Corporation, which is a multi-billion-dollar, NYSE-traded, diversified manufacturer of a wide range of proprietary products and components for industrial and commercial use.



Tecumseh



Expo Hall : M-Z

tecumsehmarketing@tecumseh.com

<http://www.tecumseh.com/en/eu/>

F ounded in 1934, Tecumseh takes pride in its history but has a sharp focus on the ever-growing needs of the future. Tecumseh leads the industry in sustainable, innovative cooling solutions with the broadest range compressors and full lineups of indoor/outdoor condensing units, unit coolers, complete refrigeration systems and value-added platforms.



Expo Hall: Premium

TEKO Refrigeration
Carl-Benz-Str. 1
63674 Albstadt
Germany

+49 (0) 6047 / 9630-0



www.teko-gmbh.com/en

Contact:

Nadine Neuberger
n.neuberger@teko-gmbh.com
+39 040 232674



ROXSTAG6

We have been successfully active in refrigeration technology for over 35 years and offer innovative refrigeration solutions for food. Based on our many years of experience in food refrigeration, we have specialized in standardized series products for various applications for the cooling of fresh goods. This includes retailing, logistics, food production and commercial refrigeration.

We offer multi-compressor systems, high-quality refrigeration components from exclusive partner companies and control electronics from Wurm Systeme, and combine this with the broad range of specialist expertise and in-depth product knowledge of our qualified and dedicated employees.

This way, TEKOs customers receive a fully

integrated package meeting the highest standards from a single source: Well-grounded solutions, reliable systems "Made in Germany," perfectly adapted components and a comprehensive control system with software packages – rounded off by suitable training courses for refrigeration companies and operators. We offer original equipment manufacturers a wide range of high-quality "just in time" refrigeration components.

Our main focus is on innovative and future-proof refrigeration systems with natural refrigerants. We have been intensively involved with the natural refrigerant CO₂ for 15 years now and already have several thousand proven CO₂ systems on the market, operated by convinced customers.

As an internationally active company, we are represented by subsidiaries and affiliates in Europe and Asia. For the Asian market, we manufacture the refrigeration units – developed and designed in Germany – locally in Bangkok, Thailand.

LOW impact on our planet.

HIGH impact on your business.

Our solutions provide natural cooling power to reduce energy costs.

Preserve the environment.

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air condensed ammonia chillers

ECOMATIK®
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VAHTERUS



Expo Hall: M-Z

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Established in 1990, Vahterus is a Finnish family business focused on sustainable heat exchanger solutions. We are the inventor, pioneer and market leader in Plate & Shell Heat Exchanger technology. With headquarters and manufacturing facilities in Finland, we currently employ more than 350 people in 10 countries. Our heat exchangers are built for the next generation: They save energy, are compact in size, always custom-made, and because of their fully welded structure, they're durable enough for even the most demanding conditions.

Vahterus has brought many innovations to the refrigeration industry and remains active in developing new solutions for the future. Our focus is on applications that use natural refrigerants, where fully welded Plate & Shell Heat Exchangers are the perfect fit.



ATMO
Virtual
Trade Show
30-31/03/2021 - GLOBAL
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Refrigerants Trade Show

Greener footprints

Brazed plate heat exchangers that combine natural refrigerants in HVAC-R applications

SWEP meets the demands in the refrigeration, air conditioning and heat pumps segments with a complete range of brazed plate heat exchangers (BPHEs) engineered to deliver the highest COP and the lowest life-cycle cost.

Our range is compatible with climate friendly natural refrigerants and optimized for environmentally friendly CO₂ systems providing energy savings, reliability and a lowered carbon footprint.

Find out more about SWEP BPHEs and our services. Visit us in our virtual booth at ATMO VTS, March 30-31.

SWEP
A DOVER COMPANY


Expo Hall: Premium

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Zudek is a constantly evolving company. Based in Trieste, Italy, since 1990, when it started with civil, industrial and naval installations maintenance, it never stopped. Today it is delivering cutting-edge ammonia-based solutions for industrial, civil and commercial applications.

To work just with natural refrigerants has always been its mission, in order to deliver environmentally friendly solutions combining efficiency and sustainability. Every year it added a piece to the innovation process, designing and manufacturing new innovative solutions, and always keeping an eye on the future.

Today Zudek delivers customised solutions, fitting customer needs and requests. Its range of products includes: water-condensed ammonia chillers, air-condensed ammonia chillers, water-ammonia absorption chillers, icy water chillers, heat pumps, ammonia abatement systems, and much more. Zudek is present in the worldwide market with highly innovative and ecological products, at very low energy costs, assuring high company returns – because when a company decides to follow Zudek philosophy for its plants, tools and maintenance, it grows quickly.

All the design and manufacturing stages are carried out at the headquarters in Trieste and all the solutions are tested by Zudek's engineers and technicians before delivery. The tele-management

system integrated in all of its solutions enables Zudek to remotely control and assist all of its customers 24/7 and to quickly intervene if needed. This is the reason why Zudek's work does not finish with the shipment of the product, but continues with maintenance.

Research is Zudek's flagship. Research is about knowledge and curiosity, dealing with others, finding new directions and constantly improving. This is how Zudek works.

Welcome to the world's largest
database on Natural Refrigerants.



sheccoBase 

Find out more
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