Cimalife Contact #10

THE EUROPEAN MAGAZINE FOR CLIMATE CONTROL SYSTEM PROFESSIONALS

A warm reception for heat transfer fluids!

IN BRIEF F-GAS SOLUTIONS APP, CLIMALIFE P/T SLIDER APP

REPORT

WHY INDUSTRIAL FIRMS ARE INCREASINGLY TURNING TO SO-CALLED ENVIRONMENTAL HEAT TRANSFER FLUIDS PRODUCTS FRIONETT® POWER ULTRA SOLRNETT EVENTS

SCHEDULE OF FAIRS, CONFERENCES, EXHIBITIONS, TRADE SHOWS

CASE STUDY Danone reduces its carbon footprint with Greenway[®] Neo heat transfer fluid p.6





PROCESS

Draining, cleaning and filling a secondary system whilst in operation

F-Gas Solutions Mobile App updated with new features

To better orient and meet the needs of F-Gas Solutions users-now reaching over 18,000-Climalife has added links to the table of solutions for each product application and each type of equipment. Taking users directly to the Climalife website (www.climalife.dehon.com), just one click away from the MSDS, technical specifications, and example applications for each given refrigerant. For installation technicians, your work just got easier



Now the trusty tool for HVAC and refrigeration professionals is available as a new app from Climalife. It provides temperature and relative or

Climalife P/T slider

absolute pressure data for all refrigerants on the market. In addition, the app details refrigerant compositions, temperature glide, boiling points and molar masses. Available in seven different languages at the end of october.

Download it to your iOS or Android device

ORRChim Solutions

Switzerland has its own refrigerant regulations. The ORRChim Solutions app lets you select refrigerants compliant with Appendix 2.10 of the Swiss chemical risk management ordinance and gives you instant access to information on current legislation. Soon to be available in French, Italian, and German for iOS and Android devices

A warm reception for heat transfer fluids

eat transfer fluids are becoming a clear choice for industrial firms on the lookout for innovative, environmental solutions.

Policies put in place over the last decades to reduce

carbon footprint have proven successful. They are driving an ever growing demand for our refrigeration and air conditioning products and services. In addition, the advent of hybrid heat pumps (paired with condensing boilers) and the rise of solar thermal energy is firing heating sector interest in heat transfer fluids.

The main factors behind industry adoption of heat transfer fluids are the focus of this

summary

Editorial

News in brief

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P.9 - Thermera® R gives green light to environmental protection

issue of Climalife Contact, which also presents examples that illustrate how firms are seeking to combine performance with sustainable development. Use of plant-origin heat transfer fluids is also expanding, and this is also consistent with an environmental approach. In some cases, their lower viscosity translates into energy savings.

Would you like to find out more about Climalife heat transfer fluids and our latest products? Look no further. And as you browse this issue, enjoy the new clearer layout.

Happy reading!

Delphine Martin European Marketing & Communication Manager

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ENVIRONMENTAL HEAT TRANSFER FLUIDS





Interview with Gérard Abidh, Climalife R & D Manager

Can you briefly explain why you have developed environmental heat transfer fluids? configuration offers several advantages:- smaller G.A.: We're always scanning the horizon for breakvolume of refrigerant- less risk of leakage and throughs and studying the relevant academic literareduced direct impact on the environment- wider ture and publications to stay informed. The synergy range of refrigerants and improved safety for use of hazardous-that is, flammable or toxic fluids-easier between Dehon business lines and the information gathered in the field have led us to focus on operating procedures and facility conversion. freedom from fossil fuels, which are the basis of At the same time, the International Organisation standard heat transfer fluids. The first advance in for Standardisation released guidelines that help this area dates back fifteen years. That is when we organisations adopt proactive approaches to envilaunched betaine-based Thermera -15°C and -35°C ronmental and energy management, with ISO 14000 in Northern Europe, where people were more enviand 50001 respectively. Today an awareness of the ronmentally aware than those in other regions at the need to protect the environment is essential to the time. Thermera fits the bill for standard refrigeration industrial processes that drive economic growth. and HVAC applications, but we couldn't expand its range of use to meet growing market demands. Do environmental heat transfer fluids hold So we carried on with our research, and with the promise for other sectors? development of our bio based 1.3-propanediol G.A.: As I touched on earlier, our new bio based formulation, we had a plant-origin renewable raw 1,3-propanediol formulation allowed us to extend the range of use for environmental heat transfer material that met our needs.

Why are industries more and more eager to use these new heat transfer fluids for their refrigeration processes?

G.A.: There are three major reasons for this attraction to environmental products: the environmental situation, the socio-economic context, and the standards and regulations adopted over the last few years.

Could you elaborate on that point?

G.A.: More stringent regulations provided a strong onus for industrial firms to draft company sustainable development policies. The refrigeration industry was also rocked by directives on the use of refrigerants that were enacted after adoption of the Montreal and Kyoto Protocols. Firms began implementing indirect cooling systems that relegated cold production equipment to the machine room and used heat transfer fluids to transport the resultant cooling

Ultra / SolRnett

capacity to cold points where it was needed. This

fluids, opening doors to new industrial applications. For the cooling industry, a non-toxic heat transfer fluid with low viscosity for use at -55°C means greater energy efficiency. It is also an attractive solution for food processing industry activities. We are also dedicating more research effort to the development of a heat transfer fluid that meets the requirements of solar thermal equipment manufacturers. It must be stable at temperatures up to 200°C, protect equipment from damage by freezing, and prevent corrosion.

Furthermore, we offer a plant-origin heat transfer fluid with organic corrosion inhibitors and bacteriostatic properties that has been certified by the French Health ministry for use in single-exchange heat treatment of water for human consumption. This puts us at the forefront of the transition to environmentally friendly, energy-efficient processes.

Example of Greenway® Neo heat transfer fluid: the technological and environmentally friendly alternative!

A plant-based product

The Greenway® Neo heat transfer fluid is formulated based on raw material used, 1,3-Propanediol, produced by fermentation of natural, 99.7% purified glucose syrup.

Reducing the environmental impact

The analysis of the Greenway® Neo life cycle (cradle to gate scope), performed by SGS according to the standards ISO 14040 and ISO 14044, showed that Greenway® -30°C has a lower impact than MPG -30°C according to 5 indicators. For example, we observed that its impact on damage to the ozone laver is almost nil and that Greenway® Solar has a lesser influence on climate change.

Minimising the environmental footprint

Greenway® Neo's environmental footprint is reduced by 40% in terms of CO, emissions and energy use is lower compared with a traditional mono propylene glycol heat transfer fluid derived from oil production.

An optimal performance

With thermal characteristics and techniques, Greenway® Neo combines both performance and energy efficiency for refrigeration and air conditioning. At very low temperatures in particular, Greenway® Neo heat transfer fluid allows for savings in the system design and during operation.

PRODUCTION OF BIO-BASED 1.3-PROPANEDIOL



ENERGY AND ENVIRONMENTAL FOOTPRINT COMPARISON



Savings on installation

• The viscosity of Greenway® Neo is lower compared to MPG, especially at very low temperatures, and to smaller pumps and reduced pipe diameters.

Kinematic viscosity



 Greenway[®] Neo facilitates reduced pressure losses of up to 30% compared to MPG, especially enables savings while designing the facility thanks at very low temperatures and enables energy savings in use

Savings on operation

Pressure loss

9000

8000

7000

6000

5000

4000

3000

2000

• The flow volume of Greenway® Neo at constant heat transferred is lower than with MEG or MPG based HTF and allows you in some cases to reduce the diameter of the pipes or reduce the pumping speed.

Flow volume



- Greenway[®] Neo HTF — HTF based on MPG*

- HTF based on MEG*

DUSTRIAL COOLING - FOOD STORA XPO / Albert Heijn Shared Fresh Center orders 98,000 l of Temper heat transfer fluid

As refrigeration equipment specialists, Climalife and Voets & Donkers have worked together on many different projects, from a simple farm installation consisting of a single cold room to a colossa installation at the distribution centre of a multinational. The Albert Heijn Shared Fresh Center at Nieuwegein, in the Netherlands, was a major undertaking. New, innovative and very big.

Background

Netherland's largest fresh product distribution centre sprawls over 42 000 m². This project was a titanic task for all parties involved. The construction comair temperature at the Shared Fresh Center within a constant range of 0-2°C.

Considering the large volume of logistic operations conducted at the site on a daily basis, it was not an easy task. The movements of personnel and forklifts, plus the presence of parked lorries, are just a few factors that can affect air conditions at the site. The very limited ceiling space posed another challenge and meant that standard cooing systems could not be installed.

Voets & Donkers and Climalife partner up

Voets & Donkers-a dynamic, innovative, thriving company that specialise in the development, design, and production of refrigeration and HVAC facilitiesdecided to take on the project and draw up the 3D technical plans. Early on in the design phase, Director Marc Voets contacted Climalife Sales Director John Fischer for information on possible solutions. After studying the problem, Climalife recommended an indirect cooling system using NH3 as its refrigerant and Temper -20 heat transfer fluid to distribute cooling capacity.

The client chose Climalife because of the productive relationship between the two companies over the years and the generous guidance Climalife offered for the new project. While other suppliers offered pany Pleijsier Bouw first contacted Voets & Donkers products alone, Climalife acted as a true partner in January 2014 looking for a solution to maintain providing the client with assistance and advice throughout the project.

Settling on an environmental solution

A cooling installation must of course be not only efficient but sustainable. To achieve this, EC variable-speed fans were installed: they slow down for spring, autumn, and winter temperatures, but speed up when the mercury rises. This equates to a major reduction in energy consumption. Over 1,000 such fans were installed. This project also opted to exclusively use natural products. We thus decided on NH₂-that is, ammonia-as the refrigerant and Temper-Climalife's saline solution-as the heat transfer fluid. Temper is a ready-to-use, non toxic heat transfer fluid made with potassium acetate and formate that has a low viscosity and biodegrades well.

used for the site's cooling system.

Pump pov

Number of

Fans

VOETS & DONKERS



Business: Design of refrigeration and air conditioning systems for food processing, pharmaceutical, and dairy industries

Location: Schijndel, Netherlands

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Temper also contains innovative corrosion inhibitors that durably protect circuits. All told, 98,000 I of Temper offering protection down to -20°C was

Success

• A durable solution for a large project

The brand-new distribution centre has already opened its doors, and Voets & Donkers and Climalife are proud of their contribution. The teamwork and sustainable choices that characterised this vast, demanding and instructive project are sources of great satisfaction for both companies.



experience

Marc Voets Director Voets & Donkers

"We proved that with the full commitment of all parties involved it is possible to tackle projects of this size,"

Project	XPO/AH Shared Fresh Center in Nieuwegein
	40,000 m ³
e	0 – 2 °C
	Ammonia: 2 × 500 kg
er fluid	Temper -20: 98,000 l
pacity	2.8 MW
ut	4×250 kW (frequency regulation)
er	3×75 kW (frequency regulation, 50% redundancy)
coolers	201
	1,042 EC variable-speed motors

INDUSTRIAL REFRIGERATION | FOOD PRODUCTION INDUSTRY

Choice

trust in MCI

equipment.

and so on.

Blédina puts its

A specialist in refrigeration,

climate control engineering

MCI has been supporting its

customers for over 60 years in the design, installation and maintenance of their

and energy performance,

With its 46 branches and

offices located throughout

France, MCI offers a wide

customers' needs in terms

of energy performance,

monitoring, regulations,

range of solutions and services tailored to its

INDUSTRIAL REFRIGERATION

Danone reduces its carbon footprint with Greenway[®] Neo heat transfer fluid

WITH AN AIM TO REDUCE ENERGY CONSUMPTION AND ENVIRONMENTAL IMPACT. THE BLÉDINA PLANT: PART OF THE DANONE GROUP. PUT ITS TRUST IN MCI AND ONE OF CLIMALIFE'S LATEST INNOVATIONS.



he Danone group is a global leader in the food industry. Climate change is having a significant impact on the natural cycles that influence the food system. The group has both a responsibility and a vested interest in contributing to the fight against climate change, by helping to establish a "carbon-free" economy.

To achieve this, Danone measures its "carbon footprint" across its entire value chain. In other words, at its own level (logistics operations, packaging, etc.) and that of its suppliers (agricultural holdings, etc.), but also for consumers and local communities.

Frédéric Lebas, Director of the Blédina site in Brivela-Gaillarde in the south-west of France, advises us that the group has set itself a mission "to bring health through food to as many people as possible". He explains "We are committed to achieving longterm zero net carbon through solutions co-created with our partners".

Blédina wishes to adopt the same approach for the replacement of their refrigeration systems that run on R-22, choosing CO, for sub-zero refrigeration and a cooling unit for above-zero refrigeration, a solution proposed by the MCI installation engineer.



the production and marketing of fresh dairy products, water, early life nutrition and medical nutrition.

Present in over 130 markets. Danone's turnover in 2014 was 21.1 billion euros, and the group has a portfolio of international brands (Activia, Actimel, Danette, Danino, Danio, Evian, Volvic, Nutrilon/Aptamil, Nutricia) and local brands (Prostokvashino, Aqua, Bonafont, Mizone, Blédina, Cow & Gate, Dumex).







"There is no hazard symbol on the Greenway Neo[®] label[®]

When replacing the refrigeration system on the Brive-la-Gaillarde site, Nicolas Tomaz, a Project Manager at Blédina, looked for a fluid that could contribute to reducing the site's carbon footprint. He approached Climalife, who he knew to be a producer of heat transfer fluids based on natural and renewable raw materials. After analysis of the customer's requirements, and relying on its expertise in the field of heat transfer fluids, Climalife recommended the use of Greenway[®] Neo and contacted MCI for zero cold storage room (-20°C), MCI and Blédina technical data.

Another advantage of Greenway® Neo is that it is highly biodegradable, with very little impact on the to replace R-22 with the most environmentallyfriendly and energy-efficient fluids". All products with strict specifications. The use of Greenway® Neo was immediately approved and authorised by the quality department, who observed that "the safety data sheet shows no hazard warning or 127 kW at -18°C. symbol on the label".

Bevond the choice of heat transfer fluid. a complete technical solution

Charles Fernandez is "Energy and General Services Manager" at Blédina. He recalls that "The Danone specifications were extremely demanding", in com-

pliance with the ISO 14 001 and 50 001 standards (environmental management system and energy management system).

and its ODP of 0.

Above-zero cooling was carried out using a Trane environment. Nicolas Tomaz explains "Our goal was unit running on R-134a, with a power capacity of 268 kW at -6°C and a Greenwav® Neo secondary refrigerant circuit, with heat recovery from the conentering the Brive site are inspected in accordance densation from this unit. The heat recovery produces hot water for defrosting at +30°C. This chiller also ensures sub-zero circuit condensation through a cooling unit using CO₂, with a power capacity of

> They also worked on the variable hydraulic distribution flow rate, chose Belimo self-regulating valves and a speed variation on compressors, ventilation and pumps. Finally, instrumentation and complete supervision enabling the system's COP and consumption to be monitored were implemented.

1950

Date created

Business: Commercial and

climate control engineering and energy performance.

industrial refrigeration,



Specialism: Energy mangement solutions.

*Separation from the Johnson Controls Group in October 2013

MCI IN BRIEF:

blédina

Greenway® Neo A reduction in pressure loss



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For his part, Xavier Mercusot, sales manager at MCI, was proud to have been able to provide technical solutions to meet his customer's performance, innovation and environmental requirements, "while respecting tight deadline constraints".

To replace the R-22 cooling units, which cooled the above-zero cold rooms (+2/+4°C) and (-4°C) a subchose Greenway® Neo and CO, for its GWP of 1

Solution

Greenway® Neo, the durable alternative

experience



Nicolas Tomaz. Project Manager at Bledina

One other aspect played a significant role. "We also chose Greenway® Neo for its performance as a heat transfer fluid", recalls Nicolas Tomaz.

Due to Greenway®'s low viscosity, the site opted for smaller KSB pumps, thereby enabling significant energy savings:

"A reduction in pressure loss of almost 30%, which is impressive".

Nicolas Tomaz explained that "this was an excellent surprise, and as a customer. we are delighted".

More info on:

climalife.dehon.com/ secondary-refrigerantfluids

From left to right: Fréderic Lebas, Blédina Plant Director Christophe Morote, Climalife Business Director • Stéphane Deflandre, Blédina Maintenance and New Works Manager • Xavier Mercusot, MCI Sales Manager • Charles Fernandes, Blédina Energy and General Services Manager • Nicolas Tomaz, Blédina Maintenance and New Works Technician • Daniel Dias, Climalife Key Account Manager.

Improve your solar system's sustainability. Let the sun shine in!



climalife

www.climalife.dehon.com

SolRnett to heal:

- Ready-to-use internal cleaner
- Eliminates deposits of highly degraded Heat Transfer Fluids
- Re-establishes flow efficiently even at 20°C

Greenway[®] Solar to prevent:

- HTF 100% based on a renewable vegetable source
- Expansion and degradation 3 times lower at 150°C vs monopropylene glycol
- Approved by French Health Ministry



Thermera[®] R gives green light to environmental protection

THE ENVIRONMENTAL IMPACT OF MOTOR VEHICLES BEGINS WITH THE DEVELOPMENT AND MANUFACTURE OF PARTS, LONG BEFORE THEY **ARE DRIVEN.** THERMERA® R IS AN ENVIRONMENTALLY-FRIENDLY HEAT TRANSFER FLUID, AND ITS USE DURING THE PRODUCTION PROCESS IMPROVES THE ENVIRONMENTAL FOOTPRINT OF MANUFACTURERS.

major German car manufacturer decided to minimise the environmental impact of Lits vehicle production process by using a heat transfer fluid produced by an environmentally-friendly process in the main cooling circuit that cools the test chamber facility for its vehicles. After searching for an appropriate, sustainable product, the manufacturer chose a fluid made from natural raw materials: Thermera® R, a heat transfer fluid from Climalife

INDUSTRIAL COOLING | AUTOMOTIVE PRODUCTION

With specific requirements, the manufacturer contacted SIEGLE + EPPLE GmbH & Co. KG. a specialist in ventilation and climate control for over 94 years, based in Stuttgart, Germany. SIEGLE + EPPLE offer unique custom solutions and can completely redesign facilities and buildings. The company offers a variety of services that are easily adapted to their client's needs. With two factories and seven branches in Germany, the family-owned business SIEGLE + EPPLE is built on the principles of sustainable development, durability, and flexibility.

When the facility was designed, the teams focused on cold energy transmission, which requires a lot of energy. The facility includes primary and secondary circuits. The secondary closed circuit is used for free cooling the test chamber to outside temperatures of 9°C (at which point the refrigeration machines become inactive). During the summer when temperatures are higher, the refrigeration machines in use are cooled by the secondary circuit.

The new refrigeration facility is made up primarily of 6 cooling units in a closed circuit which, with the heat exchanger set to 32/27°C (entry/exit) and a rate of 350 m³/h each, produce approximately 1,500 kW of energy. Three main 1000 m³/h pumps help Thermera® R circulate in stainless steel piping with a nominal diameter (DN) of 500. These pipes supply three plate heat exchangers capable of providing 4,500 kW per unit.

The facility has a volume of 63,000 litres. The main difficulty was filling the facility, which is 30m high, using tankers. To tackle that challenge, they connected 14 high-pressure hoses, each 6 meters long, to a pump with a discharge pressure of around 7 bar. It took 1.5 days to fill the facility.

When the facility was full, the team once again checked the antifreeze and pumped the fluid through the circuit several times with the main pumps in order to remove any air that might be present. Since it was put into operation in August 2015, the facility has been functioning perfectly.

SIEGLE + EPPLE GMBH & CO. KG



Work: Installation Design and Build

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Thanks to both the physical characteristics and the environmentally-friendly nature of the betaine-based Thermera® heat transfer fluid, all the requirements and wishes of the car manufacturer were met.

Solution

Thermera[®], betaine-based heat transfer fluid

The non-toxic product, which is derived from sugar beet, has excellent corrosion-resistant properties. It is environmentally friendly and does not have to be diluted. Two ready-to-use versions are available: Thermera® R (-35 °C) and Thermera® AC (-15°C). Because Thermera® provides excellent thermal and microbiological stability and requires few inhibitors, its lifetime capability is just as good or even better than that of some traditional fluids.

For the car manufacturer, Thermera® R coolant is an ideal solution since it unites production and environmentalism and improves their environmental footprint.







board a dive support vessel

AIR CONDITIONING

Solution

Solution

The Climalife

Gary Welch, owner of

Welch Refrigeration,

consulted with Climalife,

his refrigerant supplier, to

find out if there was anv-

thing that could clean the

system internally, or if it

was going to be a case of

fitting new equipment. If

the latter, their customer

was concerned about the

suitable Climalife products

and his customer agreed

Desoxydant P: An acid

and de-oxidising metallic

surfaces in refrigeration

• Dispersant D: Eliminates

encrusted silt usually used

in heat transfer systems.

metallic oxides and

detergent for descaling

cost of new equipment.

Gary suggested two

to give them a go:

systems

AIR CONDITIONING | TERTIARY

Bacterial cleaning power of Frionett[®] - the clear choice for London hotel



flushing with Desoxydant P

Dispersant D and Desoxydant P used

"in transit" to clean A/C system on

Stal-Levin packaged unit during cleaning

Context

Welch Refrigeration have worked in the Marine Refrigeration and Air Conditioning industry for many years and traveled the world with their reputation to repair existing systems whilst in transit, or when required have, however Welch refrigeration utilised an interwhile the vessels are in dock.

One such ship, a dive support vessel, was heading for the Tropics and then on to Australia. It had been working for some 25 years in the North Sea and was fitted with a Stal-Levin packaged water chiller. Whilst working in the North Sea, there was never a need to run all three AC systems on board so they had run only two. The heat transfer fluid in the system had leaked into an unused refrigeration system and had been left for a number of years, so Once serviced, they were then able to re-instate the unsurprisingly, the internals of the system had cor- valve. roded badly and there was evidence of encrusted material. The vessel would need this third system running before entering the warmer climates of the Tropics and once in Australia would be required by their law to keep crew and workers at a consistent temperature.

The work

Gary Welch joined the ship when it docked at Peterhead and worked on the refrigeration system during cleaned was for a badly corroded refrigerant circuit. its voyage to Singapore. The system pipework was isolated and Desoxydant P was used first. Having consulted the product data sheet before use

and then diluting the product, the following pictures show the amount of sludge and encrusted material that was dislodged.

The system was then flushed with Dispersant D resulting in the amounts of solid type material, also shown in the pictures. Generally it is difficult to see what effect some of these cleaning chemicals can nal camera that showed the amount of rust before and after on one particular pipe. Although the photos are a little blurred the effect can still be seen.

One particular part of the system that caused Welch Refrigeration a problem was the discharge stop valve, which had rusted solid. The valve was soaked in Desoxydant P for approximately 24 hours; the chemical effect of which can be seen in the before and after photos in this case study.

Conclusion

The cleaned system returned to a fully functional state and was back in service in time for the ship to enter the Tropics ready to provide the air conditioning required.

Please note: These products are generally used in Heat Transfer Fluid systems, but the system to be After cleaning, the system was dried out completely and put onto a complete vacuum before re-introducing refrigerant.





Context

David Blakey Services Ltd, also known as DBS Services, have been in business since 1999 and consider themselves to be one of the finest specialist air conditioning, heating and refrigeration companies in the South East.

DBS Services recently gained the service contract with a hotel in Mayfair, London and were called in to look at its air conditioning systems. The roof had no local water supply which meant that the chillers had not been cleaned for guite some time and were tripping out at high ambient temperatures. There were also a number of evaporators in the rooms that **Customer satisfaction** were found to be badly blocked.

Microbial growth

Air conditioning systems such as these can provide perfect conditions for microbial growth. Moisture, darkness and warmth are three key ingredients for microbial growth and these naturally occurring contaminants use the moisture present in air conditioning systems as a breeding ground.

This growth is accelerated when warmth is added, where fungi and bacteria can colonise and sometime proliferate to become harmful concentrations.

Frionett® Cleaning Solutions

DBS selected the Frionett® range of high performance cleaning products from Climalife to address the problems at the hotel*. These products, approved to EU standards, can act as effective treatment against fungi, mould, algae and bacteria, including Legionella, Salmonella and Listeria. On the hotel roof, the engineer from DBS stripped

out the fan motors and sprayed the coils with Frionett[®] Power^{**}, a general purpose cleaner for external units.

DBS then also ran a temporary water supply to rinse off the dirt and debris until the water ran clear. Frionett[®] Power has the potential to increase plant efficiency by up to 30%. DBS were very pleased with the results. The badly blocked evaporator units

in the hotel rooms were completely stripped down and cleaned with Frionett[®] Activ Foam.

eliminate bacteria and algae. the results were excellent.

The bacterial cleaning properties of Frionett®, were particularly well regarded by the hotel chain who were very satisfied with the results. John Herbert. Service Manager at DBS Services, said "The results from using Frionett were far better than anticipated. Our customer was very happy and has requested that this become part of the regular maintenance schedule." DBS are also now using Frionett® as a standard on all their service engineers vans.

Conclusions

To prevent health risks, odours, blockages or corrosion, microbial growth must be controlled before it becomes a problem. It's recommended that appropriate cleaning forms part of a regular service and maintenance schedule - ideally every three to six months, depending on the system. Growth and spread of micro-organisms can be quickly and simply minimised. The lasting protection provided through appropriate cleaning can offer peace of mind to contractors, facilities managers and end users who are all responsible for ensuring hygienic operation of systems. System efficiencies will also be optimised, with a reduced likelihood of breakdowns and call outs between servicing.

**Climalife have just launched a new improved formula called Frionett[®] Power Ultra – now with enhanced decreasing power!





Encrusted material removed Solidified discharge valve



Internal Camera showing rust deposits

After



cleaning



Condenser on roof after cleaning

After first clean of surge drum

Frionett[®] Activ Foam* is a powerful cleaner intended for indoor air conditioning units and formulated to

It cleans, degreases and removes foul odours from air conditioning (wall and ceiling units) and refrigeration equipment (evaporators). Unlike some cleaners that can leave a chemical smell after use, Frionett® Active Foam has a pleasant fresh fragrance. It's clear to see

Choice

Frionett[®] Power* is an alkaline product, that's intended for the professional cleaning of refrigeration and air conditioning equipment. It's cleaning and degreasing power eliminates dust, grease and other dirt on condensers.

* Frionett[®] cleaning products were used in conjunction with auidance in their respective Product and Safety Data Sheets.







Internal unit before cleaning



Internal unit after cleaning



Climalife expertise helps with environmental engineering tasks:

DRAINING. CLEANING AND FILLING A SECONDARY SYSTEM WHILST IN **OPERATION**

limalife staff worked in partnership with **A custom turnkey solution** tem in a data centre using five cubic metres of new continuously. "I needed a solution where produc-Greenway® Neo coolant.

latest generation servers and telecoms equipment malife staff. Together, they met the challenge and that produce a significant amount of heat (approxi- solved this particular problem. "In order to refurbish, mately 99% of the energy consumed, powers opti- optimise and give the installation a long life, we firstly cal lasers). To ensure that this equipment operates recommended remedial cleaning with Thermonett, correctly, it is essential that rooms are cooled accu- followed by a complete draining of the system and rately, reliably and continuously.

two 170 kW Climaveneta cooling units in the roof, weather conditions, while taking constraints on the providing cooling. The rooms are cooled by a sec- customer into consideration, " explained Adem Oulebondary system which supplies an air treatment unit, sir, Climalife's key account manager. five chambers and twelve convector fans. Heat is "Having the Climalife service team involved allowed us exchanged between the two loops via a 2000 litre to benefit from their technical expertise in fluids and mixing vessel.

for the site, decided to have the systems cleaned etc.). They also ensured that our waste recovery manand to replace the ice water. Analysis of the glycol agement complied with operational and administrarevealed the presence of scale, corrosion and a -4°C tive restrictions." protection level which would be inadequate for freez- The operation was carried out successfully in two ing protection and correct operation of the installation. days, using the procedure detailed opposite.

Dalkia, an energy services specialist in Since the data centre's servers run 24 hours a day, France, to recondition a secondary sys- the cooling system also has to remain stable and run tion wasn't stopped at all and that's why I went to Climalife," says Noël. Dalkia, the site maintenance Situated in the Loire Valley, the data centre houses sub-contractor, was then assigned to work with Clifinally reconditioning with Greenway Neo. This will To meet these requirements, the data centre has achieve a level of protection appropriate to winter

methods dedicated to efficient recovery (having IBCs Noël T., the operations and maintenance manager at hand, a recovery unit, pump, connectors, hoses,

PROCESS





Svstem cleaning

The system is cleaned before it is re-conditioned. The Dalkia team inject a 1% dilution of Thermonett® sludge remover, supplied by Climalife. Thermonett® is a non-oxidising product, that eliminates deposits, metal oxides and sludge formed in the system. The product remains in circulation in the glycol system for four weeks

2 Draining

B Reconditioning the installation

For a more environmental approach, instead of using a conventional, petroleum-based fluid, Climalife suggested a plantbased coolant based on 1-3 propanediol: concentrated Greenway® Neo. This plant-based product will protect the system from freezing and corrosion. It is bacteriostatic and also prevents the formation of sludge in systems. To ensure protection at -19°C, a 42% solution of Greenway® Neo is used.

A Recovery and waste processing

10 cubic metres of cleaning water was recovered in IBCs and will be processed to remove the used product, in compliance with current regulations. Used coolants are classed as hazardous substances (Environment Code, appendix II of article 541-8). They must be recovered and disposed of (directive no. 75-442-EEC) and must be accompanied by a compliant waste document when transported (order 04/01/1985).





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Climalife drain and flush the system. To avoid interrupting the operation of the installation, technicians drain the cleaning water while injecting mains water into the system. It is necessary to ensure that the pressure is maintained above 1 bar by balancing the speed of the water added against that being drained out: "The chiller units should not detect any difference in pressure, so they do not suddenly stop and go into safe mode," says Noël T. The cleaning water is recovered in IBCs and analysed as work proceeds. When 0°C freezing protection and a pH of 7 is achieved, the system is ready to be charged with Greenway® Neo.

Solution

Thermonett[®] Sludge Remover and Greenway® Neo

"What I liked about your company was that you gave me a solution for replacement under load, using a new, green, and more efficient product. It was a little more expensive, but it has a longer service life. So it's cost-effective." Noël T., project manager. '





FRIONETT® POWER ULTRA: new powerful universal cleaner!



Refrigeration • Air Conditioning • Commercial kitchens

Frionett[®] Power Ultra is an alkaline, non-corrosive product for the external cleaning of condensers, evaporators, fans, finned coils and more.

Its cleansing and degreasing power eliminates dust, grease and other dirt, and in this way makes it possible to optimise the exchangers' heat transfer and restore performance. Frionett[®] Power Ultra is available in a 750 ml ready to use spray or as a concentrate to be diluted, in a 5 I can.

PERFORMANCE

Optimised heat transfer

- Extend the life of the plant
- Reduced energy consumption
- Reduced operational costs

ADVANTAGES

- Highest cleaning and grease removing power
- Strong wetting: dissolves and absorbs all the dirt • Light fragrance
- Non-corrosive in accordance with applicable regulations
- Tested by refrigeration and air conditioning professionals

Cleaning the condenser





CLEANING

SOLRNETT: the tar remover for solar circuits!

The successful operation of a solar thermal system is linked to keeping the internal circuit clean. To help avoid the problem of solar thermal systems overheating, Climalife has specially developed an effective internal cleaner that can remove tar and other decomposition products in solar circuits caused by "caramelisation" of degraded heat transfer fluid (HTF).

SolRnett is a ready to use product based on organic solvents and alkaline agents. Available in a 20 I can or 210 I drum, it dissolves and removes deposits and blockages caused by the degradation of the heat transfer fluid. This degradation may be due to the exposure of the heat transfer fluid to high temperatures, where breakdown of the heat transfer fluid can cause a build up of a tar like substance on the inner surface of the pipe-work which can lead to reduced flow rates and eventually a blockage.

SolRnett should be used in closed circuits, only after the heat transfer fluid has been completely drained from the solar system. The heat transfer fluid should be drained from the lowest point on the system.



SolRnett restores circulation and avoids replacement of the solar collectors.

SolRnett is compatible with a wide range of metals, plastics and elastomers. (Consult the technical data sheet).

solrnett



United Kingdom **28 SEPTEMBER 2016** RAC Cooling Industry Awards 2016



The Refrigeration Industry awards ceremony organised by RAC will be held on 28 September 2016 at the London Hilton Hotel on Park Lane, London.

Now in its 12th year, the RAC Cooling Industry Awards champions leading innovations and environmental successes in the UK refrigeration and air conditioning industry.

The Climalife team are looking forward to meeting up with friends and colleagues from across the industry!

France

1 APRIL TO 31 DECEMBER 2016 **GREENSTAR TROPHY**

Stal

information!

Faced with regulatory and environmental developments Climalife (part of the Dehon Group) has relaunched its Greenstar trophy. From 1 April to 31 December 2016, installers are invited to convert refrigeration systems charged with R- 404A or R- 507A with a substitution fluid GWP less than 2000. The best retrofitters win a trip! Contact Clima

Hungary 23 TO 25 NOVEMBER 2016 ANNUAL CONFERENCE

The Hungarian Association of refrigeration and air conditioning will hold its annual conference from 23 to 25 November 2016 in the Visegrád Hotel Resort & Spa.

Climalife will have a stand and run

some technical presentations.

Netherlands

3 NOVEMBER 2016 Together... to get there



The 1st Together... to get there conference will be held on 3 November 2016 at the ICDuBo (Innovation Centre for Sustainable Building), in Rotterdam, Netherlands. Together... to get there is the event of 2016 for specialists in cooling and air conditioning. Each of the partners involved in Together... to get there will cover different areas of knowledge and expertise, complementing each other to deliver an exciting program! Climalife will participate, with John Fischer presenting the latest low environmental impact solutions.

International - USA 30 JANUARY TO 1 FEBRUARY 2017 AHR EXPO held in Las Vegas

2017**AHR** EXPO 2017

Galco will be exhibiting at AHR EXPO 2017. This international trade show brings together companies operating in this sector. More than 2000 exhibitors will be present from 30 January to 1 February 2017 at the Convention Center, Las Vegas.

The Climalife Galco team look forward to meeting you at Stand C4437.

Ask now for your invitation.



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Meet a Chillventa and learn about new technical fluids!

International - Germany 11 TO 13 OCTOBER 2016 CHILLVENTA

CHILLVENTA

Refrigeration | AC & Ventilation | Heat Pumps

Chillventa, the international exhibition for refrigeration, air conditioning, ventilation and heat pumps will take place from 11 to 13 October 2016 at the Nuremberg Exhibition Centre.

The Climalife team invite you to visit their stand number 516 in Hall 7, to discover low GWP solutions, namely:

• F-Gas certified HFO / HFCs, including one of the latest alternatives to R-404A , Solstice* L40X, with a GWP of 148 for the self-contained, condensing units and hermetically sealed systems at low temperatures.

• Presenting the full "green" heattransfer fluid range; Greenway* Neo, with its operating range from -55°C to + 200°C helping to reduce environmental impact.

 New refrigerant oil Mobil SHC Gargoyle 80 POE dedicated to CO., systems.

Don't forget to sign up for our interactive technical conference taking place at the exhibition on Wednesday 12 October from 11:00 until 13:30 in the Kiev Room

On the agenda:

• New HFC/HFO refrigerants Choosing the right fluid for the job. Managing refrigerant deployment (temperature glide, overheating, discharge temperature, COP, etc.)

 Innovation to improve lubrication of CO, and HFO compressors

Selecting the best oil and viscosity.

• Indirect systems: an alternative solution for F-Gas compliance

Climalife Contact

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Follow the **Greenway® Neo**, the technological and environmentally friendly alternative



Greenway[®] Neo: The plant-based secondary refrigerant for refrigeration and air conditioning

- Improves system performance and increases its lifetime
- The only secondary refrigerant approved for temperatures as low as -50°C with a lower viscosity than MPG

Reduced environmental footprint, ideal for ISO 14000 / ISO 2200 certified companies

