

WAGNER® 

Impulse

The WAGNER Group GmbH customer magazine

ANNIVERSARY ISSUE



»» **Our technology is even providing safety in outer space, on the ISS.**

Werner Wagner

Managing Director, WAGNER Group GmbH

YEARS OF WAGNER

LEAD ARTICLE:

**FIELD REPORT
FUCHS LUBRITECH**

Hazardous materials warehouse reliably protected against fires

**INTERVIEW WITH COMPANY
FOUNDER WERNER WAGNER**

"We can protect things that are irreplaceable."

**FirExting® COMPACT:
SLEEK AND EFFECTIVE**

Fire suppression using compact extinguishing systems

8 Nitrogen, naturally!



10 Lead Article: Interview with Werner Wagner



20 Maximum protection thanks to active fire prevention



4 Vision, fighting spirit, and a strong family
Werner Wagner honoured as family business owner of the year

5 WAGNER continues to grow

6 Nitrogen, naturally!
Minimise damage proactively with OxyReduct®

8 Case study: Globalways AG
Intelligent fire prevention with no down time

9 Comprehensive fire protection
OxyReduct® protects supercomputer

10 **Lead Article**
Interview with company founder
Werner Wagner (70):
"We can protect things that are irreplaceable. Our mission is to keep carving new paths as we do so."

12 WAGNER milestones
Always one idea ahead, for the past 40 years

16 Case study: Fuchs Lubritech Hazardous materials warehouse reliably protected against fires

17 Background: Fire protection in tank and hazardous materials storage



- 18 FirExting® Compact:
Sleek and effective

- 20 Case study: Galliker Transport AG
Maximum protection thanks to active
fire prevention

- 22 Trade fairs: a look back
International LogiMAT trade fair in Stuttgart
Plenty of new developments at FeuerTRUTZ 2016

- 23 Preview of 2/2016 issue

ABOUT US

Published by:

WAGNER Group GmbH
Schleswigstr. 1-5
D-30853 Langenhagen, Germany
Tel: +49 511 97383 0
info@wagner.eu
www.wagner.eu

Person responsible in accordance
with the German Print Media Law:
Werner Wagner

Project management:
Katharina Homann

Editorial team:
Katharina Bengsch, Christin Passchier,
Astrid Sassen, MT-Medien GmbH

Layout and Image Processing:
Katharina Homann,
MT-Medien GmbH

Editorial team contact:
redaktion-impulse@wagner.de

Image sources:
© fotolia.com/kalafoto
© istockphoto.com/ilyaska
© istockphoto.com/Johan Möllerberg
Heiko Preller, photographer

All rights reserved. Complete or partial
duplication of this publication is
only permitted with written consent
and specification of the source.

Brand names and product names are
registered trademarks of their respec-
tive manufacturers and organisations.

© WAGNER Group GmbH
Art. no. 68-30-3410, Issued 04/16

Dear Business Friends and Readers,

WAGNER Group GmbH is celebrating its 40th birthday this year. Perhaps you'd like to know how the company has developed over the years? Check out the "WAGNER Milestones" section at the centre of this issue, and join us on a little journey through time!

Of course, the anniversary of our company's founding is just one of the many topics in this issue of WAGNER Impulse. As usual, our focus will be on news and exciting projects. What do the Globalways data centre and the Fuchs Lubritech hazardous materials warehouse have in common? Both have installed tailor-made fire protection solutions using active fire prevention and gas extinguishing systems. As different as the two companies' needs are, we were able to adapt our protection schemes to provide solutions that guarantee each of them optimal fire prevention.

The technologies behind our products are the deciding factor. This issue's technical feature explains the various methods by which our OxyReduce® oxygen reduction systems can extract nitrogen from the ambient air. We'll also introduce you to FirExting® Compact, our compact, modular fire prevention system for room and equipment protection.

And, as always, this issue of WAGNER Impulse contains plenty of news from around the WAGNER world... Enjoy!

Best regards,
Torsten Wagner

Werner Wagner

Managing Directors of the WAGNER Group GmbH



Vision, fighting spirit, and a strong family

Werner Wagner named Family Business Owner of the Year

It's the evening of 28 January 2016, and here in the Leibniz University of Hanover atrium, the excitement is building: Even now, as Prof. Dr. Thomas Küpper of the Rheinland-Westphalian Technical College (RWTH) of Aachen steps up to the microphone, only a few insiders know who the big winner is.

The 2016 Family Business Owner of the Year, he says, is a visionary. A man who often thinks outside the box, and inevitably steps on a few toes along the way, but continually opens up new perspectives. A man who is distinguished by his straightforwardness and his fighting spirit, and who takes on personal risk as a business proprietor. Küpper doesn't say his name. The tension builds.

And then, slowly, the secret is revealed: A film begins to play. The 500 or so invited guests recognise the company, see its managing director in extra-large format. Werner Wagner is the 2016 Family Business Owner of the Year, joining an illustrious circle of awardees that includes Jörg Sennheiser, Dirk Roßmann and Detlev Paulmann. WAGNER founded his company forty years ago, in the basement of his home in Winsen/Aller. Today, WAGNER has nearly 500 employees and is the technological leader in air sampling smoke detectors and active fire protection systems.

Minister of Economic Affairs praises founder

The founder, who is now 70 and still actively runs the company together



▲ Delight at receiving the Family Business Owner of the Year award: Werner Wagner

◀ **Joint success: Werner Wagner (centre) celebrates with his family after being named Family Business Owner of the Year. Also on stage: Olaf Lies, Minister of Economic Affairs in Lower Saxony (right), and Frank Oettinger from the Association of Young Entrepreneurs (left).**

with his son Torsten, also received praise from Olaf Lies, Lower Saxony's Minister of Economic Affairs: "Having such strong family-owned businesses in Lower Saxony is a good signal. We need more successful entrepreneurs like Werner Wagner. They give people the courage to go into business for themselves." Such success, he added, would be inconceivable without the family. Lies made particular mention of CEO Torsten Wagner, who has already been with the company for 20 years, and will lead it in the future.

A prize for the entire company

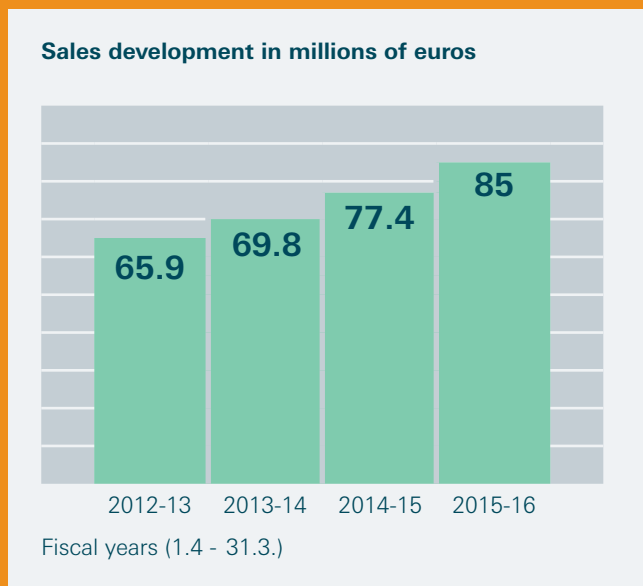
Company founder Werner Wagner was visibly delighted by the award, but up at the podium, he quickly made it clear that he was not its sole recipient: "I would like to thank my customers, whose trust in WAGNER is what made the company's success possible in the first place. Our product innovations and our outstanding engineering achievements are based on the problems our customers approached us with, looking for solutions that were not yet available on the market at that time. And I thank my team, who has always followed me on a path that has not always been easy. I thank my son, who provided me with valuable support during our years of expansion. And I would especially like to thank my wife, Marlen, who always said, 'Werner, we're going to make this happen.' And she was right."

Perhaps long-term planning for success really is one of family-owned businesses' particular strengths: "We don't think in terms of three-month periods the way publicly traded companies do," said Kay Uplegger, Regional Chairperson of the Association of Family Business Owners in Hanover, who awarded the prize. "Our long-term perspective makes this country stable. Family-owned businesses are the mainstay of the economy." The applause in response left no doubt that Uplegger was not alone in the sentiment that evening. ■

WAGNER continues to grow

The 2015-2016 fiscal year was a successful one for the WAGNER Group. Sales rose to €85 million, a 7.6% increase over the previous year's total of €77.4 million (note: forecast at the time of printing). This continued positive economic development was particularly evident within Germany, where consistent strategic and operational management and increased market penetration helped ensure that the nine WAGNER Group GmbH sales offices, WAGNER Bayern GmbH and WAGNER Products GmbH were all able to make optimum use of their growth potential. Turnover increased in foreign markets as well, a development facilitated through the WAGNER Group's implementation of its international growth strategy – including, among other things, establishing a subsidiary in the USA, WAGNER Fire Safety, Inc. The company also achieved additional growth within those foreign markets served directly through the parent company with the help of representatives and partner companies.

The combination of a strong domestic presence and further development of foreign markets translated into sales growth in almost every segment in which the company operates. WAGNER was particularly successful in expanding an already strong market position within the early fire detection segment. Thanks to increasing use of the OxyReduct® system in large refrigerated warehouses, the fire prevention segment saw positive development as well; the technology is now in demand all over the world, and WAGNER was able to reaffirm its position as the leading provider within that segment. ■





Nitrogen, naturally!

Minimise damage proactively with OxyReduct®

Statistically, a fire breaks out in Germany every two minutes. No company can afford such an incident, since even smaller-scale disruptions can have dramatic consequences. This is why companies consider maintaining business operations their number-one priority. "High availability, even in case of fire" is the name of the game – be it a logistics company with delivery obligations or an EDP-industry enterprise keeping data available at all times.

And whether for warehouses, data centres or archives, fire prevention systems must live up to high expectations: companies not only need business operations to continue uninterrupted after a fire, they also place great importance on environmental friendliness and energy efficiency. False alarms are an expensive affair as well. Fire protection concepts involving consequential damage (for example, from water, foam or powder) fall particularly short of these standards.

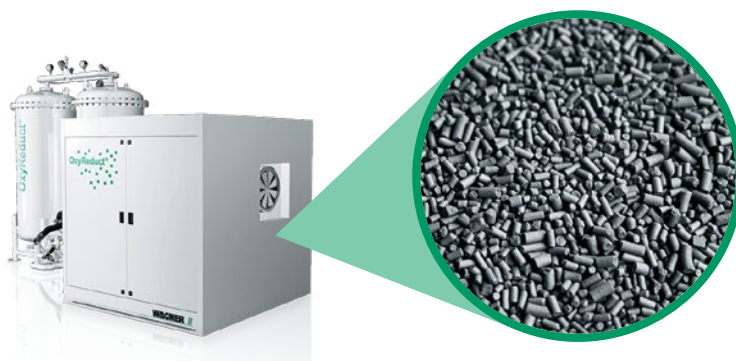
Increased fire risk

Ever-greater usage of automation technology also means increased risk of fire: Potential cable fires, overheated conveyor motors, or technical issues with refrigeration and air conditioning

systems can all result in fires. Large quantities of combustible packaging materials such as paper, cardboard or foil increase the risk even more.

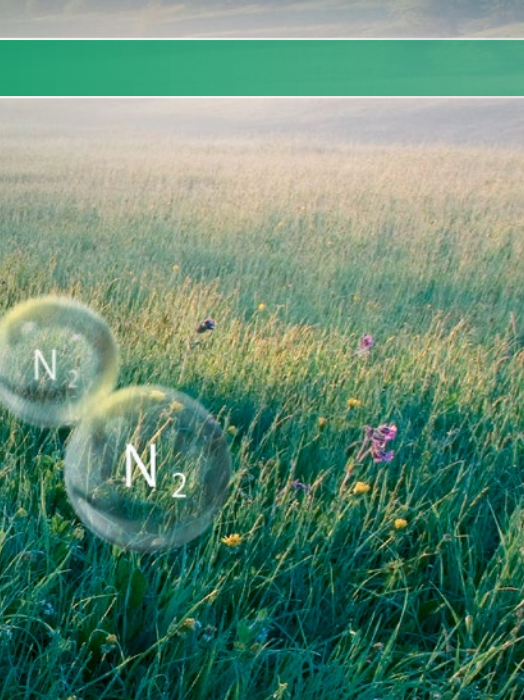
Conditions in some rooms can accelerate a fire's vertical spread through the so-called chimney effect, and high storage density in warehouses and lo-

VPSA and PSA systems are used to protect large-volume rooms. Oxygen in the ambient air is bound using activated carbon.

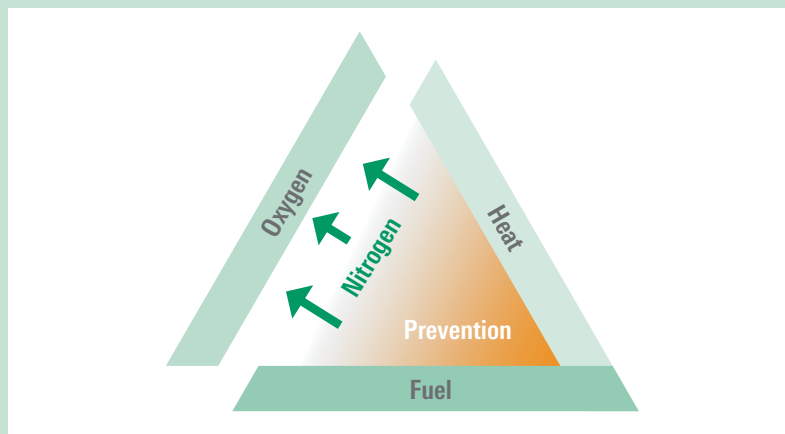


Membrane systems are customised for use in a wide variety of applications. The membrane technology uses bundles of hollow-membrane fibres.





What is the difference between active fire prevention and fire extinguishing?



▲ Wherever flammable materials, oxygen, and heat come together, fires can develop. To avoid this, oxygen concentrations need to be lowered – for example, by introducing an inert gas like nitrogen into the protected area.

gistics operations can make it easier for fires to spread to adjacent pallet spaces. In data centres, what generally creates the fire protection challenge is the overall building design, which focuses on climate control, security and uninterrupted power supply.

As such, the clever solution approach is not to let fires break out in the first place. This is the principle that the WAGNER OxyReduct® fire prevention system builds upon. Over the years, OxyReduct® has developed into the industry standard for data centres as well as storage and logistics operations.

Releasing nitrogen into the protected area lowers oxygen concentrations to a level below the specified ignition threshold for the materials present; the system then maintains that lower concentration level, adding additional nitrogen as a supplementary safety measure. The system thus creates a protective environment that no longer contains sufficient oxygen to sustain a fire or permit it to spread. Consequential damage from smoke, soot or extinguishing agents is thereby prevented as well.

The OxyReduct® system uses two methods to separate the ambient air

Fire protection is a broad term; it encompasses all measures taken to fight fires or prevent them from developing in the first place. But how exactly do fire extinguishing and fire prevention differ?

Fire extinguishing means that an automatic extinguishing system – usually a sprinkler system – is triggered when a fire breaks out. The system may be triggered manually, or automatically based on parameters like smoke and temperature. Water is the most common extinguishing medium, but powder and foam are sometimes used as well. Since these fire protection

solutions only start working when a fire has already broken out, they are also referred to as reactive fire suppression solutions.

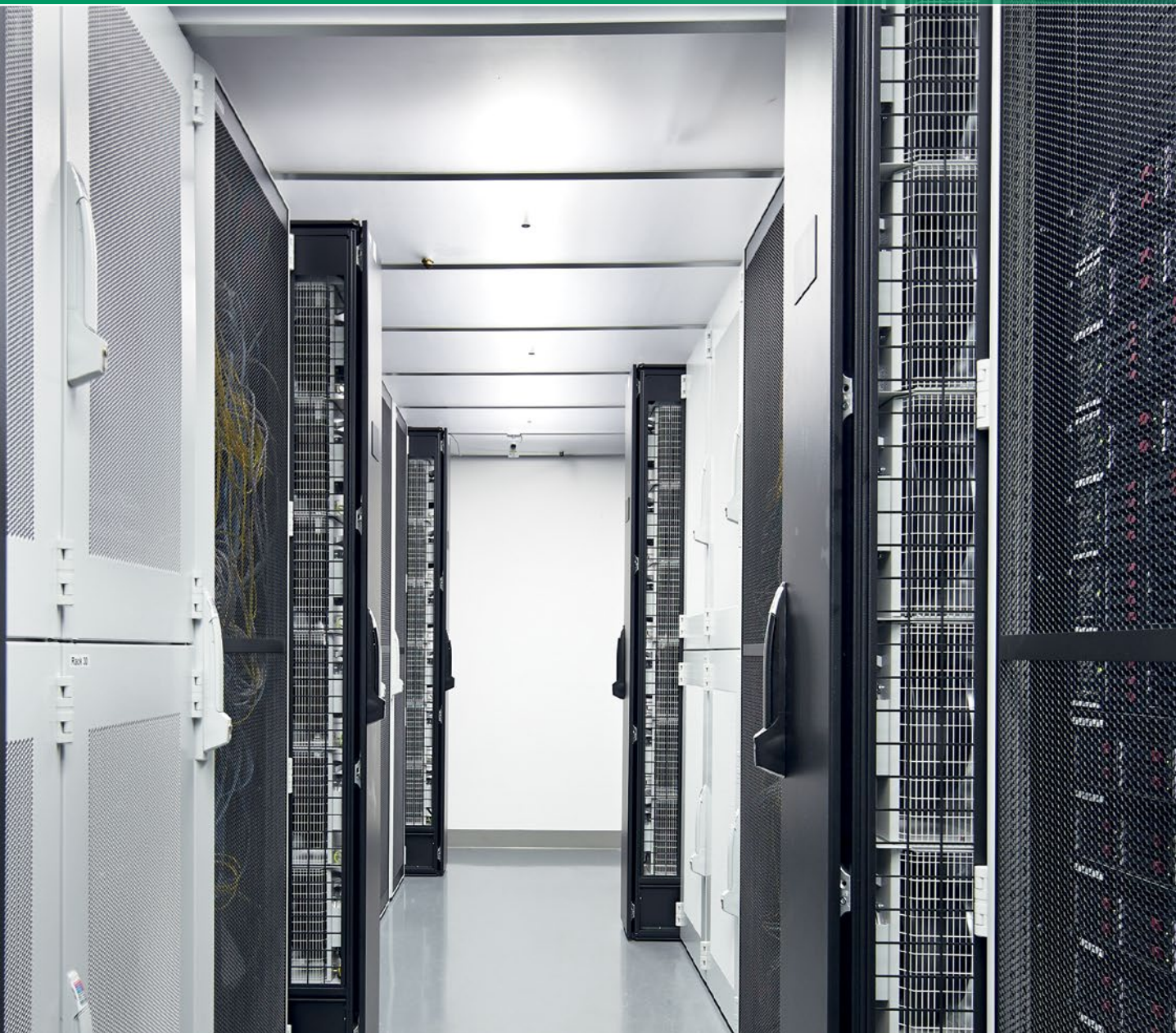
In active fire prevention, on the other hand, fires are prevented from developing or spreading from the outset, by reducing concentrations of the oxygen required for combustion within the protected area. Systems like WAGNER's OxyReduct® do this by introducing nitrogen, an inert gas, into the air in order to achieve and maintain protective oxygen concentration levels below the ignition thresholds of the predominant materials in the area.

physically into oxygen and nitrogen molecules, and thus generate nitrogen. One method uses membrane technology; the other, activated carbon.

Costs and areas of application

OxyReduct® provides reliable fire prevention in areas where, besides the essential need for personnel protection, it is crucial to ensure electronic equipment remains available, goods are delivered and valuable assets are protected. Each protected area has its own specific needs, and requires a fire prevention concept tailored to those

needs. With OxyReduct®, WAGNER offers a variety of special protection schemes to guarantee its clients tailor-made fire protection solutions. These solutions differ in the nitrogen production method they use, in the oxygen levels specified, and in whether they employ single- or multiple-stage oxygen reduction concepts. It is not without good reason that customers around the world place their trust in the Langenhagen-based fire protection experts' knowledge, experience and service. ■



High energy density, lots of heat: ▲
Data centres pose great challenges
in terms of fire protection

Intelligent fire protection with no down time

“Your data is secure and available at all times,” proclaims Globalways AG on its website. In order to be able to offer such a service, the company’s high-performance data centre operates around the clock. The company cannot afford failure of its IT infrastructure or, even worse, data loss, so fire protection plays an immensely important role.

“Regional is our strength” is the Globalways motto. The company,

which serves around 300 customers in the greater Stuttgart area, opted for a “hands-on” data centre: Many of its customers are located within walking distance of the central Stuttgart location. The data centre is divided into four protection areas: three server rooms, which are accessible to customers, and an engineering room only accessible to authorised personnel. The four protection areas have volumes of 400, 195, 175 and 85 m³. Energy density is high, and the server racks also produce a great deal of heat. Poten-

tial ignition sources include defective electrical systems and short circuits. In the IT industry, smouldering fires are more common than open ones. The goal is to detect them at an early stage in order to limit the damage they can cause.

But what is the best way to minimise fire risk?

Conventional fire extinguishing systems using water or foam have proven unsuitable for use in data centres, since they would cause additional

damage to servers and EDP components.

Globalways turned to WAGNER's Stuttgart branch for assistance. The fire-protection experts delivered the solution: active fire prevention using OxyReduct® Compact, combined with a TITANUS® early fire detection system and a fire detection system. In the data centre's three server rooms, the system uses nitrogen supply to lower oxygen concentrations from 20.9% oxygen by volume to a constant 17.0% oxygen by volume, thus dramatically lowering the risk of fire outbreak while keeping the area freely accessible.

Should a fire be detected anyway, it triggers a so-called quick release, in which nitrogen is directed from a FirExting® cylinder bank into the protected room affected. This lowers oxygen concentration levels to 13.6% oxygen by volume – below the ignition threshold for the materials used in the data centre. The extinguishing agent cylinders are fitted with additional flow regulators for so-called soft flooding, which requires smaller pressure-relief areas.

The engineering room, which is only accessible to authorised personnel, is protected using OxyReduct® alone; as per VdS (Organisation of Property Insurers) guidelines, oxygen levels here are lowered to a protective level of 14.4% oxygen by volume.

Enthusiastic customers

"The fire protection solution we have put in place requires us to do some educational work, because the idea of active fire prevention using oxygen reduction is largely unknown among our customers," says Florian Escher, Globalways support technician. "But interest in the technology is all the greater." "Our customers are enthusiastic about OxyReduct®," adds Markus Binder, Chairman of the Board at Globalways AG. "The innovative idea behind this fire protection technology also fits very well with our own orientation as an innovative IT company. As such, WAGNER's OxyReduct® is the perfect fire protection solution for us." ■



▲ The IT4Innovations National Supercomputing Center in Ostrava is home to one of the fastest computers in the world.

OxyReduct® protects supercomputer

The Technical University of Ostrava (Czech Republic)'s supercomputer has outstanding computing power and can identify even the most complex relationships. WAGNER is protecting the €12 million computer using an OxyReduct® fire prevention system.

Around 200 scientists working in five university research institutions use the supercomputer to conduct research in the fields of nanotechnology, drug development, automotive and aviation industry, transportation and mechanical engineering. Most of the time, the supercomputer is used for simulation purposes. Its high energy density means a high level of fire risk. The OxyReduct® active fire prevention system developed by WAGNER prevents fires from starting or spreading in the first place.

The OxyReduct® Compact system generates nitrogen from the ambient air and directs it into the 2264 m³ protection area. This reduces oxygen concentrations to 15% oxygen by volume, thus cre-

ating a fire-retardant atmosphere. Ensuring constant data availability even in emergencies called for redundant fire protection, so WAGNER installed an additional OxyReduct® Compact system and thus guaranteed continuous fire protection for the supercomputer. ■

▼ Fail-safe fire protection for the supercomputer thanks to a redundant fire prevention system.





»» We can protect things that are irreplaceable. Our mission is to keep carving new paths as we do so.

For 40 years now, the WAGNER story has been inextricably linked to Werner Wagner. In an interview with Impulse, the company founder discussed company strategy, expansion plans and smoke detectors at home.

Why does the subject of fire protection appeal to you?

We can protect things that are irreplaceable. Such things may include high value concentrations, such as data in bank data centres, or one-of-

a-kind pieces in museums or libraries. Yes, our technology is even providing safety in outer space, on the ISS. Continually carving out new paths in order to find the best concept for a special target group, that really excites me. Those ideas always come

A BRIEF PROFILE



Werner Wagner (70) gained certification as a telecommunications technician before going back and completing his secondary school leaving certificate, then his technical college entrance qualification certificate. After studying communications engineering, he started his own engineering office – Werner Wagner, Alarm and Communications Engineering – in 1976, because he “enjoyed taking on responsibility.” In the early 80s, Wagner began focusing entirely on fire protection. Today, the company employs nearly 500 people, hold more than 700 patents, and operates all over the world as a single-source solution provider.

My goal is to stop being actively involved in day-to-day business activities in three years, when I am 73. But of course I will continue to be part of the company. My son and I began the generational handoff process some time ago; as our second managing director, he has assumed responsibility for certain core business areas. And this year, my grandson began his studies in electrical engineering – no surprise there!

On a completely different subject: Do you have smoke alarms installed at home?

To be totally honest, no. When I built this house, the current technology didn't exist. We have an alarm system with passive infrared detectors, which have the same effect as fire detectors.

Mr. Wagner, thank you very much for the interview.

when you're developing tailored solutions in response to customer needs.

And that's what has helped WAGNER grow?

The market for fire protection is dominated by large companies. If a small company wants to get a foot in the door, it needs a technical niche. Ours was early fire detection. We brought that technology to Germany.

Was the technology immediately accepted on the market? Well, it was considerably more costly than the conventional systems back then.

It was clear to me that the market for that equipment would be large, but first the decision-makers needed to be sensitised to the problem. I started by giving talks all throughout Germany and performing smoke tests in data centres using beekeepers' smoke pipes. That way, the people in charge saw, for example, that their fire detectors reacted too late, or didn't react at all. Then things got rolling.

From today's point of view, how do you think the market for early fire detection will develop?

It has a virtually unlimited scope of applications, so the market is enormous. For that reason, I'm certain that we could grow much more quickly if we wanted to, but we don't. The limit of what is feasible is around 20 to 25 percent.

How will that work?

We are preparing to expand. A new EDP system is one part of it, along with new organisational structures and standardised processes. The concept of trying it out in other countries through partnerships is one I've dropped, for example. I'll always keep founding wholly-owned companies. We found them in a way that makes the risk a tolerable one.

Are there specific markets you hope to enter?

Our primary market is Europe – here, we're number one. But we are in the process of expanding into the USA and Canada, and we've set our sights on the Middle East, Singapore and Australia.

Is Wagner large enough to internationalise? Are acquisitions part of your growth strategy?

Right now we have nearly 500 employees; our sales grew by around 10 percent during the 2015-16 fiscal year, to €85 million. We will succeed in expanding without outside assistance, because we have the processes under control. We are well prepared for the future.

Will this future be based upon the current products and industries?

We will continue to focus on high-quality fire prevention for protecting large volumes of goods, irreplaceable and high-value assets, and sensitive processes. We are now going to internationalise and build the company in a sustainable way. Industry 4.0 will also play an important role in that regard: If we can integrate diagnostic units into our systems that can report when individual components need to be replaced, it will simplify the process. I expect it will take another five years, and then we will be ready to offer that service worldwide. We already have rudimentary versions in place: The largest deep-freeze storage facility in the world is in the USA, and we are connected to it at our Langenhagen headquarters. We can monitor the system remotely to determine whether the system is running. Currently, that is still a logistical challenge; Industry 4.0 will make things much easier.

It sounds like you still have a lot of plans. Do you ever think about retiring?

WAGNER Milestones

Always one idea



“ What convinced us was the consultation we received from the professional experts at WAGNER. The WAGNER system ran perfectly in the testing phase and the fire tests. “

Rita Alm, Tönsmeier

“ After a three-year development phase, we achieved a breakthrough, and became the global technological leaders for highly sensitive systems. “

Werner Wagner

The beginnings

Engineer Werner Wagner founds an engineering office for intrusion detection systems in Winsen (Aller).

1976

Gorleben project

The company equips the outdoor facilities at the Gorleben interim nuclear storage facility with monitoring technology. Even the GSG 9 (German Special Forces) are unable to shut it down.

1982

Pioneers in the field of extinguishing technology

WAGNER becomes the first German provider with VdS system and installer approval to bring nitrogen onto the market as a natural, inert extinguishing agent.

1994

Starting shot for the next WAGNER innovation

The WAGNER team decides to develop its own air sampling smoke detection systems.

1997

Test run: WAGNER air sampling smoke detector in use for the first time at a sorting plant

The test is successful: The system detects smoke reliably even under extreme dust conditions.

1998

ahead, for the past 40 years

” In WAGNER, we have a professional partner that provides us with comprehensive advice and can supply and install any technical fire protection systems necessary. “

*Dirk Steinmeyer, Head of IT,
Parliament of Lower Saxony, Hanover*

VisuLAN® scores big with BSH Bosch and Siemens Hausgeräte GmbH

Monitoring numerous buildings and linking various security systems together: That was the challenge in Munich. The solution: VisuLAN®, a complete solution for modern fire protection, connected to the full range of facility management systems.

1999

TÜV Rheinland data centre:

TÜV Rheinland replaces the carbon dioxide extinguishing system in its data centre with an OxyReduct® active fire prevention system.

2000

Challenge: WAGNER protects high-security area

WAGNER specialises increasingly in IT security concepts. In Munich, it provides an OxyReduct® multi-zone installation to protect Giesecke & Devrient GmbH and all its associated technological areas. The concept covers protection for 25 rooms.

2003

The beginning of a long partnership: WAGNER protects Telekom systems

Over ten years ago, WAGNER received its first order for TITANUS® family systems to protect Telekom technical systems. With resounding success: The two companies are still closely connected today.

OxyReduct® receives VdS approval



2004

WAGNER equips world-famous Bolshoi Theatre

Reliably valuable sets, costumes and musical instruments from flames: A task WAGNER and its OxyReduct® have been performing for ten years at the Bolshoi Theatre in Moscow.

2006





TITANUS® Systems in space

Optimum safety for crew and equipment: The TITANUS MICRO-SENS® air sampling smoke detection system is being used to protect the high-tech, highly sensitive laboratory and measurement equipment on the International Space Station from fires.

“Thanks to WAGNER’s oxygen reduction-based active fire prevention system, fires can no longer break out at our high-bay warehouse.”

Georg Grewe, Managing Director of KLM Logistik

A new milestone for OxyReduct® fire prevention

VPSA technology helps achieve energy savings of up to 80 percent. WAGNER thus secures its position as the active fire prevention technology leader in terms of energy efficiency as well.

Prizeworthy

WAGNER wins the German Data Centre Award for the second consecutive year. TITANUS MULTI-SENS® receives the award in the Safety category. The same year, OxyReduct® Compact receives the Préventica innovation award.



WINNER CATEGORY 5: DATA CENTRE SECURITY

Preferred Freezer Deep-freeze

After constructing the largest high bay warehouse in the USA (volume: 105 million m³) Preferred Freezer Services turns to OxyReduct® to protect its frozen foods reliably from fires and their consequences.

The big 4-0: WAGNER celebrates its 40th anniversary

New technology detects what’s burning. TITANUS MULTI-SENS® comes onto the market.

2009

2011

2013

2015

2016

“We provide high-quality solutions from a single source Customers are connected to us for **10** or **15** years, or even longer. Our job is to provide them with a service without them sensing it.

They only need to know that they can count on us when things get serious.”

Werner Wagner

"For more than ten years now, we have trusted WAGNER as our supplier of extraction smoke detection systems – the perfect solution for us."

Uwe Ladwig, Vice President Product Group (ST-FIR/PG),
BOSCH Security Systems GmbH



"Back when WAGNER was founded, Eduard Zimmerman and I were still doing the TV programme Aktenzeichen: XY...ungelöst. A little while later, shortly after I founded the IT safety magazine <kes>, WAGNER became my constant companion. After all, computers react to accidental fires just as badly as they do to deliberate attacks. I wish the company and its committed staff all the best; may you continue to develop excellent fire protection ideas!"

Peter Hohle, founder of the publishing house SecuMedia and editor of WIK and <kes> magazines



"WAGNER and security essen have been close partners for many years. Every year, WAGNER impresses visitors to Hall 3 with expansive, informative exhibits full of highlights. We fondly recall the giant 25-metre truck, a real eye-catcher that provided plenty of extra conversation material. We congratulate WAGNER warmly on its 40th birthday and look forward to many wonderful years together."

Oliver P. Kuhrt,
Essen Trade Fair Center



"We congratulate the WAGNER Group GmbH on its 40th anniversary celebration; thank you for our successful partnership! We will continue working together in the future to strengthen their positions on the market, and thus ours as well. All the best!"

Klaus Hirzel, Managing Director of
ESSER by Honeywell



"We have been working with the WAGNER Group GmbH since 2011, providing insurance protection in the context of expansive development, so we are involved in the insurance and risk aspects of all contracts and projects both in Germany and abroad. We have come to know WAGNER as a very forward-thinking partner. We are very much looking forward to our continued partnership with WAGNER, and wish WAGNER all the best in the future."

Frank Buchholz, Account Manager,
Business Segment Industry, HDI Global SE



CONGRATULATIONS on anniversary

"For many years now, I've felt like I was in good hands as a WAGNER customer. Reliability, punctuality, motivation and flexibility are the hallmarks of our work together. Even if I need to make last-minute, spontaneous changes to projects, I can rely on my contact person there! This relationship based on trust is of immeasurable value. Keep it up!"

Rüdiger Bauer, Security Services Head of Project Coordination and Construction,
Rheinbahn AG





CASE STUDY: FUCHS LUBRITECH

Hazardous materials warehouse reliably protected against fires

In hazardous materials warehouses, safety poses major challenges to the operator as well as the fire protection officer. The goods stored there are often highly flammable. Materials or their combustion residues can also react violently with one another, even combining to form poisons.

To minimise the potential for danger, Fuchs Lubritech GmbH searched for

a suitable fire protection solution for its high bay hazardous materials warehouse.

Hazardous materials - a major fire hazard from the outset

Fuchs Lubritech produces specialty lubricants and separating agents for all areas of industrial application. The company runs a fully automated, 46,000-cubic-metre high-bay warehouse in Kaiserslautern to store hazar-

dous materials. Its spectrum of products includes concrete release agents, adhesive lubricants, lubrication fluids and greases, pastes, lacquers, aerosols, glass processing media and forming lubricants – a total of more than one thousand specialty products, each perfectly adapted to their particular application.

Some of the hazardous materials stored in the warehouse have very low ignition



▲ The FirExting® inert gas extinguishing system is controlled by a flame detector and responds to alarms by creating a CO₂ extinguishing fog of up to five metres in height.

Fire protection in tank and hazardous materials storage

If a tank and hazardous materials warehouse catches fire, the consequences are dramatic – anything from operational downtime to personal safety risks to severe environmental damage. In worst cases, the company faces losing entire buildings.

Standard protective measures generally include fire detection systems along with automatic extinguishing systems that are triggered when fires break out. These systems use extinguishing agents like water, foam or powder. Automatic systems using inert gases like CO₂ or nitrogen extinguish fires more efficiently by displacing oxygen in the protected area, thus containing the fire effectively and without residues.

But what about a system that prevents fires from starting in the first place by reducing concentration levels of the oxygen needed for combustion? Reducing oxygen levels in the area around a fire source stops the combustion process due to insufficient oxygen. This is achieved using an inert gas to displace ambient air, and thus oxygen as well.

WAGNER's OxyReduct® fire prevention system makes use of this principle. It generates the nitrogen it needs to achieve controlled, permanent oxygen reduction directly on site as required. As the main component in air, nitrogen is easy to produce through air separation or physical filtering. Nitrogen also distributes quickly and homogeneously throughout the room, is environmentally friendly, and forms no chemical compounds in typical fire scenarios. In combination with a CO₂ inert gas extinguishing system, OxyReduct® provides tank and hazardous materials warehouses with nearly 100% protection. ■



▲ An OxyReduct® system provides fire prevention.

thresholds, and thus pose major fire risks. Were a fire to break out, fire-fighting would only be possible to a limited extent, due to the poisoning and explosion risks, the potential for falling parts, and the narrow paths of approach. A fire would also lead to operational downtime and cause sensitive environmental damage.

Combined solution

WAGNER worked in cooperation with Fuchs Lubritech and VdS Schadenverhütung GmbH to develop a concept that would meet the sophisticated fire protection challenges posed by this hazardous materials warehouse. The concept protects the personnel as well as the building, the goods, the storage technology and the environment. Part of this concept is based on the use of OxyReduct®: Continuously reducing oxygen concentration levels to 13.5% oxygen by volume ensures that most of the materials cannot catch fire on their own. However, a few of the materials have ignition

thresholds below this level. To guarantee optimum fire protection for these materials as well, WAGNER also installed a flame detector-controlled CO₂ extinguishing system; if an alarm is triggered, this system will create a CO₂ extinguishing fog of up to five metres in height, thus reducing oxygen concentration levels to 8% oxygen by volume and allowing especially effective fire suppression. For this reason, particularly combustible and hazardous materials are only stored in the lower part of the warehouse.

The advantage

OxyReduct® active fire prevention combined with a CO₂ extinguishing fog ensures that the various hazardous materials can be stored in one warehouse, without needing to separate them spatially. Despite the exceptionally great challenge their situation presented, Fuchs Lubritech is now reliably protected against fires at all times. ■

FirExting® Compact: Sleek and effective



▲ FirExting® Compact: An ideal extinguishing system for small and medium-volume spaces

Protecting people and property is the number-one priority when extinguishing fires, which is why the extinguishing technology must be perfectly adapted to the application situation at hand. At the same time, it must not cause any damage itself. To this end, WAGNER has developed the FirExting® Compact extinguishing system for use in small to medium-volume rooms.

Rather than fighting fires with water, FirExting® Compact uses extinguishing or inert gas – either carbon dioxide (CO₂), argon (Ar) or nitrogen (N₂). The advantage When extinguishing with inert gas is that it stops the combustion process reliably, yet (unlike water) causes no damage to buildings, systems or goods.

The system is therefore ideal for reliable fire suppression. Thanks to its modular design, FirExting® Compact

offers a broad spectrum of alternatives, ranging from a DIN 14497 small-scale extinguishing system to a VdS-approved fire extinguishing system including the personal protection equipment required by the trade association.

Structure of the extinguishing system

FirExting® Compact is housed in a steel cabinet with an integrated frame providing space for up to two cylinders of extinguishing gas. If a fire breaks out, the integrated fire detection and extinguishing control unit triggers fire suppression. A lockable glass door secures the system against unauthorised operation of the central unit, and the personal protection equipment complies with Guidelines BGR 134 and VdS 3518. These include a mechanical locking system with a pneumatic delay device.

Areas of application

Typical areas of application for FirExting®

Compact include machine tools, transfer lines, switching and server cabinets, display cabinets, safes, and small EDP rooms. However, multiple aligned control cabinets can be linked together in order to provide protection for larger systems and facilities.

Advantages of FirExting® Compact:

- Easy to install
- Quick installation process
- Protection against unauthorised access and contamination
- Modular expandability
- Tested and certified (BGR 134, VdS 3518) ▀

FirExting® Compact Extinguishing System

Structure with Components and Functions

Weighing device

The system has a weighing device, a limit-value pressure gauge, and an electronically monitored pressure loss indicator for the extinguishing gas.

Steel cabinet

FirExting® Compact is installed into a steel cabinet with an integrated frame.

Delay device

The delay device complies with BGR 134 and VdS 3518 guidelines.

N₂ control cylinder

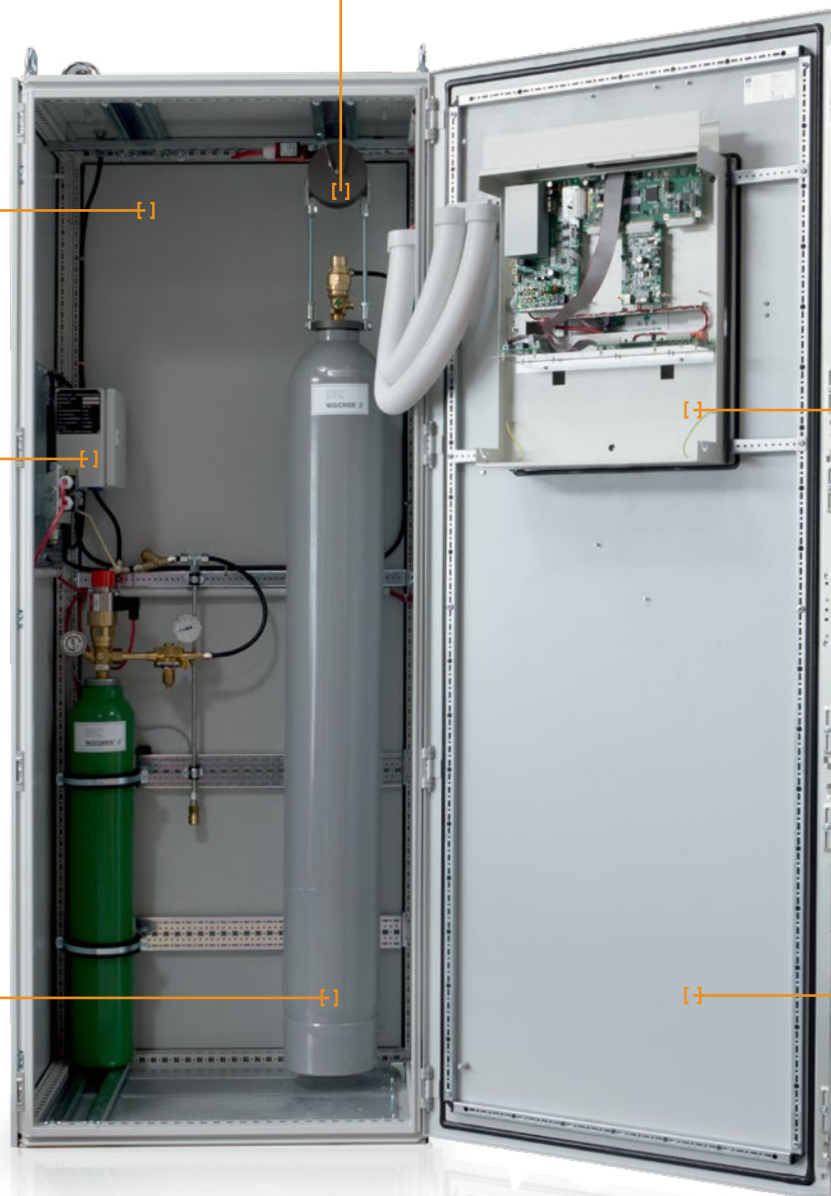
The cabinet can hold up to two cylinders of extinguishing gas. If CO₂ is being used, it is installed in a freely suspended configuration.

Fire detection and extinguishing control units

If a fire breaks out, the integrated fire detection and extinguishing control unit triggers fire suppression.

Lockable glass door

The lockable glass protection door protects the FirExting® Compact reliably against unauthorised access.



OxyReduct®

“We have no experience with fire incidents thus far, and we’d like to keep it that way.”

Thomas Müller, Galliker Transport AG

Maximum protection thanks to active fire prevention

“Active fire prevention with Oxy-Reduct® is the best solution for us,” says Thomas Müller of Galliker Transport AG. “The WAGNER system guarantees us a high degree of security, and energy-efficient technology help keep its maintenance costs within manageable limits.”

Over the course of three generations, Galliker has grown from a small horse-drawn carriage company to a renowned logistics service provider with 17 subsidiaries in six countries. Now, just as then, the company is based in the heart of Switzerland, and remains one hundred percent family-owned.

In September 2015, the company commissioned a new logistics centre in Dagmersellen, not far from its headquarters in Altishofen, Switzerland. The logistics centre’s impressively

sophisticated interior includes one deep-freeze storage facility and three high bay warehouses. The centre is operated at a temperature of -26°C , and is used for storing and packaging a variety of goods. Goods intended for domestic or international markets pass through various temperature zones as they are placed in interim storage, picked, assembled according to customer specifications and shipped.

The centre uses an active fire prevention system by WAGNER to ensure maximum fire protection, for the fire risks in high bay warehouses are not to be underestimated. Short circuits in shelf control devices, electric cables or control cabinets can all result in fires, for example. Wooden pallets, cardboard boxes and foils are all highly combustible as well. And finally, narrowly spaced shelves of up to 25 metres in height make it easier for fires to spread.

Generate nitrogen, save energy

This is why, before building the logistics centre, Galliker Transport AG evaluated the pros and cons of a variety of fire protection solutions. Finally, the specialist planners in charge hit upon the perfect solution: OxyReduct®, WAGNER’s oxygen reduction-based active fire prevention system.

Galliker stores food, non-food and pharmaceutical products in around 37,000 pallet spaces at its logistics centre; the area to be protected has a volume of around $190,000\text{ m}^3$. Permanently reducing oxygen concentration levels to 16% oxygen by volume – and thus below the ignition thresholds of the goods stored in the warehouse – requires a great deal of nitrogen to be generated from the ambient air.

To do this, the system uses Vacuum Pressure Swing Adsorption (VPSA)



The nitrogen used in OxyReduct® is generated in an energy-saving manner using VPSA technology.

technology, which separates oxygen and nitrogen from other another using activated carbon. The advantage of this technology is that it uses low pressure levels of 1.5-2 bar, meaning that it can produce nitrogen for the OxyReduct® fire prevention system very cheaply.

Compared to conventional Pressure Swing Adsorption (PSA) technology, which operates using pressures of 5 to 8 bar, VPSA offers energy savings of up to 50%. This is an important factor for Galliker, for whom cost awareness and performance-oriented work are always priorities. In keeping with this, Galliker is committed to working in an environmentally conscious manner, focusing on functional infrastructures that save energy and the environment.

A sustainable solution

“We have no experience with fire incidents thus far, and we’d like to keep it that way,” says Thomas Müller, head of infrastructure/technology at Galliker Transport AG. And, indeed, OxyReduct® reduces the risk of fire to practically

zero. “The fire prevention system guarantees us a high degree of security, and thanks to its energy-efficient

technology, it also meets our sustainability requirements,” Müller adds. ■

▼ Galliker stores food, non-food and pharmaceutical products in around 37,000 pallet spaces at its logistics centre.



International LogiMAT trade fair in Stuttgart

WAGNER solutions meet with great interest

Over 35,000 visitors visited the LogiMAT trade fair in Stuttgart March 8-10. As part of the intra-logistics trade fair, WAGNER presented solutions in the areas of active fire prevention and early fire detection.

Visitors were able to experience fire protection live with the help of a 6.5 m³ OxyReduct[®] cabinet in which oxygen concentration levels had been lowered to fire-retardant levels. They saw for themselves that a conventional lighter worked perfectly outside the cabinet, but would not light inside it. "The audience was enthusiastic; we were able to quickly overcome their reservations about remaining in oxygen-reduced environments," says Markus Kock,

Head of Engineering at WAGNER. Besides active fire prevention with OxyReduct[®], TITANUS[®] early fire detection technology also met with great interest.

Another highlight was the Dreamoc 3D hologram display WAGNER used to present fire protection solutions for storage and logistics. "The futuristic-looking 3D presentation format is a real eye-catcher," says Alexander Goehrmann, who is in charge of WAGNER's trade fair appearances. ■

Visitors to the LogiMAT trade fair were able to experience fire protection live inside the 6.5m³ OxyReduct[®] cabinet. ▶



Plenty of new developments at FeuerTRUTZ

FirExting[®] Compact and VisuLAN[®] X3 draw visitors



▲ FeuerTRUTZ 2016 visitors showed a great deal of interest in the FirExting[®] Compact gas extinguishing system.

FeuerTRUTZ, the leading trade fair devoted to the subject of fire protection, enjoyed great popularity once again in 2016: Over 5,000 professionals and interested members of the public took part in the event, which was held February 17-18 in Nuremberg.

The new VisuLAN[®] X3 by WAGNER proved to be a major draw on both days. The risk management system provides more than 500 manufacturer-independent interfaces, allowing comprehensive centralised safety and security monitoring—users have all relevant information at their fingertips at all times. The system is protected against malfunctions thanks to its clear structure and its focus on de-

fined reaction plans. At the awards ceremony for Product of the Year, VisuLAN[®] X3 received second prize from both the professional jury and FeuerTRUTZ customers – an exciting achievement. WAGNER also presented another world first: the FirExting[®] Compact, an automatic gas extinguishing system specially developed for small to medium-sized rooms. Thanks to its modular design, it offers everything from a small DIN 14497 extinguishing system to a VdS approved system that includes the personal protection equipment and alert systems required by that organisation. Visitors were also enthusiastic about how simple the compact system was to install and how little space it required. ■



Preview 2/2016



40 years of WAGNER: Interview with Torsten Wagner

Ever since the company's founding, Torsten Wagner has been helping his father with the business wherever possible. First he distributed flyers; later, he began assembling and soldering circuit boards in the basement of their family home, which doubled as a workshop. So it's no surprise that Torsten Wagner has been interested in electrical engineering and familiar with the topic of fire prevention ever since he was a boy. In his interview with Impulse, Torsten Wagner provides fascinating insights into his time at WAGNER and dares to speculate about the future.

Security 2016: Security industry booming

Security Essen is the world's most important security and fire protection-related trade fair. The fair has already generated a great deal of interest – over 1,000 exhibitors are expected to present their products and services at the fair, which runs from September 27 to 30. Of course WAGNER will also be attending Security Essen and presenting its most important innovations in the field of fire protection... After all, this is where the industry experts convene.

Expert contribution: On the safe side

A qualified fire protection officer is essential for every company. It is important that the people taking on this important responsibility are well trained. The VdS education centre has long provided a thorough, praxis-oriented two-week fire protection officer training course.



The Global Cold Chain Alliance (GCCA) invited industry professionals to a convention in Amsterdam; over 120 refrigeration logistics representatives from across Europe and the USA answered the call. Fire prevention in deep freeze storage areas was one of the focal points at the convention. Visitors were particularly interested in the con-

cept of active fire prevention through OxyReduct®, which WAGNER presented using Preferred Freezer Services as its example customer. The company operates a deep-freeze high-bay warehouse in the USA with 117,000 pallet spaces and a storage volume of around a million cubic metres. ■

future thinking

Der RZ-Kongress
19./20.04.2016 | Darmstadt

At future thinking 2016, everything revolved around current developments in the IT industry. The topic of fire protection is a perennial favorite, since data centres' highly complex technical equipment carries a particularly high

risk of fire, as do the materials used in building it. WAGNER presented solutions oriented to data centres' specific needs: active fire prevention through OxyReduct® and the FirExting® inert gas extinguishing system. ■

See fire prevention solutions from WAGNER for yourself!

13/06/2016 - 16/06/2016

NFPA, Las Vegas (USA)

20/06/2016 - 22/06/2016

Global Cold Chain Expo, Chicago (USA)

20/06/2016 - 21/06/2016

diti Tiefkühltagung, Cologne (Germany)

20/06/2016 - 21/06/2016

FeuerTRUTZ "Fire protection
in high bay warehouses" Dialogue,
Hanover (Germany)

20/09/2016 - 23/09/2016

InnoTrans, Berlin (Germany)

27/09/2016 - 29/09/2016

Security, Essen (Germany)

WAGNER World

You are always very welcome!

Visit us in our training and exhibition
facilities in Langenhagen, Germany.



Experience live fire tests!

Further event dates and
details of how to contact
WAGNER directly can be
found at www.wagner.eu