

Reference solution: Eisbär Eis

# Active fire prevention with OxyReduct® in deep-freeze warehouses





▲ Eisbär Eis produces up to three million portions of ice-cream daily in Ribnitz-Damgarten for the export to 27 European countries, the USA and Australia.

## ICE-COLD ENJOYMENT FROM EISBÄR EIS GMBH: FROM THE BALTIC SEA TO AUSTRALIA

**Up to three million ice cream portions leave the production facility of Eisbär Eis Produktions GmbH in Ribnitz-Damgarten every day. The family-run, medium-sized company has been producing ice cream specialities for retail chains and delivery services worldwide since 1992. Eisbär Eis Produktions GmbH Export into 27 European countries as well as to Australia and the USA for special products. That makes the company one of the largest ice cream producers in Germany.**

In order to meet the constant increase in demand for ice cream and to continue to position themselves at the top of the market, it was necessary to build an additional deep-

freeze warehouse at the location in Ribnitz-Damgarten. The new fully automated warehouse, built as a cladded rack system, has a storage volume of 75,000m<sup>3</sup>. It is divided into three aisles with double pallet storage. At a crisp -24° Celsius vanilla ice cream and co. are stored in it. A modern warehouse management system takes care of storage, retrieval and order picking. "The expansion of the deep-freeze area gives us an additional storage capacity of 12,000 pallet spaces," reports Thomas Fürtig, operations manager of Eisbär Eis.

The fire protection solution with OxyReduct® from WAGNER ensures the safety of all the processes with regard to fire risks.

### The protection goal: *Securing operational processes against fire risks*

The protection of persons, the environment and property is always the focus. For Eisbär Eis GmbH, the following additional protection goals have top priority:

- Operational and logistical processes must not be interrupted by fire under any circumstances, the supply chain must always be maintained.
- The stored goods must be protected from smoke contamination.
- The functionality of the automated storage system must be maintained.
- Image damage must be avoided, and customer relations protected.





▲ Is really into fire protection: Sebastian Stoll, technical employee of Eisbär Eis, operates the OxyControl centre.

“ Business disruption is an absolute no-go. For us, it is about the safety of the warehouse and protecting the new investment. Because the availability of our products always has top priority. ”

Thomas Fürtig, operations manager of Eisbär Eis

## AVAILABILITY HAS TOP PRIORITY

**According to VdS 2032 (Fire protection for cold and deep-freeze warehouses, guidelines for planning, execution and operation) 44% of all fires are caused by electrical equipment. When analysing and evaluating fire hazards in deep-freeze warehouses, several use-specific fire risks must be taken into account. These include:**

- Use of combustible building and insulation materials
- Technical operating equipment with increased fire hazards: refrigeration units, defroster and heating equipment, heat exchangers, packaging plants, etc. (risk of short circuits due to defective insulation on current-carrying lines and switch cabinets)

- Extremely dry atmosphere due to the low minus temperatures
- Height of the warehouse and narrow design of the rack structures (chimney effect and thus the rapid spread of fire)
- High fire loads as a result of tight packing of pallets and goods

The fire risks specific to deep-freeze warehouses are also to be considered for the newly built deep-freeze warehouse of Eisbär Eis GmbH. The reason for this is that the warehouse has the following specifications: an overall height of more than 30 metres, goods packed in plastic and/or paper and automated storage and retrieval machines and conveyor technology therefore having a high proportion of electrical components. A fire protec-

tion solution is therefore required taking the above-mentioned conditions into account. In particular, the flow of goods must not be interrupted, even in an emergency. In short: There is never to be fire in the warehouse.

## The solution

Thomas Fürtig, operations manager at Eisbär Eis (left) and Reiner Milski, director of the WAGNER Berlin branch talk about effective fire protection.

*“The installation went without problems. The systems function flawlessly and the service of the technicians from Berlin is brilliant.”*

Thomas Fürtig, operations manager at Eisbär Eis

OxyReduct®

## ACTIVE FIRE PROTECTION THAT DOES NOT CONSUME STORAGE SPACE

**The solution to Eisbär Eis' fire protection requirements is an OxyReduct® oxygen reduction system for active fire prevention. It prevents fires from spreading and thus protects against fire-related damage and interruptions to the supply chain that could endanger operations.**

Two energy-efficient OxyReduct® V-Line systems are installed in a separate technical room outside the warehouse of Eisbär Eis GmbH. This means they do not consume valuable storage space. OxyReduct® works as follows: The controlled nitrogen supply lowers the oxygen content in the protected area to a defined protection level. In this way, the necessary oxygen is withdrawn from a possible

fire as early as in its formation phase; it can no longer develop or spread further. The solution with active fire prevention includes a system for early fire detection. WAGNER has installed TITANUS® air sampling smoke detectors for this. The suction points are positioned above the aisles of the deep-freeze warehouse and constantly take samples from the ambient air. False alarm-proof and highly sensitive, they detect even the smallest smoke particles and thus enable countermeasures to be initiated in good time. Smoke in the storage area or contamination of the goods can thus be prevented.

The combination of OxyReduct® and TITANUS® results in a comprehensive protection package for Eisbär Eis GmbH.

### Customer benefits at a glance

- **VdS approved and certified fire protection solution**
- **Reliable protection** of investments, goods and processes, even at temperatures down to -40 °C
- **Ensuring operational readiness and high availability** of the warehouse
- **Earliest possible fire detection** provides more time for taking countermeasures
- **Low operating costs through VPSA technology** – high energy efficiency in operation
- **Permanent accessibility of the protected area** – by authorized personnel
- **Flexible planning scope:** fire protection solution can be flexibly adapted to new conditions when an expansion or extension is planned

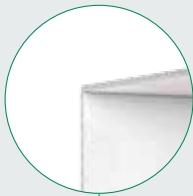
Temperature-resistant TITANUS® air sampling smoke detectors can withstand temperatures as low as -40°C without any problem.



## SYSTEM DIAGRAM

### Housing

prevents nitrogen from escaping



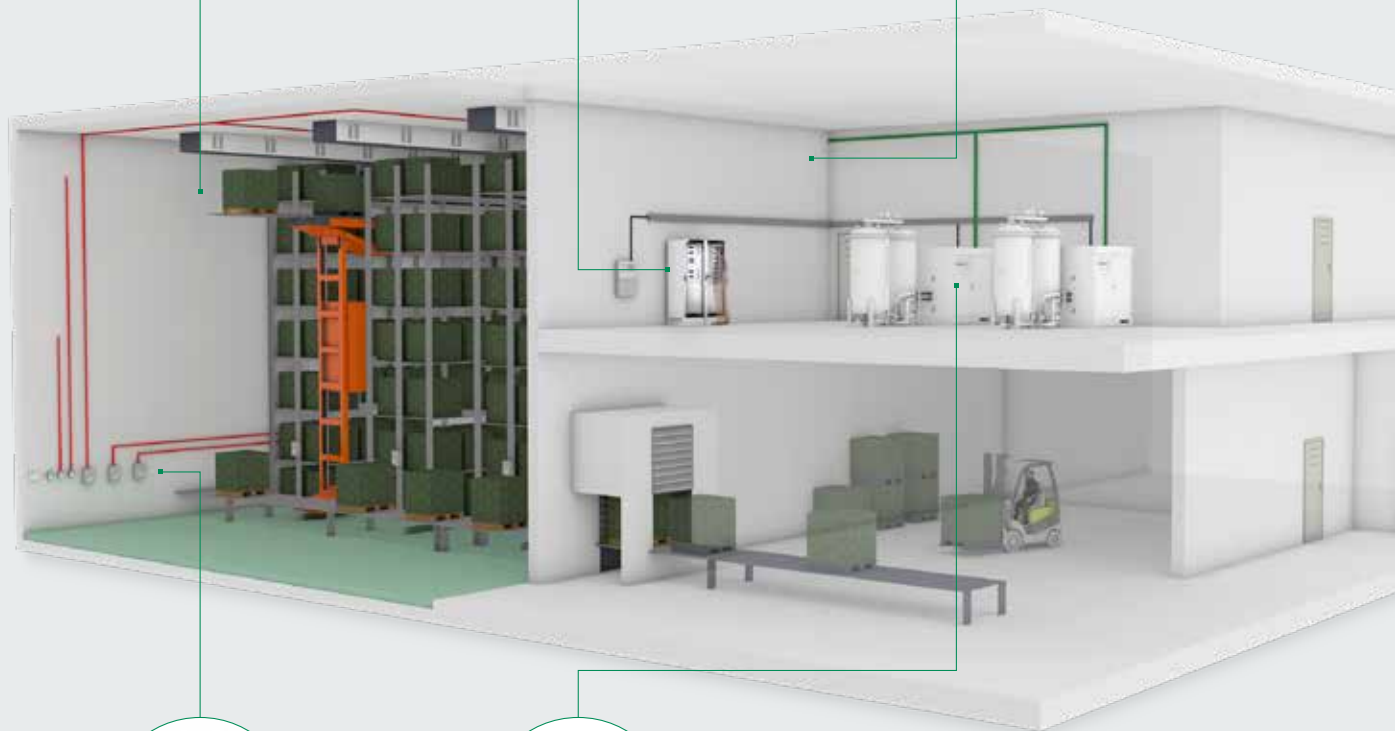
### OxyControl

controls all processes of the entire OxyReduct® system



### N<sub>2</sub> intake pipe

directs nitrogen into the protected area



**OXY-SENS®**  
**O<sub>2</sub> sensors**  
measure the oxygen concentration



**OxyReduct® system**  
obtains the nitrogen for oxygen reduction from the air in the room



Do you want to find out more about fire protection in deep-freeze warehouses?  
*Right this way!*

# WAGNER Group Plant Engineering & Construction



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**WAGNER Group GmbH** (Headquarters)  
Schleswigstraße 1–5  
30853 Langenhagen, Germany  
Phone: +49. 511. 97383-0  
E-Mail: [info@wagnergroup.com](mailto:info@wagnergroup.com)



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Find your personal contact at  
[www.wagnergroup.com](http://www.wagnergroup.com)



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WAGNER sets standards in fire protection – with innovative and comprehensive solutions

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## Fire detection and alarm systems

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Very early fire detection systems (TITANUS®)

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Active fire prevention (OxyReduct®)

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Fire extinguishing (FirExting®)

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Hazard management (VisuLAN®)