

LogiMAT 2024: WAGNER presents fire protection solutions for automated compact storage systems

- **High packing density and concentration of values: automated compact storage systems require special fire protection solutions**
- **Fire tests at WAGNER determine optimum solution**
- **Can also be used for converted storage environments**

Langenhagen. Modern intralogistics is characterized by space-saving storage, efficient processes and flexibility. For this reason, more and more logistics facilities are using automated compact storage systems that ensure optimum utilization of the available storage space. The high degree of automation guarantees efficient processes, and the scalability of the systems creates flexibility. However, these benefits are accompanied by fire safety risks. For example, if a fire is caused by a defect in the electronics, the packing density is a potential hazard. It also makes it more difficult to fight the fire with conventional water-based extinguishing agents. In the event of an incident, the extent of the damage can be significant, particularly due to the high concentration of values. Fires and the resulting fire damage can lead to a complete interruption of operations. A customized fire protection solution and preventive protective measures are therefore of crucial importance for the preservation of values and the operational capability. WAGNER will present innovative fire protection solutions for automated compact storage systems at LogiMAT 2024 in Stuttgart in hall 7, booth C15.

Dirk Band, Director Sales at WAGNER Group GmbH in Langenhagen, Germany, emphasizes the importance of preventive fire protection measures as already during the planning phase of logistics properties and intralogistics systems. "A holistic approach to fire protection is essential in order to achieve the individual protection goals," explains Band. The development of such solutions is based on a thorough risk analysis and a precise definition of the protection goals. Various factors play a role here, including the storage density, the container and packaging materials, and potential fire triggers, such as lithium-ion batteries stored or used in the course of automation.

Fire tests as a basis for the right solution

"I recommend early involvement of all relevant parties, including fire protection planners, experts and insurance companies, in the planning of fire protection for automated compact storage systems in order to identify risks and define individual protection goals," Band continues. For years, WAGNER has been helping companies develop customized solutions to prevent fire-related losses and delivery interruptions in automated warehouses. To this end, the company conducts extensive fire tests as part of customer projects in Langenhagen near Hanover. These tests take into account the specific application, spatial conditions and materials used. This enables a precise risk assessment and the development of individual protective measures.

What can a suitable fire protection solution look like?

OxyReduct®, the oxygen reduction system for active fire prevention, can prevent open fires in automated compact container storage systems. Under defined conditions, the system prevents a fire from starting or spreading by reducing the oxygen concentration to a pre-defined level by introducing nitrogen into the protected area. The nitrogen is evenly distributed, even in compact storage situations, creating a protective atmosphere. The oxygen component, essential for fire development, is

thus removed from the fire. Devastating consequential damage that can be caused by fire and even by the use of water-based extinguishing agents is avoided. Goods, buildings and people are protected. The required nitrogen is sustainably produced directly on site from the ambient air. The system can be installed in a space-saving manner.

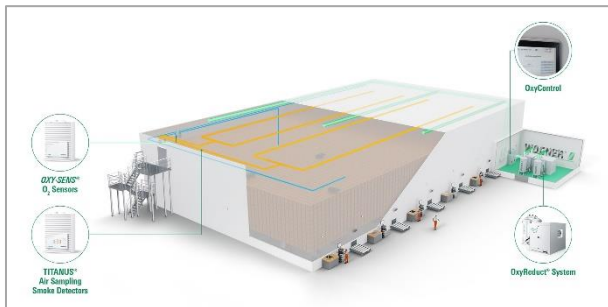
Even in oxygen-reduced environments, cable fires or smoldering fires can occur, especially where there is a high degree of automation. In order to locate even these small fire sources as early as possible and to be able to initiate countermeasures, WAGNER's integrated solutions are based on early fire detection, thus offering additional protection. WAGNER's TITANUS® Aspirating Smoke Detectors detect fires up to two thousand times earlier than conventional point detectors - even in areas that are difficult to access. This is crucial for rapid intervention in the event of a fire. Because oxygen reduction prevents major fire damage or extinguishing agent damage, warehouse operations can be resumed as quickly as possible after a smoldering cable fire. TITANUS® Aspirating Smoke Detectors protect against unnecessary interruptions to operations thanks to their particularly high false alarm reliability.

A WAGNER hazard management system can also be added for comprehensive fire protection. By integrating various safety systems a single, manufacturer-independent user interface, it provides a transparent view of all display systems.

Not just for new construction

Automated compact storage systems are becoming more efficient and versatile. They can respond well to increases in demand. This is especially true for e-commerce and intralogistics applications that require high storage capacity and fast access to stored goods. When an increase in throughput or efficiency with high flexibility in the same space is required and no additional space is available, automated compact storage systems can be retrofitted into existing logistics facilities. This allows operators to meet the increasing demands for storage and operational efficiency at a low cost.

"As with newly planned properties, there is a high risk of fire in existing warehouses equipped with new storage systems. It is therefore also important to define individual protection goals here – which are usually the general protection of personnel, goods and the environment as well as 24/7 operational capability in particular - and to plan a specific fire protection solution," explains Dirk Band. "Thanks to the flexibility of modern fire protection solutions, subsequent planning and installation is economically feasible in almost all cases. The right fire protection solution from WAGNER systems for fire detection and active fire prevention also offers the best possible protection against fires and consequential fire damage in retrofitted warehouses".



Caption: An integrated fire protection solution from WAGNER minimizes the risk of fire damage in the compact storage system.

Picture credits: ©WAGNER Group GmbH



Caption: An OxyReduct® system for oxygen reduction protects automated compact storage systems against the development or spread of fire.

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Caption: Dirk Band, Director Sales, WAGNER Group GmbH

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About WAGNER

The WAGNER Group GmbH, headquartered in Langenhagen, Germany, has been developing and implementing integrated fire protection solutions since 1976 and has established itself as an innovative solutions and systems provider with around 700 employees at 23 locations in 15 countries worldwide. With more than 700 patents, the Group is a technology leader in fire detection and prevention. Its main area of expertise lies in the field of technical fire protection. Here, WAGNER develops individual solutions using its own products, systems and services in the fields of fire detection (TITANUS®), fire prevention (OxyReduct®), fire extinguishing (FirExting®) and organization/hazard management (VisuLAN®).

For further information, please see www.wagnergroup.com

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