



## König brewery

Safety during pallet transport



# Best possible protection at the pallet lift

König brewery relies on safety light grids from ifm.

In the König brewery in Duisburg, up to 55,000 bottles can be filled per hour. They are sorted into the appropriate crates. Picking for orders and preparation for delivery takes place in the intermediate storage area. In the course of this process chain, the crates and pallets have to be taken up several floors. The most important component of internal logistics is thus an appropriately dimensioned and frequented pallet lift system. To ensure best possible protection of employees in the working area of these vertical conveyors, the brewery has upgraded its safety devices to the newest state of the art with safety light grids from ifm.

Coal, steel – and Pilsner: Not only mining and heavy industry have shaped the history of the Ruhr area. In many cities of Europe's largest densely populated area, the tradition of brewing beer was established around the same time. This was also the case in Duisburg, where Theodor König founded his brewery in 1858, and König Pilsener is still brewed and bottled there today. Whereas in the early days the demand could still be met with manual labour, much of the brewery's work is done today with machine support. For example, in the intralogistics: Starting with the filling and sorting of the bottles into the respective beer crates, through transport of the crates to intermediate storage, order picking, and delivery, a lot of processes run automatically here.

*Access for pallets only: The safety light grids prevent employees from entering the goods lifts during operation.*





The integrated muting function ensures that pallets can pass through the light grid without stopping operation.

### Constantly running lifts as a logistics hub

*"The crates are brought to their respective destinations on pallets",* explains **Roland Schoppmann**.

The master electrician is responsible for the maintenance of the filling plant. Due to structural changes and expansions in the course of the company's more than 160-year history, the individual stations through which the beer passes from bottling to delivery are distributed over several floors. The central hub in this system is a total of five pallet lifts, each of which can transport a pallet with up to 40 crates up and down. These lifts are basically never still: *"55,000 bottles can be filled per hour at peak",* says **Schoppmann**.

In less than a minute, a pallet is filled and ready for transport to the interim storage facility. Empty crates also have to be delivered at the same rate. In addition, there is the flow of pallets towards the delivery ramp.

*"So we cannot afford a long-term standstill of the lifts",* says the master electrician.

### Safety barriers reduce the risk of accidents

In order to be able to carry out maintenance work on the conveyor system or rectify faults, it is necessary to keep the areas in front of the lifts accessible.

*"Not accessible to people, on the other hand, are the lifts themselves, while they are in operation",* **Schoppmann** emphasises. *"The potential danger for the person in the lift would be far too great. That's why all access points to the danger zone of the lifts have been fitted with safety light barriers so that the lift can come to a safe standstill immediately if anyone passes through the protection field."*

The company is now bringing this protective measure up to the current state of the art and is relying on safety products from ifm for the first time.

More precisely: relying on safety light grids which enable unhindered passage of material through the protection field, but bring the hazardous movement to a standstill as soon as a person interrupts the protection field.

This function, also known as muting, is already integrated in the ifm units and ensures that the protection field can only be muted for a short time for pallet transport. The distinction between pallet and person is made possible by specially arranged optoelectronic sensors, so-called muting sensors.

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These are already fully pre-prepared sensor systems which, depending on the requirements of the material to be transported, monitor the conveyor area in the danger zone either crosswise or with parallel arranged light beams.

As necessary, muting can be carried out with two photoelectric sensors aligned crosswise or parallel to each other. In the case of parallel-aligned muting devices, the objects can change their position and width. With cross muting, the position and width of the object is decisive and only if both factors are correct will the light barriers be interrupted simultaneously and the light grid muted.

#### **Maximum protection against unauthorised access**

Sensor systems for both muting variants are available for ifm safety light grids. Since, in the case of the König brewery, only pallets with a fixed width can be transported in the lifts, a sensor system with cross muting is used.

The sensor system is connected, without much effort, directly to the base unit via pre-prepared plug connectors and is also evaluated there. The advantage here is that the system can also be integrated relatively easily into existing infrastructure. The usual additional expense, that would usually be incurred for laying cables from the muting sensors to the central control cabinet, is thus eliminated.

Additionally, clearly visible LEDs are integrated in both the basic units and the associated sensor systems, which greatly facilitates the alignment of the light grids. Depending on version, the basic unit of a light grid can monitor a protection field with a height of up to 910 millimetres and a maximum area width of up to 12 metres. All technical requirements of currently valid safety standards for area monitoring are met.

#### **Cooperation in partnership**

*“We have already worked together with ifm in other areas of automation and, so far, have always been satisfied with the products and the partnership-based, solution-oriented cooperation”, says Schoppmann. “For this reason we decided to also use ifm products for safety-related applications, especially as we were convinced of the expertise and experience of the ifm staff in this field during an appointment at our company. An initial pilot project showed how easy it actually is to manage the safety grids. For the modernisation of the lift protection, we therefore decided in favour of devices from ifm. This is another successful measure for best possible protection of our employees in automated areas at all times.”*

#### **Conclusion**

With its safety products and technical expertise in the field of machine and plant safety, ifm helps König Brewery maintain state of the art safety at their important intralogistics hub in Duisburg – for the benefit of the employees.

