

# *Covid-19: More pallet stackers and forklifts are needed*



Figure 1: iF design awarded stacker truck (Source: Jungheinrich)

*In times of locked down economies with a lot of exit restrictions, online shopping increases. This causes more business for logistics companies requiring increasingly pallet stackers, forklifts, and other transportation equipment.*

Besides Amazon, Alibaba, and other e-commerce companies, forklift makers are benefitting from the Covid-19 disease. The logistics centers of online providers need more pallet stackers and forklift trucks to manage the increased goods flow. Most of these vehicles are using embedded CAN networks. The market-leading manufacturers such as Toyota Industries, the Kion Group, and Hyster-Yale Materials Handling have equipped their products with CAN networks since more than two decades.

Already in the 90ties, the U.S.-based Industrial Truck Association (ITA) developed in cooperation with CAN in Automation (CiA) members some recommended practices for CANopen profiles to be used in forklifts. In Europe, the forklift suppliers also installed embedded CAN networks. Some companies developed their own higher-layer protocols, while others such as Jungheinrich implemented CANopen. First the big forklifts were equipped with CAN networks, but today even the smaller pedestrian pallet stackers make use of CAN.

## **iF-awarded**

This year, the Jungheinrich ERC 216zi stacker truck has been awarded with the iF Design Award. Internally, it uses embedded CANopen networks. Due to its integrated lithium-ion battery, the vehicle is compact and agile. The German manufacturer has shortened the truck's length by eliminating the battery trough between the operator's platform and the mast, which was previously common in such trucks. It is at least 170 mm shorter than comparable trucks. This impressed the jury, who honored the ERC 216zi with the iF Design Award in the category Automobiles/Vehicles. The iF Design Award was first presented in 1953 and is considered the oldest independent design award.

In the development of the ERC 216zi, Jungheinrich paid special attention to the ergonomics of the truck. A fixed stand-on platform offers the driver support and comfort. This is an important advantage for the driver, especially during long periods of operation. The operating elements are arranged in such a way that they allow intuitive control of the truck. The vehicle also sets standards in terms of safety. The overhead guard according to ISO 6055 protects against falling objects. The fixed stand-on platform with its fixed side walls additionally offers the operator perfect all-round protection from three sides.

## **Configuration and diagnostics**

Linde, another German supplier, uses in its electric-powered pallet trucks 1152 series and stacker range series 1172 also embedded CAN networks. Besides adjustments to operating parameters, CAN communication is applied for truck diagnosis and maintenance functionality. It monitors all key functions for diagnosis by a service technician. To minimize downtime and to increase productivity, the company also implements maintenance-free AC motors ▶

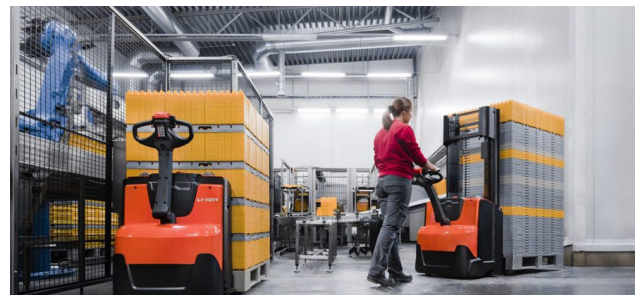


Figure 2: Pedestrian stackers use CAN networks to improve diagnostics and to simplify maintenance; they also reduce the wiring effort (Source: Still)



*Supporting production of disinfectants at a German brewery: In the global effort to fight the coronavirus, basic materials for medical care are urgently needed. The Groenwolder brewery (Germany) is therefore producing disinfectants. In support of this commitment, Still (Germany) is providing an electric forklift truck free-of-charge for the company logistics. But do not drink or inject the disinfectants as the U.S. President suggested it "sarcastically" (Source: Still)*

with CAN connectivity. The CAN communication enables diagnosis of the service data by laptops. Using this, the service technician can also adjust the performance parameters to the relevant use. In addition, they can reach all of the relevant forklift components behind the motor cover. This also shortens servicing time.

### **Pedestrian stacker and pallet truck**

Yale Europe and its daughter company Hyster have introduced CAN-based pedestrian stackers and pallet trucks. The products use the same platforms and control architectures. They are intended for general-purpose warehouse operations, but are also suitable for low-intensity applications.

Both product families benefit from AC traction motors, regenerative brake systems, emergency reversing device, emergency power disconnect, stepless speed control, and CAN communication that reduces wiring complexity and increases reliability. The pedestrian stacker has a lifting capacity of 1,5 t, while the platform pallet truck has a capacity of 2 t and benefits from the option of electric steering.

The waterproof and dust-proof vehicles are equipped with maintenance-free AC motors. They are connected to the embedded CAN networks as the on-board charger and the lateral battery extraction. ◀


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