



Automated Guided Vehicles.

Automated high-rack stackers (AGV VNA).

2018

 **JUNGHEINRICH**

Our extensive portfolio offers the solution you need.



Man-up truck

EKX 516a/ EKX516ka/ EKX514a



Man-down truck

ETX 515a

	EKX 516a/ EKX516ka/ EKX514a	ETX 515a
Max. car. capacity	1,600 kg	1,500 kg
Max. lifting height	13,000 mm	13,000 mm

Overview navigation and energy system.

Navigation

- Navigation via inductive guidance and transponders
- Proven navigation with high precision



Energy system

- Manual battery changing or
- Automatic battery charging via bus-bars

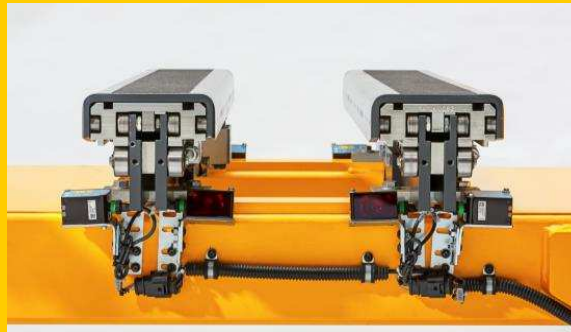


Load handling devices.

Swiveling forks with fine positioning system



Telescopic forks for ETXa



Symmetric fork spreader as option on demand



Advantages AGV VNA operation.

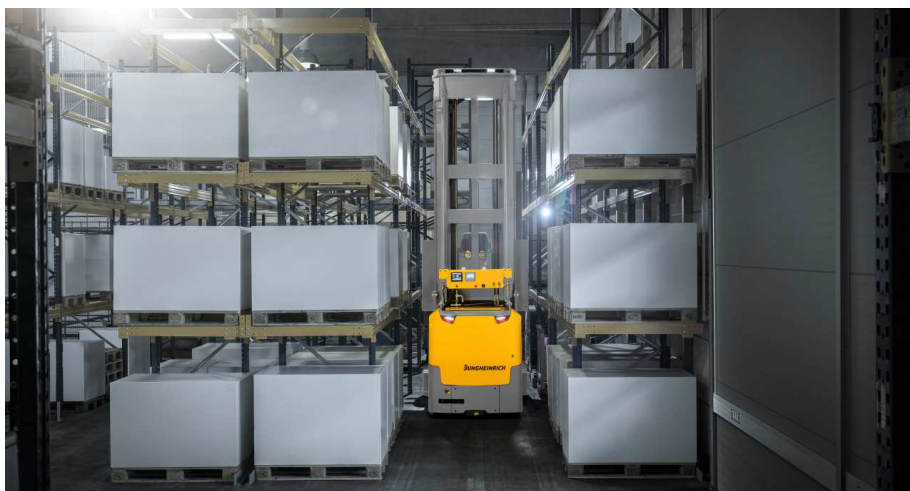
- Efficient in multi-shift operation
- Possibility of stepwise automation
- Flexibility within the warehouse despite automation
- Possibility of operation in more rack rows with just one AGV VNA
- Efficient operation at limited warehouse heights



Customer benefits.

- Optimisation of total cost of ownership
- Flexible use due to stepwise automation: manual ☐ semi-automatic ☐ automatic
- Less wear in comparison to manual operation
- Whole system from a single source: Planning, Hard- and software, Implementation, After Sales Support

Man-Up EKVx for flexible use, e.g. ideal for inventory



Man-Down ETXx for highest energy efficiency in automatic operation



Selected references.



Our Customer Solupharm Pharmazeutische Erzeugnisse GmbH, Germany.

Customer requirements

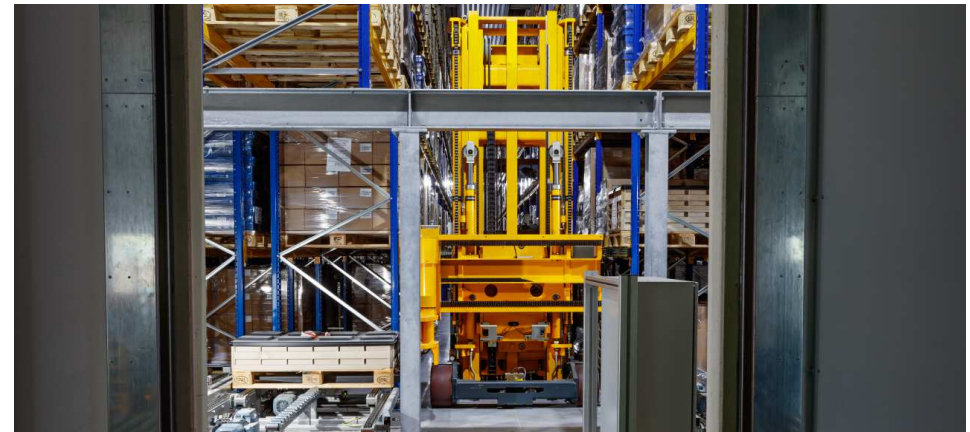
- Take over of transportation/storage tasks
- Solution fitting to GMP guidelines

Jungheinrich Solution

- 2 ETXa man-down AGV VNA
- Warehouse feeding via conveyor system
- Jungheinrich WCS connected to Solupharm WMS
- Additional access to AGV VNA warehouse for warehouse feeding

Customer benefits

- More flexibility in using employees for administrative activities then for operational assignments
- Process reliability
- Damages and mistakes in warehouse operations tend to zero



Our Customer Coko-Werk GmbH & Co. KG, Germany.

Customer requirements

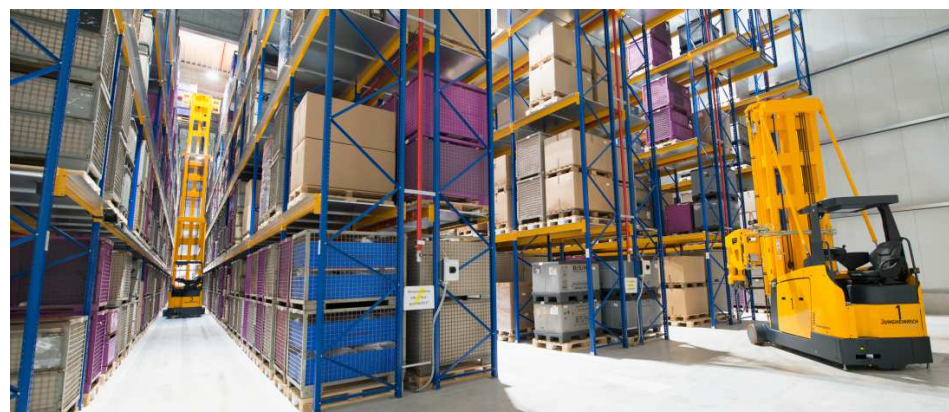
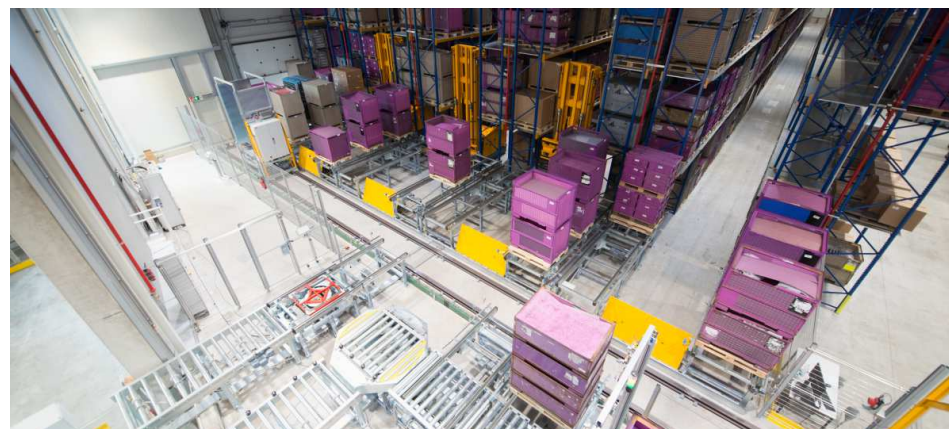
- Reliability in operation
- Warehouse safety

Jungheinrich Solution

- 3 ETXa man-down AGV VNA
- Warehouse feeding via conveyor system
- Wi-Fi Solution with directional antennas

Customer benefits

- More economic logistical processes
- Improved delivery capability
- Realisation of FiFo-principles
- Planning and realisation from a single source



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