

Gradual automation

Maintenance-free synchronous reluctance motor

Different options for pallet stacking and retrieval

Optional on-board battery charger for 24/7 operation



## **EKV 516ka / 516a**

### **Automated Guided Vehicle (AGV) High-Rack Stacker (3,500 lbs.)**

Our powerful and modular EKV 516ka / 516a excels as an Automated Guided Vehicle System (AGV-S) based on our proven EKV electric high level combination order picker/three-lateral stacker. The EKV is characterized by maximum performance at lift heights up to 472-511 inches and sets benchmarks in automated narrow-aisle warehouses.

Equipped with an 80-Volt drive system and a maintenance-free synchronous reluctance motor, it achieves new performance standards while reducing energy loss at the same time. Thanks to the optional integration of an on-board battery charger, bus bar and current collector, this AGV is optimally prepared for 24/7 use.

The application-proven wire guidance in combination with RFID transponders ensures precise positioning at the storage location as well as automatic aisle changes. With the option of automation in stages, you can benefit from maximum availability, efficiency and performance of your warehouse processes.

# Technical data

as of: 3/2023

Characteristics	1.1	Manufacturer			Jungheinrich		Jungheinrich			
	1.2	Model			EKX 516ka		EKX516a			
	1.3	Drive			Electric		Electric			
	1.4	Type of operation			Automatic		Automatic			
	1.5	Load capacity / rated load	Q	lbs	kg	3,500	1,600	3,500	1,600	
	1.6	Load center distance	c	in	mm	24.0	600	24.0	600	
	1.8	Load distance, center of load axle to traverse rack	x	in	mm	17.5	445	17.5	445	
	1.9	Wheelbase	y	in	mm	76.8	1,950	87.4	2,220	
	Weights	2.1	Net weight incl. battery			lbs	kg	14,850	6,750	17,380
2.2		Axle loading: loaded, front / rear			lbs	kg	13,647 / 4,542	6,190 / 2,060	14,528 / 6,195	6,590 / 2,810
2.3		Axle loading: unloaded, front / rear			lbs	kg	8,756 / 6,094	3,980 / 2,770	9,856 / 7,524	4,480 / 3,420
Wheels / Suspension	3.1	Tires			Besthane®		Besthane®			
	3.2	Tire size, front		in	mm	15.0 x 7.6	380 x 192	15.0 x 7.6	380 x 192	
	3.3	Tire size, rear		in	mm	15.7 x 6.3	400 x 160	15.7 x 6.3	400 x 160	
	3.5	Wheels, number front / back (x=driven)			2 / 1x		2 / 1x			
Basic Dimensions	4.2	Collapsed mast height (OAL)		h <sub>1</sub>	in	mm	116.3	2,955	116.3	2,955
	4.4	Maximum fork height (MFH)		h <sub>3</sub>	in	mm	137.8	3,500	137.8	3,500
	4.5	Overall extended mast height (OAE)		h <sub>4</sub>	in	mm	238.2	6,050	238.2	6,050
	4.7	Height of overhead guard (cab)		h <sub>6</sub>	in	mm	100.4	2,550	100.4	2,550
	4.8	Platform height		h <sub>7</sub>	in	mm	16.9	430	16.9	430
	4.11	Auxiliary lift		h <sub>9</sub>	in	mm	70.1	1,780	70.1	1,780
	4.14	Maximum platform height		h <sub>12</sub>	in	mm	154.7	3,930	154.7	3,930
	4.20	Length to fork face, headlength (including fork thickness - see line 4.22)		l <sub>2</sub>	in	mm	137.4	3,489	148.0	3,759
	4.21.1	Overall width		b <sub>1</sub>	in	mm	47.6	1,210	47.6	1,210
	4.22	Fork dimensions - thickness / width / length		s/e/l	in	mm	1.97 / 4.72 / 47.24	50 / 120 / 1,200	1.97 / 4.72 / 47.24	50 / 120 / 1,200
4.31	Ground clearance, loaded, under mast (loaded)		m <sub>1</sub>	in	mm	3.1	80	3.1	80	
4.35	Turning radius		W <sub>a</sub>	in	mm	87.9	2,232	98.5	2,502	
Performance	5.1	Travel speed, loaded/unloaded			mph	kph	5.6 / 5.6	9.0 / 9.0	5.6 / 5.6	9.0 / 9.0
	5.2	Lift speed, loaded / unloaded			ft/min	m/s	118.1 <sup>1)</sup> / 118.1 <sup>1)</sup>	0.60 <sup>2)</sup> / 0.60 <sup>2)</sup>	118.1 <sup>1)</sup> / 118.1 <sup>1)</sup>	0.60 <sup>2)</sup> / 0.60 <sup>2)</sup>
	5.3	Lowering speed, loaded / unloaded			ft/min	m/s	98.4 / 98.4	0.50 / 0.50	98.4 / 98.4	0.50 / 0.50
	5.10	Service brake			reverse current / regenerative		reverse current / regenerative			
	5.11	Parking brake			Electric spring-loaded / discs		Electric spring-loaded / discs			
Motors	6.2	Lift motor kW output at S <sub>3</sub> 15%		hp	kW	33.5	25.0	33.5	25.0	
	6.3	Battery compartment (l x w x h)		in	mm	41.50 / 27.95 / 34.6	1,054 / 710 / 880	41.50 / 27.95 / 34.6	1,054 / 710 / 880	
	6.4	Battery voltage		V		80		80		
	6.5	Battery weight, nominal <sup>2)</sup>		lbs	kg	3,700	1,678	5,042	2,287	
		Battery roller height		in	mm	12.8	325	12.8	325	
Other Details	8.1	Type of drive control			AC synchronous reluctance		AC synchronous reluctance			
	10.5	Steering			electric		electric			
	10.7	Sound level (as per EN12053) driver's ear			dB (A)		64			

1) with Lift Plus, standard: (98.4 fpm / 98.4 fpm) / (0.5 mps / 0.5 mps)

2) for minimum and maximum weights, (+/- 5%)

Note: Equipping this model (these models) with a power source (e.g. Lithium-ion, Hydrogen Fuel cell, etc.) that has not been previously approved by the factory is considered a modification. Per OSHA 1910.178 and ANSI/ITSDF B56.1, please consult with your factory representative prior to installing any non-OEM power source that has not been previously approved.

This specification sheet only provides technical values for the standard truck. Non-standard tires, different masts, additional equipment, etc., could produce other values. Rights reserved for technical changes and improvements.

# 516ka / 516a



# The Jungheinrich Advantage



## Efficiency

Maximum performance with the most efficient automation solution.

Our high performer for your high-bay racking: Thanks to a maintenance-free synchronous reluctance motor and 80-Volt drive system.

### Established standard truck used as basis

- Standard truck EKX Series 5 high-rack stacker
- In combination with extensive technology as well as automation and navigation components.

### Efficient drive technology and equipment

- 80-Volt drive.
- Maintenance-free synchronous reluctance motor.
- RFID reader for positioning in narrow aisles.
- Patented regenerative lowering and braking for maximum energy recovery during operation.
- Optional equipment with on-board battery charger, bus bar and current collector for efficient 24/7 use.

### Parts when you need them

Jungheinrich's Parts Fast or Parts Free Guarantee ensures next-business-day delivery by 5:00 PM of all Jungheinrich parts in the United States, or they're free, including freight. For customers in Canada and Mexico, the guarantee ensures shipping of parts within 24 hours from the time the order was placed by the dealer. See your local Jungheinrich dealer for program details.

\* Programs may be subject to change without notice and may vary by region. Please ask your local Jungheinrich dealer for complete terms and conditions.

\*\* The product shown may be different than the actual configuration based on market requirements.

1-877-JH-FORKS

[www.logisnextamericas.com/jungheinrich](http://www.logisnextamericas.com/jungheinrich)



## Safety

Provides a high level of safety.

Secure communication: The truck communicates with the important control systems via WLAN.

### Process reliability in the warehouse

- Reliable wire guidance technology for driving in a wide variety of warehouse locations.
- Wifi technology allows the truck to communicate with upstream management and control systems.

### Everything in view with the AGV control console

- The graphic display on the AGV control panel displays information relating to the AGV in use.
- Depending on the project-specific requirements, individual customer functions can be specially implemented and activated for the respective system.



## Individuality

An automated solution as individual as your business.

Welcome to the future: We offer proven and optimized basic trucks as the basis for your automation.

### Precise navigation

- Accurate positioning of trucks and loads at the defined stations.
- Project- and environment-specific design and implementation.

### Gradual automation

- Successive automation for future-proofing your very narrow aisle warehouse.
- warehouseNAVIGATION for highly precise approach and positioning of trucks and loads at the defined stations to relieve the operator.
- Semi-automation with warehouseNAVIGATION boosts throughput by up to 25 percent.
- In fully-automatic mode, autonomous maneuvering in storage aisles and reliable completion of assigned transport and storage tasks.
- Wifi to communicate with upstream management and control systems