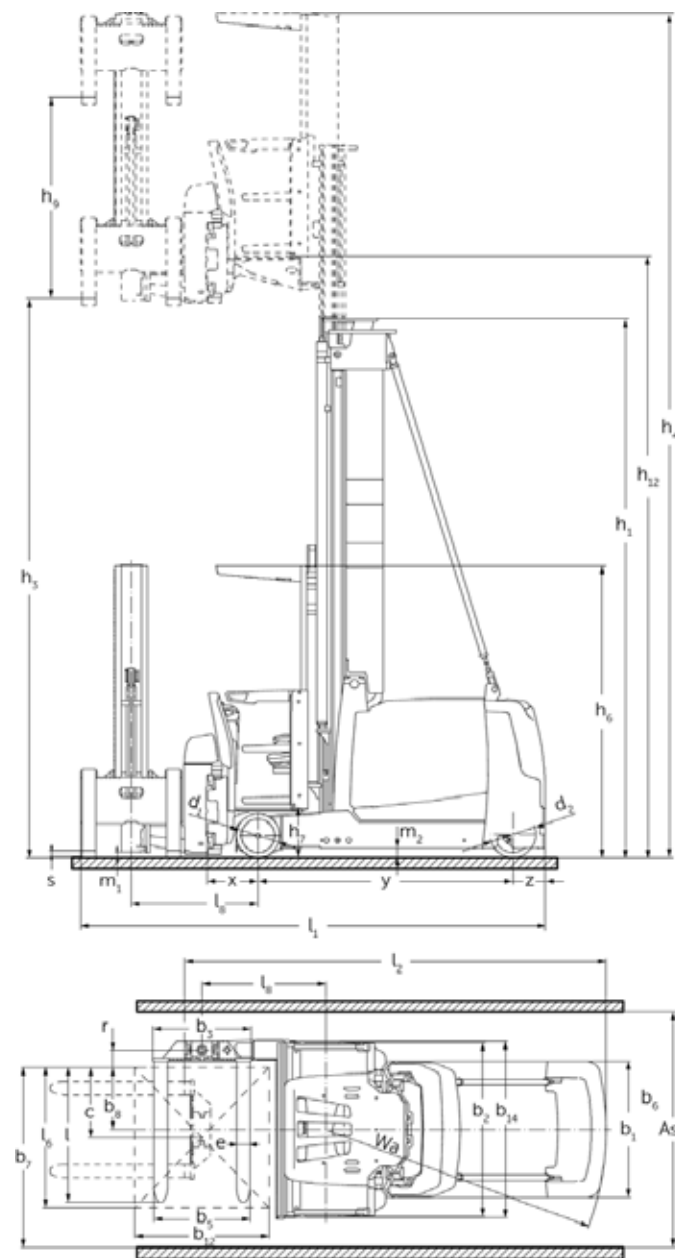


The Jungheinrich Advantage



Standard values for working aisle widths

Pallet size (L x W)	Stacking-in depth		Clear aisle width (Ast)		Transfer aisle (Ast ₁) theoretical		Transfer aisle (Ast ₂) theoretical		Transfer aisle (Ast ₃) theoretical		Transfer aisle (Ast ₄)* practical		
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
With rail guidance													
48 x 40	1,219 x 1,016	48	1,219	65.5	1,660	142.8	3,627	146.7	3,726	158.4	4,023	+19.7	+500
48 x 48	1,219 x 1,219	48	1,219	65.5	1,660	156.3	3,967	160.9	4,087	172.5	4,382	+19.7	+500
48 x 40	1,219 x 1,016	48	1,219	67.5	1,710	151.7	3,853	163.5	4,450	175.2	4,450	+39.4	+1,000
48 x 48	1,219 x 1,219	48	1,219	67.5	1,710	166.9	4,239	170.9	4,341	182.5	4,636	+39.4	+1,000

*The practical transfer aisle width is a reference value.
Note: Ast refers to the normal aisle. Ast₁ refers to the transfer aisle.

The Jungheinrich Advantage

Pioneer of 3-phase AC technology

Over 400,000 Jungheinrich 3-phase AC trucks are in use all over the world. This depth of knowledge is reflected in today's drive and control technology:

- Excellent productivity.
- Low energy consumption.
- Reduced maintenance and wear.
- Automotive type "synchron" motors used for greater performance with lower power consumption.

High productivity

- AC motors with high torque.
- Excellent acceleration and fast main and auxiliary lift speeds.
- Simultaneous lifting/lowering of main and auxiliary lift.
- Smooth and quiet fork traverse and rotate system with high function speed.
- Travel speed is maximized depending on travel direction and fork height.
- Fast working cycles with synchronized traverse / rotate (optional).

Performance module options for highest versatility

- "Lift Plus" module: Lift speed up to 118 ft./min. and optimization of traverse/rotate movement with load recognition (on the EKX 516 model).
- "Capacity Plus" module: Increased residual capacities with stabilizers.
- 10 other special performance and operator modules available.

Energy management module

- Doubled energy reclamation through regenerative braking and lowering.
- Longer operating times with one battery charge (up to two shifts).
- Shorter charging times.
- Active energy/battery management.
- Longer battery life.
- Battery rollers for quick battery change.

Infinite control of hydraulic motor speed for high efficiency

- Hydraulic pump motors only run at speed required to complete requested action so no energy is wasted.
- Powerful, efficient motors run cooler for even greater efficiency.
- Seamless operation of all functions together.

Integrated Jungheinrich personnel protection system (PPS)

- Optionally available, the protection system is factory installed and integrated into the truck's electronic control system/CAN-Bus.
- Senses presence of pedestrians in working aisle and alerts operator; slows and/or stops the truck as necessary.

Ergonomics and comfort

- Generously dimensioned entrance into the operator's cab.
- Large footwells and knee supports make room for a wide variety of operator sizes.
- Design allows for excellent visibility toward the load with low mounted turret and clear view masts.
- The seat is spring cushioned, adjustable and foldable to ensure full-shift comfort.
- Optional air-suspension seat is also available to further enhance comfort.
- Electrically-adjustable operating console with color display.
- Soft-key pad with number block.
- Truck performance can be set for each specific operator or can be selected by the operator to suit the needs of the load (optional).
- Switchless, two-handed operating concept for reliability.
- All hydraulic functions have end of travel dampening for smooth operation and maximum load stability.

Control and CAN-Bus system

- All functions are adjustable.
- Electronically controlled drive-wheel brake and electromagnetic, laminated, wear-free brake on load wheels.
- Active or passive stabilizers for maximum capacities to high lift heights (optional).

RFID floor quality recognition (Optional)

- Truck control with RFID transponder technology.
- Permanent location identification for precise positioning and recognition of all warehouse areas.
- High flexibility regarding programming of truck performance limits based on location (end of aisle slowdown or stop, lift/travel cutoff, speed reduction).
- Optimization of travel speed relative to floor conditions.

Commissioning and maintenance

- A "teach-in" process during installation "teaches" the truck the exact configuration of the warehouse for maximum utilization.
- Integrated diagnostic system for remote maintenance via modem.
- Up to 500-hour service intervals.
- Electronics with wear-free sensor system and a sealed drive unit with lifetime-rated gear oil for reduced maintenance costs.
- Revolution counter on wheels with traction control and wear recognition on drive wheel.

Reliable operation – high utilization

- Robust and wear-free 3-phase AC motors require no downtime for maintenance.
- 70% fewer cables and plugs due to CAN-Bus system design.
- Extremely torsion-resistant mast for high residual capacities and low mast sway.

Additional equipment available

- Mechanical rail guidance.
- Inductive (wire) guidance for precise control in the aisle with no mechanical wear of components.
- Modular telescopic forks for multiple pallet dimensions.
- Comfort package with workplace lighting, mirror and fans.
- Synchronized rotation of forks.
- Mechanical and electrical support for warehouse material flow management systems.
- Truck preparation for working platforms.
- Modular system for lift and travel stop as well as speed reduction.

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.

Versatile design with modular construction and intelligent truck management system

80 Volt 3-phase advanced AC technology providing powerful torque and high productivity

Low cost of operation through two-fold energy reclamation and effective energy management

Ergonomic workplace with electrically-adjustable operator's console



EKX 514/516/516k

Man-Up Turret Truck (3,000 - 3,500 lbs.)

The Jungheinrich® EKX 514–516k high-rack turret trucks stand for high performance in the narrow aisle warehouse by setting new standards for flexibility, low cost of operation and ergonomics.

Versatility through modular construction

The EKX high-rack turret trucks have over 5 million possible configurations providing design versatility from the start.

The key advantages:

This series has the flexibility to adapt to any warehousing and logistics operation. Intelligent truck management with our proprietary electronic controller and CAN-Bus system keeps the options open for a wide range of requirements to precisely

match the truck to the specific application. Jungheinrich's 3-phase AC technology and industry leading controller and motor design provide excellent performance and energy efficiency – important factors for fast throughput and low cost of operation. These features allow operators to work up to two shifts on a single battery charge in most applications.

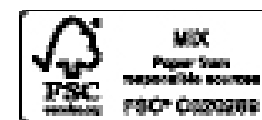
This high performance and efficiency is available to the operator from the moment they step into the operator's cab and turn on the EKX. The cab provides a comfortable space with excellent visibility.

The EKX can work in aisles as narrow as 66 inches wide, helping to further maximize warehouse space.

At the center of the cab is the 2-way electronically-adjustable control panel, which provides the operator with a central location to access all truck controls and to view important operating parameters. All parameters and programs can be set individually.

- Softkeys are used to control functions and menus.
- Travel and hydraulics are controlled via thumb operation.
- Two-handed operation is used for maximum security and operating comfort. Sensors register the operator's touch and pass this information onto the onboard computer.

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Technical Data

as of: 09/2015

Characteristics	1.1 Manufacturer			Jungheinrich		Jungheinrich		Jungheinrich	
	1.2 Model			EKX514		EKX516k		EKX516	
Weights	1.3 Drive			Rail guided		Rail guided		Rail guided	
	1.4 Manual, pedestrian, stand-on, seated, order picker operation			Electric		Electric		Electric	
Wheels, Chassis	1.5 Load capacity/rated load			order picker		order picker		order picker	
	1.6 Load center distance			tri-lateral stacker		tri-lateral stacker		tri-lateral stacker	
Dimensions	1.7 Load distance			3,000		3,500		3,500	
	1.8 Wheelbase			1,400		1,600		1,600	
Performance	1.9 Center of drive wheel/counterweight			24.0		24.0		24.0	
	2.1 Net weight including battery			600		600		600	
Motors	2.2 Axle load, with load, front / rear			17.5		17.5		17.5	
	2.3 Axle load, without load, front / rear			445		445		445	
Other	3.1 Tires			72.4		76.8		87.4	
	3.2 Tire size, at front			1,840		1,950		2,220	
Performance	3.3 Tire size, at rear			282		282		282	
	3.4 Center of drive wheel/counterweight			11.1		11.1		11.1	
Motors	3.5 Wheels, number front/rear (x = driven wheels)			14,440		15,146		17,637	
	3.6 Track width, front			6,550		6,870		8,000	
Dimensions	4.2 Mast height (lowered)			12,610 / 4,145		13,647 / 4,542		14,528 / 6,195	
	4.4 Lift			8,708 / 5,732		8,973 / 6,173		10,097 / 7,540	
Performance	4.21 Total width			3,950 / 2,600		4,070 / 2,800		4,580 / 3,420	
	4.22 Fork dimensions			2/B		2/B		2/B	
Dimensions	4.23 Fork carriage ISO 2328, class/type A, B			2/B		2/B		2/B	
	4.24 Fork carriage width			34.6		34.6		34.6	
Performance	4.25 Width over forks			880		880		880	
	4.29 Reach, sideways			856		856		856	
Dimensions	4.30 Reach, sideways from center of truck			51.2		51.2		51.2	
	4.31 Floor clearance with load under mast			1,300		1,300		1,300	
Performance	4.32 Floor clearance center wheelbase			18.9		18.9		18.9	
	4.33 Working aisle width for 1,200 x 1,200 mm, pallet			480		480		480	
Dimensions	4.35 Turning radius			3.1		3.1		3.1	
	4.38 Distance swivelling fork pivot point			80		80		80	
Performance	4.39 Total lift			80		80		80	
	4.40 Order picking height			64.6		64.6		64.6	
Dimensions	4.41 Distance swivelling forks pivot-point to steering rack			83.5		87.9		98.5	
	4.42 Pallet width			2,122		2,232		2,502	
Performance	4.43 Pallet length			43.4		43.4		43.4	
	4.44 Clear width of operator entrance			1,103		1,103		1,103	
Dimensions	4.45 Inner clear height of operator compartment			207.9		207.9		207.9	
	4.46 Outer width of operator compartment			5,280		5,280		5,280	
Performance	4.47 Width of swivel reach frame			217.7		217.7		217.7	
	4.48 Wide crane arm			5,530		5,530		5,530	
Dimensions	4.49 Distance swivelling forks pivot-point to back of forks			25.9		25.9		25.9	
	5.1 Travel speed, with / without load (motor direction)			658		658		658	
Performance	5.2 Lift speed, with / without load ²⁾			47.2		47.2		47.2	
	5.3 Lower speed, with / without load			1,200		1,200		1,200	
Dimensions	5.4 Traverse speed with / without load ¹⁾			47.2		47.2		47.2	
	5.10 Service brake			1,200		1,200		1,200	
Performance	5.11 Parking brake			1,200		1,200		1,200	
	6.1 Drive motor rating S ₂ , 60 min.			19.3		19.3		19.3	
Dimensions	6.2 Lift motor kW output at S ₂ , 15%			490		490		490	
	6.3 Battery size (l x w x h)			82.7		82.7		82.7	
Performance	6.4 Battery voltage, nominal capacity			2,100		2,100		2,100	
	6.5 Battery weight			56.7		56.7		56.7	
Other	8.1 Type of drive control			1,440		1,440		1,440	
	8.4 Sound pressure level at operator's ear (to EN 12053)			56.7		56.7		56.7	
Performance	8.6 Steering			6.8		6.8		6.8	
	8.6 Steering			6.1		6.1		6.1	
Performance	5.1 Travel speed, with / without load (motor direction)			5.6 / 5.6		5.6 / 5.6		5.6 / 5.6	
	5.2 Lift speed, with / without load ²⁾			9.0 / 9.0		9.0 / 9.0		9.0 / 9.0	
Dimensions	5.3 Lower speed, with / without load			0.45 / 0.45		0.60 / 0.60		0.60 / 0.60	
	5.4 Traverse speed with / without load ¹⁾			118.1 / 118.1		118.1 / 118.1		118.1 / 118.1	
Performance	5.10 Service brake			0.50 / 0.50		0.50 / 0.50		0.50 / 0.50	
	5.11 Parking brake			0.40 / 0.50		0.40 / 0.50		0.40 / 0.50	
Dimensions	6.1 Drive motor rating S ₂ , 60 min.			78.7 / 98.4		78.7 / 98.4		78.7 / 98.4	
	6.2 Lift motor kW output at S ₂ , 15%			12		12		12	
Performance	6.3 Battery size (l x w x h)			9		9		9	
	6.4 Battery voltage, nominal capacity			34		34		34	
Dimensions	6.5 Battery weight			25		25		25	
	8.1 Type of drive control			40.99 x 23.99 x 30.49		41.24 x 27.74 x 30.27		41.46 x 39.56 x 30.49	
Performance	8.4 Sound pressure level at operator's ear (to EN 12053)			1,041.4 x 609.6 x 774.7		1,047.7 x 704.8 x 769.1		1,053.1 x 1,005 x 774.7	
	8.6 Steering			80		80		80	
Dimensions	8.6 Steering			500		625		875	
	8.6 Steering			3,138		1,423		3,700	
Performance	8.6 Steering			64		64		64	
	8.6 Steering			Electric		Electric		Electric	

In accordance with VDI Guideline 2198 this specification sheet provides details of the standard truck only.
 Non-standard tires, different masts, optional equipment, etc. may result in different values.
 1) with performance kit (Standard 0.4/ 0.4)
 2) with performance kit (Standard 0.5/ 0.5)

Standard Mast Types Two-Stage Mast ZT										
Lift height		Total lift		Order picking height		Collapsed mast height		EKX 514	EKX 516k	EKX 516
h ₃		h _{total} (h ₃ +h ₂)		h ₁₅		h ₁				
in	mm	in	mm	in	mm	in	mm			
118	3,000	188	4,780	198	5,030	107	2,705	•	•	•
137	3,500	207	5,280	217	5,530	117	2,955	•	•	•
157	4,000	227	5,780	237	6,030	127	3,205	•	•	•
177	4,500	247	6,280	257	6,530	137	3,455	•	•	•
196	5,000	266	6,780	276	7,030	146	3,705	•	•	•
216	5,500	286	7,280	296	7,530	156	3,955	•	•	•
236	6,000	306	7,780	316	8,030	166	4,205	•	•	•
255	6,500	325	8,280	335	8,530	180	4,555	•	•	•
275	7,000	345	8,780	355	9,030	190	4,805	•	•	•
295	7,500	365	9,280	375	9,530	200	5,055	•	•	•
314	8,000	385	9,780	394	10,030	209	5,305	•	•	•
334	8,500	404	10,280	414	10,530	223	5,655	•	•	•
354	9,000	424	10,780	434	11,030	233	5,905	•	•	•
374	9,500	444	11,280	453	11,530	243	6,155	•	•	•
393	10,000	463	11,780	473	12,030	253	6,405	•	•	•
413	10,500	483	12,280	493	12,530	263	6,655	•	•	•

• Truck model, available mast

Standard Mast Types Three-Stage Mast ZD										
Lift height		Total lift		Order picking height		Collapsed mast height		EKX 514	EKX 516k	EKX 516
h ₃		h _{total} (h ₃ +h ₂)		h ₁₅		h ₁				
in	mm	in	mm	in	mm	in	mm			
157	4,000	227	5,780	237	6,030	101	2,550	•	•	•
177	4,500	247	6,280	257	6,530	107	2,710	•	•	•
196	5,000	266	6,780	276	7,030	114	2,895	•	•	•
216	5,500	286	7,280	296	7,530	122	3,095	•	•	•
236	6,000	306	7,780	316	8,030	130	3,295	•	•	•
255	6,500	325	8,280	335	8,530	138	3,495	•	•	•
275	7,000	345	8,780	355	9,030	146	3,695	•	•	•
295	7,500	365	9,280	375	9,530	154	3,895	•	•	•
314	8,000	385	9,780	394	10,030	162	4,095	•	•	•
334	8,500	404	10,280	414	10,530	170	4,295	•	•	•
354	9,000	424	10,780	434	11,030	177	4,495	•	•	•
364	9,250	434	11,030	444	11,280	181	4,595	•	•	•
374	9,500	444	11,280	453	11,530	185	4,695	•	•	•
393	10,000	463	11,780	473	12,030	192	4,875	—	•	•
413	10,500	483	12,280	493	12,530	199	5,045	—	•	•
433	11,000	503	12,780	512	13,030	206	5,215	—	—	•
452	11,500	522	13,280	532	13,530	213	5,395	—	—	•
472	12,000	542	13,780	552	14,030	220	5,565	—	—	•
492	12,500	562	14,280	572	14,530	227	5,750	—	—	•
511	13,000	581	14,780	591	15,030	235	5,950	—	—	•
531	13,500	601	15,280	611	15,530	247	6,250	—	—	•
551	14,000	621	15,780	631	16,030	258	6,550	—	—	•
570	14,500	640	16,280	650	16,530	270	6,850	—	—	•

• Truck model, available mast