

24 Volt 3-phase AC technology for greater torque and responsiveness

Ergonomic design for outstanding handling

Excellent efficiency due to high-performance levels with low energy consumption

Available with optional open platform (L) or auxiliary lift (Z)



EKS 110

Vertical Order Picker (2,200 lbs.)

The Jungheinrich® EKS 110 is the ideal truck for order picking in the first to third levels of racking. The platform and load section can be raised to a height of up to 118 inches (3,000 mm), allowing individual items to be picked from heights up to 15 feet (4,600 mm).

The travel and lift controls are designed to allow for simultaneous operation to get to the point of order picking faster.

The counterbalance design also allows for a wide range of loads to be handled.

The load section is available with an optional open platform design or with an auxiliary "mini mast" load lift (without reducing the residual capacity). The auxiliary lift ensures that the picked goods can be placed at an ergonomically correct height for operator comfort and efficiency.

Additional ergonomic and technical features are utilized to make order picking easier, faster and more economical. These features include:

- Large optional storage areas on the battery cover and below the control unit.
- Extended operator platform width (optional).
- Infinitely variable speed control.
- Individually-adjustable travel parameters.
- Color operator display.
- 24-Volt AC drive system.
- Deluxe keyless start (optional).
- Travel alarm (optional).
- Lift / lower alarm (optional).
- Steel bumper (optional).

EKS 110

EKS 110 L

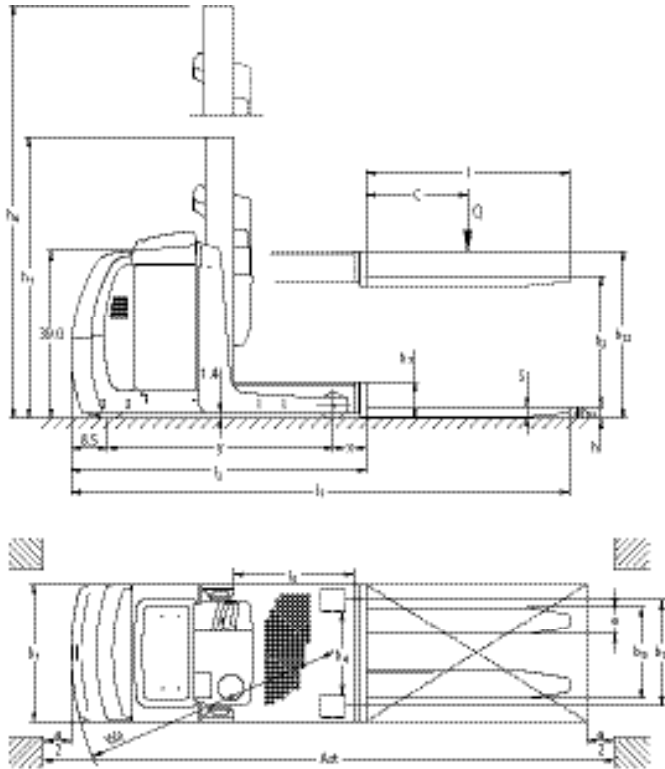


Illustration shows version 100 E.

EKS 110 Z

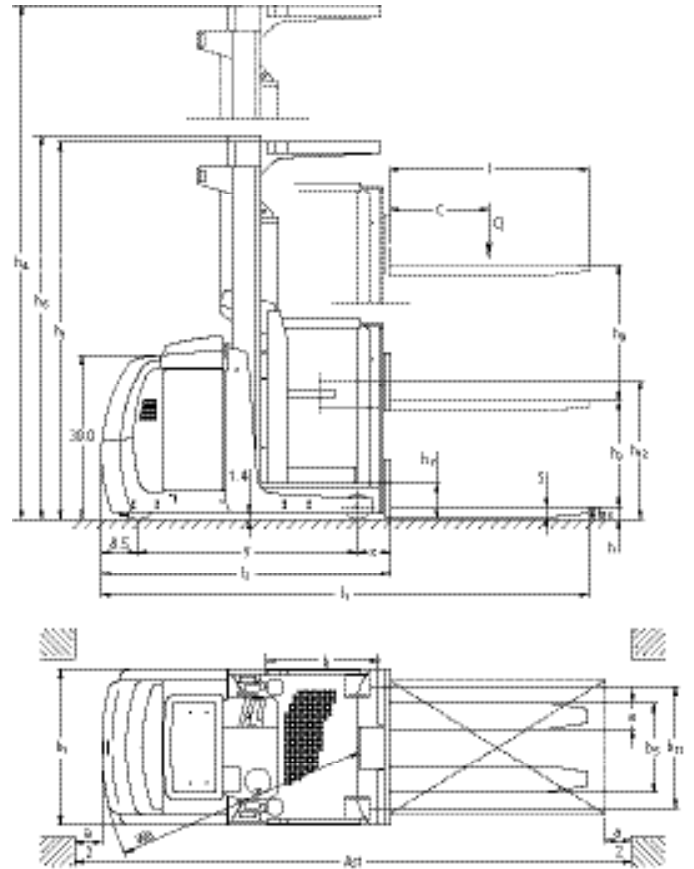


Illustration shows version 280 ZZ.
Top view shown without overhead guard (OHG).

*Fork design and carriage design may be different than illustrated.

Mast Table EKS 110

	Collapsed Mast Height h_1				Lift Height h_3		Platform Height h_{12}		Extended Mast Height h_4				Order Picking Height $h_{12} + 63$	
	Without Overhead Guard ¹⁾		With Overhead Guard ²⁾						Without Overhead Guard ¹⁾		With Overhead Guard ²⁾			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
100 E	65.0	1,650	87.8	2,230	39.4	1,000	47.2	1,200	104.3	2,650	127.1	3,230	110.2	2,800
160 E	—	—	89.0	2,260	63.0	1,600	70.9	1,800	—	—	150.8	3,830	133.9	3,400
190 E	—	—	100.8	2,560	74.8	1,900	82.7	2,100	—	—	162.6	4,130	145.7	3,700
280 ZZ	—	—	89.0	2,250	110.2	2,800	118.1	3,000	—	—	198.0	5,030	181.1	4,600

1) Highest point is lift mast.

2) Highest point is overhead guard.

Technical Data

Characteristics	1.1	Manufacturer			Jungheinrich		Jungheinrich				
	1.2	Model			EKS 110 (110 E) ¹⁾		EKS 110 (160 E) ¹⁾				
	1.3	Drive			electric		electric				
	1.4	Type of operation			order picker		order picker				
	1.5	Load capacity / rated load	Q	lbs	kg	2,205	1,000	2,205	1,000		
	1.6	Load center distance	c	in	mm	24.0	610	24	610		
	1.8	Load distance, center of drive axle to fork		in	mm	5.6	148	5.6	143		
	1.9	Wheelbase	y	in	mm	52.4	1,330	52.4	1,330		
	Weights	2.1	Service weight without battery			lbs	kg	2,604 ²⁾	1,181 ²⁾	2,877 ²⁾	1,305 ²⁾
2.1.1		Service weight including battery (see line 6.5)			lbs	kg	3,607 ²⁾	1,637 ²⁾	3,880 ²⁾	1,761 ²⁾	
2.2		Axle loading – loaded, drive / load			lbs	kg	1,080 / 4,774 ³⁾	491 / 2,170 ³⁾	1,135 / 4,992 ³⁾	516 / 2,269 ³⁾	
2.3		Axle loading – unloaded, drive / load			lbs	kg	2,317 / 1,338 ³⁾	1,053 / 608 ³⁾	2,405 / 1,522 ³⁾	1,093 / 692 ³⁾	
Wheels, Chassis	3.1	Tire type / material			Vulkollan®		Vulkollan®				
	3.2	Tire size, drive		in	mm	9.1 x 3.1	230 x 80	9.1 x 3.1	230 x 80		
	3.3	Tire size, load		in	mm	5.9 x 5.1	150 x 130	5.9 x 5.1	150 x 130		
	3.5	Wheels, number, drive / load (x=driven)			1x / 2		1x / 2				
	3.7	Track width, drive / load (center of tires)	b ₁₁	in	mm	24.8	630	24.8	630		
Dimensions	4.2	Lowered mast height	h ₁	in	mm	65.0 ⁴⁾	1650 ⁴⁾	89.0	2,260		
	4.4	Maximum fork height (MFH)	h ₃	in	mm	39.4	1,000	63.0	1,600		
	4.5	Overall extended height (OAE)		in	mm	104.3 ⁴⁾	2650 ⁴⁾	150.8	3,830		
	4.7	Overhead load guard (cab) height		in	mm	87.8 (optional)	2,230 (optional)	87.8	2,230		
	4.8	Seat height / standing height		in	mm	7.9	200	7.9	200		
	4.11	Auxiliary lift		in	mm	31.5 ⁷⁾	800 ⁷⁾	31.5 ⁷⁾	800 ⁷⁾		
	4.14	Maximum platform height		in	mm	47.2	1,200	70.9	1,800		
	4.15	Lowered fork height		in	mm	3.1	80	3.1	80		
	4.16	Length of platform		in	mm	30.5 ⁵⁾	775 ⁵⁾	30.5 ⁵⁾	775 ⁵⁾		
	4.19	Overall length (including forks)		in	mm	113.8	2,890	113.8	2,890		
	4.20	Length to fork face, headlength		in	mm	66.5	1,690	66.5	1,690		
	4.21	Overall width – chassis / wheel legs		in	mm	31.9 / 31.9	810 / 810	31.9 / 31.9	810 / 810		
	4.22	Fork dimensions, thickness / width / length		in	mm	2.4 x 6.3 x 47.2 ⁶⁾	60 x 160 x 1200 ⁶⁾	2.4 x 6.3 x 47.2 ⁶⁾	60 x 160 x 1200 ⁶⁾		
	4.25	Overall fork width (fixed carriage)		in	mm	21.3	540	21.3	540		
4.26	Distance between wheelarms (BLO)		in	mm	16.9	430	16.9	430			
4.31	Ground clearance, under mast (loaded)		in	mm	1.4	35	1.4	35			
4.34	Aisle width (for 48 x 40 pallets (L x W))		in	mm	126.0	3,200	126.0	3,200			
4.35	Turning radius		in	mm	60.9	1,548	60.9	1,548			
Performance	5.1	Travel speed, loaded / unloaded			mph	kph	6.1 / 6.3	9.8 / 10.1	5.6 / 5.6	9.9 / 9.9	
	5.2	Lift speed, loaded / unloaded			ft / min	m / s	37.4 / 51.2	0.19 / 0.26	29.5 / 39.4	0.15 / 0.20	
	5.3	Lowering speed, loaded / unloaded			ft / min	m / s	47.2 / 47.2	0.24 / 0.24	45.3 / 43.3	0.23 / 0.22	
	5.7	Gradeability, loaded / unloaded					7 / 10		7 / 10		
	5.8	Maximum gradeability loaded / unloaded					10 / 15		10 / 15		
	5.9	Acceleration time loaded / unloaded					5.1 / 4.8		5.1 / 4.8		
	5.10	Service brake					regenerative electric		regenerative electric		
	5.11	Parking brake					electromagnetic		electromagnetic		
	Motors	6.1	Drive motor (rating 60 minutes)			hp	kW	3.75	2.8	3.75	2.8
		6.2	Lift motor rating at 15%			hp	kW	4.0	3.0	4.0	3.0
6.4		Battery voltage / nominal capacity			V	Ah	24 / 620		24 / 620		
6.5		Battery weight, minimum			lb	kg	1,047	475	1,047	475	
6.5.1		Battery dimensions (length x width x height)			in	mm	14.00x24.57x30.87	356x624x784	14.00x24.57x30.87	356x624x784	
6.5.2		Battery roller height (option)			in	mm	6.7	170	6.7	170	
Other	8.1	Type of drive control					AC Speed Control		AC Speed Control		
	8.4	Sound level at driver's ear			dB (A)		61		61		
	8.5	Steering					Electric Power Steering		Electric Power Steering		
1) Data applies unless otherwise specified for configurations L and Z					5) For auxiliary lift Z: -2.6 inches (-65mm)						
2) For auxiliary lift Z: +264.6 lbs. (120 kg)					6) For auxiliary lift Z: 2.6 x 6.3 x 47.2 inches (65 x 160 x 1,200mm);						
3) For auxiliary lift Z: approximately +44 / +221 lbs. (+20 / +100 kg)					with fixed carriage.						
4) With overhead guard: +22.8 inches (+580mm)					7) Z configuration only						

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.

Characteristics					Jungheinrich		Jungheinrich				
					EKS 110 (190 E) ¹⁾		EKS 110 (280 ZZ) ¹⁾				
1.1	Manufacturer				Jungheinrich		Jungheinrich				
1.2	Model				EKS 110 (190 E) ¹⁾		EKS 110 (280 ZZ) ¹⁾				
1.3	Drive				electric		electric				
1.4	Type of operation				order picker		order picker				
1.5	Load capacity / rated load	Q	lbs	kg	2,205	1,000	2,205	1,000			
1.6	Load center distance	c	in	mm	24	610	24	610			
1.8	Load distance, center of drive axle to fork		in	mm	5.6	143	7.1	180			
1.9	Wheelbase	y	in	mm	52.4	1,330	54.5	1,385			
Weights	2.1	Service weight without battery		lbs	kg	2,939 ²⁾	1,333 ²⁾	3,942 ²⁾	1,788 ²⁾		
	2.1.1	Service weight including battery (see line 6.5)		lbs	kg	3,942 ²⁾	1,789 ²⁾	4,945 ²⁾	2,244 ²⁾		
	2.2	Axle loading – loaded, drive / load		lbs	kg	1,113 / 5,075 ³⁾	506 / 2,307 ³⁾	167 / 5,513 ³⁾	762 / 2,506 ³⁾		
	2.3	Axle loading – unloaded, drive / load		lbs	kg	2,385 / 1,604 ³⁾	1,084 / 729 ³⁾	2,939 / 2,050 ³⁾	1,336 / 932 ³⁾		
Wheels, Chassis	3.1	Tire type / material				Vulkollan®		Vulkollan®			
	3.2	Tire size, drive		in	mm	9.1 x 3.1	230 x 80	9.1 x 3.1	230 x 80		
	3.3	Tire size, load		in	mm	5.9 x 5.1	150 x 130	5.9 x 5.1	150 x 130		
	3.5	Wheels, number, drive / load (x=driven)				1x / 2		1x / 2			
	3.7	Track width, drive / load (center of tires)	b ₁₁	in	mm	24.8	630	28.4	720		
Dimensions	4.2	Lowered mast height		h ₁	in	mm	100.8	2,560	89.0	2,250	
	4.4	Maximum fork height (MFH)		h ₃	in	mm	74.8	1,900	110.2	2,800	
	4.5	Overall extended height (OAE)				in	mm	162.6	4,130	198.0	5,030
	4.7	Overhead load guard (cab) height				in	mm	87.8	2,230	87.8	2,230
	4.8	Seat height / standing height				in	mm	7.9	200	7.9	200
	4.11	Auxiliary lift				in	mm	31.5 ⁷⁾	800 ⁷⁾	31.5 ⁷⁾	800 ⁷⁾
	4.14	Maximum platform height				in	mm	82.7	2,100	118.1	3,000
	4.15	Lowered fork height				in	mm	3.1	80	3.1	80
	4.16	Length of platform				in	mm	30.5 ⁵⁾	775 ⁵⁾	30.5 ⁵⁾	775 ⁵⁾
	4.19	Overall length (including forks)				in	mm	113.8	2,890	117.5	2,985
	4.20	Length to fork face, headlength				in	mm	66.5	1,690	70.1	1,780
	4.21	Overall width – chassis / wheel legs				in	mm	31.9 / 31.9	810 / 810	35.4 / 35.4	900 / 900
	4.22	Fork dimensions, thickness / width / length				in	mm	2.4 x 6.3 x 47.2 ⁶⁾	60 x 160 x 1200 ⁶⁾	2.4 x 6.3 x 47.2 ⁶⁾	60 x 160 x 1200 ⁶⁾
	4.25	Overall fork width (fixed carriage)				in	mm	21.3	540	21.3	540
4.26	Distance between wheelarms (BLO)				in	mm	16.9	430	20.5	520	
4.31	Ground clearance, under mast (loaded)				in	mm	1.4	35	1.4	35	
4.34	Aisle width (for 48 x 40 pallets (L x W))				in	mm	126.0	3,200	128.0	3,251	
4.35	Turning radius				in	mm	60.9	1,548	63.1	1,603	
Performance	5.1	Travel speed, loaded / unloaded		mph	kph	5.6 / 5.6	9.9 / 9.9	5.6 / 5.6	9.9 / 9.9		
	5.2	Lift speed, loaded / unloaded		ft / min	m / s	29.5 / 39.4	0.15 / 0.20	45.3 / 61.0	0.23 / 0.31		
	5.3	Lowering speed, loaded / unloaded		ft / min	m / s	45.3 / 43.3	0.23 / 0.22	55.1 / 51.2	0.28 / 0.26		
	5.7	Gradeability, loaded / unloaded				%	7 / 10	7 / 10	7 / 10		
	5.8	Maximum gradeability loaded / unloaded				%	10 / 15	10 / 15	10 / 15		
	5.9	Acceleration time loaded / unloaded				Sec	5.1 / 4.8	5.1 / 4.8	5.1 / 4.8		
	5.10	Service brake					regenerative electric	regenerative electric	regenerative electric		
5.11	Parking brake					electromagnetic	electromagnetic	electromagnetic			
Motors	6.1	Drive motor (rating 60 minutes)		hp	kW	3.75	2.8	3.75	2.8		
	6.2	Lift motor rating at 15%		hp	kW	4.0	3.0	8.0	6.0		
	6.4	Battery voltage / nominal capacity		V	Ah	24 / 620		24 / 620			
	6.5	Battery weight, minimum		lb	kg	1,047	475	1,047	475		
	6.5.1	Battery dimensions (length x width x height)		in	mm	14.00x24.57x30.87	356x624x784	14.00x24.57x30.87	356x624x784		
	6.5.2	Battery roller height (option)		in	mm	6.7	170	6.7	170		
Other	8.1	Type of drive control				AC Speed Control		AC Speed Control			
	8.4	Sound level at driver's ear		dB (A)		61		61			
	8.5	Steering				Electric Power Steering		Electric Power Steering			
1) Data applies unless otherwise specified for configurations L and Z					5) For auxiliary lift Z: -2.6 inches (-65mm)						
2) For auxiliary lift Z: +264.6 lbs. (120 kg)					6) For auxiliary lift Z: 2.6 x 6.3 x 47.2 inches (65 x 160 x 1,200mm);						
3) For auxiliary lift Z: approximately +44 / +221 lbs. (+20 / +100 kg)					with fixed carriage.						
4) With overhead guard: +22.8 inches (+580mm)					7) Z configuration only						



The Jungheinrich Advantage

24-Volt, 3-phase AC technology

Jungheinrich AC motors provide greater power and reduced operating costs during the life of the truck. The benefits include:

- Outstanding efficiency and excellent energy conservation.
- Powerful acceleration.
- Fast reversing without hesitation.
- No carbon brushes – the traction motor is maintenance-free.

Smooth lifting and lowering

The platform raises and lowers in a consistent, smooth process resulting from the special movement of the hydraulic pump and valves.

The cushioned platform provides additional operating comfort.

The advantages:

- Physical relief for the operator.
- Additional protection for sensitive loads.
- Minimal wear due to reduced stress on the lift truck.

Controlled travel

The Jungheinrich SpeedControl system provides smooth, precise control of the travel speed.

- The requested travel speed is maintained in every travel situation.
- The traction controller can be programmed for different applications: ultra smooth movement when precise, low speeds are required; faster travel and acceleration when higher performance is needed.
- Individually-adjustable travel parameters (e.g. acceleration, top speed, regenerative braking) ensure optimum adjustment to virtually every application.
- The operator can choose from three different travel programs.
- Very low noise when lifting and driving.

Ergonomic control unit

- The angled steering wheel supports natural hand movements and virtually eliminates wrist strain.
- Easily accessible buttons and switches allow the operator to control the lift truck with minimal hand movements.



Intuitive operator display



Control console

Operator display

High-quality control panel that displays the most important operating data.

- Travel direction and wheel position display.
- Battery condition with residual running time display.
- Selected travel program with performance features.
- Operating hours and time.

Excellent efficiency and reliability

High acceleration levels and fast travel / lift speeds provide excellent conditions for order picking performance. Several performance features ensure high reliability.

- Secure handling around corners due to a low center of gravity.
- Rigid chassis and mast design limit the lean and flex on the truck during operation.
- Travel performance is precisely tuned, based on a combination of lift height and steering angle, to allow for maximum productivity and operator confidence throughout the work shift.

Less maintenance

Service-friendly components ensure long-term reduction of operating costs.

- AC motors eliminate the need for maintenance associated with DC motors, such as brushes, brush springs or a commutator.
- Easy access to components through the front / side panels due to the optimum layout of auxiliary hydraulics.

Optional equipment

- Guidance controls, aisle recognition and end-of-aisle protection device for narrow-aisle, rail-guided applications.
- Platform extensions.
- Secondary operator position in fork direction.
- Working lights and warning lights on overhead guard.
- Auxiliary "mini-mast" load lift (optional).

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.

