

Maximum picking performance with the lowest energy consumption

Powerful motor for high throughput efficiency

Optionally with walk-on load section (L) or auxiliary mast (Z)

Optimised order picking thanks to WMS connection via Logistics Interface



## EKS 110

### Medium/high level order pickers (1,000 kg)

The EKS 110 is the ideal truck for order picking processes from the first to the third racking levels. With a maximum platform height of 3 m, order picking heights of up to 4.6 m can be reached.

The cantilevered design enables both open and closed pallets to be picked up. Options available for the load section are fixed forks (can also be walked on with a guard (L)) or auxiliary lift (Z) for the ergonomic depositing of picked items.

The 3.2-kW drive system facilitates travel speeds of up to 14 km/h. The acceleration values are also optimised to contribute towards efficient order picking. Various options packages and

the load/steer angle-dependent curveCONTROL assistance system, fully exploit the strengths of the EKS 110: dynamic acceleration, safe cornering and high maximum speed, all the while ensuring best possible energy utilisation.

The EKS 110 workstation is designed to make work easier:

- Optimum freedom of movement when entering and exiting as well as travelling and order picking.
- Intuitive and ergonomic arrangement of all controls.
- The 4-inch display provides information on the battery discharge status, number of operating hours, travel speed and error codes and also offers the option of selecting from three travel programs via softkey.

# EKS 110

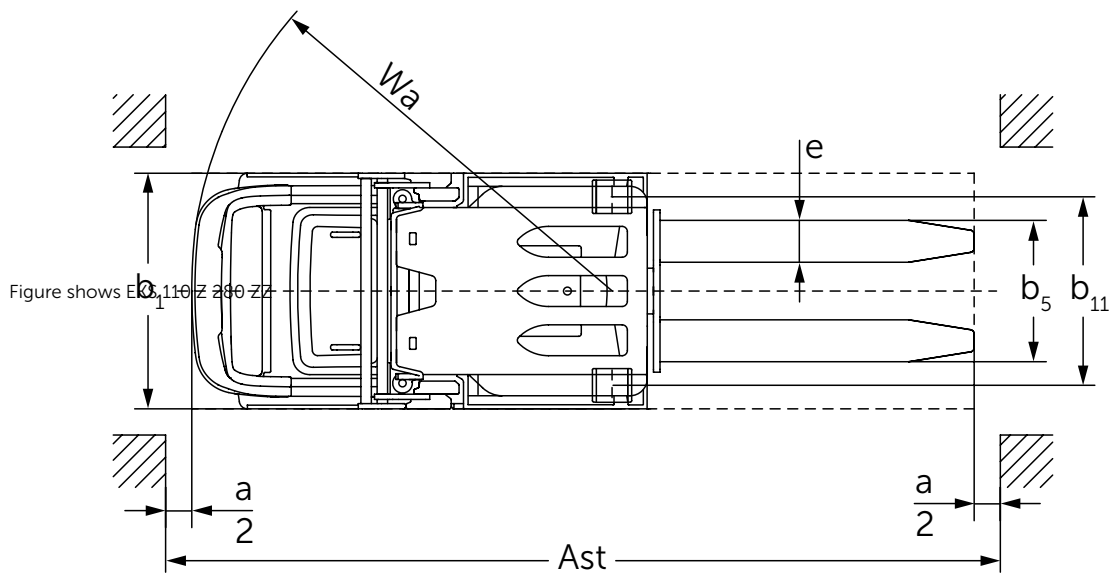
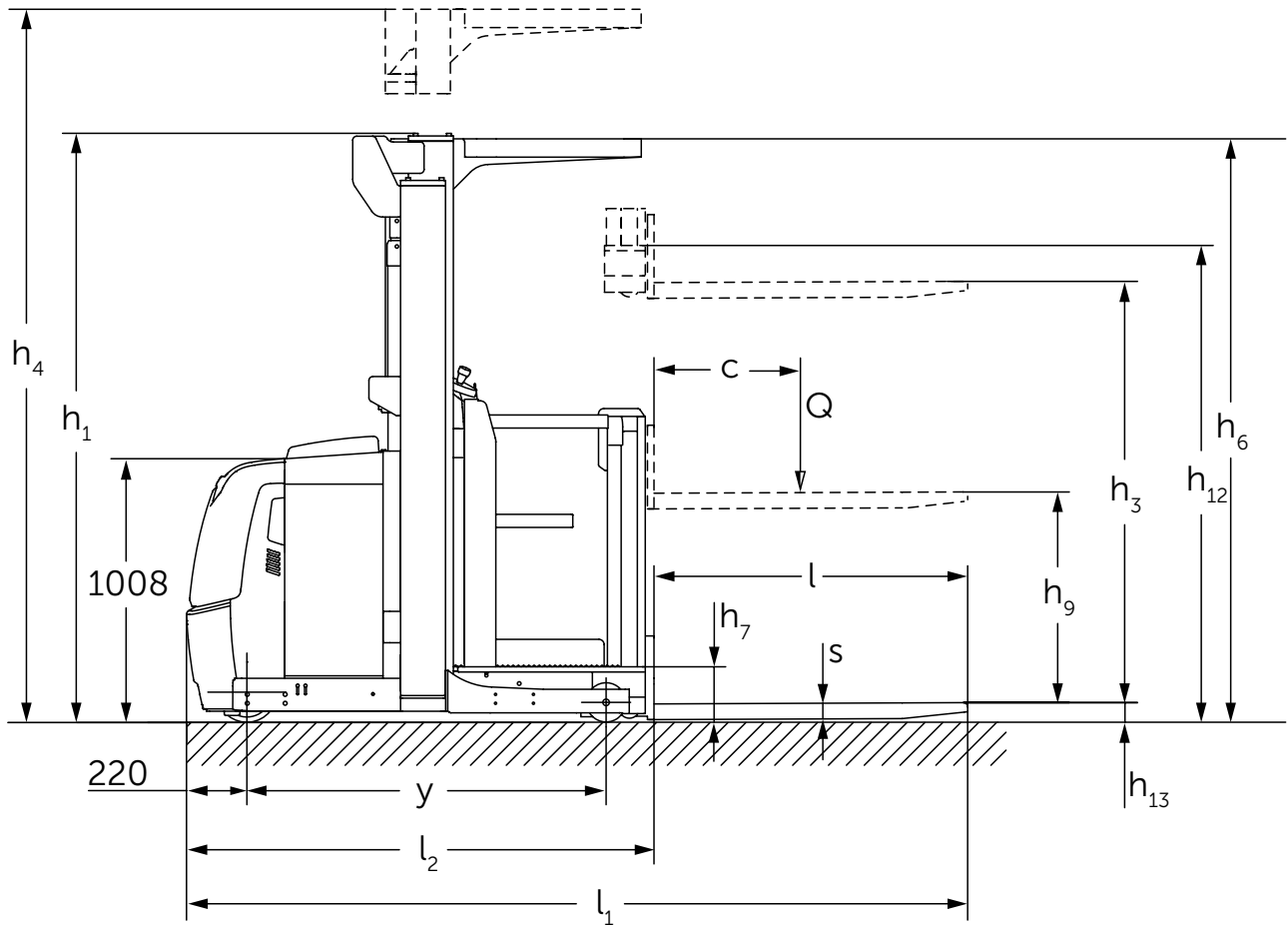


Figure shows EKS 110 Z 280 ZZ

# Technical data in line with VDI 2198

		Jungheinrich						
		EKS 110						
		L 100 E	L 160 E	L 190 E	L 280 ZZ			
Identification	1.1	Manufacturer (abbreviation)						
	1.2	Manufacturer's type designation						
	1.3	Drive	Electric					
	1.4	Operator type: manual, pedestrian, stand-on, seated, order picker	Order pickers					
	1.5	Load capacity/rated load	Q	t	1			
	1.6	Load centre distance	c	mm	600			
	1.8	Load distance, centre of drive axle to fork	x	mm	143	143	143	180
	1.9	Wheelbase	y	mm	1,330	1,330	1,330	1,385
	Weights	2.1.1	Service weight incl. battery (see row 6.5)	kg		1,661	1,785	1,813
2.2		Axle loading, laden front/rear	kg		491 / 2,170	516 / 2,269	506 / 2,307	762 / 2,506
2.3		Axle loading, unladen front/rear	kg		1,053 / 608	1,093 / 692	1,084 / 729	1,336 / 932
Wheels / frame	3.1	Tyres	Vu					
	3.2	Tyre size, front	mm					
	3.3	Tyre size, rear	mm					
	3.5	Wheels, number front/rear (x = driven wheels)	1x / 2					
	3.7	Tread width, rear	b <sub>11</sub>	mm	630	630	630	720
Basic dimensions	4.2	Mast height (lowered)	h <sub>1</sub>	mm	1,650 <sup>4)</sup>	2,260	2,560	2,250
	4.4	Lift	h <sub>3</sub>	mm	1,000	1,600	1,900	2,800
	4.5	Extended mast height	h <sub>4</sub>	mm	2,650 <sup>5)</sup>	3,830	4,130	5,030
	4.7	Height of overhead guard	h <sub>6</sub>	mm	2,230 <sup>1)</sup>	2,230	2,230	2,230
	4.8.1	Standing height	h <sub>7</sub>	mm	200			
	4.14	Standing height raised	h <sub>12</sub>	mm	1,200	1,800	2,100	3,000
	4.15	Height, lowered	h <sub>13</sub>	mm	80			
	4.19	Overall length	l <sub>1</sub>	mm	2,890	2,890	2,890	2,980
	4.20	Length to face of forks	l <sub>2</sub>	mm	1,690	1,690	1,690	1,780
	4.21	Overall width	b <sub>1</sub> /b <sub>2</sub>	mm	810	810	810	900
	4.22	Fork dimensions	s/e/l	mm	60 / 160 / 1,200			
	4.25	Width across forks	b <sub>5</sub>	mm	540			
	4.26	Width between support arms/loading areas	b <sub>4</sub>	mm	430	430	430	520
	4.31	Floor clearance with load under mast	m <sub>1</sub>	mm	35			
	4.33	Aisle width for pallets 1000 x 1200 crossways	Ast	mm	3,039	3,039	3,039	3,127
4.34	Aisle width for pallets 800 x 1200 lengthways	Ast	mm	3,149	3,149	3,149	3,240	
4.35	Turning radius	W <sub>a</sub>	mm	1,548	1,548	1,548	1,603	
4.38.2	Order picking height		mm	2,800	3,400	3,700	4,600	
Performance data	5.1	Travel speed laden/unladen - Efficiency	km/h		10 / 10 <sup>2)</sup>	9 / 9 <sup>3)</sup>	9 / 9 <sup>3)</sup>	9 / 9 <sup>3)</sup>
	5.1	Travel speed laden/unladen - drivePLUS	km/h		10.5 / 13 <sup>2)</sup>	10 / 12 <sup>3)</sup>	10 / 12 <sup>3)</sup>	9 / 11 <sup>3)</sup>
	5.2	Lift speed, laden/unladen	m/s		0.19 / 0.26	0.15 / 0.2	0.15 / 0.2	0.23 / 0.31
	5.3	Lowering speed, laden/unladen	m/s		0.24 / 0.24	0.23 / 0.22	0.23 / 0.22	0.28 / 0.26
	5.7	Gradeability, laden/unladen	%		5 / 10			
	5.10	Service brake	electromagnetic spring-loaded brake system					
5.11	Parking brake	electromagnetic						
Electrics	6.1	Drive motor, output S2 60 min.	kW		3.2			
	6.2	Lift motor, output at S3 15%	kW		3.0	3.0	3.0	0.0
	6.2	Lift motor kW rating at S3 20 %	kW		0.0	0.0	0.0	6.0
	6.3	Battery as per DIN 43531/35/36 A, B, C, no	B 43535					
	6.4	Battery voltage/nominal capacity K5	V/Ah		24 / 620			
6.5	Battery weight	kg		480				
Misc.	8.1	Type of drive control	AC speedCONTROL					
	8.4	Sound pressure level at driver's ear as per EN 12053	dB (A)		61			
	8.6	Steering	Electric power steering					

<sup>1)</sup> Overhead guard optional

<sup>2)</sup> With drivePLUS options package (standard: 10 / 10 km/h)

<sup>3)</sup> With drivePLUS options package (standard: 9 / 9 km/h)

<sup>4)</sup> with OHG 2230 mm

<sup>5)</sup> with OHG 3230 mm

# Technical data in line with VDI 2198

		Jungheinrich								
		EKS 110								
		Z 100 E		Z 160 E		Z 190 E		Z 280 ZZ		
Identification	1.1	Manufacturer (abbreviation)								
	1.2	Manufacturer's type designation								
	1.3	Drive		Electric						
	1.4	Operator type: manual, pedestrian, stand-on, seated, order picker		Order pickers						
	1.5	Load capacity/rated load	Q	t	1					
	1.6	Load centre distance	c	mm	600					
	1.8	Load distance, centre of drive axle to fork	x	mm	148	148	148	185		
	1.9	Wheelbase	y	mm	1,330	1,330	1,330	1,385		
	Weights	2.1.1	Service weight incl. battery (see row 6.5)		kg		1,763	1,907	1,953	2,390
2.2		Axle loading, laden front/rear		kg		489 / 2,274	508 / 2,399	504 / 2,449	754 / 2,636	
2.3		Axle loading, unladen front/rear		kg		1,062 / 701	1,083 / 824	1,079 / 874	1,328 / 1,062	
Wheels / frame	3.1	Tyres		Vu						
	3.2	Tyre size, front		mm		ø 230 x 80				
	3.3	Tyre size, rear		mm		ø 150 x 130				
	3.5	Wheels, number front/rear (x = driven wheels)		1x / 2						
	3.7	Tread width, rear	b <sub>11</sub>	mm	630	630	630	720		
Basic dimensions	4.2	Mast height (lowered)		h <sub>1</sub>	mm	1,650 <sup>4)</sup>	2,260	2,560	2,250	
	4.4	Lift		h <sub>3</sub>	mm	1,000	1,600	1,900	2,800	
	4.5	Extended mast height		h <sub>4</sub>	mm	2,650 <sup>5)</sup>	3,830	4,130	5,030	
	4.7	Height of overhead guard		h <sub>6</sub>	mm	2,230 <sup>1)</sup>	2,230	2,230	2,230	
	4.8.1	Standing height		h <sub>7</sub>	mm	200				
	4.11	Auxiliary lift		h <sub>9</sub>	mm	800				
	4.14	Standing height raised		h <sub>12</sub>	mm	1,200	1,800	2,100	3,000	
	4.15	Height, lowered		h <sub>13</sub>	mm	80				
	4.19	Overall length		l <sub>1</sub>	mm	2,895	2,895	2,895	2,985	
	4.20	Length to face of forks		l <sub>2</sub>	mm	1,695	1,695	1,695	1,785	
	4.21	Overall width		b <sub>1</sub> /b <sub>2</sub>	mm	810	810	810	900	
	4.22	Fork dimensions		s/e/l	mm	60 / 160 / 1,200				
	4.25	Width across forks		b <sub>5</sub>	mm	540				
	4.26	Width between support arms/loading areas		b <sub>4</sub>	mm	430	430	430	520	
	4.31	Floor clearance with load under mast		m <sub>1</sub>	mm	35				
	4.33	Aisle width for pallets 1000 x 1200 crossways		Ast	mm	3,039	3,039	3,039	3,127	
	4.34	Aisle width for pallets 800 x 1200 lengthways		Ast	mm	3,154	3,154	3,154	3,245	
4.35	Turning radius		W <sub>a</sub>	mm	1,548	1,548	1,548	1,603		
4.38.2	Order picking height			mm	2,800	3,400	3,700	4,600		
Performance data	5.1	Travel speed laden/unladen - Efficiency		km/h		10 / 10 <sup>2)</sup>	9 / 9 <sup>3)</sup>	9 / 9 <sup>3)</sup>	9 / 9 <sup>3)</sup>	
	5.1	Travel speed laden/unladen - drivePLUS		km/h		10.5 / 13 <sup>2)</sup>	10 / 12 <sup>3)</sup>	10 / 12 <sup>3)</sup>	9 / 11 <sup>3)</sup>	
	5.2	Lift speed, laden/unladen		m/s		0.19 / 0.26	0.15 / 0.2	0.15 / 0.2	0.23 / 0.31	
	5.3	Lowering speed, laden/unladen		m/s		0.24 / 0.24	0.23 / 0.22	0.23 / 0.22	0.28 / 0.26	
	5.7	Gradeability, laden/unladen		%		5 / 10				
	5.10	Service brake		electromagnetic spring-loaded brake system						
5.11	Parking brake		electromagnetic							
Electrics	6.1	Drive motor, output S2 60 min.		kW		3.2				
	6.2	Lift motor kW rating at S3 5 %		kW		1.3				
	6.2	Lift motor, output at S3 15%		kW		3.0	3.0	3.0	0.0	
	6.2	Lift motor kW rating at S3 20 %		kW		0.0	0.0	0.0	6.0	
	6.3	Battery as per DIN 43531/35/36 A, B, C, no		B 43535						
	6.4	Battery voltage/nominal capacity K5		V/Ah		24 / 620				
6.5	Battery weight		kg		480					
Misc.	8.1	Type of drive control		AC speedCONTROL						
	8.4	Sound pressure level at driver's ear as per EN 12053		dB (A)		61				
	8.6	Steering		Electric power steering						

<sup>1)</sup> Overhead guard optional

<sup>2)</sup> With drivePLUS options package (standard: 10 / 10 km/h)

<sup>3)</sup> With drivePLUS options package (standard: 9 / 9 km/h)

<sup>4)</sup> with OHG 2230 mm

<sup>5)</sup> with OHG 3230 mm

# EKS 110



EKS 110 standard mast designs								
Mast	lift height $h_3$ mm	Standing height $h_{12}$ mm	Order picking height $h_{12} + 1600$ mm mm	Lowered mast height $h_1$ ohne / mit Fahrerschutzdach mm	Extended mast height $h_4$ ohne / mit Fahrerschutzdach mm			Overall lift height $h_3 + h_9$ mm
<b>L version</b>								
100 E	1.000	1.200	2.800	1.650	2.230	2.650	3.230	1.000
160 E	1.600	1.800	3.400	-	2.260	-	3.830	1.600
190 E	1.900	2.100	3.700	-	2.560	-	4.130	1.900
280 ZZ	2.800	3.000	4.600	-	2.250	-	5.030	2.800
<b>Z version</b>								
100 E	1.000	1.200	2.800	1.650	2.230	2.650	3.230	1.800
160 E	1.600	1.800	3.400	-	2.230	-	3.230	2.400
190 E	1.900	2.100	3.700	-	2.560	-	4.130	2.700
280 ZZ	2.800	3.000	4.600	-	2.250	-	5.030	3.600

# EKS 110



## Standard equipment:

- Robust steel front cover.
- Maintenance-free 3.2-kW drive.
- Wear-free inversion brake.
- Energy recovery while braking.
- Sensitive lifting and lowering.
- Very roomy and ergonomic cab with low entry step.
- DIN-A4 writing pad with paper clip.
- Stand-on platform with sound-insulating floor covering.
- Upholstered backrest.
- Open storage tray in knee area.
- Graphics-compatible colour display with soft keys.
- Load-side operation of the additional lift.
- Side gates from h3=1,200 mm.
- Good accessibility to the battery.
- Shrink wrap holder integrated into front cover (only E version).

## Optional equipment:

- Lateral battery exchange.
- Several battery compartments ranging from 375 Ah to 620 Ah.
- Mobile battery changing devices.
- Lithium-ion batteries.
- drivePLUS for increased travel speed.
- Additional lift for ergonomic storing of goods.
- Various fork dimensions.
- Fork carriage with adjustable and removable forks.
- Load-side gates (L version).
- Pallet reinforcement for walk-on pallet (L version).
- Order picking platforms.
- Platform extensions.
- Order picking optimisation due to warehouse management system connection via Logistics Interface.
- Guidance controls, aisle recognition and end of aisle control for use in narrow aisles.
- Steering-angle-dependent curveCONTROL travel speed reduction.
- Jungheinrich jetPILOT.
- Dual control operation.
- Touch mode.
- Different access systems.
- DayLED.
- LED working lights.
- LED interior lighting.
- Beacon.
- Radio data bracket.
- Tray on battery lid.
- USB interface as power supply.
- Cold store package (alternating and continuous operation).

# Benefit from the advantages



Ergonomic workstation



Operators display



Comfortable floor covering on the stand-on platform



Controls and additional display in load direction (optional)

## Efficient order picking

Order-picking even in the toughest of situations thanks to a capacity of up to 1,000 kg with a load centre of 600 mm. Stable cornering thanks to a low load centre provides a feeling of security in every travel situation.

Optimised lowering of the walk-on load section (optional) means that the platform and loading device is lowered to the lowest level possible when order picking – providing the lowest entry every time with no depositing of the pallet.

Particularly with low lift heights and frequent entry and exit, the touch mode provides a fast way of reaching the next picking point. With the auxiliary lift, the touch mode is located on the backrest to enable direct access to the loading device.

## Ergonomic workstation

- Low entry height for easy entry and exit.
- Padded backrest for pleasant depositing of goods on the forks and a continuous, comfortable rubber mat provide noticeable relief for the operator.
- The tilted steering wheel supports natural hand movements and thus protects the operator's joints.
- As an alternative to conventional steering, the optional jetPILOT is also available. It enables intuitive and convenient operation similar to a passenger car.

- Good storage capabilities are offered by the integrated DIN A4 holder and other storage compartments. All the equipment required for order picking as well as personal items can be stowed away.

## Robust design

- High-quality stainless steel skirt raised extra high on the front panel.
- Impact-protected steel drive panel protects the components behind it.
- Optional rubber or steel bumper provides additional protection.

## All the better to see and be seen

- Integrated dayLED daytime running lights for better visibility in poorly lit areas (optional).
- LED working lights on the overhead guard can be used as additional running lights or to illuminate the racking when order picking (optional).
- The LED workstation lighting ensures that the operator position is well lit (optional).
- Floor-Spot – significant reduction in the risk of collision in blind spots due to a red dot of light projected onto the floor approx. 3 m in front of the truck (optional).

## Long operating times available with lead-acid battery

- Energy-efficient 3-phase AC technology and high battery capacities allow for long operating times.

- Different battery sizes available from 375 Ah to 620 Ah.
- Lateral battery exchange option for multi-shift operation (optional).

## High process reliability thanks to picking optimisation

The EKS 110 is linked to a warehouse management system (WMS) via our middleware – the Jungheinrich Logistics Interface. Orders are easily forwarded to the truck control system via the interface software so that additional functions are created. There are numerous advantages:

- Process reliability thanks to real-time feedback to the WMS.
- Targeted reduction of security risks, since the driving parameters can be influenced via the WMS.
- Ergonomic order picking via an additional display in the load direction.
- Saves time by confirming the orders with a push button.

## Lithium-ion technology

- High degree of availability thanks to extremely short charging times.
- No battery exchange required.
- Cost savings due to longer service life and low maintenance compared with lead-acid batteries.
- No charging rooms and ventilation required as there is no build up of gas.
- Longer service life with 5-year Jungheinrich guarantee.

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The German production facilities in Norderstedt, Moosburg and Landsberg are certified. **ISO 9001**  
**ISO 14001**

Jungheinrich fork lift trucks meet European safety requirements.



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