

Maximum picking performance with the lowest energy consumption

Most powerful motor for highest throughput efficiency

Intuitive operation via jetPILOT multifunctional steering wheel

Individual options for an optimum workstation

Optimised picking processes via remote operation easyPILOT (optional)



## ECE 220/225

### Low level order pickers (2,000/2,500 kg)

The Jungheinrich ECE 220/225 combines maximum picking performance with optimum energy efficiency and first-class operator comfort. The basis for this is the combination of high technical performance with a number of ergonomic advantages.

Various options packages and the load/steer angle-dependent curveCONTROL assistance system (optional) fully exploit the strengths of the ECE 220/225: dynamic acceleration, safe cornering and high maximum speed, all the while ensuring best possible energy utilisation.

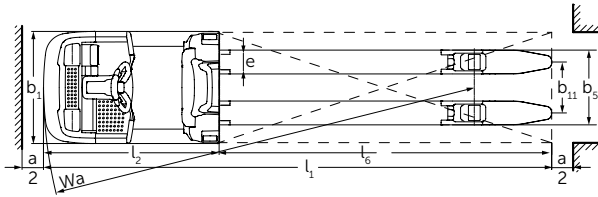
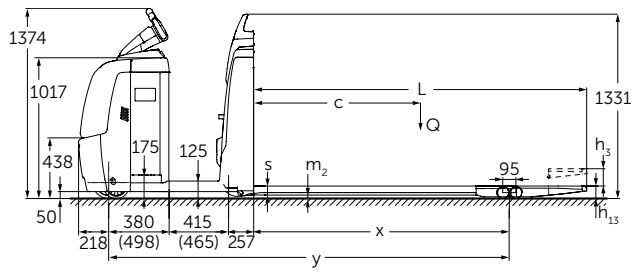
Users also benefit from a perfect workplace for comfortable order picking thanks to easily accessible controls and accessory parts. The central operator position with its patented jetPILOT multifunction steering wheel also enables intuitive and convenient operation like in a passenger car.

The comfort features already included in the standard models and the comprehensive options ensure perfect adaptability to all applications.

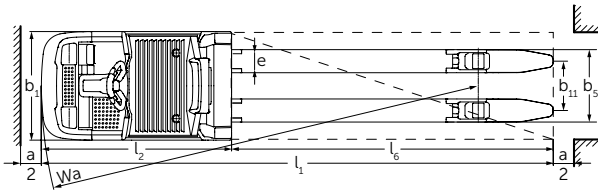
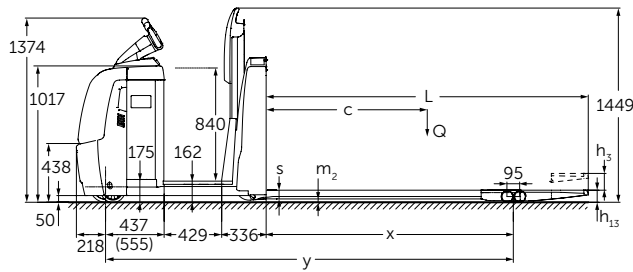
For optimised picking processes with high performance requirements, Jungheinrich offers semi-automatic control of the ECE via a radio control unit in the form of Jungheinrich easyPILOT. This allows the operator to move the truck to the next picking location without having to climb aboard and drive himself. This not only saves unnecessary walking but also increases the picking performance significantly, especially when travelling short distances. Efficiency is further enhanced by driveNAVIGATION, the optional WMS connection for our ECE with easyPILOT.

The Jungheinrich ECE 220/225 actively helps to raise productivity in the warehouse. In addition to impressive speed and acceleration values, along with the best energy consumption values on the market, the comprehensive options catalogue and the easyPILOT system provide the ideal basis for efficient and ergonomic working.

# ECE 220/225



ECE 220/ 225



ECE 220 HP/ 225 HP

# Technical data in line with VDI 2198

				Jungheinrich				
				ECE 220	ECE 225	ECE 220 HP	ECE 225 HP	
Identification	1.1	Manufacturer (abbreviation)						
	1.2	Model						
	1.3	Drive		Electric				
	1.4	Manual, pedestrian, stand-on, seated, order picker operation		Order pickers				
	1.5	Load capacity/rated load	Q t	2	2.5	2	2.5	
	1.6	Load centre distance	c mm	600	1,200	600	1,200	
	1.8	Load distance	x mm	882 <sup>3)</sup>	1,518 <sup>3)</sup>	882 <sup>3)</sup>	1,518 <sup>3)</sup>	
	1.9	Wheelbase	y mm	1,934 <sup>3)4)6)</sup>	2,570 <sup>3)4)6)</sup>	2,084 <sup>3)6)</sup>	2,720 <sup>3)6)</sup>	
	Weights	2.1.1	Net weight incl. battery (see row 6.5)		kg	893	975	1,028
2.2		Axle load with load front/rear		kg	992 / 1,901	1,130 / 2,345	1,048 / 1,980	1,135 / 2,475
2.3		Axle load without load front/rear		kg	682 / 211	763 / 212	768 / 260	847 / 263
Wheels / frame	3.1	Tyres		Vulkollan				
	3.2	Tyre size, front		mm				
	3.3	Tyre size, rear		mm				
	3.4	Additional wheels (dimensions)		mm				
	3.5	Wheels, number front/rear (x = driven wheels)						
	3.6	Tread width, front	b <sub>10</sub> mm	481				
	3.7	Tread width, rear	b <sub>11</sub> mm	338 / 368 / 498				
Basic dimensions	4.4	Lift		h <sub>3</sub> mm				
	4.9	Height of tiller in drive position min. / max.		h <sub>14</sub> mm				
	4.15	Height, lowered		h <sub>13</sub> mm				
	4.19	Overall length		l <sub>1</sub> mm	2,420 <sup>4)6)</sup>	3,670 <sup>4)6)</sup>	2,570 <sup>6)</sup>	3,820 <sup>6)</sup>
	4.20	Length to face of forks		l <sub>2</sub> mm	1,270 <sup>4)6)</sup>	1,270 <sup>4)6)</sup>	1,420 <sup>6)</sup>	1,420 <sup>6)</sup>
	4.21	Overall width		b <sub>1</sub> /b <sub>2</sub> mm	810			
	4.22	Fork dimensions		s/e/l mm	60 / 172 / 1,150	60 / 172 / 2,400	60 / 172 / 1,150	60 / 172 / 2,400
	4.25	Width across forks		b <sub>5</sub> mm	510 / 540 / 660			
	4.32	Ground clearance, centre of wheelbase		m <sub>2</sub> mm	25			
	4.34	Aisle width for pallets 800 × 1200 lengthways		Ast mm	2,670 <sup>1)4)6)</sup>	3,870 <sup>1)4)6)</sup>	2,820 <sup>1)6)</sup>	4,020 <sup>1)6)</sup>
4.35	Turning radius		W <sub>a</sub> mm	2,152 <sup>3)4)6)</sup>	2,788 <sup>3)4)6)</sup>	2,302 <sup>3)6)</sup>	2,938 <sup>3)6)</sup>	
Performance data	5.1	Travel speed laden/unladen - Efficiency		km/h	9.5 / 12.5	9.2 / 12.5	9.5 / 12.5	9.2 / 12.5
		Travel speed, laden/unladen - drive@ecoPLUS		km/h		9.2 / 14		9.2 / 14
		Travel speed Remote, laden/unladen		km/h	5 / 5			
	5.2	Lift speed, laden/unladen		m/s	0.07 / 0.1			
	5.3	Lowering speed, laden/unladen		m/s	0.07 / 0.06			
	5.8	Max. gradeability, laden/unladen		%	6 / 15			
	5.10	Service brake			regenerative			
Electrics	6.1	Drive motor, output S2 60 min. – efficiency/drivePLUS – drive@ecoPLUS		kW	2.8	2.8 / 3.2	2.8	2.8 / 3.2
	6.2	Lift motor rating at S3 10%		kW	1.5			
	6.3	Battery as per DIN 43531 / 35/36 A, B, C, no			no			
	6.4	Battery voltage/nominal capacity K5		V/Ah	24 / 465 <sup>5)</sup>			
	6.5	Battery weight		kg	370 <sup>5)</sup>			
	6.6	Energy consumption according to VDI cycle efficiency/ drive@ecoPLUS		kWh/h	0.53 <sup>2)</sup>	0.6 / 0.49	0.55 <sup>2)</sup>	0.62 / 0.5
	6.7	Throughput efficiency/drivePLUS		t/h	136 <sup>2)</sup>	170 / 180	136 <sup>2)</sup>	170 / 180
	6.8	Energy consumption at max. throughput efficiency/ drivePLUS		kWh/h	1.36 <sup>2)</sup>	1.38 / 1.41	1.37 <sup>2)</sup>	1.39 / 1.47
Misc.	8.1	Type of drive control		AC speedCONTROL				
	8.4	Sound pressure level at operator's ear as per EN 12053		dB (A)	62			
	8.6	Steering		Electric steering				

<sup>1)</sup> Diagonal in accordance with VDI = value + 200 mm

<sup>2)</sup> With Efficiency options package

<sup>3)</sup> With lowered load section = value + 82 mm

<sup>4)</sup> With option for extended operator position = value + 50 mm

<sup>5)</sup> With XL battery compartment: 24 V / 620 Ah

<sup>6)</sup> With XL battery compartment = value + 118 mm

# ECE 220/225



Comfortable travel and fast order picking



Lateral comfort charging plug for lithium-ion batteries (optional)



Individually adjustable, sprung comfort stand-on platform (optional)



Options bracket with radio data terminal WMT 110 (optional)

## Dimensions independent of fork length

Fork length $l$	Fork overhang	Capacity $Q$	Overall length $l_1$ <small>2) 4) 5)</small>	Wheelbase $y$ <small>1) 2) 4) 5)</small>	Turning radius $W_a$ <small>1) 2) 4) 5)</small>	Load distance $x$ <small>1)</small>	Aisle width $A_{st}$ <small>2) 4) 5) 6)</small>
(mm)	(mm)	(t)	(mm)	(mm)	(mm)	(mm)	(mm)
1000	186	2.0 / 2.5	2270	1784	2002	732	2470
1150	186	2.0 / 2.5	2420	1934	2152	882	2670
1250	186	2.0 / 2.5	2520	2034	2252	758	2720
1400	186	2.5	2670	2184	2402	1132	2870
1400	560	2.0 / 2.5	2670	1810	2028	758	2870
1450	560	2.0 / 2.5	2720	1860	2078	808	2920
1600	186	2.5	2870	2384	2602	1332	3070
1600	560	2.0 / 2.5	2870	2010	2228	958	3070
1880	560	2.5	3150	2290	2508	1238	3350
1950	560	2.5	3220	2360	2578	1308	3470
2110	186	2.5	3380	2520	2738	1842	3580
2180	800	2.5	3450	2350	2568	1298	3650
2310	186	2.5	3580	3094	3312	2042	3800
2400	560	2.5	3670	2810	3028	1758	3870
2400	800	2.5	3670	2570	2788	1518	3870
2550	800	2.5	3820	2720	2938	1668	4020
2850	800	2.5	4120	3020	3238	1968	4320
2900	800	2.5	4170	3070	3288	2018	4370
3100	800	2.5	4370	3270	3488	2218	4570

<sup>1)</sup>With lowered load section = value + 82 mm

<sup>2)</sup>With option for extended operator position = value + 50 mm

<sup>3)</sup>Only with drivePLUS or drive&ecoPLUS options package

<sup>4)</sup>With XL battery compartment = value + 118 mm

<sup>5)</sup>For ECE 220 HP / 225 HP = value + 150 mm

<sup>6)</sup>Ast value: fork length 1150 mm with 1 pallet 1200x800 mm; fork length 1950 mm with 2 pallets (2x) 1000x800 mm; fork length 2310 mm with 2 pallets (2x) 1165x1165 mm; all other values without protruding load (fork length = load length)

ECE 220/225



# Benefit from the advantages



Enhanced efficiency thanks to touch mode in the backrest (optional)



jetPILOT – exclusive to Jungheinrich



Rear protection bumper in rubber or steel (optional)



Lifting stand-on platform (HP-LJ) for order picking from the 2nd racking level (optional)

## jetPILOT multifunction steering wheel

- Intuitive and comfortable operation, similar to a car, plus safe and secure grip.
- Reduced strain on neck and spinal column when cornering.
- One-handed operation and automatic return of the steering wheel to straight line travel.
- Adjustable to individual body size.

## Powerful and efficient drive concept

- Powerful acceleration and high top speed.
- Optional "drivePLUS" option package with highly efficient 3.2 kW motor for even greater drive and acceleration performance.
- Safe cornering speed thanks to load-dependent curveCONTROL (optional).
- Optional "drive&ecoPLUS" option package for additional energy saving.

## Ideal workstation for maximum picking performance

- Diverse and individually configurable storage options.
- Additionally dampened and adjustable stand-on platform (optional).
- Rapid lifting of the load by double-pressing the lift button (optional).

## Rugged construction for the toughest applications

- Impact-protected drive panel and raised frame apron made from high-quality steel.
- Torsion-resistant load forks with draw bar kinematics prevent distortion even with heavy loads and long support arms.
- Up to 2.5 t capacity for simultaneous transport of up to three pallets.

## Comfortable and safe order picking

- The hydraulic lifting stand-on platform (HP) is ideal for frequent order picking from the second racking level (optional):
- Safe and rapid raising of the operator up to the height of the battery lid.
  - Operation of platform via foot pedal, leaving hands free for order picking.
  - The jetPILOT can be raised together with the platform (HP-LJ), allowing the truck to be positioned even when the platform is raised (optional).

## Complete overview provided by central display and setting instrument

- Activation of the truck by EasyAccess via softkey, PIN code or transponder card (optional).

- The 2-inch display provides information on the battery discharge status, number of operating hours, travel speed as well as error codes and offers the option of selecting from three travel programs via softkey (optional).

## All the better to see and be seen

- Integrated dayLED front spotlight for better visibility in poorly lit halls (optional).
- Floor spot: The risk of collision at blind spots is significantly reduced by a red light spot projected on the floor approximately 3 m in front of the truck (optional).

## Lithium-ion technology

- High availability due to extremely short charging times: The battery can be charged to 50% with just 30 minutes of intermediate charging, while a full charge is achieved after 80 minutes.
- No battery replacement 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.

# ECE 220/225



## More efficient picking processes

Enhanced picking performance and operator relief thanks to intelligent switching between different control options:

- Long distances: manual travel and positioning with jetPILOT.
- Medium distances: full concentration on the picking process. The ECE is moved forwards by double-tapping the easyPILOT radio control unit (optional).
- Short distances: Positioning at the correct pallet and fine adjustment via the easyPILOT travel buttons or using touch mode on the backrest (optional).

## High flexibility when order picking with easyPILOT

- The travel commands of the easyPILOT are triggered by tapping on an intuitive radio control unit (optional). The operator always has his hands free for order picking.
- Double and triple taps can be used for different travel distances.
- Routes are individually and freely configurable.

## The correct pallet, every time, with easyPILOT

When order picking with multiple pallets or roll containers, direct proximity to the correct rack compartment is of utmost importance:

- The ECE stops automatically after a preset distance.
- A single tap on the radio control unit immediately stops the truck.

## Individual carrying of the easyPILOT radio control unit

- An integrated belt clip allows the control unit to be attached directly to a belt or trouser pocket.
- The optional belt holder ensures an optimum carrying position.

## Simple pairing of the easyPILOT radio control unit

- Rapid and easy connection of the radio control unit to the truck via an NFC interface.
- Every radio control unit can be connected to be any ECE – with a 1-to-1 connection established throughout the usage period.

## Simple positioning in the racking aisle with easyPILOT

- Two laser scanners protect against collisions and are responsible for safe navigation and positioning in the racking aisle.
- The ECE automatically aligns itself with the nearest rack and navigates along the corresponding rack side (optional).
- The ECE automatically maintains the distance from the rack as set by the user by stopping the truck.

## Optimum safety for the operator and environment with easyPILOT

The operator has full control over the truck at all times:

- Side-mounted, easily visible signal lights indicate the truck status at all times.

- During remote operation, the DayLEDs flash in addition to the signal lights.
- When objects are encountered in the area in front of the truck, the multi-level collision protection immediately stops the ECE.

## Simple retrofitting and high availability of easyPILOT

All remote components of the easyPILOT are located in the drive panel and are thus entirely within the truck geometry:

- Impact-protected position of laser scanners: optimum protection for toughest applications or in case of collisions.
- Simple retrofitting: with a corresponding preparation, existing ECE trucks can be quickly and easily retrofitted by replacing the panel (optional).
- High availability: all trucks of the ECE product range are available with easyPILOT.

## Enhanced efficiency thanks to optional WMS connection driveNAVIGATION

Our logistics interface connects the easyPILOT with your Warehouse Management System (WMS) for increased efficiency and enhanced process reliability in the warehouse.

- The WMS sends the order, which is transferred to the truck via the logistics interface.
- The operator starts the ECE via the double-tap function.
- The ECE automatically stops at the next pick position.

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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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