

Maximum picking performance with low energy consumption

Powerful motor for highest throughput efficiency

jetPILOT multifunctional steering wheel

Individual options for an optimum workstation

LION
technology



ECE 220/225

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

The ECE 220/225 combines maximum picking performance with optimum energy efficiency and first-class operator comfort. Various options packages and the load/steer angle-dependent curveCONTROL assistance system (optional), fully exploit the strengths of the ECE 220/225. They facilitate dynamic acceleration, safe cornering and a high maximum speed, while simultaneously ensuring the best possible energy utilisation.

The central operator position with its patented jetPILOT multifunctional steering wheel enables intuitive and convenient operation as in a car. Comfortable order picking is guaranteed by the easy accessibility of all controls and accessory parts. Due to the comfort features already included in the standard models and the comprehensive options catalogue, the ECE can be adapted to all applications as required

Jungheinrich has developed the easyPILOT for semi-automatic control of the ECE to optimise picking processes with maximum

performance requirements. In order to meet individual warehouse requirements, 2 different operating modes are available:

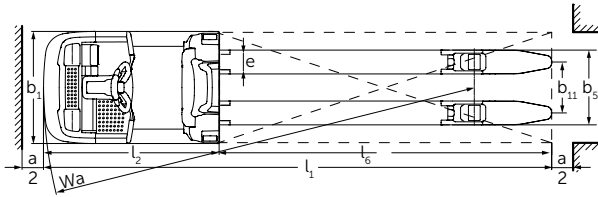
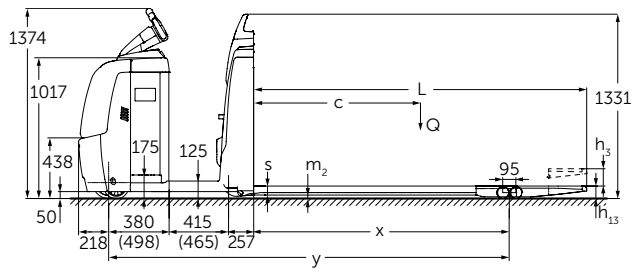
1. easyPILOT Control (with the Control Bar and Control Band control elements)
2. easyPILOT Follow (truck automatically follows the operator)

The easyPILOT allows operators to move the truck to the next picking location without having to climb aboard and drive themselves. This not only saves unnecessary walking but also increases the picking performance significantly, particularly over short distances. Efficiency is further enhanced by driveNAVIGATION, the optional WMS connection for our ECE with easyPILOT Control.

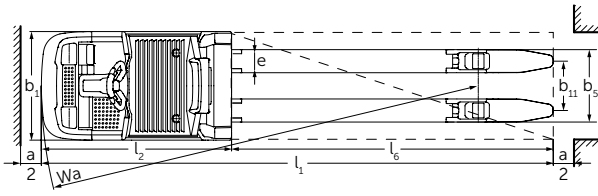
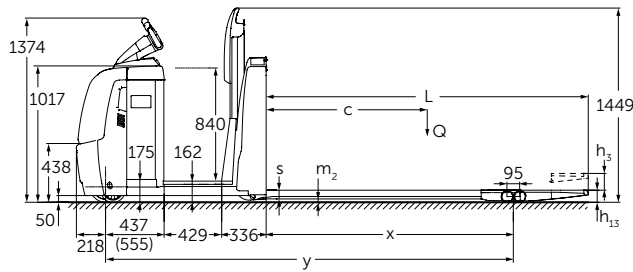
In addition to impressive speed and acceleration values, along with the best energy consumption values on the market, the ECE 220/225 offers the best prerequisites for active productivity improvement in your warehouse thanks to the comprehensive options catalogue, particularly in combination with easyPILOT.

JUNGHEINRICH

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 ³⁾	1,518 ³⁾	882 ³⁾	1,518 ³⁾	
	1.9	Wheelbase	y mm	1,934 ³⁾ 4) ⁶⁾	2,570 ³⁾ 4) ⁶⁾	2,084 ³⁾ 6)	2,720 ³⁾ 6)	
	Weights	2.1.1	Net weight incl. battery (see row 6.5)		kg	893	975	1,028
2.2		Axle loading, laden front/rear		kg	992 / 1,901	1,130 / 2,345	1,048 / 1,980	1,135 / 2,475
2.3		Axle loading, unladen front/rear		kg	682 / 211	763 / 212	768 / 260	847 / 263
Wheels / frame	3.1	Tyres		Vulkollan				
	3.2	Tyre size, front		mm Ø 230 x 78				
	3.3	Tyre size, rear		mm Ø 85 x 85				
	3.4	Additional wheels (dimensions)		mm Ø 180 x 65				
	3.5	Wheels, number front/rear (x = driven wheels)		1+1x/4				
	3.6	Tread width, front	b ₁₀ mm	481				
	3.7	Tread width, rear	b ₁₁ mm	338 / 368 / 498				
Basic dimensions	4.4	Lift		h ₃ mm	125			
	4.9	Height of tiller in drive position min. / max.		h ₁₄ mm	1,374 / 1,418			
	4.15	Height, lowered		h ₁₃ mm	90			
	4.19	Overall length		l ₁ mm	2,420 ⁴⁾ 6)	3,670 ⁴⁾ 6)	2,570 ⁶⁾	3,820 ⁶⁾
	4.20	Length to face of forks		l ₂ mm	1,270 ⁴⁾ 6)	1,270 ⁴⁾ 6)	1,420 ⁶⁾	1,420 ⁶⁾
	4.21	Overall width		b ₁ /b ₂ 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 ₅ mm	510 / 540 / 660			
	4.32	Ground clearance, centre of wheelbase		m ₂ mm	25			
	4.34	Aisle width for pallets 800 x 1200 lengthways		Ast mm	2,670 ¹⁾ 4)6)	3,870 ¹⁾ 4)6)	2,820 ¹⁾ 6)	4,020 ¹⁾ 6)
	4.35	Turning radius		W _a mm	2,152 ³⁾ 4)6)	2,788 ³⁾ 4)6)	2,302 ³⁾ 6)	2,938 ³⁾ 6)
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
	5.1	Travel speed laden/unladen – drivePLUS		km/h		9.2 / 14		9.2 / 14
		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, output 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 ⁵⁾			
	6.5	Battery weight		kg	370 ⁵⁾			
	6.6	Energy consumption as per 16796 Efficiency/drive&ecoPLUS		kWh/h	0.41 ²⁾	0.45 / 0.47	0.41 ²⁾	0.45 / 0.47
		CO- Equivalent as per EN 16796		kg/h	0.2	0.2 / 0.3	0.2	0.2 / 0.3
	6.7	Throughput efficiency/drivePLUS		t/h	136 ²⁾	170 / 180	136 ²⁾	170 / 180
6.8	Energy consumption at max. throughput efficiency/ drivePLUS		kWh/h	1.36 ²⁾	1.38 / 1.41	1.37 ²⁾	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			

¹⁾ Diagonal in accordance with VDI = value + 94 mm

²⁾ With Efficiency options package

³⁾ With lowered load section = value + 82 mm

⁴⁾ With option for extended operator position = value + 50 mm

⁵⁾ With XL battery compartment: 24 V / 620 Ah / 460 kg

⁶⁾ With XL battery compartment = value + 118 mm

In accordance with VDI Guideline 2198, this data sheet provides details of the standard truck only. Non-standard tyres, different masts, optional equipment, etc. may result in different values.

ECE 220/225



easyPILOT Control remote operation (optional)



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

¹⁾With lowered load section = value + 82 mm

²⁾With option for extended operator position = value + 50 mm

³⁾Only with drivePLUS or drive&ecoPLUS options package

⁴⁾With XL battery compartment = value + 118 mm

⁵⁾With ECE 220 HP / 225 HP = value + 150 mm

⁶⁾Ast value with FL1150 with 1 pallet 1200x800 mm; FL1950 with 2 pallets (2x) 1000x800 mm; FL2310 with 2 pallets (2x) 1165x1165 mm; all other values without projecting load (fork length = load length)

ECE 220/225



Benefit from the advantages



jetPILOT – the original from Jungheinrich



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



Rear protection bumper in rubber or steel (optional)



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

jetPILOT multifunctional steering wheel

- Intuitive and comfortable operation, similar to a car, with 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 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 package for additional energy saving.

Perfect workstation for maximum picking performance

- Diverse, 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.
- 2.5 t for the transport of up to 3 pallets simultaneously.

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 panel.
 - 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).

Central display and clear instruments for the complete overview

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

Additional optional equipment

A comprehensive range of accessories allows for individual tailoring to your requirements:

- Additional accessories for working at the second racking level.
- Sturdy, universally applicable options bracket, e.g. for radio data transmission components.

More efficient picking processes

Flexible switching between different control options enables more efficient working:

- Long distances (from approx. 10 m) – travelling with jetPILOT.
- Medium distances – remote operation with Jungheinrich easyPILOT allows for full concentration on the picking process.
- Short distances – positioning at the correct pallet and fine adjustment, e.g. via touch mode on the backrest (optional).

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.

ECE 220/225



easyPILOT remote operation with flexible operating options

Enhanced picking performance and operator relief thanks to different control options of the ECE with easyPILOT:

easyPILOT Control

- Control Bar with double tap – hands free for order picking.
- Control Band – pushbutton between thumb and index finger for direct truck control.

easyPILOT Follow

- Truck follows the operator, moving and stopping automatically at the desired location.

Operation with easyPILOT Control Bar

The travel command is triggered by intuitive tapping on the control bar (optional). The operator always has their hands free for order picking:

- Double and triple taps are available for different travel distances.
- The ECE stops automatically after a pre-set, freely adjustable distance.
- A single tap on the radio control unit immediately stops the truck.

Operation with easyPILOT Control Band

When picking with multiple pallets or roll containers, the immediate proximity to the correct shelf is crucial:

- The control band enables the operator to always precisely determine the travel distance.
- The truck starts when the pushbutton is pushed back twice and held between the thumb and index finger and stops as soon as the button is released again.
- Pleasant carrying comfort (can also be used with gloves).
- Ease of handling and adaptation to different operators.

Operation with easyPILOT Follow

With easyPILOT Follow, the truck automatically follows the operator during forward movements, enabling the operator to concentrate on work:

- For an optimum order picking result, the truck is always at hand – all the operator has to do is place the goods on the forks.
- Individual hold points can be specified at any time with a Control Bar.
- 100% reliable connection to the operator – the truck only ever follows one operator (even with heavy loads).
- Operator-dependent side orientation – the truck automatically orients itself to the side of the racking on which the operator dismounts.

Simple pairing of the easyPILOT control unit

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

Simple positioning in the racking aisle with easyPILOT

- 2 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 to the rack, which the operator specifies by switching off the truck.

Optimum safety for the operator and environment with easyPILOT

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

- Easily visible, side-mounted 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 the laser scanner – optimum protection for toughest applications or in case of collisions.
- Simple retrofitting – with corresponding preparation, existing ECE trucks can be quickly and easily retrofitted by replacing the panel (optional).
- High level of availability – all trucks of the ECE product range are available with easyPILOT.

Increased efficiency with optional WMS connection driveNAVIGATION

Our Logistics Interface connects the easyPILOT with your Warehouse Management System (WMS) for increased efficiency and greater 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.

Jungheinrich UK Ltd.

Head Office:
Sherbourne House
Sherbourne Drive
Tilbrook
Milton Keynes MK7 8HX
Telephone 01908 363100
Fax 01908 363180

info@jungheinrich.co.uk
www.jungheinrich.co.uk

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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