

**Powerful 3-phase AC technology built into the drive, lift and steering motors**

**State-of-the-art, multi-functional control handle allows operator to work three functions simultaneously**

**Rugged mast with excellent visibility and hydraulic cushioning for efficient load handling**

**Spacious operator compartment offers a combination of comfort, flexibility and function**

**Operator display offers information you need to know in an easy-to-read format**



## ETR 225d – 230dp

### 36 Volt Electric Pantograph Double Reach Truck (2500-3000 lbs.)

The ETR 225 – 230dp double reach truck boasts strong performance – moving more pallets per hour and lowering overall cost of ownership – while keeping operators comfortable and productive.

**The key advantages:**

- Higher performance due to 3-phase AC technology. AC motors require no carbon brushes, which eliminates the cost of replacements, reduces the need for servicing and allows for longer operating times.
- Greater productivity is also achieved through a space-saving design. This means the trucks can work in smaller aisles, leaving more space available for products.
- Operators are more relaxed and productive largely due to the ergonomic compartment that minimizes operator fatigue. From the

low step height, to the steering wheel which does not encroach into the operator space and to the intuitive, multifunction control handle, the operator benefits from the excellent design. Productivity can be just as high in the last hour of the shift as in the first.

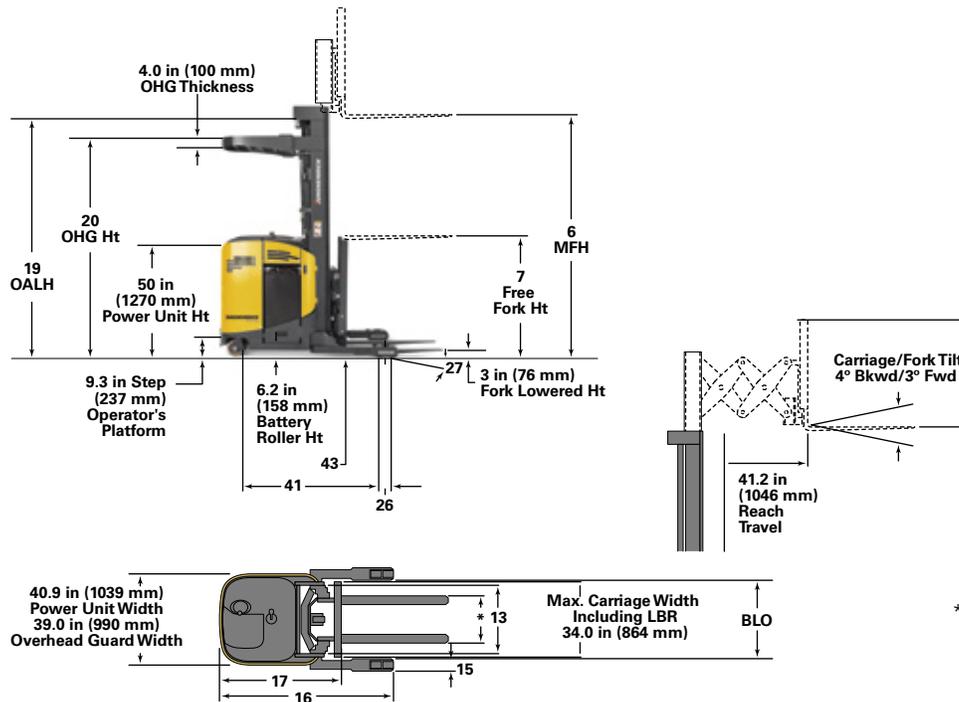
- The clear operator display shows all the information needed to perform the task at hand. In addition, it allows operators to select a number of pre-programmed drive and hydraulic settings to customize the truck for a particular application or operator skill level. All information is immediately displayed, contributing to the operator's overall awareness – increasing confidence and leading to a more productive work environment.

- The ETR features a high-visibility, heavy-duty mast with durable rollers and mast rails designed to meet your most demanding applications. Combined with hydraulic cushioning in the pantograph and mast staging functions, operators can precisely and securely position loads at all lift heights.

The ETR 225 – 230dp double reach truck delivers greater productivity in any application where space is at a premium. Its space-saving design means the truck can stack and retrieve goods efficiently in narrow aisles and at high lift heights. Operators can also customize the drive and hydraulic settings to suit the application and their level of experience.



# ETR 225d - 230dp



\* Fork spacing: See 10 and 11 for minimum and maximum widths.

Mast Table - 36 Volt Double Reach Trucks

Designation	Maximum Fork Height 2)		Overall Lowered Height 1)		Overall Extended Height 2) 4)		Free Lift 3) 5)		Overhead Guard Height 1)	
	in	mm	in	mm	in	mm	in	mm	in	mm
Three Stage Mast (ETR225d)	198	5000	89	2265	246	6250	54	1370	88.75	2265
	210	5300	95	2415	258	6600	60	1520	94.75	2390
	240	6050	107	2720	288	7350	72	1825	94.75	2390
	258	6550	113	2880	306	7800	78	1980	94.75	2390
	270	6850	119	3030	318	8100	84	2130	94.75	2390
Three Stage Mast (ETR230d)	198	5000	89	2265	246	6250	54	1370	88.75	2265
	210	5300	95	2415	258	6600	60	1520	94.75	2390
	240	6050	107	2720	288	7350	72	1825	94.75	2390
	258	6550	113	2880	306	7800	78	1980	94.75	2390
	270	6850	119	3030	318	8100	84	2130	94.75	2390
	300	7600	131	3330	348	8850	96	2435	94.75	2390
	318	8050	139	3540	366	9300	104	2640	94.75	2390
Three Stage Mast (ETR230dp)	330	8350	149	3790	378	9650	114	2895	94.75	2390
	240	6050	107	2720	288	7350	72	1825	94.75	2390
	258	6550	113	2880	306	7800	78	1980	94.75	2390
	270	6850	119	3030	318	8100	84	2130	94.75	2390
	300	7600	131	3330	348	8850	96	2435	94.75	2390
	318	8050	139	3540	366	9300	104	2640	94.75	2390
	330	8350	149	3790	378	9650	114	2895	94.75	2390
	366	9250	161	4090	414	10550	126	3200	94.75	2390
	400	10150	173	4400	448	11400	138	3505	94.75	2390
425	10750	185	4700	473	12050	146	3705	94.75	2390	

Footnotes:

1) Tolerance = ± 0.5 in. (± 13 mm).

2) Tolerance = +2.5 in./- 0.5 in. (+67 m /- 13 mm).

3) Tolerance = ± 1 in. (± 25 mm).

4) Calculated with standard 48 in. (1219 mm) high load backrest.

5) Calculated with standard 48 in. (1219 mm) high load backrest. May be increased if lower backrest (optional) is ordered.

# Technical Data

as of: 01/2010

Characteristics			ETR225d		ETR230d		ETR230dp			
			Deep		Deep		Deep			
			36		36		36			
1	Model									
2	Type									
3	Power voltage									
4	Capacity at rated load center	lb	kg	2,500	1,200	3,000	1,400	3,000	1,400	
5	Capacity load center - distance from fork face	in	mm	24	600	24	600	24	600	
Dimensions	6	Maximum fork height with triplex mast	in	mm	270	6,850	330	8,350	425	10,750
	7	Free fork height with maximum height triplex mast	in	mm	84	2,135	114	2,900	146	3,700
	8	Fork width	in	mm	4.0	101	4.0	101	4.0	101
	9	Fork thickness	in	mm	1.5	38.0	1.5	38.0	1.5	38.0
	10	Fork spacing - out-to-out minimum	in	mm	10.0	254	10.0	254	10.0	254
	11	Fork spacing - out-to-out maximum <sup>2)</sup>	in	mm	31.5	800	31.5	800	31.5	800
	12	Tilt angle - forward / backward	deg		3°/4.5°		3°/4.5°		3°/4.5°	
	13	Mast width <sup>1)</sup>	in	mm	32.0	807	32.0	807	32.0	807
	14	Baseleg opening	in	mm	33-49	839-1,245	33-49	839-1,245	33-49	839-1,245
	15	Baseleg width <sup>3)</sup>	in	mm	5.0	127	5.0	127	5.0	127
	16	Overall length	in	mm	84.8	2,155	86.8	2,205	86.8	2,205
	17	Length to fork face	in	mm	62.1	1,580	64.1	1,630	64.1	1,630
	18	Overall chassis width	in	mm	40.9	1,039	40.9	1,039	40.9	1,039
	19	Overall lowered height with maximum triplex mast	in	mm	119	3,030	149	3,790	185	4,700
	20	Overall lowered height to top of overhead guard	in	mm	94.0	2,390	94	2,390	94.0	2,390
	21	Overall height with extended maximum triplex mast	in	mm	318	8,100	378	9,650	473	12,050
	22	Step height	in	mm	9.3	237	9.3	237	9.3	237
	23	Battery roller height	in	mm	6.2	158	6.2	158	6.2	158
	24	Minimum outside turning radius	in	mm	77.1	1,960	79.1	2,010	79.1	2,010
	25	Minimum aisle - 90° stack - zero clearance	CONSULT YOUR JUNGHEINRICH DEALER							
26	Load wheel centerline <sup>4)</sup>	in	mm	5.3	133	5.3	133	5.3	133	
27	Grade clearance <sup>5)</sup>	in	mm	12.3		11.9		11.9		
Wheels/Chassis	28	Travel speed tractor first <sup>7)</sup>	mph	km/h	7.5	12	7.5	12.0	7.5	12.0
	29	Travel speed forks first <sup>7)</sup>	mph	km/h	7.0	11.2	7.0	11.2	7.0	11.2
	30	Lift speed loaded (triplex)	fpm	m/s	75.0	0.37	75.0	0.37	75.0	0.37
	31	Lift speed empty (triplex)	fpm	m/s	90.0	0.45	90.0	0.45	110	0.55
	32	Lower speed loaded (triplex)	fpm	m/s	110	0.55	110	0.55	110	0.55
	33	Lower speed empty (triplex)	fpm	m/s	90.0	0.45	90.0	0.45	90.0	0.45
	34	Maximum fork height with rated load	in	mm	258	6,550	258	6,550	258	6,550
	35	Gradeability - loaded - maximum			7.0		7.0		7.0	
36	Gradeability - empty - maximum			7.0		7.0		7.0		
Weights	37	Truck weight - empty - with min weight battery	lb	kg	8,300	3,775	9,400	4,250	11,000	5,000
	38	Battery weight - min	lb	kg	1,600	730	2,000	910	2,000	910
	39	Battery weight - max	lb	kg	2,000	910	2,300	1,050	2,300	1,050
Performance	40	Chassis type (stand/sit)			Stand		Stand		Stand	
	41	Wheelbase	in	mm	68.0	1,720	70.0	1,775	70.0	1,775
	42	Ground clearance - center of wheelbase	in	mm	2.0	51	2.0	51.0	2.0	51.0
	43	Ground clearance - lowest point at mast	in	mm	2.0	51	2.0	51.0	2.0	51.0
	44	Tire size - steer	in	mm	13.5x5.5	343x140	13.5x5.5	343x140	13.5x5.5	343x140
	45	Tire size - caster	in	mm	7.0x4.0	180x100	7.0x4.0	180x100	7.0x4.0	180x100
	46	Tire size - load wheels	in	mm	5.0x2.88	127x73.0	5.0x3.62	127x92.0	5.0x3.62	127x92.0
47	Brake type			Electric Disc		Electric Disc		Electric Disc		
Motors	48	Traction motor type			AC Induction		AC Induction		AC Induction	
	49	Traction motor output kW (60 min. rating)			6.8	5.1	6.8	5.1	6.8	5.1
	50	Pump motor type			AC Induction		AC Induction		AC Induction	
	51	Pump motor output kW (5 minute rating)			14.7	11.0	14.7	11.0	14.7/9.8	11.0/7.3
	52	Steer motor type			AC Induction		AC Induction		AC Induction	
	53	Steer motor output kW (60 min. rating)			0.5	0.4	0.5	0.4	0.5	0.4
	54	Battery maximum capacity - A/H (6 hr. rating)			775		1,240		1,240	
	55	Battery compartment length <sup>6)</sup>			14.25	361	16.25	412	16.25	412
	56	Battery compartment width			38.58	980	38.58	980	38.58	980
	57	Battery compartment height			31.65	804	31.65	804	31.65	804

1) Add 3 inches (77 mm) at cross bar.

2) 27.5 inches (698 mm) for BLO less than 37 inches (889)

3) 5.9 inches (150 mm) on single reach chassis with MFH over 330 inches (8,350 mm).

4) 7.3 inches (186 mm) with mast MFH over 330 inches (8,350 mm).

5) Reduce grade clearance by 0.4% with 18.25 inches (463 mm) battery compartment length and 1% with 21.25 inches (539 mm) battery compartment length vs. 16.25 inches (412 mm) length.

6) 21.25 inches (539 mm) battery compartment length standard on chassis with MFH over 330 inches (8,350 mm).

7) Maximum speed attainable, after break-in period, varies with truck weight, rolling resistance, mast height, options and battery condition.

# The Jungheinrich Advantage

## High visibility, heavy-duty mast

Jungheinrich masts provide maximum space utilization and visibility to high lift heights.

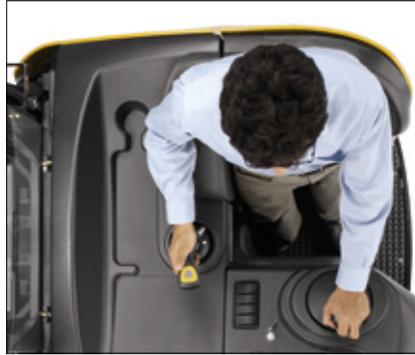
- The sturdy mast and narrow, angled overhead guard promote good visibility to the load even in high stacking applications.
- Hydraulic mast and pantograph cushioning in reach/retract and mast staging functions so loads are handled smoothly.
- Shim-adjustable canted mast rollers.
- Heavy, interlocking mast rails.
- Optional integral sideshifter helps improve capacity retention and maneuverability.
- Fork heights up to 330 inches on standard performance and 425 inches on high performance models.



'Superclear' view mast

## Customized programming

Performance profiling allows you to customize drive and hydraulic settings based on the application, individual operator experience level and personal preferences. All display-based programming, performance requests and information queries can be performed with easily accessible buttons.



Ergonomic operator compartment

## Spacious and ergonomic operator compartment

The spacious operator compartment combines comfort and functionality to improve operator efficiency.

- Location of operator controls allows for a flexible side stance position within the compartment
- Low-effort electric power steering for precise control with minimal effort.
- Display with multiple hour meters, travel speed, travel direction, load weight display, fault code read-out and battery state-of-charge gauge with lift monitoring.
- Intuitive multifunction control handle offers simultaneous control of drive, lift, lower and auxiliary hydraulic functions.
- Anti-fatigue floor mat and generous padding for knees, hips, back and armrest.
- Storage space for operator's equipment.

## Powerful 3-phase AC technology

3-phase AC technology for drive, lift and steering offers several advantages over traditional direct current motors.

- Rapid acceleration and precise speed control.
- Smooth directional changes
- Greater operational availability due to maintenance-free motors without carbon brushes.
- Longer operating times due to energy reclamation during braking.



Multifunction control handle

## Multifunction control handle

The intuitive, multifunction control handle is centrally positioned for easy access to truck functions.

- Maximum efficiency through simultaneous operation of travel, lift and one auxiliary function.
- Rounded palm rest helps reduce operator fatigue over long shifts.

## Operator display

The easy-to-read control panel displays the information the operator needs to perform daily tasks.

- Travel speed.
- Travel direction.
- Battery state-of-charge.
- Load weight display.
- Text messaging of truck status and limiting conditions.
- Informational and warning icons.
- Language options.
- Optional features such as shelf height selector and tilt position assist are also available to assist the operator work more efficiently.



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