

CROWN

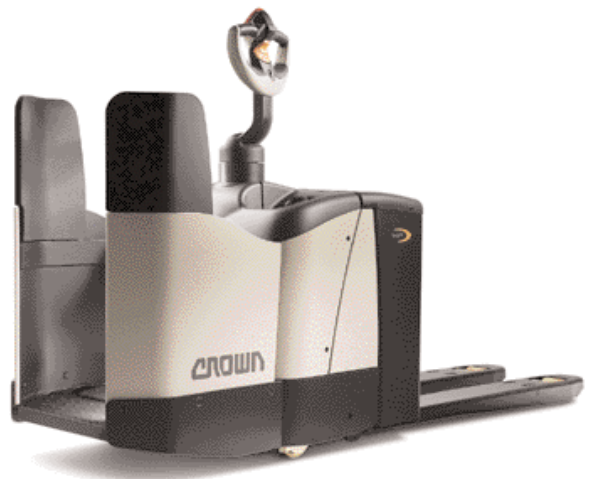
Specifications

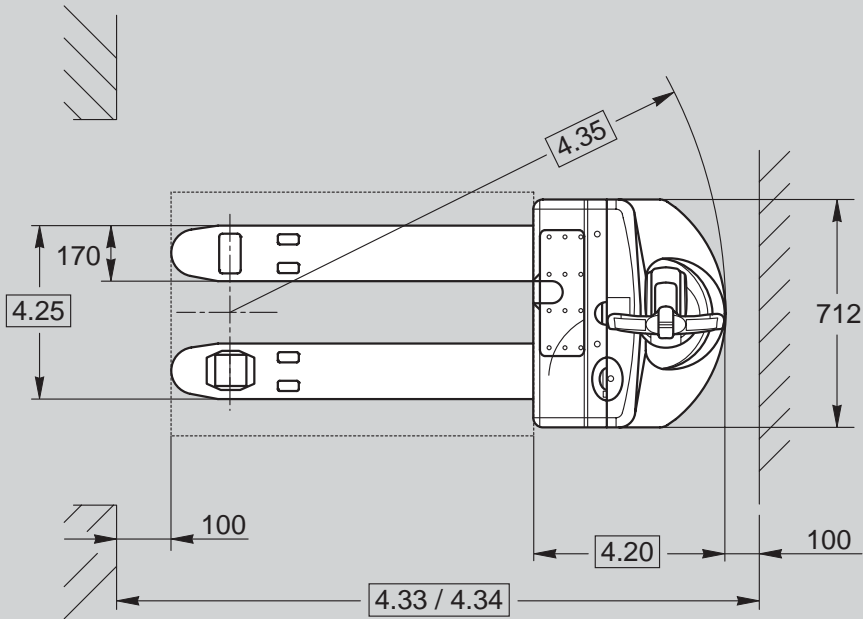
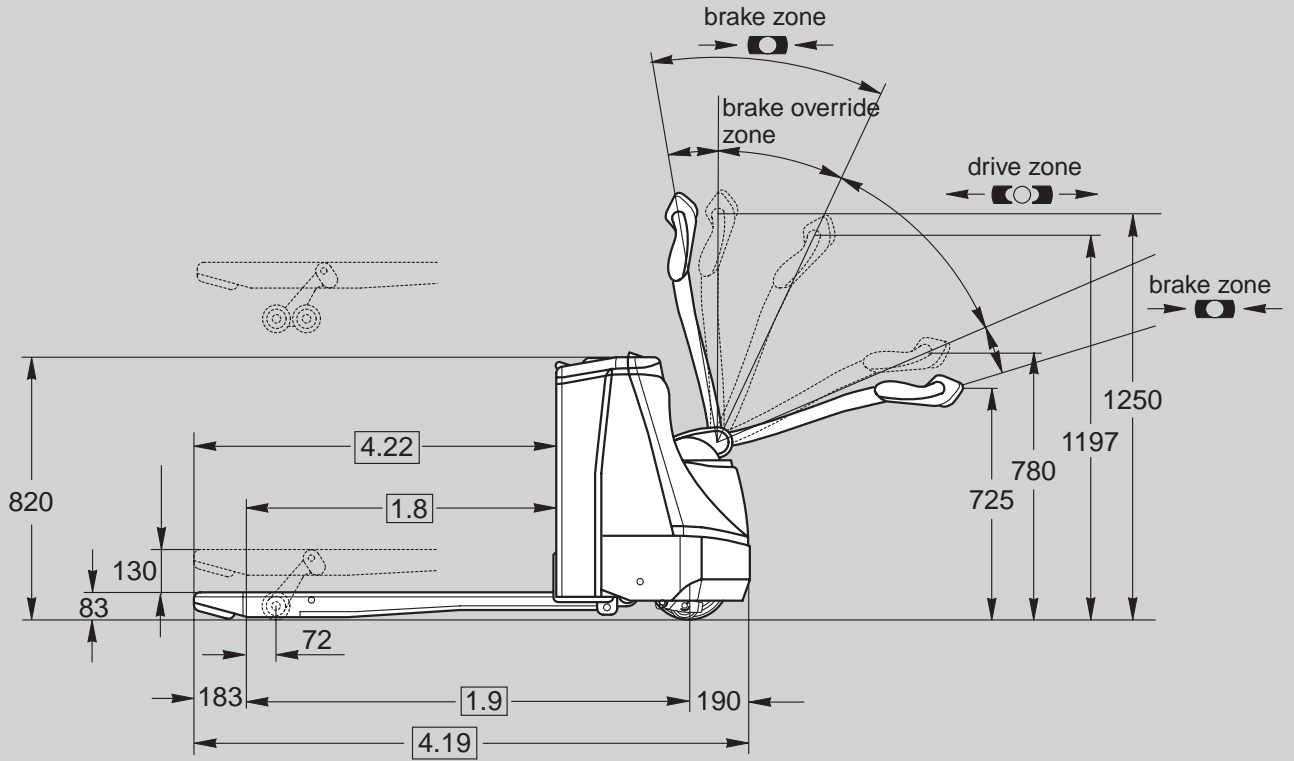
WP 2300 Series

Powered Pallet Truck

WP 2300

Series

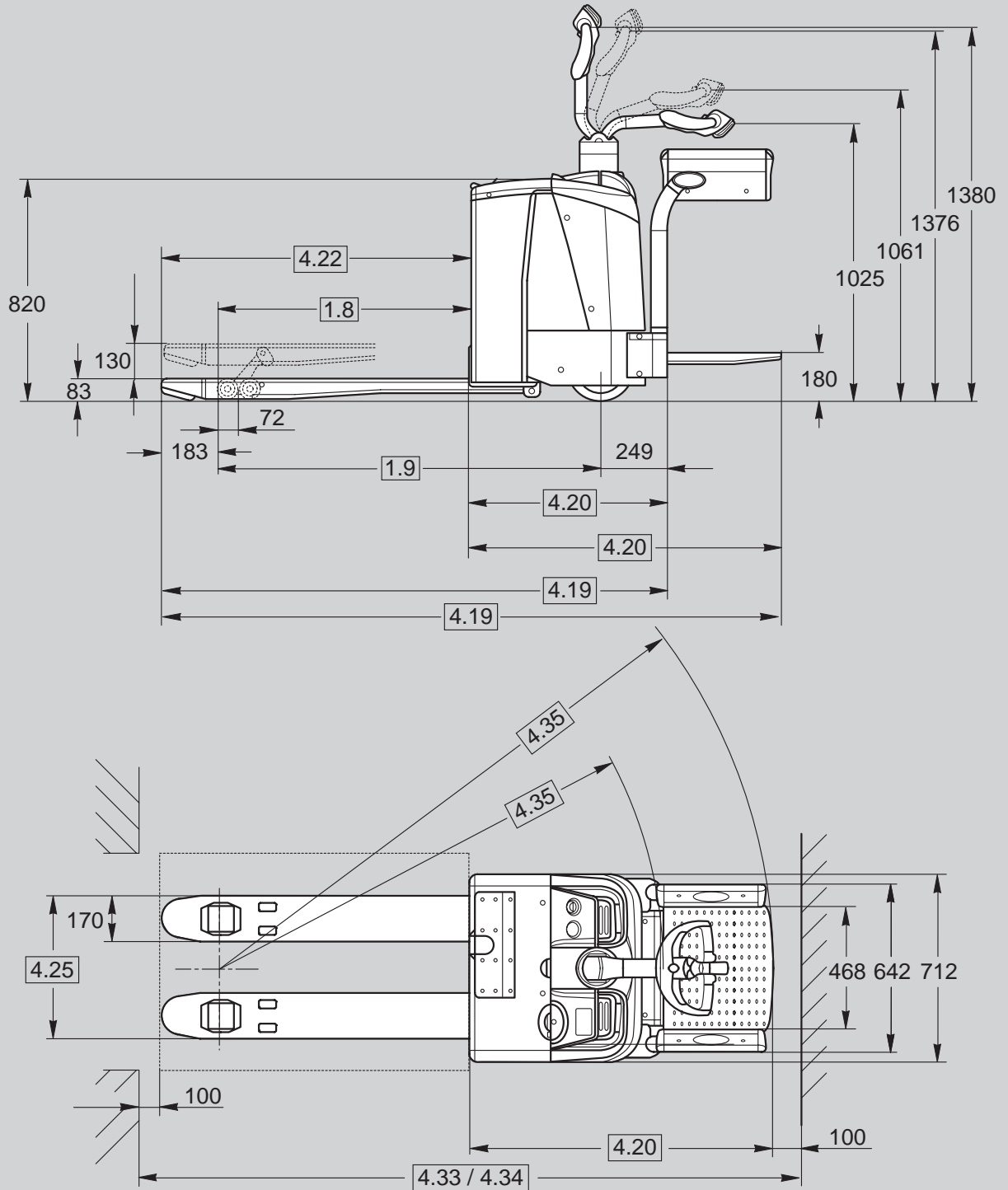




General Information	1.1	Manufacturer	Crown Equipment Corporation				
	1.2	Model			WP 2315 – 1.6 t	WP 2320 – 2.0 t	
	1.3	Power			electric (SEM)	electric (SEM)	
	1.4	Operator Type			pedestrian	pedestrian	
	1.5	Load Capacity		Q	t	1.6	2.0
	1.6	Load Centre		c	mm	see table of dim.	see table of dim.
	1.8	Load Distance	forks lowered / raised	x	mm	see table of dim.	see table of dim.
	1.9	Wheel Base	forks lowered	y	mm	see table of dim.	see table of dim.
	Weights	2.1	Weight	less battery		kg	323
2.4		Axle Load	w. load, front/rear		kg	674 / 1402	830 / 1705
2.5		Axle Load	w.o. load, front/rear		kg	367 / 109	416 / 119
Tyres	3.1	Tyre Type	Drive/Castor/Load			Vulk./Poly./Vulk.	Vulk./Poly./Vulk.
	3.2	Wheel Size	front		mm	Ø 250 x 85	Ø 250 x 85
	3.3	Wheel Size	rear		mm	Ø 82 x 110	Ø 82 x 110
	3.4	Additional Wheel	castor wheel		mm	Ø 90 x 50	Ø 90 x 50
	3.5	Wheels	number (x = driven) front/rear		mm	1x, 2 / 2	1x, 2 / 2
Dimensions	4.4	Lift		h ₃	mm	130	130
	4.9	Tiller Arm Height	in drive position min./max.	h ₁₄	mm	780 / 1197	780 / 1197
	4.15	Lowered Fork Height		h ₁₃	mm	83	83
	4.19	Overall Length	at fork length	l ₁	mm	see table of dim.	see table of dim.
	4.20	Headlength		l ₂	mm	546	611
	4.21	Overall Width	front	b ₁	mm	712	712
	4.22	Fork Dimensions		thxw _l	mm	77x170x995, 1125, 1210	77x170x995, 1125, 1210
	4.25	Width Across Forks		b ₅	mm	520, 540, 670	520, 540, 670
	4.32	Ground Clearance	centre wheelbase	m ₂	mm	35	35
	4.33	Working Aisle Width	1000 x 1200 traverse (lowered)	A _{st}	mm	see table of dim.	see table of dim.
4.34	Working Aisle Width	800 x 1200 length (lowered)	A _{st}	mm	see table of dim.	see table of dim.	
4.35	Turning Radius	lowered	W _a	mm	see table of dim.	see table of dim.	
Performance	5.1	Travel Speed	w./w.o. load		km/h	5.5 / 6.0	5.5 / 6.0
	5.2	Lift Speed	w./w.o. load		m/s	0.04 / 0.06	0.04 / 0.06
	5.3	Lowering Speed	w./w.o. load		m/s	0.06 / 0.06	0.06 / 0.06
	5.7	Gradeability	w./w.o. load		%	10 / 25	10 / 25
	5.10	Service Brake				electric	electric
Motors	6.1	Traction Motor	60 min. rating		kW	1.4	1.4
	6.2	Lift Motor	15% on time		kW	1.0	1.0
	6.3	Max. Battery Box Size		lxwxh	mm	146x660x604	212x624x627
	6.4	Battery Voltage	nominal capacity 5h rating		V/Ah	24 / 150 (L) 160 (H)	24 / 220 (L) 240 (H)
	6.5	Battery Weight	nominal +5%		kg	153	212
Misc.	8.1	Type of Controller				transistor	transistor

Table of Dimensions

		4.22 Fork Length	Forktip Length	1.6 Load Centre	1.8 Load Distance (lowered)	1.8 Load Distance (raised)	1.9 Wheel Base (lowered)	4.19 Overall Length	4.33 Working Aisle Width 1000x1200 trav. (lowered)	4.34 Working Aisle Width 1200x800 length (lowered)	4.35 Turning Radius (lowered)
1.6 150 Ah	Single Load Wheel	995	183	500	811	739	1167	1540	1744	1944	1355
		1125	183	600	941	869	1297	1670	-		1485
	Tandem Load Wheel	995	183	500	811	739	1167	1540	1744		1355
		1125	183	600	941	869	1297	1670	-		1485
2.0 240 Ah	Single Load Wheel	995	183	500	811	739	1232	1605	1809	2009	1420
		1125	183	600	941	869	1362	1735	-		1550
	Tandem Load Wheel	995	183	500	811	739	1232	1605	1809		1420
		1125	183	600	941	869	1362	1735	-		1550



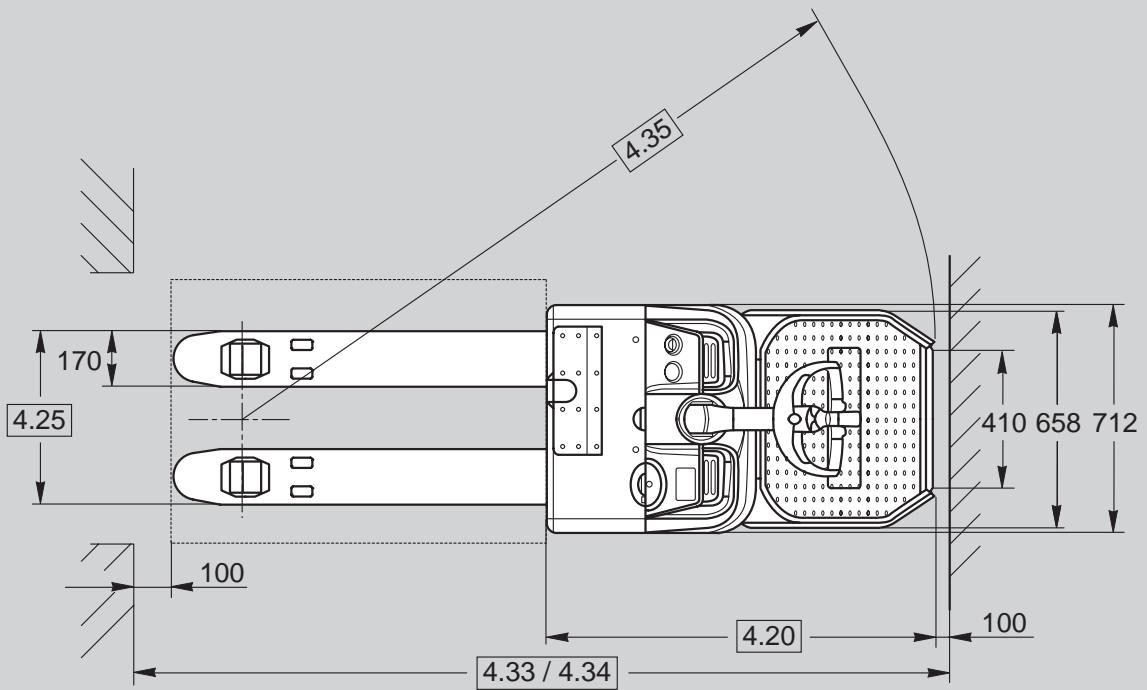
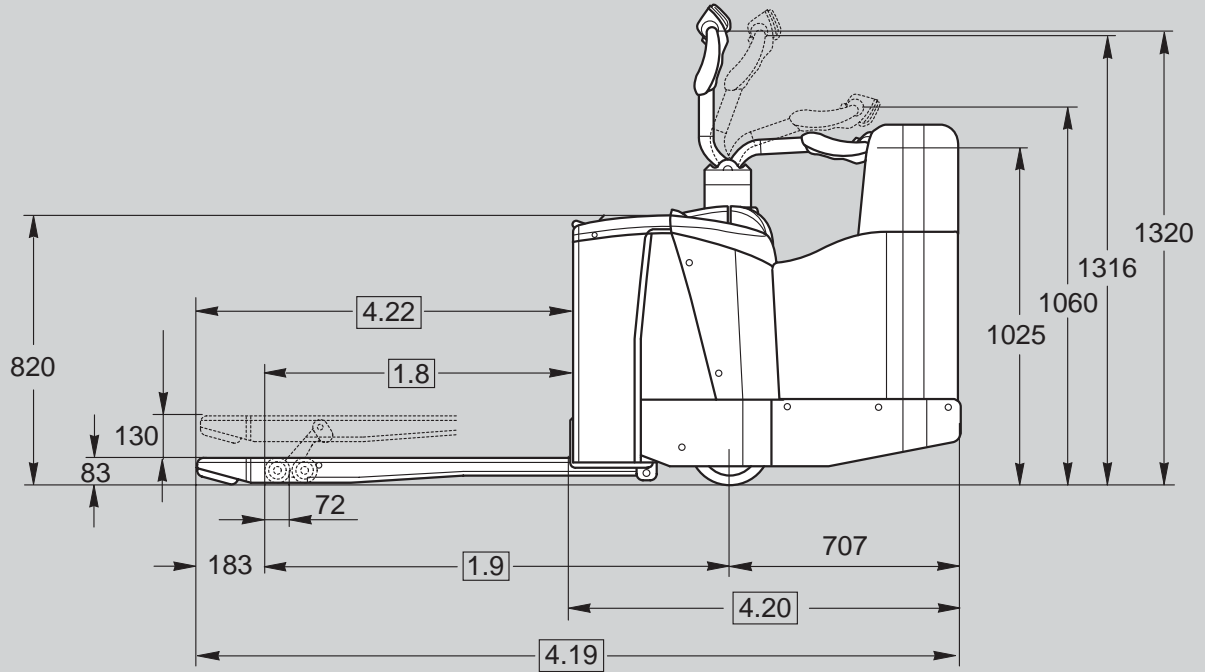
WP 2330S Model

Specifications

General Information	1.1	Manufacturer	Crown Equipment Corporation			
	1.2	Model	WP 2330S – 2.0 t			
	1.3	Power	electric (SEM)			
	1.4	Operator Type	rider / pedestrian			
	1.5	Load Capacity	Q	t	2.0	
	1.6	Load Centre	c	mm	see table of dim.	
	1.8	Load Distance	forks lowered / raised	x	mm	see table of dim.
	1.9	Wheel Base	forks lowered	y	mm	see table of dim.
	Weights	2.1	Weight	less battery	kg	530
2.4		Axle Load	w. load, front/rear	kg	1077 / 1741	
2.5		Axle Load	w.o. load, front/rear	kg	646 / 172	
Tyres	3.1	Tyre Type	Drive/Castor/Load		Vulkollan	
	3.2	Wheel Size	front	mm	Ø 230 x 70	
	3.3	Wheel Size	rear	mm	Ø 82 x 82	
	3.4	Additional Wheel	castor wheel	mm	Ø 125 x 50	
	3.5	Wheels	number (x = driven) front/rear	mm	1x, 2 / 4	
Dimensions	4.4	Lift		h ₃	mm	130
	4.9	Tiller Arm Height	in drive position min./max.	h ₁₄	mm	1061 / 1376
	4.15	Lowered Fork Height		h ₁₃	mm	83
	4.19	Overall Length	at fork length	l ₁	mm	see table of dim.
	4.20	Headlength		l ₂	mm	1156 / 736
	4.21	Overall Width	front	b ₁	mm	712
	4.22	Fork Dimensions		thxwxl	mm	77x170x995, 1125, 1210
	4.25	Width Across Forks		b ₅	mm	520, 540, 670
	4.32	Ground Clearance	centre wheelbase	m ₂	mm	35
	4.33	Working Aisle Width	1000 x 1200 traverse (lowered)	A _{st}	mm	see table of dim.
4.34	Working Aisle Width	800 x 1200 length (lowered)	A _{st}	mm	see table of dim.	
4.35	Turning Radius	lowered	W _a	mm	see table of dim.	
Performance	5.1	Travel Speed	w./w.o. load rider	km/h	7.0 / 10.0	
			w./w.o. load pedestrian	km/h	5.5 / 6.0	
	5.2	Lift Speed	w./w.o. load	m/s	0.04 / 0.06	
	5.3	Lowering Speed	w./w.o. load	m/s	0.06 / 0.06	
	5.7	Gradeability	w./w.o. load	%	10 / 25	
5.10	Service Brake				electric	
Motors	6.1	Traction Motor	60 min. rating	kW	1.5	
	6.2	Lift Motor	15% on time	kW	1.0	
	6.3	Max. Battery Box Size		lxwxh	mm	284x624x627
	6.4	Battery Voltage	nominal capacity 5h rating	V/Ah		24 / 300 (L) 360 (H)
	6.5	Battery Weight	nominal +5%	kg		288
Misc.	8.1	Type of Controller				transistor

Table of Dimensions

		4.22 Fork Length	Forktip Length	1.6 Load Centre	1.8 Load Distance (lowered)	1.8 Load Distance (raised)	1.9 Wheel Base (lowered)	4.19 Overall Length	4.33 Working Aisle Width 1000x1200 trav. (lowered)	4.34 Working Aisle Width 1200x800 length (lowered)	4.35 Turning Radius (lowered)
2.0 Rider	Tandem Load Wheel (standard)	995	183	500	811	739	1296	2151	2355	2555	1966
		1125	183	600	941	869	1426	2281	-		2096
	Single Load Wheel (opt.)	995	183	500	811	739	1296	2151	2355		1966
		1125	183	600	941	869	1426	2281	-		2096
2.0 Peder- strian	Tandem- Load Wheel (standard)	995	183	500	811	739	1296	1731	1961	2161	1572
		1125	183	600	941	869	1426	1861	-		1702
	Single Load Wheel (opt.)	995	183	500	811	739	1296	1731	1961		1572
		1125	183	600	941	869	1426	1861	-		1702



WP 2335S Model

Specifications

General Information	1.1	Manufacturer	Crown Equipment Corporation			
	1.2	Model	WP 2335S – 2.0 t			
	1.3	Power	electric (SEM)			
	1.4	Operator Type	rider			
	1.5	Load Capacity	Q	t	2.0	
	1.6	Load Centre	c	mm	see table of dim.	
	1.8	Load Distance	forks lowered / raised	x	mm	see table of dim.
	1.9	Wheel Base	forks lowered	y	mm	see table of dim.
	Weights	2.1	Weight	less battery	kg	530
2.4		Axle Load	w. load, front/rear	kg	1077 / 1741	
2.5		Axle Load	w.o. load, front/rear	kg	646 / 172	
Tyres	3.1	Tyre Type	Drive/Castor/Load		Vulkollan	
	3.2	Wheel Size	front	mm	Ø 230 x 70	
	3.3	Wheel Size	rear	mm	Ø 82 x 82	
	3.4	Additional Wheel	castor wheel	mm	Ø 125 x 50	
	3.5	Wheels	number (x = driven) front/rear	mm	1x, 2 / 4	
Dimensions	4.4	Lift		h ₃	mm	130
	4.9	Tiller Arm Height	in drive position min./max.	h ₁₄	mm	1060 / 1310
	4.15	Lowered Fork Height		h ₁₃	mm	83
	4.19	Overall Length	at fork length	l ₁	mm	see table of dim.
	4.20	Headlength		l ₂	mm	1189
	4.21	Overall Width	front	b ₁	mm	712
	4.22	Fork Dimensions		thxwxl	mm	77x170x995, 1125, 1210
	4.25	Width Across Forks		b ₅	mm	520, 540, 670
	4.32	Ground Clearance	centre wheelbase	m ₂	mm	35
	4.33	Working Aisle Width	1000 x 1200 traverse (lowered)	A _{st}	mm	see table of dim.
4.34	Working Aisle Width	800 x 1200 length (lowered)	A _{st}	mm	see table of dim.	
4.35	Turning Radius	lowered	W _a	mm	see table of dim.	
Performance	5.1	Travel Speed	w./w.o. load	km/h	7.0 / 10.0	
	5.2	Lift Speed	w./w.o. load	m/s	0.04 / 0.06	
	5.3	Lowering Speed	w./w.o. load	m/s	0.06 / 0.06	
	5.7	Gradeability	w./w.o. load	%	10 / 25	
	5.10	Service Brake			electric	
Motors	6.1	Traction Motor	60 min. rating	kW	1.5	
	6.2	Lift Motor	15% on time	kW	1.0	
	6.3	Max. Battery Box Size		lxwxh	mm	284x624x627
	6.4	Battery Voltage	nominal capacity 5h rating	V/Ah	24 / 300 (L) 360 (H)	
	6.5	Battery Weight	nominal +5%	kg	288	
Misc.	8.1	Type of Controller			transistor	

Table of Dimensions

		4.22 Fork Length	Forktip Length	1.6 Load Centre	1.8 Load Distance (lowered)	1.8 Load Distance (raised)	1.9 Wheel Base (lowered)	4.19 Overall Length	4.33 Working Aisle Width 1000x1200 trav. (lowered)	4.34 Working Aisle Width 1200x800 length (lowered)	4.35 Turning Radius (lowered)
2.0 Rider	Tandem Load Wheel (standard)	995	183	500	811	739	1296	2184	2389	2589	2000
		1125	183	600	941	869	1426	2314	-		2130
	Single Load Wheel (opt.)	995	183	500	811	739	1296	2184	2389		2000
		1125	183	600	941	869	1426	2314	-		2130

Standard Equipment

1. 24 V Electrical system SEM.
2. MOSFET control.
3. Infinitely variable control of traction speed.
4. 1st and 2nd level performance
 - max. travel speed at level 1
 - reduced travel speeds at level 2
5. Emergency disconnect.
6. Key switch.
7. Horn.
8. Electrical service braking system (regenerative and wear-resistant).
9. Anderson SBE 160 battery connector.

WP 2300

- a) Brake override zone, travel possible in upper brake zone at creep speed.
- b) Vulkollan drive tyre and single load wheels.
- c) Polyurethane castor wheel.
- d) Auto reverse safety switch.
- e) Battery discharge indicator.
- f) Brake, spring applied, electro-magnetically released.

WP 2330/35S

- a) Vulkollan drive tyre and tandem load wheels.
- b) Vulkollan castor wheel.
- c) Auto reverse safety switch active in walkie mode.
- d) Combi instrument (hour meter, BDI with lift lock out).
- e) Two stage brake, spring applied, electro-magnetically released.
- f) Suspended Floorboard.
- g) Cushioned side restraints.

Optional Equipment

1. Battery connector (Schaltbau).
2. Freezer application package -30°C.
3. Width across forks 520/670mm.
4. Fork length 995/1210 mm.
5. Hand held diagnostic set for
 - performance adjustment
 - truck diagnostic.
6. Battery roll out function increases headlength by 32 mm, battery compartment height min. 160 mm (not available on WP 2315).

WP 2300

- a) Battery discharge indicator with lift lock out and integrated travel timer.
- b) Drive wheel Poly ø 250x85, Rubber ø 250x100.
- c) Tandem load wheels dia 82x82, Vulkollan.
- d) High frequency on board charger.

WP 2330/35S

- a) Drive wheel Rubber ø230x70.
- b) Single load wheels dia 82x105, Vulkollan.
- c) 220 (L) Ah; 240 (H) Ah battery (same headlength).

Frame & Chassis

Designed using "State of the Art" CAD and Finite element analysis resulting in a optimized steel structure. A rugged design which has minimum deflection and low stresses. A steel skirt and the round contour gives the truck maximum protection for the operator and avoids damaging goods. The forks are manufactured from a high tensile strength steel and feature an integrated exit and entry ramp for safe and easy pallet handling.

Wheels and Tyres WP 2300

The 250 mm diameter drive tyre is available either in standard Vulkollan or as an option in Rubber or Polyurethane. The adjustable polymer dampers of the castors give the drive wheel excellent grip and provide the truck with optimum stability. The Vulkollan load wheels which are subjected to high levels of stress incorporate a debris cover to protect the bearing. They are available as a single or tandem version and guarantee a long service life.

Wheels and Tyres WP 2300S

The 230 mm diameter drive tyre is available either in standard Vulkollan or as an option in Rubber. The spring-loaded centrally mounted drive unit compensates for uneven floor conditions. The fixed Vulkollan castors with sealed bearings help prevent the truck from tilting sideways and thus provide excellent truck stability.

Electrical System

The 24-volt DC system features a separately excited traction motor (SEM) and is designed for optimum performance and system efficiency. The electrical system requires only one spark free main contactor and one pump contactor.

The MOSFET traction controller features a ramp hold, which minimizes the possibility of unintended reverse motion when brake are released on an incline. Obstacles can be easily overcome through the power boost feature which can generate up to 15% more power than normally

available for a full 3 seconds. An on-board diagnostic system reduces troubleshooting times to a minimum. An optional handset allows various performance levels to be tailored to the requirements of the customer and application. Regenerative and frictionless braking is applied when the forward/reverse thumb wheel is returned to neutral. Changing the travel direction increases the motor braking effect. Braking level is programmable.

The WP 2330/35S models feature a load-sensing maximum travel speed in rider mode.

Gearbox, Traction Motor and Brake

The heavy duty gearbox is designed for minimum noise. The parking brake mounted directly on the traction motor is spring applied and electro-magnetically released. The brake torque is transmitted to the drive wheel through the gear reduction. The WP 2300S drive unit is spring-loaded and compensates for uneven floors. Constant contact with the ground ensures stability when cornering.

Batteries

The battery is safely located in the all around closed battery compartment and can be lifted out. The WP 2300 Series comes with three different battery sizes ranging from the WP 2315 with 160 Ah, the WP 2320 with 240 Ah and the WP 2330/35S with up to 360 Ah.

The battery as well as the connector are easily accessible. The battery lid can be easily opened or if necessary removed by simply undoing a latch. The pedestrian trucks offer an optional on-board high frequency charger. The charger allows for an opportunity charge of the battery by simply connecting power cable of the WP to a single phase mains.

Hydraulic Lift System

A robust 1.0 kW series wound pump motor with integrated oil tank and control valve feeds 2 lift cylinders with chrome plated piston rods. The flow control valve allows for smooth lowering even when the truck is fully loaded. A relief valve protects the components and chassis from overloading. The lift limit switch avoids unnecessary energy

consumption, reduces noise emissions and prevents the lift linkage from undue stress. Thick wall bushings and grease fittings for all pivot points in the lift system make the truck ideal for heavy-duty industrial applications. Load wheel risers are made from high quality steel for maximum load capability. All bolts are plated to provide protection against rust and corrosion.

Tiller and Controls

The WP's robust X10™ control handle is designed to allow for an optimum turning radius with low steer effort. All control buttons can be operated with either hand and can be accessed with minimum hand and wrist movement. The horn switches are integrated in the hand grips. An ergonomic forward/reverse thumb wheel allows for precise manoeuvring. Depending on the conditions, maximum travel speed can be reduced via the Rabbit/Turtle switch. The parking brake is activated at the lower and upper end of the tiller position.

WP 2315/20 Brake Override Function

For easy operation in tight areas a brake override function is incorporate which allows the WP 2300 to be driven safely and precisely at creep speed with the handle in a near vertical position. The control handle remains within the profile of the power unit at all times, even when performing 90° turn. When the forward/reverse thumb wheel is in neutral the parking brake is immediately activated thus preventing unexpected movement.

Safety Regulations

Conforms to European safety standards. Dimensions and performance data given may vary due to manufacturing tolerances. Performance is based on an average size vehicle and is affected by weight, condition of truck, how it is equipped and the conditions of the operating area. Crown products and specifications are subject to change without notice.

European Manufacturing:
Crown Gabelstapler GmbH & Co. KG
Roding, Germany
Crown Equipment
Galway, Ireland
www.crown.com

