



ERP045-070VL

Electric Powered Pneumatic Tire Trucks

4,500 · 5,000 · 6,000 · 7,000 lbs

Yale® ERP-VL electric trucks are available in 4,500 – 7000 pound capacities designed for demanding applications that require clean, quiet-running, heavy-duty capability. These trucks are very maneuverable and offer plenty of power and high stacking ability, while also offering excellent ergonomics, reliability and maintenance ease. Pneumatic tires provide more comfort indoors and greater capabilities for outdoor applications.

AC Transistor Traction Control

AC technology offers smooth acceleration and directional changes, proportional regenerative braking and the Auto Deceleration System. The controller converts battery power to three phase AC power, and adjusts frequency and current to meet performance demands. Performance control settings and extensive diagnostics are accessible by technicians through the display or a PC. A Vehicle System Manager (VSM) utilizing CANbus technology monitors and controls key truck components and systems. The advanced thermal management system monitors component temperature and gradually adjusts performance to prevent damage to key components.

Controller Area Network (CANbus)

CANbus technology streamlines communications between truck systems through one main master controller, the Vehicle System Manager (VSM). Display, traction controller and pump controller are all controlled via the CANbus network. A connection point is provided for interface with a service PC.

Intellix VSM acts as a master truck controller, providing extensive monitoring and control of truck functions and systems. CANbus technology reduces wiring complexity and enables comprehensive communications between truck systems. The ergonomically positioned display transmits continual feedback to the operator and allows for communication of service codes.

Electrical System

The ERP-VL utilizes AC motor technology designed for exceptional performance. It uses a brushless induction motor for high starting torque and smooth rapid acceleration. A speed sensor built into the motor provides feedback to the control system, allowing motor speed and direction to be continuously monitored.

Dual Drive Motors

Left hand and right hand AC Drive motors are contained in the drive axle assembly. The outer end of each motor drives a wheel

through a planetary gear transmission. The transmissions use helical gears with tooth geometry that is optimized to minimize gear noise. Each drive motor is individually controlled allowing for a “zero inside turning radius” scenario that provides excellent maneuverability.

Automatic Park Brake

The ERP-VL features an Automatic Park Brake that is applied by a spring when the truck is stationary. Upon sensing a demand at the accelerator pedal, the brake is released and held “off” via an electrical solenoid within the park brake assembly. A manual override lever (located underneath the floor plate) is provided to disengage the brake if the truck has to be moved during service conditions in the absence of power on the truck.

Wet Disc Brakes

The brake system features standard oil cooled wet disc brakes which are internal to the drive axle housing, protecting them against dirt and moisture. The wet brake disc pack is positioned between the two traction motors. These low pedal effort brakes require no adjustments and very little maintenance, yet provide long service life.

Power Assisted Braking

Power Assisted Braking is accomplished via the VSM. The VSM monitors brake line pressure. When this pressure exceeds a set threshold the VSM sends a signal to the traction controller to decelerate the traction motor proportionally to the brake pressure. The higher the brake pedal pressure being applied, the more quickly the truck will decelerate. The master cylinder is sealed and has an external fluid level sensor connected to an LCD icon/indicator on the instrument module. The standard Auto Deceleration System automatically slows the truck when the operator’s foot is removed from the accelerator pedal, extending brake life.

Voltage

The 80 volt system is available in multiple battery compartment sizes to meet a variety of application requirements. A solid-state, return-to-neutral feature reduces the possibility of inadvertent truck movement. The truck will not start forward or rearward until the accelerator pedal has been released.

Operator Interface Display

The repositioned display is conveniently located in the upper right area of the operator’s compartment. The display includes an hour meter, LCD display for status codes and descriptions, battery discharge indicator with lift interrupt, all LCD icons/indicators for brake fluid, seat belt indicator, performance mode indicator, and parking brake indicator. The display also permits access for service technicians to adjust performance control settings, allowing the truck to be customized to meet customer applications. Additionally, extensive diagnostics allow service technicians to quickly troubleshoot problems. Operator selectable performance modes are standard. Options for operator passwords and a pre-shift operator checklist are also available.

Foot Directional Control Pedal (FDC)

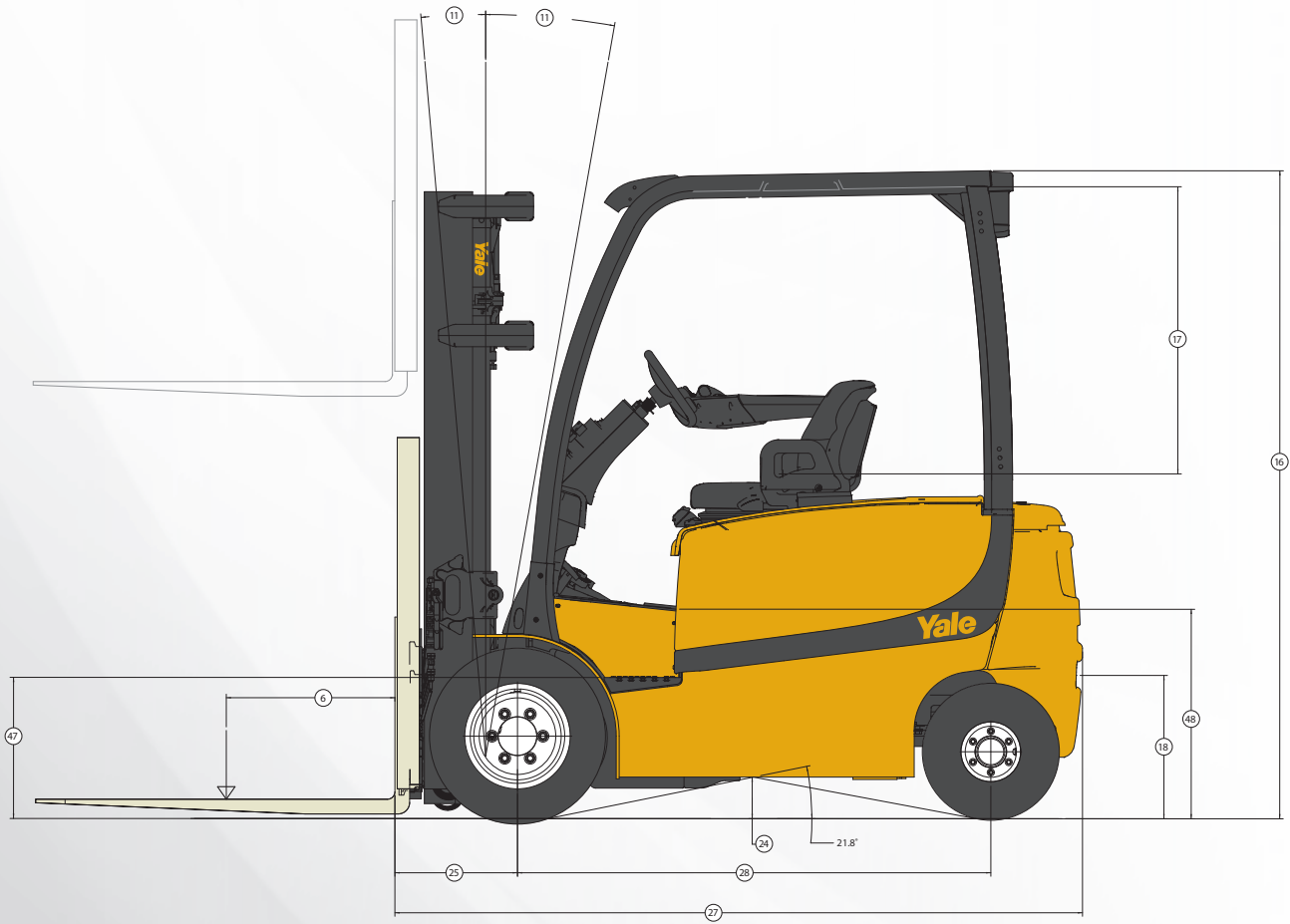
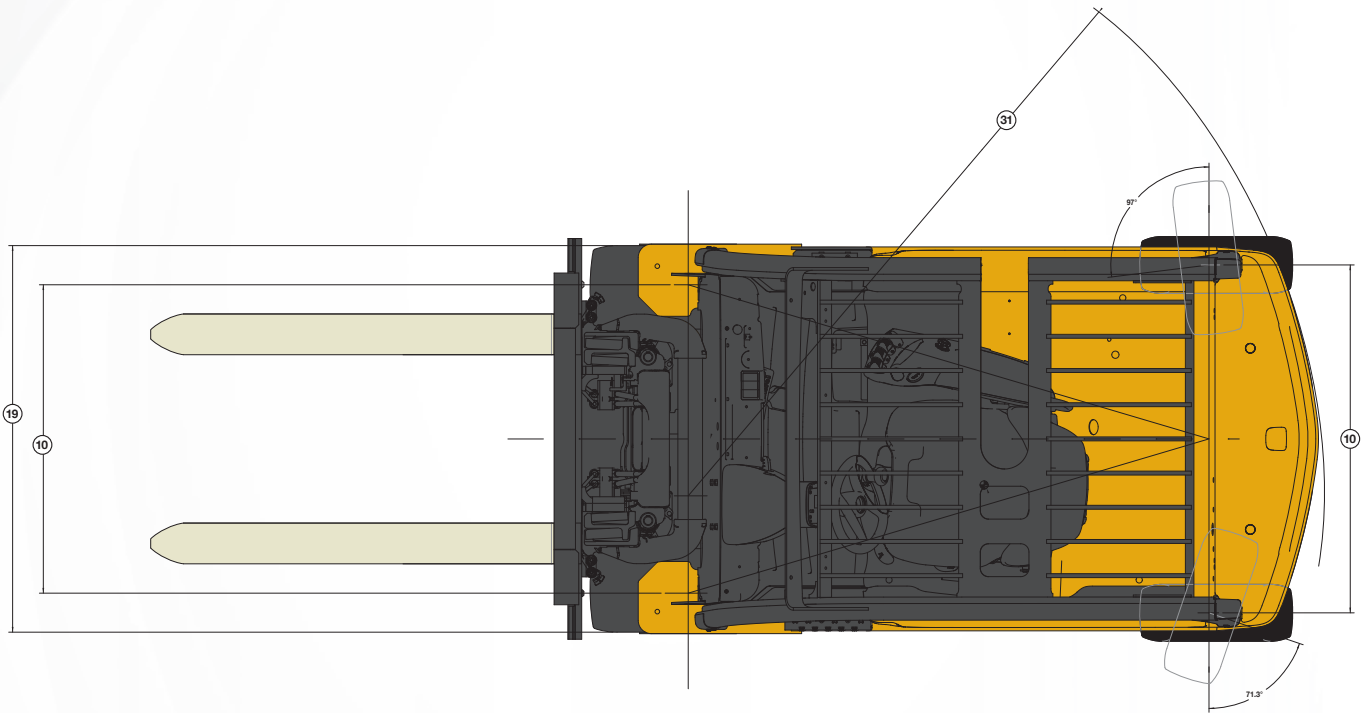
The optional foot directional control pedal is a highly productive directional/accelerator pedal. One pedal allows the operator to change direction and acceleration reducing operator movement and resulting in increased productivity.

Hydraulic Components

A transistor control hydraulic system is powered by a brushless, AC induction motor with wet spline. The motor and pump are mounted on rubber isolators for reduced noise and vibration. A combination of flexible wire-braid hoses and steel tubing is used to simplify the hydraulic plumbing. These hydraulic lines are carefully routed and held in place to reduce possible damage.

(continued on back)





GENERAL	1	Manufacturer			
	2	Model Designation			
	3	Power/Voltage			
4	Operation				
5	Rated Capacity			lb. (kg)	
6	Load Center			in. (mm)	
TIRES	7	Tire Type (Std/Opt)			
	8	Tire Size (Drive/Steer)		in.	
	9	Wheels – Number X=Driven (Drive/Steer)		front/rear	
DIMENSIONS	10	Tread	Ctr. of Tires	Std Dr/Wide Dr/Steer	in. (mm)
	11	Mast Tilt	Std Opt Opt		degrees
	12	Mast - Lowered Height	Std Mast		in. (mm)
	13	Free Lift - Top of Fork	Std 2 Stg Limited Free Lift Mast		in. (mm)
			Opt 2 Stg Full Free Lift Mast with/without LBR		in. (mm)
	14	Lift Height - Top of Fork	Std 2 Stg Limited Free Lift Mast		in. (mm)
	15	Mast - Extended Height	Std Mast with/without LBR		in. (mm)
	16	Overhead Guard Height	Without/With Battery Rollers		in. (mm)
	17	SIP to Bottom of OHG	Seat Depressed	Std/Susp/Swivel	in. (mm)
	18	Tow Pin Height	Vertical Center of Pin		in. (mm)
	19	Overall Width	Pneumatic Tires	Std/Wide Tread	in. (mm)
			PSS Tires	Std/Wide Tread	in. (mm)
	20	Forks	Thickness x Width x Length		in. (mm)
	21	Standard Carriage Width			in. (mm)
	22	Floor to Bottom of Battery (Vertical / Roller / Forks)			in. (mm)
	23	Ground Clearance	Lowest Point (NL/RL)		in. (mm)
	24	Ground Clearance	Center of Truck (NL/RL)		in. (mm)
	25	Load Distance	Center of Wheel to Face of Forks		in. (mm)
			Nominal		SIZE
	27	Length to Face of Forks	Chassis Length		in. (mm)
	28	Wheelbase			in. (mm)
29	Right Angle Stack			in. (mm)	
30	Equal Aisle	90° Intersecting Aisle		in. (mm)	
31	Outside Turning Radius			in. (mm)	
WT.	32	Truck Weight	Without Battery (NL)		lb. (kg)
	33	Axle Loading - Drive	Static with Max. Wt. Battery (NL/RL)		lb. (kg)
	34	Axle Loading - Steer	Static with Max. Wt. Battery (NL/RL)		lb. (kg)
PERFORMANCE	35	Travel Speed	(NL/RL)		mph (km/h)
	36	Lift Speed	Std 2 Stg LFL Mast (NL/RL)		ft/min (m/sec)
			Opt 2 Stg FFL Mast (NL/RL)		ft/min (m/sec)
			Opt 3 Stg FFL Mast (NL/RL)		ft/min (m/sec)
	37	Lower Speed	Std 2 Stg LFL Mast (NL/RL)		ft/min (m/sec)
			Opt 2 Stg FFL Mast (NL/RL)		ft/min (m/sec)
			Opt 3 Stg FFL Mast (NL/RL)		ft/min (m/sec)
	38	Gradability	5 Minute Rating (NL/RL)		%
			60 Minute Rating (NL/RL)		%
	39	Drawbar Pull	5 Minute Rating (NL/RL)		lbf
60 Minute Rating (NL/RL)			lbf		
40	Brake	Method of Control (Service/Parking)			
		Method of Operation (Service/Parking)			
ELECTRIC	41	Battery		Type	
	42	Traction Motors (Dual)	60 Minute Rating (Each)		hp (kW)
	43	Pump Motor	15 Minute Rating		hp (kW)
	44	Traction Motors	Type/Control Method		
	45	Pump Motor	Type/Control Method		
	46	Number of Speeds	Traction/Pump		
OTHER	47	Step Height		in. (mm)	
	48	Floor Height	Without/With Battery Rollers		in. (mm)
	49	Attachment Relief Pressure		psi (bar)	
	50	Auxiliary Oil Flow	3rd and 4th Function		gal/min (l/min)
	51	Sound Level	Measured per ANSI B56.11.5		dB (A)

Yale®			
ERP045VL			
Electric/80 Volts			
Sit			
4500 (2041)			
24 (610)			
Pneumatic/Pneumatic Shaped Solid			
23 x 10 - 12/18 x 7 - 8			
2X/2			
36.9/41.5/39.1 (938/1054/992)			
5F/5B 10F/5B 5F/6B			
87 (2192)			
5 (140)			
37/64 (962/1628)			
133 (3392)			
182/156 (4622/3956)			
86.3/90.4 (2193/2297)			
38.8/39.4/38.9 (986/1001/989)			
10.3 (262)			
46.9/51.5 (1192/1308)			
46.2/50.7 (1173/1289)			
1.6 x 3.9 x 42 (40 x 100 x 1067)			
42 (1067)			
5.7 (145) / 10.2 (259) / 9.9 (252)			
3.9/3.3 (98/83)			
5.4/5.3 (137/135)			
16.5 (419)			
28"			
92.0 (2336)			
63.2 (1606)			
141.8 (3602)			
78.2 (1986)			
76 (1931)			
6360 (2885)			
5266/12649 (2389/5737)			
5236/2352 (2375/1067)			
Standard Performance		Premium Performance Package	
11.2/11.2 (18/18)		13/13 (21/21)	
124/79 (0.63/0.40)		142/102 (0.72/0.52)	
124/81 (0.63/0.41)		130/98 (0.66/0.50)	
124/79 (0.63/0.40)		134/100 (0.68/0.51)	
		100/112 (0.51/0.57)	
		91/102 (0.46/0.52)	
		93/106 (0.47/0.54)	
39/26		42/28	
13/9		14/10	
4283/4057		4626/4462	
1298/1229		1402/1357	
		Hydraulic/Mechanical	
		Foot/Automatic	
		Lead Acid	
13.4 (10)		13.4 (10)	
21.5 (16)		32.2 (24)	
		Dual AC/Transistor	
		AC/Transistor	
		Infinitely Variable/Infinitely Variable	
		18.7 (475)	
		27.8/31.9 (706/810)	
		2250 (155)	
		11 (40)	
63		65	

Above specifications, unless otherwise listed, are for a standard truck without optional equipment.

Right Angle Stack and Equal Intersecting Aisle dimensions provided with a 48" long and 40" wide pallet load, allowing zero clearance

Yale®	
ERP050VL	
Electric/80 Volts	
Sit	
5000 (2268)	
24 (610)	
Pneumatic/Pneumatic Shaped Solid	
23 x 10 - 12/18 x 7 - 8	
2X/2	
36.9/41.5/39.1 (938/1054/992)	
5F/5B 10F/5B 5F/6B	
87 (2192)	
5 (140)	
37/64 (962/1628)	
133 (3392)	
182/156 (4622/3956)	
86.3/90.4 (2193/2297)	
38.8/39.4/38.9 (986/1001/989)	
10.3 (262)	
46.9/51.5 (1192/1308)	
46.2/50.7 (1173/1289)	
1.6 x 3.9 x 42 (40 x 100 x 1067)	
42 (1067)	
5.7 (145) / 10.2 (259) / 9.9 (252)	
3.9/3.3 (98/83)	
5.4/5.3 (137/134)	
16.5 (419)	
28"	34"
92.0 (2336)	97.6 (2480)
63.2 (1606)	68.9 (1750)
141.8 (3602)	147.3 (3742)
78.2 (1986)	80.7 (2049)
76 (1931)	81.6 (2073)
6360 (2885)	6560 (2976)
5266/13470 (2389/6110)	5718/13659 (2594/6196)
5236/2032 (2375/922)	5762/2821 (2614/1280)
Standard Performance	Premium Performance Package
11.2/11.2 (18/18)	13/13 (21/21)
124/75 (0.63/0.38)	142/96 (0.72/0.49)
124/77 (0.63/0.39)	130/93 (0.66/0.47)
124/77 (0.63/0.39)	134/94 (0.68/0.48)
100/112 (0.51/0.57)	
91/106 (0.46/0.54)	
93/108 (0.47/0.55)	
35/24	38/26
12/8	13/9
4248/4148	4588/4480
1287/1257	1390/1357
Hydraulic/Mechanical	
Foot/Automatic	
Lead Acid	
13.4 (10)	13.4 (10)
21.5 (16)	32.2 (24)
Dual AC/Transistor	
AC/Transistor	
Infinitely Variable/Infinitely Variable	
18.7 (475)	
27.8/31.9 (706/810)	
2250 (155)	
11 (40)	
63	65

Yale®	
ERP060VL	
Electric/80 Volts	
Sit	
6000 (2722)	
24 (610)	
Pneumatic/Pneumatic Shaped Solid	
23 x 10 - 12/18 x 7 - 8	
2X/2	
36.9/41.5/39.1 (938/1054/992)	
5F/5B 10F/5B 5F/6B	
87 (2192)	
5 (140)	
37/60 (957/1540)	
126 (3209)	
175/153 (4444/3861)	
86.3/90.4 (2193/2297)	
38.8/39.4/38.9 (986/1001/989)	
10.3 (262)	
46.9/51.5 (1192/1308)	
46.2/50.7 (1173/1289)	
2 x 4.9 x 42 (50 x 125 x 1067)	
42 (1067)	
5.7 (145) / 10.2 (259) / 9.9 (252)	
3.9/3.3 (98/83)	
5.4/5.3 (137/134)	
17.0 (431)	
34"	
98.1 (2492)	
68.9 (1750)	
147.3 (3742)	
80.7 (2049)	
81.6 (2073)	
6730 (3053)	
5930/15499 (2690/7030)	
5714/2145 (2592/973)	
Standard Performance	Premium Performance Package
11.2/10.6 (18/17)	13/12.1 (21/19.5)
116/65 (0.59/0.33)	124/83 (0.63/0.42)
108/65 (0.55/0.33)	116/81 (0.59/0.41)
112/65 (0.57/0.33)	118/81 (0.60/0.41)
91/110 (0.46/0.56)	
73/102 (0.37/0.52)	
79/104 (0.4/0.53)	
34/22	37/24
11/7	12/8
4146/4037	4477/4360
1256/1223	1357/1321
Hydraulic/Mechanical	
Foot/Automatic	
Lead Acid	
13.4 (10)	13.4 (10)
21.5 (16)	32.2 (24)
Dual AC/Transistor	
AC/Transistor	
Infinitely Variable/Infinitely Variable	
18.7 (475)	
27.8/31.9 (706/810)	
2250 (155)	
11 (40)	
63	65

Yale®		1	GENERAL
ERP070VL		2	
Electric/80 Volts		3	
Sit		4	
7000 (3175)		5	
24 (610)		6	
Pneumatic/Pneumatic Shaped Solid		7	TIRES
23 x 10 - 12/18 x 7 - 8		8	
2X/2		9	
36.9/41.5/39.1 (938/1054/992)		10	DIMENSIONS
5F/5B 10F/5B 5F/6B		11	
87 (2192)		12	
5 (140)		13	
37/60 (957/1540)			
126 (3209)		14	
175/153 (4444/3861)		15	
86.3/90.4 (2193/2297)		16	
38.8/39.4/38.9 (986/1001/989)		17	
10.3 (262)		18	
46.9/51.5 (1192/1308)		19	
46.2/50.7 (1173/1289)			
2 x 4.9 x 42 (50 x 125 x 1067)		20	
42 (1067)		21	
9.8 (250)		22	
3.9/3.3 (98/83)		23	
5.4/5.2 (137/132)		24	
17.0 (431)		25	
34"			
101.2 (2570)		27	
68.9 (1750)		28	
149.9 (3808)		29	
81.8 (2078)		30	
84.2 (2139)		31	
7420 (3366)		32	
5814/16979 (2637/7702)		33	
6525/2360 (2960/1070)		34	
Standard Performance	Premium Performance Package		WT.
11.2/9.9 (18/16)	13/11.2 (21/18)	35	
116/61 (0.59/0.31)	124/73 (0.63/0.37)	36	
108/61 (0.55/0.31)	116/73 (0.59/0.37)		
112/61 (0.57/0.31)	118/73 (0.60/0.37)		
91/114 (0.46/0.58)		37	
73/106 (0.37/0.54)			
79/110 (0.40/0.56)			
32/20	35/22	38	
10/6	11/7		
4243/4064	4583/4389	39	
1286/1232	1389/1330		
Hydraulic/Mechanical		40	PERFORMANCE
Foot/Automatic			
Lead Acid		41	
13.4 (10)	13.4 (10)	42	ELECTRIC
21.5 (16)	32.2 (24)	43	
Dual AC/Transistor		44	
AC/Transistor		45	
Infinitely Variable/Infinitely Variable		46	OTHER
18.7 (475)		47	
27.8/31.9 (706/810)		48	
2250 (155)		49	
11 (40)		50	
63	65	51	

(continued from cover)

A 10-Micron full flow hydraulic filter located in the return line protects the hydraulic system from contaminants and helps provide long life. A by-pass relief valve permits oil flow in the event of the filter clogging.

Hydrostatic Power Steering

Hydrostatic power steering is standard and the all-hydraulic design gives precise, reliable control while eliminating mechanical linkages and road shocks at the steering wheel. An infinitely adjustable tilt steering column provides excellent operator comfort and visibility.

Steering Axle

The steering axle is a one-piece ductile iron casting mounted on elastic cushions that reduce shock and provide a softer ride. The Continuous Stability System (CSS™) enhances truck stability in a simple, maintenance free design, without compromising uneven surface travel. “Zero Turn Radius” steer axle design allows for increased maneuverability.

Masts\Carriage\Forks\Load Backrest Extension

Yale® Global Hi-Vis simplex, duplex and triplex masts provide excellent visibility. The mast features flush face design with geometrically matched, angled load rollers, which are canted, yet provide full-face roller contact. The mast front rail flange angle coupled with the inverted “J” inner channel and three degree mast rollers significantly reduces channel web milling and roller wear. Top accessible, “J-hook” mast mounting system allows convenient mast installation and removal. The J-hook

mounting is standardized to allow direct mast interchangeability on a variety of Yale truck models without modification. Bronze steel backed bushings reduce mounting wear. Class II six-roller carriages are standard for the ERP-VL 4,500-5,000 lb. trucks. Class III six-roller carriages are standard for the ERP-VL 6,000-7,000 lb. trucks. Forks are “upset forged” from a single piece of high-strength steel, giving added strength and thickness for wear. A 48” load backrest extension is standard.

Frame

The frame is a unitized construction, stress tested for durability. An integral step on both sides of the truck is provided for easy entry and exit. The truck has a two-piece floor plate that can be easily lifted out for service access. An easily removable counterweight top cover gives easy access to components. A stamped steel, gas spring-assisted hood allows easy changing of the battery.

Additional Features

Additional features on the ERP-VL include an overhead guard, 42” forks, non-suspension seat, seat belt and an operator sensing switch. An infinitely adjustable tilt steering column, rubber floor mat, and electric horn are also standard.

Options

Accutouch e-hydraulics mini-levers
 Rapid/Fast Charging Configuration
 Foot Directional Control Pedal
 Return to set tilt
 Telescoping Steering Column with Tilt Memory
 Wide tread

Full suspension seats (with and without swivel)
 Various battery compartment lengths
 Battery rollers
 Overhead guard mounted headlights
 LED and Halogen work light packages
 LED Dome/reading light
 10° forward tilt
 Integral sideshifter
 Full Steel Operator’s Compartment Cab
 Front and top cab panels
 Premium Performance Package
 Audible Alarm – Reverse Operation
 Light – Amber strobe
 Pneumatic & Pneumatic Shaped Solid drive tires
 Type “EE” UL construction
 Dual Rear View Mirrors
 Panoramic Rear View Mirrors
 Fire Extinguisher
 Accumulator
 Synchronous Steering
 Red (Hi-Vis™) ELR (Emergency Locking Retractor) Non-cinch Seat Belt
 Red (Hi-Vis™) ELR (Emergency Locking Retractor) Non-cinch Seat Belt with Start Interlock
 Low Mount Display
 Tilt Cylinder Boots
 Integrated Rapid Charge
 IP54 Sealed Drive Axle/Drive Motors with Belly Pan and Side Shields
 Outdoor Protection/Wash-down Package
 Front Mud Guards

BATTERY AND COMPARTMENT SPECIFICATIONS													
Model	Compartment Size	Battery Specifications											
		Electrical				Size			Weight				
		W in (mm)	L in (mm)	H in (mm)	Volts	No. of Cells	Plates per Cell	Max Am Hr (kWh)	W Max in (mm)	L Max in (mm)	H Max in (mm)	Min lbs (kg)	Max lbs (kg)
J45-50XN 28" Compartment	Vertical Extract	40.7 (1034)	28.2 (717)	31.2 (792)	80	40	9	1000 (77.6)	40.5 (1028)	28.0 (711)	30.9 (784)	3700 (1886)	4100 (1878)
	Horizontal Removal - Roller	40.7 (1034)	28.2 (717)	31.1 (789)					40.5 (1028)	28.0 (711)	30.8 (782)		
	Horizontal Removal - Forklift	40.4 (1028)	28.0 (712)	31.3 (796)					40.4 (1026)	27.8 (706)	31.0 (788)		
50-70XN 34" Compartment	Vertical Extract	40.7 (1034)	33.9 (861)	31.2 (792)	80	40	11	1000 (77.6)	40.5 (1028)	33.7 (855)	30.9 (784)	4500 (2021)	4900 (2233)
	Horizontal Removal - Roller	40.7 (1034)	33.9 (861)	31.1 (789)					40.5 (1028)	33.7 (855)	30.8 (782)		
	Horizontal Removal - Forklift	40.4 (1028)	33.7 (856)	31.3 (796)					40.4 (1026)	33.5 (850)	31.0 (788)		

Battery Type: “EO” (Without Cover)
 Battery amp hr (kwh) capacity is max allowable per UL
 Commercially available lead acid batteries may not necessarily reach these max limits
 Battery Compartment Length is measured front to rear. Battery Compartment Width is measured across the truck

Battery Notes - Conventional Charging (Opt BC320A)
 Battery Connector: 80 volt - Black (Anderson Power Products® SBE®320 P/N 6363G1 or REMA® SRE 320 P/N 78350-05)
 Battery Lead: Length 30” (762 mm), Position “A”, 2/0 AWG

Battery Notes - Rapid / Fast Charging (Opt BARQCS)
 Battery Connector: Requires Positive / Negative Cabling terminating in (1) Female EBC-320 DIN Connector (Anderson Power Products® P/N E32503-00X9 or REMA® 95625-X1)
 DIN connector to include 1 Red Conductor to (+) and 1 black conductor to (-)
 Battery Lead: Length 36” (915 mm), Position “A”, Minimum Cable Size 3/0 AWG

Battery Notes - Premium, Fully Integrated “Quick Connect” Rapid / Fast Charging
 Battery Connector: Requires Positive / Negative Cabling terminating in (1) Female EBC-320 DIN Connector (Anderson Power Products® P/N E32503-00X9 or REMA® 95625-X1)
 DIN connector to include 1 Red Conductor to (+) and 1 black conductor to (-)
 Battery Lead: Length 36” (915 mm), Position “A”, Minimum Cable Size 3/0 AWG



YALE MATERIALS HANDLING CORPORATION

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Manufactured in our own ISO 9001 and 14001 Registered Facilities

2353-1D 6/2018 Trucks may be shown with optional equipment.

Truck performance may be affected by the condition of the vehicle, how it is equipped and the application. Consult your Yale® Industrial Truck Dealer if any of the information shown is critical to your application. Specifications are subject to change without notice.

This truck meets all applicable mandatory requirements of ANSI B56.1 Safety Standard for Powered Industrial Trucks at the time of manufacture. Classified by Underwriters’ Laboratories, Inc., as to fire and electric shock hazard only for Type E industrial trucks.