

# J50-60XNL SERIES

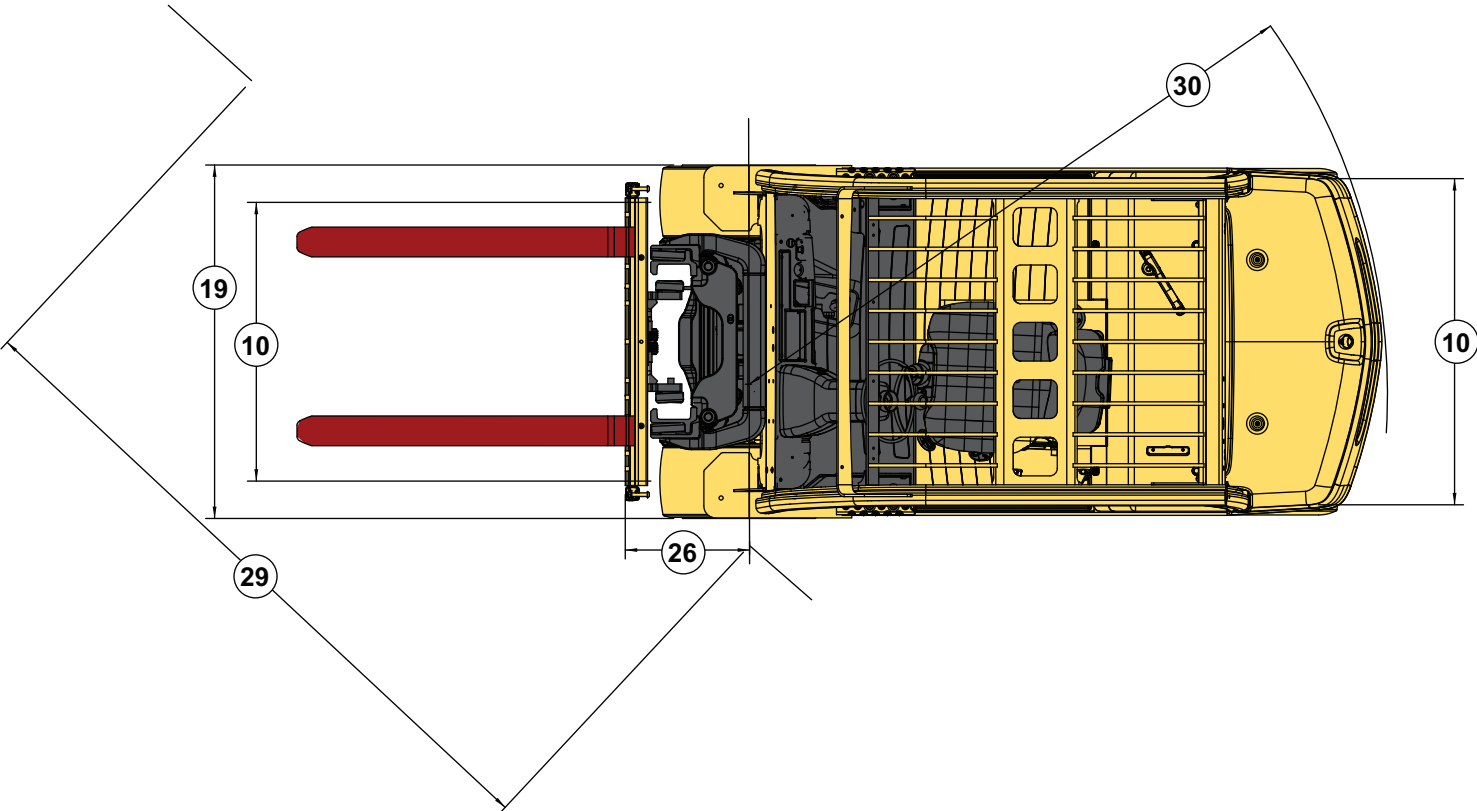
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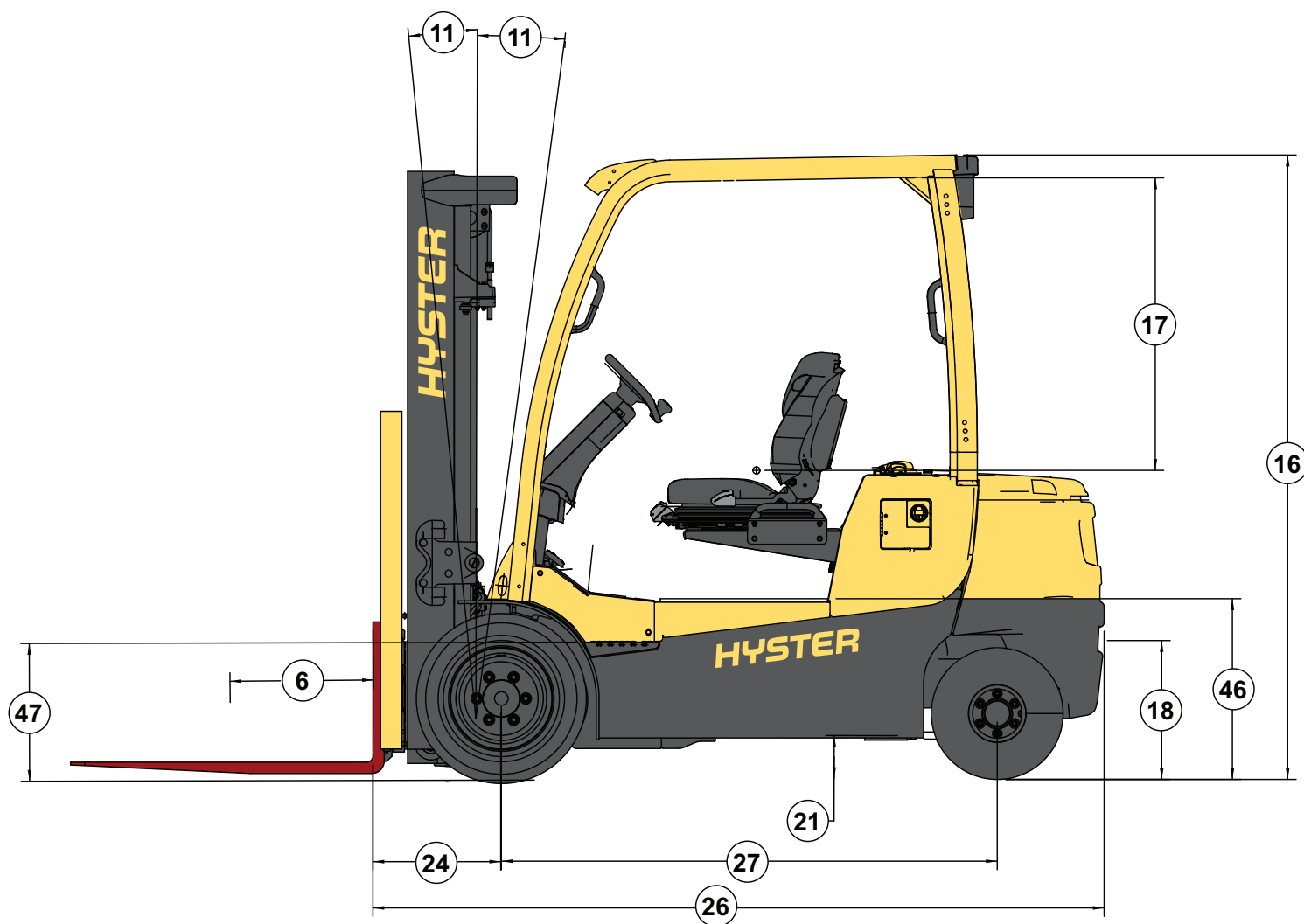


## INTEGRATED LITHIUM-ION COUNTERBALANCED FORKLIFT PRODUCT TECHNICAL GUIDE



DIMENSIONS





# SPECIFICATIONS

GENERAL	1	Manufacturer		Hyster
	2	Model designation		J50XNL
	3	Power/voltage		Electric/80 volts
	4	Operation		Sit
	5	Rated capacity	lb (kg)	5000 (2268)
	6	Load center	in (mm)	24 (610)
TIRES	7	Tire type (std/opt)		Pneumatic/pneumatic shaped solid
	8	Tire size (drive/steer)	in	23x10-12/18x7-8
	9	Wheels - number X=driven (drive/steer)	front/rear	2X/2
DIMENSIONS	10	Tread (center of tires) (std dr/wide dr/steer)	in (mm)	36.9/41.5/39.1 (938/1054/992)
	11	Mast tilt (std/opt/opt) (forward/rearward)	degrees	5/5 10/5 5/6
	12	Mast - lowered height (std mast)	in (mm)	87 (2192)
	13	Free lift - top of fork Std 2 std limited free lift mast	in (mm)	5 (140)
		Op 2-stg full free lift mast with/without LBR	in (mm)	37/64 (962/1628)
	14	Lift height - top of fork Std 2-stg limited free lift mast	in (mm)	133 (3392)
	15	Mast - extended height (std mast with/without LBR)	in (mm)	182/156 (4622/3956)
	16	Overhead guard height	in (mm)	86.3 (2193)
	17	SIP to bottom of OHG (seat depressed) (std/susp/air ride)	in (mm)	36.9/41.5/39.1 (938/1054/992)
	18	Tow pin height (vertical center of pin)	in (mm)	10.3 (262)
	19	Overall width Pneumatic tires (std/wide tread)	in (mm)	46.9/51.5 (1192/1308)
		PSS tires (std/wide tread)	in (mm)	46.2/50.7 (1173/1289)
	20	Forks (thickness x width x length)	in (mm)	1.6 x 3.9 x 42 (40 x 100 x 1067)
	21	Standard carriage width	in (mm)	42 (1067)
	22	Ground clearance - lowest point (NL/RL)	in (mm)	3.9/3.3 (98/83)
	23	Ground clearance - center of truck (NL/RL)	in (mm)	5.4/5.3 (137/134)
	24	Load distance (center of wheel to face of forks)	in (mm)	15.9 (404)
	25	Battery compartment Height	in (mm)	12.6 (320)
		Width	in (mm)	29.1 (738)
		Length - nominal	Size	34
		Length - actual	in (mm)	39.4 (1000)
	26	Length to face of forks	in (mm)	97 (2465)
	27	Wheelbase	in (mm)	68.9 (1750)
	28	Right angle stack	in (mm)	146.7 (3727)
	29	Equal aisle (90° intersecting aisle)	in (mm)	80.5 (2045)
	30	Outside turning radius	in (mm)	81.6 (2073)
WT.	31	Truck weight (without battery - no load)	lb (kg)	8680 (3945)
	32	Axle loading - drive - static with max weight battery (NL/RL)	lb (kg)	4855 (2205)/13270 (6020)
	33	Axle loading - steer - static with max weight battery (NL/RL)	lb (kg)	4680 (2125)/1765 (800)
PERFORMANCE	34	Travel speed (NL/RL)	mph (kph)	11.2/11.2 (18/18) 13/13 (21/21)
	35	Lift speed Std 2-stg LFL mast (NL/RL)	ft/min (m/sec)	124/75 (0.63/0.38) 142/96 (0.72/0.49)
		Opt 2-stg FFL mast (NL/RL)	ft/min (m/sec)	124/77 (0.63/0.39) 130/93 (0.66/0.47)
		Opt 3-stg FFL mast (NL/RL)	ft/min (m/sec)	124/77 (0.63/0.39) 134/94 (0.68/0.48)
	36	Lower speed Std 2-stg LFL mast (NL/RL)	ft/min (m/sec)	100/112 (0.51/0.57)
		Opt 2-stg FFL mast (NL/RL)	ft/min (m/sec)	91/106 (0.46/0.54)
		Opt 3-stg FFL mast (NL/RL)	ft/min (m/sec)	93/108 (0.47/0.55)
	37	Gradeability 5 minute rating (NL/RL)	%	35/24 38/26
		60 minute rating (NL/RL)	%	12/8 13/9
	38	Drawbar pull 5 minute rating (NL/RL)	LBF	4248/4148 4588/4480
		60 minute rating (NL/RL)	LBF	1287/1257 1390/1357
	39	Brake Method of control (service/parking)		Hydraulic/mechanical
		Method of operation (service/parking)		Foot/automatic
ELECTRIC	40	Battery compartment type		Lithium-ion
		Battery voltage (nominal capacity)	V/ah	80/420
	41	Traction motors (dual) 60 minute rating (each)	hp (kW)	13.4 (10) 13.4 (10)
	42	Pump motor -15 minute rating	hp (kW)	21.5 (16) 32.2 (24)
	43	Traction motors (type/control method)		Dual AC/transistor
	44	Pump motor (type/control method)		AC/transistor
OTHER	45	Number of speeds (traction/pump)		Infinitely variable/infinitely variable
	46	Step height	in (mm)	18.7 (475)
	47	Floor height	in (mm)	24.4 (620)
	48	Attachment relief pressure	psi (bar)	2250 (155)
	49	Auxiliary oil flow (3rd and 4th function)	gal/min (l/min)	11 (40)
	50	Sound level (measure per ANSI B56.11.5)	dB	63 65

The following chargers are approved to use with the J60XNL lithium-ion battery:

Posicharge ProCORE (80V) – 10kW, 15kW, 20kW, or 30kW single cable  
EcoTec Fast Charge Access (80V) – 80-500-32FC or 80-650-32FC

Above specifications, unless otherwise listed, are for a standard truck without optional equipment. Right angle stack and equal intersecting aisle are calculated using a 40" wide pallet.

CERTIFICATION: Hyster lift trucks meet the design and construction requirements of B56.1-1969, per OSHA Section 1910.178(a)(2), and also comply with the B56.1 revision in effect at time of manufacture. Certification of compliance with the applicable ANSI standards appears on the lift truck. Performance specifications are for a truck equipped as described under Standard Equipment on this Technical Guide. Performance specifications are affected by the condition of the vehicle and how it is equipped, as well as by the nature, condition of the operating area, proper service and maintenance of the vehicle. If these specifications are critical, the proposed application should be discussed with your dealer.

# SPECIFICATIONS

GENERAL	1	Manufacturer		Hyster		
	2	Model designation		J60XNL		
	3	Power/voltage		Electric/80 volts		
	4	Operation		Sit		
	5	Rated capacity	lb (kg)	6000 (2722)		
	6	Load center	in (mm)	24 (610)		
TIRES	7	Tire type (std/opt)		Pneumatic/pneumatic shaped solid		
	8	Tire size (drive/steer)	in	23x10-12/18x7-8		
DIMENSIONS	9	Wheels - number X=driven (drive/steer)	front/rear	2X/2		
	10	Tread (center of tires) (std dr/wide dr/steer)	in (mm)	36.9/41.5/39.1 (938/1054/992)		
	11	Mast tilt (std/opt/opt) (forward/rearward)	degrees	5/5 10/5 5/6		
	12	Mast - lowered height (std mast)	in (mm)	87 (2192)		
	13	Free lift - top of fork	Std 2 std limited free lift mast	in (mm)	5 (140)	
			Op 2-stg full free lift mast with/without LBR	in (mm)	37/60 (957/1540)	
	14	Lift height - top of fork	Std 2-stg limited free lift mast	in (mm)	126 (3209)	
	15	Mast - extended height (std mast with/without LBR)	in (mm)	175/153 (4444/3861)		
	16	Overhead guard height	in (mm)	86.3 (2193)		
	17	SIP to bottom of OHG (seat depressed) (std/susp/air ride)	in (mm)	36.9/41.5/39.1 (938/1054/992)		
	18	Tow pin height (vertical center of pin)	in (mm)	10.3 (262)		
	19	Overall width	Pneumatic tires (std/wide tread)	in (mm)	46.9/51.5 (1192/1308)	
			PSS tires (std/wide tread)	in (mm)	46.2/50.7 (1173/1289)	
	20	Forks (thickness x width x length)	in (mm)	2 x 4.9 x 42 (50 x 125 x 1067)		
	21	Standard carriage width	in (mm)	42 (1067)		
	22	Ground clearance - lowest point (NL/RL)	in (mm)	3.9/3.3 (98/83)		
	23	Ground clearance - center of truck (NL/RL)	in (mm)	5.4/5.3 (137/134)		
	24	Load distance (center of wheel to face of forks)	in (mm)	16.4 (416)		
	25	Battery compartment	Height	in (mm)	12.6 (320)	
			Width	in (mm)	29.1 (738)	
			Length - nominal	Size	34	
			Length - actual	in (mm)	39.4 (1000)	
	26	Length to face of forks	in (mm)	100.5 (2555)		
	27	Wheelbase	in (mm)	68.9 (1750)		
	28	Right angle stack	in (mm)	149.3 (3793)		
	29	Equal aisle (90° intersecting aisle)	in (mm)	81.7 (2074)		
	30	Outside turning radius	in (mm)	84.2 (2139)		
	WT.	31	Truck weight (without battery - no load)	lb (kg)	9540 (4340)	
		32	Axle loading - drive - static with max weight battery (NL/RL)	lb (kg)	5645 (2566)/15150 (6886)	
		33	Axle loading - steer - static with max weight battery (NL/RL)	lb (kg)	5630 (2559)/2125 (966)	
PERFORMANCE				Standard performance	PowerPlus performance	
	34	Travel speed (NL/RL)	mph (kph)	11.2/10.6 (18/17)	13/12.1 (21/19.5)	
	35	Lift speed	Std 2-stg LFL mast (NL/RL)	ft/min (m/sec)	116/65 (0.59/0.33)	124/83 (0.63/0.42)
			Opt 2-stg FFL mast (NL/RL)	ft/min (m/sec)	108/65 (0.55/0.33)	116/81 (0.59/0.41)
			Opt 3-stg FFL mast (NL/RL)	ft/min (m/sec)	112/65 (0.57/0.33)	118/81 (0.60/0.41)
	36	Lower speed	Std 2-stg LFL mast (NL/RL)	ft/min (m/sec)	91/110 (0.46/0.56)	
			Opt 2-stg FFL mast (NL/RL)	ft/min (m/sec)	73/102 (0.37/0.52)	
			Opt 3-stg FFL mast (NL/RL)	ft/min (m/sec)	79/104 (0.40/0.53)	
	37	Gradeability	5 minute rating (NL/RL)	%	34/22	37/24
			60 minute rating (NL/RL)	%	11/7	12/8
	38	Drawbar pull	5 minute rating (NL/RL)	LBF	4146/4037	4477/4360
			60 minute rating (NL/RL)	LBF	1256/1226	1357/1321
ELECTRIC	39	Brake	Method of control (service/parking)	Hydraulic/mechanical		
			Method of operation (service/parking)	Foot/automatic		
	40	Battery compartment type		Lithium-ion		
		Battery voltage (nominal capacity)	V/ah	80/420		
	41	Traction motors (dual) 60 minute rating (each)	hp (kW)	13.4 (10)	13.4 (10)	
	42	Pump motor - 15 minute rating	hp (kW)	21.5 (16)	32.2 (24)	
OTHER	43	Traction motors (type/control method)		Dual AC/transistor		
	44	Pump motor (type/control method)		AC/transistor		
	45	Number of speeds (traction/pump)		Infinitely variable/infinitely variable		
	46	Step height	in (mm)	18.7 (475)		
	47	Floor height	in (mm)	24.4 (620)		
	48	Attachment relief pressure	psi (bar)	2250 (155)		
	49	Auxiliary oil flow (3rd and 4th function)	gal/min (l/min)	11 (40)		
	50	Sound level (measure per ANSI B56.11.5)	dB	63	65	

The following chargers are approved to use with the J60XNL lithium-ion battery:

Posicharge ProCORE (80V) – 10kW, 15kW, 20kW, or 30kW single cable

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# MAST DIMENSIONS | BATTERY SPECIFICATIONS | ONBOARD CHARGING

J50-60XNL MAST DIMENSIONS													
Maximum fork height (TOF) in (mm)		Overall lowered height in (mm)		Overall extended height w/ load backrest in (mm)		Overall extended height w/o load backrest in (mm)		Free-lift (TOF) w/load backrest in (mm)		Free-lift (TOF) w/o load backrest in (mm)		Truck weight lb (kg)	
J50XNL	J60XNL	J50XNL	J60XNL	J50XNL	J60XNL	J50XNL	J60XNL	J50XNL	J60XNL	J50XNL	J60XNL	J50XNL	J60XNL
2-STAGE LIMITED FREE-LIFT (LFL) VISTA MAST													
133 (3392)	126 (3209)	87 (2192)	87 (2192)	182 (4622)	175 (4444)	156 (3956)	152 (3861)	5 (140)	5 (150)	5 (150)	5 (150)	9540 (4330)	10400 (4720)
141 (3592)	134 (3409)	91 (2292)	91 (2292)	190 (4822)	183 (4644)	164 (4156)	160 (4061)	5 (140)	5 (150)	5 (150)	5 (150)	9580 (4350)	10430 (4730)
2-STAGE FULL FREE-LIFT (FFL) VISTA MAST													
133 (3402)	126 (3210)	87 (2192)	87 (2192)	183 (4632)	175 (4445)	157 (3966)	152 (3862)	37 (962)	37 (957)	60 (1540)	60 (1540)	9580 (4350)	10430 (4730)
141 (3602)	134 (3410)	91 (2292)	91 (2292)	191 (4832)	183 (4645)	164 (4166)	160 (4062)	41 (1062)	41 (1057)	64 (1640)	64 (1640)	9620 (4365)	10470 (4750)
3-STAGE FULL FREE-LIFT (FFL) VISTA MAST													
183 (4650)	181 (4618)	81 (2042)	85 (2142)	232 (5880)	231 (5853)	205 (5196)	207 (5252)	32 (812)	35 (907)	59 (1508)	59 (1508)	9770 (4435)	10760 (4885)
189 (4800)	187 (4768)	83 (2092)	89 (2242)	238 (6030)	237 (6003)	211 (5346)	213 (5402)	33 (862)	39 (1007)	63 (1608)	63 (1608)	9790 (4445)	10810 (4905)
194 (4950)	193 (4918)	85 (2142)	91 (2292)	244 (6180)	243 (6153)	217 (5496)	219 (5552)	35 (912)	41 (1057)	65 (1658)	65 (1658)	9810 (4455)	10830 (4920)
200 (5100)	205 (5218)	89 (2242)	95 (2392)	250 (6330)	255 (6453)	223 (5646)	231 (5852)	41 (1062)	45 (1157)	69 (1758)	69 (1758)	9850 (4470)	10890 (4945)
206 (5250)	217 (5518)	91 (2292)	101 (2542)	256 (6480)	266 (6753)	229 (5796)	243 (6152)	41 (1112)	51 (1307)	75 (1908)	75 (1908)	9890 (4490)	11070 (5052)
212 (5250)		93 (2342)		261 (6630)		235 (5946)		43 (1112)				9920 (4505)	

BATTERY SPECIFICATIONS				
J50XNL BATTERY RUN TIME				
Battery size	Application			
	Heavy	Medium	Light	
33.6kWh	6h 30m	9h 15m	12h 30m	
25.2kWh	4h 45m	7h 0m	9h 15m	
16.8kWh	3h 15m	4h 30m	6h 15m	
J60XNL BATTERY RUN TIME				
Battery size	Application			
	Heavy	Medium	Light	
33.6kWh	5h 15m	7h 30m	10h 0m	
25.2kWh	4h 0m	5h 30m	7h 30m	
16.8kWh	2h 30m	3h 45m	5h 0m	
J50-60XNL BATTERY CHARGE TIME				
Charger size	Battery size			
	33.6kWh	25.2kWh	16.8kWh	
30kW	1h 15m	1h 0m*	1h 0m*	
20kW	1h 45m	1h 15m	1h 0m*	
15kW	2h 15m	1h 45m	1h 15m	
10kW	3h 30m	2h 45m	1h 45m	
5kW	6h 45m	5h 15m	3h 30m	

**Note:** Run time is from 100% to lift-lock out. Charge time is from lift-lock out to 100%. Charge times with \* are limited to 1C charging (i.e. cannot charge faster than 1 hour).

ONBOARD CHARGING				
ONBOARD CHARGE TIME				
Charger size	Battery size			
	33.6kWh	25.2kWh	16.8kWh	
6kW (240V outlet)	5h 10m	3h 55m	2h 35m	
1.4kW (120V outlet)	22h 5m	16h 35m	11h 5m	
BATTERY RECHARGE TIME FOLLOWING 1 HOUR OF OPERATION				
Charger size	Application			
	Heavy	Medium	Light	
6kW (240V outlet)	1h 10m	0h 40m	0h 30m	
1.4kW (120V outlet)	4h 30m	3h 10m	2h 20m	

The battery run time and battery charge time tables are a helpful guide to visualize the truck run time with different batteries in different applications. (The tables are a guide only and not a replacement for a site survey and full power study.)

**Heavy** – High throughput, typically runs full capacity, runs either attachments or has high lifts

**Medium** – High throughput, runs near capacity without attachments or high lifts

**Light** – Lower throughput, runs less than rated capacity without attachments or high lifts

The onboard charging option allows integrated lithium-ion forklifts to be charged via commonly available infrastructure without any facility equipment. Ideal for applications with limited charging options or those with the downtime for slower charging due to lower hour usage.




## FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
80V electrical system	x	
33.6kWh (80V @ 420Ah) battery	x	
25.2kWh (80V @ 315Ah) battery		x
16.8kWh (80V @ 210Ah) battery		x
Standard performance	x	
Dual drive motors	x	
Oil-cooled wet disc brakes	x	
AC traction and pump motors (completely brushless)	x	
Transistor drive and pump control	x	
Advanced VSM (vehicle system manager)	x	
Progressive thermal management system	x	
"Zero turn" steer axle	x	
Premium Performance Package		x
Reverse Speed System		x
Onboard charging		x
DRIVE	STD	OPT
Pneumatic drive tire and steer tire	x	
Solid pneumatic tires		x
Wide tread tires		x
LIFT	STD	OPT
2-stage limited free lift (LFL) Hi-Vis™2 mast with maximum fork height of 126" (3209 mm)	x	
Mast tilt option – 5° forward/5° back	x	
2-stage full free lift (FFL) Hi-Vis™ mast		x
3-stage full free lift (FFL) Hi-Vis™2 mast		x
4-stage full free lift (FFL) Hi-Vis™ mast		x
Mast tilt option – 10° forward/5° back		x
Mast tilt option – 5° forward/4° back		x
HANDLING	STD	OPT
42" (1067 mm) wide class III hook-type carriage with 48" (1219 mm) high load backrest extension	x	
42" (1067 mm) long forks	x	
Carriage with integral sideshift		x
Carriage with integral sideshifting fork positioner		x
Return to set tilt		x
Accumulator		x
Load weight indicator		x
Hydraulic attachment extension tubes with or without quick		x
Disconnect fittings		x
ERGONOMICS	STD	OPT
12" steering wheel with integral spinner knob	x	
Non-suspension vinyl seat	x	
Automatic park brake	x	
MONOTROL® foot direction control	x	
TouchPoint mini levers with fully adjustable armrest	x	
On-demand power steering	x	
Power assist braking	x	
Auto Deceleration System with regenerative braking	x	
Multifunction display	x	
Easy ingress/egress with low step height, floor and contoured handhold	x	
Operator convenience station	x	
Adjustable tilt steering column with low profile cowl for excellent visibility	x	
Anti-cinch operator restraint system	x	
Cushioned floor mat	x	

ERGONOMICS (continued)	STD	OPT
Seatside power disconnect button	x	
Non-suspension seat (cloth)		x
Full suspension seat (vinyl or cloth)		x
Air-ride suspension seat (vinyl or cloth)		x
Swivel seat, full suspension (vinyl or cloth)		x
Seat side directional control		x
Telescopic steering column with tilt memory		x
LED and halogen work light packages		x
LED dome/reading light		x
LED brake/tail/back-up light packages		x
Rear drive handle with integrated horn button		x
Side view mirrors		x
Synchronous steering		x
Red (HI-VIS) ELR (emergency locking retractor) non-cinch seat belt		x
Red (HI-VIS) ELR (emergency locking retractor) non-cinch seat belt with start interlock		x
Low mount display		x
OPERATION	STD	OPT
Standard construction	x	
Black ELR non-cinch seat belt	x	
Key switch start	x	
86.3" grid style overhead guard	x	
3 function hydraulic control valve	x	
Fully integrated CANbus communication	x	
Operator presence system (OPS)	x	
Static strap	x	
Tow pin	x	
On-board software: program, test & diagnose; password protected	x	
Electronic horn with integral relay (long life/no adjustments)	x	
4 function hydraulic control valve		x
Front and top cab panels: includes front panel with wiper/washer and top panel		x
Keyless start (with auxiliary key switch)		x
Audible reverse activated alarm		x
Visible amber strobe light - continuous activated, overhead guard mounted		x
Impact monitor		x
Operator password		x
Operator daily checklist		x
System monitor – hydraulic low fluid level indicator and hydraulic		x
Filter service indicator		x
Fire extinguisher – 2.5 lb. dry chemical		x
IP54 sealed drive axle/motors with belly pan and side shields	x	
Outdoor protection/wash-down package	x	
Front mud guards	x	
Tilt cylinder boots		x
Hyster Reaction™		x
SUPPLEMENTAL	STD	OPT
12 month/2,000 hour full truck warranty	x	
36 month/6,000 hour powertrain warranty	x	
84 month/12,000 hour lithium-ion battery warranty	x	
Operating manual	x	



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