

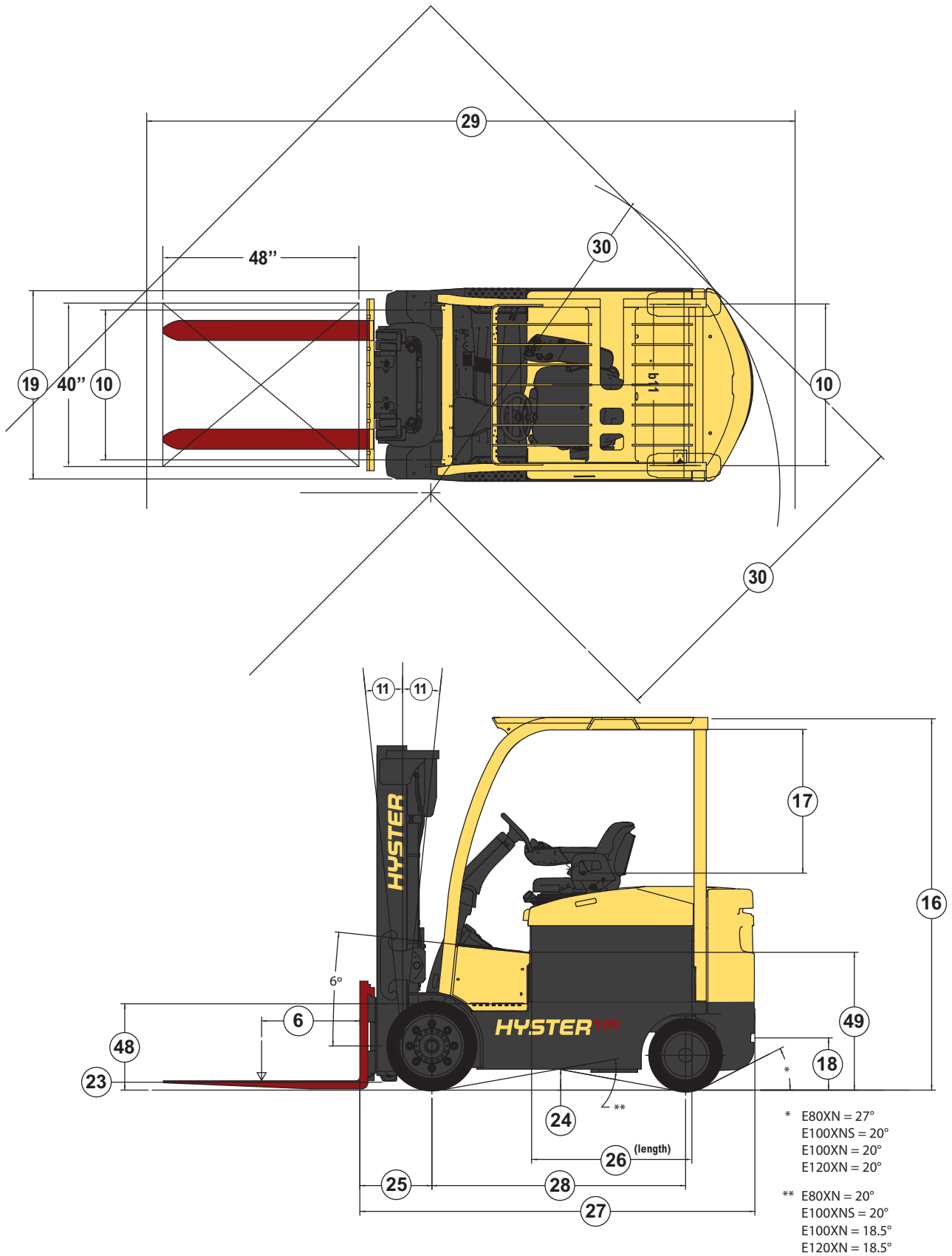
E80-120XN SERIES



**4-WHEEL ELECTRIC
FORKLIFT TRUCK CUSHION TIRE**
PRODUCT TECHNICAL GUIDE



E80-120XN DIMENSIONS



Circled dimensions correspond to the line numbers on the tabulated chart inside the technical guide. Dimensions are in inches (millimeters).

E120XN DIMENSIONS

GENERAL	1	Manufacturer			Hyster		
	2	Model designation			E120XN		
	3	Power			Electric		
	4	Operation			Sit		
	5	Rated capacity		lb (kg)	12000 (5443)		
	6	Load center		in (mm)	24 (610)		
TIRES/ WHEELS	7	Tire type - cushion, solid, pneumatic, etc.		Drive/steer	Cushion/cushion		
	8	Tire size		Drive/steer	in 22 x 12 x 16 / 18 x 7 x 12.1		
	9	Wheels - number		X=driven	Drive/steer 2x/2		
DIMENSIONS	10	Tread		Center of tires	Nar dr/wide dr/steer	in (mm) 40/43.9/38.3 (1015/1115/972)	
	11	Mast tilt			Std opt	degrees 5F/5B 8F/5B	
	12	Mast - lowered height			Std mast	in (mm) 85 (2138)	
	13	Free lift - top of fork		Std 2-stg limited free lift mast		in (mm) 5 (150)	
				Opt 2-stg full free lift mast with/without LBR		in (mm) 35/48 (897/1222)	
	14	Lift height - top of fork		Std 2-stg limited free lift mast		in (mm) 109 (2790)	
	15	Mast - extended height		Std mast with/without LBR		in (mm) 159/144 (4031/3657)	
	16	Overhead guard height		Std/opt/opt flat plate		in (mm) 94/91/87.1 (2388/2311/2212)	
	17	Sip to bottom std OHG		Susp at mid-point	Std/susp/swivel	in (mm) 37.3/36.3/36.2 (949/924/922)	
	18	Tow pin height		Vertical center of pin		in (mm) 12.7 (324)	
	19	Overall width		Standard tread/wide tread		in (mm) 52/55.9 (1320/1420)	
	20	Forks		Thickness x width x length		in (mm) 2.4 x 5.9 x 42 (60 x 150 x 1067)	
	21	Standard carriage width		Class III		in (mm) 42 (1067)	
	22	Floor to top of battery rollers				in (mm) 20 (509)	
	23	Ground clearance		Lowest point	NL/RL	in (mm) 3.6/3.4 (92/87)	
	24	Ground clearance		Center of truck	NL/RL	in (mm) 5.3/5.1 (134/130)	
	25	Load distance		Center of wheel to face of forks		in (mm) 18.2 (462)	
	26	Battery compartment		Height	Without/with battery rollers	in (mm) 24.5/24 (622/609)	
				Width		in (mm) 45.4 (1152)	
					Nominal	SIZE 45"	
				Length	Actual	in (mm) 45.7 (1161)	
	27	Length to face of forks		Chassis length		in (mm) 107.2 (2724)	
	28	Wheelbase				in (mm) 68.5 (1739)	
	29	Right angle stack				in (mm) 161.5 (4101)	
30	Equal aisle		90° intersecting aisle		in (mm) 85.7 (2178)		
31	Outside turning radius				in (mm) 95.3 (2420)		
WEIGHT	32	Truck weight		Without battery	NL	lb (kg) 13810 (6264)	
	33	Axle loading - drive		Static with max. wt. battery	NL/RL	lb (kg) 7466/26860 (3387/12183)	
	34	Axle loading - steer		Static with max. wt. battery	NL/RL	lb (kg) 11886/4491 (5391/2037)	
STANDARD PERFORMANCE							
				VOLTS	36	48	80
PERFORMANCE	36	Travel speed		Extended shift off	NL/RL	mph (km/h) 9.4/8 (15.1/12.9)	
				Extended shift on	NL/RL	mph (km/h) 8.2/7 (13.2/11.3)	
	37	Lift speed		Std 2-stg LFL mast	NL/RL	ft/min (m/sec) 71/43 (0.36/0.216)	
				Opt 2-stg FFL mast	NL/RL	ft/min (m/sec) 67/40 (0.34/0.204)	
				Opt 3-stg FFL mast	NL/RL	ft/min (m/sec) 68/41 (0.346/0.208)	
	38	Lower speed		Std 2-stg LFL mast	NL/RL	ft/min (m/sec) 73/89 (0.37/0.45)	
				Opt 2-stg FFL mast	NL/RL	ft/min (m/sec) 57/81 (0.29/0.41)	
				Opt 3-stg FFL mast	NL/RL	ft/min (m/sec) 63/87 (0.32/0.44)	
	39	Gradeability		5 minute rating	NL/RL	% 18.5/10.4	
				60 minute rating	NL/RL	% 6.6/4	
	40	Drawbar pull		5 minute rating	NL/RL	LBF 3320/3179	
				60 minute rating	NL/RL	LBF 1239/1218	
41	Brake		Method of control	Service/parking			
			Method of operation	Service/parking			
42	Battery		Type		Lead acid Thin Plate Pure Lead* Lithium-ion*		
STANDARD PERFORMANCE							
				VOLTS	36	48	80
ELECTRIC	43	Traction motor		60 minute rating	hp (kW)	28.8 (21.5)	28.8 (21.5)
	44	Pump motor		15% rating	hp (kW)	35.5 (26.5)	48.3 (36)
	45	Traction motor		Type/control method		AC/transistor	
	46	Pump motor		Type/control method		AC/transistor	
	47	Number of speeds		Traction/pump		Infinitely variable/infinitely variable	
	OTHER	48	Step height			in (mm)	21.1 (536)
49		Floor height		Lowest point	in (mm)	33.7 (855)	
50		Attachment relief pressure			psi (bar)	2250 (155)	
51		Auxiliary oil flow		3rd and 4th function		gal/min (l/min) 16 (60)	
52		Sound level		Measured per ANSI B56.11.5		dB (A) 69/66	

* Optional with Hyster Power Collect™

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.

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.

MAST DIMENSIONS AND BATTERY SPECIFICATIONS

E80XN MAST DIMENSIONS

Maximum fork height (TOF) +	Overall lowered height	Overall extended height w/load backrest	Overall extended height w/o load backrest	Free-lift (TOF) w/ load backrest	Free-lift (TOF) w/o load backrest
in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
2-STAGE LIMITED FREE-LIFT (LFL) MAST					
120 (3050)	84 (2134)	176 (4455)	149 (3783)	5 (150)	5 (150)
143 (3650)	96 (2434)	193 (4884)	173 (4383)	5 (150)	5 (150)
2-STAGE FULL FREE-LIFT (FFL) MAST					
121 (3075)	84 (2134)	170 (4309)	152 (3857)	35 (900)	53 (1352)
144 (3675)	96 (2434)	194 (4909)	176 (4457)	47 (1200)	65 (1652)
3-STAGE FULL FREE-LIFT (FFL) MAST					
173 (4415)	84 (2134)	223 (5649)	205 (5197)	35 (900)	53 (1352)
185 (4715)	88 (2234)	235 (5949)	217 (5497)	39 (1000)	57 (1452)
194 (4950)	92 (2334)	244 (6184)	226 (5732)	43 (1100)	61 (1552)
218 (5550)	100 (2534)	268 (6784)	250 (6332)	51 (1300)	69 (1752)

E100XNS, E100XN, E120XN MAST DIMENSIONS

Maximum fork height (TOF) +	Overall lowered height	Overall extended height w/load backrest	Overall extended height w/o load backrest	Free-lift (TOF) w/ load backrest	Free-lift (TOF) w/o load backrest
in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
2-STAGE LIMITED FREE-LIFT (LFL) MAST					
109 (2790)	85 (2138)	159 (4031)	144 (3657)	5 (150)	5 (150)
133 (3390)	96 (2438)	183 (4631)	168 (4257)	5 (150)	5 (150)
157 (3990)	108 (2738)	206 (5231)	192 (4857)	5 (150)	5 (150)
2-STAGE FULL FREE-LIFT (FFL) MAST					
110 (2815)	85 (2138)	160 (4056)	147 (3731)	35 (897)	48 (1222)
134 (3415)	96 (2438)	184 (4656)	171 (4331)	47 (1197)	59 (1522)
3-STAGE FULL FREE-LIFT (FFL) MAST					
162 (4137)	85 (2138)	212 (5378)	200 (5058)	35 (897)	47 (1217)
184 (4690)	92 (2338)	234 (5931)	221 (5611)	43 (1097)	55 (1417)
208 (5290)	100 (2538)	258 (6531)	245 (6211)	51 (1297)	63 (1617)

BATTERY AND COMPARTMENT SPECIFICATIONS

Truck model	Battery compartment dimensions			Battery dimensions and specifications			Volts	No. of cells	Plates per cell	Max capacity 6 hour rate amp hr (kwh)	Weight	
	Width	Length	Height	"X"	"Y"	"Z"					Min	Max
	in (mm)			in (mm)							lb (kg)	
E80XN E100XNS 39" Compartment	45.4 (1152)	39.2 (996)	24.5 (622)	45 (1143)	39 (990)	23.9 (608)	36	18	33	2300 (80.3)	3400 (1542)	4800 (2177)
							48	24	29	1800 (83.8)		
							80	40	15	1000 (77.6)		
E100XN E120XN 45" Compartment	45.4 (1152)	45.7 (1161)	24.5 (622)	45 (1143)	45.3 (1150)	23.9 (608)	36	36	19	2300 (160.6)	4000 (1814)	5500 (2517)
							48	24	33	1800 (83.8)		
							80	40	17	1000 (77.6)		

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 roller option reduces battery compartment height to 24.0" (609mm) & max battery height to 23.4" (595mm)
 Battery compartment length is measured front to rear. Battery compartment width is measured across the truck

Battery notes – Conventional charging (BCSSBC)
 Battery connector: 36-volt - Gray SB®350 (Anderson Power Products® P/N 6320G2 or equivalent)
 48-volt - Blue SB®350 (Anderson Power Products® P/N 6321G2 or equivalent)
 80-volt - Black SBE®320 (Anderson Power Products® P/N E6359G3 or equivalent)
 Handle (not required): SB®350 and SBE®320 (Anderson Power Products®: "A" TYPE (gray) P/N 995G2 or equivalent)
 Battery lead: length 20" (508 mm), position "B", 4/0 AWG

Battery notes – Rapid/fast charging (BARFBC)
 Battery connector: Requires dual positive/negative cabling terminating in (2) Female EBC-320 DIN connectors (Anderson Power Products® P/N E32504-00X9 or equivalent)
 Each individual DIN connector to include 1 red conductor to (+) and 1 black conductor to (-)
 Battery lead: Length 25" (635 mm), position "B", minimum cable size 4/0 AWG


E80-120XN FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
36-volt electrical system	x	
AC traction and pump motors (completely brushless)	x	
Transistor drive and pump control	x	
Advanced VSM (Vehicle System Manager)	x	
Regenerative braking	x	
48-volt electrical system		x
80-volt electrical system		x
Reverse Speed System		x
DRIVE	STD	OPT
Smooth tread rubber drive tire and steer tire	x	
Non-marking, rubber, or lug tread tires		x
Wide tread tires		x
LIFT	STD	OPT
2-stage limited free lift (LFL) mast with maximum fork height of 120" (3050mm) (E80XN)	x	
2-stage limited free lift (LFL) mast with maximum fork height of 109" (2790mm) (E100-120XN)	x	
5° forward and 5° back mast tilt	x	
2-stage full free lift mast		x
3-stage full free lift mast		x
8° forward/5° back tilt		x
HANDLING	STD	OPT
42" (1067mm) wide hook-type carriage with 48" (1219mm) high load backrest extension	x	
42" (1067 mm) long forks	x	
48" (1220 mm) wide hook type carriage w/ 48" high load backrest extension		x
42" (1067 mm) wide attachment carriage (E100XN/XNS)		x
42" (1067 mm) wide integral side shift (E80XN)		x
48" (1220 mm) integral sideshift carriage		x
Multiple fork lengths		x
Return to set tilt		x
Hydraulic attachment extension tubes with or without quick disconnect fittings		x
Load weight indicator		x
Accumulator		x
ERGONOMICS	STD	OPT
Foot directional control pedal	x	
Mechanical hydraulic levers	x	
Steering wheel w/integral spinner knob	x	
Non-suspension vinyl seat	x	
Black, non-cinch seat belt with Emergency Locking Retractor (ELR)	x	
Automatic park brake	x	
Power assist braking	x	
On-demand hydrostatic power-assist steering	x	
Auto Deceleration System	x	
Multifunction display (high mount)	x	
Easy ingress/egress with low step height and contoured handhold	x	
Operator convenience station	x	
Adjustable tilt steering column	x	
Operator Presence System (OPS)	x	
Cushioned floormat	x	
Seatside power disconnect button	x	
Non-suspension cloth seat		x
Full-suspension seat (vinyl or cloth)		x

ERGONOMICS (continued)	STD	OPT
Full-suspension swivel seat (vinyl or cloth)		x
Seatside directional control		x
Telescoping steering column with tilt memory		x
LED dome/reading light		x
Rear drive handle with horn button		x
Dual rear view mirrors		x
Panoramic rear view mirror		x
Red, high-visibility, non-cinch seat belt with or without interlock		x
Low mount display		x
TouchPoint mini-levers		x
OPERATION	STD	OPT
Standard environmental construction	x	
Key switch start	x	
94" grid style overhead guard	x	
3-function hydraulic control valve	x	
Fully integrated CANbus communication	x	
Battery removal without rollers - lift out	x	
Static strap	x	
Tow pin	x	
Type "E" UL construction	x	
Hyster Stability System (HSS®)	x	
Cooler/freezer package – operating temperatures: -20°F to +120° F		x
4-function hydraulic control valve		x
Horizontal Battery Extraction (rollers)		x
Keyless start (with auxiliary key switch)		x
LED brake/tail/back-up light packages		x
LED and halogen work light packages		x
Key switch controlled lights		x
Audible alarm - reverse operation (manually adjustable to 87, 97 or 102 dB)		x
Visible amber strobe light - continuous activated, overhead guard mounted		x
Fire extinguisher - 2.5lb dry chemical		x
Impact monitor with programmable shutdown		x
Operator password start interlock		x
Operator daily checklist		x
System monitor - hydraulic low fluid level indicator and hydraulic filter service indicator		x
Programmable maintenance reminder		x
Rapid/fast charge		x
Type "EE" UL construction		x
12-volt auxiliary power supply		x
Auxiliary DC-DC converter		x
91" grid style overhead guard		x
87" flat plate overhead guard		x
Hyster Reaction™		x
SUPPLEMENTAL	STD	OPT
Operating manual	x	
12 month/2,000 hour full truck warranty	x	
36 month/6,000 hour powertrain warranty	x	
ENERGY SYSTEM	STD	OPT
Lead acid	x	
Hyster Power Collect™		x



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