



DEPENDABLE PRODUCTIVITY

SPECIFICATIONS

PEDESTRIAN AND FOLDING PLATFORM STACKER TRUCKS 24V, 1.0 - 1.6 TONNES

NSP10N3
NSP12N2C
NSP12N3
NSP14N3
NSP16N3
NSP12N3I
NSP14N3I
NSP16N3I
NSP10N3R
NSP12N3R
NSP14N3R
NSP16N3R
NSP12N3IR
NSP14N3IR
NSP16N3IR
NSP16N3S
NSP16N3SR



YOUR PERFECT SHORT SHUTTLE PARTNER

THIS RANGE OF STACKERS, INCORPORATING ALL THE LATEST TECHNOLOGY, IS DESIGNED FOR SHORT SHUTTLE APPLICATIONS AND STACKING UP TO 5.4 METRES. WITH A WIDE CHOICE OF PEDESTRIAN AND FOLD-DOWN PLATFORM MODELS, YOU WILL FIND A RELIABLE AND PRODUCTIVE WORKHORSE FOR ANY WAREHOUSE.



Energy-saving programmable drive options, robust construction and high resistance to water and dirt reduce running costs and boost productivity. Maintenance needs are minimised by an integrated drive and lift system, with fewer components, and quick access to all major truck parts.



Smooth and precise control characteristics and a comfortable operating position, with a user-friendly tiller arm and excellent visibility through the mast, ensure a satisfying user experience. Height-adjustable castor wheels* and high-strength masts help to maximise stability.



Models with a small fold-down platform are available at 1.0, 1.2*, 1.4 and 1.6 tonne capacities to take the legwork out of longer distances.



A new compact pedestrian stacker, the 1.2 tonne NSP12N2C, is now available. This powerful but space-saving model is ideal for filling store shelves, stacking, order picking and short internal transport work in, for example, warehouses, supermarkets and production areas.

*Excluding the NSP12N2C.

LOWER COST OF OWNERSHIP

- Latest AC technology keeps energy consumption and maintenance costs to bare minimum.
- Sturdy chassis construction and endurance-tested forks provide enhanced robustness and reliability even in the toughest conditions.
- Closed chassis and waterproof electrics resist moisture, dirt and corrosion - increasing uptime, cutting maintenance costs and prolonging truck life*.
- Easy access to critical truck components allows faster fault diagnosis and speedier maintenance, squeezing downtime still further.
- Integrated drive and lift system features fewer components than previous models, reducing scope for breakdown.
- Closed compartment with steel cover protects battery against impact, postponing costly battery replacement.
- Standard battery size allows interchangeability with other brands.

UNMATCHED PRODUCTIVITY

- AC motor results in very precise drive control, making life easier for truck operators.
- Standard LCD display* offers clear information on truck and battery condition.
- Ergonomic tiller arm helps keep operators fresh with comfortable, easy-to-use controls.
- Z-tiller arm / offset arm is available for loading in tight spaces such as lorries.
- Excellent drive and traction characteristics suit intensive work over short and medium distances.
- Distance of the fork support wheels from the rear frame has been optimised for increased stability.
- Advanced programmable controller lets users prioritise between faster performance and smoother handling with lower energy consumption, prolonging shift life.
- Tapered fork tips make for accurate and effortless pallet entry, speeding up handling cycles and preventing pallet or load damage.
- Truck can be driven with tiller arm in vertical position in ultra-low-speed 'tortoise' mode to maximise manoeuvrability in tight spaces.
- Narrower truck body makes handling operations in confined areas much easier.
- The compact NSP12N2C model is the narrowest and lightest stacker (at 660 mm and 775 kg including maximum battery) and like the NSP10-16N3/N3I/N3S models, it has an offset tiller arm so the operator can walk alongside.
- N3R models feature fold-down driver platform that prevents operator fatigue over longer distances.
- N3R models' folding platform stays down when lowered, saving time when operators go to remount.
- NSP16N3 and N3R models fitted with the optional side stabilisers achieve greater lifting capacity at height.

- N3I initial lift models let operator raise mast and forks, increasing ground clearance to protect truck and load when working on ramps.
- N3I initial lift models can carry two pallets simultaneously using the initial lift on the support forks.
- N3S straddle models allow wider loads and bottom-boarded pallets to be handled with ease.

SAFETY AND ERGONOMICS

- Latest tiller arm design provides comfortable operating position.
- Large lift and lower levers allow easy, one-handed control, even with gloves.
- High-strength masts reduce load movement to a minimum.
- Slim mast profiles and careful hydraulic hose arrangements make for excellent forward visibility.
- Super-quiet oil-filled transmission helps keep noise levels low.
- Height-adjustable castor wheel eliminates play and raises load stability*.
- Speed regulated lifting and a proportional valve for lowering are standard on all models to provide precise, smooth, safe and productive handling.

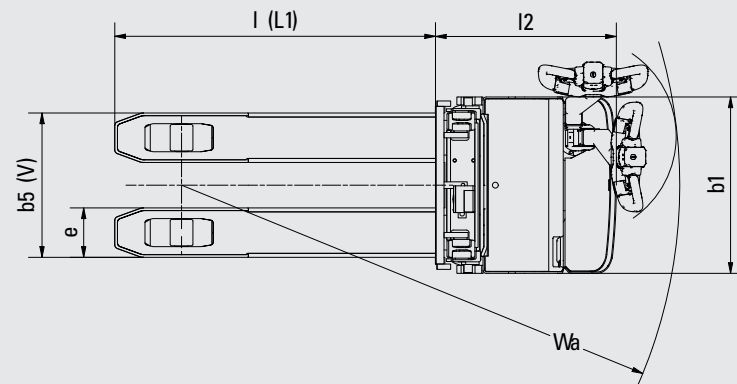
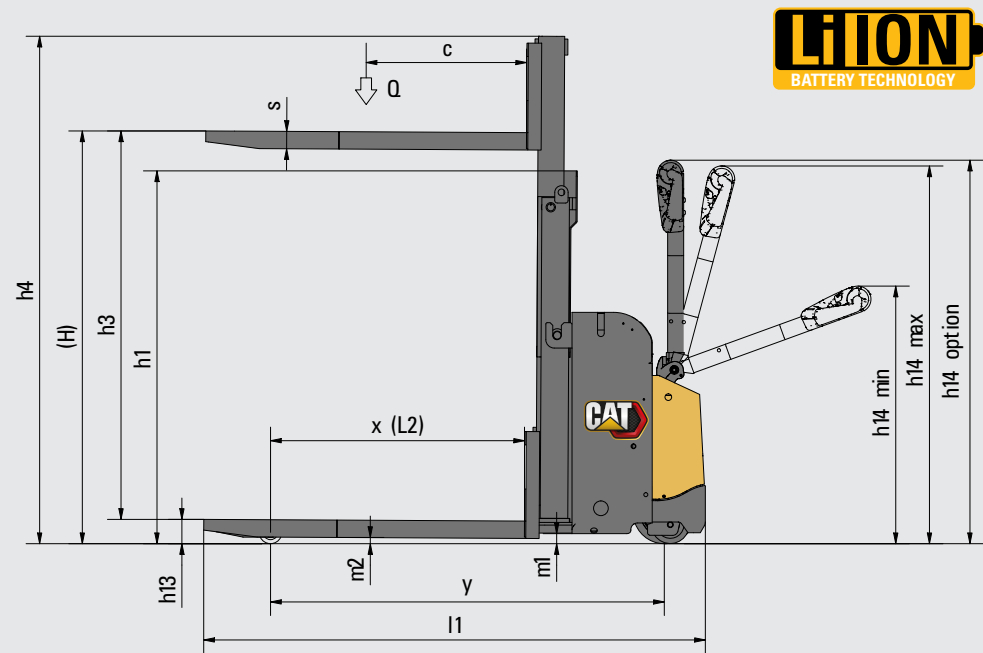
*Excluding the NSP12N2C.



STANDARD EQUIPMENT AND OPTIONS

	NSP10N3(R)	NSP12N2C	NSP12N3(I)	NSP14N3(I)	NSP16N3(I)	NSP12N3(I)R	NSP14N3(I)R	NSP16N3(I)R	NSP16N3S	NSP16N3SR
GENERAL										
Multipurpose display, incl. hour meter, BDI and alarms etc.	●	—	●	●	●	●	●	●	●	●
Standard display, incl. hour meter, BDI and status indicators	—	●	—	—	—	—	—	—	—	—
Interactive multi-function display, incl. hour meter, BDI, settings, statuses, alarms etc.	—	○	—	—	—	—	—	—	—	—
PIN code login 99 codes	—	●	—	—	—	—	—	—	—	—
PIN code login 4 codes	○	—	○	○	○	○	○	○	○	○
Offset tiller arm	—	●	—	—	—	—	—	—	—	—
Chill store design, down to -10°C, with rust-protected axles	—	●	—	—	—	—	—	—	—	—
Speed regulated lifting and proportional valve for lowering, controlled by rocker switch on tiller head	●	●	●	●	●	●	●	●	●	●
Polyurethane drive wheel	●	●	●	●	●	●	●	●	●	●
Polyurethane drive wheel or rubber	—	●	—	—	—	—	—	—	—	—
Initial lift	—	—	(●)	(●)	(●)	(●)	(●)	(●)	—	—
Single load wheels polyurethane	●	●	●	—	—	—	—	—	—	—
Tandem load wheels polyurethane	○	○	○	●	●	●	●	●	●	●
Adjustable width between straddle load legs; 900mm - 1300mm	—	—	—	—	—	—	—	—	●	●
Sideways battery change (250Ah battery only)	—	—	○	○	○	○	○	○	○	○
Li-ion batteries	○	○	○	○	○	○	○	○	○	○
ENVIRONMENT										
Cold store design, 0°C to -35°C (0°C to -30°C, NSP12N2C)	○	○	○	○	○	○	○	○	○	○
DRIVE AND LIFT CONTROLS										
Tiller up drive	●	○	●	●	●	●	●	●	●	●
WHEEL OPTIONS										
Polyurethane traction and load wheels	●	●	●	●	●	●	●	●	●	●
Power friction traction wheel	○	○	○	○	○	○	○	○	○	○
Non-marking drive wheel	—	○	—	—	—	—	—	—	—	—
Anti-static drive wheel	—	○	—	—	—	—	—	—	—	—
OTHER OPTIONS										
Speed reduction 0,5km/h above 1000mm lift, duplex and triplex masts without free lift	—	—	○	○	○	○	○	○	○	○
Speed reduction 0,5km/h above free lift, duplex and triplex masts with free lift	—	—	○	○	○	○	○	○	○	○
Side Stabilisers (not on (I) model)	—	—	—	—	○	—	—	○	—	—
Inbuilt charger, 30A	○	○	○	○	○	○	○	○	○	—
Diselectric band	—	○	—	—	—	—	—	—	—	—
Key switch	●	●	●	●	●	●	●	●	●	●
Piezo buzzer instead of standard horn	—	○	—	—	—	—	—	—	—	—
Special RAL colour	○	○	○	○	○	○	○	○	○	○
Load backrest	○	○	○	○	○	○	○	○	○	○
Accessory rack	○	—	○	○	○	○	○	○	○	○
List bracket, A4 size	○	—	○	○	○	○	○	○	○	○
Multi function display	—	○	—	—	—	—	—	—	—	—
Battery creep	—	○	—	—	—	—	—	—	—	—
Battery level audible warning	—	○	—	—	—	—	—	—	—	—
Service alarm	—	○	—	—	—	—	—	—	—	—
Automatic log off	—	○	—	—	—	—	—	—	—	—
Revert to low speed at log off	—	○	—	—	—	—	—	—	—	—

Characteristics			
1.1	Manufacturer		Cat Lift Trucks
1.2	Manufacturer's model designation		NSP12N2C
1.3	Power source		Battery
1.4	Operator type		Pedestrian
1.5	Load capacity	Q (kg)	1250
1.6	Load centre distance	c (mm)	600
1.8	Load wheel axle to fork face (forks lowered)	x (mm)	950
1.9	Wheelbase	y (mm)	1473
Weight			
2.1b	Truck weight without load, with maximum battery weight	kg	775
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side	kg	875 / 1150
2.3	Axle loadings without load & with maximum battery weight, drive / load side	kg	575 / 200
Wheels, Drive Train			
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side		Vul / Vul
3.2	Tyre dimensions, drive side	(mm)	230 x 70
3.3	Tyre dimensions, load side	(mm)	85 x 99
3.4	Castor wheel dimensions (diameter x width)	(mm)	140 x 60
3.5	Number of wheels, load / drive side (x = driven)		1 + 1x / 2
3.6	Track width (centre of tyres), drive side	b10 (mm)	382
3.7	Track width (centre of tyres), load side	b11 (mm)	355
Dimensions			
4.2b	Height	h1 (mm)	1400 / 1550
4.3	Free lift	h2 (mm)	-
4.4	Lift height	h3 (mm)	1700 / 2000
4.5	Height with mast extended	h4 (mm)	2145 / 2445
4.6	Initial lift	h5 (mm)	-
4.9	Height of tiller arm / steering console (min/max)	h14 (mm)	913 / 1368
4.15	Fork height, fully lowered	h13 (mm)	90
4.19	Overall length	l1 (mm)	1877
4.20	Length to fork face	l2 (mm)	677
4.21	Overall width	b1/b2 (mm)	660
4.22	Fork dimensions (thickness, width, length)	s / e / l (mm)	65 / 185 / 1200
4.24	Fork carriage width	b3 (mm)	
4.25	Outside width over forks (minimum / maximum)	b5 (mm)	540
4.26	Inner width of support legs	b4 (mm)	
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2 (mm)	25
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast (mm)	
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3 (mm)	
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast (mm)	2507
4.34b	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise	Ast3 (mm)	2285
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast (mm)	
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3 (mm)	
4.35	Turning radius	Wa (mm)	1835
Performance			
5.1	Travel speed, with / without load	km / h	5.7 / 6
5.2	Lifting speed, with / without load	m / s	0.10 / 0.20
5.3	Lowering speed, with / without load	m / s	0.11 / 0.12
5.7	Gradeability, with / without load	%	7 / 19
5.8	Maximum gradeability with / without load	%	
5.9	Acceleration time (10 metres) with / without load	s	7.60 / 6.76
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)		Electric
Electric motors			
6.1	Drive motor capacity (60 min. short duty)	kW	1.3
6.2	Lift motor output at 15% duty factor	kW	2.35
6.3	Battery to DIN		no
6.4	Battery voltage/capacity at 5-hour discharge	V / Ah	24 / 150-230
6.5	Battery weight	kg	140 - 215
Miscellaneous			
8.1	Type of drive control		Stepless
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ	dB (A)	74.6 +/- 0.7
10.7.1	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ	dB (A)	
10.7.2	Whole-body vibration (EN 13 059:2002)		
10.7.3	Hand-arm vibration (EN 13 059:2002)		

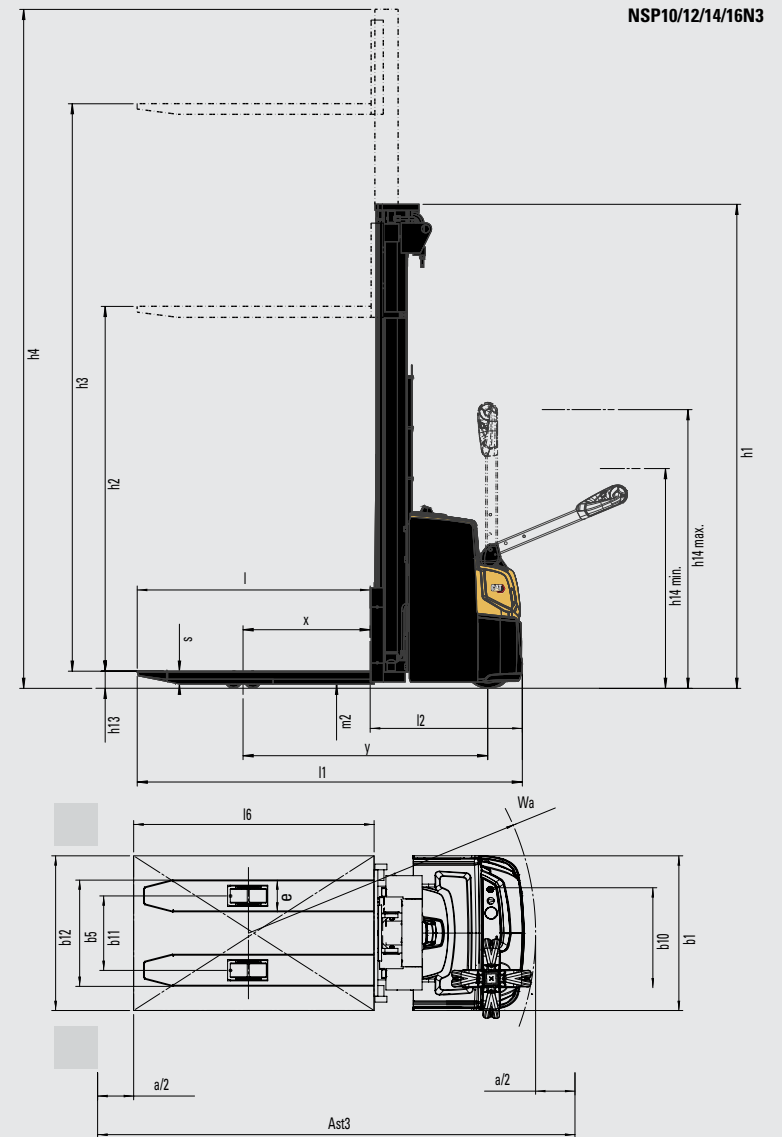


Ast = Working aisle width
 Ast3 = Working aisle width (b12 < 1000mm)
 $Ast = Wa + \sqrt{(l6 - x)^2 + (b12 / 2)^2} + a$
 $Ast3 = Wa + l6 - x + a$
 Wa = Turning radius
 l6 = Pallet length (800 or 1000mm)
 x = Load wheel axle to fork face
 b12 = Pallet width (1200 mm)
 a = Safety clearance = 2 x 100mm



Characteristics		
1.1	Manufacturer	
1.2	Manufacturer's model designation	
1.3	Power source	
1.4	Operator type	
1.5	Load capacity	Q (kg)
1.6	Load centre distance	c (mm)
1.8	Load wheel axle to fork face (forks lowered)	x (mm)
1.9	Wheelbase	y (mm)
Weight		
2.1b	Truck weight without load, with maximum battery weight	kg
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side	kg
2.3	Axle loadings without load & with maximum battery weight, drive / load side	kg
Wheels, Drive Train		
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side	
3.2	Tyre dimensions, drive side	(mm)
3.3	Tyre dimensions, load side	(mm)
3.4	Castor wheel dimensions (diameter x width)	(mm)
3.5	Number of wheels, load / drive side (x = driven)	
3.6	Track width (centre of tyres), drive side	b10 (mm)
3.7	Track width (centre of tyres), load side	b11 (mm)
Dimensions		
4.2b	Height	h1 (mm)
4.3	Free lift	h2 (mm)
4.4	Lift height	h3 (mm)
4.5	Height with mast extended	h4 (mm)
4.6	Initial lift	h5 (mm)
4.9	Height of tiller arm / steering console (min/max)	h14 (mm)
4.15	Fork height, fully lowered	h13 (mm)
4.19	Overall length	l1 (mm)
4.20	Length to fork face	l2 (mm)
4.21	Overall width	b1/b2 (mm)
4.22	Fork dimensions (thickness, width, length)	s / e / l (mm)
4.24	Fork carriage width	b3 (mm)
4.25	Outside width over forks (minimum / maximum)	b5 (mm)
4.26	Inner width of support legs	b4 (mm)
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2 (mm)
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast (mm)
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3 (mm)
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast (mm)
4.34b	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise	Ast3 (mm)
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast (mm)
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3 (mm)
4.35	Turning radius	Wa (mm)
Performance		
5.1	Travel speed, with / without load	km / h
5.2	Lifting speed, with / without load	m / s
5.3	Lowering speed, with / without load	m / s
5.7	Gradeability, with / without load	%
5.8	Maximum gradeability with / without load	%
5.9	Acceleration time (10 metres) with / without load	s
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)	
Electric motors		
6.1	Drive motor capacity (60 min. short duty)	kW
6.2	Lift motor output at 15% duty factor	kW
6.3	Battery to DIN	
6.4	Battery voltage/capacity at 5-hour discharge	V / Ah
6.5	Battery weight	kg
6.6a	Energy consumption according to EN16796	kWh / h
Miscellaneous		
8.1	Type of drive control	
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ	dB (A)
10.7.1	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ	dB (A)
10.7.2	Whole-body vibration (EN 13 059:2002)	
10.7.3	Hand-arm vibration (EN 13 059:2002)	

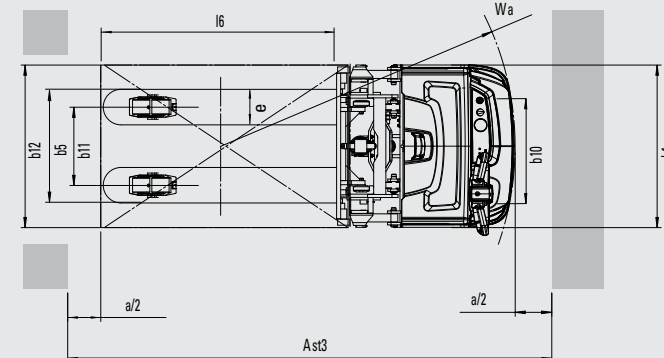
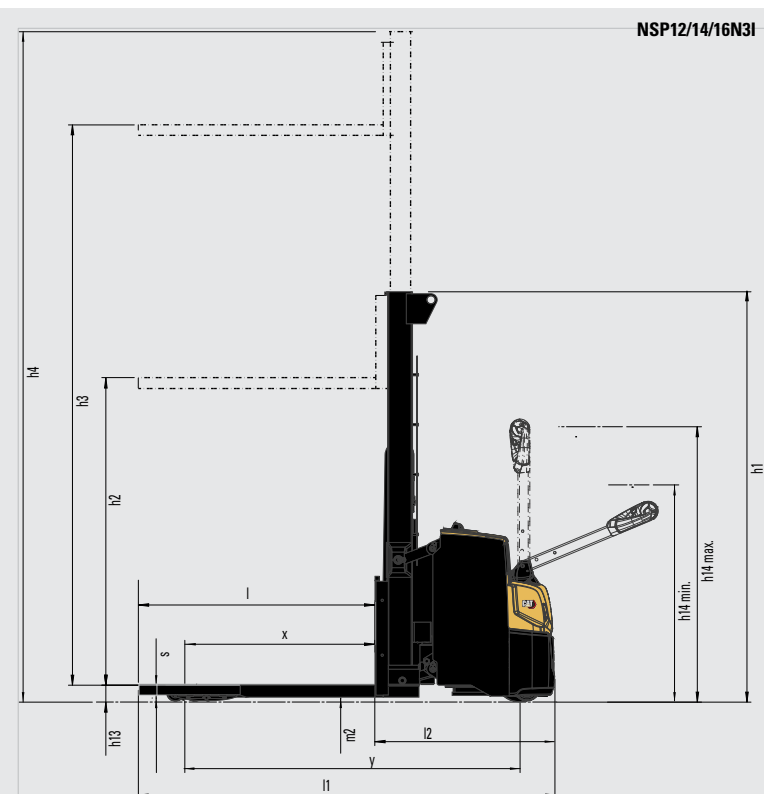
Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
NSP10N3	NSP12N3	NSP14N3	NSP16N3
Battery	Battery	Battery	Battery
Pedestrian	Pedestrian	Pedestrian	Pedestrian
1000	1200	1400	1600
600	600	600	600
700	750	750	750
1215	1330	1330	1330
730	1020	1020	1020
612 / 1128	810 / 1410	845 / 1580	870 / 1755
534 / 196	730 / 295	730 / 295	730 / 295
Vul / Vul	Vul / Vul	Vul / Vul	Vul / Vul
230 x 70	230 x 70	230 x 70	230 x 70
85 x 90	85 x 90	85 x 75	85 x 75
125 x 60	125 x 60	125 x 60	125 x 60
1 + 1x / 2	1 + 1x / 2	1 + 1x / 4	1 + 1x / 4
515	515	515	515
385	385	385	385
see tables	see tables	see tables	see tables
see tables	see tables	see tables	see tables
see tables	see tables	see tables	see tables
see tables	see tables	see tables	see tables
-	-	-	-
865 / 1420	865 / 1420	865 / 1420	865 / 1420
90	90	90	90
1835	1900 ⁹	1900	1900
685	750 ⁹	750	750
800	800	800	800
56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150
750	750	750	750
570	570	570	570
-	-	-	-
20	20	20	20
2300	2445	2445	2445
2230	2374	2374	2374
1458	1572	1572	1572
6.0 / 6.0	6.0 / 6.0	6.0 / 6.0	6.0 / 6.0
0.15 / 0.30	0.16 / 0.33	0.14 / 0.33	0.15 / 0.32
0.29 / 0.32	0.46 / 0.35	0.45 / 0.35	0.48 / 0.34
8 / 15	8 / 15	8 / 15	8 / 15
Electric	Electric	Electric	Electric
1.0	1.0	1.0	1.0
2.2	2.2	2.2	3.2
24 / 150	24 / 250	24 / 250	24 / 250 - 375
150	210	210	210
0.46	0.76	0.77	0.77
Stepless	Stepless	Stepless	Stepless
65	64		
-	-	-	-
< 2.5	< 2.5	< 2.5	< 2.5



Ast = Working aisle width
 Ast3 = Working aisle width (b12 < 1000mm)
 $Ast = Wa + \sqrt{(l6 - x)^2 + (b12 / 2)^2} + a$
 $Ast3 = Wa + l6 - x + a$
 Wa = Turning radius
 l6 = Pallet length (800 or 1000mm)
 x = Load wheel axle to fork face
 b12 = Pallet width (1200 mm)
 a = Safety clearance = 2 x 100mm

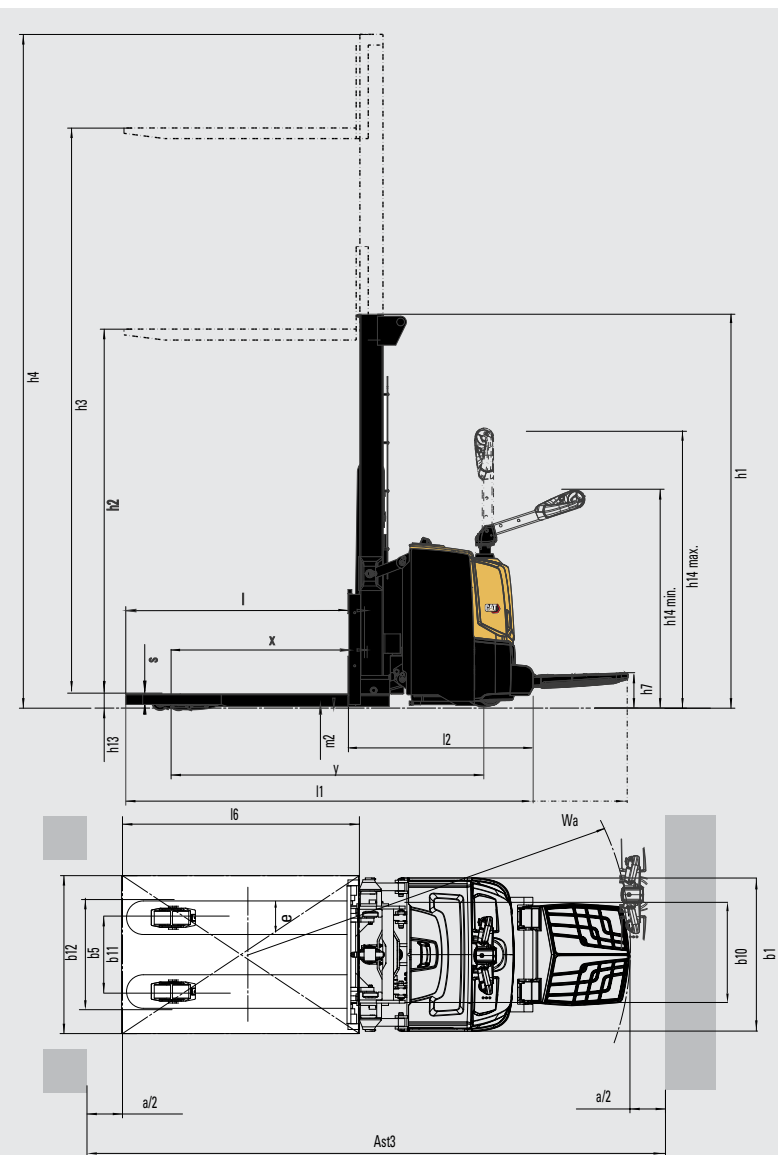
Characteristics		
1.1	Manufacturer	
1.2	Manufacturer's model designation	
1.3	Power source	
1.4	Operator type	
1.5	Load capacity	Q (kg)
1.6	Load centre distance	c (mm)
1.8	Load wheel axle to fork face (forks lowered)	x (mm)
1.9	Wheelbase	y (mm)
Weight		
2.1b	Truck weight without load, with maximum battery weight	kg
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side	kg
2.3	Axle loadings without load & with maximum battery weight, drive / load side	kg
Wheels, Drive Train		
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side	
3.2	Tyre dimensions, drive side	(mm)
3.3	Tyre dimensions, load side	(mm)
3.4	Castor wheel dimensions (diameter x width)	(mm)
3.5	Number of wheels, load / drive side (x = driven)	
3.6	Track width (centre of tyres), drive side	b10 (mm)
3.7	Track width (centre of tyres), load side	b11 (mm)
Dimensions		
4.2b	Height	h1 (mm)
4.3	Free lift	h2 (mm)
4.4	Lift height	h3 (mm)
4.5	Height with mast extended	h4 (mm)
4.6	Initial lift	h5 (mm)
4.9	Height of tiller arm / steering console (min/max)	h14 (mm)
4.15	Fork height, fully lowered	h13 (mm)
4.19	Overall length	l1 (mm)
4.20	Length to fork face	l2 (mm)
4.21	Overall width	b1/b2 (mm)
4.22	Fork dimensions (thickness, width, length)	s / e / l (mm)
4.24	Fork carriage width	b3 (mm)
4.25	Outside width over forks (minimum / maximum)	b5 (mm)
4.26	Inner width of support legs	b4 (mm)
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2 (mm)
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast (mm)
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3 (mm)
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast (mm)
4.34b	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise	Ast3 (mm)
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast (mm)
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3 (mm)
4.35	Turning radius	Wa (mm)
Performance		
5.1	Travel speed, with / without load	km / h
5.2	Lifting speed, with / without load	m / s
5.3	Lowering speed, with / without load	m / s
5.7	Gradeability, with / without load	%
5.8	Maximum gradeability with / without load	%
5.9	Acceleration time (10 metres) with / without load	s
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)	
Electric motors		
6.1	Drive motor capacity (60 min. short duty)	kW
6.2	Lift motor output at 15% duty factor	kW
6.3	Battery to DIN	
6.4	Battery voltage/capacity at 5-hour discharge	V / Ah
6.5	Battery weight	kg
6.6a	Energy consumption according to EN16796	kWh / h
Miscellaneous		
8.1	Type of drive control	
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ	dB (A)
10.7.1	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ	dB (A)
10.7.2	Whole-body vibration (EN 13 059:2002)	
10.7.3	Hand-arm vibration (EN 13 059:2002)	

Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
NSP12N3I	NSP14N3I	NSP16N3I
Battery	Battery	Battery
Pedestrian	Pedestrian	Pedestrian
1200	1400	1600
600	600	600
925	925	925
1610	1610	1610
1095	1095	1095
1060 / 1230	1105 / 1390	1145 / 1545
780 / 315	780 / 312	780 / 312
Vul / Vul	Vul / Vul	Vul / Vul
230 x 70	230 x 70	230 x 70
85 x 90	85 x 75	85 x 75
125 x 60	125 x 60	125 x 60
1 + 1x / 2	1 + 1x / 4	1 + 1x / 4
515	515	515
385	385	385
see tables	see tables	see tables
see tables	see tables	see tables
see tables	see tables	see tables
see tables	see tables	see tables
200	200	200
865 / 1420	865 / 1420	865 / 1420
90	90	90
2010 ^a	2010	2010
855 ^a	855	855
800	800	800
56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150
750	750	750
570	570	570
-	-	-
20	20	20
2619	2619	2619
2323	2323	2323
2533	2533	2533
1848	1848	1848
6.0 / 6.0	6.0 / 6.0	6.0 / 6.0
0.16 / 0.33	0.14 / 0.33	0.15 / 0.32
0.46 / 0.35	0.45 / 0.35	0.43 / 0.34
8 / 15	8 / 15	8 / 15
Electric	Electric	Electric
1.0	1.0	1.0
2.2	2.2	3.2
24 / 250	24 / 250	24 / 250 - 375
210	210	210
0.76	0.77	0.77
Stepless	Stepless	Stepless
64		
-	-	-
< 2.5	< 2.5	< 2.5



Ast = Working aisle width
 Ast3 = Working aisle width (b12 < 1000mm)
 $Ast = Wa + \sqrt{(l6 - x)^2 + (b12 / 2)^2} + a$
 Ast3 = $Wa + l6 - x + a$
 Wa = Turning radius
 l6 = Pallet length (800 or 1000mm)
 x = Load wheel axle to fork face
 b12 = Pallet width (1200 mm)
 a = Safety clearance = 2 x 100mm

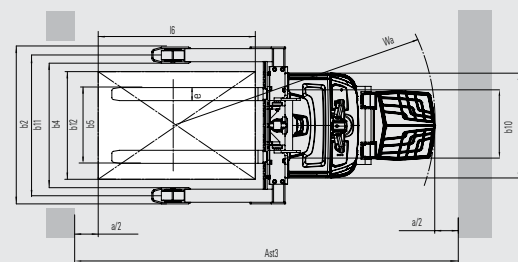
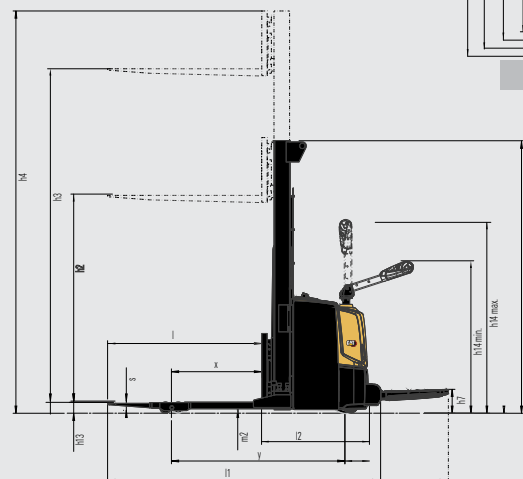
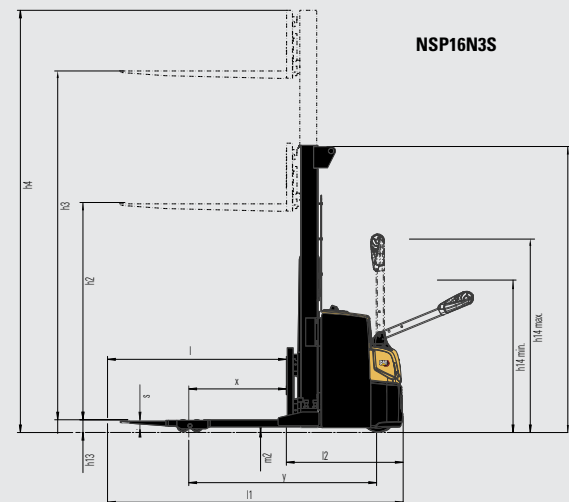
Characteristics			Cat Lift Trucks NSP12N3IR Battery Pedestrian / Stand-on	Cat Lift Trucks NSP14N3IR Battery Pedestrian / Stand-on	Cat Lift Trucks NSP16N3IR Battery Pedestrian / Stand-on
1.1	Manufacturer				
1.2	Manufacturer's model designation				
1.3	Power source				
1.4	Operator type				
1.5	Load capacity	Q (kg)	1200	1400	1600
1.6	Load centre distance	c (mm)	600	600	600
1.8	Load wheel axle to fork face (forks lowered)	x (mm)	925	925	925
1.9	Wheelbase	y (mm)	1610	1610	1610
Weight					
2.1b	Truck weight without load, with maximum battery weight	kg	1175	1175	1175
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side	kg	1030 / 1350	1115 / 1460	1200 / 1575
2.3	Axle loadings without load & with maximum battery weight, drive / load side	kg	840 / 335	840 / 335	840 / 335
Wheels, Drive Train					
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side		Vul / Vul	Vul / Vul	Vul / Vul
3.2	Tyre dimensions, drive side	(mm)	230 x 70	230 x 70	230 x 70
3.3	Tyre dimensions, load side	(mm)	85 x 90	85 x 75	85 x 75
3.4	Castor wheel dimensions (diameter x width)	(mm)	125 x 60	125 x 60	125 x 60
3.5	Number of wheels, load / drive side (x = driven)		1 + 1 x / 2	1 + 1 x / 4	1 + 1 x / 4
3.6	Track width (centre of tyres), drive side	b10 (mm)	515	515	515
3.7	Track width (centre of tyres), load side	b11 (mm)	385	385	385
Dimensions					
4.2b	Height	h1 (mm)	see tables	see tables	see tables
4.3	Free lift	h2 (mm)	see tables	see tables	see tables
4.4	Lift height	h3 (mm)	see tables	see tables	see tables
4.5	Height with mast extended	h4 (mm)	see tables	see tables	see tables
4.6	Initial lift	h5 (mm)	200	200	200
4.9	Height of tiller arm / steering console (min/max)	h14 (mm)	1155 / 1550	1155 / 1550	1155 / 1550
4.15	Fork height, fully lowered	h13 (mm)	90	90	90
4.19	Overall length	l1 (mm)	2125 / 2605	2125 / 2605	2125 / 2605
4.20	Length to fork face	l2 (mm)	975 / 1455	975 / 1455	975 / 1455
4.21	Overall width	b1/b2 (mm)	800	800	800
4.22	Fork dimensions (thickness, width, length)	s / e / l (mm)	56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150
4.24	Fork carriage width	b3 (mm)	750	750	750
4.25	Outside width over forks (minimum / maximum)	b5 (mm)	570	570	570
4.26	Inner width of support legs	b4 (mm)	-	-	-
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2 (mm)	20	20	20
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast (mm)	2743 / 3223	2743 / 3223	2743 / 3223
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3 (mm)			
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast (mm)			
4.34b	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise	Ast3 (mm)			
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast (mm)	2657 / 3137	2657 / 3137	2657 / 3137
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3 (mm)			
4.35	Turning radius	Wa (mm)	1972 / 2452	1972 / 2452	1972 / 2452
Performance					
5.1	Travel speed, with / without load	km / h	6.0 / 6.0	6.0 / 6.0	6.0 / 6.0
5.2	Lifting speed, with / without load	m / s	0.16 / 0.33	0.14 / 0.33	0.15 / 0.32
5.3	Lowering speed, with / without load	m / s	0.46 / 0.35	0.45 / 0.35	0.43 / 0.34
5.7	Gradeability, with / without load	%			
5.8	Maximum gradeability with / without load	%	8 / 15	8 / 15	8 / 15
5.9	Acceleration time (10 metres) with / without load	s			
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)		Electric	Electric	Electric
Electric motors					
6.1	Drive motor capacity (60 min. short duty)	kW	1.0	1.0	1.0
6.2	Lift motor output at 15% duty factor	kW	2.2	2.2	3.2
6.3	Battery to DIN				
6.4	Battery voltage/capacity at 5-hour discharge	V / Ah	24 / 150 - 250	24 / 250	24 / 250 - 375
6.5	Battery weight	kg	210	210	210
6.6a	Energy consumption according to EN16796	kWh / h	0.77	0.78	0.78
Miscellaneous					
8.1	Type of drive control		Stepless	Stepless	Stepless
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ	dB (A)			
10.7.1	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ	dB (A)			
10.7.2	Whole-body vibration (EN 13 059:2002)		0.8	0.8	0.8
10.7.3	Hand-arm vibration (EN 13 059:2002)		< 2.5	< 2.5	< 2.5



NSP12/14/16N3IR:
with folding
platform

Ast = Working aisle width
 Ast3 = Working aisle width (b12 < 1000mm)
 $Ast = Wa + \sqrt{(l6 - x)^2 + (b12 / 2)^2} + a$
 $Ast3 = Wa + l6 - x + a$
 Wa = Turning radius
 l6 = Pallet length (800 or 1000mm)
 x = Load wheel axle to fork face
 b12 = Pallet width (1200 mm)
 a = Safety clearance = 2 x 100mm

Characteristics				
1.1	Manufacturer			Cat Lift Trucks
1.2	Manufacturer's model designation			NSP16N3S
1.3	Power source			Battery
1.4	Operator type			Pedestrian
1.5	Load capacity	Q	(kg)	1600
1.6	Load centre distance	c	(mm)	600
1.8	Load wheel axle to fork face (forks lowered)	x	(mm)	750
1.9	Wheelbase	y	(mm)	1395
Weight				
2.1b	Truck weight without load, with maximum battery weight		kg	1288
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	1045 / 1870
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	892 / 396
Wheels, Drive Train				
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul
3.2	Tyre dimensions, drive side		(mm)	230 x 70
3.3	Tyre dimensions, load side		(mm)	85 x 75
3.4	Castor wheel dimensions (diameter x width)		(mm)	125 x 60
3.5	Number of wheels, load / drive side (x = driven)			1 + 1 x / 4
3.6	Track width (centre of tyres), drive side	b10	(mm)	515
3.7	Track width (centre of tyres), load side	b11	(mm)	1025-1425
Dimensions				
4.2b	Height	h1	(mm)	see tables
4.3	Free lift	h2	(mm)	see tables
4.4	Lift height	h3	(mm)	see tables
4.5	Height with mast extended	h4	(mm)	see tables
4.6	Initial lift	h5	(mm)	-
4.9	Height of tiller arm / steering console (min/max)	h14	(mm)	865 / 1420
4.15	Fork height, fully lowered	h13	(mm)	85
4.19	Overall length	l1	(mm)	1965
4.20	Length to fork face	l2	(mm)	815
4.21	Overall width	b1/b2	(mm)	800 / 1140 - 1575
4.22	Fork dimensions (thickness, width, length)	s / e / l	(mm)	40 / 100 / 1150
4.24	Fork carriage width	b3	(mm)	980
4.25	Outside width over forks (minimum / maximum)	b5	(mm)	260-900
4.26	Inner width of support legs	b4	(mm)	900-1300
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2	(mm)	20
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast	(mm)	2580
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	(mm)	
4.34b	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise	Ast3	(mm)	
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast	(mm)	2580
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	
4.35	Turning radius	Wa	(mm)	1637
Performance				
5.1	Travel speed, with / without load		km / h	6.0 / 6.0
5.2	Lifting speed, with / without load		m / s	0.15 / 0.32
5.3	Lowering speed, with / without load		m / s	0.43 / 0.34
5.7	Gradeability, with / without load		%	
5.8	Maximum gradeability with / without load		%	8 / 15
5.9	Acceleration time (10 metres) with / without load		s	
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)			Electric
Electric motors				
6.1	Drive motor capacity (60 min. short duty)		kW	1.0
6.2	Lift motor output at 15% duty factor		kW	3.2
6.3	Battery to DIN			
6.4	Battery voltage/capacity at 5-hour discharge		V / Ah	24 / 250 - 375
6.5	Battery weight		kg	210
6.6a	Energy consumption according to EN16796		kWh / h	0.77
Miscellaneous				
8.1	Type of drive control			Stepless
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ		dB (A)	
10.7.1	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ		dB (A)	
10.7.2	Whole-body vibration (EN 13 059:2002)			-
10.7.3	Hand-arm vibration (EN 13 059:2002)			< 2.5



NSP16N3SR:
with folding platform

NSP12N2C			
Mast Type	h3+h13	h1*	h2+h13
	mm	mm	mm
Duplex	1790	1400	NA
Without Free Lift	2090	1550	NA

* h1 closed mast height includes polycarbonate finger protection. Mast height excl. finger protection is 1343mm / 1493mm

NSP10N3/10N3R				
Mast Type	h3+h13	h1*	h4	h2+h13
	mm	mm	mm	mm
S	1500	1980	1980	1500
D	2500	1775	3000	195
	2900	1975	3400	195
	3300	2175	3800	195

NSP12/14/16N3 / NSP12/14 /16N3R				
Mast Type	h3+h13	h1*	h4	h2+h13
	mm	mm	mm	mm
S	1500	1950	1950	1500
DS	2500	1835	3000	200
	2900	2035	3400	200
	3300	2235	3800	200
	3600	2385	4100	200
	4300	2735	4800	200
DEV	2500	1775	2940	1355
	2900	1975	3340	1555
	3300	2235	3800	1755
	3600	2385	4100	1905
	4300	2735	4800	2255
TR	4100	1955	4640	-
	4300	2020	4840	-
	4700	2153	5240	-
	5400*	2385	5940	-
TREV	4100	1955	4640	1475
	4300	2020	4840	1540
	4700	2153	5240	1673
	5400*	2385	5940	1905

NSP12/14/16N3I / NSP12/14/16N3IR				
Mast Type	h3+h13	h1*	h4	h2+h13
	mm	mm	mm	mm
S	1500	2055	2055	1505
DS	2500	1940	3105	200
	2900	2140	3505	200
	3300	2340	3905	200
	3600	2490	4205	200
	4300	2840	4905	200
	2500	1940	3105	1360
DEV	2900	2140	3505	1560
	3300	2340	3905	1760
	3600	2490	4205	1910
	4300	2840	4905	2260
	4100	2060	4745	-
TR	4300	2125	4945	-
	4700	2260	5345	-
	5400*	2490	6045	-
TREV	4100	2060	4745	1480
	4300	2125	4945	1545
	4700	2260	5345	1673
	5400*	2490	6045	1910

NSP16N3S / NSP16N3SR				
Mast Type	h3+h13	h1*	h4	h2+h13
	mm	mm	mm	mm
S	1500	2030	2030	1500
DS	2500	1915	3080	195
	2900	2115	3480	195
	3300	2315	3880	195
	3600	2465	4180	195
	4300	2815	4880	195
DEV	2500	1915	3080	1355
	2900	2115	3480	1555
	3300	2315	3880	1755
	3600	2465	4180	1905
	4300	2815	4880	2255
TR	4100	2035	4720	-
	4300	2100	4920	-
	4700	2233	5320	-
	5400	2465	6020	-
TREV	4100	2035	4720	1475
	4300	2100	4920	1540
	4700	2233	5320	1753
	5400	2465	6020	1905

Mast Performance and Capacity

- * = only NSP14-16N3R & NSP14-16N3(I)R
- S = Simplex
- D = Duplex standard
- DS = Duplex with clear view mast
- DEV = Duplex with full free lift
- TR = Triplex with clear view mast
- TREV = Triplex with full free lift
- h3+h13 = Lifting height
- h1 = Lowered mast height
- h4 = Raised mast height
- h2+h13 = Free lift



LI-ION BATTERIES

TIME TO SWITCH?



Lithium-ion (Li-ion) battery technology is available in the Cat® electric counterbalance and warehouse truck ranges. While lead-acid batteries remain a popular choice for our customers, and still have much to offer, they present various challenges which Li-ion can overcome.

Perhaps the most noticeable change when switching to Li-ion is the use of opportunity charging. Instead of exchanging batteries between shifts, you can simply plug into a fast charger during short breaks and keep the same battery going 24/7. This, together with other efficiency, environmental and safety benefits, makes Li-ion a very appealing alternative.



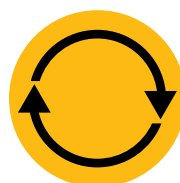
LONGER
LIFE



HIGHER
EFFICIENCY



LONGER
RUNTIME



CONSISTENT
PERFORMANCE



FASTER
CHARGING



NO BATTERY
CHANGING



NO DAILY
MAINTENANCE



INBUILT
PROTECTION

Cat Li-ion advantages over lead-acid

Li-ion is an investment which should be viewed against ongoing savings on energy, equipment, labour and downtime.

- **Longer life** – 3 to 4 times lead-acid lifespan – reduces overall battery investment
- **Higher efficiency** – energy losses during charging and discharging are up to 30% lower, so electricity consumption is reduced
- **Longer runtime** – thanks to more efficient battery performance and use of opportunity charges, which can be given at any time without damaging the battery or shortening its lifespan
- **Consistently high performance** – with a more constant voltage curve – maintains greater truck productivity, even toward the end of a shift
- **Faster charging** – enables full charge in as little as 1 hour with the fastest chargers
- **No battery changing** – fast opportunity charges – 15 minutes for several hours of extra runtime – enable continuous operation with just one battery and minimise the need to buy, store and maintain spares
- **No daily maintenance** – the battery stays on board the truck for charging and there is no need for water top-ups or electrolyte checks
- **No gas** – or acid spills – avoids the space, equipment and running costs of a battery room and ventilation system
- **Inbuilt protection** – intelligent battery management system (BMS) automatically prevents excessive discharge, charge, voltage and temperature, as well as virtually eliminating misuse

Batteries and chargers with different capacities are available. Your dealer will identify the best combination for your needs. You should also ask your dealer about optional 5-year warranties, subject to annual check-ups, which give extra peace of mind.

info@catlifttruck.com | www.catlifttruck.com

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