

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

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



# **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 userfriendly tiller arm and excellent visibility through the mast, ensure a satisfying user experience. Height-adjustable castor wheels\* and highstrength 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.

## 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-lowspeed '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.

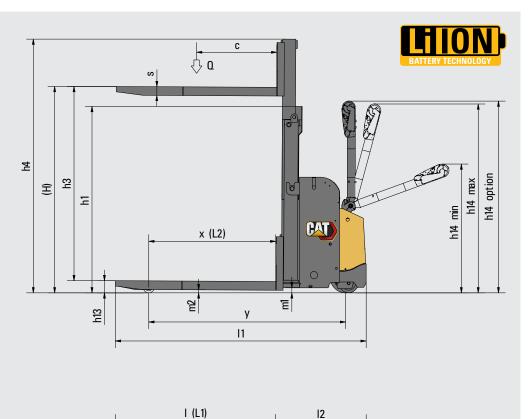
\*Excluding the NSP12N2C.

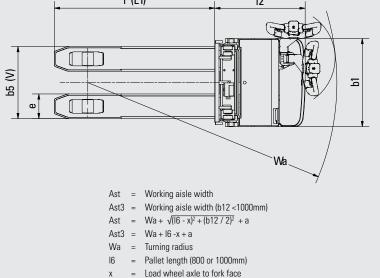


# **STANDARD EQUIPMENT AND OPTIONS**

	NSP10N3(R)	NSP12N2C	NSP12N3(I)	NSP14N3(I)	NSP16N3(I)	NSP12N3(I)R	NSP14N3(I)R	NSP16N3(I)R	NSP16N3S	NSP16N3SR
GENERAL										
Multifunctional display, including hour meter		0	•	•	•	•	•		•	
Micro-computer incl. hour meter and battery indicator	-	•	-	-	-	-	-	-	_	-
PIN code login 99 codes	-	•	-	-	-	-	-	-	-	-
PIN code login 4 codes	0	-	0	0	0	0	0	0	0	0
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	0	0	0	•	•	•	•	•	•	•
Adjustable width between straddle load legs; 900mm - 1300mm	-	-	-	-	-	-	-	-	•	•
Sideways battery change (250Ah battery only)	-	-	0	0	0	0	0	0	0	0
Li-ion batteries	0	0	0	0	0	0	0	0	0	0
ENVIRONMENT										
Cold store design, 0°C to -35°C (0°C to -30°C, NSP12N2C)	0	0	0	0	0	0	0	0	0	0
DRIVE AND LIFT CONTROLS										
Tiller up drive		0	•	•	•	•	•			•
WHEEL OPTIONS										
Polyurethane traction and load wheels				•	•	•	•	•	٠	•
Power friction traction wheel	0	0	0	0	0	0	0	0	0	0
Non-marking drive wheeel	-	0	-	-	-	-	-	-	-	-
Anti-static drive wheel		0	-	-	-	_	-	-	-	_
OTHER OPTIONS										
Speed reduction 0,5km/h above 1000mm lift, duplex and triplex masts without free lift	_	-	0	0	0	0	0	0	0	0
Speed reduction 0,5km/h above free lift, duplex and triplex masts with free lift		-	0	0	0	0	0	0	0	0
Side Stabilisers (not on (I) model)		-	-	-	0	-	-	0	-	-
Inbuilt charger, 30A	0	0	0	0	0	0	0	0	0	-
Diselectric band		0	-	-	-	-	-	-	-	-
Key switch	•	•	•	•	•	•	•	•	•	•
Piezo buzzer instead of standard horn		0	-	-	-	-	-	-	-	-
Special RAL colour	0	0	0	0	0	0	0	0	0	0
Load backrest	0	0	0	0	0	0	0	0	0	0
Accessory rack	0	-	0	0	0	0	0	0	0	0
List bracket, A4 size	0	-	0	0	0	0	0	0	0	0
Multi function display	-	0	-	-	-	-	-	-	-	-
Battery creep	-	0	-	-	-	-	-	-	-	-
Battery level audible warning		0	-	-	-	-	-	-	-	-
Service alarm	-	0	-	-	-	-	-	-	-	-
Automatic log off	-	0	-	-	-	-	-	-	_	-
Revert to low speed at log off		0	-	-	-	-	-	-	-	-

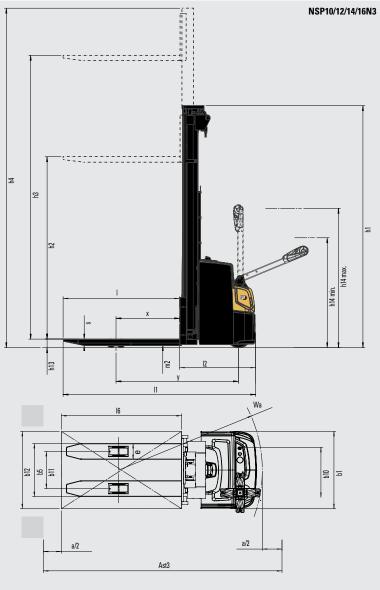
	Characteristics			
1.1	Manufacturer			Cat Lift Trucks
1.2	Manufacturer's model designation			NSP12N2C
1.3	Power source			Battery
1.4	Operator type			Pedestrian
.5	Load capacity	Q	(kg)	1250
1.6	Load centre distance	С	(mm)	600
l.8	Load wheel axle to fork face (forks lowered)	х	(mm)	950
1.9	Wheelbase	у	(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			
.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul
.2	Tyre dimensions, drive side		(mm)	230 x 70
.3	Tyre dimensions, load side		(mm)	85 x 99
.4	Castor wheel dimensions (diameter x width)		(mm)	140 x 60
.5	Number of wheels, load / drive side (x = driven)			1 + 1x / 2
.6	Track width (centre of tyres), drive side	b10	(mm)	382
.7	Track width (centre of tyres), load side	b11	(mm)	355
	Dimensions			
l.2b	Height	h1	(mm)	1400 / 1550
.3	Free lift	h2	(mm)	-
.4	Lift height	h3	(mm)	1700 / 2000
.5	Height with mast extended	h4	(mm)	2145 / 2445
1.6	Initial lift	h5	(mm)	
1.9	Height of tiller arm / steering console (min/max)	h14	(mm)	913 / 1368
l.15	Fork height, fully lowered	h13	(mm)	90
l.19	Overall length	11	(mm)	1877
1.20	Length to fork face	12	(mm)	677
1.21	Overall width	b1/b2	(mm)	660
1.22	Fork dimensions (thickness, width, length)	s/e/l	(mm)	65 / 185 / 1200
1.24	Fork carriage width	b3	(mm)	
1.25	Outside width over forks (minimum / maximum)	b5	(mm)	540
1.26	Inner width of support legs	b4	(mm)	
1.32	Ground clearance at centre of wheelbase, (forks lowered)	m2	(mm)	25
1.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast	(mm)	
1.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	
1.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	(mm)	2507
1.34b	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise	Ast3	(mm)	2285
1.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast	(mm)	
1.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	
1.35	Turning radius	Wa	(mm)	1835
	Performance			
i.1	Travel speed, with / without load		km / h	5.7 / 6
.2	Lifting speed, with / without load		m/s	0.10 / 0.20
i.3	Lowering speed, with / without load		m/s	0.11 / 0.12
i.7	Gradeability, with / without load		%	7 / 19
i.8	Maximum gradeability with / without load		%	
5.9	Acceleration time (10 metres) with / without load		S	7.60 / 6.76
i.10	Service brakes (mechanical / hydraulic / electric / pneumatic)			Electric
	Electric motors			
.1	Drive motor capacity (60 min. short duty)		kW	1.3
.2	Lift motor output at 15% duty factor		kW	2.35
i.3	Battery to DIN			no
.4	Battery voltage/capacity at 5-hour discharge		V / Ah	24 / 150-230
i.5	Battery weight		kg	140 - 215
	Miscellaneous			
1.1	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)			
	Hand-arm vibration (EN 13 059:2002)			





- b12 = Pallet width (1200 mm)
- a = Safety clearance = 2 x 100mm

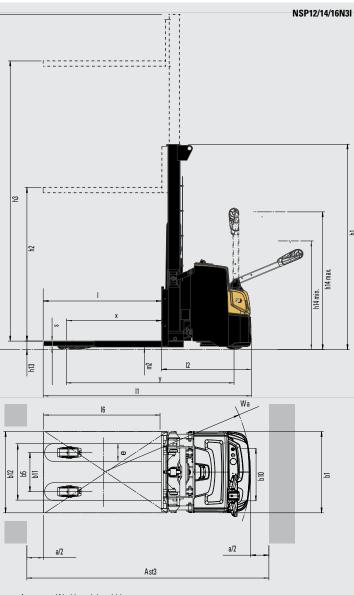
	Characteristics						
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP10N3	NSP12N3	NSP14N3	NSP16N3
1.3	Power source			Battery	Battery	Battery	Battery
1.4	Operator type			Pedestrian	Pedestrian	Pedestrian	Pedestrian
1.5	Load capacity	Q	(kg)	1000	1200	1400	1600
1.6	Load centre distance	С	(mm)	600	600	600	600
1.8	Load wheel axle to fork face (forks lowered)	х	(mm)	700	750	750	750
1.9	Wheelbase	у	(mm)	1215	1330	1330	1330
	Weight						
2.1b	Truck weight without load, with maximum battery weight		kg	730	1020	1020	1020
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	612 / 1128	810 / 1410	845 / 1580	870 / 1755
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	534 / 196	730 / 295	730 / 295	730 / 295
	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	Vul / Vul
3.2	Tyre dimensions, drive side		(mm)	230 x 70	230 x 70	230 x 70	230 x 70
3.3	Tyre dimensions, load side		(mm)	85 x 90	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	125 x 60
3.5	Number of wheels, load / drive side (x = driven)	1.40		1 + 1x / 2	1 + 1x / 2	1 + 1x / 4	1 + 1x / 4
3.6	Track width (centre of tyres), drive side	b10	(mm)	515	515	515	515
3.7	Track width (centre of tyres), load side	b11	(mm)	385	385	385	385
1.01	Dimensions	L1	(1997)				
4.2b	Height	h1	(mm)	see tables	see tables	see tables	see tables
4.3	Free lift	h2	(mm)	see tables	see tables	see tables	see tables
4.4	Lift height	h3	(mm)	see tables	see tables	see tables	see tables
4.5	Height with mast extended	h4	(mm)	see tables	see tables	see tables	see tables
4.6	Initial lift	h5	(mm)	-	-	-	-
4.9	Height of tiller arm / steering console (min/max)	h14 h13	(mm)	865 / 1420	865 / 1420	865 / 1420	865 / 1420
4.15	Fork height, fully lowered	113	(mm) (mm)	90	90	90	90
4.19	Overall length	12	(mm)	1835 685	1900 <sup>9</sup>	1900 750	1900
4.20	Length to fork face	b1/b2	(mm)	800	750 <sup>9</sup> 800	800	750 800
4.21 4.22	Overall width Fork dimensions (thickness, width, length)	s/e/l	(mm)	56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150
4.22	Fork carriage width	b3	(mm)	750	750	750	750
4.24	Outside width over forks (minimum / maximum)	b5	(mm)	570	570	570	570
4.26	Inner width of support legs	b4	(mm)	370	5/0	570	570
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2	(mm)	20	20	20	20
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast	(mm)	2300	2445	2445	2445
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)	2230	2374	2374	2374
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)	1458	1572	1572	1572
	Performance						
5.1	Travel speed, with / without load		km / h	6.0 / 6.0	6.0 / 6.0	6.0 / 6.0	6.0 / 6.0
5.2	Lifting speed, with / without load		m/s	0.15 / 0.30	0.16 / 0.33	0.14 / 0.33	0.15 / 0.32
5.3	Lowering speed, with / without load		m/s	0.29 / 0.32	0.46 / 0.35	0.45 / 0.35	0.48 / 0.34
5.7	Gradeability, with / without load		%				
5.8	Maximum gradeability with / without load		%	8 / 15	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
	Electric motors						
6.1	Drive motor capacity (60 min. short duty)		kW	1.0	1.0	1.0	1.0
6.2	Lift motor output at 15% duty factor		kW	2.2	2.2	2.2	3.2
6.3	Battery to DIN						
6.4	Battery voltage/capacity at 5-hour discharge		V / Ah	24 / 150	24 / 250	24 / 250	24 / 250 - 375
6.5	Battery weight		kg	150	210	210	210
6.6a	Energy consumption according to EN16796	k	Wh/h	0.46	0.76	0.77	0.77
	Miscellaneous			0	0	0	0: 1
8.1	Type of drive control		10 (11)	Stepless	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)	65	64		
	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)				
	Whole-body vibration (EN 13 059:2002)				25	-	2 E
10.7.3	Hand-arm vibration (EN 13 059:2002)			< 2.5	< 2.5	< 2.5	< 2.5



- Ast = Working aisle width
- Ast3 = Working aisle width (b12 <1000mm)
- Ast = Wa +  $\sqrt{(16 x)^2 + (b12/2)^2}$  + a
- Ast3 = Wa + I6 x + a
- Wa = Turning radius
- I6 = Pallet length (800 or 1000mm)
- x = Load wheel axle to fork face
- b12 = Pallet width (1200 mm)
- a = Safety clearance = 2 x 100mm

9) -64mm with 150 Ah battery

	Characteristics					
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP12N3I	NSP14N3I	NSP16N3I
1.3	Power source			Battery	Battery	Battery
1.4	Operator type			Pedestrian	Pedestrian	Pedestrian
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)	х	(mm)	925	925	925
1.9	Wheelbase	у	(mm)	1610	1610	1610
1.0	Weight	,	. ,	1010	1010	1010
2.1b	Truck weight without load, with maximum battery weight		kg	1095	1095	1095
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	1060 / 1230	1105 / 1390	1145 / 1545
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	780 / 315	780 / 312	780 / 312
	Wheels, Drive Train		0			
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 + 1x / 2	1 + 1x / 4	1 + 1x / 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)	865 / 1420	865 / 1420	865 / 1420
4.15	Fork height, fully lowered	h13	(mm)	90	90	90
4.19	Overall length	1	(mm)	20109	2010	2010
4.20	Length to fork face	12	(mm)	855 <sup>9</sup>	855	855
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)	2619	2619	2619
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	2323	2323	2323
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)	2533	2533	2533
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)	1848	1848	1848
	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 / 250	24 / 250	24 / 250 - 375
6.5	Battery weight		kg	210	210	210
6.6a	Energy consumption according to EN16796	k)	Nh/h	0.76	0.77	0.77
	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)	64		
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)			
	Whole-body vibration (EN 13 059:2002)			•		
	Hand-arm vibration (EN 13 059:2002)			< 2.5	< 2.5	< 2.5



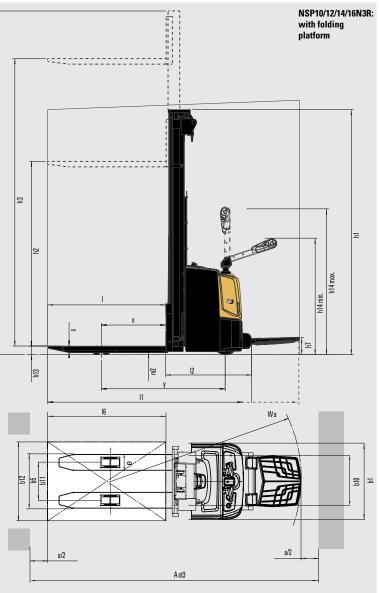
- Ast = Working aisle width
- Ast3 = Working aisle width (b12 <1000mm)
- Ast = Wa +  $\sqrt{(16 x)^2 + (b12/2)^2}$  + a
- Ast3 = Wa + I6 x + a

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- Wa = Turning radius
- I6 = Pallet length (800 or 1000mm)
- x = Load wheel axle to fork face
- b12 = Pallet width (1200 mm)
- a = Safety clearance = 2 x 100mm

9) -64mm with 150 Ah battery

	Characteristics						
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP10N3R	NSP12N3R	NSP14N3R	NSP16N3R
1.3	Power source			Battery	Battery	Battery	Battery
1.4	Operator type				Pedestrian / Stand-on		Pedestrian / Stand-on
1.5	Load capacity	Q	(kg)	1000	1200	1400	1600
1.6	Load centre distance	С	(mm)	600	600	600	600
1.8	Load wheel axle to fork face (forks lowered)	х	(mm)	700	750	750	750
1.9	Wheelbase	у	(mm)	1215	1330	1330	1330
	Weight						
2.1b	Truck weight without load, with maximum battery weight		kg	860	1100	1100	1100
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	715 / 1155	840 / 1400	860 / 1580	990 / 1795
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	640 / 220	860 / 320	740 / 295	860 / 320
	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	Vul / Vul
3.2	Tyre dimensions, drive side		(mm)	230 x 70	230 x 70	230 x 70	230 x 70
3.3	Tyre dimensions, load side		(mm)	85 x 90	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	125 x 60
3.5	Number of wheels, load / drive side (x = driven)			1 + 1 x / 2	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	515
3.7	Track width (centre of tyres), load side	b11	(mm)	385	385	385	385
	Dimensions						
4.2b	Height	h1	(mm)	see tables	see tables	see tables	see tables
4.3	Free lift	h2	(mm)	see tables	see tables	see tables	see tables
4.4	Lift height	h3	(mm)	see tables	see tables	see tables	see tables
4.5	Height with mast extended	h4	(mm)	see tables	see tables	see tables	see tables
4.6	Initial lift	h5	(mm)	•	-	•	
4.9	Height of tiller arm / steering console (min/max)	h14	(mm)	1155 / 1550	1155 / 1550	1155 / 1550	1155 / 1550
4.15	Fork height, fully lowered	h13	(mm)	90	90	90	90
4.19	Overall length	1	(mm)	1955 / 2435	2020 / 2500	2020 / 2500	2020 / 2500
4.20	Length to fork face	12	(mm)	805 / 1285	870 / 1350	870 / 1350	870 / 1350
4.21	Overall width	b1/b2	(mm)	800	800	800	800
4.22	Fork dimensions (thickness, width, length)	s/e/l	(mm)	56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150
4.24	Fork carriage width	b3	(mm)	750	750	750	750
4.25	Outside width over forks (minimum / maximum)	b5	(mm)	570	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	20
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast	(mm)	2420 / 2900	2550 / 3050	2550 / 3050	2550 / 3050
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)	0050 (0000	0000 (0000	0000 ( 0000	0000 (0000
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast	(mm)	2350 / 2830	2660 / 2980	2660 / 2980	2660 / 2980
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	1570 ( 0050	1000 (0170	4000 / 0470	4004 (0170
4.35	Turning radius	Wa	(mm)	1578 / 2058	1692 / 2172	1692 / 2172	1684 / 2170
F 1	Performance		km / h	60/60	60/60	60/60	6.0 / 6.0
5.1 5.2	Travel speed, with / without load		m/s	6.0 / 6.0 0.15 / 0.30	6.0 / 6.0 0.16 / 0.33	6.0 / 6.0 0.14 / 0.33	0.15 / 0.32
5.2	Lifting speed, with / without load		m/s	0.1370.30			
5.3	Lowering speed, with / without load Gradeability, with / without load		1117 S	0.297 0.32	0.46 / 0.35	0.45 / 0.35	0.43 / 0.34
5.7 5.8	Maximum gradeability with / without load		%	8 / 15	8 / 15	8 / 15	8 / 15
5.8	Acceleration time (10 metres) with / without load		/o S	0710	0713	0713	0710
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)		3	Electric	Electric	Electric	Electric
5.10	Electric motors			Licetile	LICCUIC	LIGGUIG	LICCUIC
6.1	Drive motor capacity (60 min. short duty)		kW	1.0	1.0	1.0	1.0
6.2	Lift motor output at 15% duty factor		kW	2.2	2.2	2.2	3.2
6.3	Battery to DIN			2.2	<u></u> _	2.2	0.2
6.4	Battery voltage/capacity at 5-hour discharge		V / Ah	24 / 150 - 250	24 / 150 - 250	24 / 250	24 / 250 - 375
6.5	Battery weight		kg	150	247 130 - 230	210	247 230 - 373
6.6a	Energy consumption according to EN16796	k	Wh/h	0.75	0.77	0.78	0.78
	Miscellaneous			5.70			
8.1	Type of drive control			Stepless	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)	Copioso	Copioso	Ctopicos	Gropious
	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)				
	Whole-body vibration (EN 13 059:2002)			0.8	0.8	0.8	0.8
	Hand-arm vibration (EN 13 059:2002)			< 2.5	< 2.5	< 2.5	< 2.5

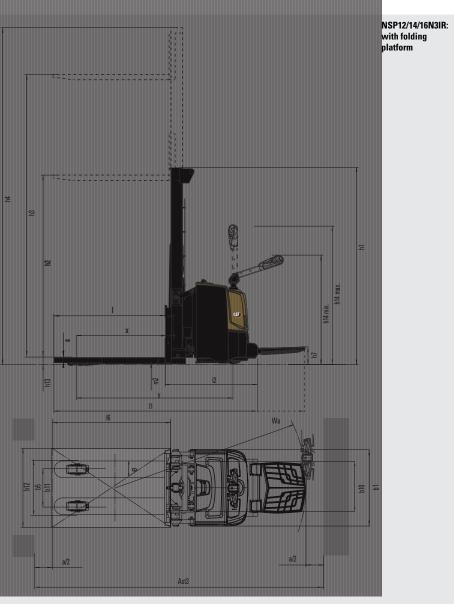


- Ast = Working aisle width
- Ast3 = Working aisle width (b12 <1000mm)
- Ast = Wa +  $\sqrt{(16 x)^2 + (b12/2)^2}$  + a
- Ast3 = Wa + I6 x + a

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- Wa = Turning radius
- I6 = 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	Characteristics Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.1	Manufacturer's model designation			NSP12N3IR	NSP14N3IR	NSP16N3IR
1.2	Power source			Battery	Battery	Battery
1.4	Operator type				Pedestrian / Stand-on	Pedestrian / Stand-o
1.5	Load capacity	Q	(kg)	1200	1400	1600
1.6	Load centre distance	С	(mm)	600	600	600
1.8	Load wheel axle to fork face (forks lowered)	х	(mm)	925	925	925
1.9	Wheelbase	у	(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 3.6	Number of wheels, load / drive side (x = driven) Track width (centre of tyres), drive side	b10	(mm)	1 + 1 x / 2 515	1 + 1 x / 4 515	1 + 1 x / 4 515
3.7	Track width (centre of tyres), load side	b10	(mm)	385	385	385
5.7	Dimensions	511	()	505	303	303
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	1	(mm)	2125 / 2605	2125 / 2605	2125 / 2605
4.20	Length to fork face	12	(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		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 m2	(mm) (mm)	-	-	-
4.32 4.33c	Ground clearance at centre of wheelbase, (forks lowered)	Ast	(mm)	20 2743 / 3223	20 2743 / 3223	20 2743 / 3223
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	2/43/3223	27437 3223	2/43/3223
4.33u	Working alse width (Ast) with 800 x 1200 mm pallets, load closswise, plationn up/down Working alse width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	(mm)			
4.34b	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast3	(mm)			
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	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)	200770107	2007 7 0107	2007 / 0107
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 6.6a	Battery weight		kg :Wh/h	210	210 0.78	210 0.78
0.08	Energy consumption according to EN16796 Miscellaneous	ĸ	WVII / 11	0.77	0.78	0.78
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)	Stepiess	Stepiess	Stepiess
10.7	Level of hoise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4071 m work EPAZ 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)			
	Whole-body vibration (EN 13 059:2002)			0.8	0.8	0.8
	Hand-arm vibration (EN 13 059:2002)			< 2.5	< 2.5	< 2.5



- Ast = Working aisle width
- Ast3 = Working aisle width (b12 <1000mm)
- Ast = Wa +  $\sqrt{(16 x)^2 + (b12/2)^2}$  + a
- Ast3 = Wa + I6 x + a
- Wa = Turning radius
- I6 = 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	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP16N3S	NSP16N3SR
1.3	Power source		_	Battery	Battery
1.4	Operator type			Pedestrian	Pedestrian / Stand-on
1.5	Load capacity	Q	(kg)	1600	1600
1.6	Load centre distance	C	(mm)	600	600
1.8	Load wheel axle to fork face (forks lowered)	x	(mm)	750	750
1.9	Wheelbase	y	(mm)	1395	1395
1.5	Wight	,	(11111)	1355	1333
2.1b	Truck weight without load, with maximum battery weight		kg	1288	1440
2.10	Axle loadings with nominal load & maximum battery weight		kg	1045 / 1870	1215 / 1985
2.2	Axle loadings with normal load & maximum battery weight, drive / load side		kg	892 / 396	1020 / 420
2.3	Wheels, Drive Train		ĸġ	092 / 390	1020 / 420
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul	Vul / Vul
3.1	Type dimensions, drive side		(mm)		
			(mm)	230 x 70	230 x 70
3.3	Tyre dimensions, load side		(mm)	85 x 75	85 x 75
3.4	Castor wheel dimensions (diameter x width)		(11111)	125 x 60	125 x 60
3.5	Number of wheels, load / drive side (x = driven)	L10	(	1 + 1 x / 4	1 + 1 x / 4
3.6	Track width (centre of tyres), drive side	b10	(mm)	515	515
3.7	Track width (centre of tyres), load side	b11	(mm)	1025-1425	1025-1425
	Dimensions				
4.2b	Height	h1	(mm)	see tables	see tables
4.3	Free lift	h2	(mm)	see tables	see tables
4.4	Lift height	h3	(mm)	see tables	see tables
4.5	Height with mast extended	h4	(mm)	see tables	see tables
4.6	Initial lift	h5	(mm)		
4.9	Height of tiller arm / steering console (min/max)	h14	(mm)	865 / 1420	1155 / 1550
4.15	Fork height, fully lowered	h13	(mm)	85	85
4.19	Overall length	1	(mm)	1965	2085 / 2565
4.20	Length to fork face	12	(mm)	815	935 / 1415
4.21	Overall width	b1/b2	(mm)	800 / 1140 - 1575	800 / 1140 - 1575
4.22	Fork dimensions (thickness, width, length)	s/e/l	(mm)	40 / 100 / 1150	40 / 100 / 1150
4.22	Fork carriage width	b3	(mm)	980	980
		b5			
4.25	Outside width over forks (minimum / maximum)	b5	(mm)	260-900	260-900
4.26	Inner width of support legs		(mm)	900-1300	900-1300
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2	(mm)	20	20
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast	(mm)	2580	2690 / 3170
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	2690 / 3170
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	1757 / 2237
	Performance				
5.1	Travel speed, with / without load		km / h	6.0 / 6.0	6.0 / 6.0
5.2	Lifting speed, with / without load		m/s	0.15 / 0.32	0.15 / 0.32
5.3	Lowering speed, with / without load		m/s	0.43 / 0.34	0.5 / 0.34
5.7	Gradeability, with / without load		%		
5.8	Maximum gradeability with / without load		%	8 / 15	8 / 15
5.9	Acceleration time (10 metres) with / without load		s	0,10	0,10
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)		3	Electric	Electric
0.10	Electric motors			LIGGUIIG	LIGUIIU
C 1			LAM .	10	10
6.1	Drive motor capacity (60 min. short duty)		kW kW	1.0	1.0
6.2	Lift motor output at 15% duty factor		KVV	3.2	3.2
6.3	Battery to DIN		V/A	04 / 052 025	04 / 052 075
6.4	Battery voltage/capacity at 5-hour discharge		V / Ah	24 / 250 - 375	24 / 250 - 375
6.5	Battery weight		kg	210	210
6.6a	Energy consumption according to EN16796	k	Wh/h	0.77	0.78
	Miscellaneous				
3.1	Type of drive control			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			dB (A)		
	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ		UD (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 Whole-body vibration (EN 13 059:2002)		ub (A)		0.8

# Ast = Working aisle width NSP16N3S Ast3 = Working aisle width (b12 <1000mm) Ast = Wa + $\sqrt{(16 - x)^2 + (b12/2)^2}$ + a -----Ast3 = Wa + I6 - x + a Wa = Turning radius I6 = Pallet length (800 or 1000mm) = Load wheel axle to fork face Х b12 = Pallet width (1200 mm) a = Safety clearance = 2 x 100mm Ē a/2 a/2 A st3 ----

NSP16N3SR: with folding platform

2 III

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

	NSP10	N3/10N3R		
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

NSI	P12/14/16N3	/ 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
DEV	2500	1940	3105	1360
	2900	2140	3505	1560
	3300	2340	3905	1760
	3600	2490	4205	1910
	4300	2840	4905	2260
TR	4100	2060	4745	-
	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	/ NSP16N3	SR	
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 =
- Simplex =

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- Duplex standard D =
- Duplex with clear view mast DS =
- Duplex with full free lift DEV =
- Triplex with clear view mast TR =
- Triplex with full free lift TREV =
- Lifting height h3+h13 =
- Lowered mast height h1 =
- Raised mast height h4 =
- h2+h13 = Free lift

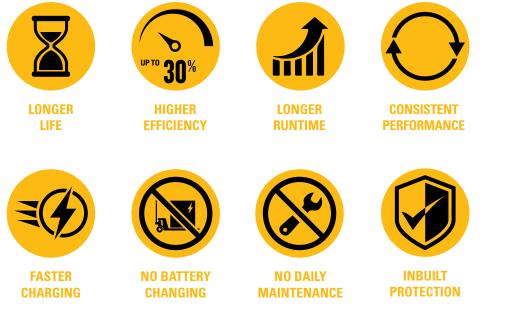


# LI-ION BATTERIES

## 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.





#### 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 checkups, which give extra peace of mind.

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NOTE: Performance specifications may vary depending on standard manufacturing tolerances, vehicle condition, types of tyres, floor or surface conditions, applications, or operating environment. Trucks may be shown with non-standard options. Specific performance requirements and locally available configurations should be discussed with your Cat lift trucks Dealer. Cat Lift Trucks follows a policy of continual product improvement. For this reason, some materials, options and specifications could change without notice.









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